

Just Add Software, LLC

InstallerPro User Manual



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Acknowledgements

InstallerPro™ was developed by Just Add Software, LLC in cooperation with Just Add Power. This licensed software is based on Just Add Software's intellectual property and/or copyrighted content. This software is intended solely for use with Just Add Power devices by Just Add Power customers or dealers who have purchased their Just Add Power HD over IP™ equipment through authorized support channels. Any unauthorized use is strictly prohibited and will be prosecuted by Just Add Software and/or Just Add Power as violations of our copyrights and as theft of our confidential intellectual property.

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express written consent of Just Add Software is prohibited.

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This program uses DynaPDF by DynaForms GmbH.

Finally, thanks to the Ed and the crew at Just Add Power - you guys are the best!

Introduction

Just Add Software's InstallerPro™ is designed for the professional CI involved in installations using Just Add Power's HD over IP™ solutions. The purpose of the software is to allow fast and easy configuration of managed switches out of the box and custom configuration of Just Add Power's 2G/2G+/2G+AVPro HD over IP™ hardware. The software will perform the desired initial configuration functions of the managed network switch. This includes setting passwords, defining video sources, video screens, IP address, etc. InstallerPro™ is designed to prepare the switch to be controlled by any of the available control systems on the market. It is 100% compatible with Just Add Software's MediaSwitcher™ product and can generate or read MediaSwitcher™ database and configuration files.

System Requirements: InstallerPro will run on just about any Mac OS X or Windows XP or later system. An RS-232 port (USB to RS-232 adapters are acceptable) is required. Layer 3 or device programming operation requires an ethernet connection. For best results and optimal window layout, Just Add Software recommends a minimum vertical monitor resolution of 900 pixels. If the monitor resolution is less than 900 pixels, scrollbars will appear and the content in the window can be scrolled up and down for access.

1

Getting Started

Registering InstallerPro™

Upon startup for the first time, the user will be presented with the following registration window:

InstallerPro™ Registration

Please enter your name, email address, and license code you received below from Just Add Software or an authorized dealer/distributor. Be sure to use the same name and e-mail address you used when registering.

To request a License Code, please enter your information and click "Send Registration Request." Your computer must be connected to the internet in order for Just Add Software to receive your request.

Your information will be sent to Just Add Software when registering.

Name:

Email Address:

License Code:

Not registered

Before InstallerPro can be used it must first be purchased and registered with a valid license key. To obtain a license key please contact Just Add Software. If the computer is connected to the Internet, the fastest way to request a license code is to enter your name and e-mail address in the spaces provided (required for registration). Once this is done, the "Send Registration Request" button will be enabled. Click this button and an e-mail will be opened in your e-mail client with all the registration information. Click send to have the e-mail sent to Just Add Software requesting a license code. Once your purchase has been verified, a license code will be pro-

vided by way of e-mail. Verification of purchase and providing a license key may take up to 24 hours. Requests are responded to as quickly as possible. If your license code is needed right away, please contact support@justaddsoftware.net and explain your situation and we will try to expedite the process.

InstallerPro™ is a subscription based product. The initial purchase provides for one year of updates and technical support. After the first year, a renewal license will need to be purchased to continue to receive updates and technical support. If you choose not to update, the software will continue to function but you will not be eligible for software updates or technical support. When a valid registration code is entered, a message with your subscription expiration date will be displayed. You can also find your expiration date on the “About” window of the software or by opening the Registration window (under the File menu).

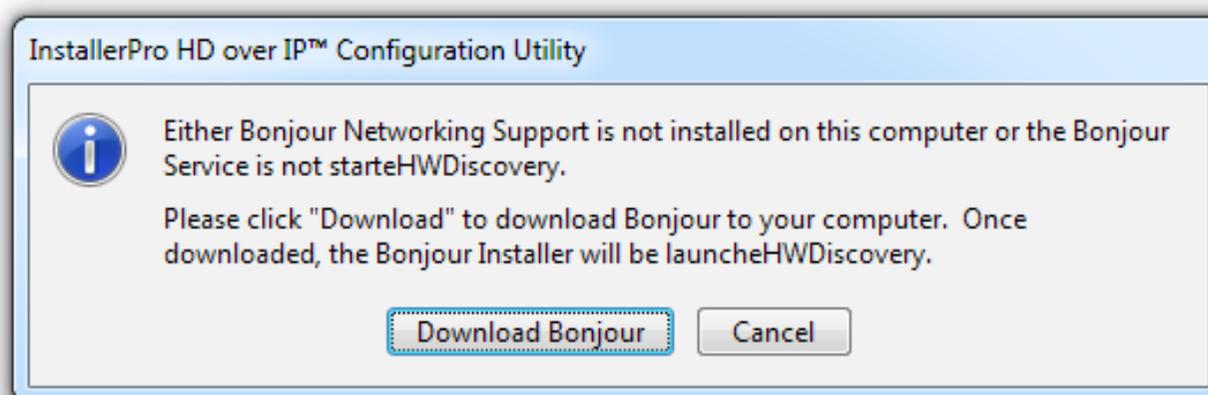
To renew your subscription to InstallerPro, open the registration window and enter the new license key you received when subscribing. Once a valid key is entered, your subscription will be extended for another year.

Demo Mode:

InstallerPro 3 has a “Demo Mode.” In demo mode you can take a look at the program and try out all features except for actual communication with the switch or devices. To enter Demo mode, enter “DEMO” is the license key.

Bonjour

InstallerPro uses Bonjour (mDNS) from Apple, Inc. Bonjour is required to use InstallerPro Bonjour is installed by default on Mac OS X computers. On Windows, it is an optional installation (it is included with some programs from Apple, Inc.). If Bonjour is not installed on a user’s Windows computer, InstallerPro will prompt the user and offer to download the software for them.



Once downloaded, the Bonjour installer will open and the installation will begin. When finished, just come back to InstallerPro and continue working. There is no need to quit the program.

Out of Box Switch Configuration

When the managed switch is initially installed or has a factory reset performed, it is not in a state that is fully compatible with the Just Add Power HD over IP™ video distribution system. Typically, getting the switch to operational status would require the user to connect to the console port of the switch by way of an RS-232 serial cable. A terminal session would then be opened and an initial switch configuration performed by manually typing configuration commands or sometimes following setup wizards on the switch. This is a time consuming task and prone to error. InstallerPro™ automates this process, and in just a few minutes, the entire video matrix will be programmed for optimal performance. For multiple site installations using similar configurations at each site, programming of the switch can be done in seconds.

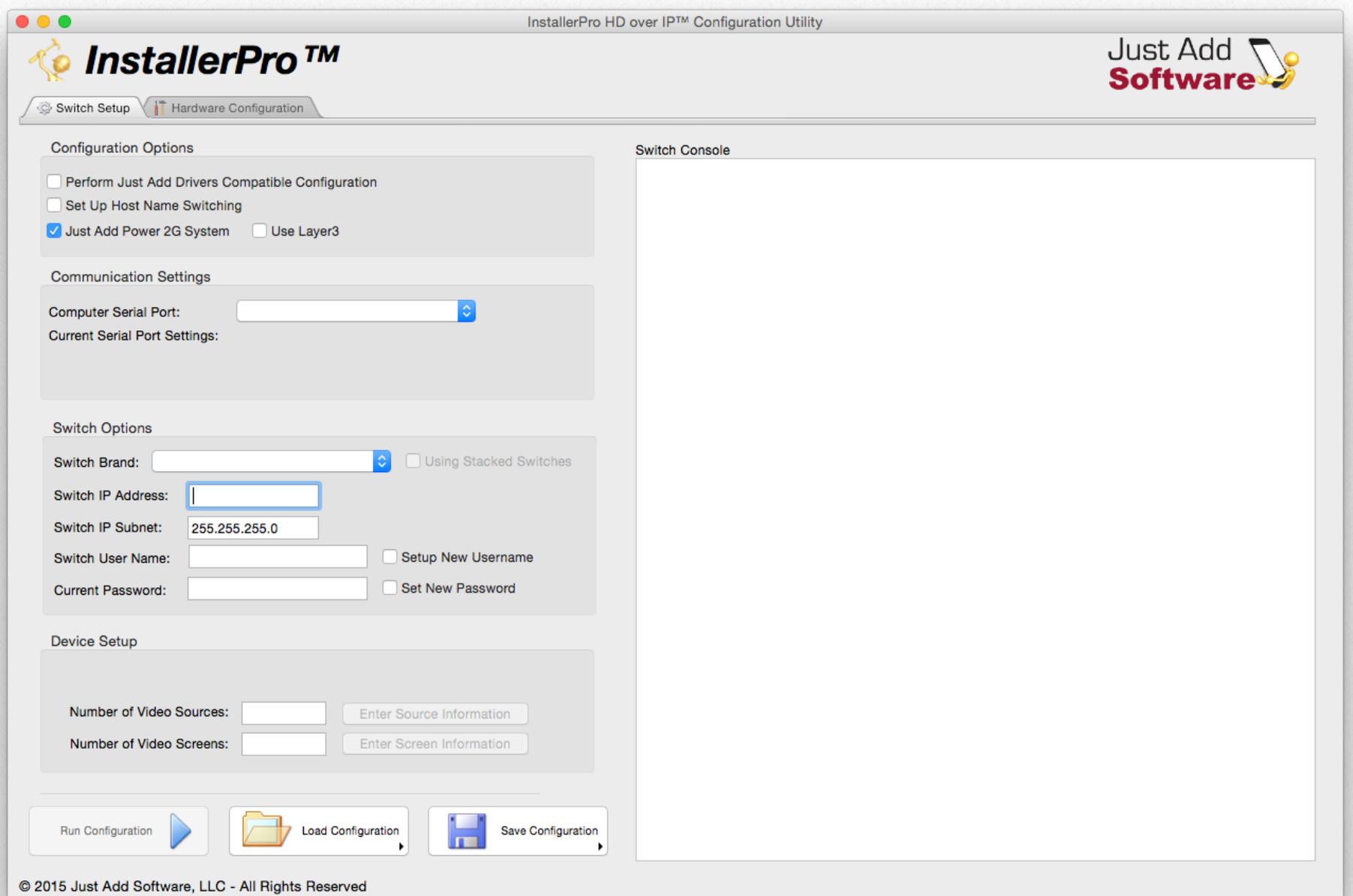
InstallerPro™ uses RS-232 serial communications to communicate with the switch. Some switches will require the use of a “null modem” or crossover cable. For brand new switches, the correct serial cable should be included in the box. Before contacting us for technical support regarding switch communication issues, please check to make sure the correct RS-232 cable is being used.

InstallerPro™ 3 has several options for configuring the switch. The available options selected will vary depending on the installation type. InstallerPro 3 supports configurations that are Just Add Drivers compatible. A configuration performed with InstallerPro and the Just Add Drivers option selected, can be used with the automatic control system drivers available from Just Add Power. InstallerPro 3 also supports “Host Name Switching” installations. This is for systems where it is desired to put every video device on a single VLAN and receivers between multicast groups.

InstallerPro™ also has an advanced Just Add Power Hardware configuration tab that when selected allows viewing the available devices on the network. The user can then select to change the device IP address, change serial port options, reset the unit to factory default and update device firmware. Firmware updates can be performed on multiple devices simultaneously.

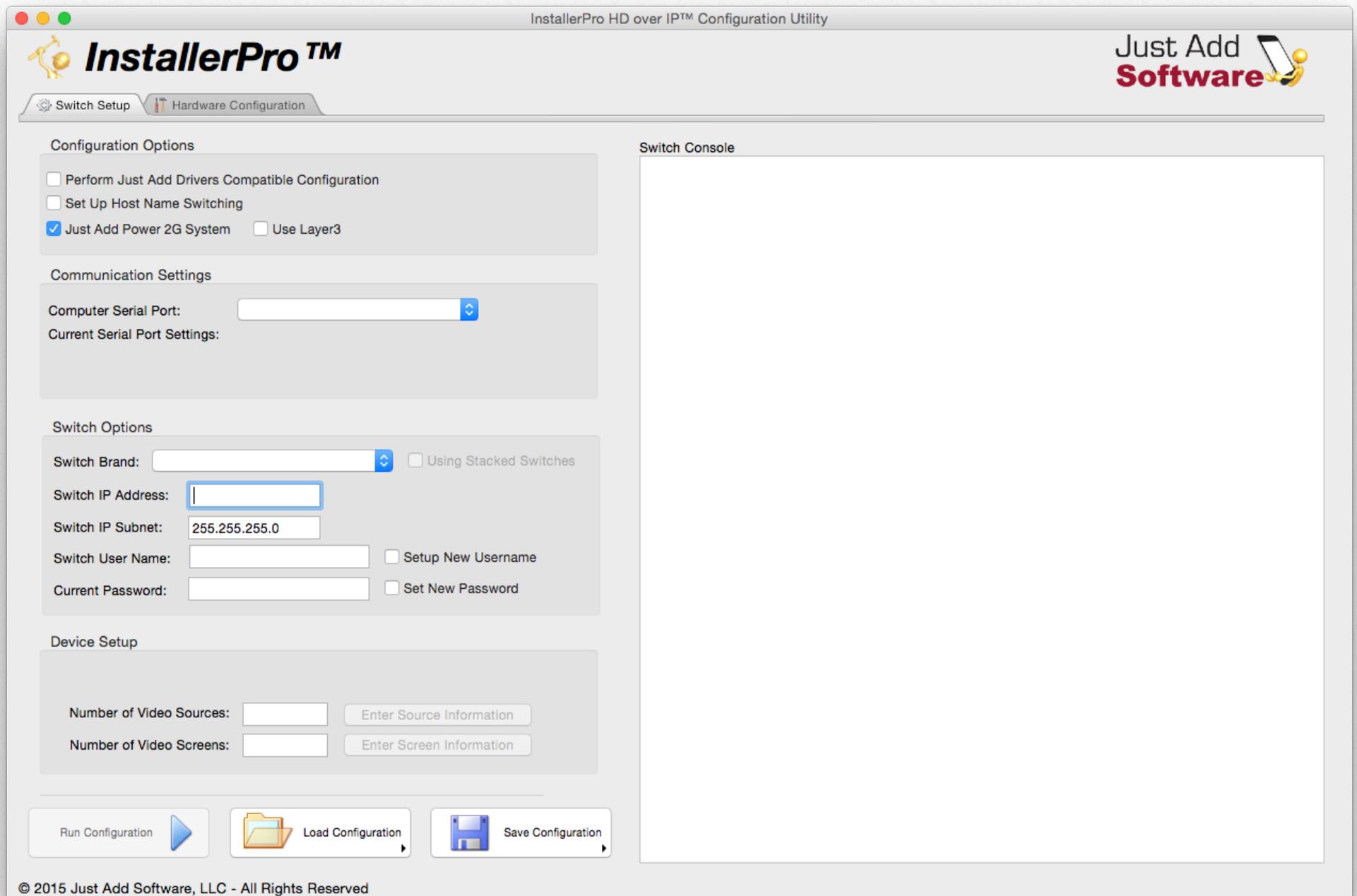
2

User Interface Overview



Installer Pro mainly consists of one main window with two tabs. The first tab is used to control and program switch functions. The second tab is used to program the Just Add Power devices. This chapter will cover the basic features of each tab in detail. Subsequent chapters will provide detail on actual programming steps.

Switch Setup Tab

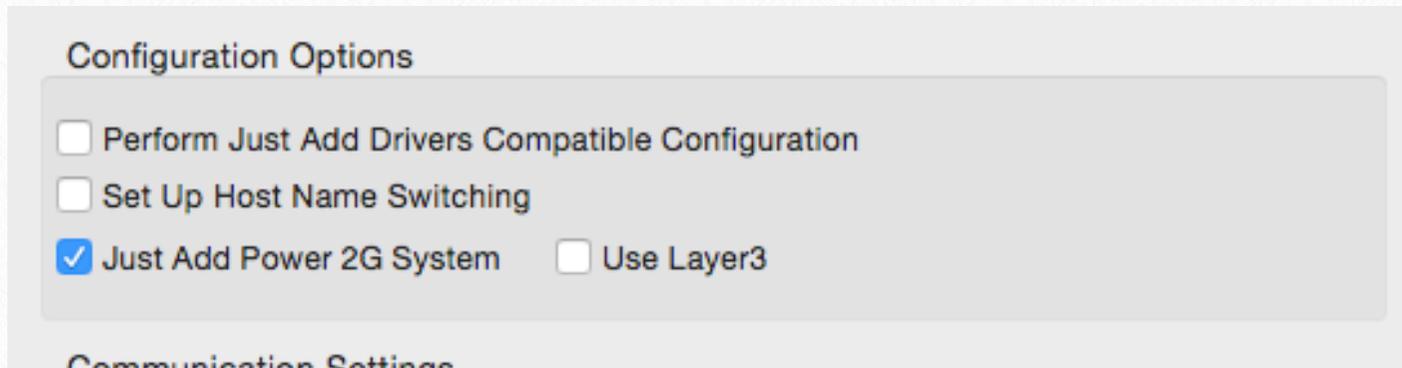


The switch setup tab is the first tab seen when InstallerPro first starts. It is broken into sections related to specific functions: Configuration Options, Communication Settings, Switch Options, Device Setup and Switch Console. There are also controls for running a configuration, loading and saving configuration files.

We will take a look at each of these sections in detail and explain the function of each item.

Configuration Options:

The picture below shows a close up of the configuration options controls group. These controls determine how InstallerPro will function and perform its configuration steps. Mak-

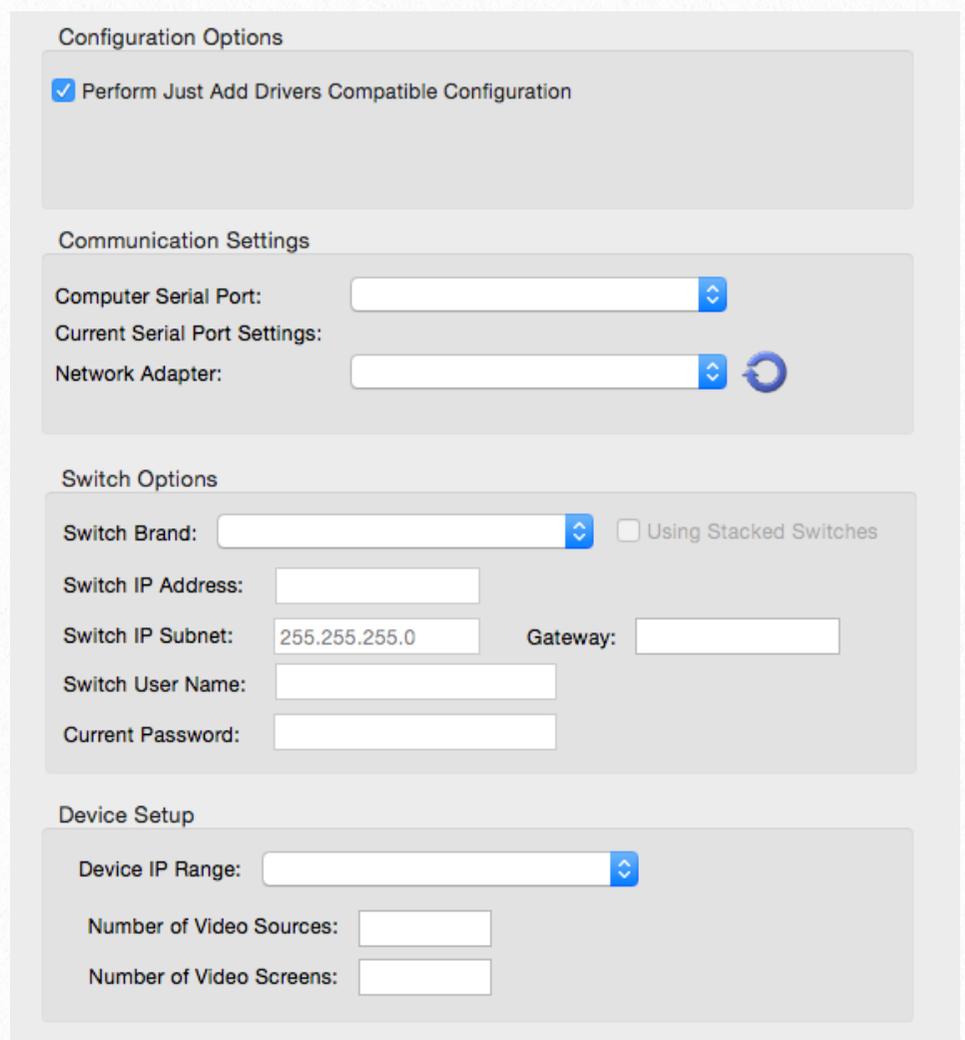


ing changes in these options, will affect the visibility and availability of controls in other sections of the window.

1.) Perform Just Add Drivers Compatible Configuration

Clicking on this box will set up InstallerPro to perform a configuration on the switch and the hardware that is compatible with the control system drivers available from Just Add Power. Selecting it will cause the window to look as shown to the right.

The Just Add Drivers configuration enforces a specific device name and port numbering scheme and so the options for entering screen and source names have been removed. For instructions on performing a Just Add Drivers Compatible Configuration, [please see Chapter 5](#).



2.) Set up Host Name Switching

Most Just Add Power installations use what is called “VLAN Switching.” Each transmitter is assigned to its own VLAN and receivers are switched between VLANs to change the video stream they are receiving. This works very well in many installations but it does require active programming of the managed switch. There are situations like corporate networks where IT departments do not want switches and networks to be actively programmed. These installations require Host Name Switching.

In Host Name Switching, all Just Add Power devices reside in a single VLAN. Each transmitter is assigned a unique hostname. Video switching is performed by connecting to a receiver and it to listen to the stream from a specific transmitter host name.

The drawback to this setup is that at present there is a limit 16 transmitters per VLAN. The number of screens is unlimited.

For instructions on setting up Host Name Switching, [please see Chapter 6](#).

3.) Just Add Power 2G System

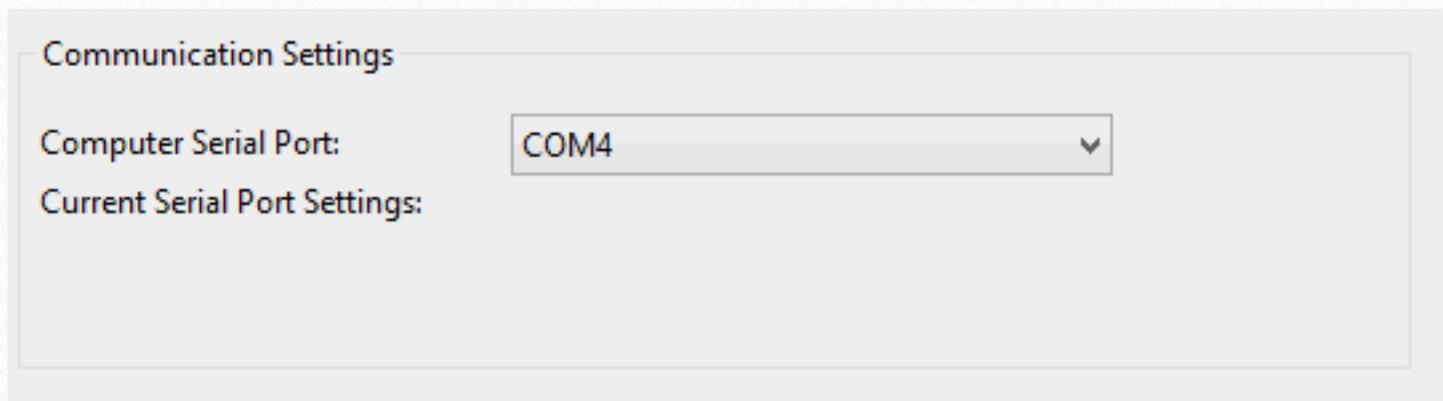
This box should be checked (default) when setting up a 2G system. If setting up a 1G system, uncheck this box. 1G systems can be used on 100 Megabit networks and unchecking the box will enable a different set of 1G compatible switches to be shown in the switch brand pop-up menu in the switch options section. In addition, selecting 1G disables host name switching, Just Add Drivers and Layer 3 as options as those require 2G hardware.

4.) Use Layer 3

Select the Use Layer 3 checkbox to set up the switch and hardware in a Layer 3 configuration. Using Layer 3 allows for routing of control signals into the Just Add Power hardware devices. Features such as Image Push, Image Pull, CEC commands (on 2G+ devices) require Layer 3 setups. While it is a more complex setup, we recommend layer 3 setups for most installations (note: The Just Add Drivers option performs a layer 3 setup depending on the switch selection even though the layer 3 option is hidden).

Communication Settings:

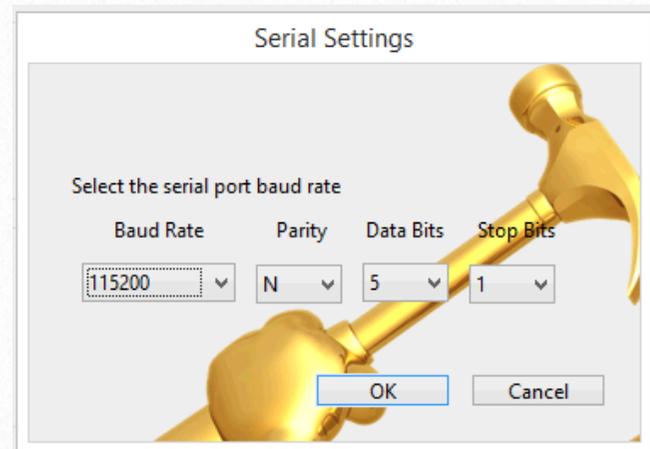
The Communication Settings Control Group shown below is used to configure how the computer communicates with the switch and Just Add Power devices.



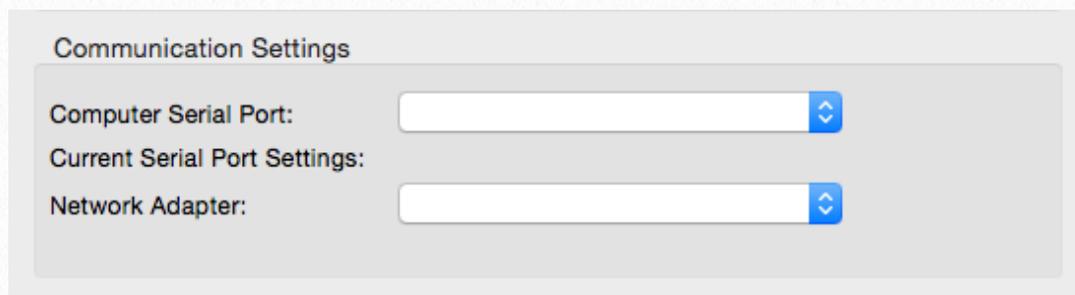
All communications between InstallerPro and the switch use an RS-232 serial connection. Some computers today do not have RS-232 ports. A USB to RS-232 adapter will function perfectly fine in that case. Some switches will require the use of a “null modem” or cross-over cable. For brand new switches, the correct serial cable should be included in the box. Before contacting us for technical support regarding switch communication issues, please check to make sure the correct RS-232 cable is being used.

Once a switch is selected, the switch’s default serial port settings will be used to set the baud rate and other communication parameters. Those will show up underneath the pop-up menu.

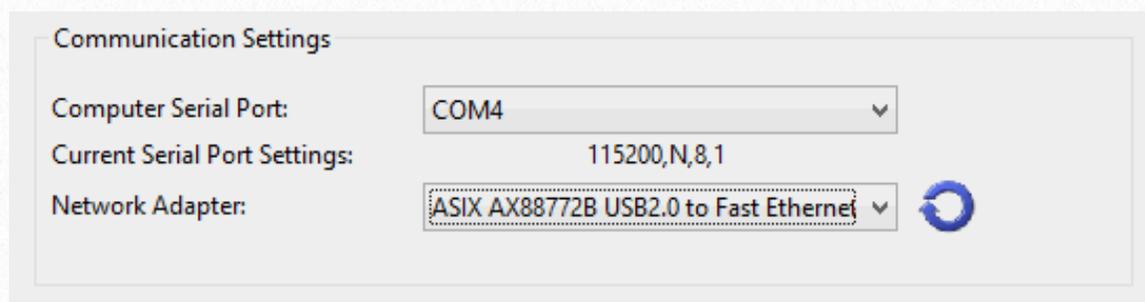
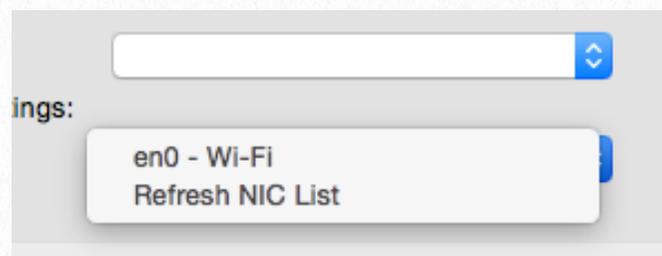
Clicking underneath the popup menu (either when it is blank or if there is text) will open the serial settings window and allow manual adjustment of the communication parameters as shown in the picture to the right.



If a Layer 3 setup is used, an additional option of a network adapter is shown. All communications between InstallerPro and the Just Add Power hardware take place over TCP/IP. Setting this adapter can help locate and connect to the Just Add Power hardware faster.

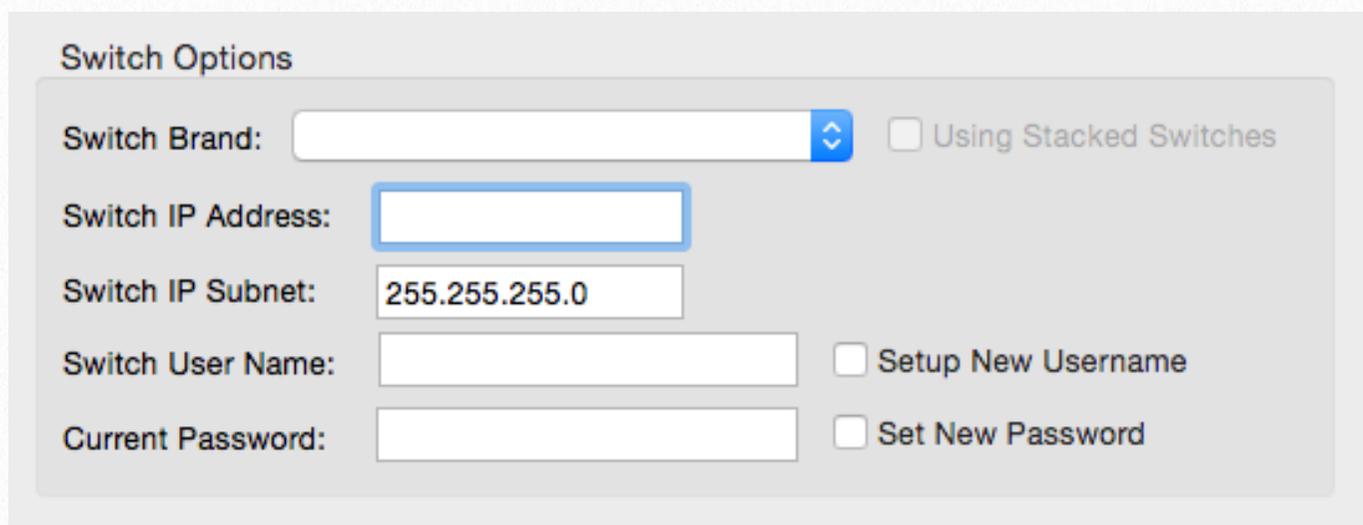


InstallerPro loads the current set of network adapters on startup, but if a USB to Ethernet adapter or similar is connected after startup, it won't be recognized. In this case, select the "Refresh NIC List" option in the pull down.



Switch Option:

The switch options section is where the settings are made to select the switch and its basic settings.



The Switch Brand pop-up is used to select the model of switch that will be used in the Just Add Power video system. At present InstallerPro supports approximately 20 different makes and models of switches. If another make or model is required, please contact us at support@justaddsoftware.net. Many times, this can be accommodated quite easily with a new switch database file.

Please note that the number and models of available switches changes depending on your configuration settings. 1G systems have the most supported switches. 2G systems support only Gigabit models and Layer 3 systems support the fewest models.

Using Stacked Switches: This checkbox will become enabled when selecting a switch that is capable of being configured in a stacked configuration.

The screenshot shows the 'Switch Options' configuration panel for a Cisco SG500 Series - Layer 3 Mode switch. The 'Using Stacked Switches' checkbox is present but unchecked. The 'Switch IP Address' field is empty and highlighted with a blue border. The 'Switch IP Subnet' is set to '255.255.255.0' and the 'Gateway' field is empty. The 'Switch User Name' and 'Current Password' fields both contain the text 'cisco'. There are checkboxes for 'Remove Login', 'Setup New Username', and 'Set New Password', all of which are currently unchecked.

Switch IP Address: Enter the IP Address that is desired for the switch in this field. Proper IP address formatting is enforced.

Switch IP Subnet: Enter the subnet mask for the switch's IP address in this field.

Gateway: This field is shown only when a layer 3 switch is selected. This field should be set to the gateway or router on the LAN.

Remove Login: This checkbox is only visible if a Cisco SG series switch is selected. Checking this box will disable all login requirements (both RS-232 and telnet) for the switch. Use this option only in installations that approve of this low level of security.

The screenshot shows the 'Switch Options' configuration panel for a Cisco SG300 Series switch. The 'Remove Login' checkbox is visible and unchecked. The 'Switch IP Address' field is empty and highlighted with a blue border. The 'Switch IP Subnet' is set to '255.255.255.0'. The 'Switch User Name' and 'Current Password' fields both contain the text 'cisco'. There are checkboxes for 'Setup New Username' and 'Set New Password', both of which are currently unchecked.

Switch User Name: Enter the current user name for the switch's login in this field. A default value is filled in if the selected switch has a default user name.

Setup New Username: Check this box to enter a new username to be programmed during the switch configuration.

Current Password: Enter the current password for the switch in this field. This is typically the same as the "enable" password (InstallerPro assumes that the logon password and enable password are the same). A default value is filled in if the selected switch has a default password.

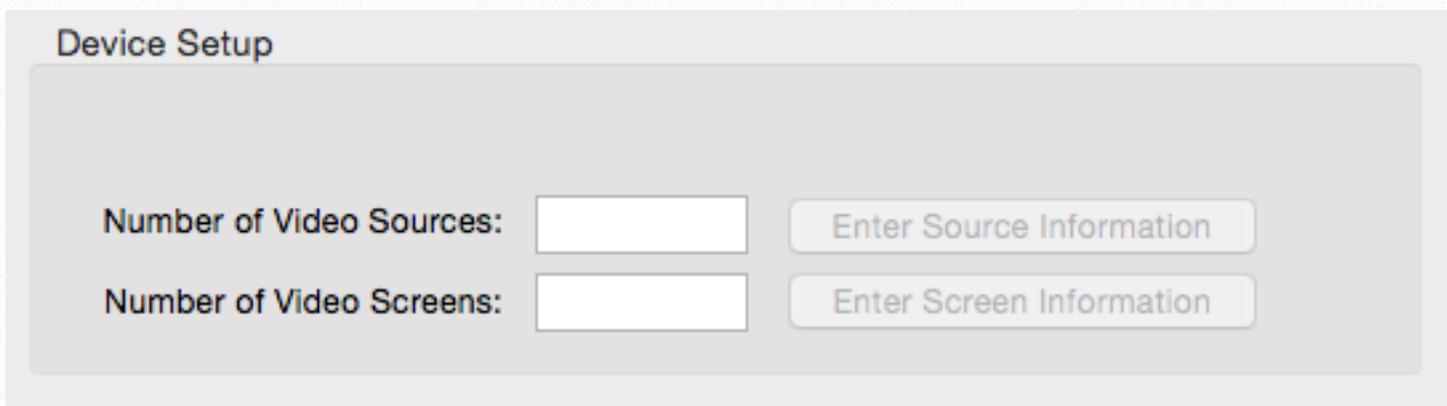
Set New Password: Check this box to change the password for the selected username during the switch configuration.

Device Setup:

The device setup section is where information on the number of video sources and video screens is entered. Additionally, if a layer 3 setup is selected, this is where IP address information about the Just Add Power network is also entered.

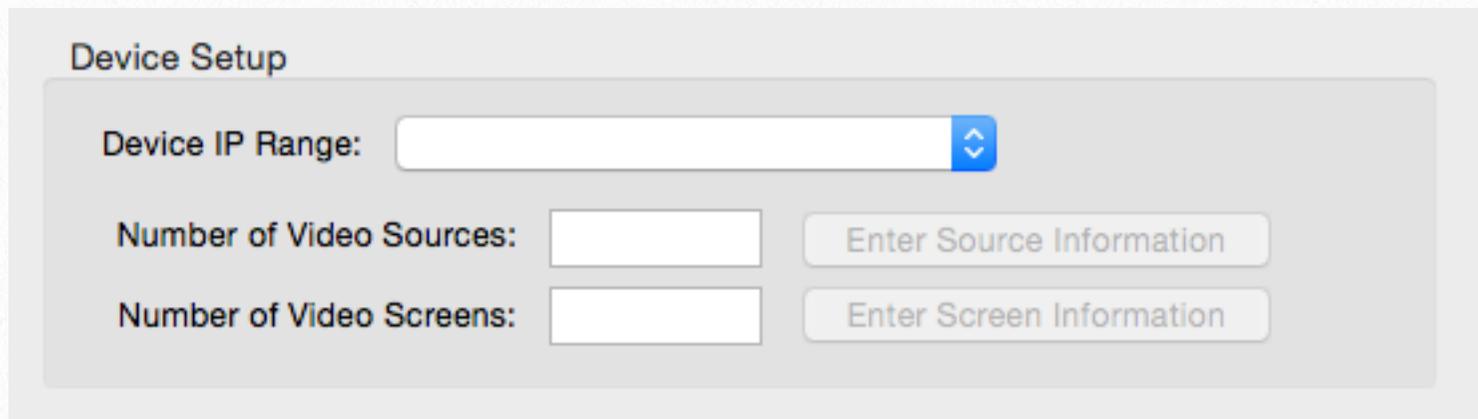
For a standard, layer 2 installation, the Device Setup section looks like this:

For a layer 3 installation, the Device Setup section looks like this:



The screenshot shows a 'Device Setup' panel with two rows of input fields and buttons. The first row has 'Number of Video Sources:' followed by a text input field and a button labeled 'Enter Source Information'. The second row has 'Number of Video Screens:' followed by a text input field and a button labeled 'Enter Screen Information'.

Number of Video Sources: Enter the number of video sources (ie: transmitters) to be used



The screenshot shows a 'Device Setup' panel with three rows of input fields and buttons. The first row has 'Device IP Range:' followed by a dropdown menu with a blue arrow icon. The second row has 'Number of Video Sources:' followed by a text input field and a button labeled 'Enter Source Information'. The third row has 'Number of Video Screens:' followed by a text input field and a button labeled 'Enter Screen Information'.

in the system. Once a number is entered, the “Enter Source Information” button will be enabled (this button will not be visible or enabled for Just Add Drivers configurations).

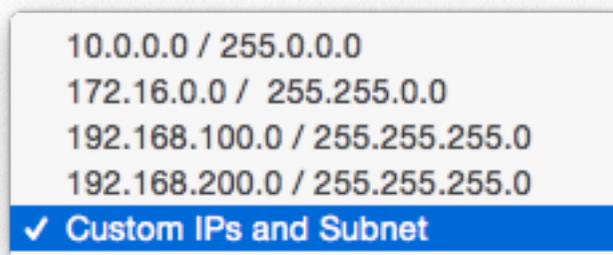
Number of Video Screens: Enter the number of video screens (ie: receivers) to be used in the system. Once a number is entered, the “Enter Screen Information” button will be enabled (this button will not be visible or enabled for Just Add Drivers configurations).

Clicking on the Enter Source Information or Enter Screen Information buttons will open the Source or Screen configuration windows respectively. These will be covered later.

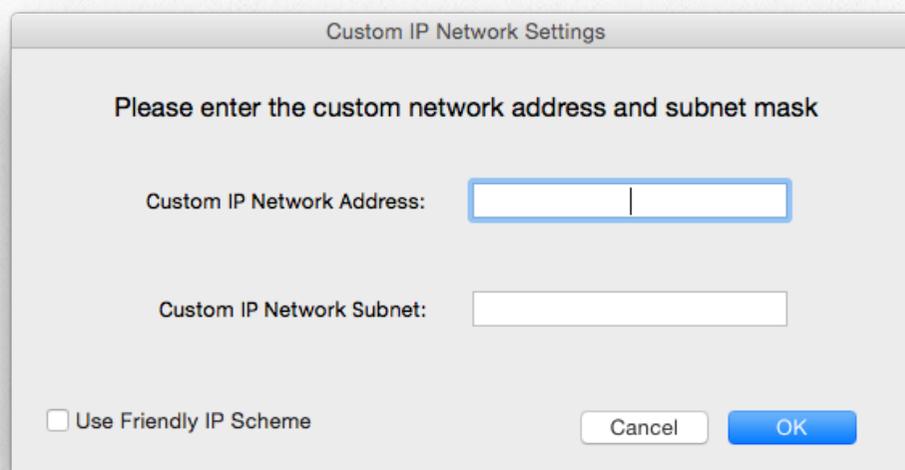
Device IP Range: For Layer 3 systems, it is necessary to select an IP range for the Just Add Power network. InstallerPro has several default networks but also allows for user defined networks as well. The default network choices are:

Network Class	IP Range	Subnet Mask	Maximum TX	Maximum RX
A	10.0.0.0	255.0.0.0	4096	8,388,606
B	172.16.0.0	255.255.0.0	4096	32,766
C	192.168.100.0	255.255.255.0	32	126
C	192.168.200.0	255.255.255.0	32	126

If a custom network range is desired, select Custom Network range from the pop-up menu:



The following window will open:



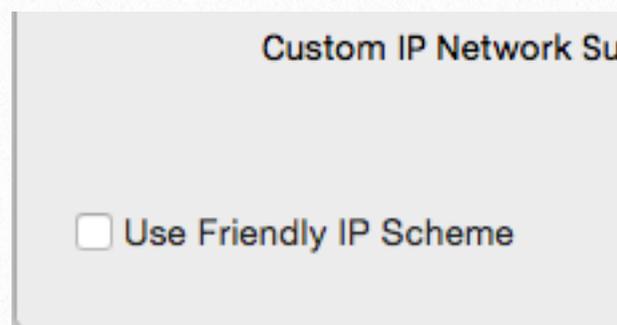
Enter the desired Network Address of the custom network or any IP address in that network and the subnet mask. InstallerPro will then automatically generate the necessary IP addresses for the VLANs, transmitters and receivers. Please note that InstallerPro follows a specific protocol for IP addresses and how the networks are set up. As it is an advanced topic, details on how the networks are created and formatted are not discussed in

this chapter. For more information on how we create the networks, please see the section on Network Creation in the appendix.

Also please note that if a network is created with a nonstandard subnet mask, InstallerPro may not be able to automatically add to computer, the correct IP address needed to talk to the devices. So for example, if a network of 10.11.115.0 with a subnet mask of 255.255.255.0 is used, InstallerPro would incorrectly assign the PC an IP address of 10.255.255.254 with a subnet mask of 255.0.0.0. This would not work for device communication. In these instances, please manually assign an IP address in your network to the PC.

The Custom IP Network Settings Window has one option: Use Friendly IP Scheme.

When this checkbox is selected, InstallerPro uses a network topology that is easy to match to VLANs and devices. This is the same topology that was used in InstallerPro 2 under the “Just Add Power Best Practices” option. This scheme is called “friendly” because of the user friendly IP naming convention: transmitters have their VLAN ID in their IP address. Receivers are all numbered sequentially starting with a last digit of 1, etc.

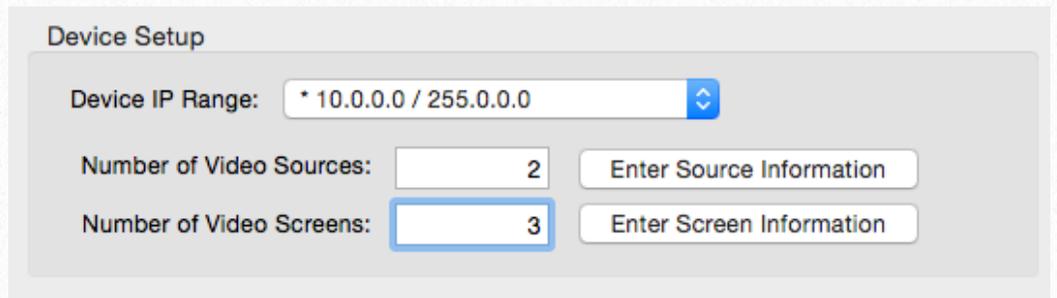


This topology follows a format like:

VLAN ID	VLAN IP	Transmitter IP	Receiver IP
11	10.0.11.1	10.0.11.100	
12	10.0.12.1	10.0.12.100	
13	10.0.13.1	10.0.13.100	
10	10.0.10.1		10.0.10.101
10	10.0.10.1		10.0.10.102
10	10.0.10.1		10.0.10.103

When using this format, the network bits must be 16 or less (255.0.0.0 to 255.255.0.0 subnet mask range).

After entering the custom network and clicking, “OK” the window will close and the new network will be added to the list of available networks in the Device IP Range pop-up menu control. If the network added uses the “Friendly” IP scheme, there will be a * next to the address.



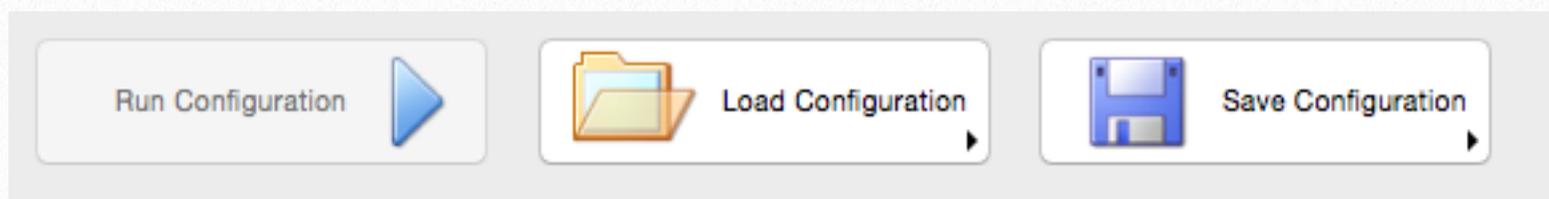
The screenshot shows a 'Device Setup' window with the following fields and buttons:

- Device IP Range: * 10.0.0.0 / 255.0.0.0 (with a dropdown arrow)
- Number of Video Sources: 2 (with an 'Enter Source Information' button)
- Number of Video Screens: 3 (with an 'Enter Screen Information' button)

Once network ranges are set, InstallerPro will automatically generate the IP addresses to be used for each VLAN and each device on the network.

Operational Buttons:

At the bottom of the window are the operational buttons:



When all necessary information is loaded, Run Configuration becomes enabled. This will start a configuration on the switch and optionally, the hardware.

Clicking on Load Configuration presents the user with the option of loading a text based CSV file or a MediaSwitcher Database format file.

Click on Save Configuration presents the user with the option of saving the configuration settings to either a text based CSV file or to a MediaSwitcher Database format file.

The CSV file has an advantage in that it is text based and can be easily edited with a text editor or spreadsheet application.

The Database format has the advantage that it stores more information such as the network adapter settings, baud rate, etc. It stores a larger set of data. The database files are 100% compatible with the file format used with Just Add Software’s MediaSwitcher software. Each program can read a database file saved by the other program.

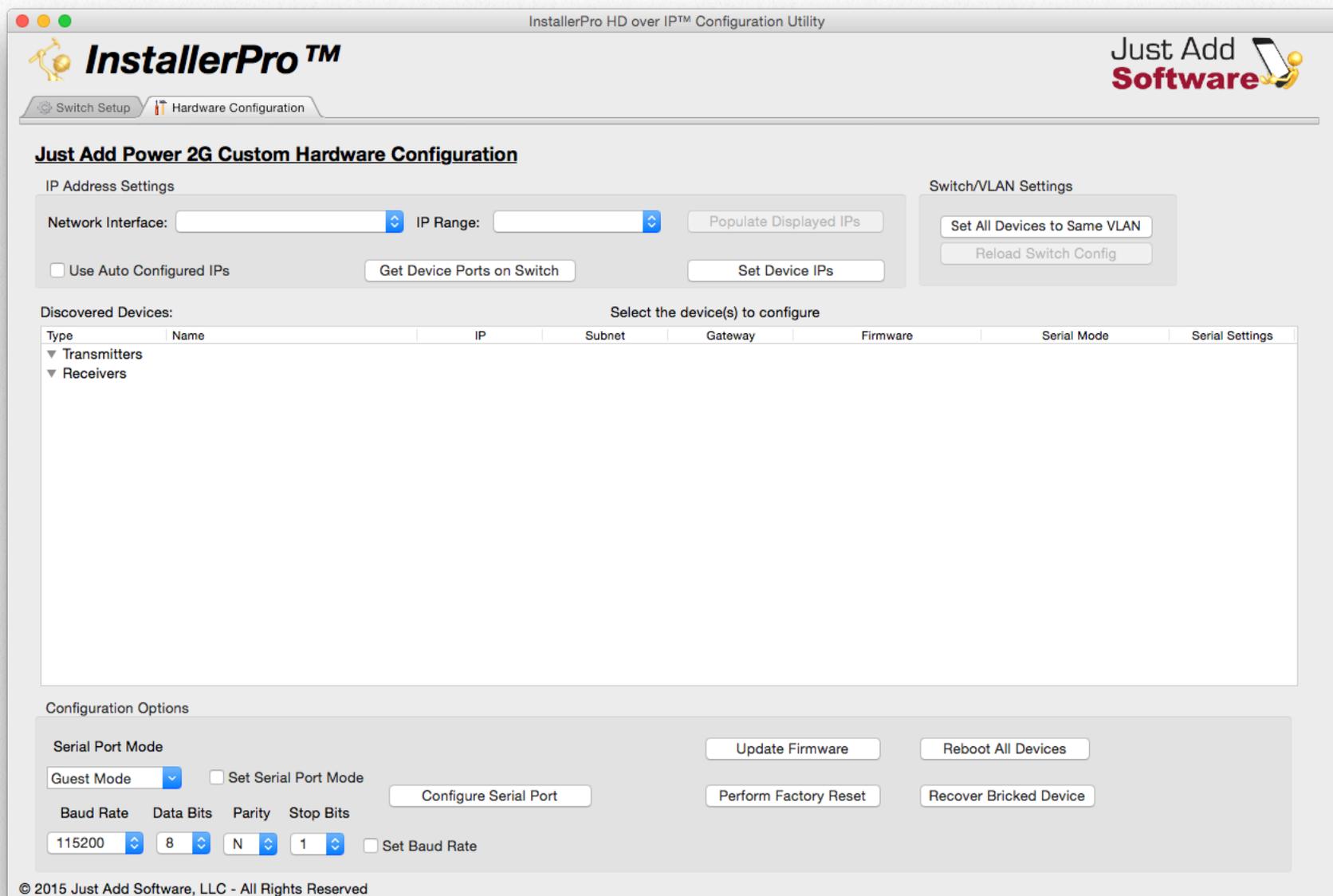
Please note that Host Name Switching configurations are only available to be saved or read in the database format.

Switch Console:

Finally, the last control in this tab is the Switch Console. This screen displays the text and output read from the switch. It is an interactive terminal session. Commands for the switch can be manually entered and sent by way of this window. It can be used instead of a separate terminal program to communicate with the switch.

Text can also be selected and copied to the clipboard from this window. This is very useful when troubleshooting as the contents can be selected and e-mailed to Just Add Software for analysis.

Hardware Setup Tab



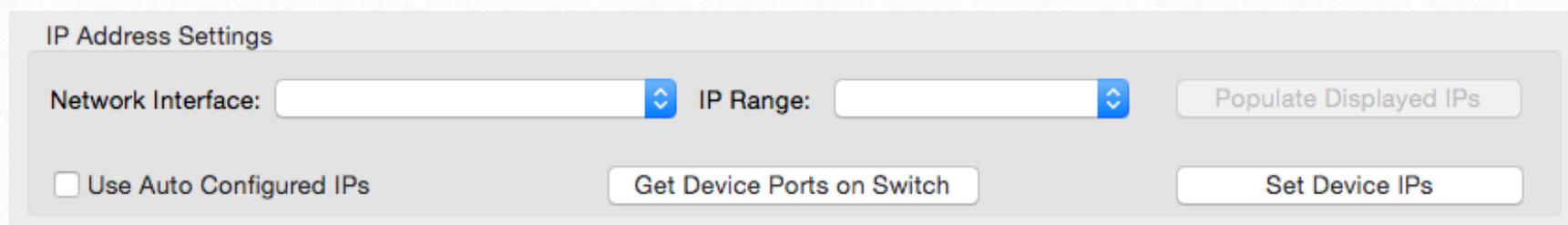
The hardware setup tab is where programming is done on one or more Just Add Power 2G, 2G+ or 2G+AVPro devices. InstallerPro can program a single device connected directly to the computer or an entire network of devices connected to a switch.

The purpose of this section will be to familiarize the user with the controls used in this tab. As in the Switch Setup tab, controls are broken into sections on the window that pertain to their actions. We will look at each group of controls in detail.

The hardware tab can be used by itself to edit one or more devices, update firmware or gather device information. It is also used as part of the Layer 3 configuration routines.

IP Address Settings:

The IP Address Settings control group is shown below.



The screenshot shows a control panel titled "IP Address Settings". It contains several interactive elements: a "Network Interface:" dropdown menu, an "IP Range:" dropdown menu, a "Populate Displayed IPs" button, a checkbox labeled "Use Auto Configured IPs", a "Get Device Ports on Switch" button, and a "Set Device IPs" button.

Network Interface: The network interface control functions the same way as the [network interface control in the switch setup tab](#). When selecting a network interface in either tab, the network interface in the other tab is updated.

IP Range: The IP Range control functions the same way as the [IP Range control in the switch setup tab](#). When selecting an IP range in either tab, the IP Range in the other tab is updated as well.

Populate Displayed IPs: When an IP Range is selected (as in the picture to the right), the Populate Displayed IPs button is enabled. Clicking this button will cause all devices shown in the Discovered Devices list



This close-up shows the "IP Range:" dropdown menu with the value "172.16.0.0 / 255.255...". Below it, the "Populate Displayed IPs" button is highlighted. Other buttons visible include "Get Device Ports on Switch" and "Set Device IPs".

to get updated IP addresses, subnets and gateway IPs (gateway IP addresses are optional in non-Layer 3 Installations). More details on this will follow later in this section.

Set Device IPs: Clicking this button will update all selected devices in the Discovered Devices list to their updated IP addresses.

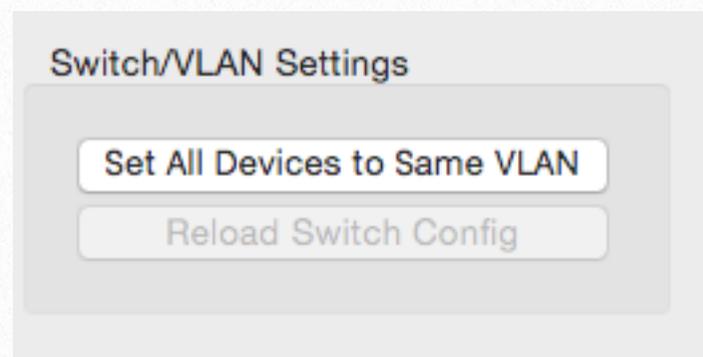
Use Auto Configured IPs: Checking this box will set the Just Add Power devices to configure their own IP addresses in the 169.254.0.0/16 address space. By default, Just Add Power devices configure themselves in this range, so this action is similar to performing a factory reset except all other settings on the devices are kept intact. Normally, this option will not be needed.

Get Device Ports on Switch: Clicking this button will initiate a connection to the switch and will attempt to lookup the MAC addresses of all Just Add Power devices connected to the

switch. Once switch port numbers are verified, the list of devices will be updated with the correct values and the list will be sorted by port number for each type of devices (ie: Transmitters will be sorted as a group and Receivers will be sorted as a group).

Switch/VLAN Settings:

The Switch/VLAN Settings control group shown at the right is used to adjust the VLANs on the switch so that devices can be programmed.



Set All Devices to Same VLAN: Clicking on this button will initiate communication with the

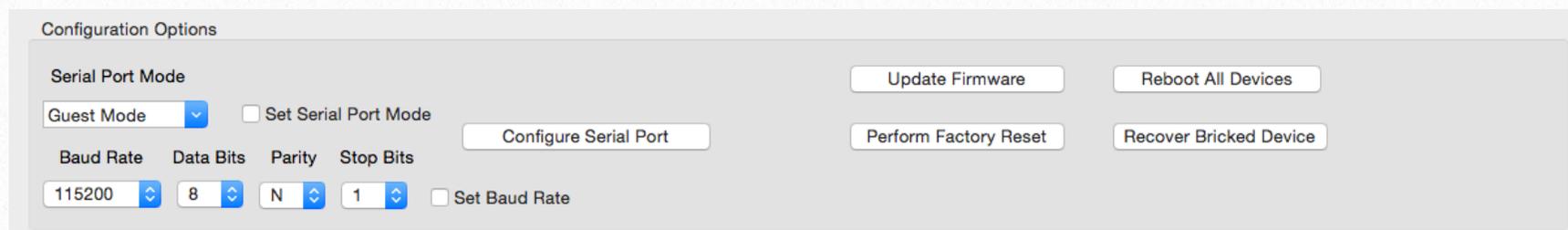
switch to put all devices onto the default LAN VLAN. If a LAN VLAN value is not specified, then InstallerPro assumes the LAN VLAN to be VLAN 2. Once all devices (including the InstallerPro computer) are put onto the same VLAN, they can be discovered and programmed.

NOTE: PLEASE DISCONNECT ALL HDMI CABLES FROM TRANSMITTERS BEFORE ISSUING THIS COMMAND!

Reload Switch Config: Clicking this button will return the switch to its previous state. If configuration values have been entered in the switch setup tab, then InstallerPro will reset the switch to those values. If no values have been entered into the setup tab, then InstallerPro will reboot the switch which will cause it to load its saved startup values.

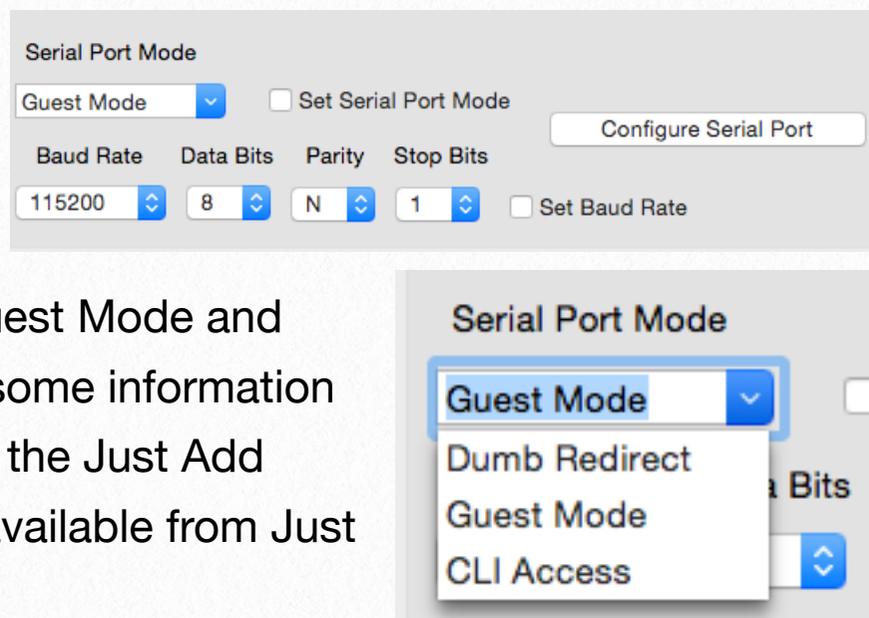
Configuration Options:

The Configuration Options control group is used to adjust various configuration settings on selected devices in the list of discovered devices. It is shown below:



Serial Port Mode:

The Serial Port Mode pop-up menu, allows for selection of serial port modes on the Just Add Power receivers. The mode options available in InstallerPro are Dumb Redirect, Guest Mode and Guest CLI Access. The table below provides some information on these modes. For more details, please see the Just Add Power 2G Feature and Programmers manual available from Just Add Power.



Mode	Description
Dumb Redirect	Any RS-232 data that comes in on a transmitter's serial port is redirected and broadcast to the serial ports of all connected receivers.
Guest Mode	Allows for direct Telnet connections directly to the RS-232 port of the device through port 6752. Anything sent to that connection will be sent right to the RS-232 port. This is the mode used by MediaSwitcher and other control systems for RS-232 communication.
CLI Access	Provides access to the command line interface of the device.

If direct telnet operation to the Just Add Power device's serial port is desired, select guest mode. Then telnet connections to the device on port 6752 will connect directly to the serial port and all communications over that connection will be sent to whatever device is connected to the Just Add Power device.

The Baud Rate, Data Bits, Parity and Stop Bits selections set the communication parameters for the Just Add Power device serial port. To update the RS-232 port, check the boxes if you want to update the Set Serial Port Mode or Set Baud Rate. Both boxes can be checked. Then click the Configure Serial Port button. All selected devices will have their serial ports updated to the selected settings and be rebooted.

Update Firmware: Clicking this button will initiate a firmware update on the selected devices. Further instructions on firmware updates will be provided **later in this chapter.**



Perform Factory Reset: Clicking on this button will perform a factory reset on all selected devices. A warning will be provided giving the option to cancel.

Reboot All Devices: This will reboot all connected and discovered devices shown.

Recover Bricked Device: This is an advanced feature for doing field recovery of hardware that will not boot. It is covered in [Chapter 7](#).

Discovered Devices: The discovered devices list box is the heart of the Hardware Configuration tab. As devices are discovered and connected, they will show in the list based on if they are a transmitter or receiver.

Devices are grouped by their device type: transmitter or receiver. Devices are sorted by

Discovered Devices: Select the device(s) to configure

Type	Name	IP	Subnet	Gateway	Firmware	Serial Mode	Serial Settings
[-] Transmitters							
2G	ast-gateway0000	172.16.0.2	255.255.0.0	172.16.0.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gateway0000-4	172.16.0.6	255.255.0.0	172.16.0.5	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-gateway0000-3	172.16.0.10	255.255.0.0	172.16.0.9	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-gateway0000-2	172.16.0.14	255.255.0.0	172.16.0.13	A5.3.0	Binary Type 2	9600 8N1
[-] Receivers							
2G+	ast-clientC2000000F6FE	172.16.128.2	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC20000004106	172.16.128.5	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC20000004191	172.16.128.6	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC20000004F95	172.16.128.4	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC200000073D3	172.16.128.3	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1

the order in which they are discovered unless the switch ports have been looked up in which case, they will be sorted by the switch port as shown in the picture below. The first column indicates if the device is 2G, 2G+ or 2G+ AVPro.

Discovered Devices: Select the device(s) to configure

Type	Name	Port	IP	Subnet	Gateway	Firmware	Serial Mode	Serial Settings
[-] Transmitters								
2G+	ast-gateway0000-2	1	172.16.0.14	255.255.0.0	172.16.0.13	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gateway0000	7	172.16.0.2	255.255.0.0	172.16.0.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gateway0000-4	8	172.16.0.6	255.255.0.0	172.16.0.5	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-gateway0000-3	9	172.16.0.10	255.255.0.0	172.16.0.9	A5.3.0	Binary Type 2	9600 8N1
[-] Receivers								
2G+	ast-clientC20000004106	2	172.16.128.5	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC2000000F6FE	3	172.16.128.2	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC200000073D3	4	172.16.128.3	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC20000004F95	5	172.16.128.4	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC20000004191	6	172.16.128.6	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1

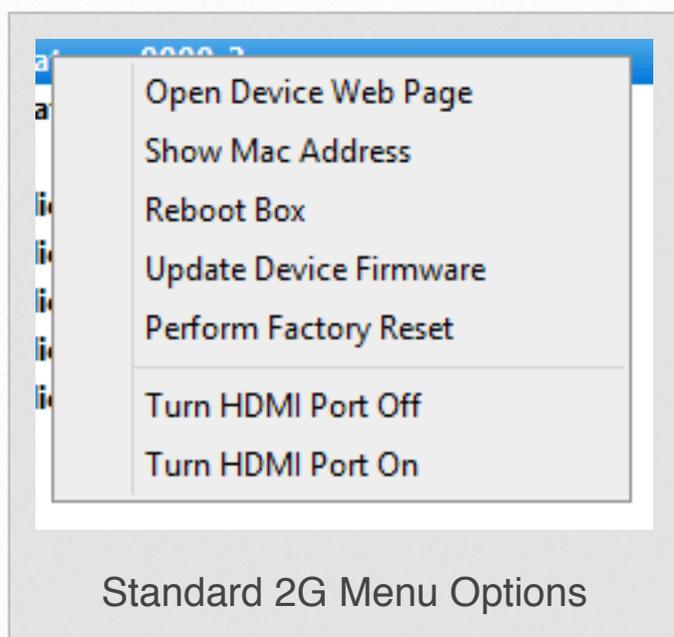
If there are a large number of devices, it is possible to hide the entire set of transmitters or receivers by clicking on the + button next to the Transmitter or Receiver Headings.

Type	Name	Port	IP	Subnet	Gateway	Firmware	Serial Mode	Serial Settings
Discovered Devices: Select the device(s) to configure								
[-] Transmitters								
[-] Receivers								
2G+	ast-clientC20000004106	2	172.16.128.5	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC2000000F6FE	3	172.16.128.2	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC200000073D3	4	172.16.128.3	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC20000004F95	5	172.16.128.4	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC20000004191	6	172.16.128.6	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1

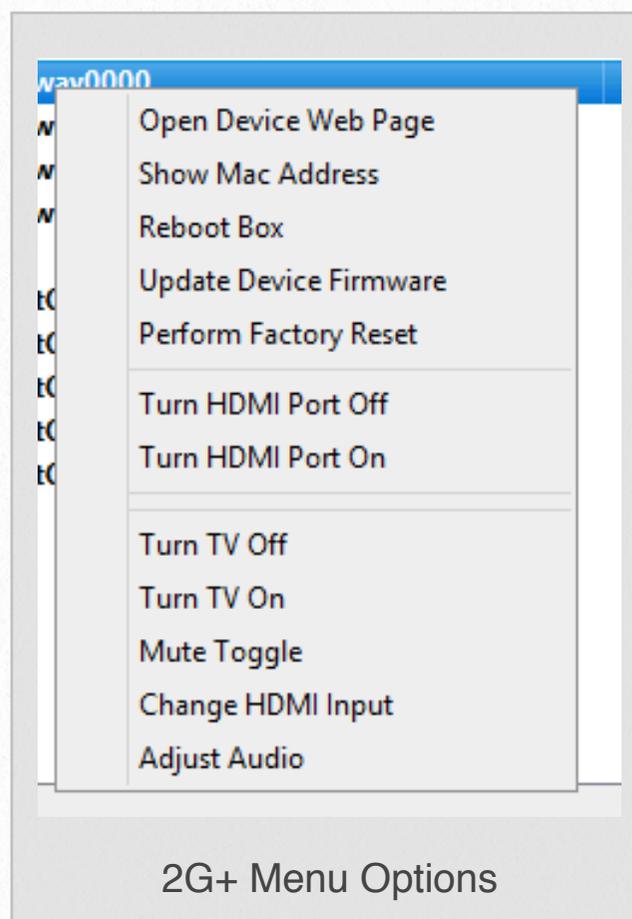
Configuration options or more information on a device can be obtained by selecting a device and performing a right mouse click on the row:

Type	Name	Port	IP	Subnet	Gateway	Firmware	Serial Mode	Serial Settings
Discovered Devices: Select the device(s) to configure								
[-] Transmitters								
2G+	ast-gatewav0000	1	172.16.0.14	255.255.0.0	172.16.0.13	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gatew	7	172.16.0.2	255.255.0.0	172.16.0.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gatew	8	172.16.0.6	255.255.0.0	172.16.0.5	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-gatew	9	172.16.0.10	255.255.0.0	172.16.0.9	A5.3.0	Binary Type 2	9600 8N1
[-] Receivers								
2G+	ast-clientC	2	172.16.128.5	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC	3	172.16.128.2	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC	4	172.16.128.3	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC	5	172.16.128.4	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC	6	172.16.128.6	255.255.0.0	172.16.128.1	A5.3.0	Binary Type 2	9600 8N1

The choices in the menu will be different if the device is a 2G+ device or a 2G device:



Open Device Web Page will open the web page of the Just Add Power Device in the computer's web browser.



Show MAC Address will display a window with the device's MAC hardware address.

Reboot Box will reboot the device

Update Device Firmware will start the firmware update process on just a single device.

Perform Factory Reset will reset the device to factory defaults.

Turn HDMI Port Off and *Turn HDMI Port On* will turn the device's HDMI port Off and On respectively.

For 2G+/2G+AVPro devices, there are additional options related to CEC and Audio control. CEC commands can be sent to turn the TV Off or On, toggle the mute control, and change the HDMI input.

The Adjust Audio option (available on 2G+/2G+ AVPro devices) will open a window where the audio delay on the device's audio output port can be adjusted. *Please note: This feature is still in Beta and will change and be updated in future releases of InstallerPro 3.*

Receivers have one additional menu item: *Perform EDID capture*. Selecting this item will capture the EDID from the device connected to the receiver. That EDID value is then broadcast to all transmitters and all transmitters will then use that EDID when connecting to the source device.

Editing IP Addresses: Individual devices can have their IP addresses, subnet masks and gateway addresses manually edited. Simply click into the desired field and the value will be available for editing. Proper IP address formatting is enforced so that valid values are

Discovered Devices: Select the device(s) to configure

Type	Name	Port	IP	Subnet	Gateway	Firmware	Serial Mode	Serial Settings
Transmitters								
2G+	ast-gateway0000-2	1	192.168.100.2	255.255.255.0	192.168.100.1	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gateway0000	7	192.168.100.6	255.255.255.0	192.168.100.5	A5.3.0	Binary Type 2	9600 8N1
2G	ast-gateway0000-4	8	192.168.100.10	255.255.255.0	192.168.100.9	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-gateway0000-3	9	192.168.100.14	255.255.255.0	192.168.100.13	A5.3.0	Binary Type 2	9600 8N1
Receivers								
2G+	ast-clientC20000004106	2	192.168.100.130	255.255.255.0	192.168.100.129	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC2000000F6FE	3	192.168.100.131	255.255.255.0	192.168.100.129	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC200000073D3	4	192.168.100.132	255.255.255.0	192.168.100.129	A5.3.0	Binary Type 2	9600 8N1
2G	ast-clientC20000004F95	5	192.168.100.133	255.255.255.0	192.168.100.129	A5.3.0	Binary Type 2	9600 8N1
2G+	ast-clientC20000004191	6	192.168.100.134	255.255.255.0	192.168.100.129	A5.3.0	Binary Type 2	9600 8N1

entered. Once the value has been edited, the text will turn blue to show that it has been changed and needs to be updated. To send the update to the device click on the Set Device IPs button and the device will have its address information updated.

If the Populate Displayed IPs button is pushed, then the IP, subnet and gateway information on all devices will turn blue.

To set the IP Addresses on the devices, select the desired devices to be updated. Ctrl-A on Windows or Command-A on OS X will select all devices. Once the desired devices are selected, click the “Set Device IPs” button to set the addresses on the devices.

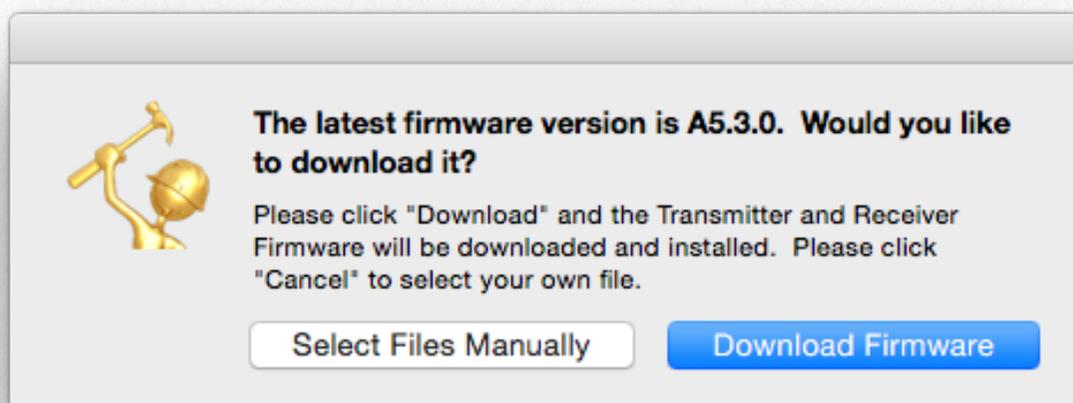
Updating Device Firmware:

InstallerPro 3 has a very powerful firmware updating utility. By displaying the firmware revision in the browser display, it is easy to see if there are one or more devices on the network that have mismatched firmware. Previous methods of updating firmware required the user to manually connect to the internal web page of each Just Add Power device, select the firmware update page, open the firmware file and begin programming. This utility inside InstallerPro 3 allows the firmware files to be loaded once and the software will simultaneously load the firmware to all devices selected. This will save significant amounts of time updating the firmware for large networks.

To update firmware, select the device or devices (for firmware update multiple devices can be selected) to be updated. Both transmitters and receivers can be selected together.

Once the desired selections have been made, click the “Update Firmware” button. If InstallerPro has access to the internet when it starts up, it will check the Just Add Software servers for the latest version of the Just Add Power firmware.

You will then be given the opportunity to download that firmware, or select your firmware files manually.

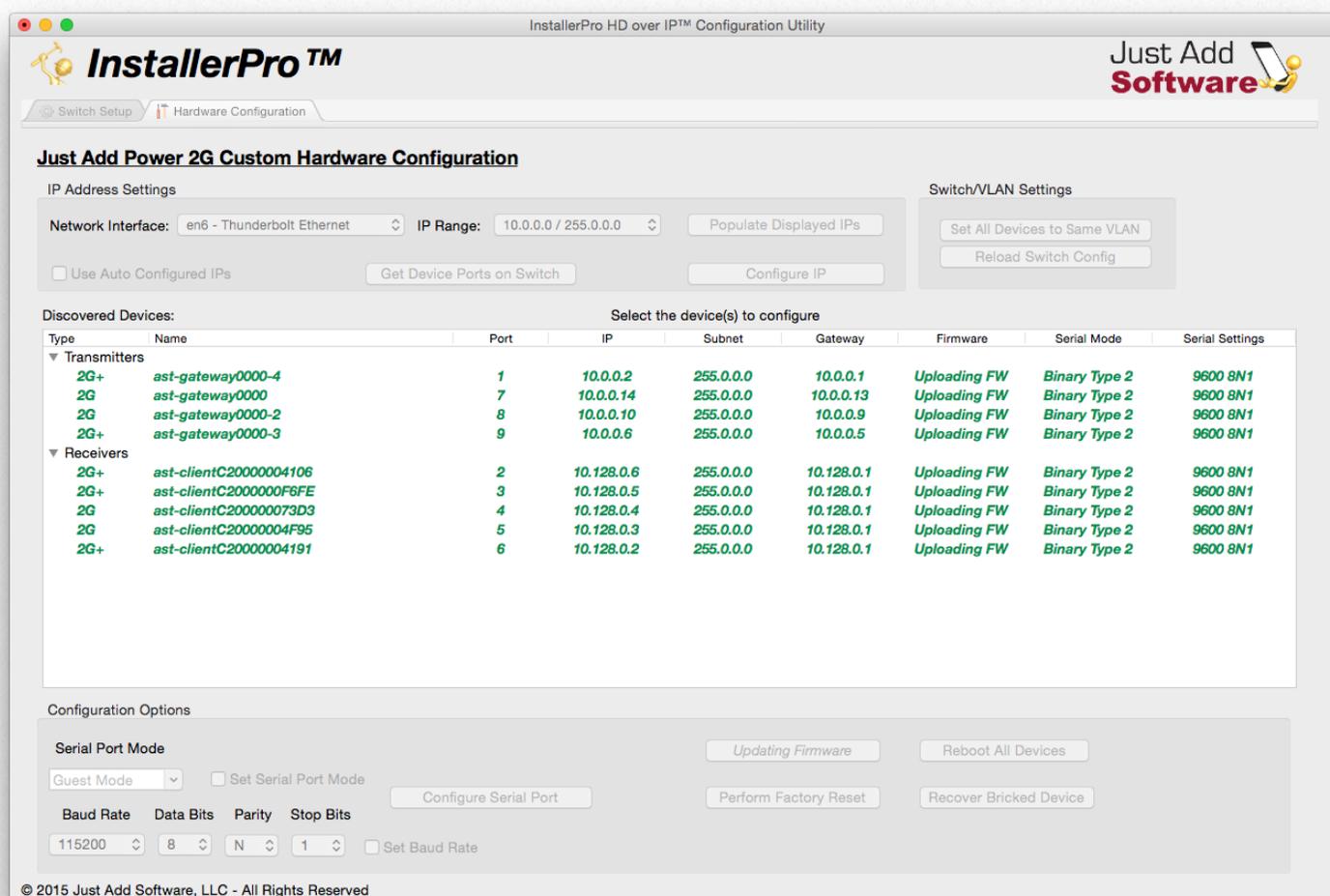


If “Select Files Manually” is chosen, then depending on the device type selected, a file dialog will open up prompting to select the firmware file. If both transmitters and receivers are selected, the software will first prompt for one type of file and then prompt again for the second type. Once the firmware files have been selected, the update process begins.

If you choose to download the firmware and devices in the system already have the latest version of firmware, the prompt at the right will be shown. Clicking “No” will deselect any devices that already have the current firmware version. Clicking “Yes” will update all devices.



The firmware update will now begin. All devices will have their text color turn green and the typeface will be italic. While InstallerPro is uploading the firmware to the devices, the words “Uploading Firmware” will be shown in the Firmware column. **Please do NOT interrupt the uploads as this could render the devices bricked.**



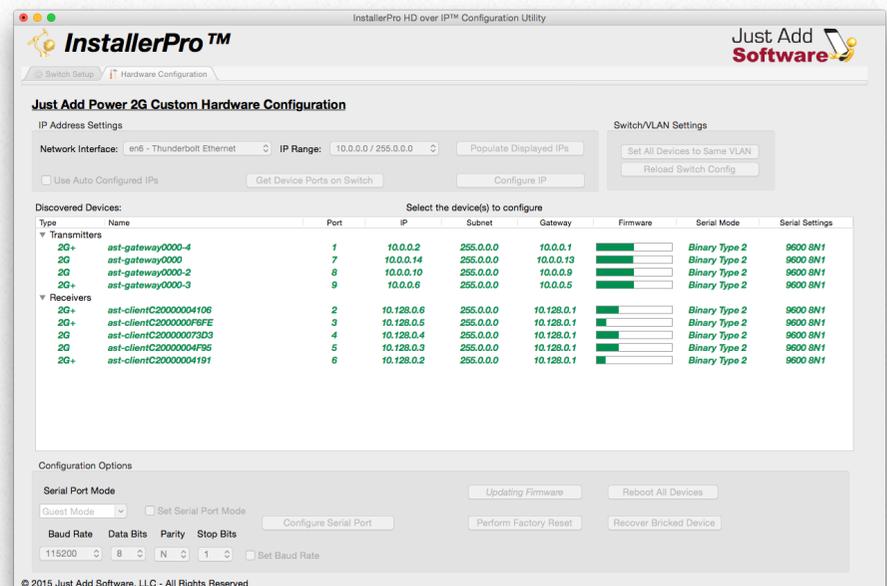
Please also make sure that the boxes remain powered during the entire update cycle.

When the firmware gets loaded onto the devices, the update process will begin on the device. A progress bar will be shown in the firmware column and will update with the progress of the programming. Some devices will start updating before others. Transmitters will start first and take less time for the whole process than receivers.

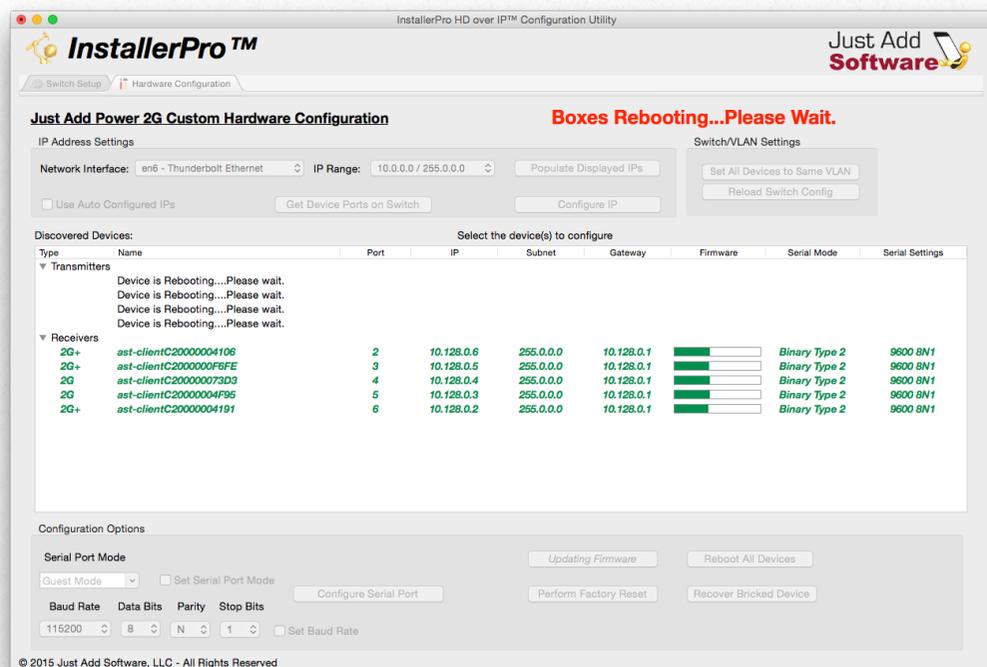
et	Gateway	Firmware	Serial Mode
0.0	10.0.0.1	<input type="text"/>	Binary Type 2
0.0	10.0.0.13	<input type="text"/>	Binary Type 2
0.0	10.0.0.9	<input type="text"/>	Binary Type 2
0.0	10.0.0.5	<input type="text"/>	Binary Type 2
0.0	10.128.0.1	Uploading FW	Binary Type 2
0.0	10.128.0.1	Uploading FW	Binary Type 2
0.0	10.128.0.1	Uploading FW	Binary Type 2
0.0	10.128.0.1	Uploading FW	Binary Type 2
0.0	10.128.0.1	Uploading FW	Binary Type 2

The picture at the right and the closeup below shows the progress of the devices as they are being updated.

10.0.0.1	<input type="text"/>	Binary Type
10.0.0.13	<input type="text"/>	Binary Type
10.0.0.9	<input type="text"/>	Binary Type
10.0.0.5	<input type="text"/>	Binary Type
10.128.0.1	<input type="text"/>	Binary Type
10.128.0.1	<input type="text"/>	Binary Type
10.128.0.1	<input type="text"/>	Binary Type
10.128.0.1	<input type="text"/>	Binary Type
10.128.0.1	<input type="text"/>	Binary Type

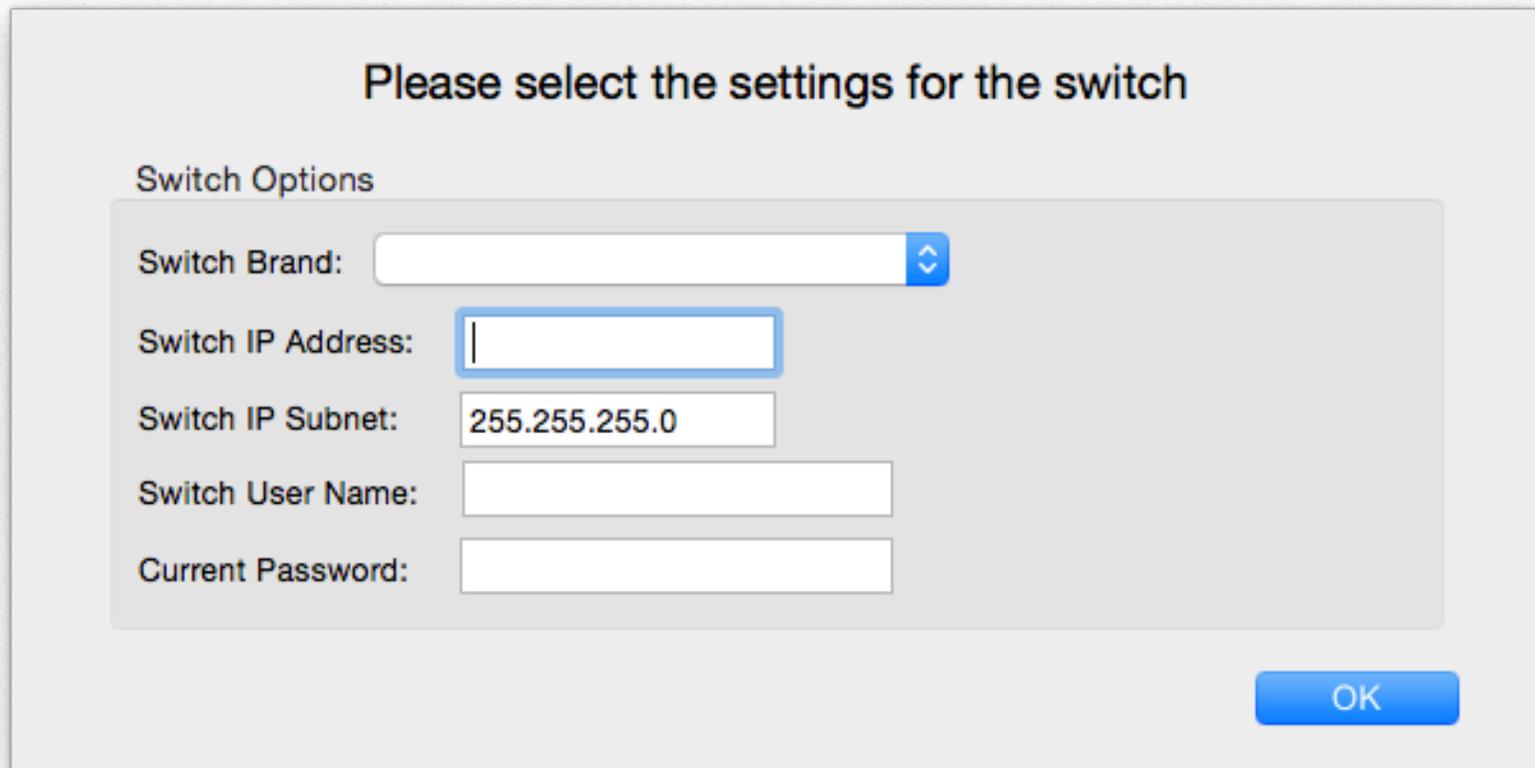


Once the firmware update is complete, the devices will begin rebooting.



A Note On Device Discovery:

In order for devices to be discovered, they must be on the same VLAN as the computer running InstallerPro. If the devices are not on the same VLAN, clicking the Set All Devices to Same VLAN button will connect to the switch and adjust the VLANs accordingly. If the switch information has been entered in the switch tab, InstallerPro will use that information. If no information is entered, InstallerPro will open the window below.



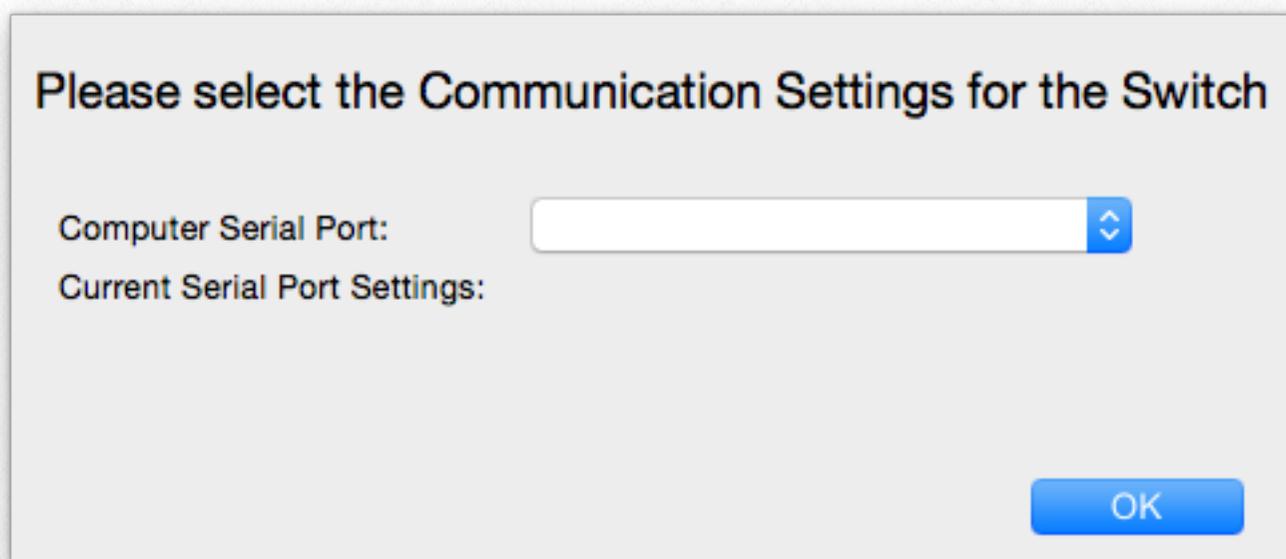
The screenshot shows a dialog box titled "Please select the settings for the switch". It contains a section labeled "Switch Options" with the following fields:

- Switch Brand: A dropdown menu.
- Switch IP Address: A text input field.
- Switch IP Subnet: A text input field containing "255.255.255.0".
- Switch User Name: A text input field.
- Current Password: A text input field.

An "OK" button is located at the bottom right of the dialog box.

Enter the switch information and click OK. The IP address of the switch is optional.

If the serial adapter has not been specified in the switch setup tab, the following window will then open. Select the desired serial port and click OK.



The screenshot shows a dialog box titled "Please select the Communication Settings for the Switch". It contains the following fields:

- Computer Serial Port: A dropdown menu.
- Current Serial Port Settings: A text input field.

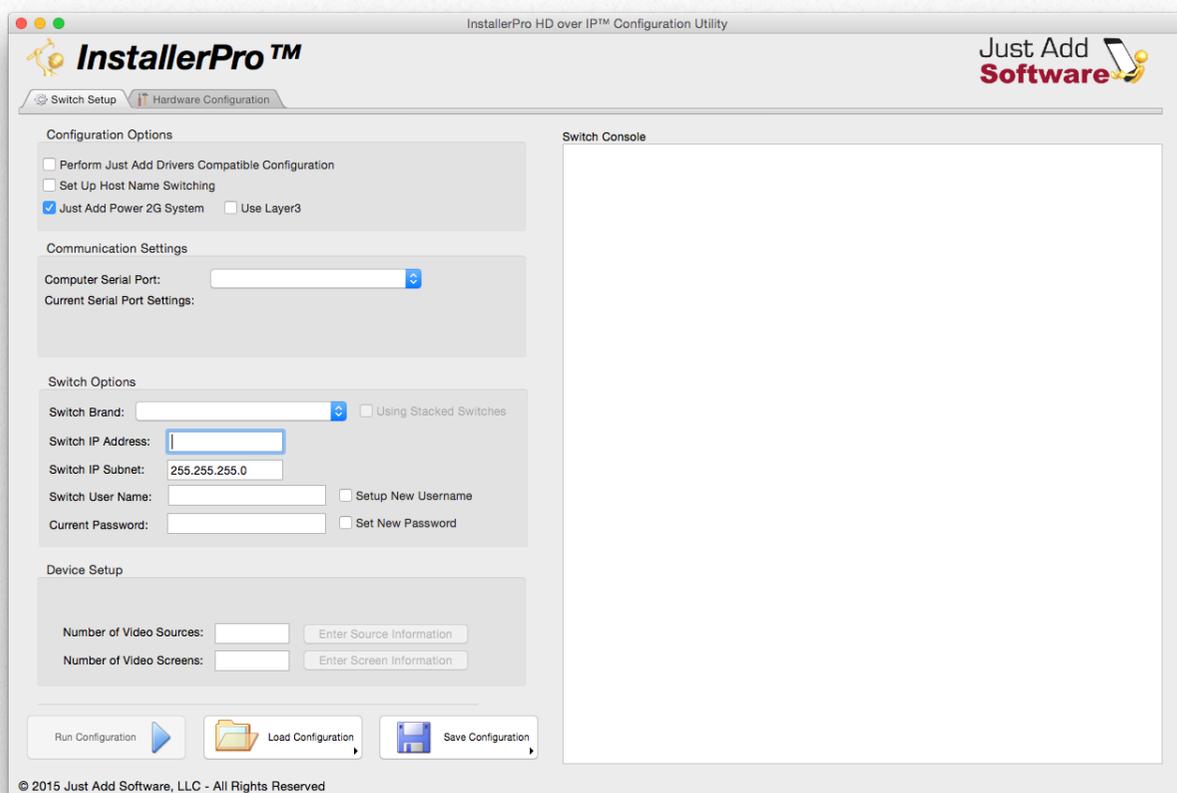
An "OK" button is located at the bottom right of the dialog box.

Once all devices and the computer are on the same VLAN, the devices will begin to be discovered and will show in the list. If devices do not begin to show up in a reasonable amount of time, try disconnected a few devices from the switch and then reconnecting them. This should speed up the device discovery process. Usually after doing this to a few devices, all devices should begin to show up rather quickly. The reasons for this behavior have to do with the way Bonjour listens for devices and is beyond the scope of this manual.

If there are any question regarding hardware configuration or operation of the Hardware Configuration Tab, please contact us at support@justaddsoftware.net.

3

Standard Layer 2 setup



Configuring the switch for layer 2 is a simple and rapid option for configuring a Just Add Power HD over IP matrix. In layer 2 setups, there is no ability to access the Just Add Power hardware once VLANs have been assigned. There is generally no need to do any programming or modification of the hardware either.

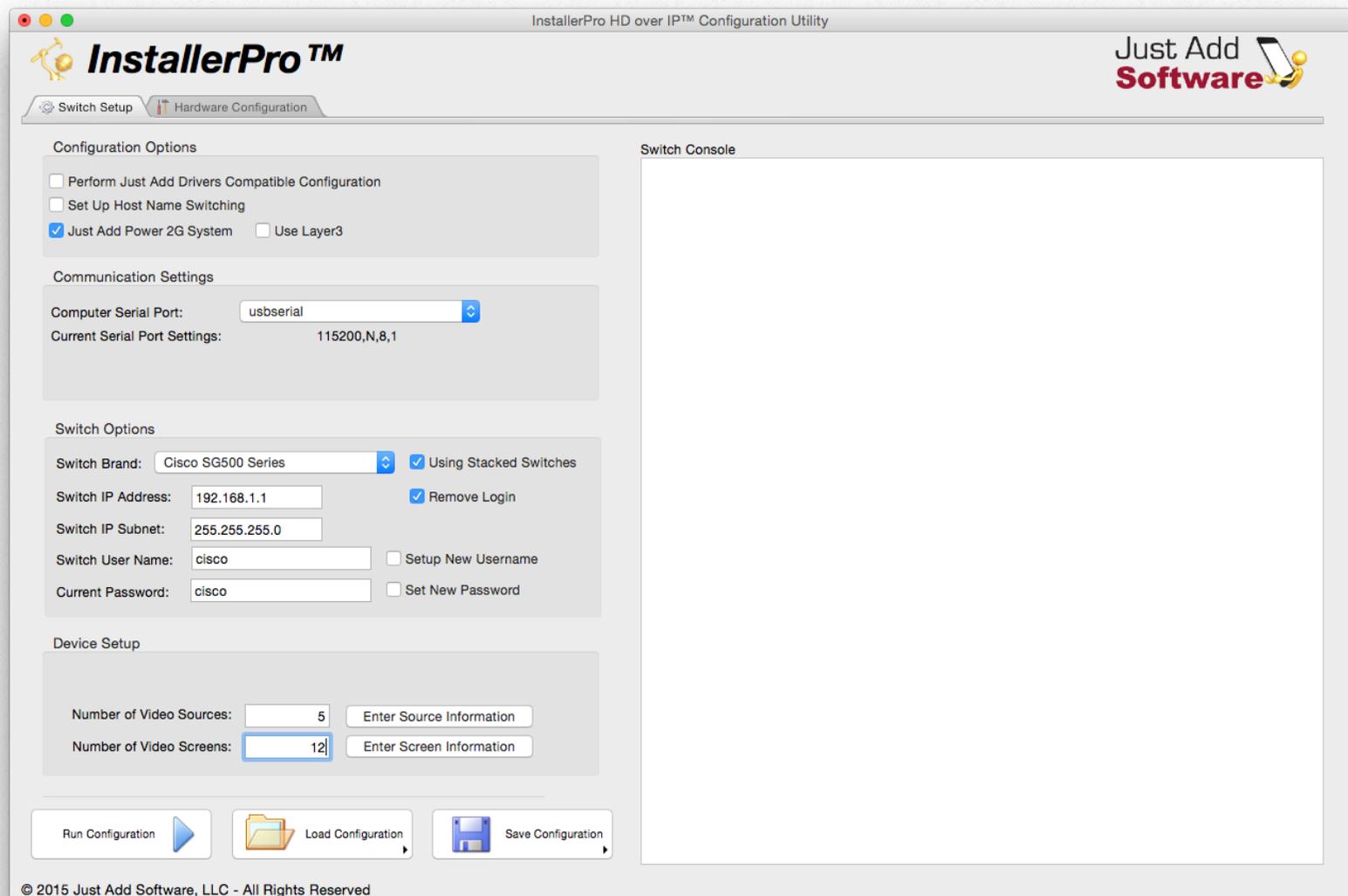
This chapter will cover the details of performing a full layer 2 setup.

Please note that an IP address for the switch is required to be entered. If the switch is going to be operating in a LAN environment, be sure to get an available IP address from the network administrator. If the switch will be used in a standalone network and controlled either through TCP/IP or RS-232, then any IP address desired can be used. The fields for the IP address and subnets will enforce proper IP address formation so that an incorrect or invalid address format cannot be used.

If the switch has a default user name and password those are automatically entered upon selecting the switch. If the existing user name and password on the switch is different from what is shown, then enter those values. To change the user name or password on

the switch to something different from its current value check the appropriate check box to change the user name or password. If those boxes are checked, during the configuration, the user will be prompted to enter the new user name and password.

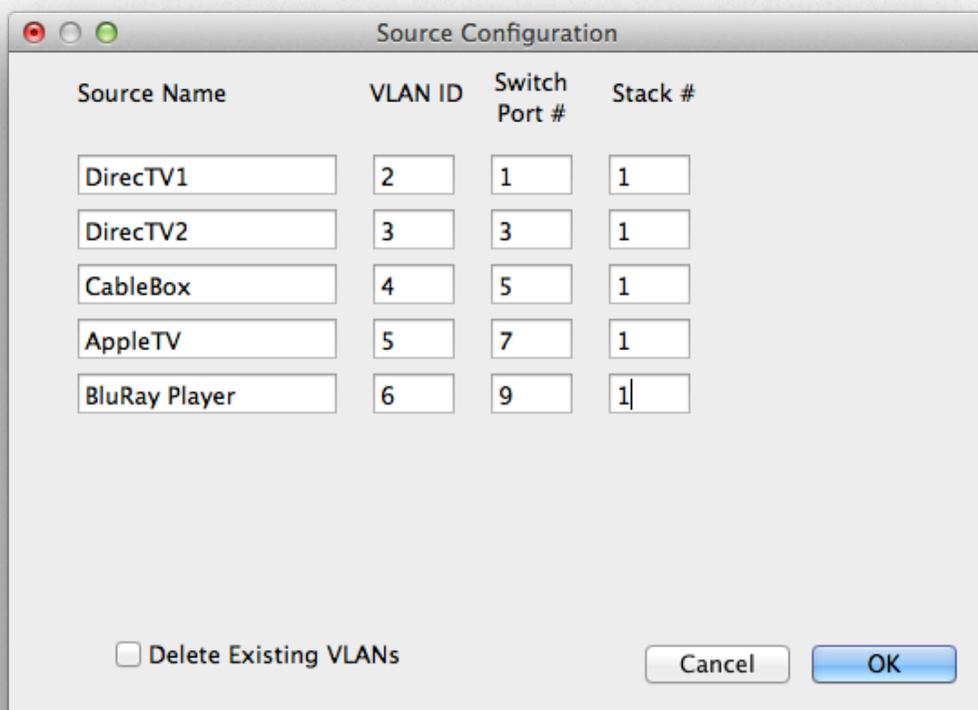
Once all the network and user information is configured for the switch, enter the number of sources and screens in the provided fields. A completed screen is shown below.



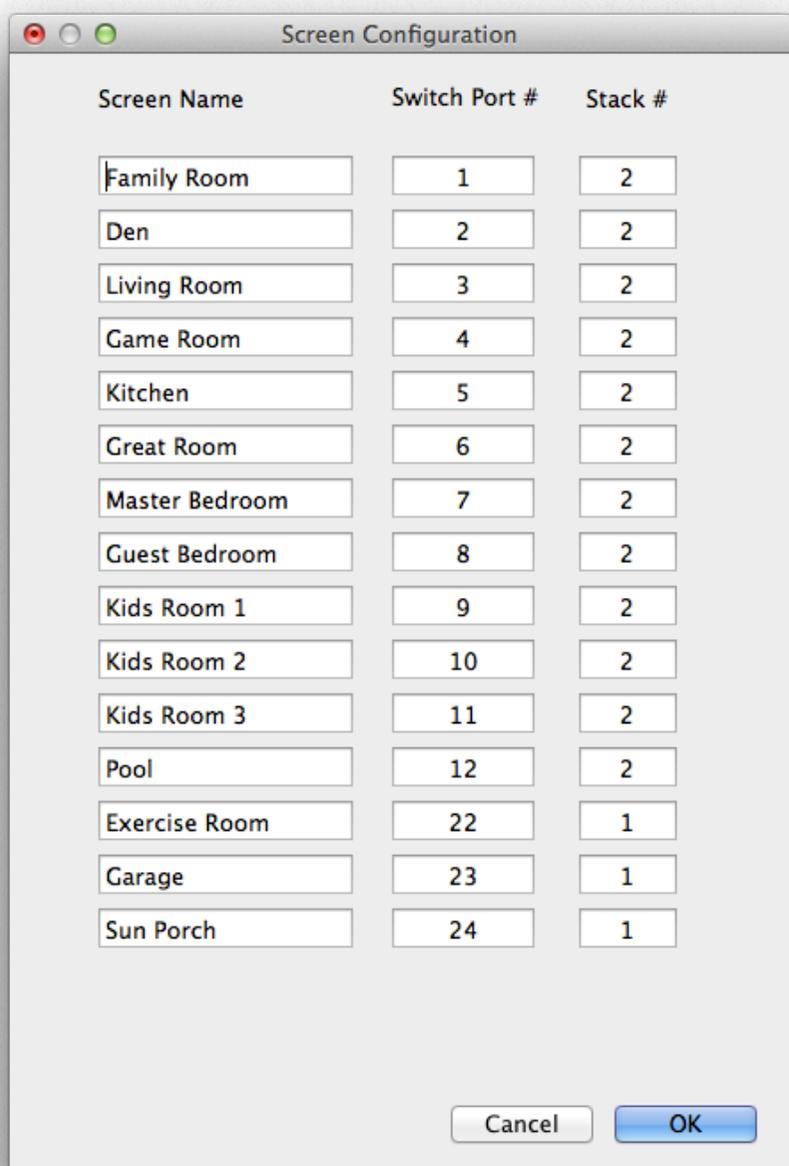
In the example shown, the “Using Stacked Switches” option is selected. If a **stacked switch** configuration is being used, be sure to check this so that the proper stack numbers can be specified when assigning ports to the transmitters and receivers.

When using stacked switches and receivers, the source and screen setup windows add a new column where the stack number of the switch is entered. These screens for the above example are shown on the next page.

In a layer 2 setup, VLAN IDs can be any number valid for the type of switch (see the switch user manual for valid VLAN range values) other than 1. VLAN 1 is reserved for LAN and management functions. **Do not put any Just Add Power devices on VLAN 1.**



InstallerPro allows for a flexible setup of the switch. Unlike other solutions, InstallerPro does not restrict transmitters or receivers to specific ports unless a Just Add Drivers configuration is performed. Any port can contain a transmitter or receiver. It is completely up to the programmer how to lay out the system. This makes it flexible and easy depending on the needs of the installation.



Once the sources and screens are set up, click the Configure Switch button to program the switch. A prompt will appear asking for the name for the system. This is used in a report that is generated later. If cancel is clicked, the configuration will be aborted. Once the config is running, the console on the right side of the window will show the output from the switch as the commands are sent.

Once the switch is configured, all screens will be assigned to the VLAN ID of the first source.

If trouble occurs during configuration of the switch, click in the console view and type ctrl-a (command-a in OS X) to select all the text, then control-c (command-c in OS X) to copy the text to the clip board. Then paste that text into an e-mail

and send it to support@justaddsoftware.net. We can generally spot what is wrong fairly quickly and get back with a solution.

Sometimes, the switch output on the console will show things like “Unrecognized Command” or similar. Many times this is OK as InstallerPro sometimes sends commands that are not necessarily needed to ensure that it is at the proper command level. If there are an excessive number of these in the output, there may be an issue so please contact Just Add Software if you see that.

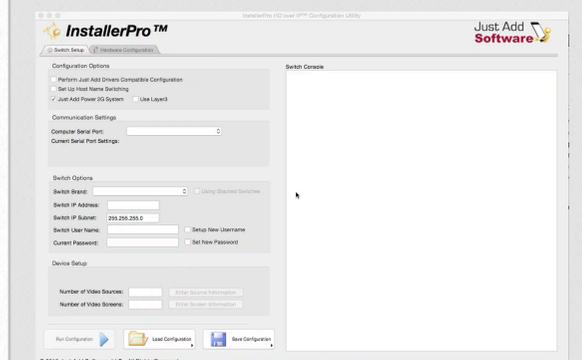
Once the configuration has finished running, InstallerPro will ask the user if they wish to view a report on the system. If you say yes, the report window will open up with detail on how the system was programmed. This report can be printed or saved in PDF form using the tool bar buttons at the top of the window. For more information on the report window, please see the Report Window Chapter.

4

Layer 3 System Configuration

One of the most powerful aspects of InstallerPro 3 is its ability to completely configure a Just Add Power system for **Layer 3** operation. Layer 3 operation allows full TCP/IP access to all Just Add Power devices from the LAN regardless of what video VLAN the devices are currently using. By setting up a Layer 3 system, CIs can now program their control systems to directly communicate by way of TCP/IP with the serial ports on the Just Add Power hardware. With Just Add Power's 2G+ lineup, HDMI-CEC commands can be sent directly to the on-board CEC processor.

Movie 4.1 Full Layer 3 Installation



Perform a full Layer 3 configuration with InstallerPro in less than 15 minutes.

While Layer 3 configuration is extremely powerful, it is also more involved to set up than a Layer 2 installation. InstallerPro 3 aims to make this setup as easy as possible provided the specific steps laid out in this manual are followed. Please be sure to read and understand this chapter fully before attempting to configure a layer 3 system.

There are two parts to the Layer 3 configuration: Switch configuration and hardware configuration. InstallerPro will allow the user the option of configuring only the switch or configuring the hardware and the switch.

Requirements for Layer 3 Operation:

There are several items required for a layer 3 configuration. All the items listed here are needed:

1.) A Layer 3 Compatible Switch: At the time of release of InstallerPro 3, the following switches are supported for Layer 3 Operation: Cisco SG300, Cisco SG500 and Dell PowerConnect 6200 switches. It is planned to support the Cisco Catalyst series switches as well in a future release.

2.) 2G, 2G+ or 2G+ AVPro hardware: The hardware needs to be connected to the switch **without** HDMI cables connected to the transmitters.

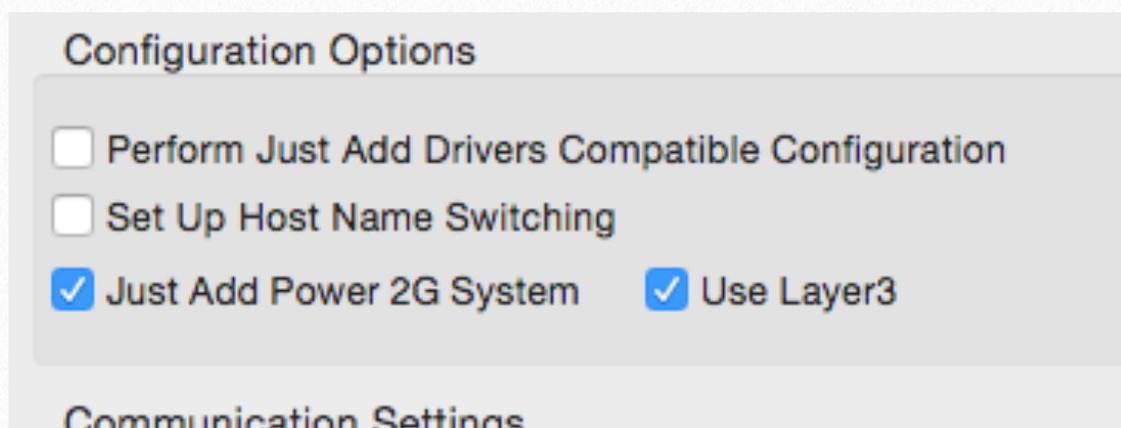
3.) Ethernet connection between the computer running InstallerPro and the switch: the computer needs to be connected to the port specified as the “LAN” port in InstallerPro (more on that later). This ethernet connection is used for connecting to the Just Add power Transmitters and Receivers.

4.) RS-232 Connection between the switch and the computer: this is required as all communication with the switch is performed over the RS-232 connection.

Selecting Layer 3 Operation

A layer 3 configuration is chosen by selecting the “Use Layer 3” checkbox in InstallerPro. As discussed in [Chapter 2](#) selecting “Use Layer 3” adds additional controls to the switch settings tab.

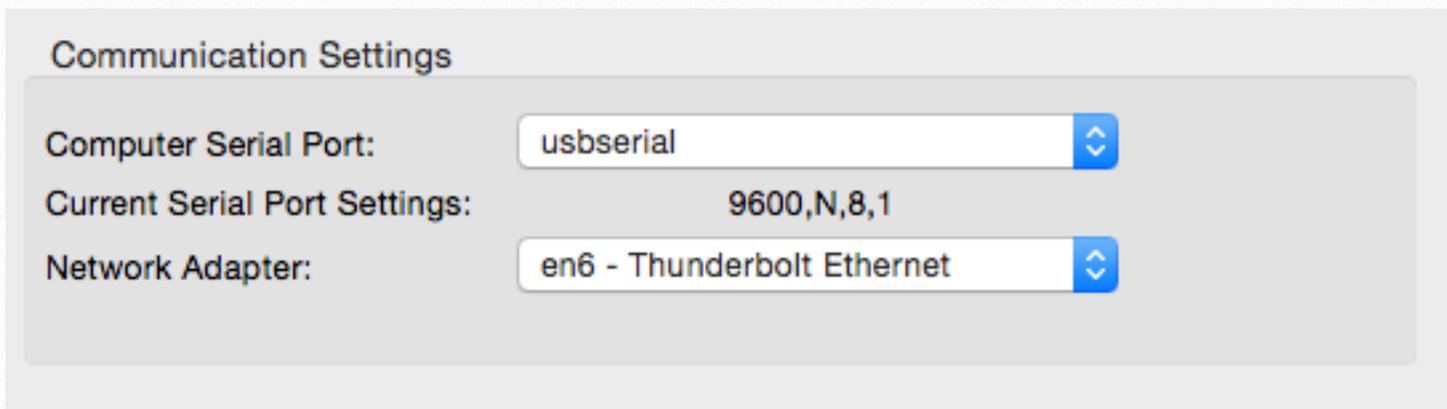
Finally, the user needs to decide if a custom installation is performed or a Just Add Drivers compatible configuration is to be performed. If a Just Add Drivers compatible configuration is to be performed, please see [Chapter 5](#).



Entering Configuration Information for Layer 3:

To set up Layer 3, select the 2G system in InstallerPro 3 (1G systems are not able to take advantage of the layer 3 environment). Then select “Use Layer 3.”

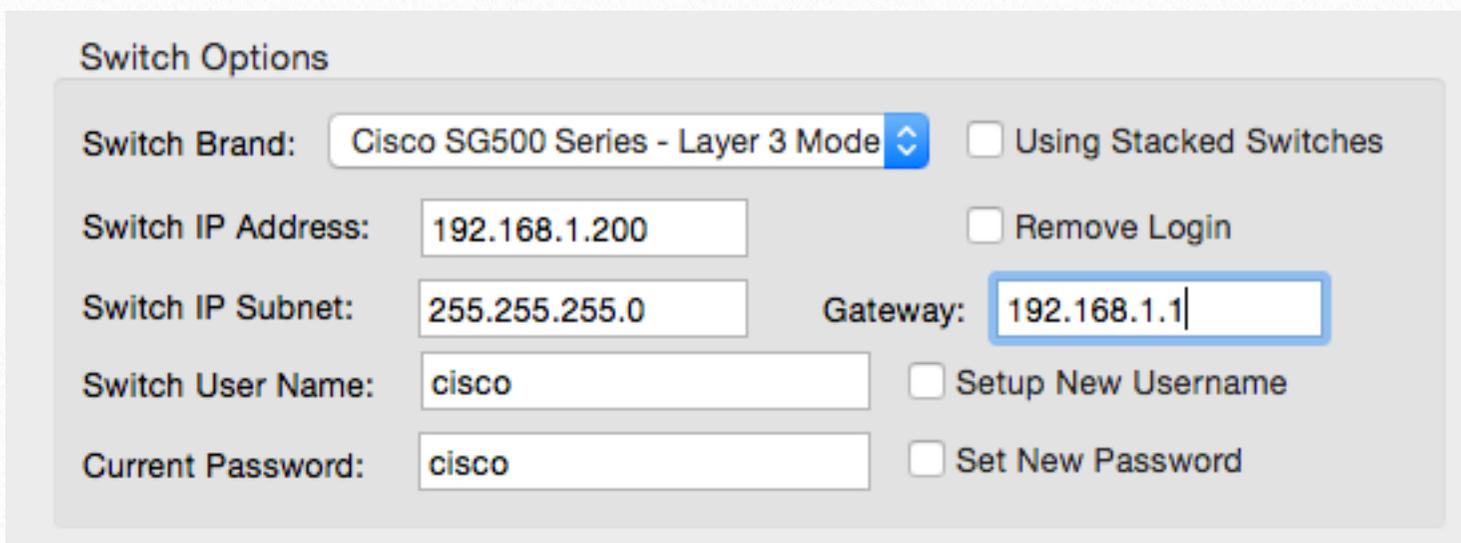
In the Communication Settings control group, select the RS-232 port as well as the TCP/IP Network Card to be used in the setup.



The screenshot shows the 'Communication Settings' control group. It contains three rows of configuration options:

- Computer Serial Port:** A dropdown menu with 'usbserial' selected.
- Current Serial Port Settings:** A text field containing '9600,N,8,1'.
- Network Adapter:** A dropdown menu with 'en6 - Thunderbolt Ethernet' selected.

In the Switch Options Control Group, select the model of switch to be used. Enter the

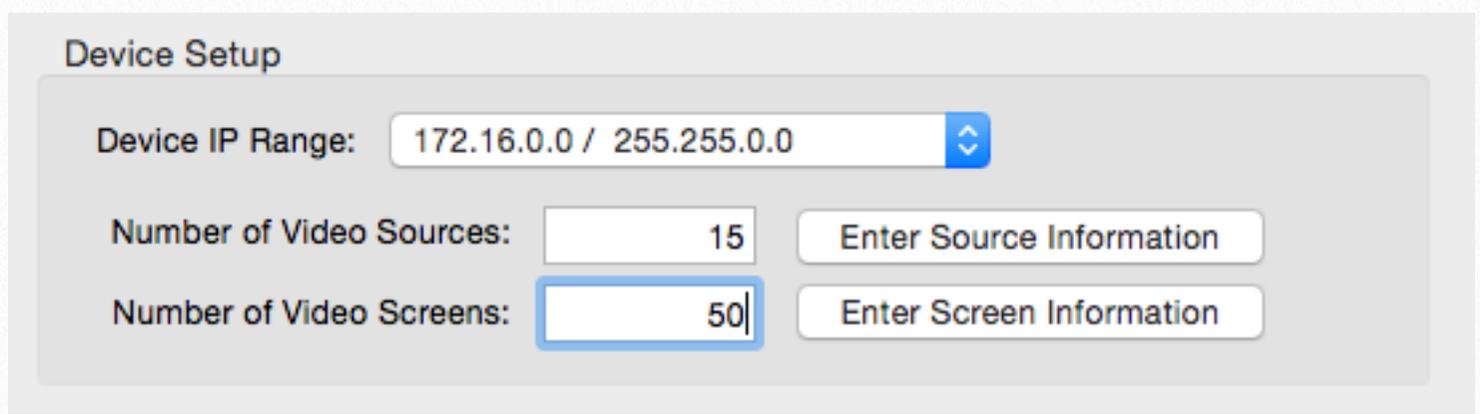


The screenshot shows the 'Switch Options' control group. It contains several rows of configuration options:

- Switch Brand:** A dropdown menu with 'Cisco SG500 Series - Layer 3 Mode' selected.
- Using Stacked Switches:** An unchecked checkbox.
- Switch IP Address:** A text field with '192.168.1.200'.
- Remove Login:** An unchecked checkbox.
- Switch IP Subnet:** A text field with '255.255.255.0'.
- Gateway:** A text field with '192.168.1.1'.
- Switch User Name:** A text field with 'cisco'.
- Setup New Username:** An unchecked checkbox.
- Current Password:** A text field with 'cisco'.
- Set New Password:** An unchecked checkbox.

LAN IP address for the switch along with the username and password. For more information on these controls, please see the [section in Chapter 2 covering these controls](#).

After the switch information has been selected and entered, please enter the number of sources (Trans-



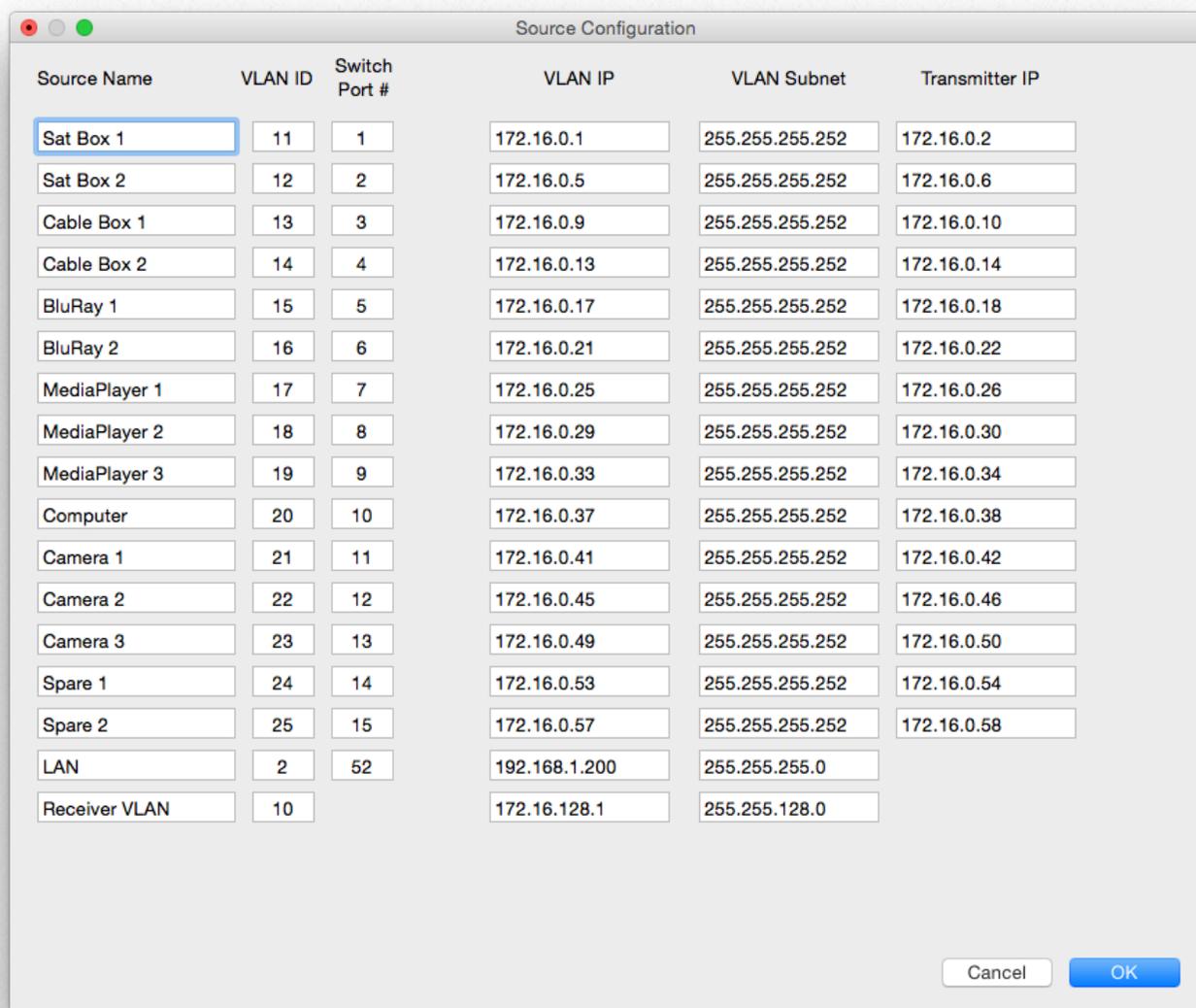
The screenshot shows the 'Device Setup' control group. It contains three rows of configuration options:

- Device IP Range:** A dropdown menu with '172.16.0.0 / 255.255.0.0' selected.
- Number of Video Sources:** A text field with '15' and a button labeled 'Enter Source Information'.
- Number of Video Screens:** A text field with '50' and a button labeled 'Enter Screen Information'.

mitters) and screens (Receivers) in the system. Please also select the desired IP range. For more information on this section including the IP range options, please see the [device setup section of chapter 2](#).

We are almost ready to start the configuration but not quite yet. The next step is to enter the source and screen information: tell InstallerPro what ports on the switch are being used and name those devices.

First click on the “Enter Source Information” button. The Source Configuration Window will open as shown to the right.



Source Name	VLAN ID	Switch Port #	VLAN IP	VLAN Subnet	Transmitter IP
Sat Box 1	11	1	172.16.0.1	255.255.255.252	172.16.0.2
Sat Box 2	12	2	172.16.0.5	255.255.255.252	172.16.0.6
Cable Box 1	13	3	172.16.0.9	255.255.255.252	172.16.0.10
Cable Box 2	14	4	172.16.0.13	255.255.255.252	172.16.0.14
BluRay 1	15	5	172.16.0.17	255.255.255.252	172.16.0.18
BluRay 2	16	6	172.16.0.21	255.255.255.252	172.16.0.22
MediaPlayer 1	17	7	172.16.0.25	255.255.255.252	172.16.0.26
MediaPlayer 2	18	8	172.16.0.29	255.255.255.252	172.16.0.30
MediaPlayer 3	19	9	172.16.0.33	255.255.255.252	172.16.0.34
Computer	20	10	172.16.0.37	255.255.255.252	172.16.0.38
Camera 1	21	11	172.16.0.41	255.255.255.252	172.16.0.42
Camera 2	22	12	172.16.0.45	255.255.255.252	172.16.0.46
Camera 3	23	13	172.16.0.49	255.255.255.252	172.16.0.50
Spare 1	24	14	172.16.0.53	255.255.255.252	172.16.0.54
Spare 2	25	15	172.16.0.57	255.255.255.252	172.16.0.58
LAN	2	52	192.168.1.200	255.255.255.0	
Receiver VLAN	10		172.16.128.1	255.255.128.0	

Enter the names of the sources as desired. Any name can be used. Enter the VLAN ID for each source. Any VLAN ID value can be used except 1. The usual standard for Just Add Power Layer 3 systems is to put the LAN on VLAN 2, the receiver VLAN as VLAN 10 and the transmitters VLANs starting at 11 and going up from there. Since InstallerPro is flexible, these values can be anything desired that will fit within the system architecture. For example, some users want to start transmitters at VLAN 100. Others want to use a different VLAN value for the Receiver VLAN. It is your choice.

Notice that the IP Address values have been filled out automatically. These can be edited, manually, **but it is highly recommend NOT to change them** unless you are a network expert and know what you are doing. Changing these to incorrect values could cause the system to not work. The VLAN IP is the IP address of the VLAN on the switch. The Transmitter IP is the value that the transmitter on that port will receive when programmed.

If the “Friendly” IP address scheme was chosen, the IP Addresses of the VLANs and transmitters will automatically update to match the VLAN ID. Please see the picture to the right.

Name	VLAN ID	Switch Port #	VLAN IP
	111	1	10.0.111.1
	121	2	10.0.121.1
	2	10	192.168.1.1
VLAN	10		10.0.10.1

If “Using Stacked Switches” is checked in the Switch Options control group, the window will add an additional “stack” column as shown at the right. Please fill out the value of the stack being used as well as the port value.

For the LAN port, please enter the port number used to connect the switch to the local network.

Once everything is entered correctly, please click the “OK” button to save the settings in

Source Name	VLAN ID	Switch Port #	Stack #	VLAN IP	VLAN Subnet	Transmitter IP
Sat Box 1	11	1	1	172.16.0.1	255.255.255.252	172.16.0.2
Sat Box 2	12	2	1	172.16.0.5	255.255.255.252	172.16.0.6
Cable Box 1	13	3	1	172.16.0.9	255.255.255.252	172.16.0.10
Cable Box 2	14	4	1	172.16.0.13	255.255.255.252	172.16.0.14
BluRay 1	15	5	1	172.16.0.17	255.255.255.252	172.16.0.18
BluRay 2	16	6	1	172.16.0.21	255.255.255.252	172.16.0.22
MediaPlayer 1	17	7	1	172.16.0.25	255.255.255.252	172.16.0.26
MediaPlayer 2	18	8	1	172.16.0.29	255.255.255.252	172.16.0.30
MediaPlayer 3	19	9	1	172.16.0.33	255.255.255.252	172.16.0.34
Computer	20	10	2	172.16.0.37	255.255.255.252	172.16.0.38
Camera 1	21	11	2	172.16.0.41	255.255.255.252	172.16.0.42
Camera 2	22	12	2	172.16.0.45	255.255.255.252	172.16.0.46
Camera 3	23	13	2	172.16.0.49	255.255.255.252	172.16.0.50
Spare 1	24	14	2	172.16.0.53	255.255.255.252	172.16.0.54
Spare 2	25	15	2	172.16.0.57	255.255.255.252	172.16.0.58
LAN	2	52	2	192.168.1.200	255.255.255.0	
Receiver VLAN	10			172.16.128.1	255.255.128.0	

memory

and continue. Click cancel to discard any changes.

Now click on the “Enter Screen Information” button to do a similar setup for the screens. The Screen Configuration window is shown at the left. This example shows a “stacked” setup. If stacked switches are not used, the stack # column will not be visible.

Also notice, the scroll bar: in any window in Installer-Pro, if there is more information than can be fit in the available window size, a scroll bar will be visible allowing the contents of the window to be scrolled.

The Receiver IP addresses are the IPs that will be programmed into the receivers during the hardware setup phase. Like the source window, these ad-

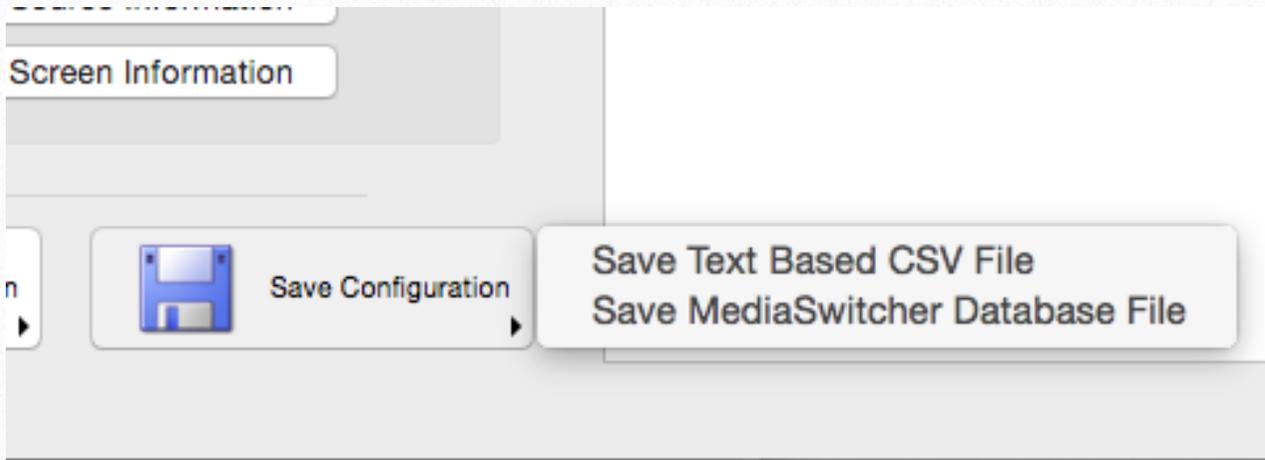
Screen Name	Switch Port #	Stack #	Receiver IP Address
Screen 1	50	1	172.16.128.2
Screen 2	49	1	172.16.128.3
Screen 3	48	1	172.16.128.4
Screen 4	47	1	172.16.128.5
Screen 5	46	1	172.16.128.6
Screen 6	45	1	172.16.128.7
Screen 7	44	1	172.16.128.8
Screen 8	43	1	172.16.128.9
Screen 9	42	1	172.16.128.10
Screen 10	41	1	172.16.128.11
Screen 11	40	1	172.16.128.12
Screen 12	39	1	172.16.128.13
Screen 13	38	1	172.16.128.14
Screen 14	37	1	172.16.128.15
Screen 15	36	1	172.16.128.16
Screen 16	1	2	172.16.128.17
Screen 17	2	2	172.16.128.18
Screen 18	3	2	172.16.128.19
Screen 19	4	2	172.16.128.20
Screen 20	5	2	172.16.128.21
Screen 21	6	2	172.16.128.22
Screen 22	7	2	172.16.128.23
Screen 23	8	2	172.16.128.24
Screen 24	9	2	172.16.128.25

addresses can be edited manually, but we recommend against doing this as it can potentially “break” an installation.

Once all data is entered, click OK to save the settings to memory. Click cancel to forget any changes.

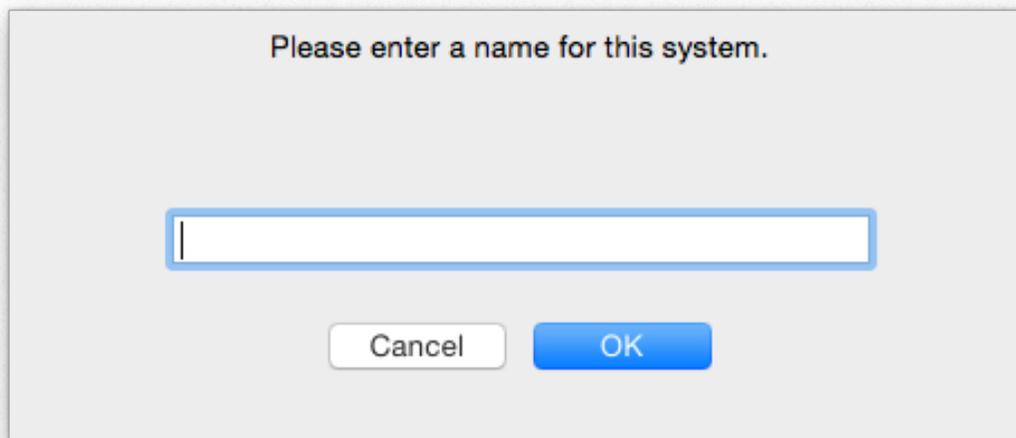
Now we are ready to run the configuration. Before running, if saving the settings to a file is desired, click the Save Configuration button:

Once clicked, there are two options - Save Text Based CSV File will save the settings to a comma separated value text file. The format of this file is outlined in the appendix. The other option is to

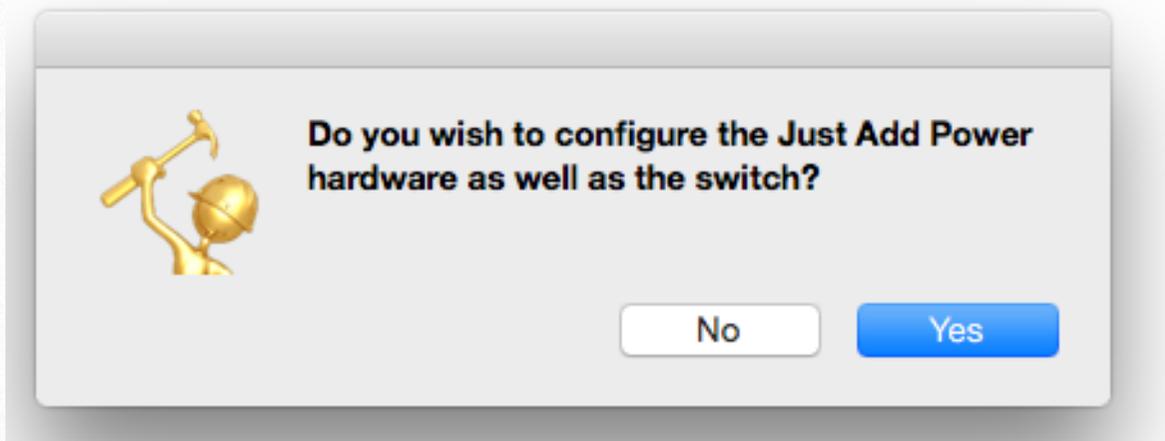


save the settings in a MediaSwitcher Database file. This database file saves all system information and can be read by Just Add Software’s MediaSwitcher control system software. It is recommended to save in the Database format as more information about the system is stored in that format than in the text based file.

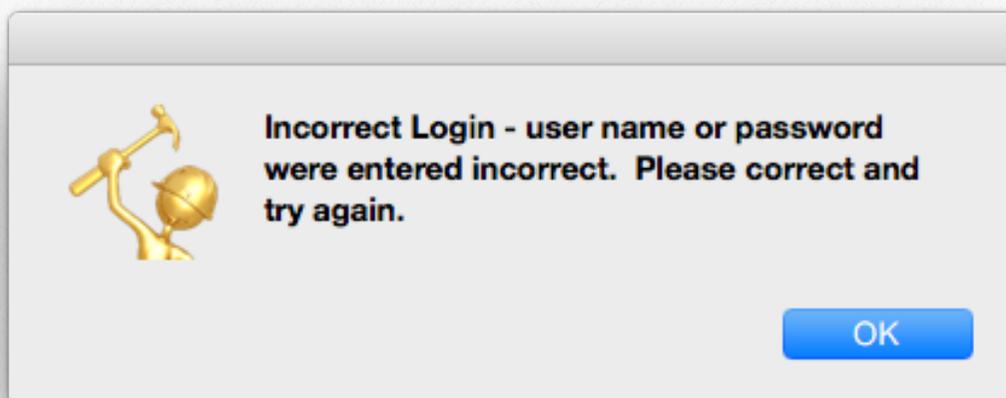
Click Run Configuration to begin the task. At the start of the run, you will be prompted for the name of the system. This is used later when viewing/saving/printing a report of the system generated by InstallerPro.



Next you will be asked if you wish to configure the hardware as well as the switch. Answer yes to set up and configure the hardware or no if you want to configure the switch only.

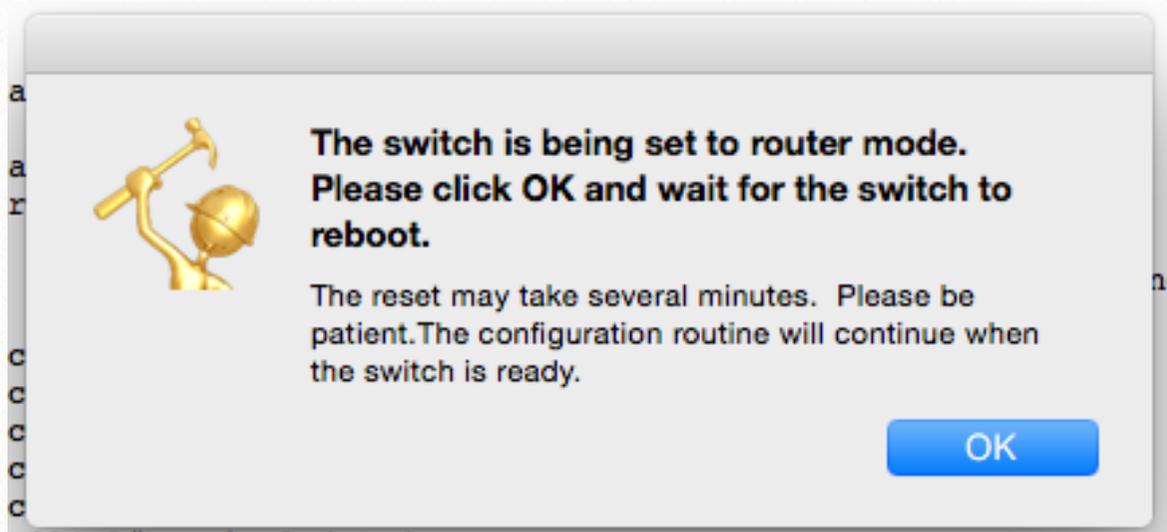


The configuration now begins to run. InstallerPro will attempt to log into the switch using the name and password specified in the Switch Options control group. If the login is not successful, you will be prompted that the login failed and the configuration will end.



Once logged into the switch, InstallerPro sends a few initial commands to set up the environment for the configuration session. If a Cisco "SG" series switch is being used, InstallerPro will then check to see if the switch is in switch mode or router mode. If switch mode is being used (the default for all SG series switches except the SG500X), InstallerPro detects this and displays the prompt shown at the right.

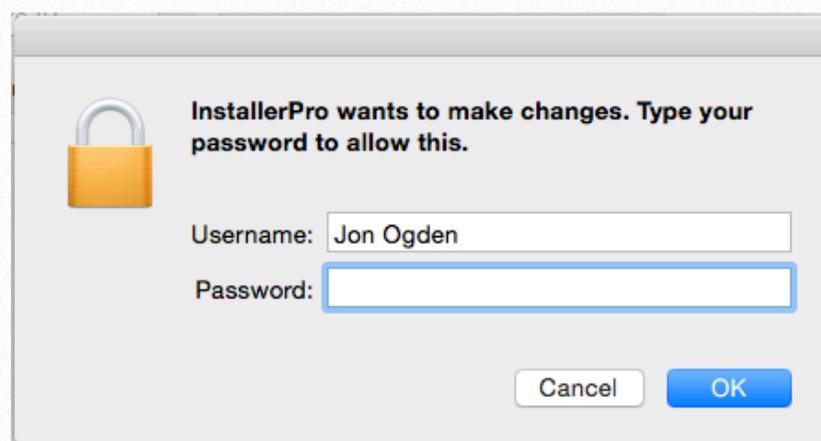
The switch will then be put into router mode and will reboot. This will take several minutes. Please click OK and then wait for InstallerPro to continue the configuration once the switch is rebooted.



Do not attempt to do anything else with the configuration at this time.

Once the switch is rebooted or if the switch was already in router mode, the configuration will continue. At this point if the switch is new or unconfigured, InstallerPro will start the hardware configuration process. If the switch has been previously set up and is now being changed (i.e. A new transmitter or receiver was added), InstallerPro will first program all the changes to the switch and then move to configuring the hardware. For our purposes here, we will continue as a new configuration.

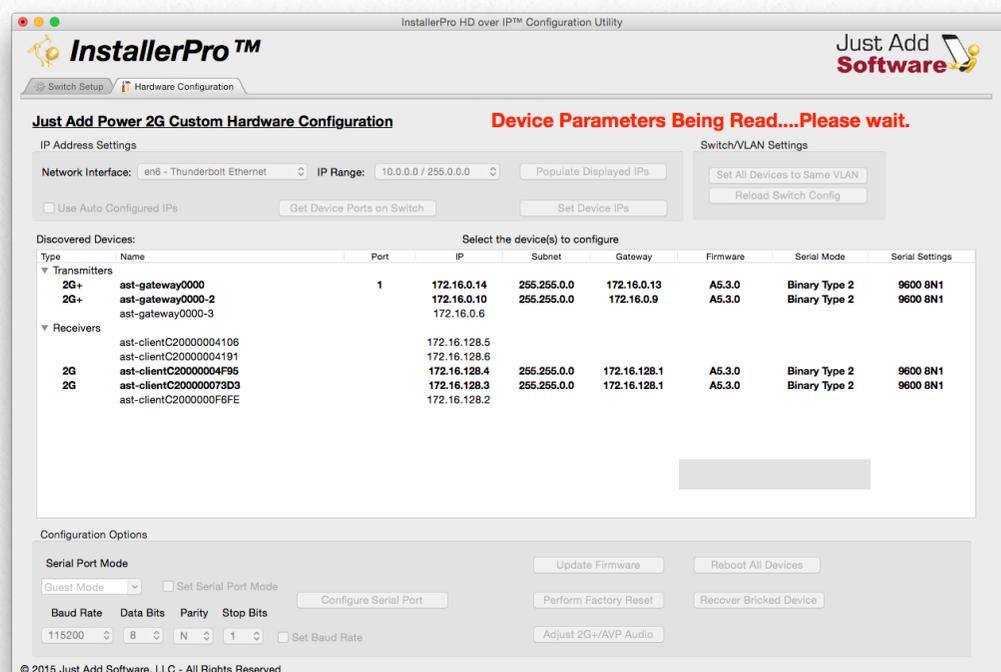
The next step then in our process will be the configuration of the Just Add Power hardware. InstallerPro will automatically switch to the hardware tab and begin the process of discovering the devices. As devices are discovered, InstallerPro will automatically add the IP address(es) to the computer needed to communicate with the devices. On Mac OS X systems, an authorization prompt may appear. This is necessary to add or remove IP addresses. Please enter your administrator user name and password and continue. For Windows users, you may get prompted once when InstallerPro starts depending on your User Access Control settings.



When InstallerPro quits, any IP addresses added by the software will be removed.

Hardware Configuration:

As devices are discovered and connected, they will show as bold in the hardware configuration tab. Devices in bold type face are connected. Devices in normal type face are discovered but the software has not yet connected to them. As the devices are discovered and their parameters loaded there is flashing red text in the upper right side of the window to let



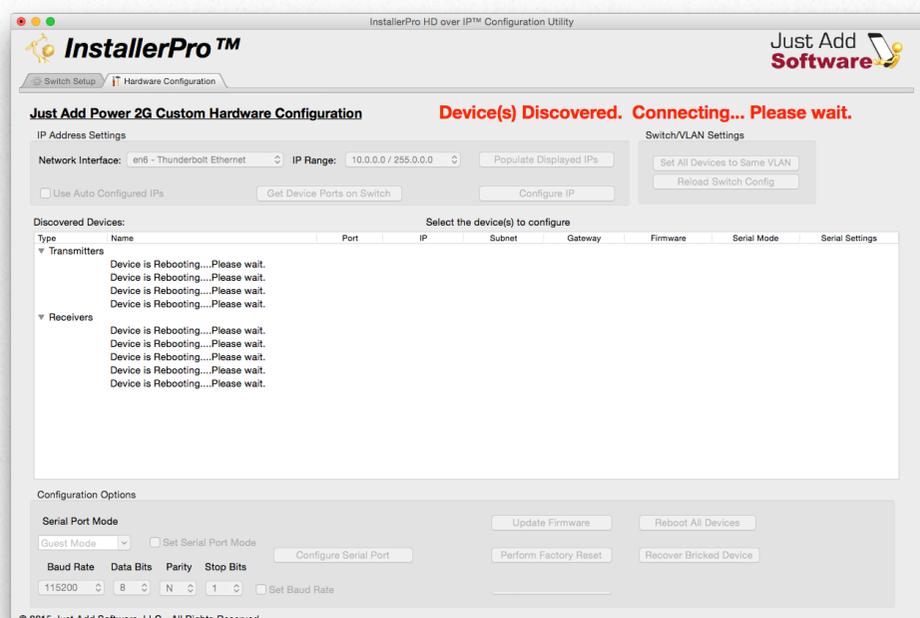
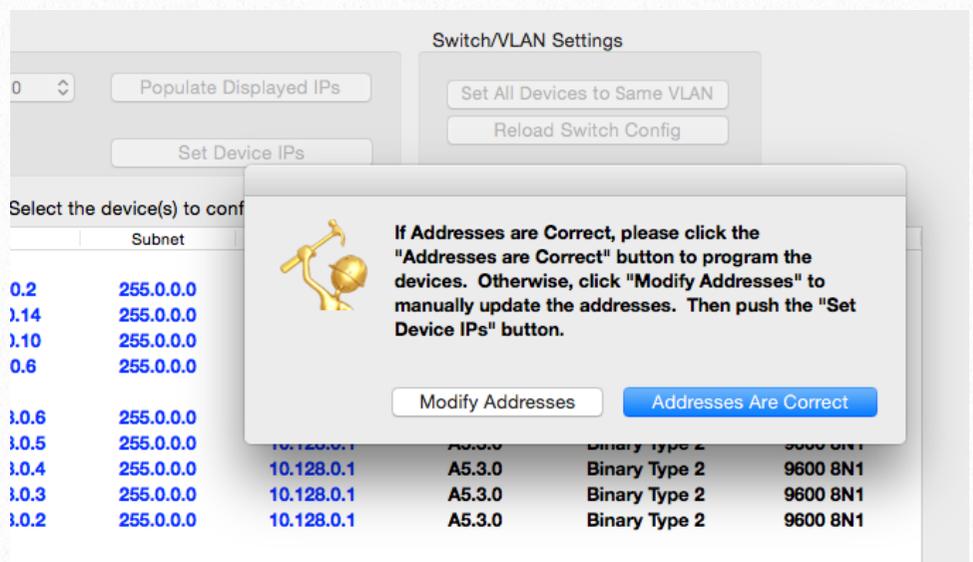
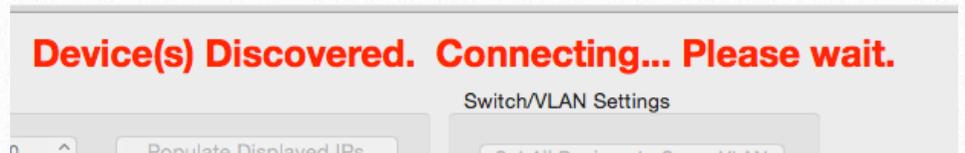
you know the current status/progress. This text will change depending upon what is occurring during the discovery process. If devices are not being discovered see the section entitled **“When Devices are Not Discovered.”**

The image at the right shows an example of one such messages indicating the that the devices have been discovered and the software is starting to connect to them.

Once all devices have been discovered and had their parameters read, Installer-Pro will automatically update the IP addresses shown to the IP Addresses in the previously selected IP range. The changed values will be shown in blue and the prompt at the right will appear. If any device has an incorrect address

or needs to be changed, click the “Modify Addresses” button and then manually edit the incorrect addresses. Once that is done, click the “Set Device IPs” button to continue with the configuration.

If the addresses are correct (which most times they should be), click the “Addresses Are Correct” button and the devices will be programmed and rebooted. The window will appear as below, showing the devices as rebooting.



Once the devices have all rebooted and been connected, the next step will be to update the firmware. If InstallerPro has access to the internet when it starts up, it will check the Just Add Software servers for the latest version of the Just Add Power firmware. You will

then be given the opportunity to download that firmware, or select your firmware files manually. You may also skip the firmware update step if the devices all have the latest firmware.

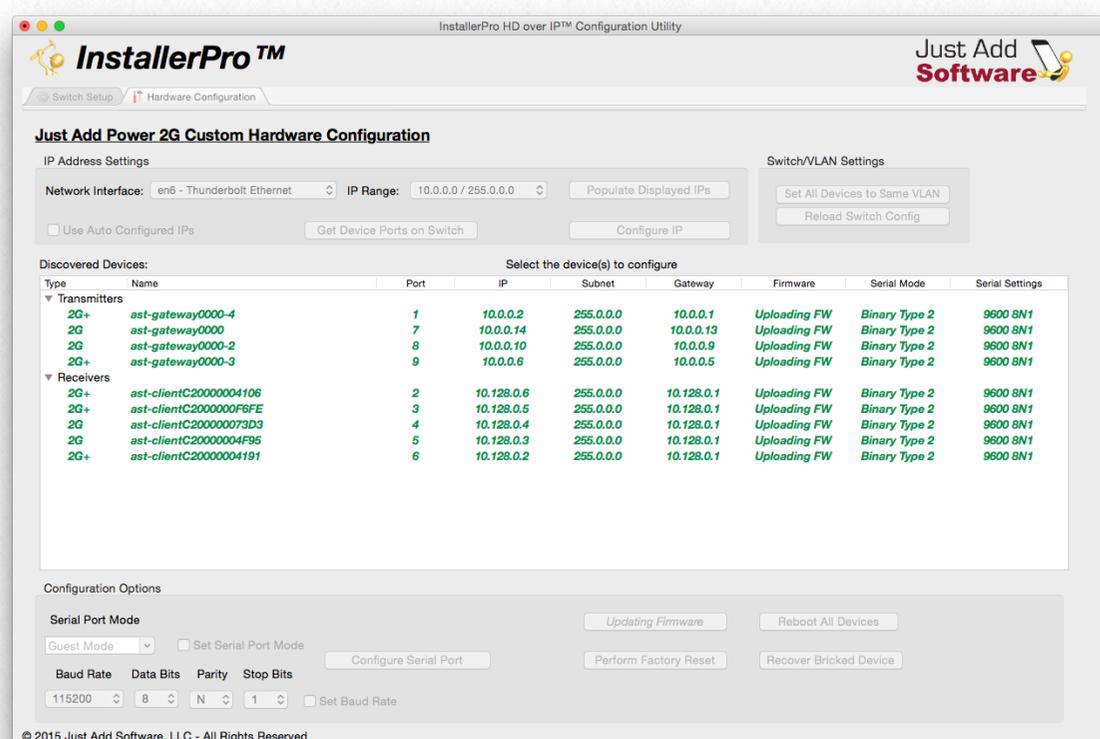
If devices in the system already have the latest version of firmware, the prompt at the right will be shown. Clicking “No” will deselect any devices that already have the current firmware version. Clicking “Yes” will update all devices.



The firmware update will now begin. All devices will have their text color turn green and the typeface will be italic.

While InstallerPro is uploading the firmware to the devices, the words “Uploading Firmware” will be shown in the Firmware column. **Please do NOT interrupt the uploads as this could render the devices bricked.**

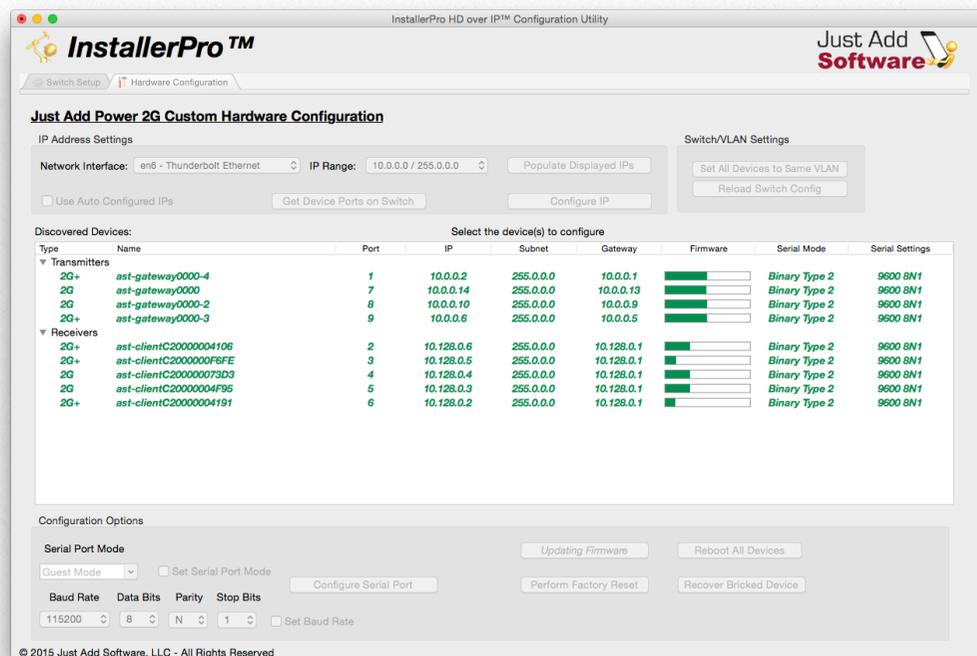
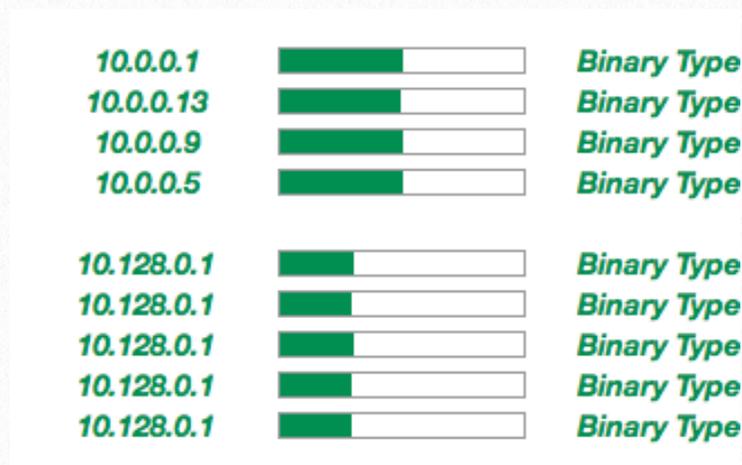
Please also make sure that the boxes remain powered during the entire update cycle.



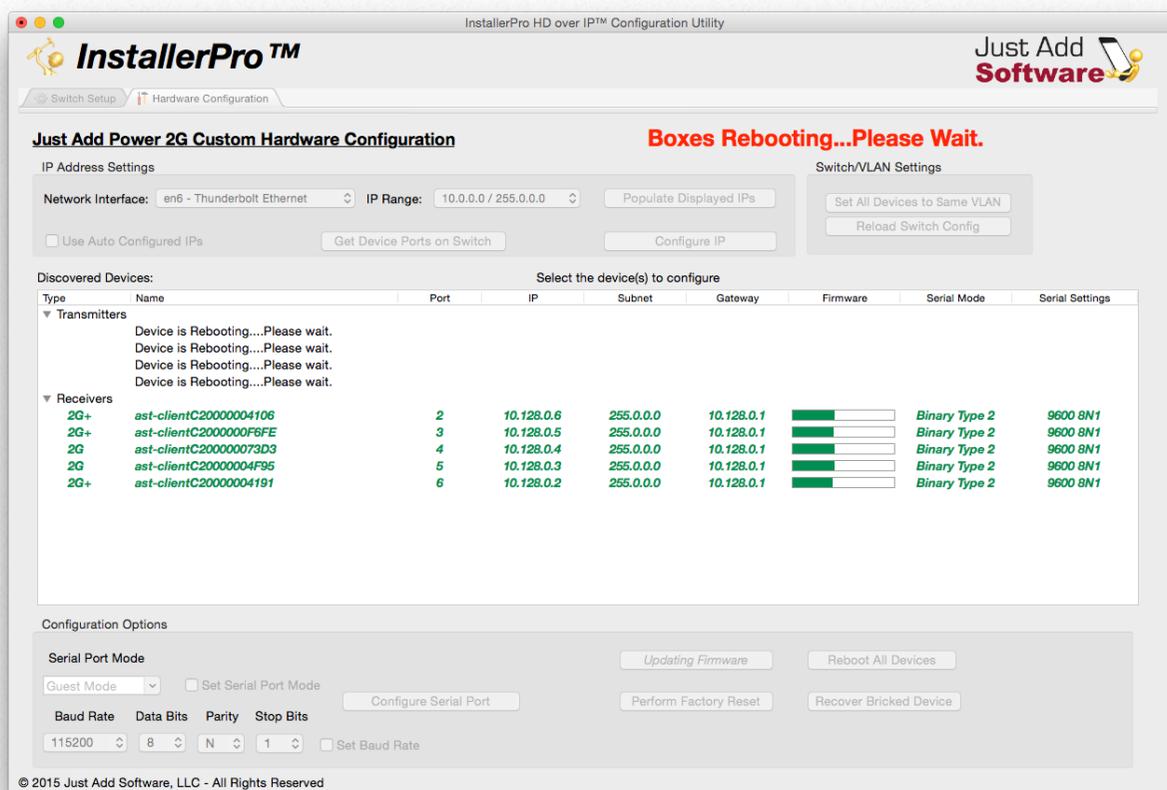
When the firmware gets loaded onto the devices, the update process will begin on the device. A progress bar will be shown in the firmware column and will update with the progress of the programming. Some devices will start updating before others. Transmitters will start first and take less time for the whole process than receivers.

et	Gateway	Firmware	Serial Mode
0.0	10.0.0.1		<i>Binary Type 2</i>
0.0	10.0.0.13		<i>Binary Type 2</i>
0.0	10.0.0.9		<i>Binary Type 2</i>
0.0	10.0.0.5		<i>Binary Type 2</i>
0.0	10.128.0.1	<i>Uploading FW</i>	<i>Binary Type 2</i>
0.0	10.128.0.1	<i>Uploading FW</i>	<i>Binary Type 2</i>
0.0	10.128.0.1	<i>Uploading FW</i>	<i>Binary Type 2</i>
0.0	10.128.0.1	<i>Uploading FW</i>	<i>Binary Type 2</i>
0.0	10.128.0.1	<i>Uploading FW</i>	<i>Binary Type 2</i>

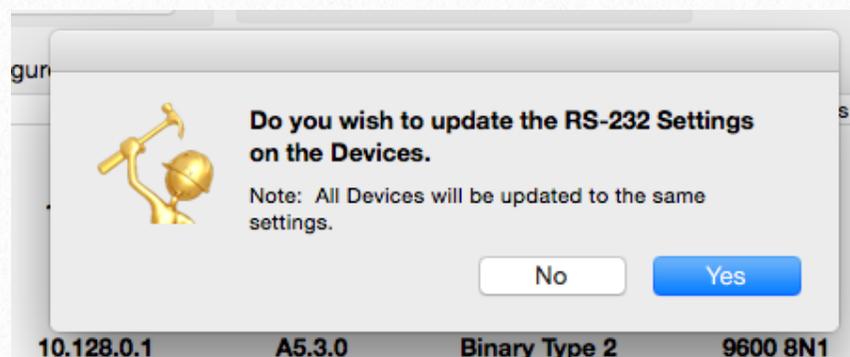
The picture at the right and the closeup below shows the progress of the devices as they are being updated.



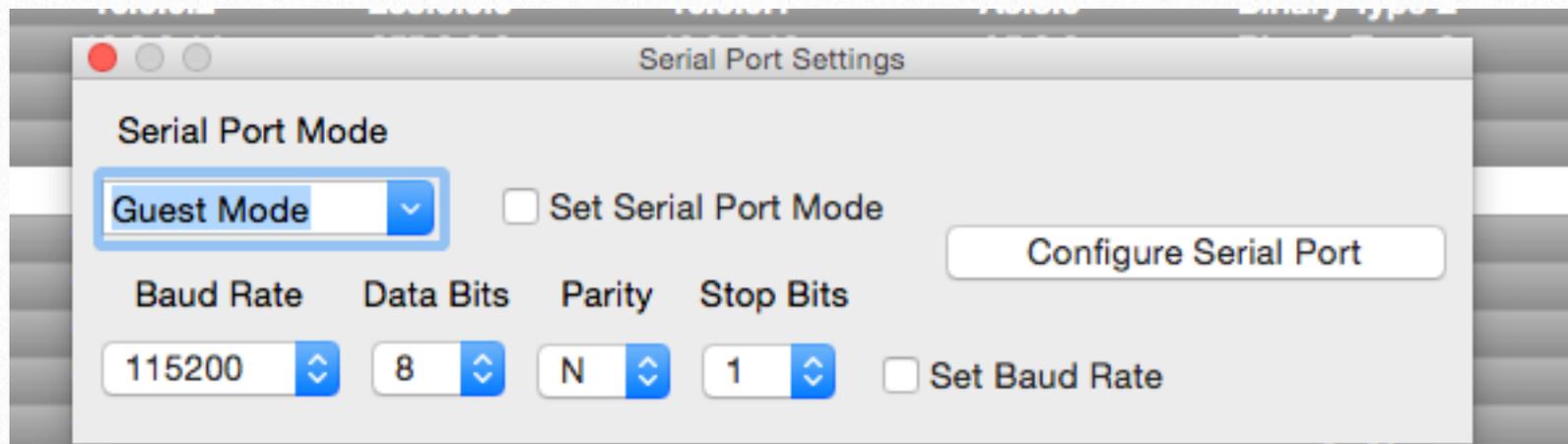
Once the firmware update is complete, the devices will begin rebooting.



After all devices have been updated and re-booted, the next step will be to program the RS-232 ports on the devices. This step can be skipped if the RS-232 ports won't be used or the settings don't need updating.



If programming the serial ports is desired and “Yes” is clicked, the serial port settings window will be shown as below. There are two options: set the serial port mode and then set the serial port communication parameters.

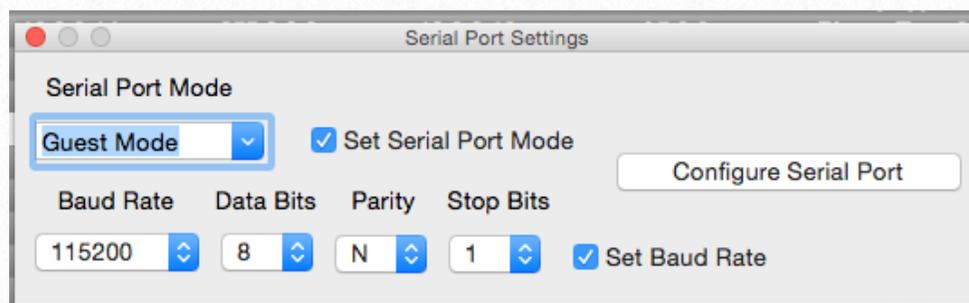


InstallerPro supports setting the serial port modes to the following settings:

Mode	Description
Dumb Redirect	Any RS-232 data that comes in on a transmitter’s serial port is redirected and broadcast to the serial ports of all connected receivers.
Guest Mode	Allows for direct Telnet connections directly to the RS-232 port of the device through port 6752. Anything sent to that connection will be sent right to the RS-232 port. This is the mode used by MediaSwitcher and other control systems for RS-232 communication.
CLI Access	Provides access to the command line interface of the device.

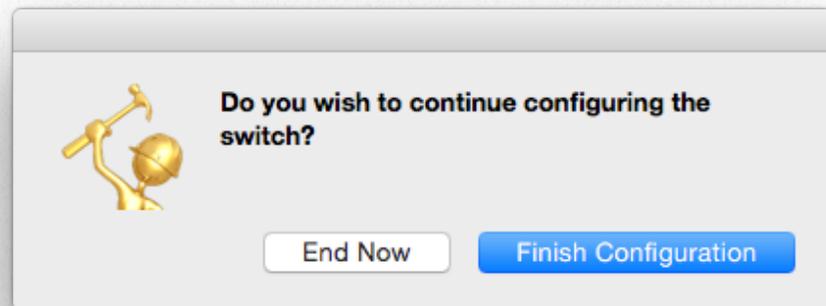
Select if you want to update the serial port mode and or the communication parameters (ie: Baud Rate). Then click the “Configure Serial Port” button. The boxes will be programmed and reboot. The serial port configuration window will be closed automatically.

Please note that this part of the process updates ALL devices to the same settings. If it is desired to update individual devices to specific settings, then this can be done manually from the Hardware Configuration tab.

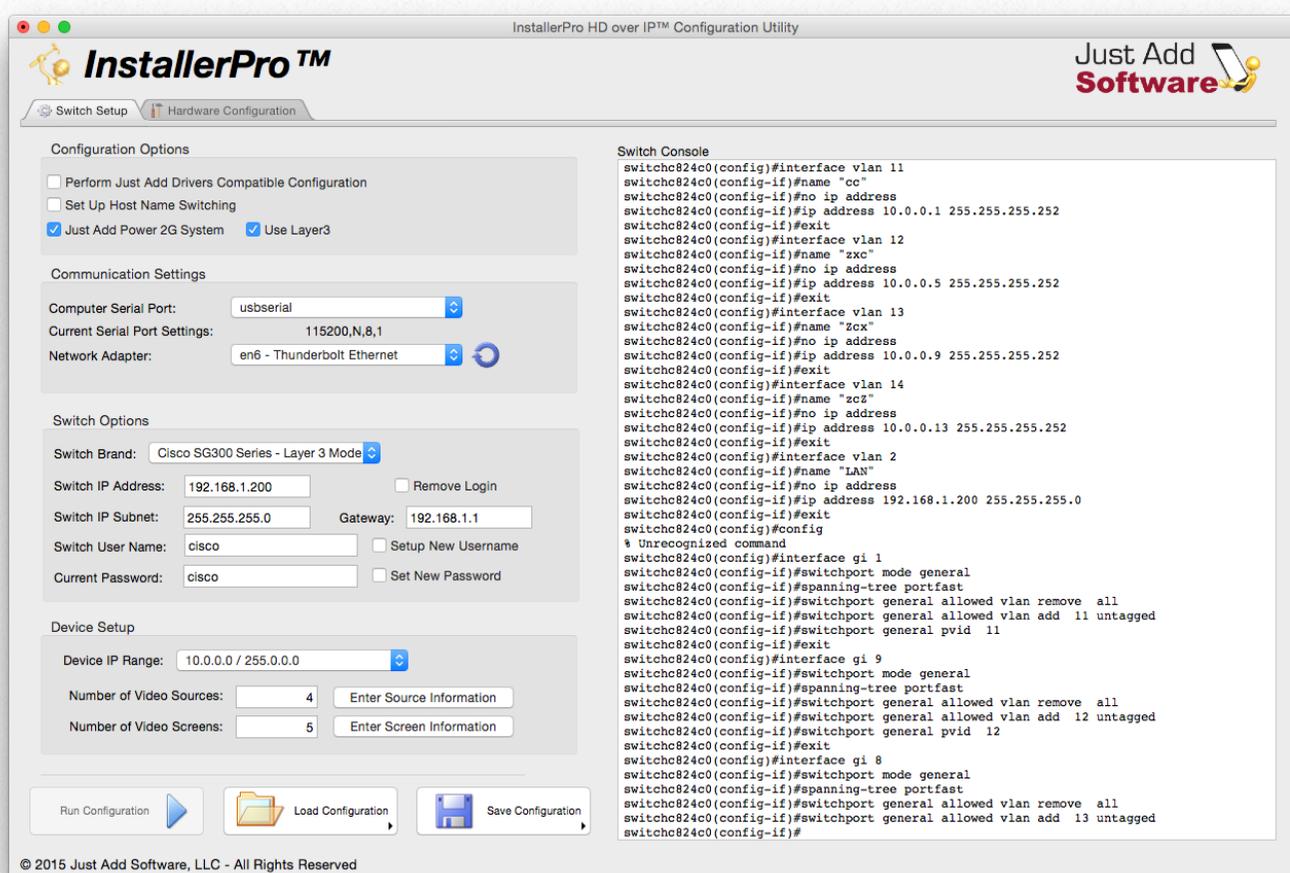


Once the boxes reboot, the configuration is just about done. If the configuration is a new or factory defaulted switch, then the user is given an option to finish the configuration. At

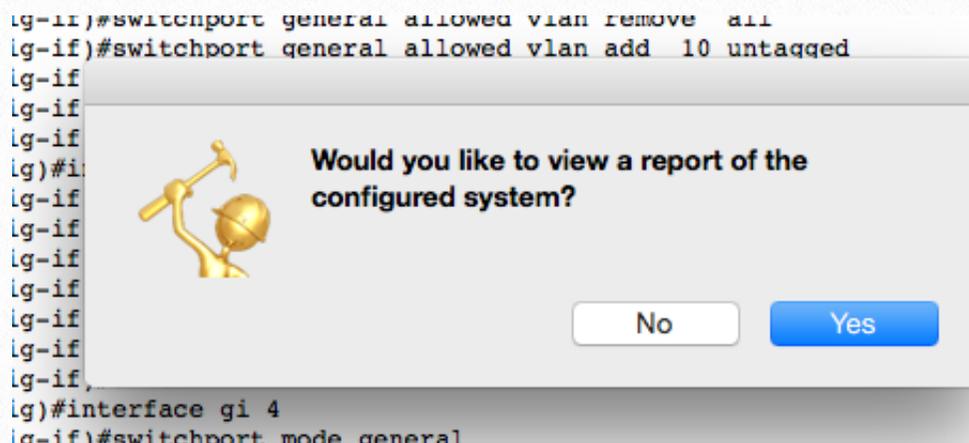
this point, the switch is not yet fully configured. So most of the time, it will be best to click “Finish Configuration.” If End Now is selected, the configuration routine will stop. You can then manually program or make any other changes to the devices.



If Finish Configuration is selected or if the switch has been previously configured, InstallerPro will switch back to the Switch Configuration tab and finish the final steps of the configuration on the switch. The VLANs will all be programmed and ports assigned to the VLANs.



When the switch programming is complete, there will be an option to view a report of the configured system. Selecting Yes will open up the report window.



The report window will show a detailed report of the system architecture, the name and values of each VLAN, IP addresses, etc. It gives you a full summary of the system. This report can be saved to disk as a PDF file or it can be printed. The buttons at the top of the window will perform these functions.

The screenshot shows a window titled "InstallerPro System Report" with a "Save as PDF" and "Print" button at the top. The main content is a configuration report for "Test System1".

System Configured On: Mar 10, 2015, 12:02:07 AM

Switch Information

Switch Model: Cisco SG300 Series - Layer 3 Mode
 IP Address: 192.168.1.200 Subnet: 255.255.255.0 Gateway: 192.168.1.1
 Using Stacked Switches: False
 User Name: cisco Password: cisco

2G System
 System using a Layer 3 Network Architecture
 System is not Just Add Drivers Compatible
 System uses VLAN Switching

Layer3 Network Information:
 Network Address: 10.0.0.0 Network Subnet: 255.0.0.0 Gateway IP: 192.168.1.1

VLAN Details Number of VLANs: 4

VLAN Name	VLAN ID	VLAN IP Address	VLAN Subnet
Receiver VLAN	10	10.128.0.1	255.128.0.0
cc	11	10.0.0.1	255.255.255.252
zxc	12	10.0.0.5	255.255.255.252
Zcx	13	10.0.0.9	255.255.255.252
zcZ	14	10.0.0.13	255.255.255.252
LAN	2	192.168.1.1	255.255.255.0

Just Add Power Transmitter Configuration

Device Name	Switch Port	VLAN ID	IP Address	Subnet	Gateway	Model	Firmware Version
cc	1	11	10.0.0.2	255.0.0.0	10.0.0.1	2G+	A5.3.0
zxc	9	12	10.0.0.6	255.0.0.0	10.0.0.5	2G+	A5.3.0
Zcx	8	13	10.0.0.10	255.0.0.0	10.0.0.9	2G	A5.3.0
zcZ	7	14	10.0.0.14	255.0.0.0	10.0.0.13	2G	A5.3.0

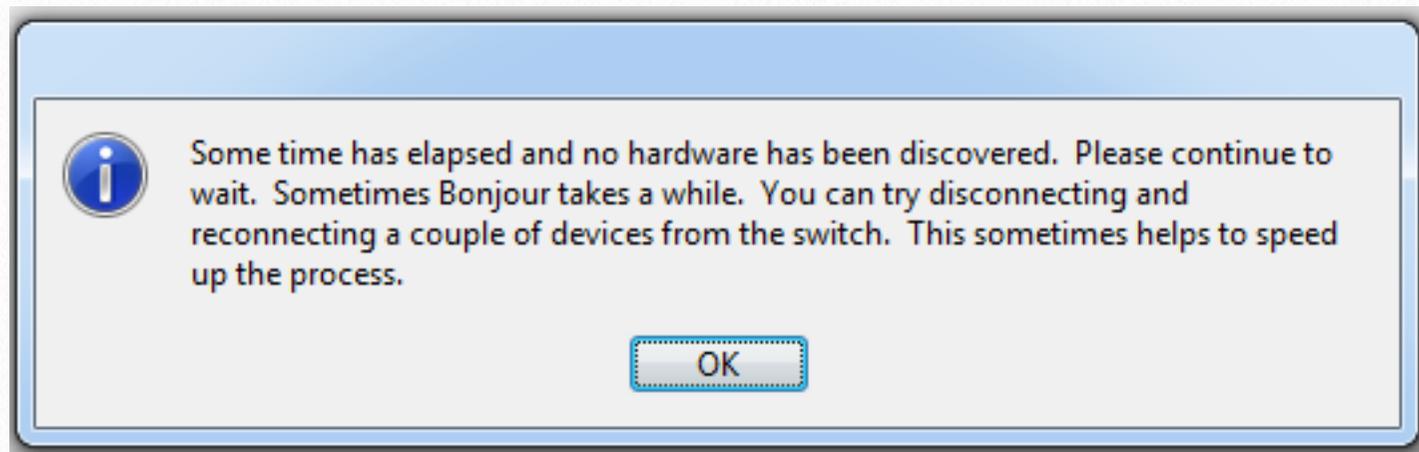
Just Add Power Receiver Configuration

Device Name	Switch Port	VLAN ID	IP Address	Subnet	Gateway	Model	Firmware Version
ASF	6	11	10.128.0.2	255.0.0.0	10.128.0.1	2G+	A5.3.0
Afs	5	11	10.128.0.3	255.0.0.0	10.128.0.1	2G	A5.3.0
aSF	4	11	10.128.0.4	255.0.0.0	10.128.0.1	2G	A5.3.0
as	3	11	10.128.0.5	255.0.0.0	10.128.0.1	2G+	A5.3.0
fs	2	11	10.128.0.6	255.0.0.0	10.128.0.1	2G+	A5.3.0

When done with the report, close the window. Congratulations, you have performed a Layer 3 installation. With enough experience, an entire system as the one showed here can be programmed in under 15 minutes.

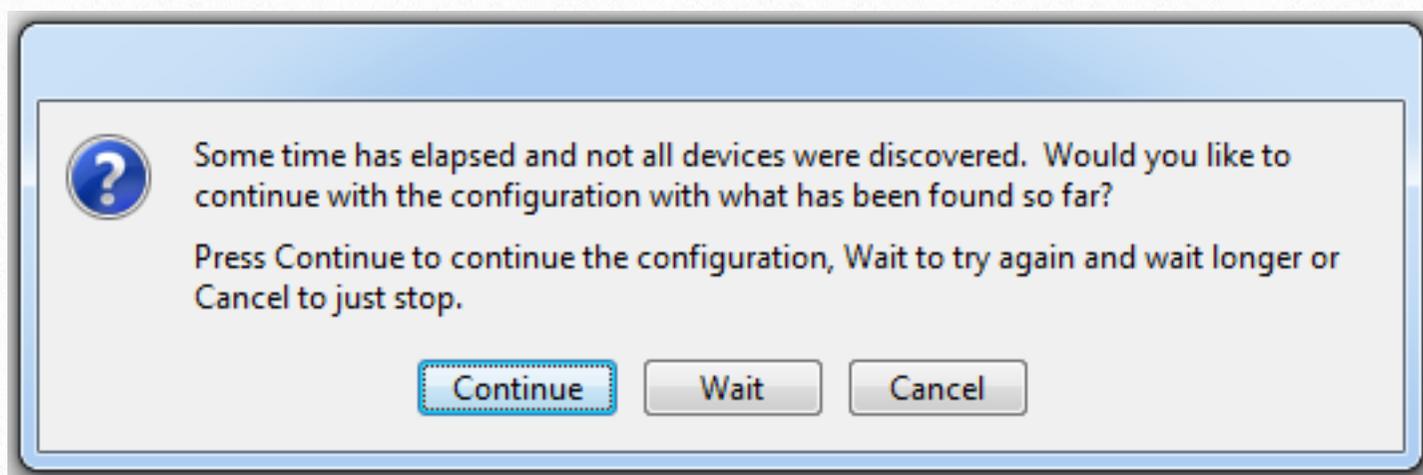
When Devices Are Not Discovered:

Sometimes during the configuration routine, devices may take longer than expected to be discovered. If no devices have been discovered after approximately one minute, Installer-Pro displays the message below.



This discovery issue has to do with the technical details of how Bonjour works and will not be explained here. To speed up the discovery process, please try disconnecting and reconnecting the ethernet connections of some of the devices. This can be done at the switch or at the device. After doing this to several devices, the list should begin to populate.

Sometimes InstallerPro discovers some devices but not all the devices that were expected. This could happen due to something like a bad network cable, a box becomes unpowered or for other reasons. If InstallerPro has discovered some but not all devices, after approximately one minute, the following message is displayed:



If "Continue" is clicked, the configuration will proceed without the devices that are missing. InstallerPro will configure the devices already discovered. Clicking on "Wait" will re-

start the device discovery process and reset the one minute timer. Clicking “Cancel” will end the configuration.

For example, if a device has been accidentally disconnected, this message makes you aware of the issue. Reconnect the device and then click the “Wait” button. This gives the system time to discover your device and continue the configuration. If all devices end up discovered after clicking the “Wait” button, the configuration continues as normal.

5

Just Add Drivers Configuration

InstallerPro 3 can configure the system in a manner that is compatible with “Just Add Drivers” automatic control system drivers from Just Add Power. The configuration steps are mostly the same as those in the [Layer 3 setup](#) covered in the previous chapter. However, there are a few differences.

While a “custom” Layer 3 configuration using InstallerPro can have any port on the switch be a transmitter, receiver or LAN port, the Just Add Drivers configuration requires devices to be connected in a very specific way. Please refer to the table below.

Device Type	Switch Ports
LAN	Port 1
Transmitters	Port 2 and continuing in order until all transmitters are connected.
Receivers	First receiver connects to the next port directly after the last transmitter

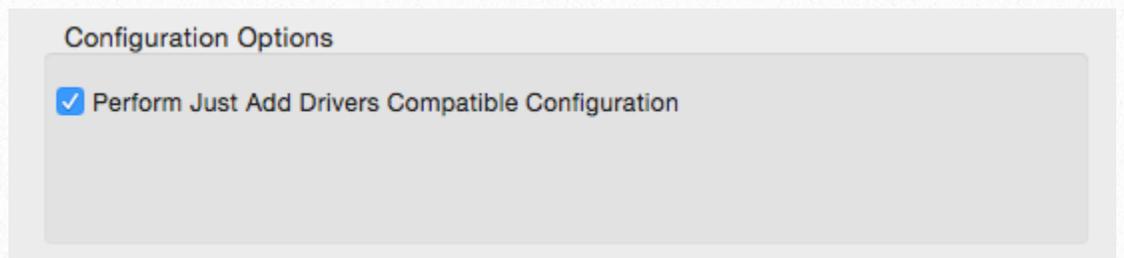
So for example, let's say we have a 12 Transmitter, 20 Receiver System:

Device Type	Switch Ports
LAN	Port 1
Transmitters	Ports 2 through 13
Receivers	Ports 14 through 38

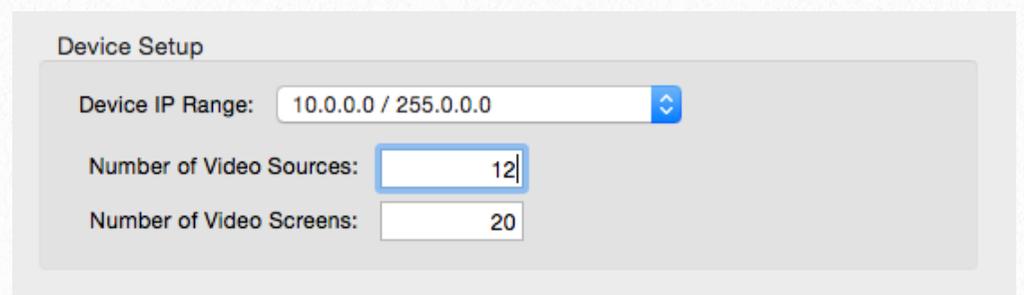
Additionally, there is no “user” naming of sources or screens in a Just Add Drivers configuration. These are automatically set for you to be in a format recognizable by the driver.

Finally, Just Add Drivers does not support what was discussed in chapter 3 as the “Friendly IP” scheme.

To perform a Just Add Drivers configuration check the “Perform Just Add Drivers Compatible Configuration” option in the Configuration Options group on the main page. A number of the other controls will disappear as they are not needed in a Just Add Drivers configuration.

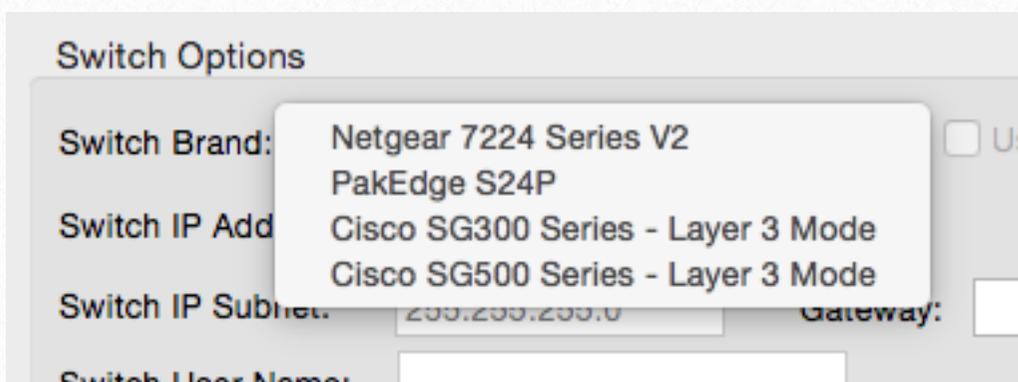


Also note the change in the Device Setup Control Group. The options setup sources and setup screens are no longer visible either.



Enter the information for the switch

the same way as it is done for a normal layer 3 installation. Notice that there are different switch selections available. The only switches supported for a Just Add Drivers installation are the Netgear 7224 Series Version 2, the PakEdge S24P and the Cisco SG300 and SG500 series. The configuration set-ups for the Netgear and PakEdge will



be layer 2 as those switches do not support layer 3 routing.

Finally, when all information is entered, click on “Run Configuration.” The start of the configuration is just like it is for a normal setup. You are prompted for the name of the system and if you want to program just the switch or the hardware as well. If stacked switches

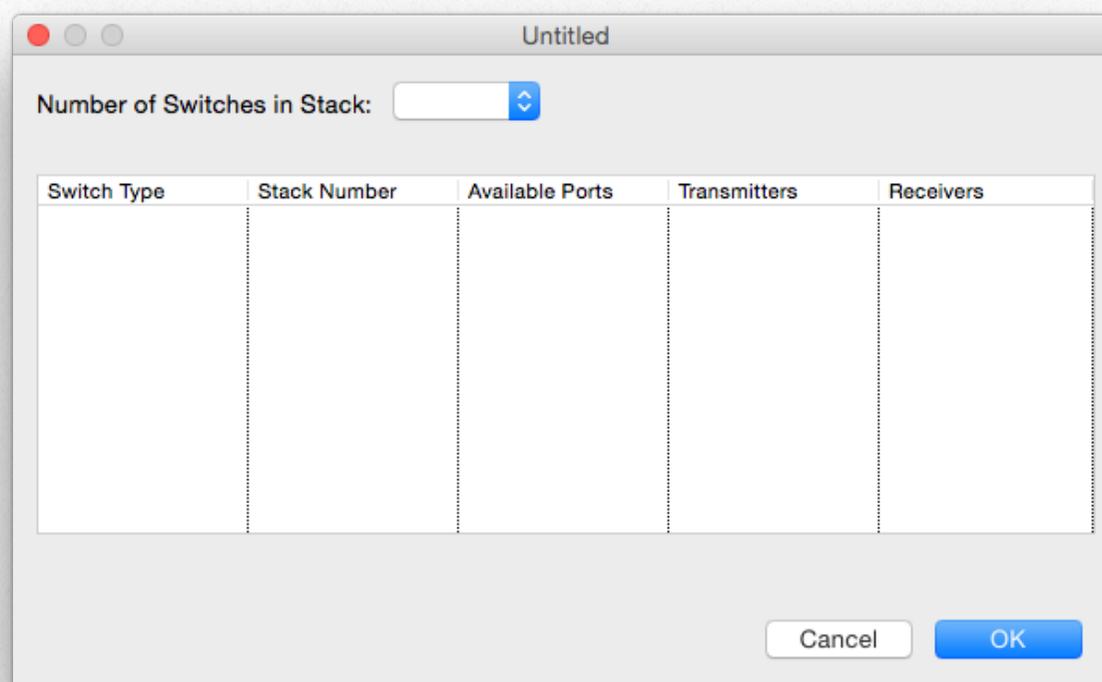
are used, a new window will open requesting information on the setup of the stack. Please see the section entitled “Using Stacked Switches” below for a further explanation.

Once this is complete, the configuration will begin and run as all other configurations. If the SG300 or SG500 switches are selected, a layer 3 configuration will be run and if configuring the hardware was selected, all the same steps will be followed as was discussed in [Chapter 4](#). The Layer 2 configurations will follow as discussed in [Chapter 3](#). It will all function exactly the same. Once the configuration is completed, you will have an option to view a report on the system. The system will then be ready to be used with the Just Add Drivers control system drivers.

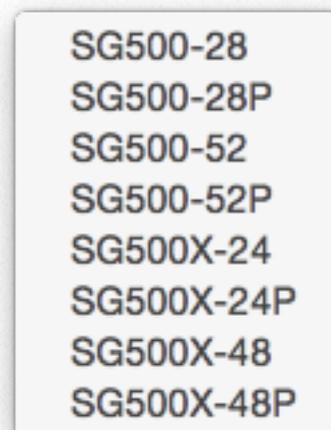
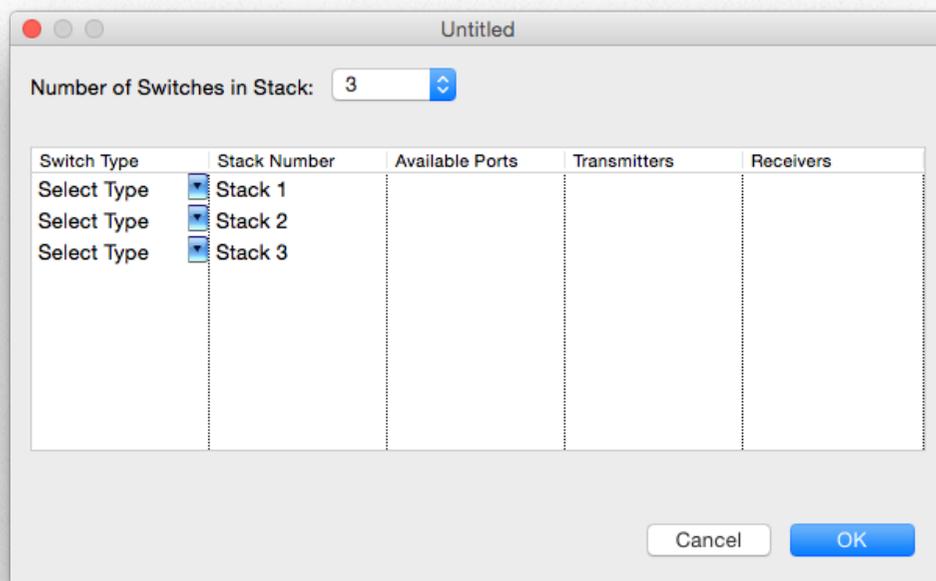
Using Stacked Switches

When using stacked switches with InstallerPro, there are a few differences between InstallerPro and other available tools. InstallerPro does not build the stack on the SG500. This is automatically handled by the switches if the procedure specified by Cisco is followed. The stack needs to be built and in place before running a configuration with InstallerPro.

After starting the configuration, entering the name of the system and deciding if hardware will be programmed, a new window will show up that will allow the number of stacked switches and the type of each to be specified. This window is shown below.

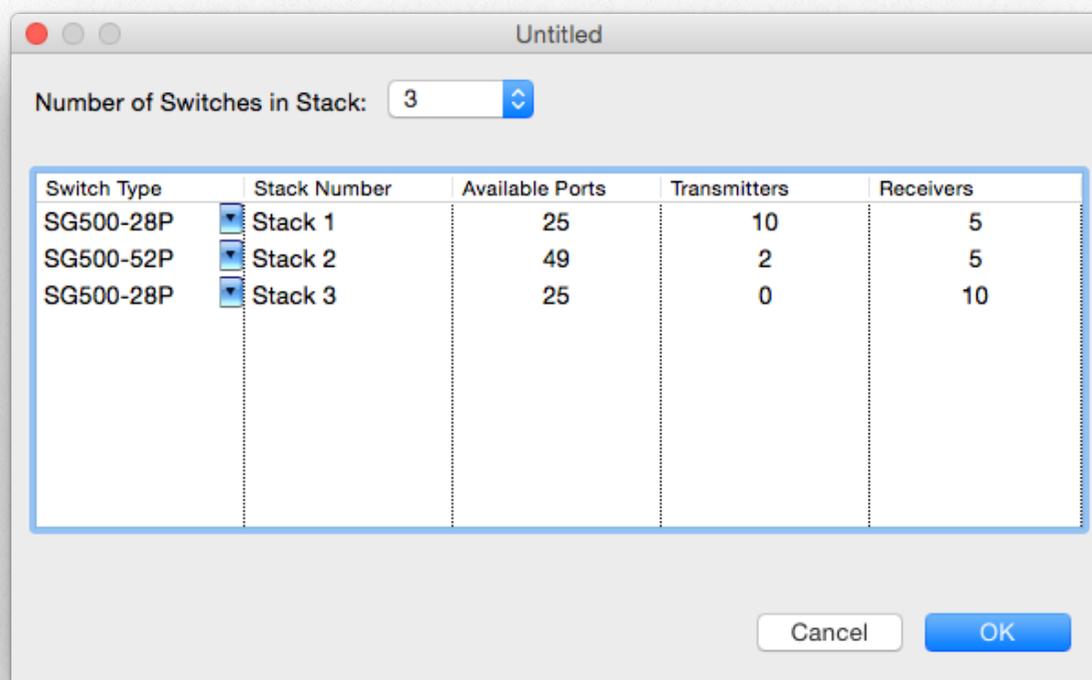


Select the number of stacked switches (up to 8). The window will update as shown below. Select the model of SG500 that will be used in each stack. This list is shown at the right.



Once the switches are selected, the “Available Ports” option indicates the number of available ports on each switch in the stack. Fill out the number of transmitters and receivers to be used on each switch. The software will not let a number be entered that is higher than the number of remaining devices. So if you have 10 transmitters left and try to enter 11, the software will only allow 10 to be entered.

Once all information is filled out and devices allocated to each switch in the stack, click OK to begin the configuration. Click cancel to end the configuration.



Stacked switches follow the same format for port ordering as a single switch. The first port is considered the LAN port, transmitters come next and receivers after that. One important difference at this time with InstallerPro and other tools is that only the very first port on the first switch in the stack is programmed as a LAN port. The other ports will need to be manually programmed. Support will be added in future editions for specifying additional LAN ports.

6

Host Name Switching Installation

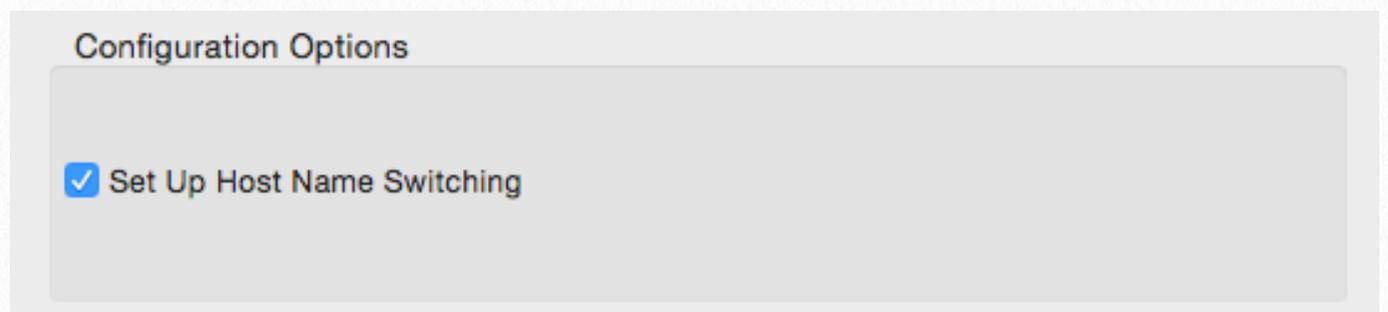
While the preferred and most expandable type of Just Add Power system uses VLAN switching, there are instances, particularly in corporate networks, where actively programming a switch is not a viable option. In these instances, Host Name Switching provides a solution for systems with up to 16 sources (Transmitters).

In Host Name Switching, all Just Add Power devices are assigned to the same VLAN. Normally transmitters are named “ast-gateway0000.” The second transmitter to come on line gets named “ast-gateway0000-1”, the third is named “ast-gateway0000-2”, etc. In Host Name Switching, each transmitter gets a truly unique name: “ast-gateway0000”, “ast-gateway0001”, “ast-gateway0010.” Commands are sent to each receiver telling it which transmitter to listen to. The receiver then switches to the stream of the correct transmitter.

A Layer 3 switch is needed so that telnet sessions can be opened to the devices and control commands sent to them.

Host Name Switching is only possible with 2G, 2G+ or 2G+AVPro hardware and Layer 3 switches.

When “Use Host Name Switching” is selected from the Configuration Options control group, all other controls in the group are hidden and set to their proper settings automatically.



All the other settings on the Switch Configuration tab are basically the same. The information in the Communication Settings control group and the Switch Settings Control group is filled out just like it would be for a [normal Layer 3 configuration](#). The Device Setup Control group is also set up exactly the same way. One difference is that if we try to enter a number of sources greater than 16, we are warned that the maximum number of sources is 16 and the control is set to 16. There is no practical limit on the number of receivers.

Where things change in the configuration is when you click “Enter Source Information.” The labeling of the window is slightly different from other configuration formats.

Source Name	Host ID	Switch Port #	VLAN IP	VLAN Subnet	Transmitter IP
Source1	1	1	10.0.0.1	255.0.0.0	10.0.0.2
Source2	2	7	10.0.0.1	255.0.0.0	10.0.0.3
Source3	3	8	10.0.0.1	255.0.0.0	10.0.0.4
Source4	4	9	10.0.0.1	255.0.0.0	10.0.0.5
LAN	2	10	192.168.1.200	255.255.255.0	
Device VLAN	30		10.0.0.1	255.0.0.0	

What was the VLAN ID column is now called the Host ID column. Host IDs define a transmitter’s host group (1-16). Enter the desired Host ID desired for each Source. Host IDs can be 1 to 16. The LAN and Device VLAN values are the only VLAN entries in this column. Enter their VLAN values in their fields.

Enter the receiver/screen information the same way as done with VLAN switching configurations. Then go ahead and run the configuration. All other steps are the same as a normal layer 3 configuration discussed in [Chapter 4](#). IP Addresses, Firmware and device serial ports will all be updated. When the configuration is complete, all devices will be on the same VLAN and the receivers will all be connected to the first host ID.

Host Name Switching configuration files can only be saved in the MediaSwitcher Database format. At this time, saving Host Name Switching data in the text based CSV format

is not supported. MediaSwitcher fully supports operation and control of a system using Host Name Switching.

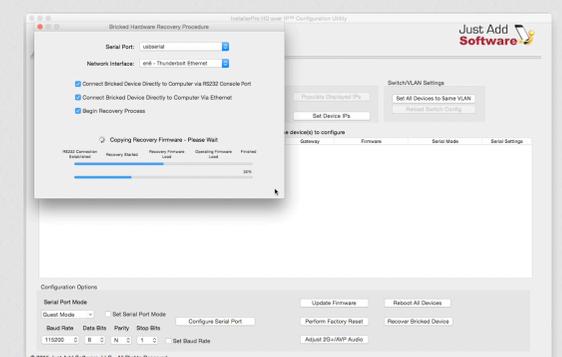
For more information on Host Name Switching, please see the Just Add Power application note titled, “Just Add Power - 2G Hostname Switching” available from Just Add Power or Just Add Software.

7

De-Bricking or Bootstrapping a Device

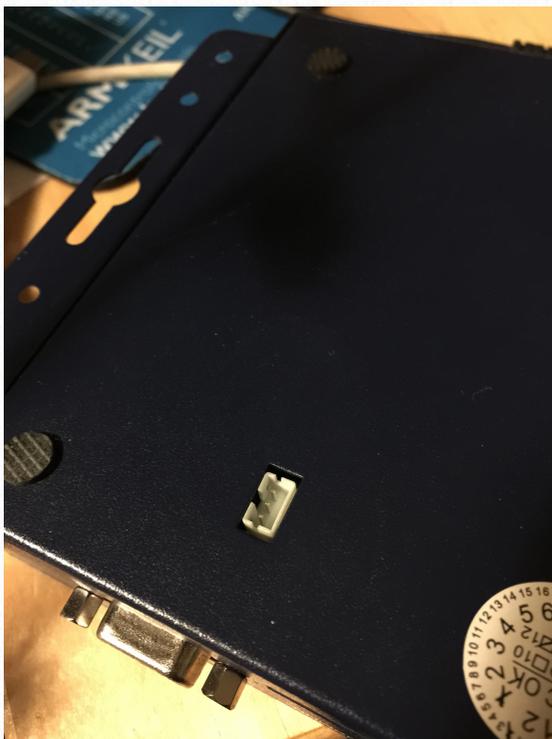
Sometimes during firmware updates or during some other operation, a Just Add Power device may become “bricked” and stop functioning. In some rare cases, this is a permanent situation and the box is not recoverable. In most cases, however, the device is recoverable. Until now, users who have experienced bricked hardware have had to return their pieces to Just Add Power for recovery. InstallerPro 3 introduces the first field based recovery procedure. In less than 20 minutes, a bricked device can be recovered and restored to the latest operating firmware.

Movie 7.1 Recover a Bricked Device



This movie demonstrates the InstallerPro 3 Bricked Device Recovery Procedure

To recover a bricked device, you will need to have a console cable. These can be provided free of charge to current InstallerPro customers upon request.



Here are the steps to follow for recovering a bricked device:

Connect the device directly to the computer using both the console cable and ethernet. In the picture at the left, the console port is the little white 3 pin port on the bottom of the unit. Some older 2G units have the console port inside and will need to have the cover removed to access the port. If there is no port on the bottom of the device, then it is inside. All new devices have the port on the outside.

The location of the port may vary between models. 2G+

models have both 4 pin and 3 pin connectors on the bottom. The console port is the 3 pin port. Insert the console cable into the port. The port is keyed so the cable will only fit in one direction. Press the cable in firmly. You will hear a “snap” when it goes into place. The picture at the right shows the console cable inserted into the console port. The other end of the console port goes to the RS-232 serial port on the computer.



Next, the ethernet cable needs to be connected to the device as shown in the pictures below.



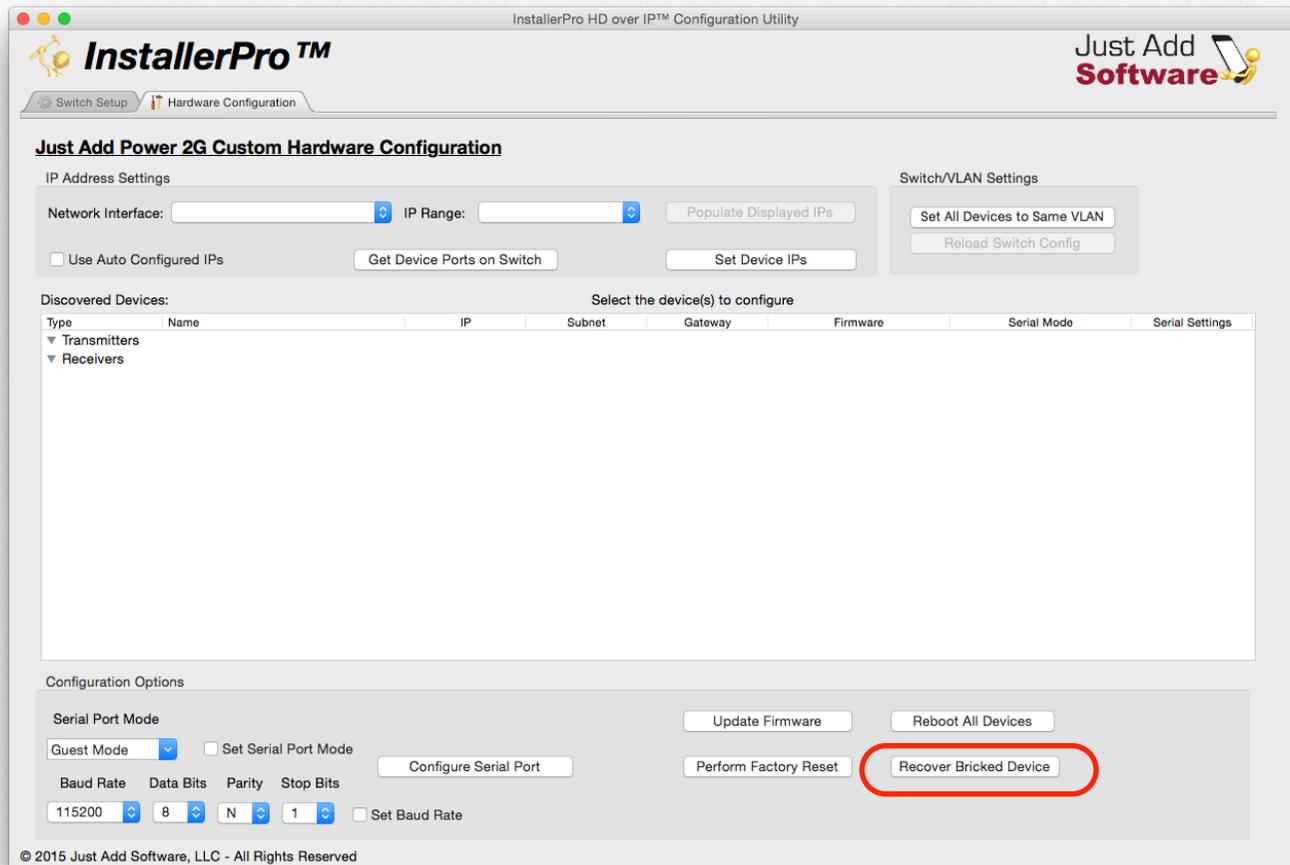
Connect the other end of the cable to the ethernet port on the computer.

We are almost ready to start recovery.

Note: InstallerPro will assign an IP address of 172.16.255.253 to the computer. If your computer has an ethernet IP address in the 172.16.0.0 network, please remove that address before starting this procedure. If that address is not remove, the procedure will fail.

Now, insert the power adapter into the device and launch InstallerPro. When InstallerPro has stated please click on the second tab: the Hardware Configuration tab.

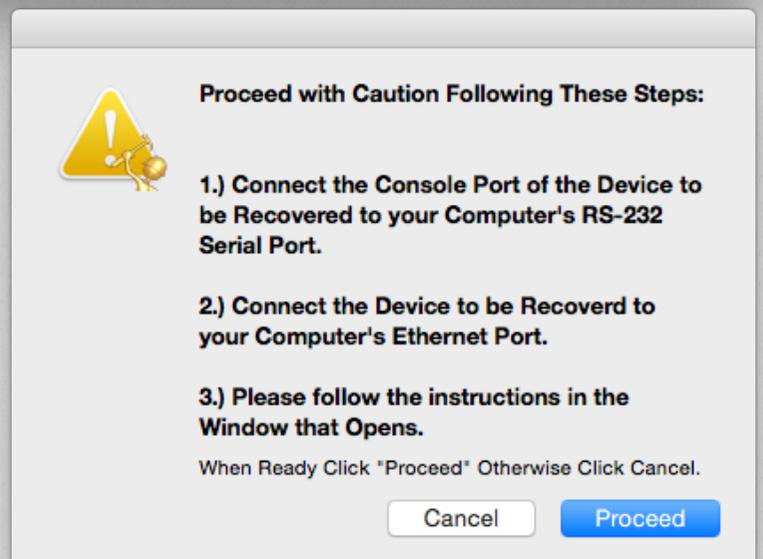
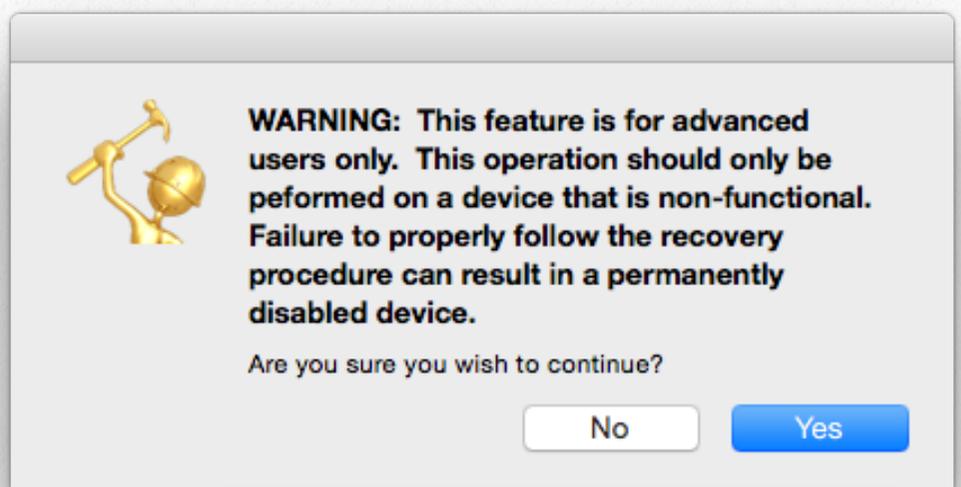
In the bottom right of the hardware configuration tab, notice the button labeled “Recover Bricked Device.” It is circled in red below. Click this button to open the De-Brick Window.



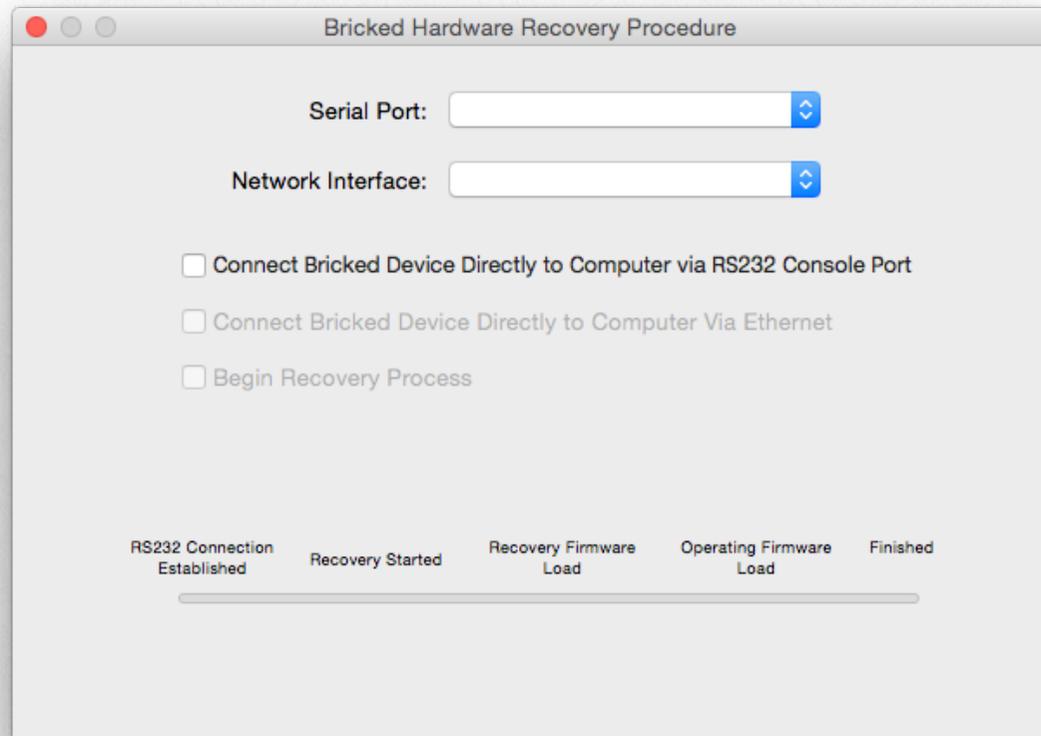
A warning will show up after the button is clicked. Please make sure you are comfortable doing this. Improper operation can render a device permanently unusable.

Click yes to continue or no to cancel out.

Another notice will now appear. This notification instructs the user to connect to the console port and the ethernet port as we showed previously. It is a reminder to double check that everything is properly connected. Click Proceed to move to the De-Brick window and begin the process. When using OS X, you will be asked next to enter your administrator name and password. Enter these as it is necessary for some of the operations being performed. Windows users may need to enter the administrator credentials when InstallerPro starts up.

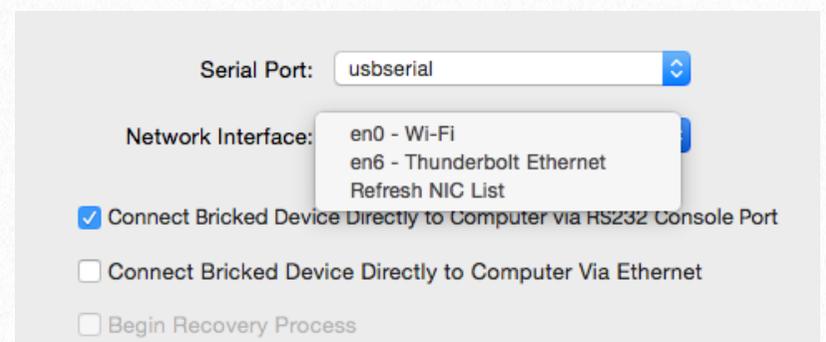
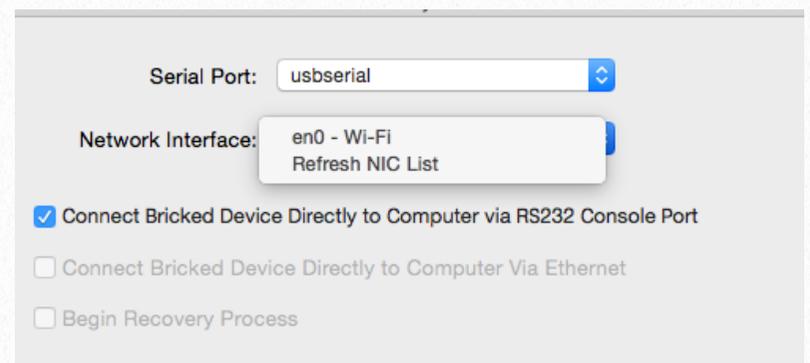


The De-Brick Window is as shown below. The progress bar at the bottom shows the relative progress toward completion. It is updated with each successful step of the procedure. A second progress bar will show up indicating the specific percentage complete of each step in the process.

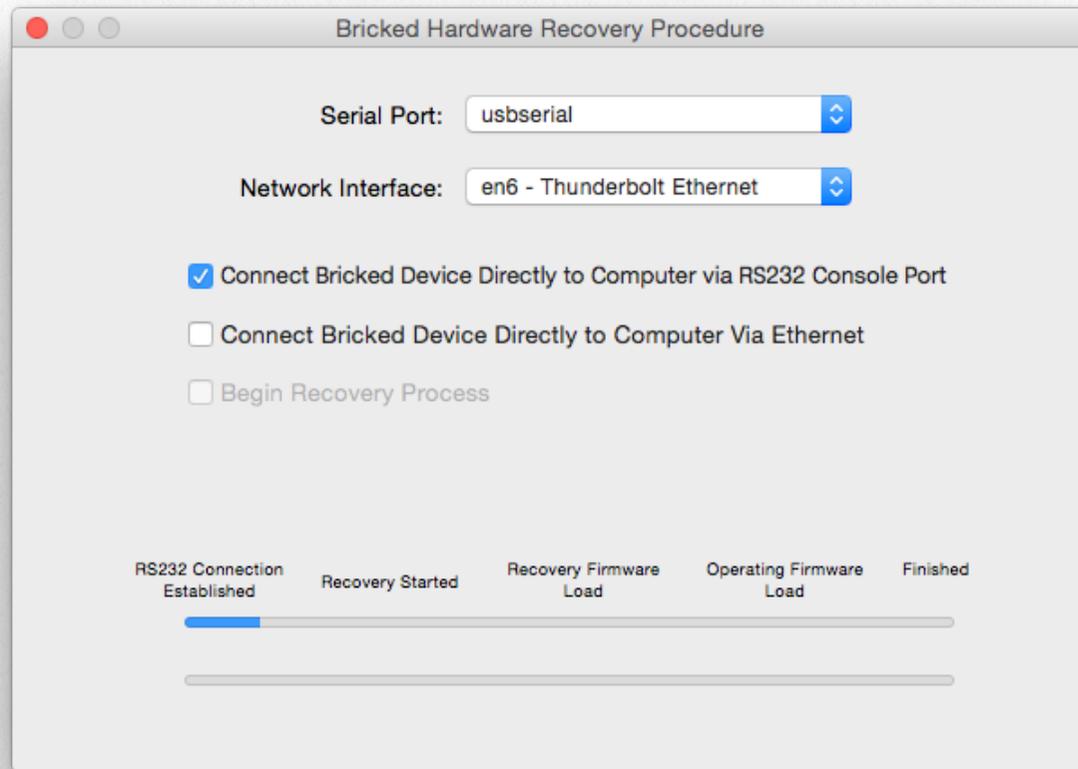


Select the desired Serial port and if possible, select the correct network adapter. Note that depending on adapter settings and computer platform, the adapter may not show up at first in the list. Select “Refresh NIC List” to refresh the list of adapters. The images at the right show the list of adapters before and after a refresh of the list.

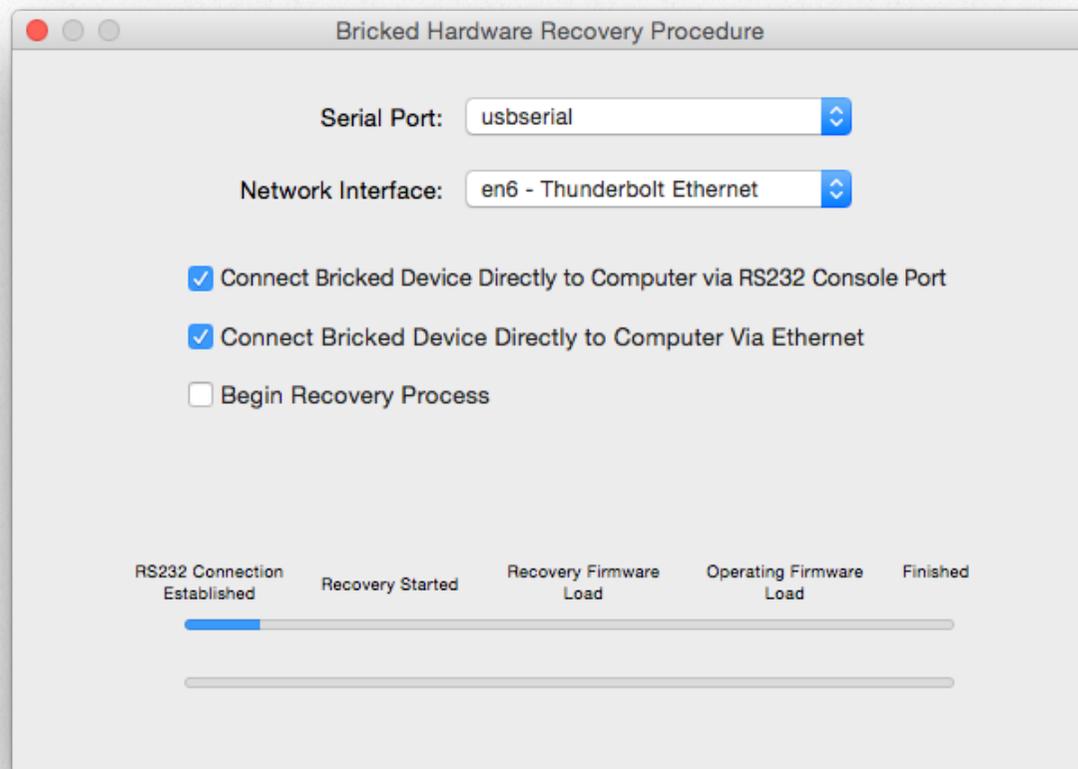
Now check the first check box. Once the device is put into recovery or bootstrap mode, the second box will be highlighted. It may take a minute or two for this to happen.



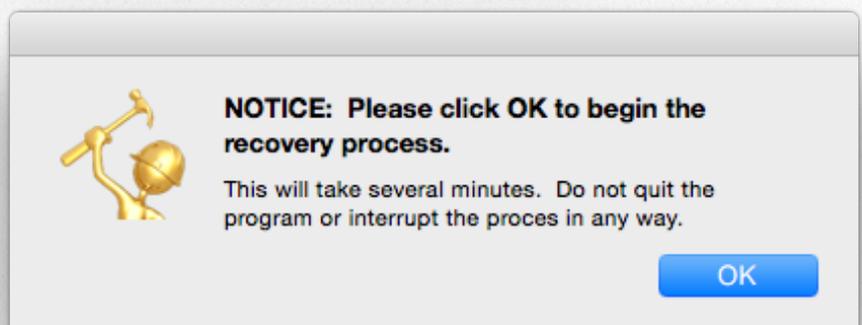
Once the box has been put into bootstrap mode the window looks as follows:



Once a NIC is selected check the second box. The third box will then be enabled:



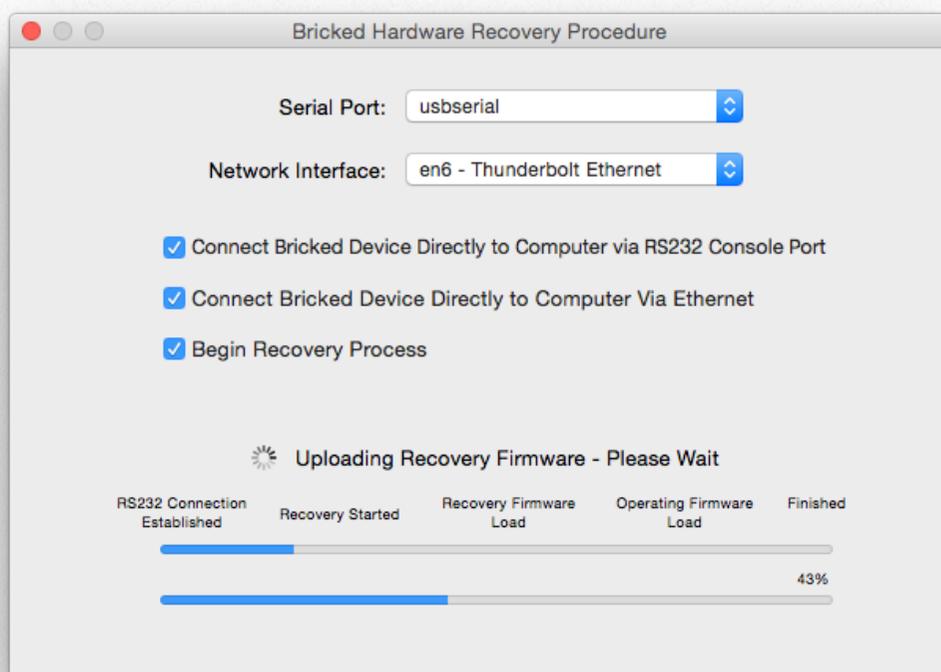
Finally, check the third box to begin the recovery process. A warning will be displayed noting the recovery is about to begin.



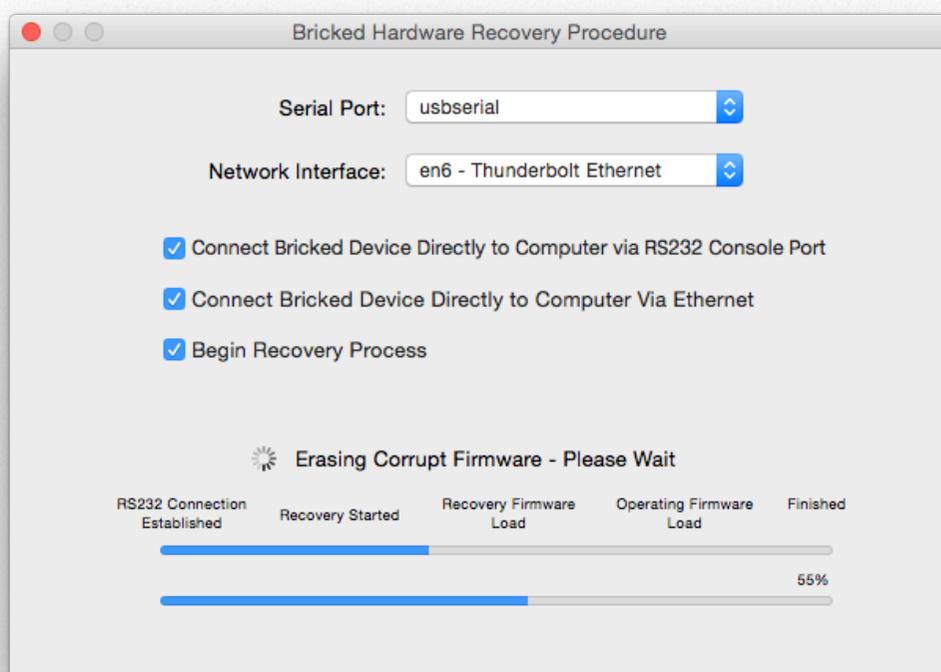
The first step in the process of the firmware is a transfer of the recovery firmware image from the computer to the device using TFTP. If using a firewall on your computer, please either disable it for this step or allow TFTP transfers through the firewall. If you need support, please contact support@justaddsoftware.net.

When transferring the firmware, the window looks as shown below to the right. The progress bar at the bottom indicates the extent in percent of the copy progress.

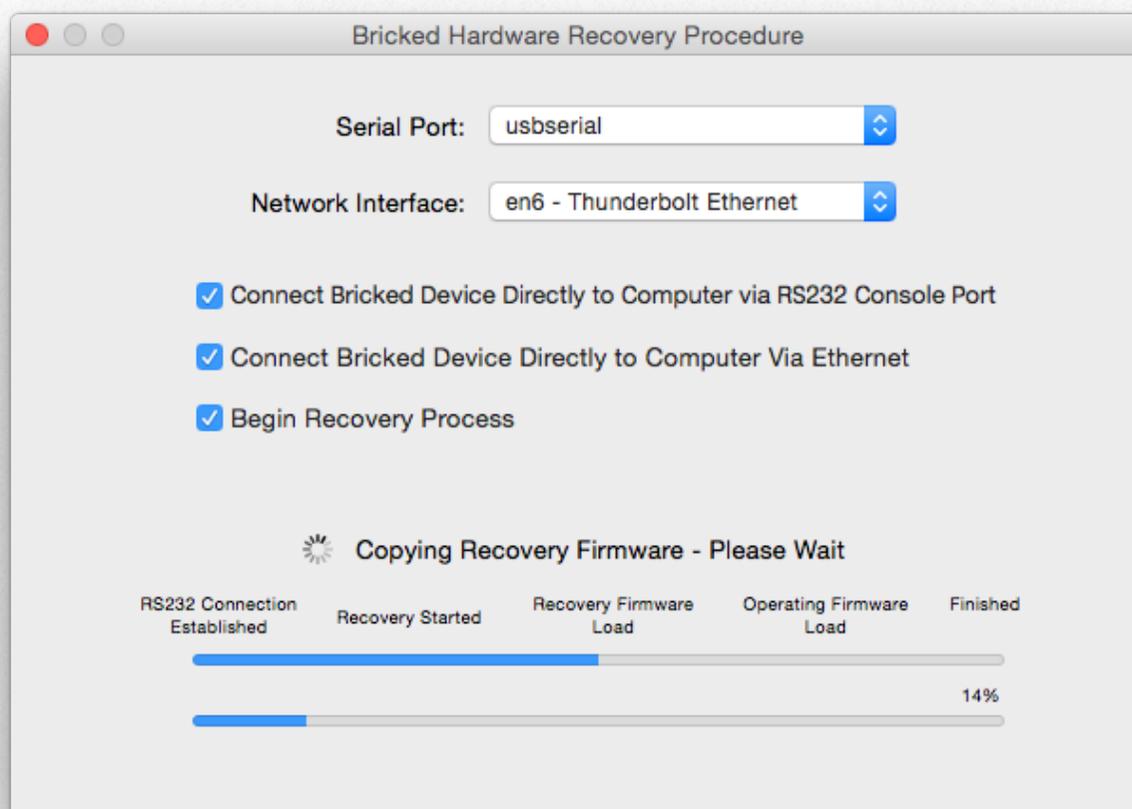
Please note that at this step it is **VERY IMPORTANT** not to interrupt the routine for any reason until the recovery firmware is completely loaded. Doing so may cause the box to be permanently disabled and unrecoverable. Please be sure your computer is plugged into AC mains power or has plenty of battery before beginning the recovery.



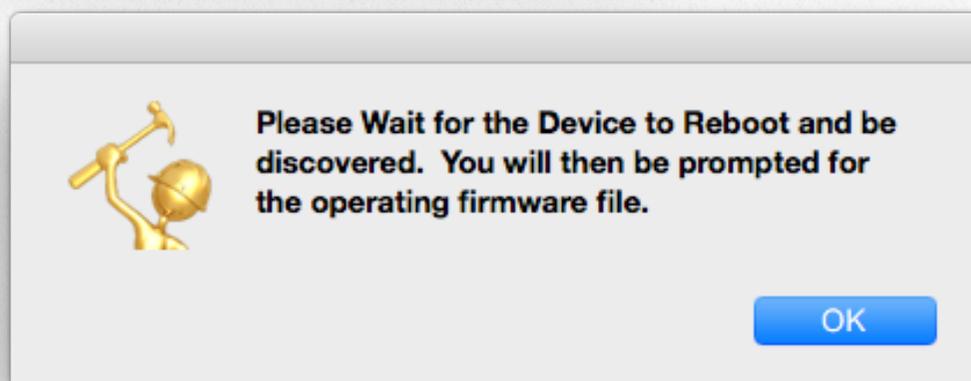
Once the firmware is copied, the corrupt firmware on the device is then erased. At this point the window looks as shown below. The corrupt firmware will be erased making the box ready to have the recovery firmware loaded. Please be patient with this step as it will take a few minutes to erase the firmware. Progress is indicated by the bottom progress bar.



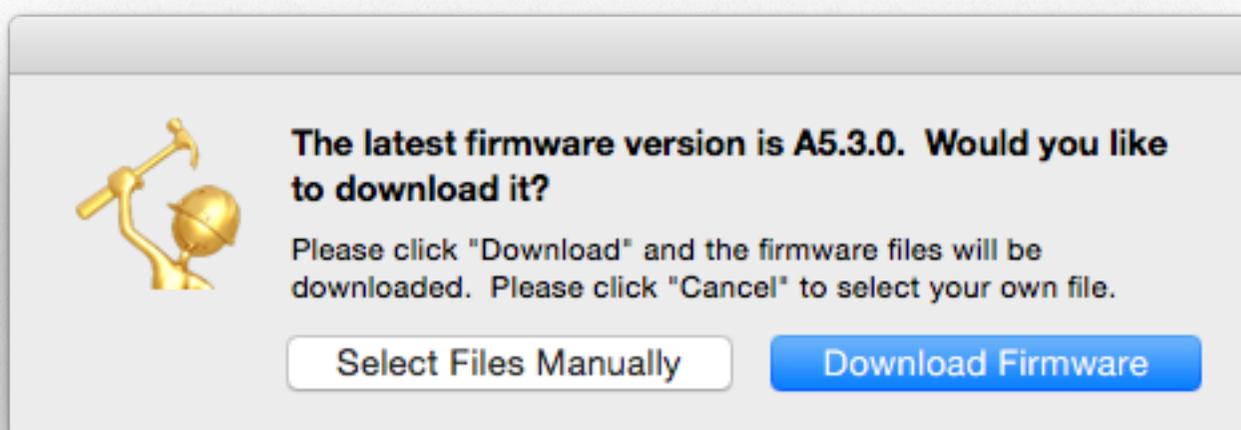
Once the corrupt firmware is erased, the recovery firmware is copied to the proper location on the box. This step will take several minutes. Please be patient during this time. The progress bar in the window will slowly update to show the percentage complete. We are almost there.



Finally when the recovery firmware is loaded, the box will be rebooted and is ready for the normal operating firmware. The following message at the right will be displayed. At this point, it is safe to stop the recovery process but it is not recommended. The box does not have a current version of the firmware installed and is not in a usable state.



Next will be a prompt to download or manually load the operating firmware. Select Download to download it from Just Add Software or choose "Select Files

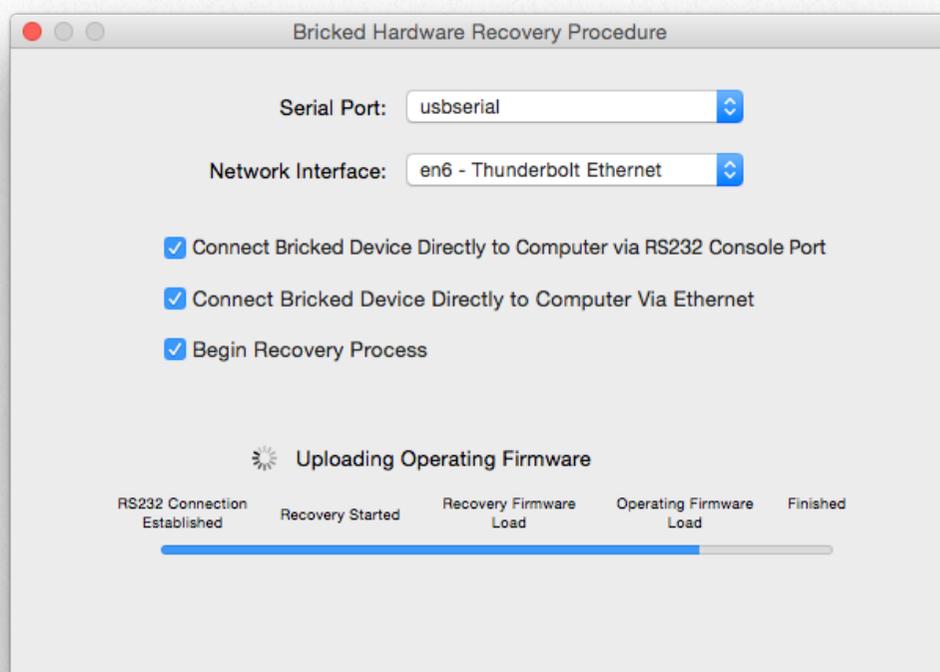


Manually” to choose your own firmware file. Then the firmware update will begin. Please note that once the operating firmware update is started that the process should not be interrupted then either as damage to the device could occur.

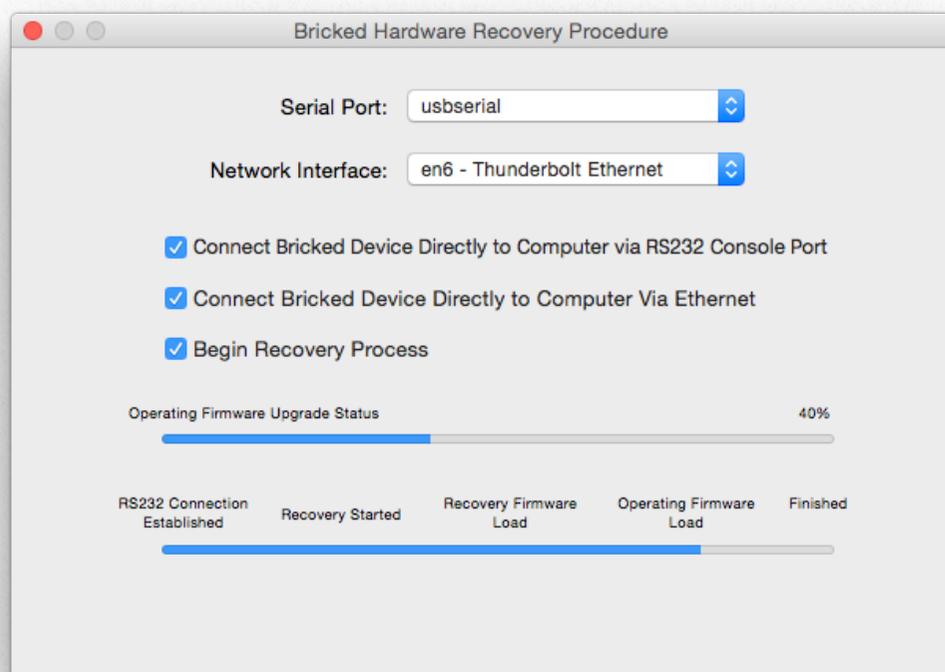
First the operating firmware file is uploaded from the computer to the device. This is a very similar procedure to what happens during a normal firmware upgrade in InstallerPro. Notice how the progress bar now indicates where we are at in our recovery process.

Once the upload is complete, the device

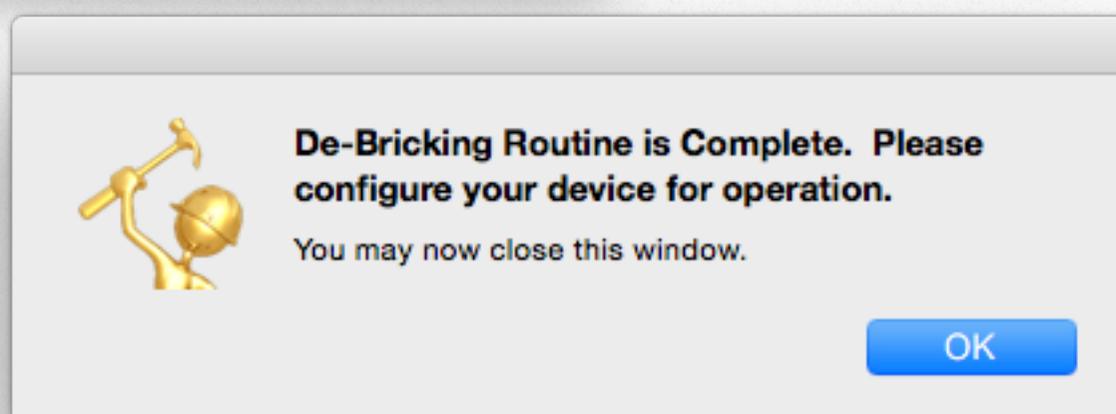
will be programmed with the new firmware and the window will now appear as shown



below. The percentage complete is now indicated by the progress bar shown above the bar that indicates where we are at in the recovery.



Finally, when the firmware is loaded and the device rebooted, the message below is shown. Recovery is complete and the recovery window can now be closed.



Appendix - InstallerPro File Format

The configuration file for InstallerPro™ is a comma delimited text file (CSV) that can be edited manually in any text editor or spreadsheet program such as Excel. As a custom installer, a master spreadsheet template can be kept that is easily editable in a user friendly environment such as Excel. To use the configuration in InstallerPro™ the spreadsheet is simply exported as a CSV file. It can then be loaded into InstallerPro™ via the Load Configuration File button. This can make it easy to rapidly deploy multiple installation sites.

File Format:

Any lines beginning with a “!” will be interpreted by InstallerPro™ as a comment line and will not be read. Such a line can be easily used to make the configuration file more readable and understandable. An unlimited number of comment lines can be in the file. Please note that InstallerPro™ does not save these comments. So any configuration file written over by InstallerPro™ will lose the comments that may have been added.

Each line in italics below is a line in the CSV.

G1 or G2 - Use G1 for a 1st Gen System or G2 for a 2nd Gen system

Number Of Sources

Number of Screens

Switch IP Address

Switch Brand

Switch UserName

Switch Password

Switch TCP Connection Port (almost always port 23)

Stacked Configuration - True or False

Instant Receiver Configuration - True or False (usually false)

Source #1 Name,Physical Ethernet Port,VLAN ID,Stack ID,Instant Port,Instant stack

Source #2 Name,Physical Ethernet Port,VLAN ID,Stack ID,Instant Port,Instant stack,Layer3 IP Address, Layer3 Subnet

Source #3 Name,Physical Ethernet Port,VLAN ID,Stack ID,Instant Port,Instant stack, Layer3 IP Address, Layer3 Subnet

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LAN,Physical Ethernet Port,VLAN ID, StackID,InstantPort,Instant Stack,LAN IP, LAN Subnet
*All HDIP Devices,,10,,,ALL DEVICES IP,ALL DEVICES Subnet**
Source #x Name,Physical Ethernet Port,VLAN ID,Stack ID,Instant Port,Instant stack
Screen #1 Name,Physical Ethernet Port,Stack ID
Screen #2 Name,Physical Ethernet Port,Stack ID
Screen #3 Name,Physical Ethernet Port,Stack ID
.
.
Screen #y Name, Physical Ethernet Port,Stack ID

Here "x" and "y" are the final source and screen numbers.

Stack ID is the stack number in use. If the installation does not use stacked switches, then this value should be 0.

Instant Port is the port for the instant receiver being used. If instant receivers are not being used, then this value should be 0. Instant receivers are only used in rare cases on 1G systems. Usually this field will be left blank.

Instant Stack is the stack number for the instant receiver. If instant receivers or stacked switches are not being used, then this value should be 0.

Layer3 IP Address and Layer3 Subnet fields need only be filled out if the switch has been configured in Layer 3 mode.

*LAN line is optional for Layer 2 configurations, but required for Layer 3. The *All HDIP Devices* line can be removed for Layer 2 configurations.

Examples:

For a First Generation system with 10 sources and 5 screens not using stacked switches or instant receivers we would have the following:

G1

10

5

192.168.1.2

Cisco SG300 Series

cisco

cisco

23

False

False

Tivo HD1,1,10,0,0,0

Tivo HD2,3,11,0,0,0

Tivo HD3,5,12,0,0,0

AppleTV,7,13,0,0,0

Vudu XL,9,14,0,0,0

Boxee,11,15,0,0,0

BluRay1,13,16,0,0,0

BluRay2,15,17,0,0,0

SecurityCam1,17,18,0,0,0

SecurityCam2,19,19,0,0,0

Family Room,2,0

Living Room,4,0

MasterBedroom,6,0

Guest Bedroom,6,0

Den,10,0

For the same configuration using stacked switches we would have:

G1

10

5

192.168.1.2

Cisco SG500 Series

cisco

cisco

23

True

False

Tivo HD1,1,10,1,0,0

Tivo HD2,3,11,1,0,0

Tivo HD3,5,12,1,0,0

AppleTV,7,13,1,0,0

Vudu XL,9,14,1,0,0

Boxee,11,15,1,0,0

BluRay1,13,16,1,0,0

BluRay2,15,17,1,0,0

SecurityCam1,17,18,2,0,0

SecurityCam2,19,19,2,0,0

Family Room,2,1

Living Room,4,2

MasterBedroom,6,1

Guest Bedroom,6,2

Den,10,2

Let's assume the same configuration but this time using a G2 system in Layer 3 Mode and adding in some comment lines:

```
G2
!Next line is number of sources
10
!Next line is number of screens
5
192.168.1.2
Cisco SG300 Series
cisco
cisco
23
False
False
!Source Content is below
Tivo HD1,1,11,0,0,0,10.0.11.1,255.255.255.0
Tivo HD2,3,12,0,0,0,10.0.12.1,255.255.255.0
Tivo HD3,5,13,0,0,0,10.0.13.1,255.255.255.0
AppleTV,7,14,0,0,0,10.0.14.1,255.255.255.0
Vudu XL,9,15,0,0,0,10.0.15.1,255.255.255.0
Boxee,11,16,0,0,0,10.0.16.1,255.255.255.0
BluRay1,13,17,0,0,0,10.0.17.1,255.255.255.0
BluRay2,15,18,0,0,0,10.0.18.1,255.255.255.0
SecurityCam1,17,19,0,0,0,10.0.19.1,255.255.255.0
SecurityCam2,19,20,0,0,0,10.0.20.1,255.255.255.0
LAN,24,2,0,0,0,192.168.1,255.255.255.0
All HDIP Devices,,10,,,10.0.10.1,255.255.255.0
Family Room,2,0
Living Room,4,0
MasterBedroom,6,0
Guest Bedroom,6,0
Den,10,0
```

This file can be edited in a spreadsheet like Excel and saved as a comma delimited text file (note that some spreadsheet programs add a trailing comma at the end of each line. Excel does not do this and so is recommended). All information can be entered ahead of time. Then to load the file, go to the configuration window and click on "Load Configuration File." You'll then be able to pick the file you want to load and it will then make the entries in that file the current configuration.

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Bonjour

From Wikipedia ([http://en.wikipedia.org/wiki/Bonjour_\(software\)](http://en.wikipedia.org/wiki/Bonjour_(software)))

Bonjour is Apple's implementation of Zero configuration networking (Zeroconf), a group of technologies that includes service discovery, address assignment, and hostname resolution. Bonjour locates devices such as printers, other computers, and the services that those devices offer on a local network using multicast Domain Name System (mDNS) service records.

The software comes built-in with Apple's OS X and iOS operating systems. Bonjour can also be installed onto computers running Microsoft Windows. Some components may also be included within other software such as iTunes and Safari.

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Stacked switch

A stacked switch is a configuration where two or more switches are interconnected but function as a single entity. Since each switch has a duplicate set of physical ports, each switch is represented by a “stack” number that is used to identify which switch the port belongs to. Stack numbers generally begin at 1 and in some switches can go as high as 8 or even 16. The advantage of a stacked configuration is that very large networks can be built that can be controlled from a single point. The connection between the switches is usually made by high speed fiber optic interconnects or high speed stacking modules. This provides for the maximum amount of data bandwidth between switches.

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VLAN

VLANs or Virtual Local Area Networks are isolated network segments on the network switch. Devices assigned to a VLAN can only see and communicate with other devices on the same VLAN. In the Just Add Power network architecture VLANs are used to isolate each transmitter stream and receivers between VLANs when switching sources is desired. Using this sort of configuration, multiple switch ports can be simultaneously and instantaneously assigned to new video sources.

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