

Just Add Software, LLC

InstallerPro User Manual



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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 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™ configuration files.

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 or your local authorized representative. 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 sent to Just Add Software requesting a license code. Once your purchase has been verified, a license code will be provided via e-mail. Verification or purchase and providing a li-

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To renew your subscription to InstallerPro, open the registration window and enter the new license key you received when subscribing. If you attempt to enter a key that is older than a year, you will be notified that it is not a valid key for the current version of the software. Once a valid key is entered, your subscription will be extended for another year.

Demo Mode:

A new feature of InstallerPro 2 is “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.

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 via 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 set-up 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.

InstallerPro™ 2.0 has several options for configuring the switch. The most basic option is what is called an “easy configuration.” When this option is selected, the switch can be rapidly and easily set up for standalone operation using RS-232 control. This option only configures the VLANs and the switch ports that are using the Just Add Power devices. No switch user name or IP address configuration is performed.

If the “Easy Configuration” selection is not chosen, then the user can then configure the switch for standard layer 2 mode of operation or the advanced layer 3 mode of operation. The layer 3 mode is not supported on all switches and is a more complex and advanced setup. The advan-

tage of operating in the layer 3 mode is that all Just Add Power hardware devices are now directly accessible via TCP/IP connections.

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.

Lastly, InstallerPro 2.0 features a layer 3 hardware configuration utility. This utility is available once a switch has been configured for layer 3 operation. This utility will allow automatic configuration of Just Add Power HD/IP™ devices and their IP addresses based on either the published Just Add Power best practices or on the users own configuration. The utility will also allow automatic firmware updates of all devices on the network. This is a very advanced utility and the procedures outlined in this manual must be followed in order for this utility to properly work.

2

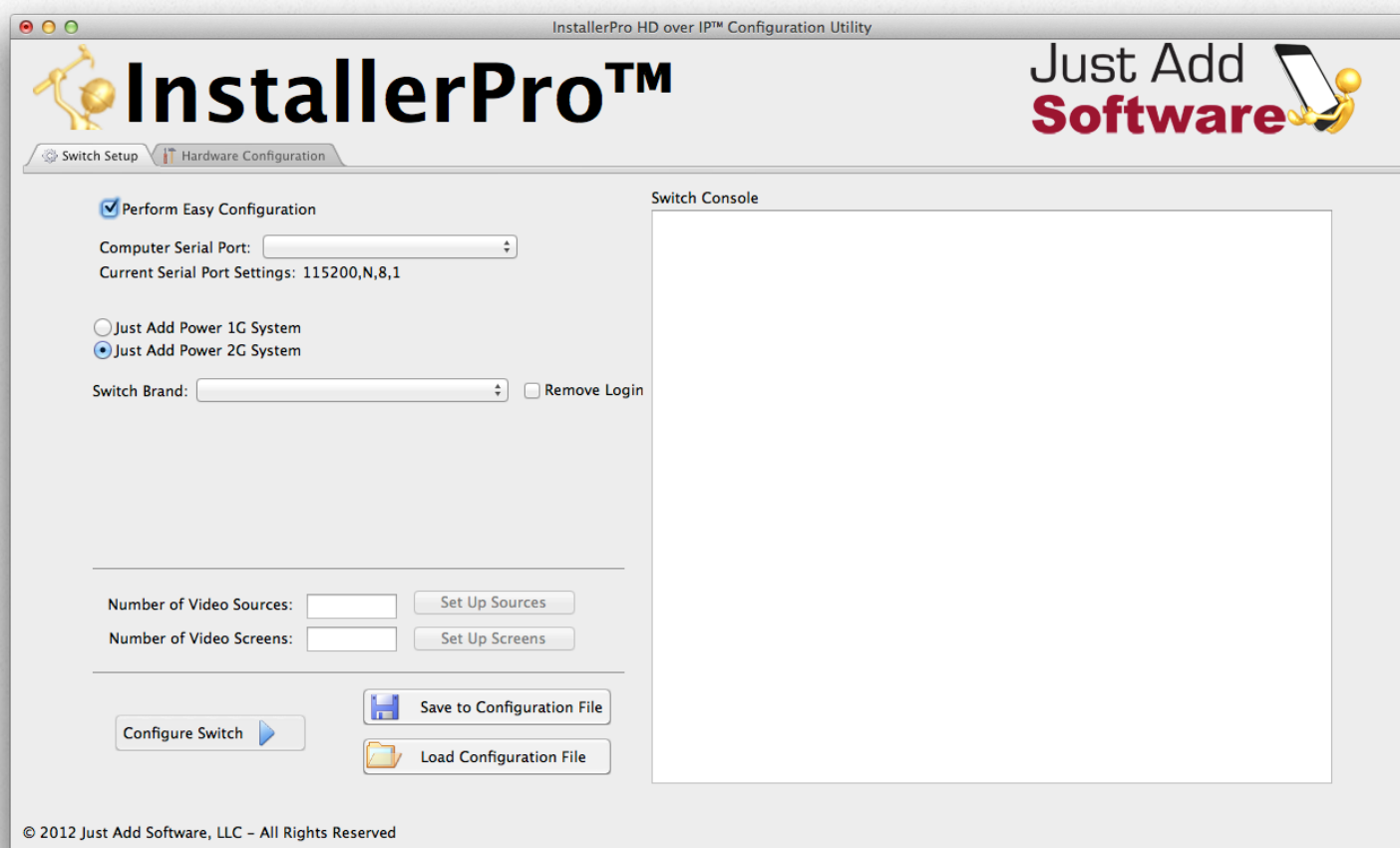
Easy Configuration

InstallerPro™ 2 eliminates the hard work of configuring the managed switch.



In order to function properly in the Just Add Power HD/IP™ network, the managed switch used to control video switching functions must be configured properly. Using the steps detailed in this chapter, the CI can have the Just Add Power system up and running in minutes. This chapter will cover the Easy Configuration option. Standard Layer 2 configuration options are covered in Chapter 3. Layer 3 configuration will be covered in chapter 5.

If the system where the switch will be used is going to operate solely as a standalone unit (i.e. not be connected to any other network) and controlled via RS-232 only, then the “Perform Easy Configuration” checkbox may be checked. Upon doing so, the following is displayed in the window:



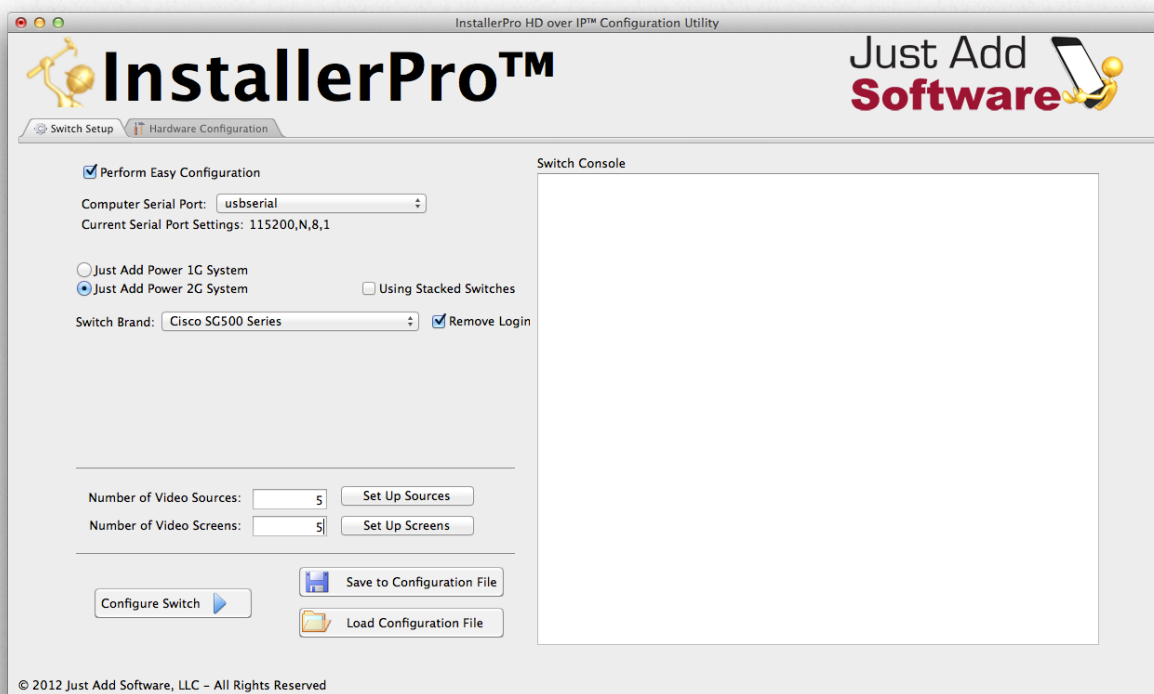
To proceed, first select the desired serial port. Then select if the configuration is being done for a Just Add Power 1G or 2G system. Finally, select the brand of switch being configured. The serial port baud rate will automatically adjust depending on the switch selected. If the standard baud rate needs to be overridden, it can be changed by either clicking on the values after the “Current Serial Port Settings:” label or it can be changed from the edit menu.

Once the switch and serial port options are set, then proceed to enter the number of sources and the number of screens in the fields provided. Once those fields have values, the buttons beside them become active. Click each of these buttons to set up the names of the sources or screens, the **VLAN** IDs and switch port numbers.

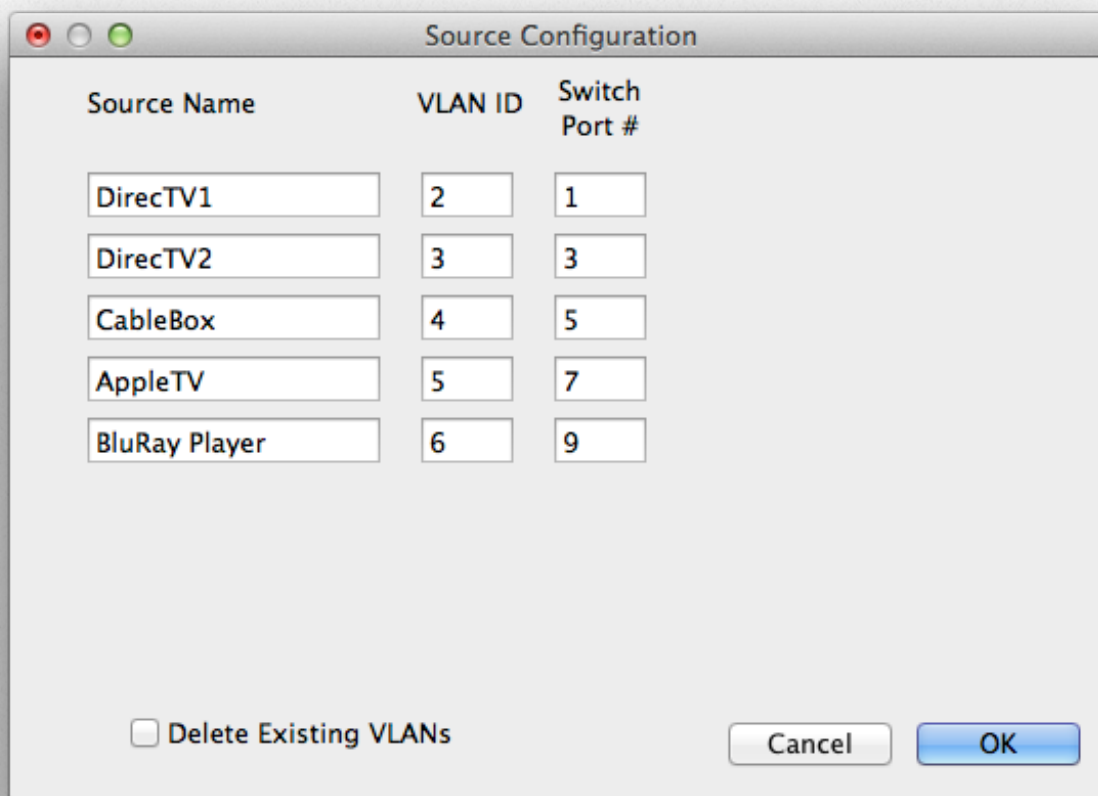
The example below shows an Easy Configuration setup for a 2G system using a Cisco SG300 switch with 5 sources and 4 screens.

Tip:

For Cisco SG series switches, there is an option to remove login. This removes the requirement to login to the switch when using RS-232 or Telnet connections. This option makes control system programming easier but should only be used in installations where security is not a concern.

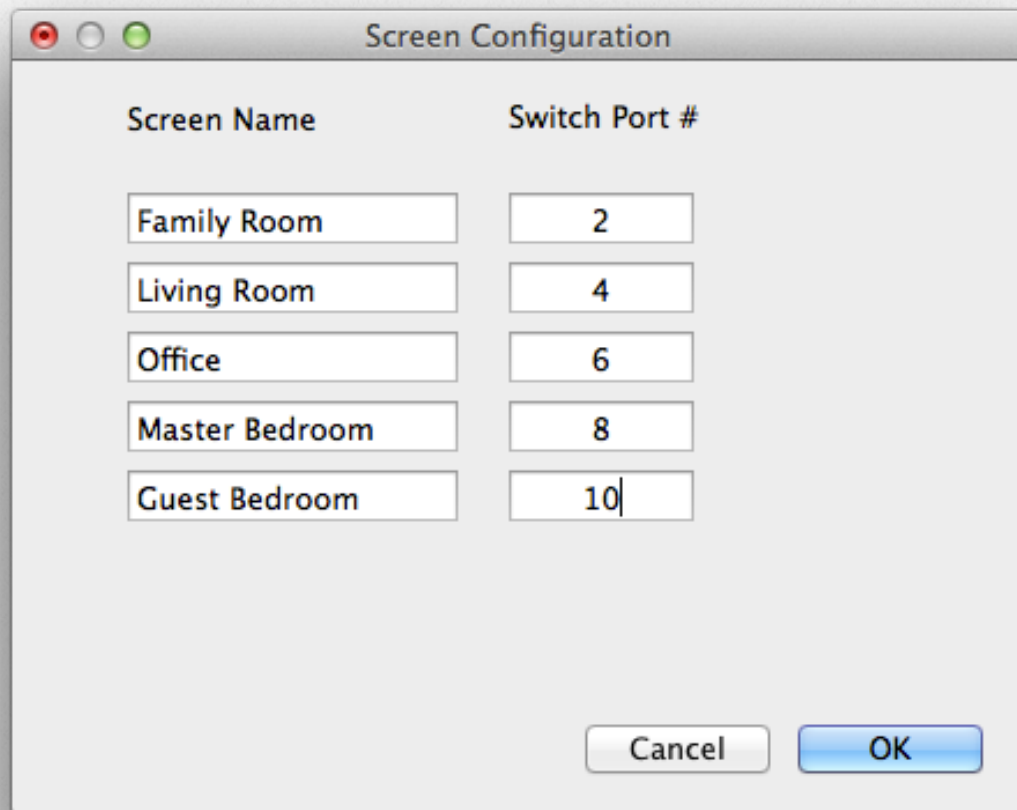


To proceed to the next step in the configuration, click on the Set Up Sources button in the software. A new window will then open that looks as below.



Enter the names of the sources, the desired VLAN ID and the physical switch port number where the transmitter will be connected. For layer 2 VLANs, any number greater than 1 can be used. If deleting any existing VLANs on the switch is desired, check the “Delete Existing VLANs” checkbox.

When all information is entered, click OK.



Screen Name	Switch Port #
Family Room	2
Living Room	4
Office	6
Master Bedroom	8
Guest Bedroom	10

Similarly, when clicking on the Set Up Screens buttons, the window on the left is presented.

Enter the names of the Screens in the spaces provided along with the physical port numbers used by each receiver in the system.

Once all information is entered, click on OK to go back to the Switch Configuration Window.

Once back at the main screen, a few more options remain. The configuration can be saved to a file so that it can be easily recalled later. InstallerPro uses a standard comma separated value text file for this information that can be easily edited in a spreadsheet application or other text editing software. See the appendix for details on the file format.

Finally, when everything is ready, click on the “Configure Switch” button. The proper commands will be sent to the switch and the output shown on the switch console on the right hand side. The console window is interactive and manual commands can be sent to the switch right from the window.

Congratulations - The switch is now set up and running and all video screens are set to the very first source.

3

Standard Layer 2 setup

Configuring the switch for a standard switch configuration is very similar to that used with the easy configuration discussed in the last chapter. This time there are more options to choose from and change such as the switch's IP address, switch user name and password and switch operation mode (**Layer 2** or **Layer 3**). The standard configuration switch page looks as shown below.

As in the case of the easy configuration, select the serial port being used along with the Just Add Power hardware version and brand of switch.

In this setup, an IP address 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 via TCP/IP or via 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 of 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.

Source Configuration

Source Name	VLAN ID	Switch Port #	Stack #
DirectTV1	2	1	1
DirectTV2	3	3	1
CableBox	4	5	1
AppleTV	5	7	1
BluRay Player	6	9	1

Delete Existing VLANs

Cancel OK

Screen Configuration

Screen Name	Switch Port #	Stack #
Family Room	1	2
Den	2	2
Living Room	3	2
Game Room	4	2
Kitchen	5	2
Great Room	6	2
Master Bedroom	7	2
Guest Bedroom	8	2
Kids Room 1	9	2
Kids Room 2	10	2
Kids Room 3	11	2
Pool	12	2
Exercise Room	22	1
Garage	23	1
Sun Porch	24	1

Cancel OK

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 sources and screens are set up, click the Configure Switch button to program the switch. The console window on the right hand 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 ctrl-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.

4

Hardware Configuration

InstallerPro 2 features several very powerful options for configuring Just Add Power 2G devices. The user is able to safely modify the IP address of the hardware, update serial port configurations or update the firmware of every device on the network. This chapter will discuss these capabilities and explain how to perform each operation.

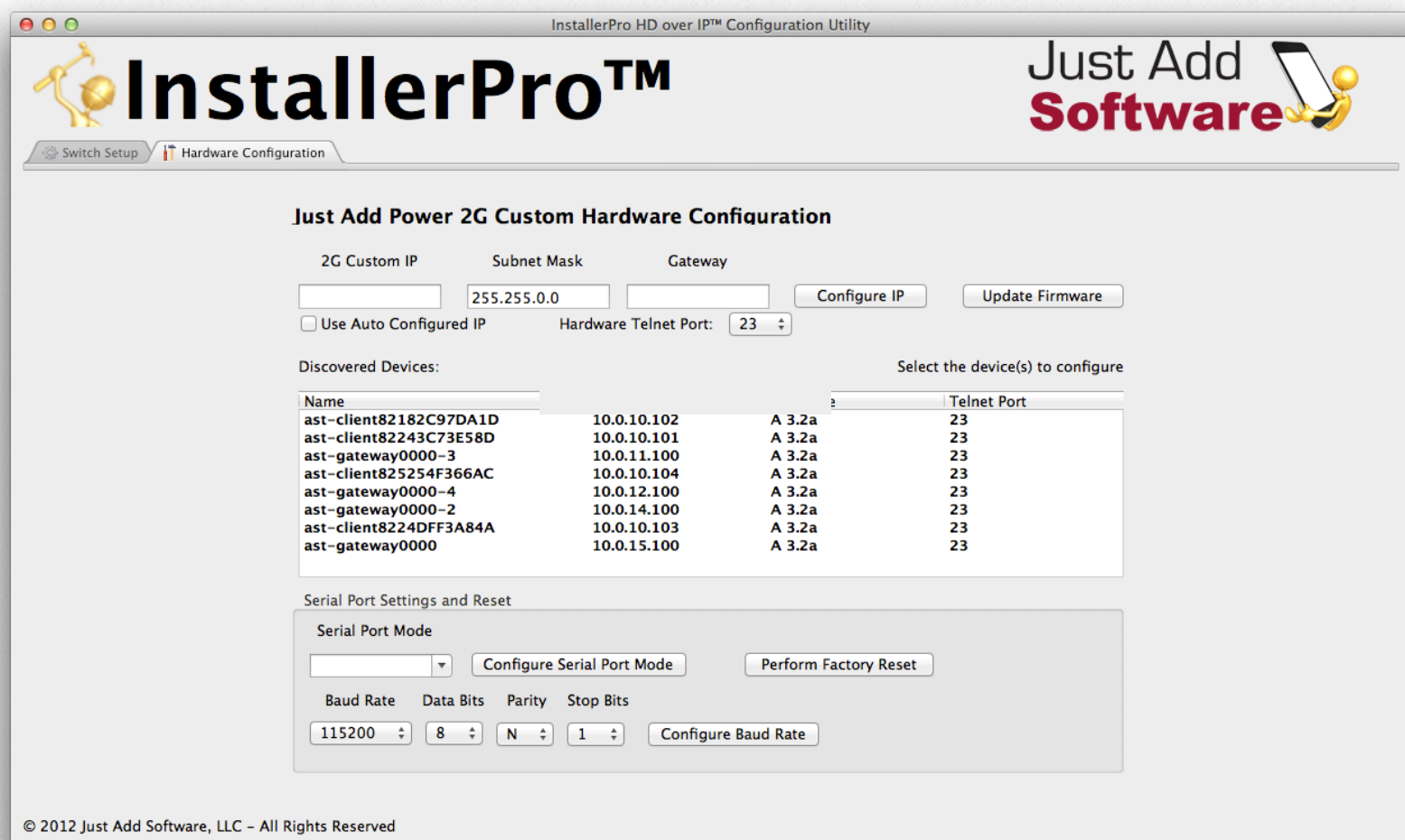
The InstallerPro 2 Hardware Configuration tab features a browser window where the user can view all of the devices on the network and select operations to be performed on each device. Please note that in order to browse devices on the network that Bonjour must be installed on the computer being used. If the computer is running OS X, then **Bonjour** is already installed. If the computer is running Windows, then if Bonjour is not installed, a notice will be displayed with a link to where the software can be downloaded.

Just Add Power devices can be directly connected to the ethernet port of the computer doing the configuration. In order for a successful connection to the device, the computer must have an IP address in the same IP range as the hardware device. InstallerPro is unable to set the IP address of the computer. Please refer to the appendix of this manual for instructions on changing the computer's IP address. If the computer sees the device and is able to connect to it, the device will show in the window and the information will be displayed in bold type-face. If the computer sees the device but is unable to connect, the type-face will be normal.

Once connected, the device will display its name, IP address, firmware version and current telnet port used for the connection. Some firmware revisions of Just Add Power devices use telnet port 24 for the connection, while most newer revisions use port 23. InstallerPro determines the best port for connection automatically.

If connection to and configuring multiple devices is desired, then the user must first put all desired devices manually into the same VLAN. If transmitters and receivers, will be mixed together for this step, please disconnect the HDMI cables going to the transmitters. This will cause them to stop transmitting the video stream and enable easier discovery and configuration. The computer being used must also be placed onto this same VLAN and have the same IP address range as the Just Add Power hardware. All of the VLAN manipulation can be performed in the Switch Setup tab of InstallerPro 2 by manually typing the switch commands into the console.

Once a successful connection is established to the devices, the hardware configuration page is shown as below.



Programming a custom IP:

To program a custom IP address, select the device from the list to be programmed. Enter the new IP address, subnet mask and gateway IP in the spaces provided. Then click “Configure IP.” The commands will be sent to the hardware to change the IP, the box will be re-booted and once it’s back up, the new address will be displayed. Proper IP address formats are enforced in the IP, subnet and Gateway fields, thereby preventing “bricking” of the hardware due to incorrectly entered information.

If returning to the default self-configured IP address is desired (in the 169.254 IP address space), click the “Use Auto Configured IP” box and click the Configure IP button. The default IP configuration will then be applied and the box rebooted.

Note that upon reboot, the box may not connect (ie: it will be shown in normal type face). This is to be expected as the computer may no longer have the correct IP address space assigned to communicate with the box.

Only a single box can have its IP address updated at a time. If more than one box is selected, a warning will be presented.

Changing Serial Port Settings:

The external serial port of the Just Add Hardware devices can be configured by selecting the hardware desired, and then making the adjustments in serial port mode, data rate, etc. A full factory reset of the device can also be performed.

As with setting the IP address, only one box can be configured at a time and the user will be warned if more than one box is selected.

Updating Firmware:

InstallerPro 2 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 mis-matched 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 2 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. 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. Text will indicate for each device that the firmware is being downloaded. Once the firmware is downloaded to the devices, they begin their update progress. A progress bar will then display in the firmware column showing the amount completed in the process. Once each device finishes its firmware update, the device will then reboot and upon rebooting the new firmware revision will be displayed. Please note that receivers take longer to update than transmitters. The picture below is an example of 11 devices (7 transmitters and 4 receivers) being updated simultaneously. Note the different rates of progress of the updates on the devices.

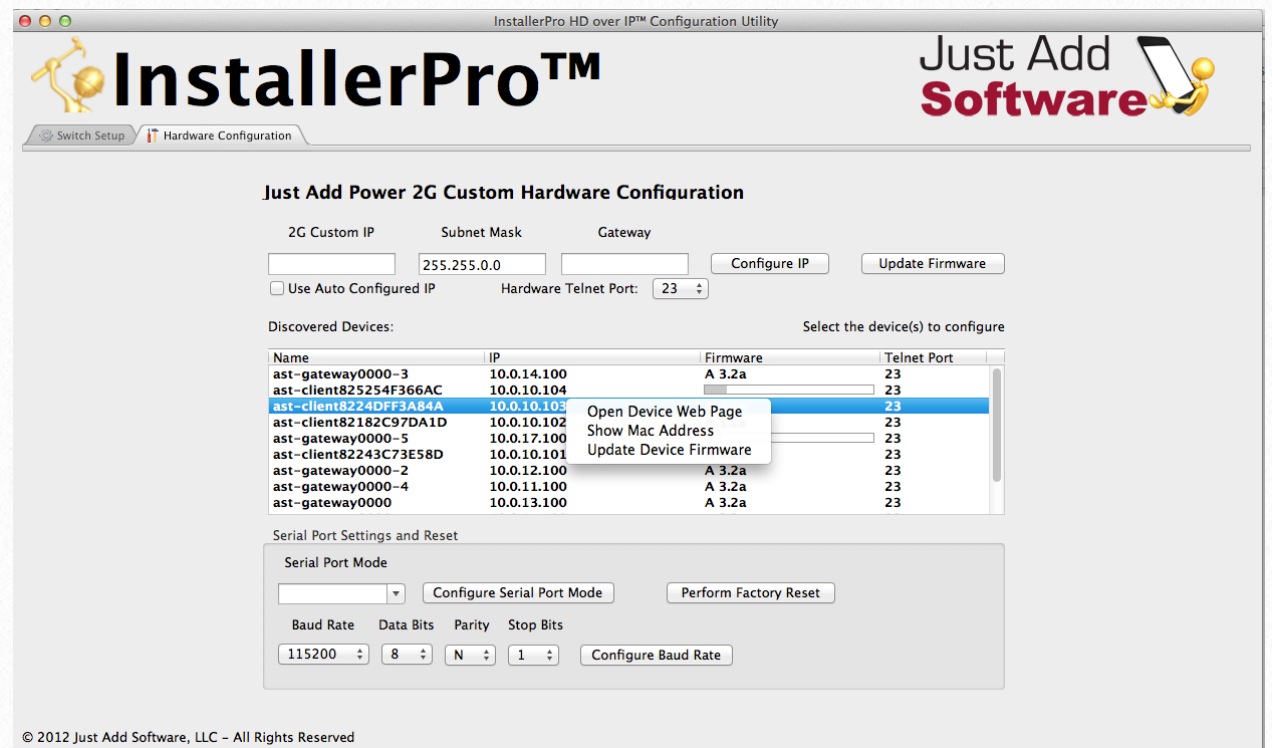
Note - in order to update firmware, the software must be connected to the hardware - the text must be shown in bold type face.



Once all hardware programming is completed, click on the Switch Setup tab to go back to the switch utility. Then enter the commands (or re-program the switch) to put all ports back into their proper VLANs.

Additional Options:

By selecting a device and right clicking, a pop-up menu is presented with the following options: Show device MAC address, Open Device Web-page, Update Device Firmware and Restore Factory Defaults. If the device is not connected, an option to attempt a connection to the device is shown instead.



5

Layer 3 System Configuration

One of the most powerful aspects of InstallerPro 2 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 utilizing. By setting up a Layer 3 system, CIs can now program their control systems to directly communicate via 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.

While Layer 3 configuration is extremely powerful, it is also more involved and difficult to set up. InstallerPro 2 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.

Parts of the Layer 3 Configuration

There are two parts to the Layer 3 configuration. This first is to set up the switch for Layer 3 operation. The second step is to configure the Just Add Power hardware. InstallerPro allows the user to set up just the switch or to set up first the switch and then the hardware. If you wish to configure the hardware for Layer 3 mode, the switch must be configured first.

Configuring the Switch for Layer 3

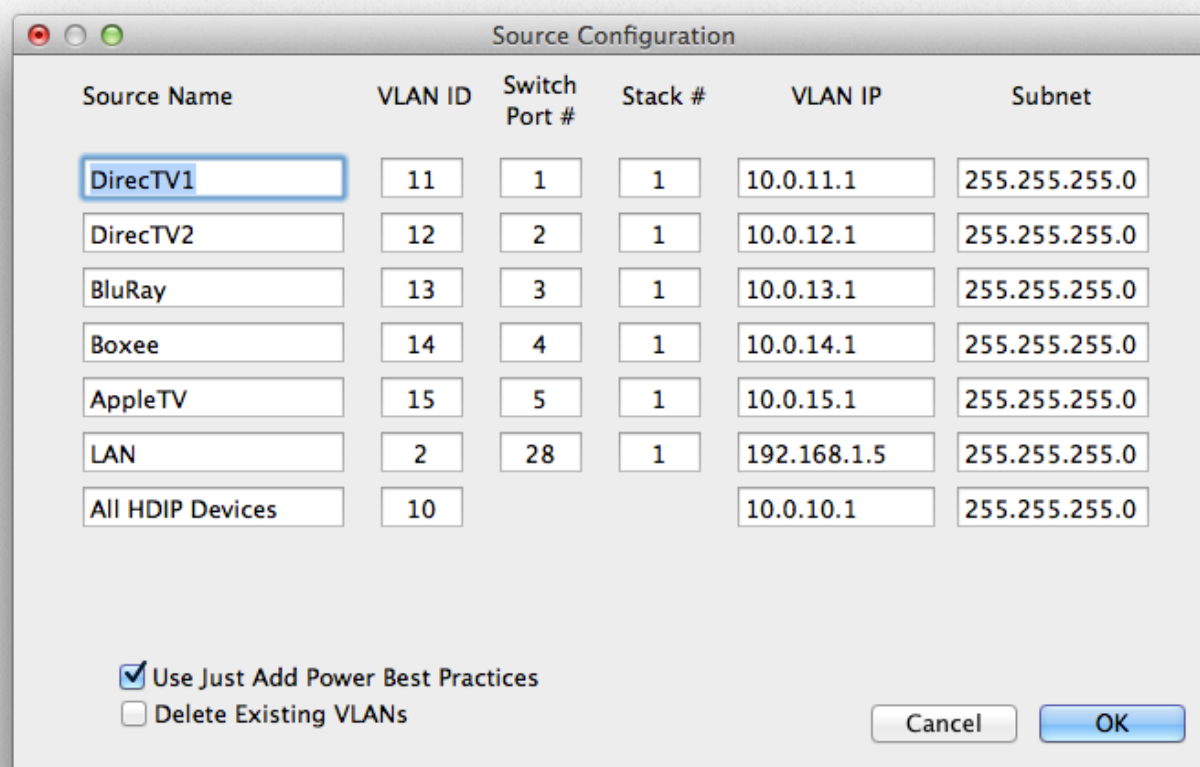
To set up Layer 3, first select the 2G system in InstallerPro 2 (1G systems are not able to take advantage of the layer 3 environment). Then select the desired switch brand. Note

that the selection of switches available has changed as not all switches support Layer 3 operations.

Now the switch first needs to be put into what is called “router mode.” Most Layer 3 capable switches do not come with this mode enabled. If the user is configuring a Cisco SG300 or SG500 switch, InstallerPro 2 will display a button that will send commands to the switch to put it in router mode. Establish an RS-232 connection to the switch and then click the “Set Switch to Router” button. The switch will receive the commands and then reboot. Once the switch comes back to its normal state (the “>” or “#” or login prompt), it is ready for the next step in configuration. If the switch being set up is a different model than the SG300 or SG500, the user will need to enter the required commands manually. Please consult the manual for the switch being used for the commands to perform this setting on the switch.

Once the switch has rebooted and is in router mode, proceed to set up the switch just like would be done for any other configuration. Enter the number of sources and screens and then click on “Configure Sources.” This is where things begin to change.

When “Configure Sources” is selected in Layer 3 configuration mode, new fields are added to the Source Configuration window that opens. There are now new fields for assigning the IP address, Subnet and Gateway to the VLAN IP. By default, the “Use Just Add Power Best Practices” checkbox is selected. By utilizing this feature, all of the IP addresses, subnets and gateways for each VLAN will be automatically filled in.



Source Name	VLAN ID	Switch Port #	Stack #	VLAN IP	Subnet
DirecTV1	11	1	1	10.0.11.1	255.255.255.0
DirecTV2	12	2	1	10.0.12.1	255.255.255.0
BluRay	13	3	1	10.0.13.1	255.255.255.0
Boxee	14	4	1	10.0.14.1	255.255.255.0
AppleTV	15	5	1	10.0.15.1	255.255.255.0
LAN	2	28	1	192.168.1.5	255.255.255.0
All HDIP Devices	10			10.0.10.1	255.255.255.0

Use Just Add Power Best Practices
 Delete Existing VLANs

Cancel OK

Please also note that in addition to your normal sources, two new VLANs have been set up. These are named “LAN” and “All JAP devices” respectively. When using best practices, these have been assigned to VLANs 2 and 10 respectively. It is **VERY IMPORTANT** that in the LAN fields, the user enters the switch port on which the computer or control system will be connected to the switch. Layer 3 control will not properly function without this.

Once the sources are all configured click OK to be taken back to the main screen. Then click on Configure Screens. Screen configuration is the same as it is for Layer 2.

Once the screens are set up, click OK. Now we are ready to program the switch. Click the configure switch button and the switch will be properly configured for Layer 3 operation.

When the switch configuration is complete, a new tab will appear called “Layer 3 Hardware Configuration.” This tab will be used to program the Just Add Power pieces for Layer 3 operation. But before clicking on this tab, it is imperative that the following procedure be followed:

Configuring the Just Add Power hardware for Layer 3 operation:

In order to detect and program the hardware devices for Layer 3 operation, all devices must temporarily be on the same VLAN and the computer running InstallerPro must be configured with the correct IP address and subnet values. Since all devices are temporarily on the same VLAN, none of the transmitters can be transmitting a video stream as it will interfere with device discovery and programming.

Follow these steps for configuring for Layer 3 BEFORE clicking the “Layer 3 Hardware Configuration” tab:

a.) connect all Just Add Power receivers and transmitters to be configured to the ports defined during the programming of the switch. But do NOT connect any HDMI cables. Please make sure all HDMI cables are disconnected - particularly from the transmitters. With the HDMI cables connected, the transmitters will start streaming and this will cause problems.

b.) On the computer, turn off ALL network connections except the ethernet connection being used to connect to the switch. The ethernet connection from the computer needs to be connected to the port that was defined for VLAN 2 or the LAN during the setup phase.

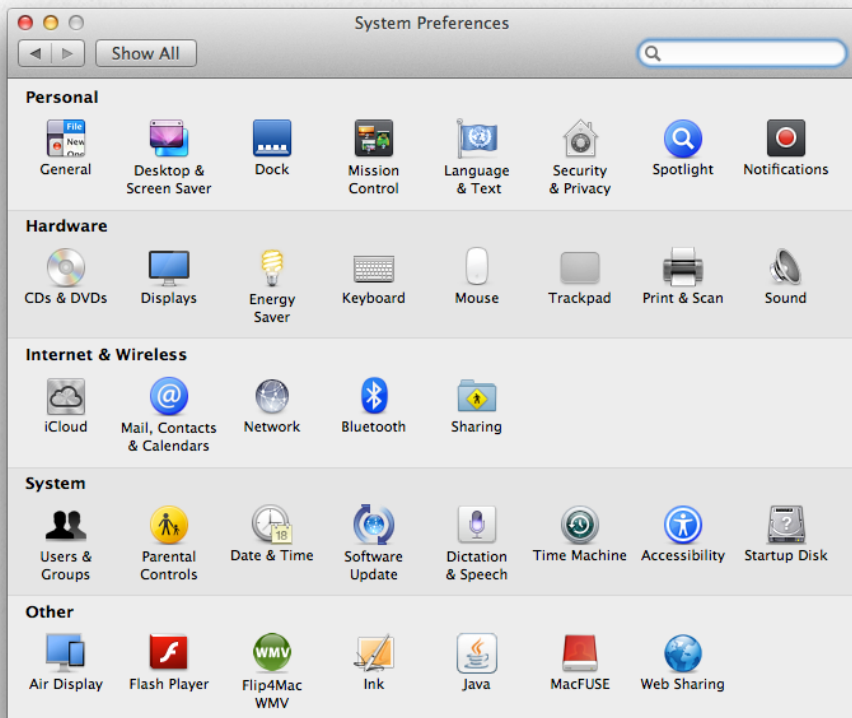
c.) Make sure that the computer has an IP address in the same subnet as was programmed for VLAN 2 on the switch. So if VLAN 2 has a 192.168.1.xxx address with subnet 255.255.255.0, then the computer ethernet address needs to be assigned to that same network and subnet space. Please leave the gateway IP blank. For information on setting IP addresses on the computer, please refer to the section entitled, "Setting IP Addresses on the Computer."

d.) In addition to step "c" above, the computer will also need two additional IP addresses added to the network card (this is temporary only). Please add the address of 10.0.10.2 (if not using Just Add Power "best practices" enter the correct address space for communicating with the devices) with subnet of 255.255.0.0 and add the address 169.254.1.2 with subnet 255.255.0.0. Leave the gateway IPs blank. These multiple IP addresses will allow communication with the switch and the devices. For information on adding these addresses see the section below titled, "Setting IP Addresses on the Computer."

e.) Once the steps above are complete, and the computer is connected to the switch with both RS-232 and ethernet, then and only then click on the Layer 3 Hardware Configuration tab.

Setting IP Addresses on the Computer:

OS X:



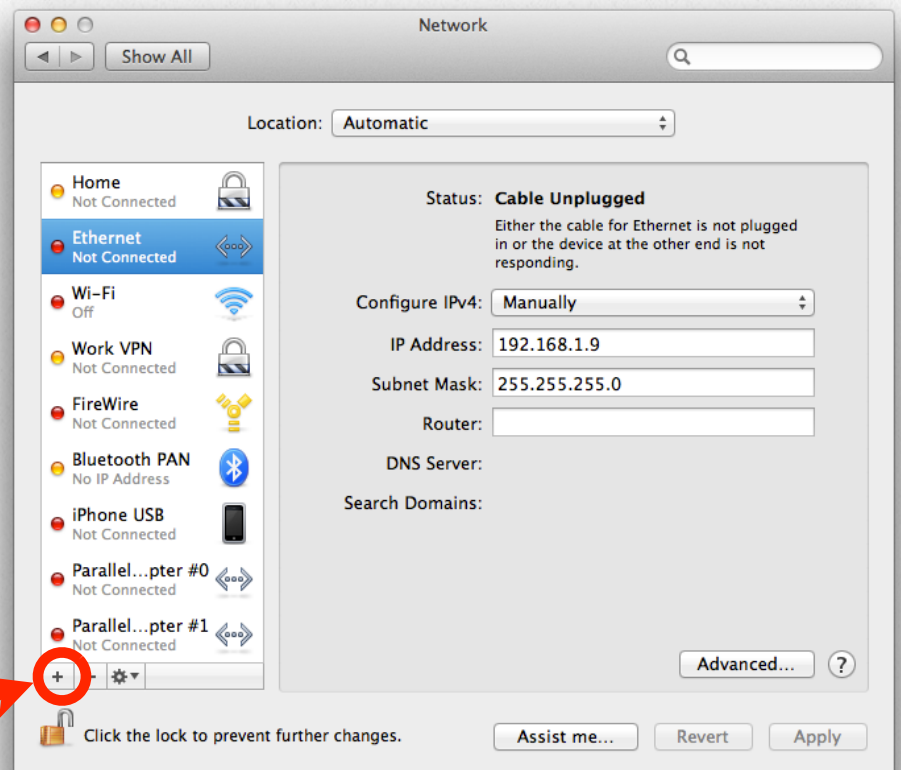
To set an IP address on a Macintosh computer running OS X, click on the System Preferences icon in the Dock. System preferences will open and look like the image shown on the left.

Click on the Network icon under the Internet and Wireless section. The network settings panel will then open as shown below (to change settings, it may be necessary to click the lock icon at the bottom and enter the administrator password).

First select the “Ethernet” option. (If no “Ethernet” option exists (e.g. using a MacBook Air), then a USB to Ethernet adapter will need to be obtained.)

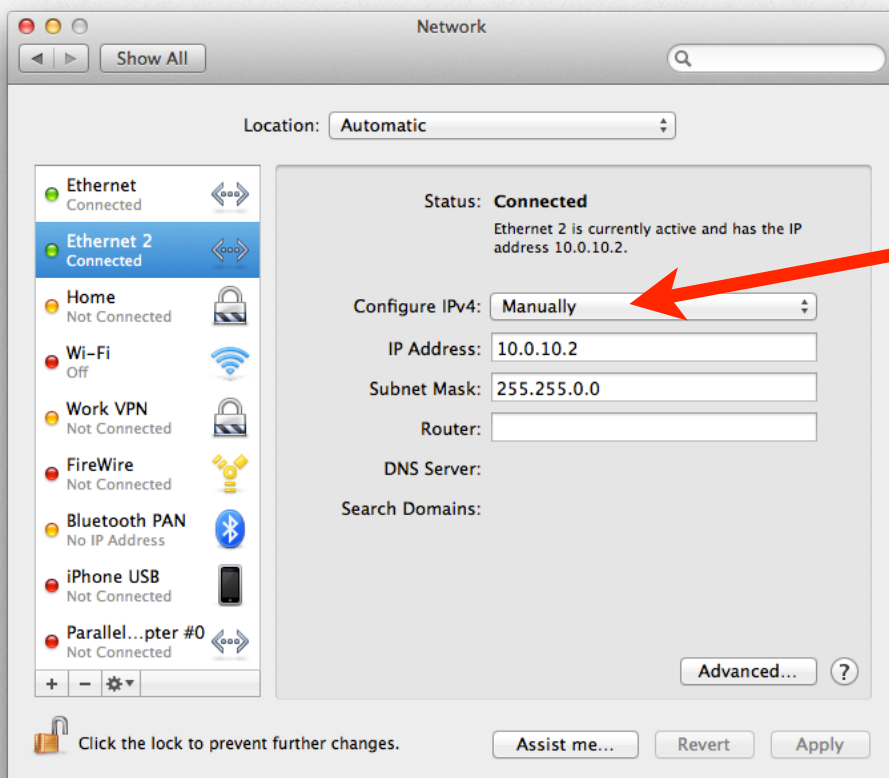
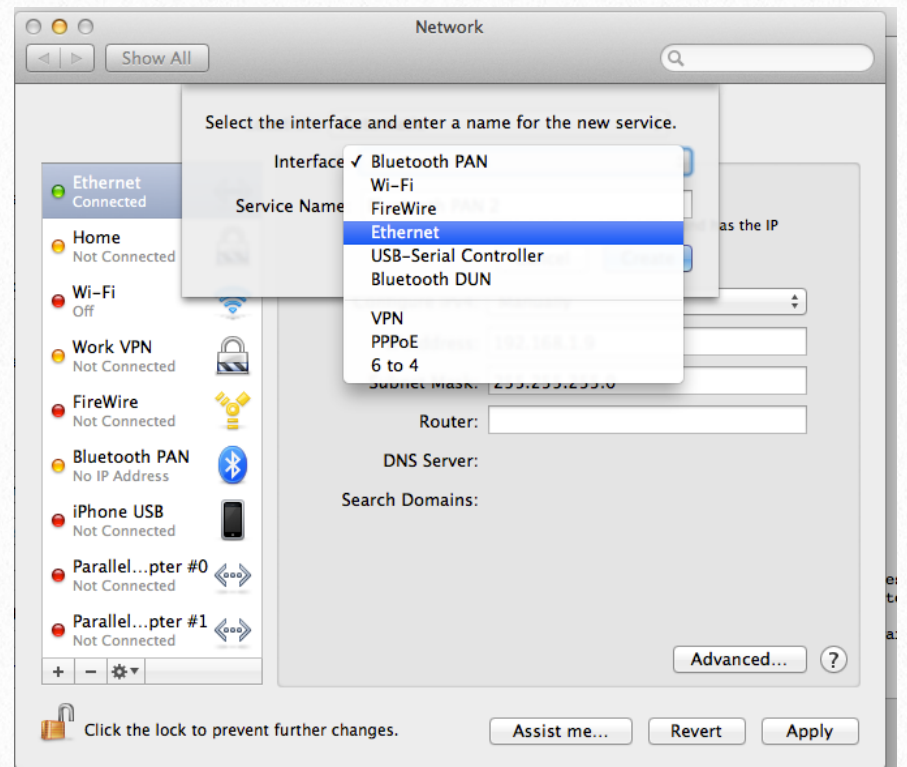
Select “Manually” from the “Configure IPv4” pop-up menu.

Enter the IP address to be an address in the subnet of what was configured for the LAN port on the switch. Enter the subnet mask as was configured for the LAN port on the switch. Leave the Router field blank.



Next, click the “+” button in the lower left corner. This will create a new connection interface for the next IP address needed. This is only temporary.

A window as shown on the right will open. Select the interface “Ethernet” as shown. Leave the service name as the default as this will be removed once the procedure is complete. Once this is selected, click on the “Create” button.

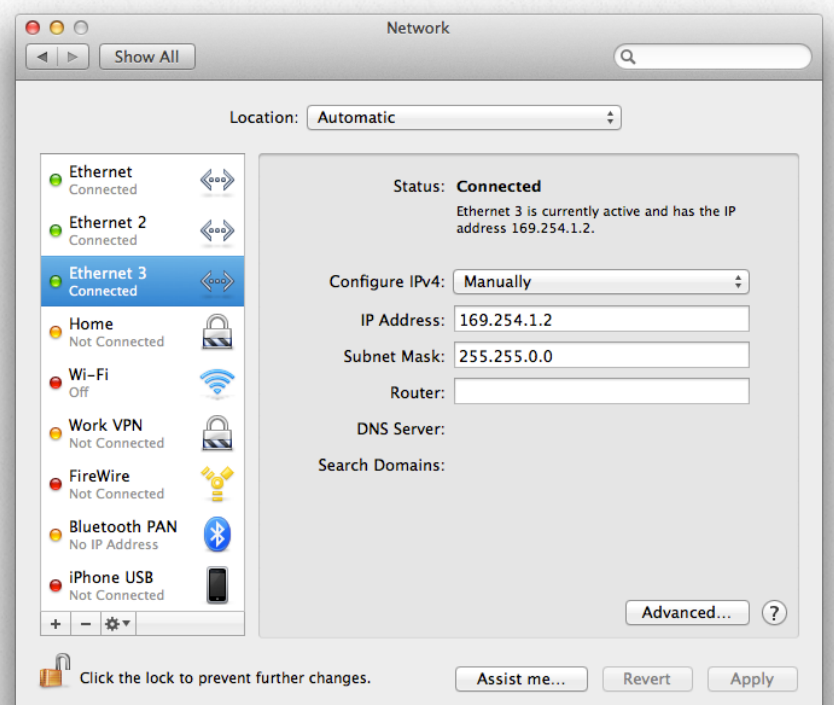


Select the first pop-up of “Configure IPV4” to “Manually.” Now enter the IP address of 10.0.10.2 with a subnet of 255.255.0.0. Leave the router IP address blank.

Then repeat this step again. Click “+” to add another interface, again select “Ethernet.” Then select to configure IPV4 manually. This time enter an IP address of 169.254.1.2 with a subnet of 255.255.0.0.

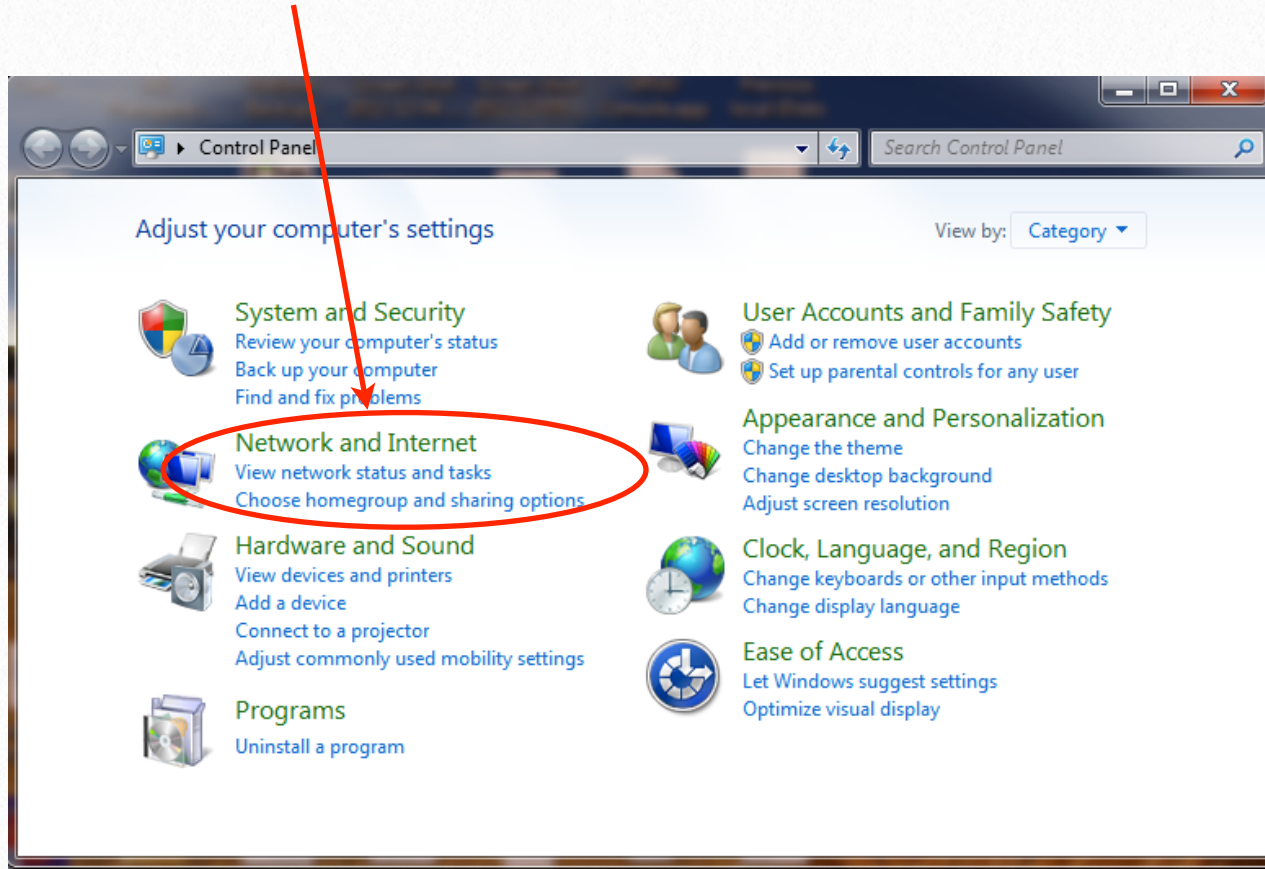
Finally, when all is complete, click on “Apply” to save the new settings.

Now connect the ethernet cable.

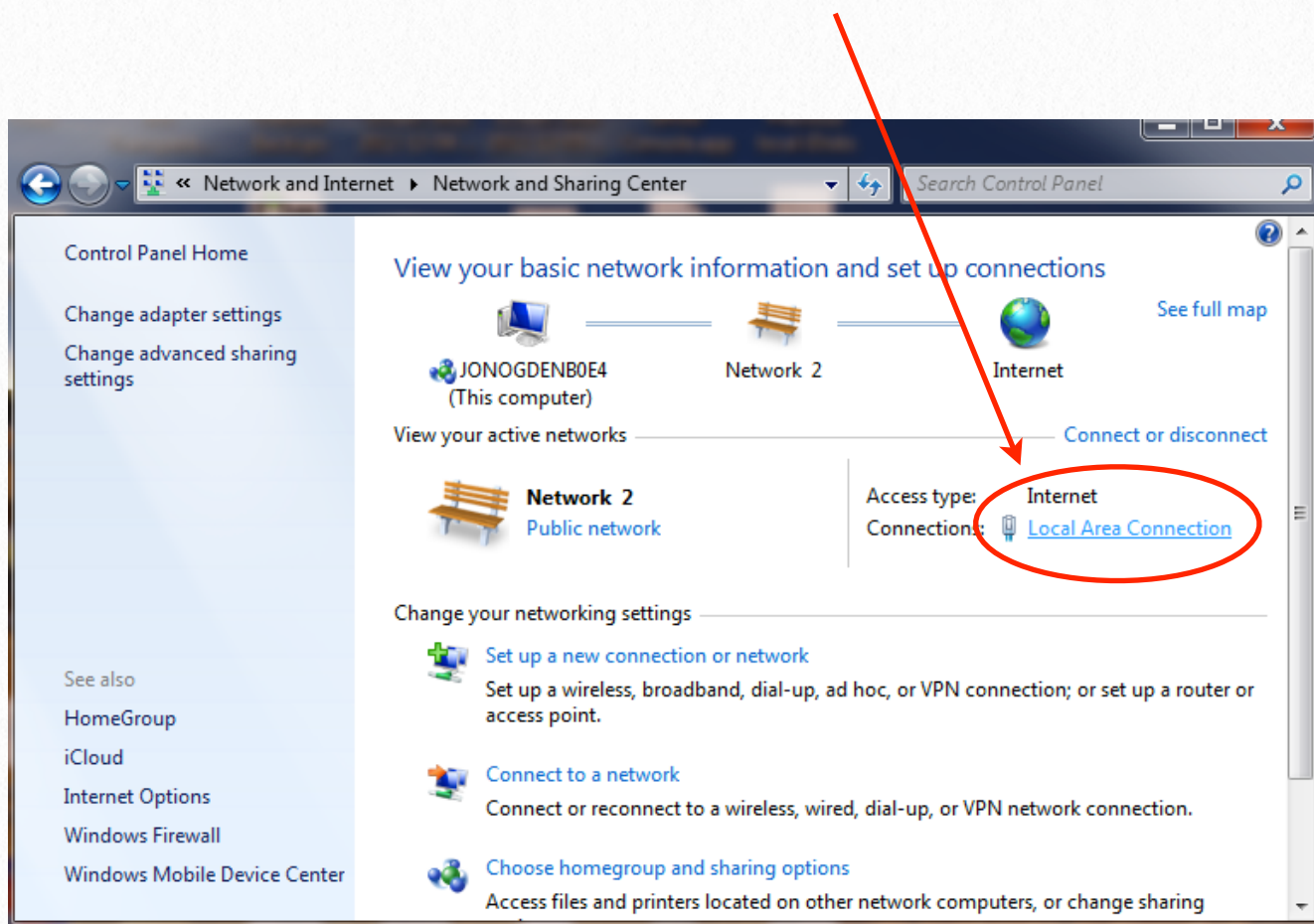


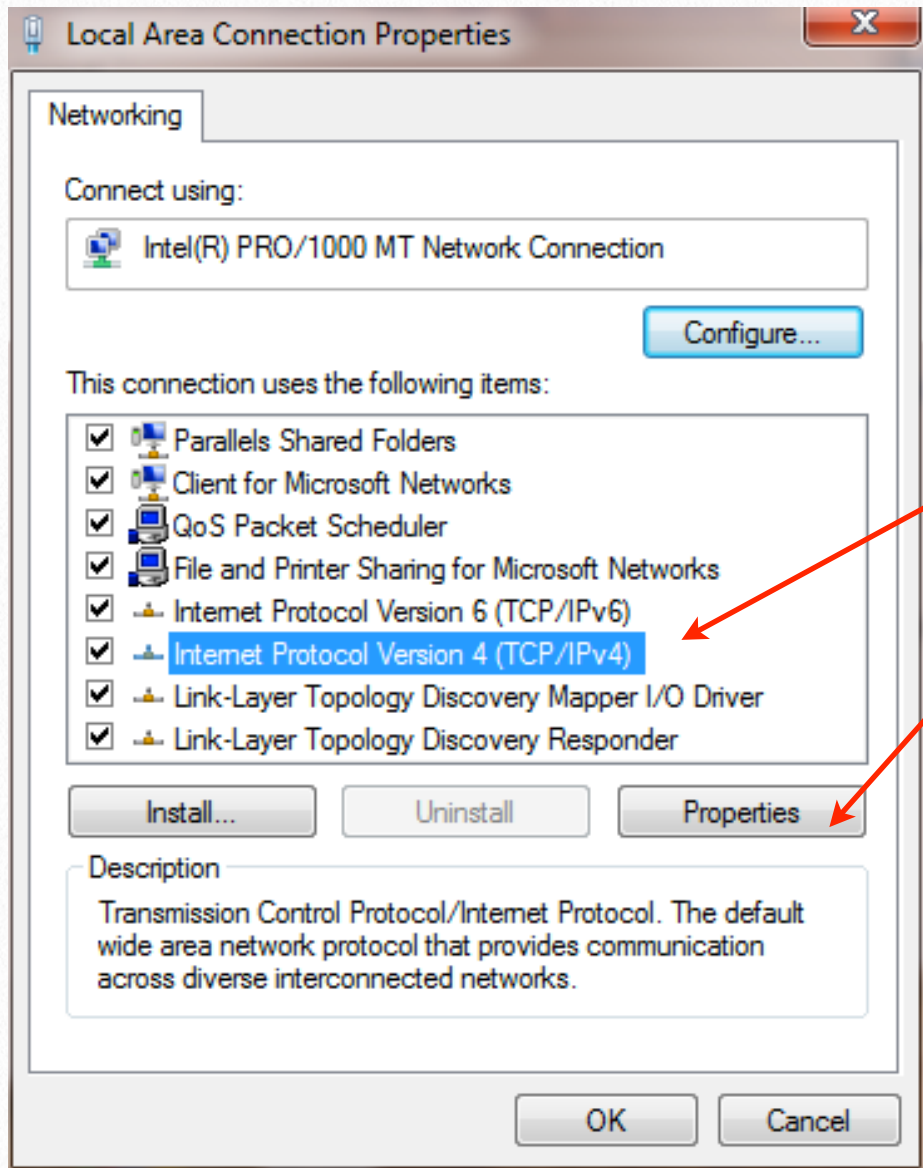
Windows 7:

In Windows 7 go to the Control Panel and Select Network and Internet:



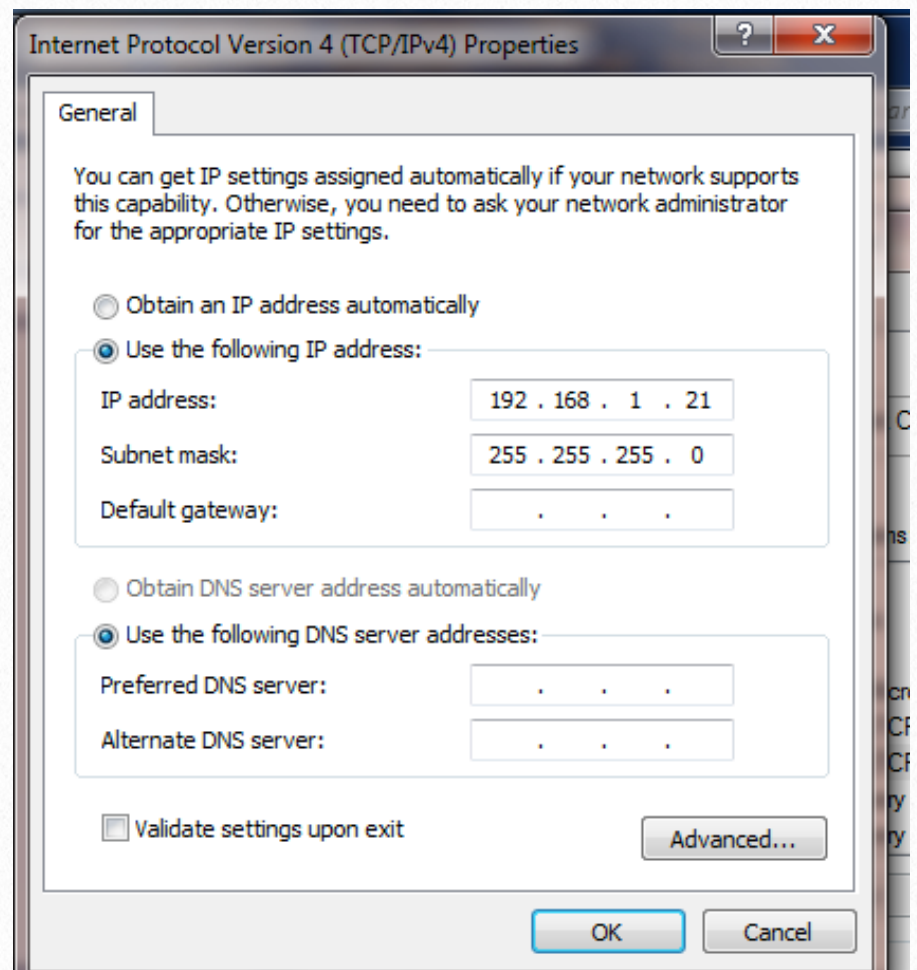
Once the Network and Internet Panel is displayed, click on "Local Area Connection."



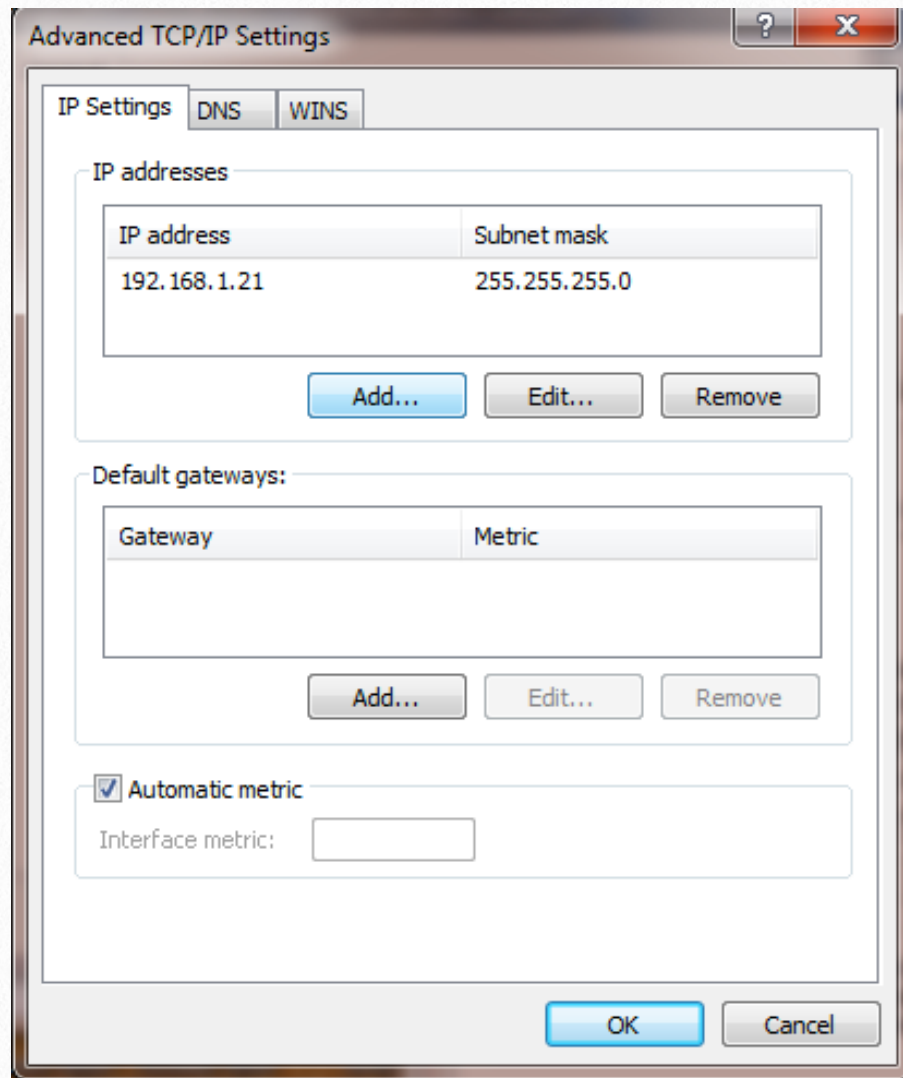


In the screen that opens up, select Internet Protocol Version 4 (TCP/IPv4). Then click on Properties.

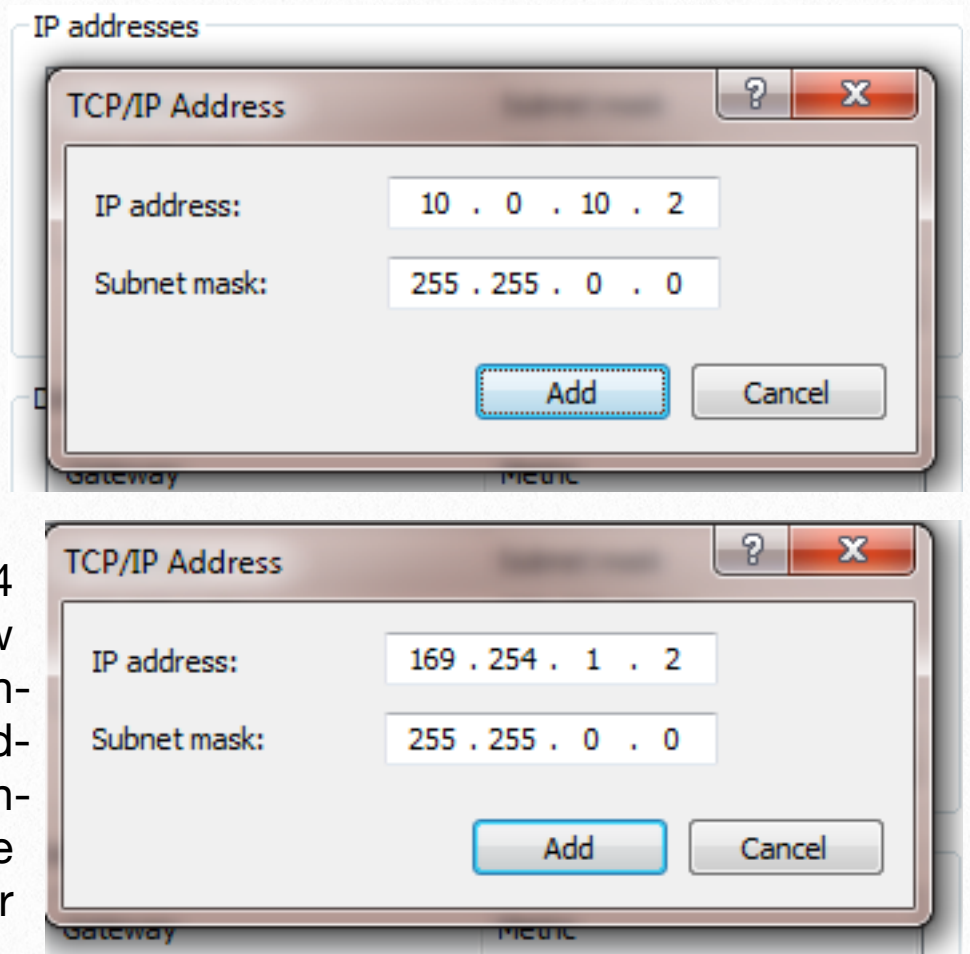
This next window contains the settings for the main network connection. This is possibly already configured or set up. Select “Use the following IP address.” In the example on the right, the computer was set to an address of 192.168.1.21. This address needs to be in the same IP address range that is configured for VLAN 2 on the switch whatever that may be. Set the subnet mask to 255.255.255.0 (or whatever is in use for the LAN connection on the switch). Leave the default gateway and DNS server addresses blank. Once this is complete, please click the “Advanced” button.



This screen will allow addition of the extra IP addresses needed to communicate with the hardware. To add the extra IP addresses, click on the Add button.



Enter the address of 10.0.10.2 with a subnet mask of 255.255.0.0. Then click Add. When that window closes, click the Add button in the Advanced TCP/IP Settings window a second time. In the window that comes up enter the address 169.254.1.2 with a subnet mask of 255.255.0.0. Then click Add. Now back in the Advanced Settings Window, click "OK." That window will close. Then in the Internet Protocol Version 4 window click OK. That window will now close. Then click OK in the local area connection properties window. Now all addresses are configured and Layer 3 configuration can begin. After the hardware is configured and programmed for Layer

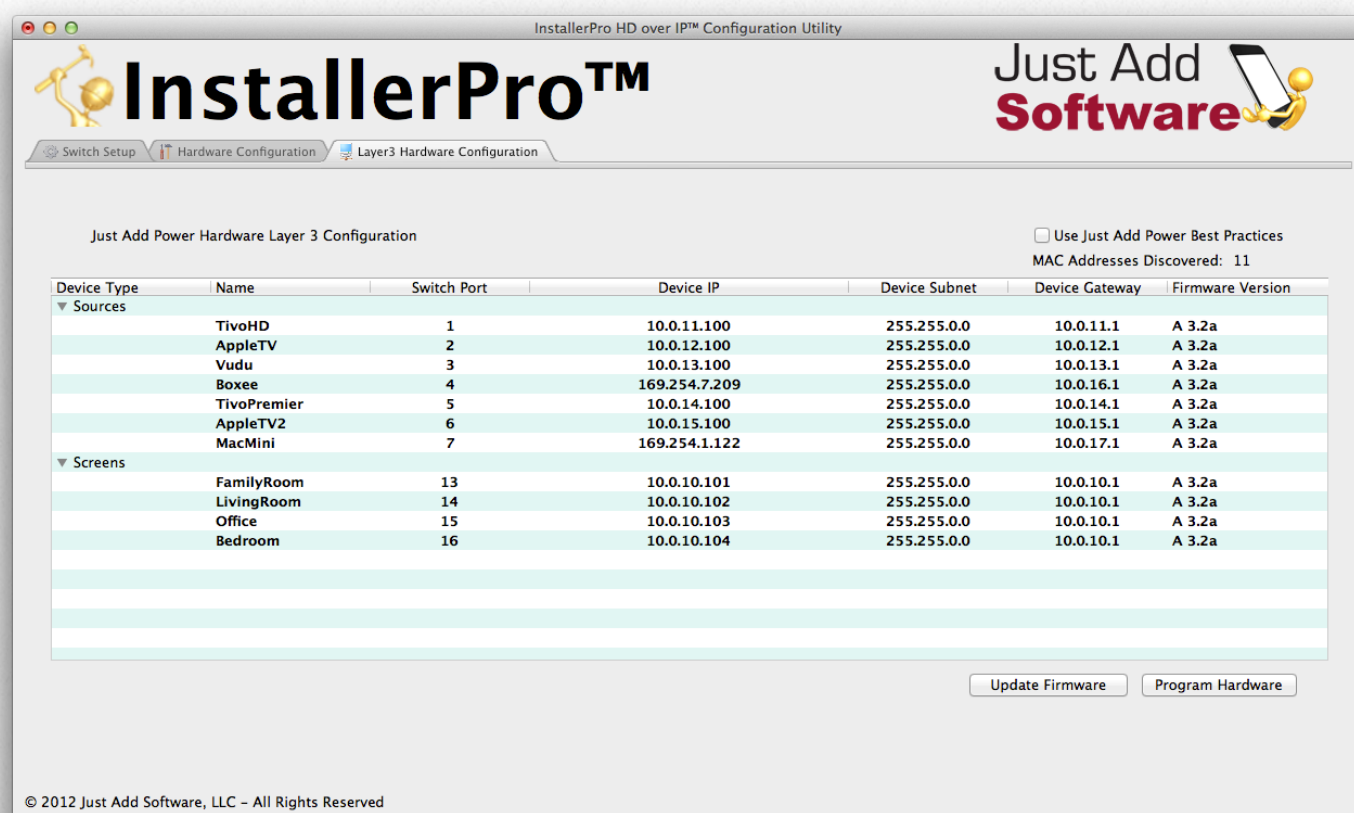


3, remember to come back to these windows and undo the changes. Remove the extra IP addresses by selecting the address and clicking the “Remove” button in the Advanced TCP/IP settings window.

4.) Layer 3 Hardware configuration:

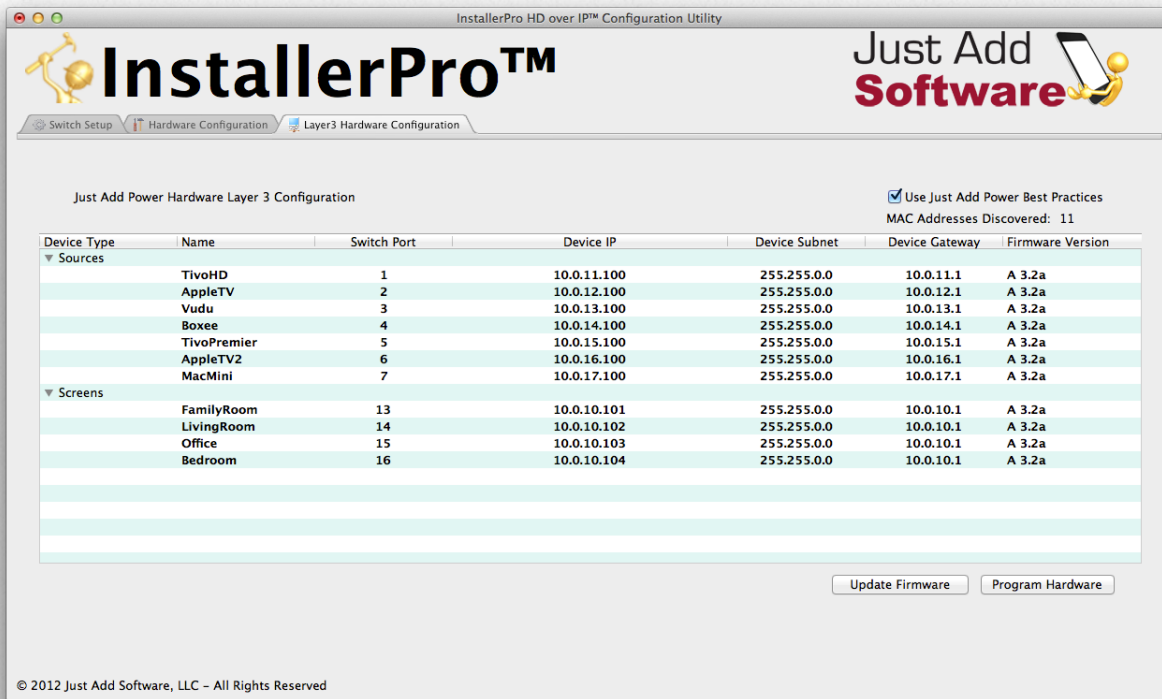
Once this tab is selected after the steps described above, the software will log into the switch via ethernet and start discovering what MAC addresses are connected to the ports on the switch. In addition, it will also program the switch so that ALL devices are temporarily on VLAN 2. We need to do this as Bonjour discovery doesn't work easily over layer 3 router interfaces!

Once the Mac addresses are discovered, the software will begin discovering the hardware boxes and connecting to them. They boxes will show up at the proper ports where they are connected at the switch. So we've not only discovered the boxes, we know where they are plugged in! Now you can either manually edit the IP



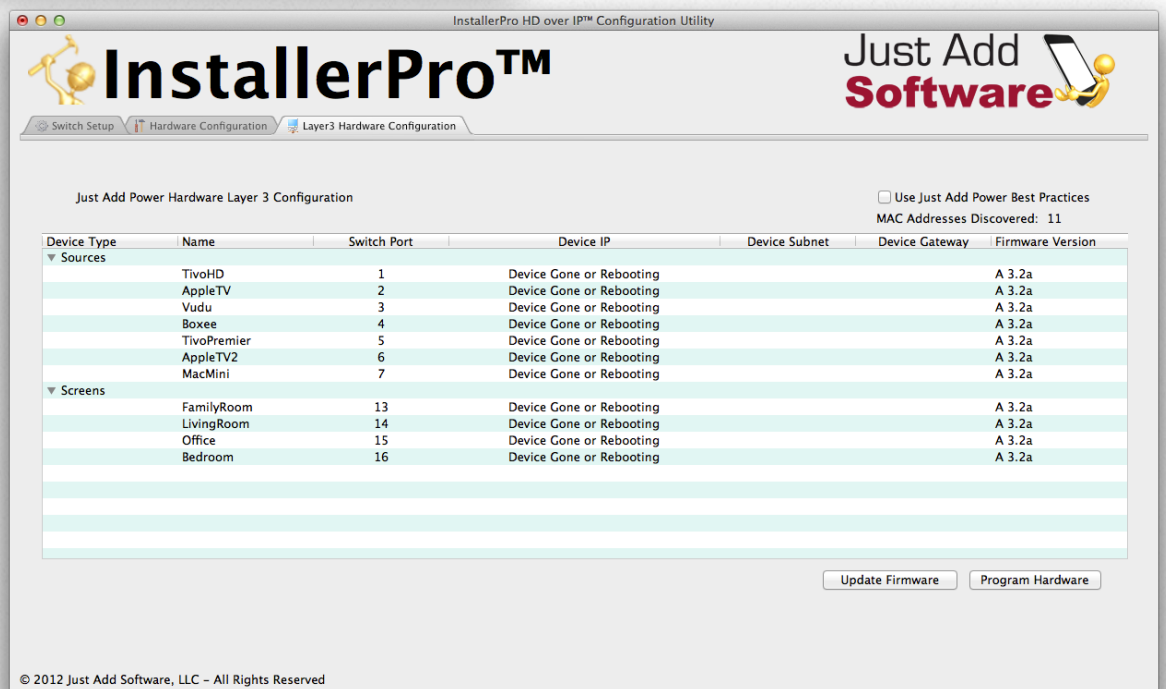
the best practices checkbox. When you do that, all the IPs and subnets of all the boxes will be changed to the best practices settings defined by Just Add Power.

In the example image shown above, seven transmitters and 4 receivers have been discovered and displayed at their previously configured switch ports. Two of the devices have incorrect IP addresses and some of the transmitters will need to have their IP addresses changed as they are now on different VLANs. The next image shows the new IP address configuration once the Best Practices checkbox is checked.

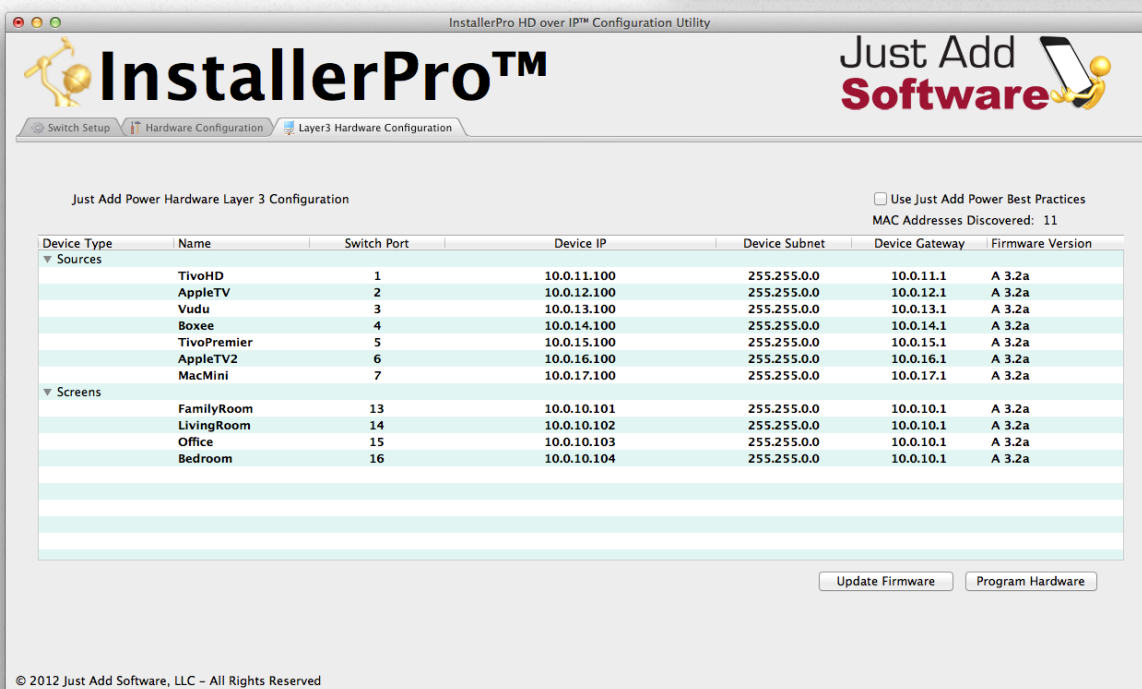


To program the hardware then click the "Program Hardware" button. The IP addresses will be updated and the boxes rebooted. As they come back online, they will re-appear in their proper places.

In the image at the right, the hardware has been programmed and the devices are all being rebooted. Once they come back online as shown in the image below, the IP addresses are all changed to the best practices configuration.



If any firmware updates are



needed, that can be performed here as well. Just select the box or boxes to update and then click the Update Firmware button and follow the steps. It's very similar to what is described in the previous chapter.

Once all this is done, do NOT just quit the program. Instead, click back to tab 1. You'll see a scrolling text in the

console window. We are setting things back to their proper VLANs for correct operation.

Now, the system is fully programmed for layer 3 operation - switch AND hardware. Now, go and remove the 10.0.10.2 and 196.254.1.2 IP addresses from your computer. And set the proper gateway IP for your LAN IP. To remove the addresses in OS X, go to system preferences and click on Network as explained earlier. Select the entry to be removed and click the “-” button down at the bottom of the list. In Windows, follow the previous instructions to get to the “Advanced TCP/IP Settings” window. Then select the address to be removed and click the “Remove” button. Then click on OK in each window to close the windows.

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

.
.
.

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

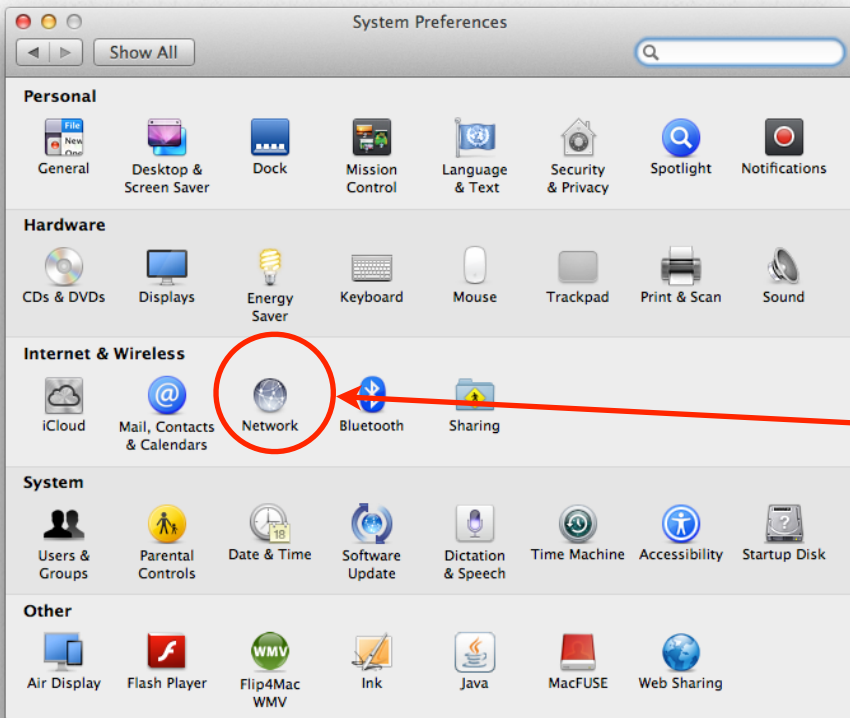
Let's assume the same configuration but this time using a G2 system in Layer 3 Mode and adding in some comment lines:

```
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.

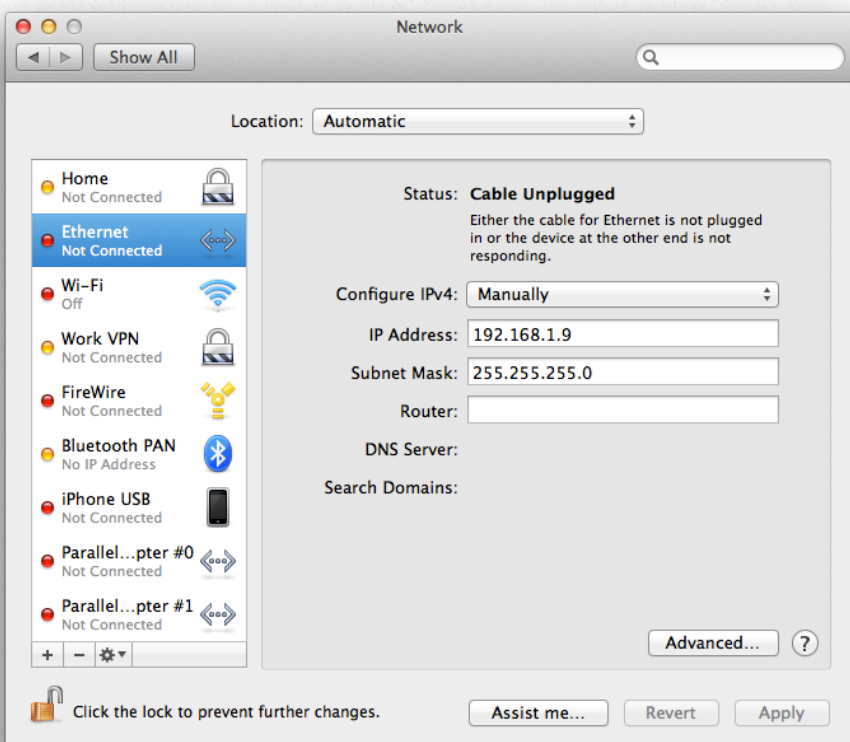
Appendix B - Changing the IP Address on the computer

OS X:



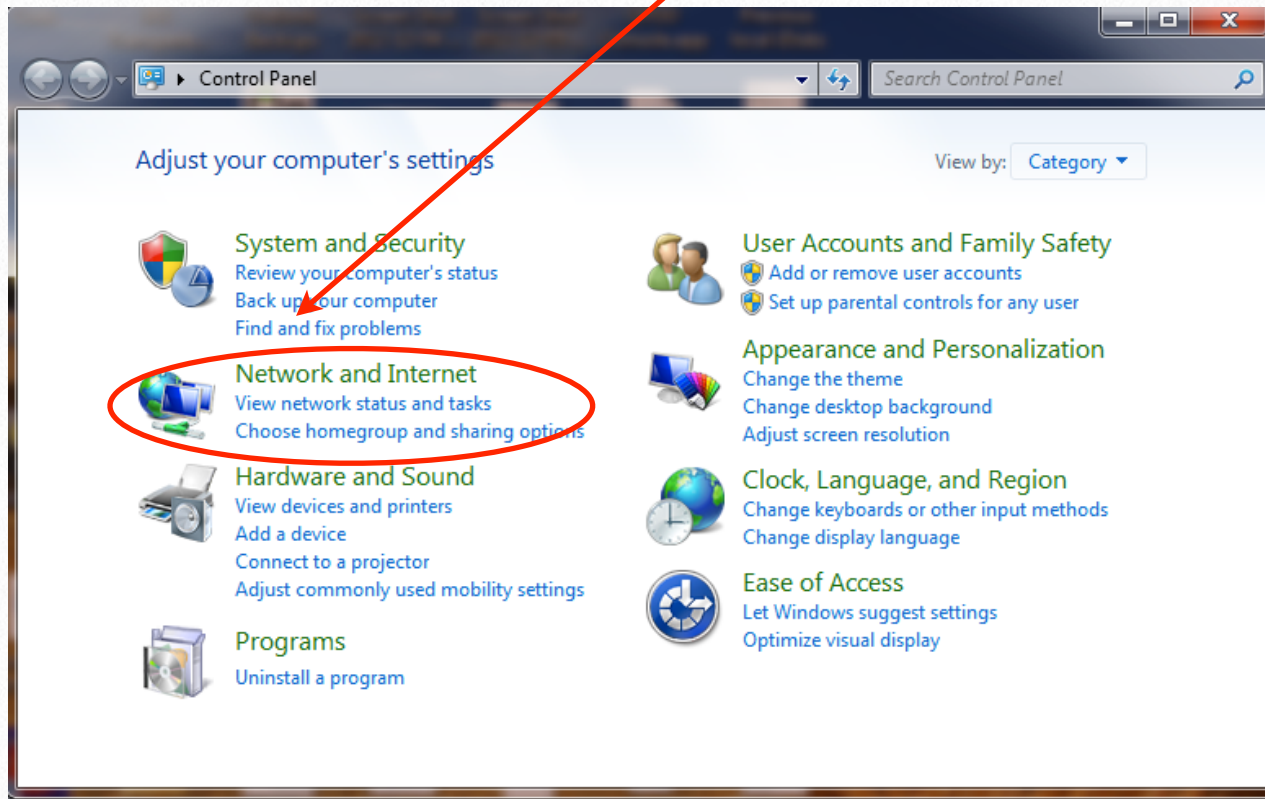
To set an IP address on a Macintosh computer running OS X, click on the System Preferences icon in the Dock. System preferences will open and look like the image shown on the left..

Click on the Network icon under the Internet and Wireless section. The network settings panel will then open as shown below (to change settings, it may be necessary to click the lock icon at the bottom and enter the administrator password). If a manually configured address is to be used, select "Manually" from the "Configure IPv4" pop-up menu. Then enter the appropriate IP address, subnet and gateway. If an automatic configuration is desired using DHCP, select "Using DHCP" from the pop-up menu. Then click Apply.

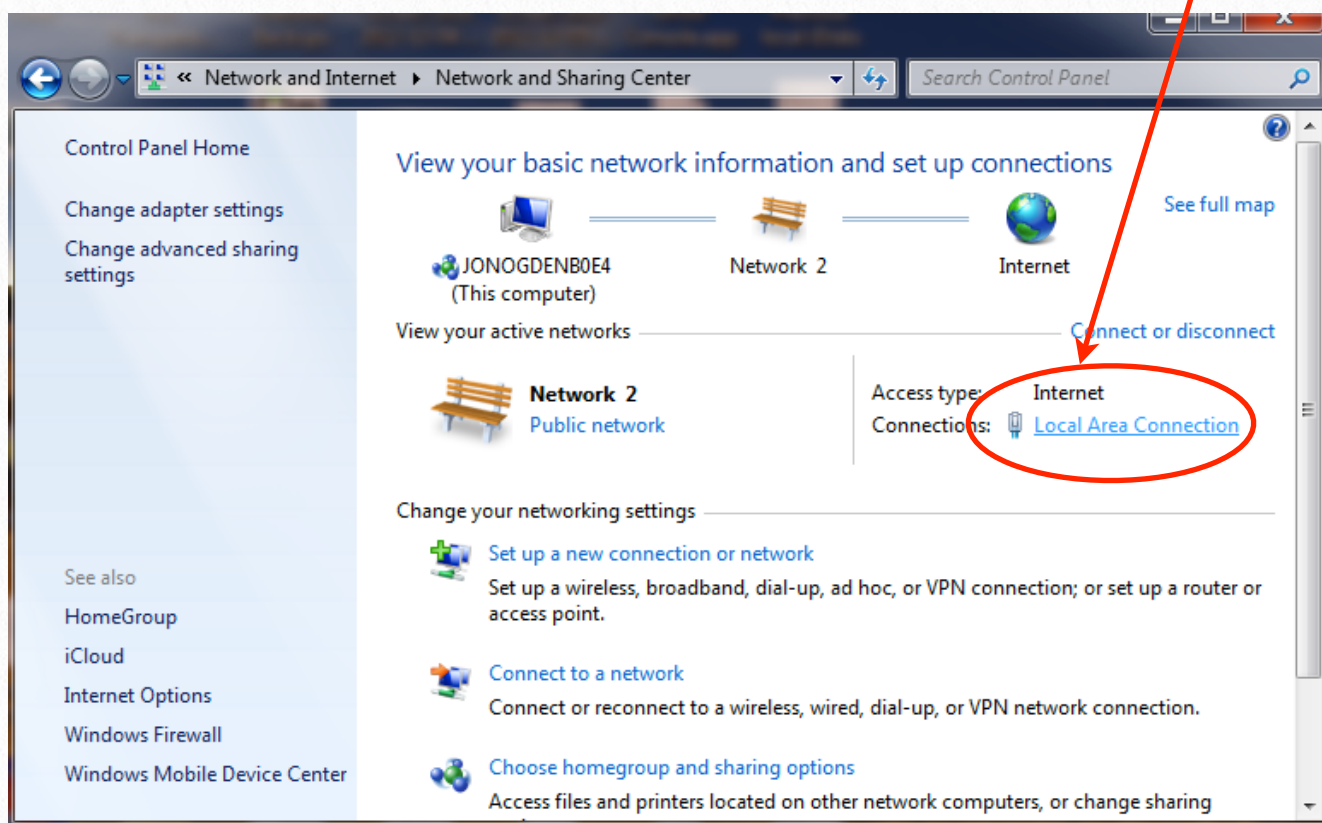


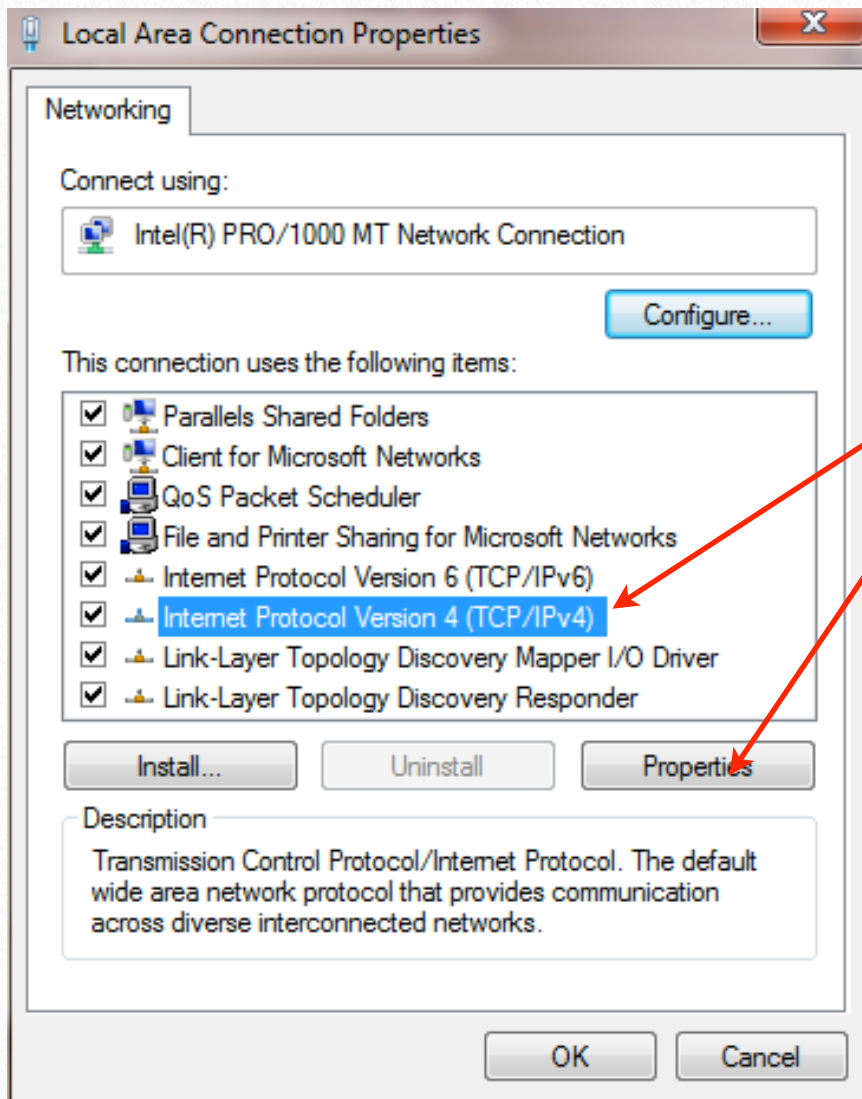
Windows 7:

In Windows 7 go to the Control Panel and Select Network and Internet:

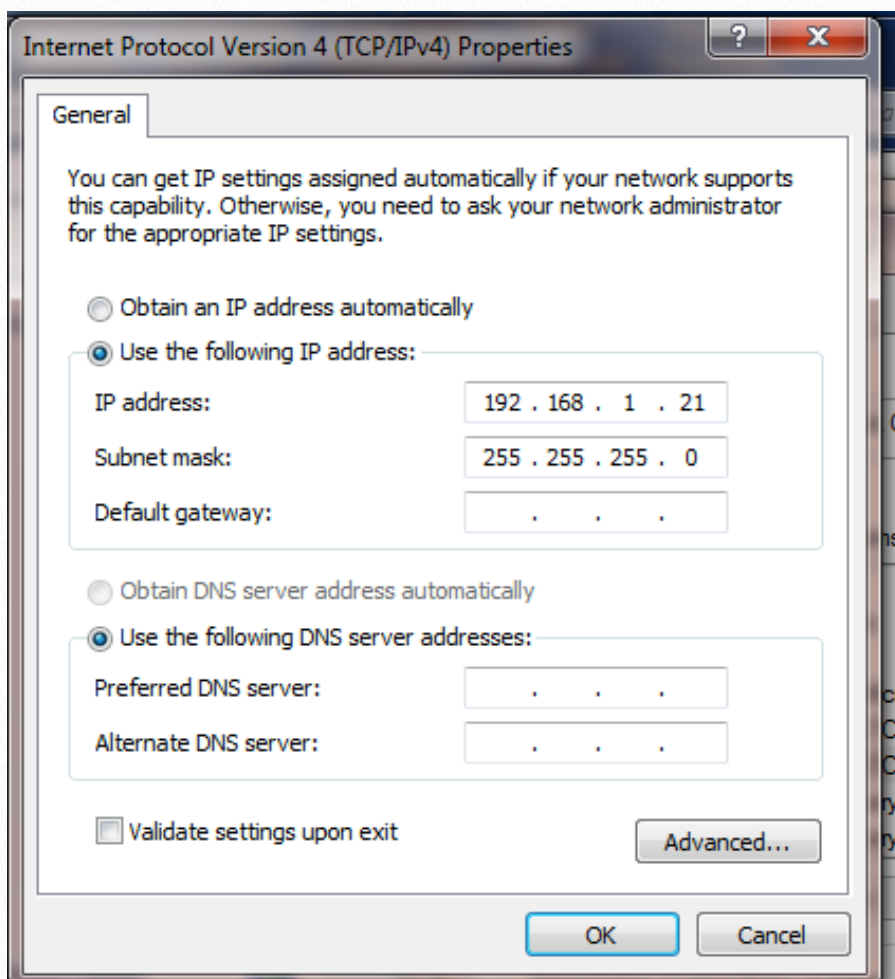


Once the Network and Internet Panel is displayed, click on "Local Area Connection."





In the screen that opens up, select Internet Protocol Version 4 (TCP/IPv4). Then click on Properties.



This next window contains the settings for the main network connection. If manual setup is desired, select “Use the following IP address.” Then fill out the IP address, subnet mask and gateway. In addition, it may be necessary to click the “Use the following DNS server address” and fill out the appropriate entries there. If and automatic configuration using DHCP is to be used the click on “Obtain and IP address automatically” and “Obtain DNS server address automatically.” Then click on OK. The window will close and then click on OK in the window shown above.

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.

Related Glossary Terms

Drag related terms here

Index

Chapter 4 - Hardware Configuration

Chapter 4 - Hardware Configuration

Layer 2

For a description of Layer 2, please visit: <http://en.wikipedia.org/wiki/L>

Related Glossary Terms

Drag related terms here

Layer 3

For a description of Layer 3, please visit: <http://en.wikipedia.org/wiki/L>

Related Glossary Terms

Drag related terms here

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 of physical ports, each switch is represented by a “stack” number that identifies which switch the port belongs to. Stack numbers generally begin with 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 via high speed fiber optic interconnects or high speed stacking modules that provides for the maximum amount of data bandwidth between switches.

Related Glossary Terms

Drag related terms here

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 technology, multiple switch ports can be simultaneously and instantaneously assigned to new video sources.

Related Glossary Terms

Drag related terms here