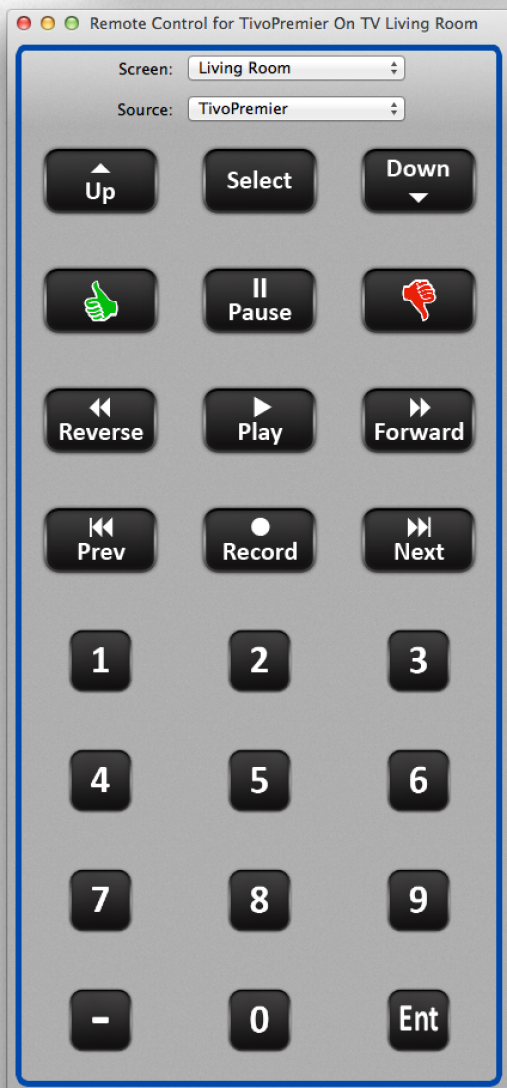
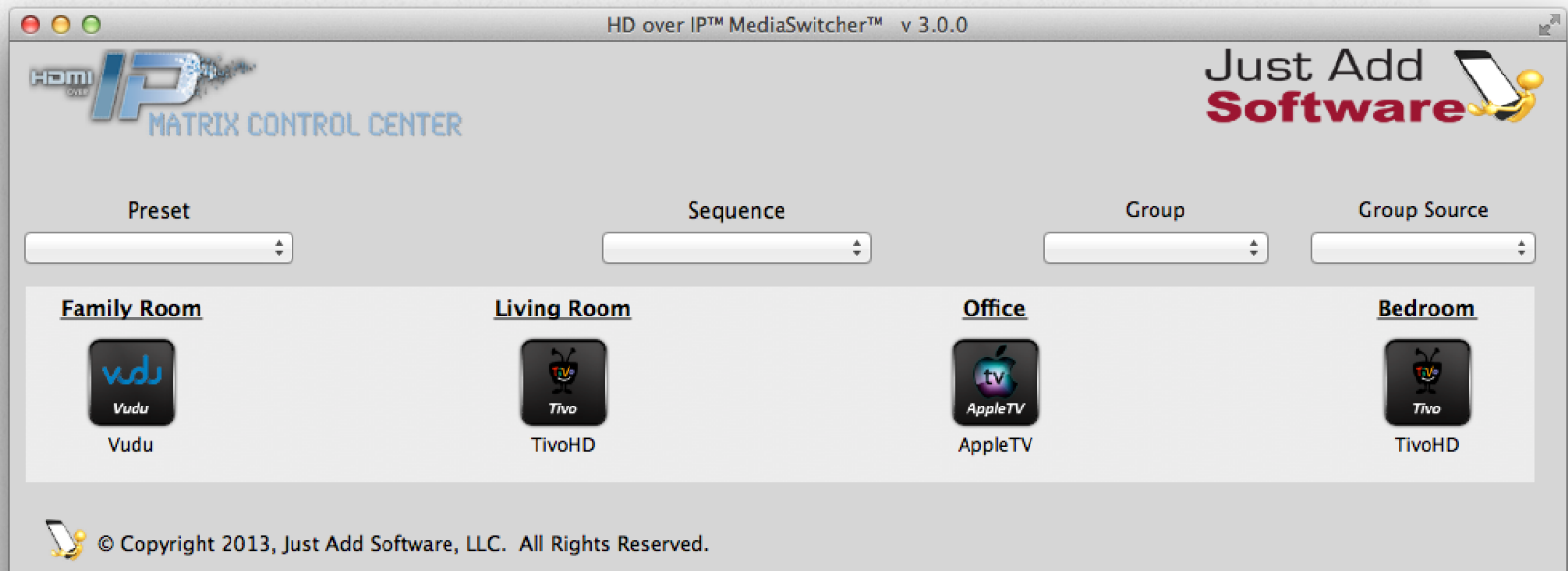


# MediaSwitcher 3.0

## User Manual



Just Add  
**Software**



# MediaSwitcher™ 3.0 User Manual

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# Acknowledgements

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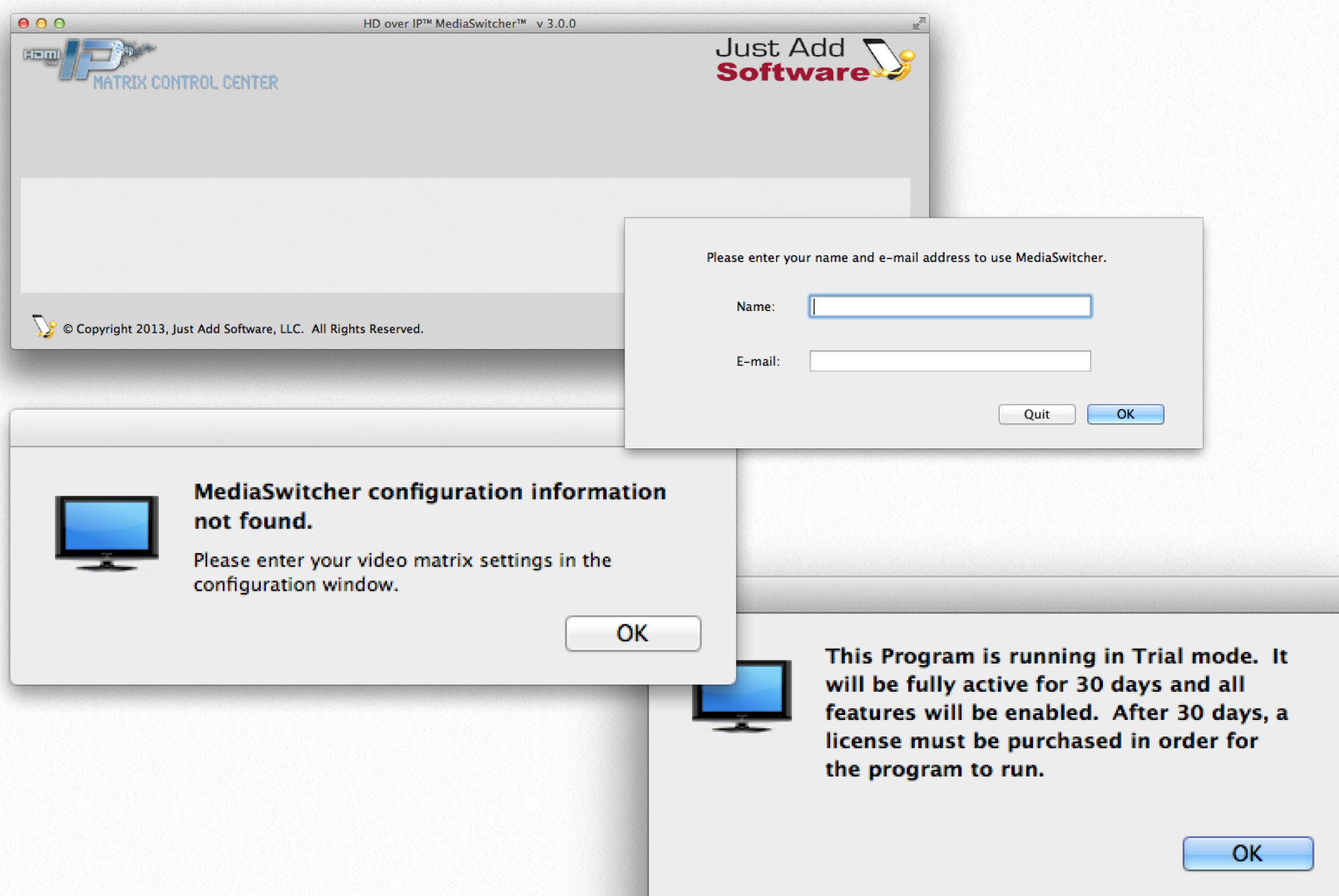
MediaSwitcher 3.0 was written in Xojo 2013. Just Add Software wishes to acknowledge use of code from the following individuals and companies: Alex Restrepo for his work on the custom cell listbox a, custom tab panel and other controls. LogicalVue software for their UltraUpdater classes and controls. MonkeyBread software for several add-ins and modules used in this software package. Karen Atkocius for the Ultimate Slider control. And thanks to all of the members of the Xojo Network Users Group community for their day to day advice and support.

# 1

## Getting Started



# First Time Start-up



When starting MediaSwitcher 3 for the first time, the user is presented with a dialog requesting their name and e-mail. Please enter that information and click OK to proceed.

A trial period of 30 days will then begin where all features of the software are enabled. Each time the user starts during this trial period, they will be reminded of this. At any time during the trial period, the user may register the software by following the steps in the registration section of this manual.

Once the main window of the program has opened, configuration is ready to begin. The configuration window should open automatically for a system without any configuration information entered.

# System Configuration

System configuration in MediaSwitcher is performed by going to the Configuration Window. The configuration window is available from the window menu.

The configuration window is shown below.

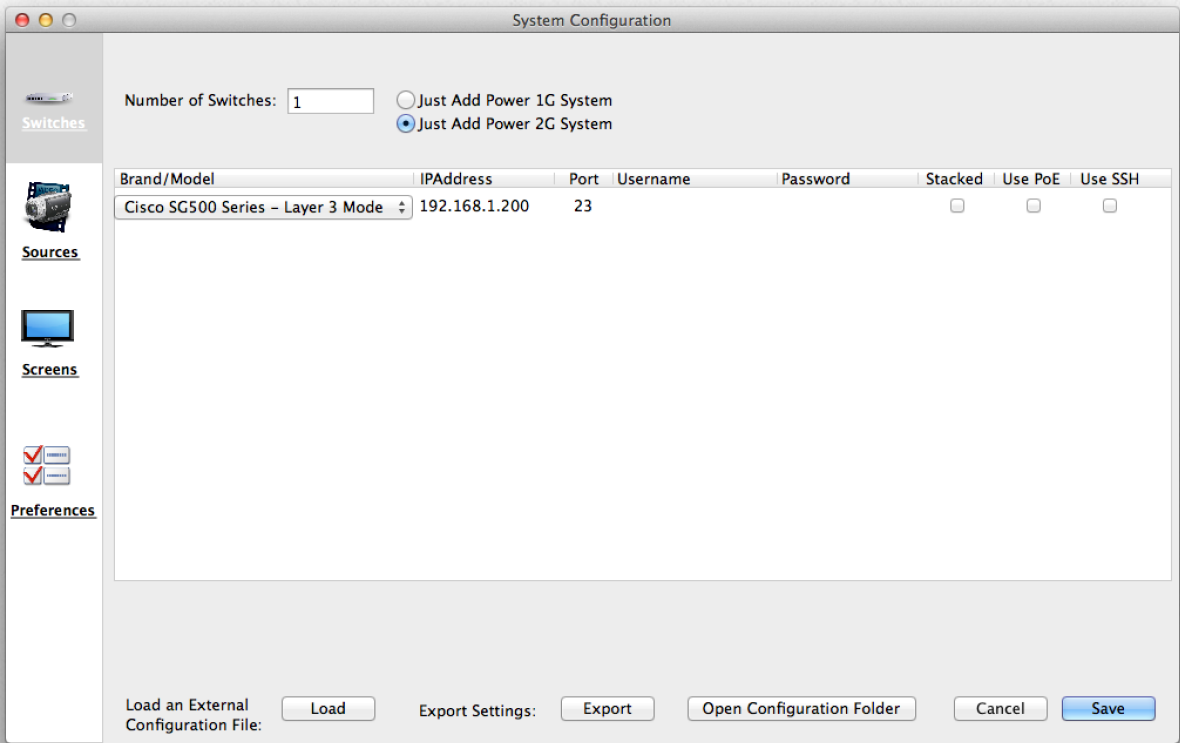
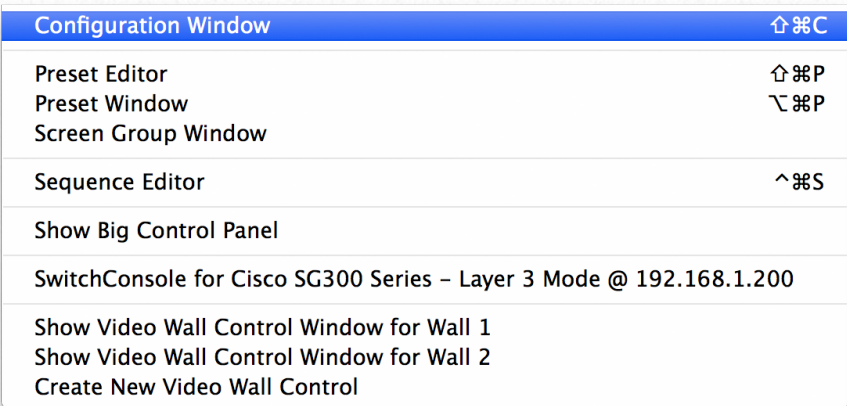
The left side of the window contains icons for the section to be selected. Those sections are: Switch, Source, Screens and program settings and preferences.

## 1.) Switches

a.) Choose if the system being installed is a 1G or a 2G system.

b.) choose how many switches are being installed in the system. Most systems will only use a single switch. If the system contains two or more switches that are configured to operate in “stacked” mode, this is still considered a single switch.

c.) Choose the brand of switch being used from the pull-down menu. Important: If a “Layer 3” architecture is being used, be sure to choose one of the “layer 3 mode” selections.



d.) Fill out the information on the switch: IP address of the switch, username, password. Select the checkboxes if the switch is in stacked mode, if Power Over Ethernet (PoE) is being used or if SSH mode is desired.

Once all of the switch information is completed, then click on the “Sources” icon.

2.) Sources

a.) Enter the number of video sources in the system in the box provided.

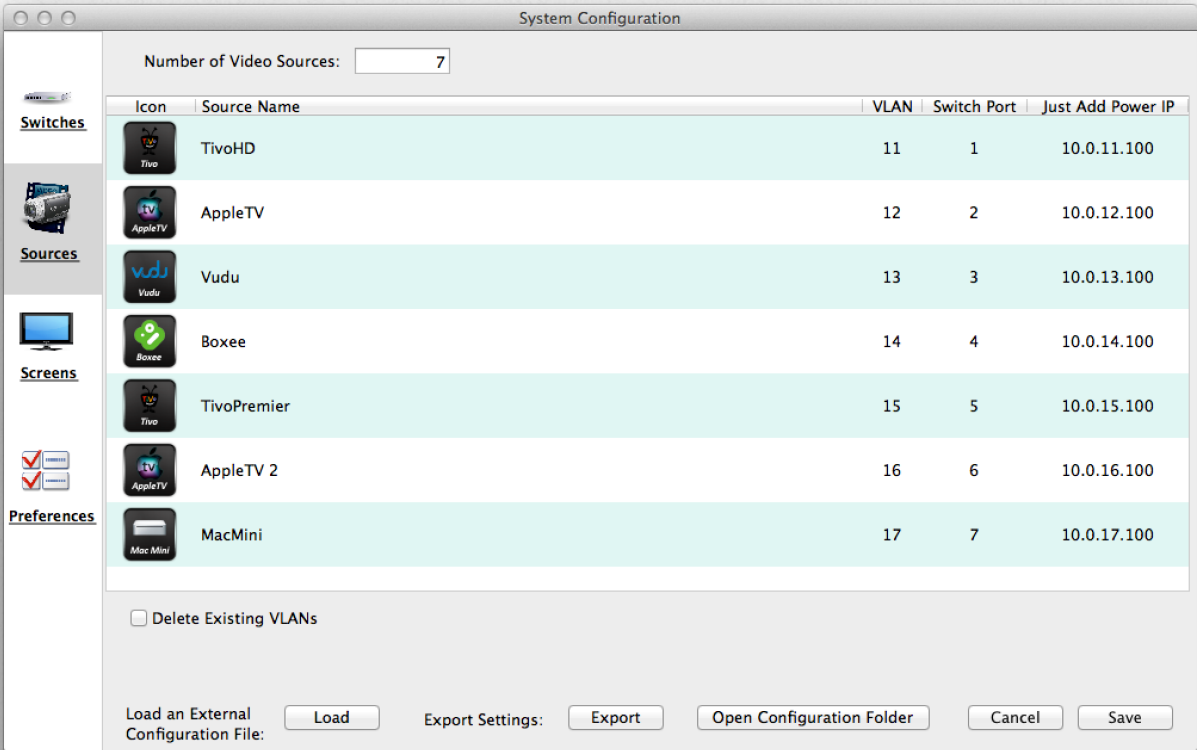
b.) Double Click the mouse in the name column of the list. The line being clicked will highlight and The cursor will be displayed. Once the name is typed, double click in the VLAN column and enter the VLAN ID number. VLAN IDs are typically any number between 2 and 4096. If the system being installed is using Just Add Power’s “Layer 3” architecture, best practices have the VLAN IDs starting at 11.

c.) Enter the port number on the switch that the transmitter is being plugged into.

d.) If stacked mode was selected in the switch page, a stack column will appear. Enter the stack ID number in the stack column.

e.) If multiple switches are being used, select the switch from the pop-up menu where this transmitter is connected.

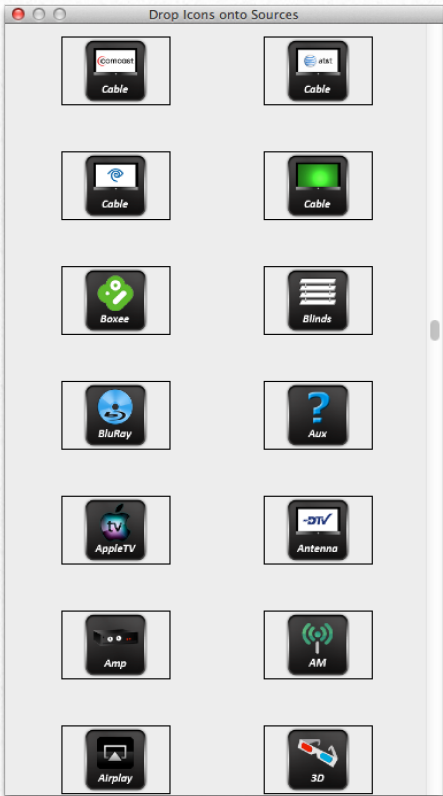
f.) If Layer 3 is being used, please enter the IP address of the transmitter.



g.) Optional - select the appropriate Icon from the icon window at the right of the configuration window and drag the icon with the mouse to the desired source line. The line will highlight. Release the mouse and that icon will be added. Now whenever this source is selected, this icon will be shown.

MediaSwitcher comes with over 200 icons. Additional icons can be added by simply dropping those image files onto this window. When opening this window in the future, user added icons will be shown at the top of the list.

Once all of the source information has been entered, click on the “Screens” icon.

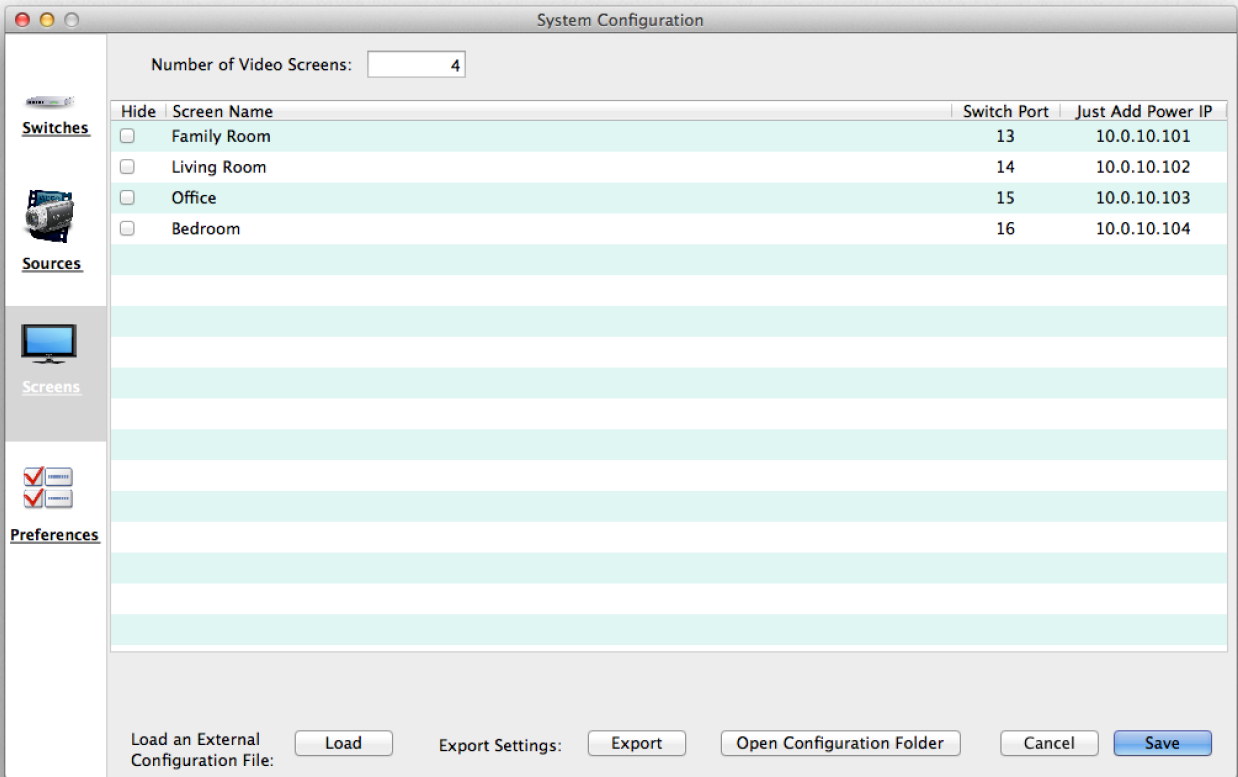


### 3.) Screens

a.) Enter the number of video screens in the system in the box provided.

b.) Double click in the name column. Enter the name of the TV screen.

c.) Enter the port number of the switch where the receiver is being plugged into.



d.) If stacked mode was selected in the switch page, a stack column will appear. Enter the stack ID number in the stack column.

e.) If multiple switches are being used, select the switch from the pop-up menu where this transmitter is connected.

f.) If Layer 3 is being used, please enter the IP address of the receiver.

g.) If it is desired to hide a screen from view in the software, please click the checkbox in the hide column for that screen. Hiding a screen can be useful when it is desired to prevent any changes to a screen from a particular installation.

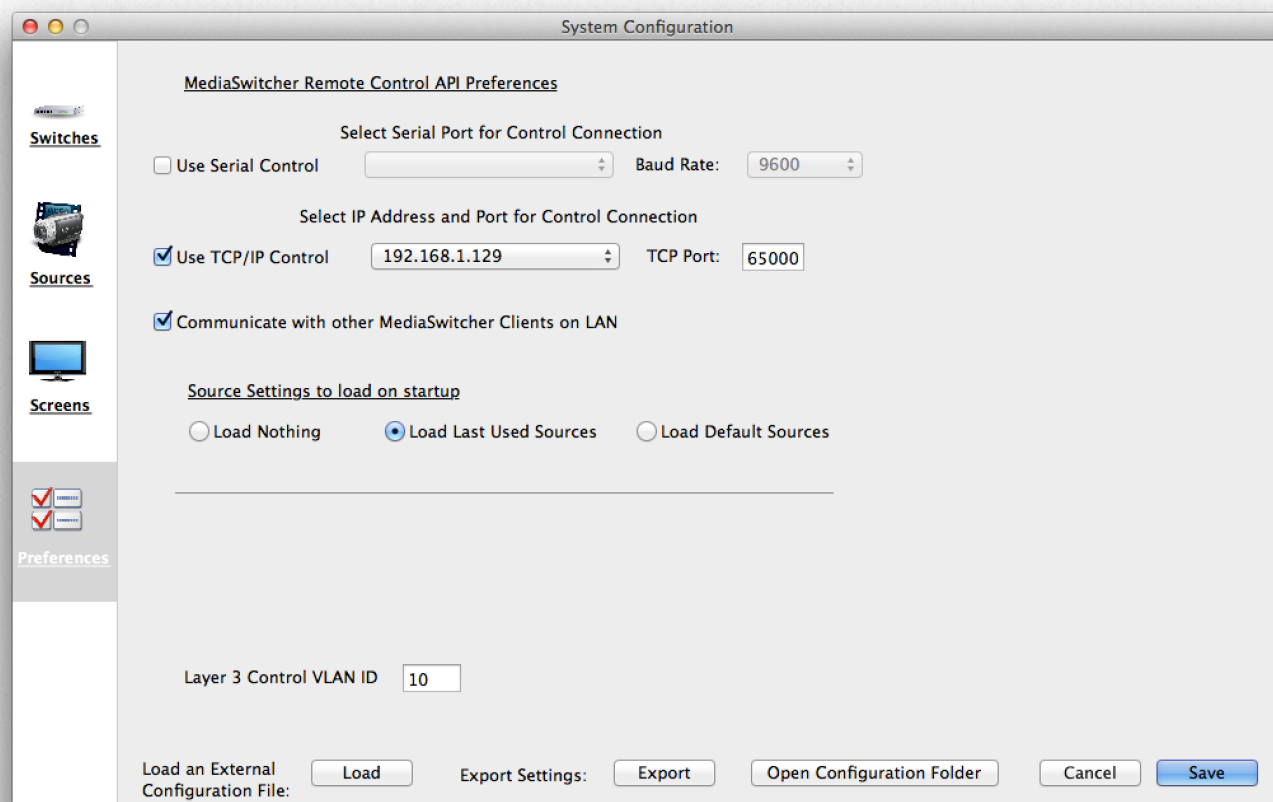
#### 4.) Preferences

Click on the preferences icon in the left column to get to the preferences screen. Here basic program control preferences can be set/modified.

a.) Control Preferences (advanced users only): If MediaSwitcher is going to be controlled by another control system, please select the appropriate options here.

If the control system will interface to the MediaSwitcher computer's RS-232 port, then check that box and select the proper serial port. If the remote system will connect to MediaSwitcher via a telnet (TCP/IP) connection, then check that box. Select which network interface card is desired for the remote connection. Enter the port to which the remote system connects. By default this number is 65000. If remote control of MediaSwitcher will not be used, then leave these boxes unchecked. See the section on the control API for more information.

b.) Communicate with Other MediaSwitcher Clients on LAN: If additional MediaSwitcher clients (including MediaSwitcher Web) will be running on the LAN and controlling the system, select this box to enable synchronization between the machines running MediaSwitcher. Then when a change is made on one of the machines, it will be picked up and reflected in the others.



c.) Source settings to use on startup - Select the button for the desired behavior of MediaSwitcher on startup. “Load Nothing” will not do any recall of previous source selections. The screen icons on the main window will stay black until a source is selected. “Last Used Sources” will recall and load the sources active when MediaSwitcher was last quit. “Load Default Sources” will cause a stored set of default sources to be loaded and the screens set to those sources. Saving a set of default sources will be covered in the chapter on main window operation.

d.) Plink SSH Client Location (\* Windows Only \*): If it is desired to use SSH connections when communicating with the switch, it will be necessary to download and install a helper program named Plink that will perform the SSH communication (OS X and Linux has SSH support already installed). Download the software from: <http://bit.ly/1b98UAm> Once the software is downloaded and installed, set the file path to plink.exe by selecting it here.

The screenshot shows the 'MediaSwitcher Remote Control API Preferences' window. It has several sections: 'Select Serial Port for Control Connection' with a checkbox for 'Use Serial Control' and a dropdown menu; 'Baud Rate' set to 9600; 'Select IP Address and Port for Control Connection' with a checked checkbox for 'Use TCP/IP Control', an IP address dropdown set to 192.168.1.114, and a 'TCP Port' set to 65000; a checked checkbox for 'Communicate with other MediaSwitcher Clients on LAN'; 'Source Settings to load on startup' with three radio buttons: 'Load Nothing', 'Load Last Used Sources', and 'Load Default Sources' (which is selected); 'Plink SSH Client Location:' with a text field containing 'C:\PROGRA~2\plink.exe' and a 'Set' button; 'Layer 3 Control VLAN ID' with a text field containing '10'; and a bottom section with 'Load an External Configuration File:' (with a 'Load' button), 'Export Settings:' (with an 'Export' button), and 'Open Configuration Folder' (with a button).

e.) Layer 3 Control VLAN ID: This option becomes visible when running in Layer 3 mode. This ID normally will not need to be changed from the default ID of 10, but if the network being used for Just Add Power uses a different VLAN for the control VLAN then enter this value here.

Once all the desired configuration information has been entered, click on the OK/Save button to save the settings and return to the main window. If changes were made to any of the settings, the main window will close and be re-loaded.

### Other Buttons in the Configuration Window:

- Load An External Configuration File - Clicking the “Load” button will allow the loading of a text (CSV) based file in the proper format for loading most of the settings for MediaSwitcher. InstallerPro™ generates files that are readable from this selection. Use this to load in the file generated by InstallerPro™.
- Export Settings: - Clicking Export will save a text (CSV) based configuration file. This can then be copied to another machine for easy loading of most critical settings.

For more information on the format of the CSV file, please see the appendix.

- Open Configuration Folder - Clicking this button causes the operating system to open the folder that contains the settings files for MediaSwitcher.
- Cancel and Save - Used to cancel out of the settings window or save the settings to the database.

# 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:

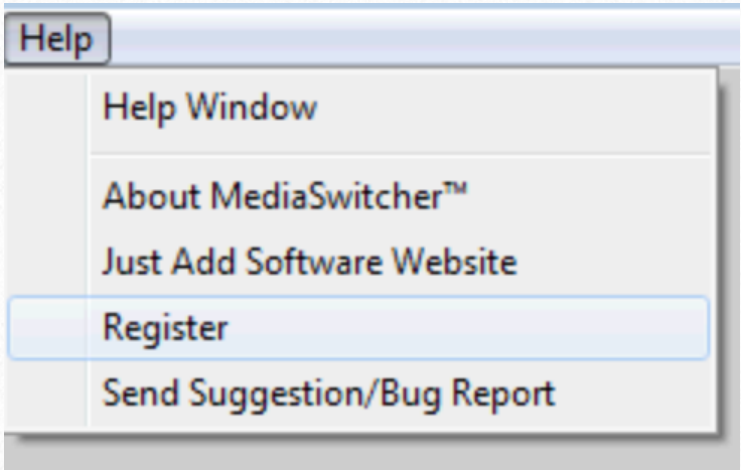
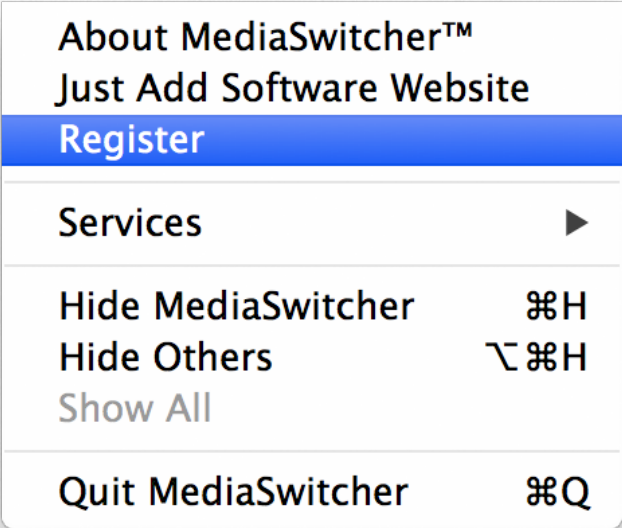
Registration ID:

License Code:

Registered Version:  ☒ Add Video Wall Control

Not Registered

MediaSwitcher is licensed software and must be purchased to be used beyond the initial 30 day window. Registration is performed in the registration window. The window is opened from the application menu in OS X or from the help menu in Windows and Linux.



Enter the name and address that will be used to receive the registration key. The key provided by Just Add Software is tied to the name, email address and the provided registration ID. The registration ID cannot be changed. It is based on specific aspects of the computer where MediaSwitcher will be installed.

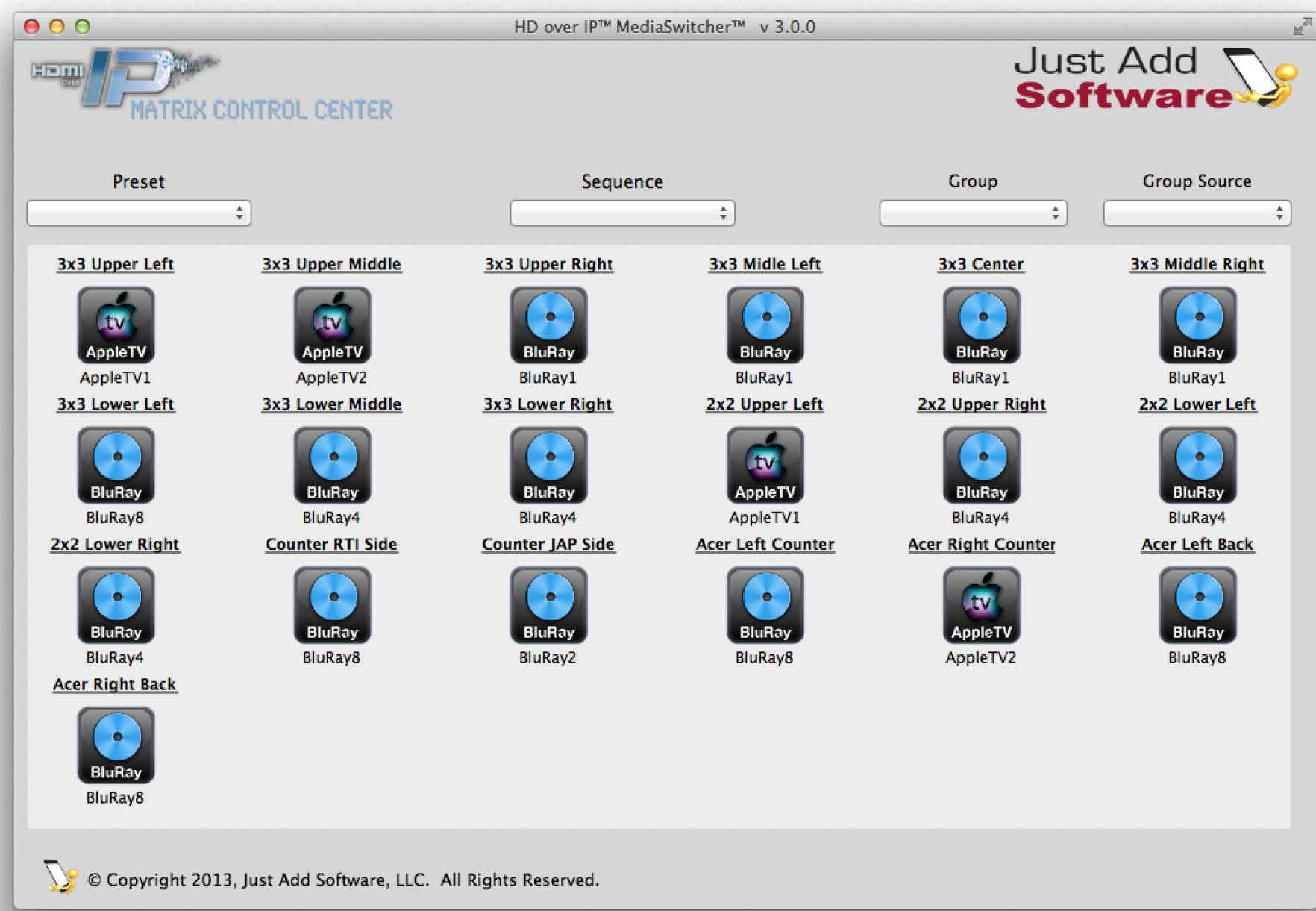
Select the appropriate version of the software that was purchased (Lite, Standard, Pro or Custom). Also, if the add-on Video Wall control option was purchased, be sure to check that as well.

Once a name and e-mail address are entered and a version set, the “Send Registration Request” button will become enabled. Click on this button and an e-mail will be generated and sent to Just Add Software. Upon receipt, Just Add Software will verify the software purchase and issue the license code. Please note: This is not an instant or automated process. It may take up to 24 hours for a code to be sent. If you need assistance please contact Just Add Software support at [support@justaddsoftware.net](mailto:support@justaddsoftware.net). Sometimes (particularly from foreign locations), the Send Registration Request button does not function properly and the email is never generated. If we have not responded to your request, please contact us and provide us with the name, e-mail and the Registration ID shown in the window. We will then generate the key and send it.

Once the key is received, enter it in the space provided. Then click “Register.” If registration is successful, a prompt will appear indicating success.

# 2

## Main Window Operation



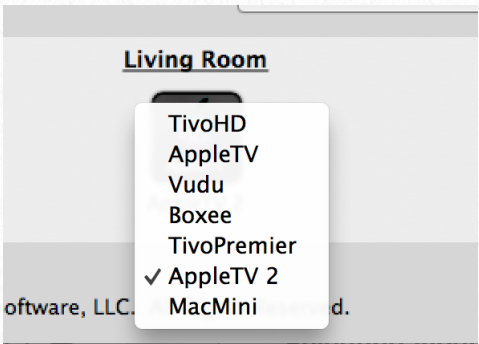
The main window is the center of all Media Switcher operations. From here, the video distribution is controlled as well as the ability to turn TVs on and off, control devices and more. The purpose of this chapter will be to associate the reader with the main features of this window and detail its operations.

## Basic Operation and Layout

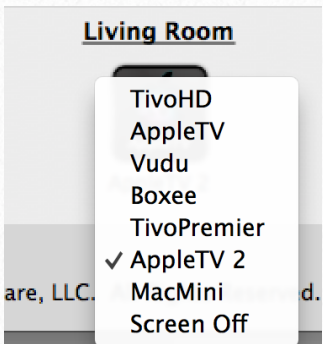
The main window consists of a set of icons representing each of the TV screens in the installation. By default, if no selection has been made for a screen the screen icon is black indicating it is in an unknown or off state. When a source is selected for the screen, the screen changes to a blue color or if an icon has been defined for that source, it changes to the color of the icon. The name of the source will then be shown underneath the screen.

## Selecting Video

To select the video source desired for a particular TV, simply click on the TV screen icon. A menu will appear showing the sources. Select the desired source from the list and release. The commands will be sent to the switch. If an icon is defined for that source, the icon will change, otherwise a TV with a blue screen will be shown. The name for the source will be shown underneath the TV. The new source name will also be checked in the menu of sources.

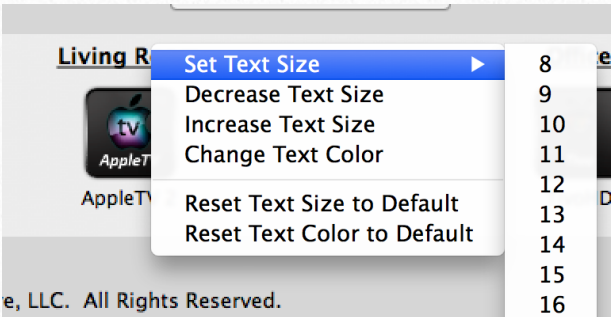


If Power over Ethernet (PoE) is being used, the option to “Turn Screen Off” will be shown underneath all the source names. Selecting this option turns off PoE to the receiver (it does not necessarily turn the TV itself off).



## Changing Text Size and Color

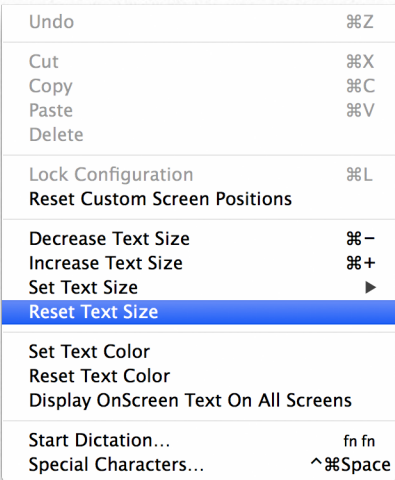
It is sometimes desirable to change the text size of the TV screen name or source name. To do this for individual screens, right click on the text that it is desired to change. A menu will show up with several options. One is to adjust text size. The text size can either be adjusted up or down a size at a time, or the text size can be selected from a list of available sizes.



It is also possible to change the color of the text. Select text color from the menu. A color picker window will then appear. Select the desired color and the text will then be set to that color.

Each screen can have its own text size and color definitions.

To change size or color for all screens globally, go to the edit menu in the menu bar at the top of the window. From there select the change text size or change text color options. Now any changes made will globally affect all the screens.



**Change the Logo**

If it is desired to change to a different logo from the default Just Add Software logo, simply drop an image file on top of the logo and the new image will be saved to the database and loaded at startup. To delete a custom logo, put the mouse cursor over the image and type ctrl-backspace. The default Just Add Software logo will no show.

**Changing the Background**

Custom backgrounds can be added to the inset part of the main window. To add a custom image such as a room layout, simply select the image from where it resides on the computer and drag it to the main window in MediaSwitcher. Release the mouse and the image will be copied and loaded into MediaSwitcher’s main window. This image will stay in place until it is deleted from MediaSwitcher. To delete the image, put the cursor anywhere there is a blank space in the main window and hit the backspace/delete key.

**Moving Screens Around**

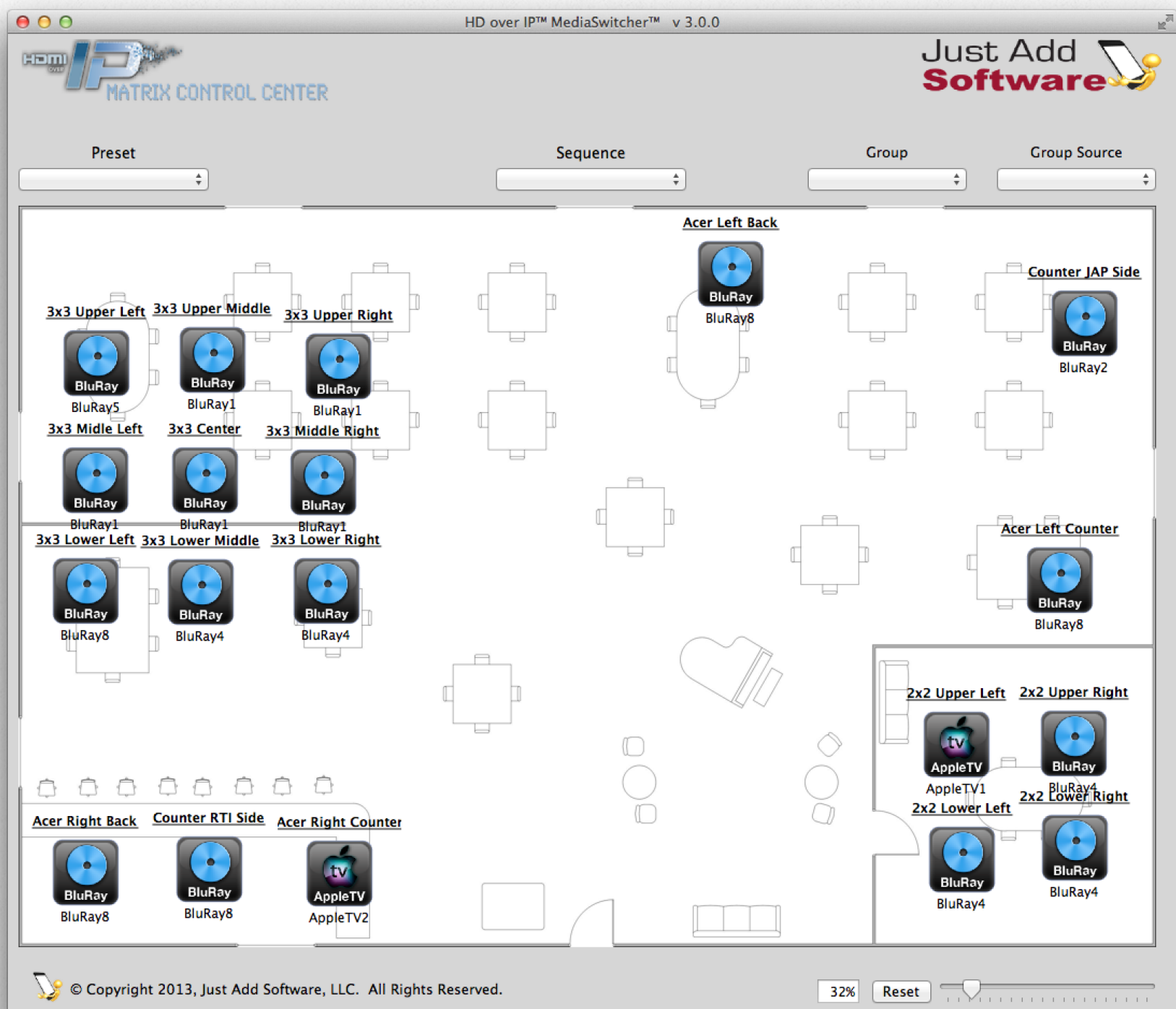
Once an image has been dropped onto the main page, it may be desirable to move the TV screens to their corresponding places so that a map of the room/installation can be seen. This can allow for a very user friendly and easy overview of the entire video system.

To move a screen around, hold down the shift key while clicking on a screen. Then you can move the screen around anywhere that is desired. Once screens are moved into

place, it is possible to change the magnification of the image. A slider will appear at the bottom of the window allowing changes in the zoom. This way for a large image, one can zoom out to see the entire image and all screens.

If it is desired to reset the screens to their original “grid” locations, then from the edit menu select “Reset Custom Screen Positions.” All screens will go back to their original, default positions.

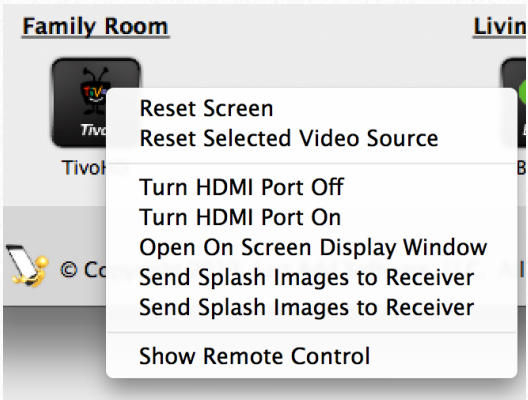
The image below is an example of using both a custom background and custom screen positions.



# Right Click Menus

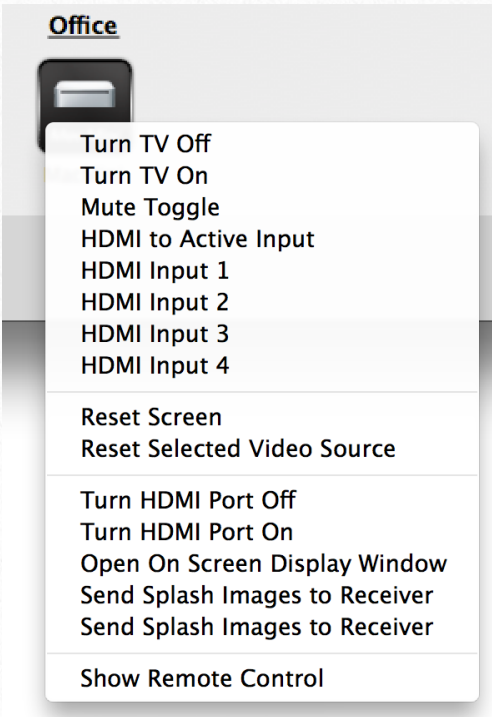
By right clicking on a TV screen, a number of additional menus will show up depending on the type of device and license package.

The basic right click menu offers the ability to reset the switch ports where the source or the screen is connected. Selecting this command will take the switch port off line and then re-enable it. Some switches occasionally have their ports lock up and this command can be used to fix that.



If the license class is standard or greater, a menu to show the remote control panel is offered. Please see the chapter on the remote control panel for more information.

If a layer 3 architecture is being used, then options will be presented to turn the receiver’s HDMI port on and off. Also, the option to show the On Screen Display window and the option to upload images to the receiver’s splash screen will also be given. Please see the chapter on the On Screen Display for more information.



If the screen has a 2G+ receiver, additional options are given that will send CEC commands to the receiver to be sent to the TV. These commands are to set the HDMI input, turn the TV on and off and to toggle mute. Please note that not all TVs work with all CEC commands. It can be hit or miss. MediaSwitcher is not at fault if some commands do not work.

# Presets, Sequences and Groups

If Presets, Sequences or Groups are configured, additional controls will be shown on the main screen allowing control of these items. For more information on presets, sequences or groups, please see their respective chapters.

# 3

## Main Window Menus

This chapter will review in more detail the functions of the various menus in the main window. Please keep in mind that there are some differences between operating system platforms and where the menus may show. These will be noted. Additionally, some versions of MediaSwitcher do not have all functions enabled and will not show some menus. This manual will show the menus available on the Pro version.

### Application Menu (OS X Only):

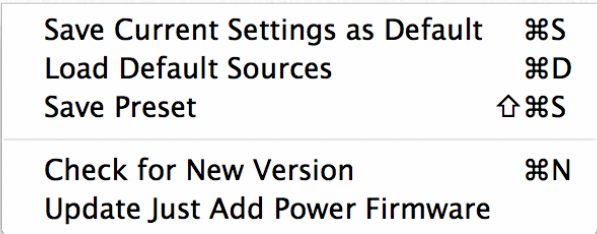
The following items are available in the application menu on OS X:

- About MediaSwitcher - shows a screen with information about the program including the current version, etc.
- Just Add Software Website - selecting this item, will open the default web browser app and load Just Add Software's website.
- Register - Selecting Register will open the registration window where the software's license key can be entered



### File Menu:

- Save Current Settings As Default - Selecting this item will save the current screen/source configuration as the default in the MediaSwitcher database.



- Load Default Sources - Selecting this item will load the previously saved default settings and change the screens to those settings.
- Save Preset (Standard and Higher only) - Save Preset will save the current source settings for each screen to a preset. A window will show requesting to save the name of the preset.
- Check for New Version - This option will check to see if a new version of MediaSwitcher is available for download. If so, a window will open to download the new version. Once downloaded, MediaSwitcher will quit and the installer will be opened.
- Update Just Add Power Firmware - This option is available for layer 3 installations only. This allows for updating of the firmware for any or all Just Add Power devices on the network. See the firmware update chapter for more information.

**Edit Menu:**

The Edit Menu is shown on the right. The first items are standard items provided by the operating system such as cut and paste, etc.

- Lock Configuration - If a password is set for the switch, then this menu item becomes available. Selecting this option will lock all configuration options in MediaSwitcher and will only allow basic operational changes. This can be used in order to prevent unauthorized users from making configuration changes in the system.
- Reset Custom Screen Positions - If the position of any of the screens has been moved, this item will move them back to their original grid position.
- Decrease Text Size - This will decrease all text sizes on the screen controls by one point.
- Increase Text Size - This will increase all text sizes on the screen by one point

Undo	⌘Z
Cut	⌘X
Copy	⌘C
Paste	⌘V
Delete	
Lock Configuration	⌘L
Reset Custom Screen Positions	
Decrease Text Size	⌘-
Increase Text Size	⌘+
Set Text Size	▶
Reset Text Size	
Set Text Color	
Reset Text Color	
Display OnScreen Text on All Screens	
Start Dictation...	fn fn
Special Characters...	^⌘Space

- Set Text Size - A menu will show up allowing a specific font size to be set for the text on all the screens.
- Reset Text Size - Resets all text to its default size
- Set Text Color - A color selector window will be shown allowing changing the color of the text in all the screen controls.
- Reset Text Color - Resets the text color to the default, black, for all controls
- Display OnScreen Text on All Screens (available for Layer 3 installations only) - Opens the OnScreen Display window allowing the entered text to be displayed on all screens simultaneously.

**Switch Menu:**

Save Current Settings to Switch - Selecting this item will perform a save on the switch of the current settings for each port as the default at startup. This way, in case of a power failure, when the switch reboots, the desired screens will be loaded automatically without any user intervention.

Save Current Settings to Switch	⌘S
Turn All PoE Receivers Off	⌘R
Turn All PoE Receivers On	⇧⌘R

PoE Commands - If PoE is being used, the option to turn all PoE Devices on or off will also be shown.

**2G+ Devices Menu:**

This menu shows up only in layer 3 installations where there is at least one 2G+ receiver. These commands will have no effect on a standard 2G receiver.

The menu is shown on the right hand side. The options are fairly self explanatory. All screens can be turned off or on, muted or un-muted. As well, the HDMI input for all screens can be set simultaneously.

Turn All Screens Off	⌘T
Turn All Screens On	⇧⌘T
Mute All Screens	⌘M
Un-Mute All Screens	⇧⌘M
All Screens View HDMI 1	⌘1
All Screens View HDMI 2	⌘2
All Screens View HDMI 3	⌘3
All Screens View HDMI 4	⌘4

Selecting the desired item will send the appropriate CEC command to all the receivers. As stated previously, not all screens respond to all CEC commands. It is up to the user to ensure that the commands sent will work properly with the screens in the system.

**Window Menu:**

The window menu is used to move between different windows in MediaSwitcher. The window menu is shown at the right. Depending on the license level of MediaSwitcher, some of these items will not be shown.

Configuration Window	⇧⌘C
Preset Editor	⇧⌘P
Preset Window	⇧⌘P
Screen Group Window	
Sequence Editor	^⌘S
Show Big Control Panel	
SwitchConsole for Cisco SG300 Series – Layer 3 Mode @ 192.168.1.200	
Show Video Wall Control Window for Wall 1	
Show Video Wall Control Window for Wall 2	
Create New Video Wall Control	

- Configuration Window - Selecting this item will open the configuration window allowing the settings of MediaSwitcher to be changed.
- Preset Editor (available in Standard license and higher) - Allows for editing and creating presets. Please see the chapter on the Presets, Groups and Sequences for more information.
- Preset Window (available in Standard license and higher) - Opens a window with a series of buttons for each preset that has been saved. See the chapter on Presets, Groups and Sequences for more information.
- Screen Group Window (available in Pro license and higher) - Allows for editing and creating Screen Groups. See the chapter on Presets, Groups and Sequences for more information.
- Sequence Editor (available in Pro license and higher) - Allows for editing, creating and running sequences. See the chapter on Presets, Groups and Sequences for more information.
- Show Big Control Panel (available in Pro license and higher) - Opens a full screen remote control window with 121 buttons available for each source and screen combination. Al-

allows for controlling numerous devices over TCP/IP. See the chapter on controlling devices for more information.

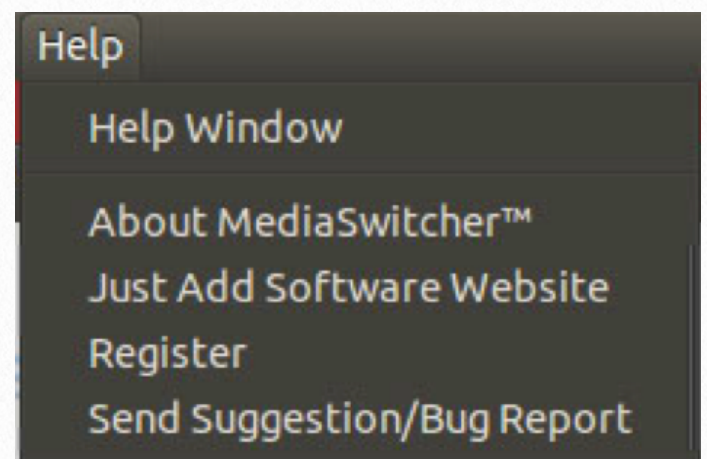
- SwitchConsole for... - The title and quantity of this item changes depending on the brand and IP address of the switch(es) in the system. Selecting this item will open the console window for that switch. If there are multiple switches in the system, there will be a menu item for each switch.
- Create New Video Wall Control (available only for licenses with Video Wall mode) - This item will open a new Video Wall Control window allowing for configuration and operation of a video wall. Multiple control windows can be created allowing for control of multiple screen matrices.
- Video Wall x Control - Once a video wall has been configured and saved, a menu will show for each video wall set up in the system. Selecting that item either opens the control window for that video wall or switches to that window if it is already open.

### **Help Menu:**

- Help Window - Shows a window with basic help and instructions for the currently active window (not available with all windows).
- Send Suggestion/Bug Report - Selecting this item opens a window allowing a suggestion request or a bug report to be sent to Just Add Software.

The following items are available under the help menu in Windows and Linux only:

- About MediaSwitcher - shows a screen with information about the program including the current version, etc.
- Just Add Software Website - selecting this item, will open the default web browser app and load Just Add Software's website.



- Register - Selecting Register will open the registration window where the software's license key can be entered

# 4

# Presets, Sequences and Groups

Preset Editor

Preset Name: ShowConfig1

ActivateSave PresetDelete PresetReset Sources

Screen	Source	Screen	Source	Screen	Source
3x3 Upper Left	BluRay1	3x3 Upper Middle	BluRay2	3x3 Upper Right	BluRay3
3x3 Midle Left	BluRay4	3x3 Center	BluRay5	3x3 Middle Right	BluRay6
3x3 Lower Left	BluRay7	3x3 Lower Middle	BluRay8	3x3 Lower Right	BluRay9
2x2 Upper Left	BluRay10	2x2 Upper Right	AppleTV1	2x2 Lower Left	AppleTV2
2x2 Lower Right	BluRay1	Counter RTI Side	BluRay2	Counter JAP Side	BluRay3
Acer Left Counter	BluRay4	Acer Right Counter	BluRay4	Acer Left Back	BluRay1
Acer Right Back	BluRay6				

Presets

AllTivoHD

Test1

All AppleTV2

TivoHD-Boxee-ATV2-M

Sequence Editor

Sequence Name: Main Sequence

Save SequenceDelete SequenceExecute Sequence

Number of Presets in Sequence: 15

☐ Repeat☐ Random Presets

Stop

For Time use either an interval entered in minutes or use a specific time of day when the preset is to change. Use 24 Hour time format (hh:mm).

	Preset	Time	Trigger
Preset #1	AllTivoHD	10	<input type="checkbox"/>
Preset #2	All AppleTV2	10	<input type="checkbox"/>
Preset #3	TivoHD-Boxee-ATV2...	10	<input type="checkbox"/>
Preset #4	Test1	10	<input type="checkbox"/>
Preset #5	AllTivoHD	09:30	<input type="checkbox"/>
Preset #6	All AppleTV2	10:25	<input type="checkbox"/>
Preset #7	TivoHD-Boxee-ATV2...	120	<input type="checkbox"/>
Preset #8	AllTivoHD	15:10	<input type="checkbox"/>
Preset #9	Test1	20	<input type="checkbox"/>
Preset #10	All AppleTV2	5	<input type="checkbox"/>
Preset #11	TivoHD-Boxee-ATV2...	18:40	<input type="checkbox"/>
Preset #12	All AppleTV2	25	<input type="checkbox"/>
Preset #13	AllTivoHD	30	<input type="checkbox"/>
Preset #14	Test1	60	<input type="checkbox"/>
Preset #15	All AppleTV2		<input type="checkbox"/>

Progress for Preset # 1: AllTivoHD

Sequence Executing

Screen Group Editor

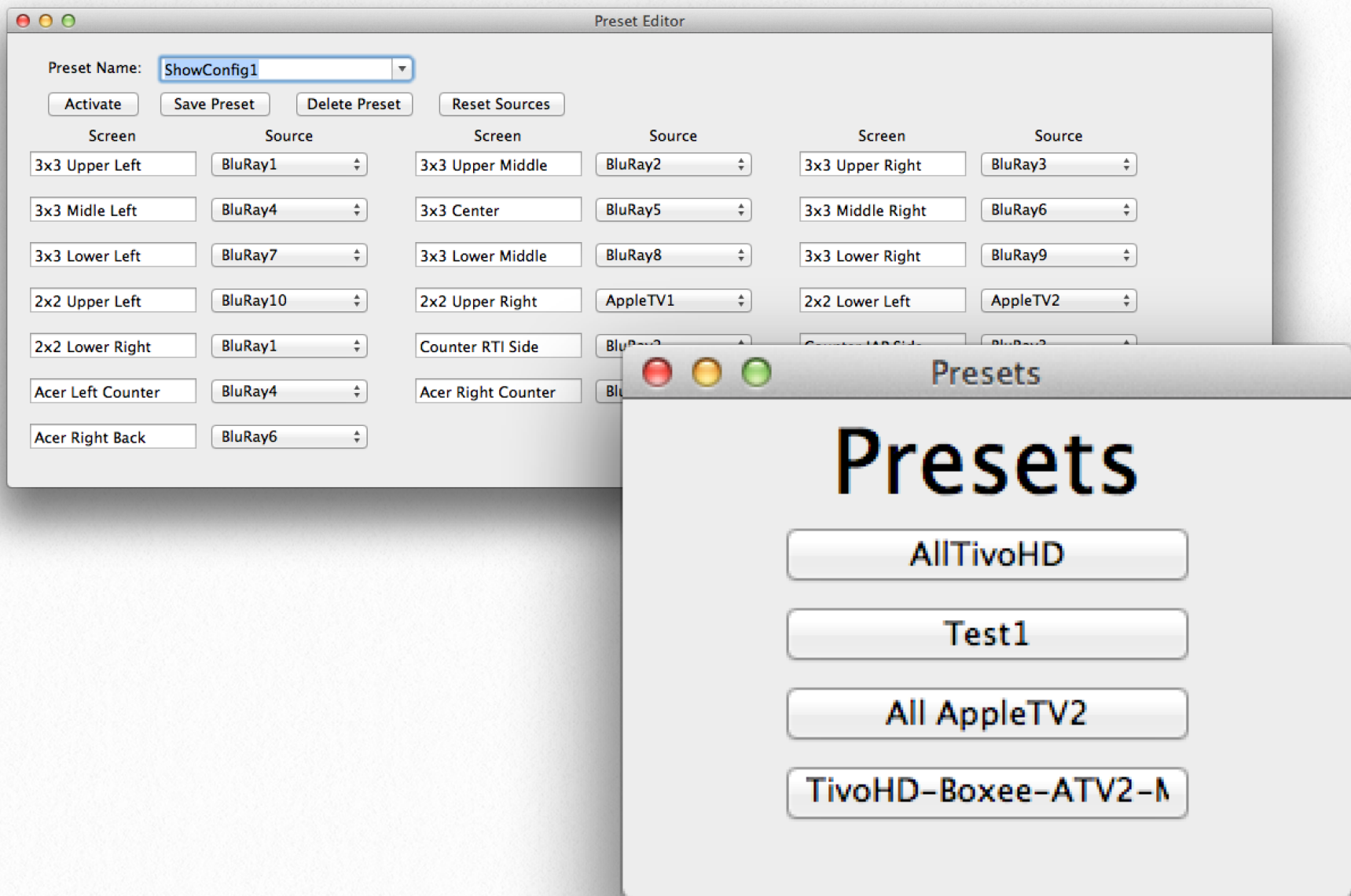
Group Name: group1

Video Source:

Save GroupDelete Group

Group	Screen	Group	Screen	Group	Screen	Group	Screen
<input type="checkbox"/>	3x3 Upper Left	<input type="checkbox"/>	3x3 Upper Middle	<input type="checkbox"/>	3x3 Upper Right	<input type="checkbox"/>	3x3 Midle Left
<input type="checkbox"/>	3x3 Center	<input type="checkbox"/>	3x3 Middle Right	<input type="checkbox"/>	3x3 Lower Left	<input type="checkbox"/>	3x3 Lower Middle
<input type="checkbox"/>	3x3 Lower Right	<input type="checkbox"/>	2x2 Upper Left	<input type="checkbox"/>	2x2 Upper Right	<input type="checkbox"/>	2x2 Lower Left
<input type="checkbox"/>	2x2 Lower Right	<input checked="" type="checkbox"/>	Counter RTI Side	<input checked="" type="checkbox"/>	Counter JAP Side	<input checked="" type="checkbox"/>	Acer Left Counter
<input checked="" type="checkbox"/>	Acer Right Counter	<input checked="" type="checkbox"/>	Acer Left Back	<input checked="" type="checkbox"/>	Acer Right Back		

# Presets



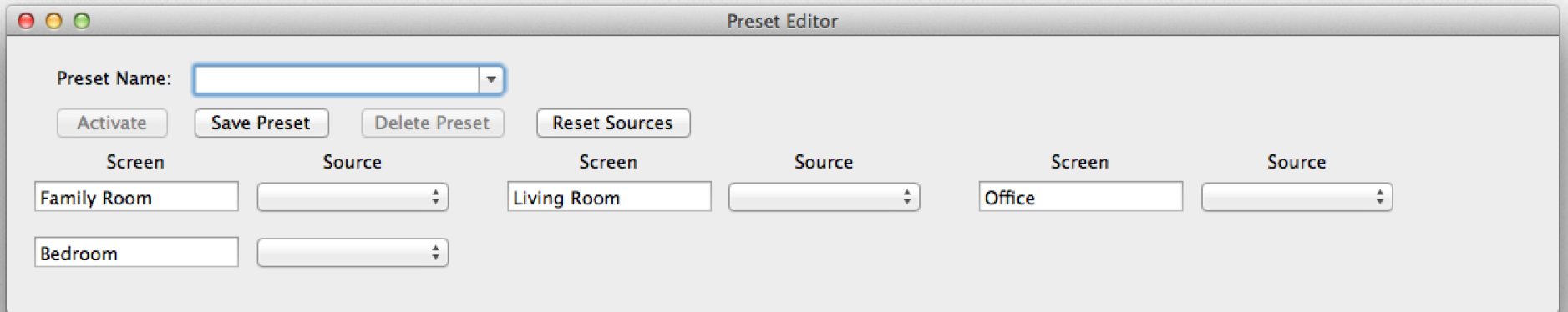
Presets are a pre-defined source to screen relationship for two or more screens in the system. Presets are available for all license levels with the exception of MediaSwitcher Lite. An unlimited number of presets can be defined. This section will cover the various operations of the preset functions in MediaSwitcher.

## Creating Presets From the Main Window

To create a preset from the main window, set the desired sources for each screen and either choose File and then Save Preset or use the key combination shift-command-S in OS X or Control-shift-S in Windows or Linux. A window will open as shown on the right. Choose the name of the Preset and click save. A popup menu will now be shown on the main window if this is the first preset to be saved.

## Creating Presets From the Preset Editor Window:

To create presets from the Preset Editor Window, select Preset Editor from the Window menu or use the key strokes shift-command-P in OS X or Control-Shift-P in Windows and Linux. The following window will open:



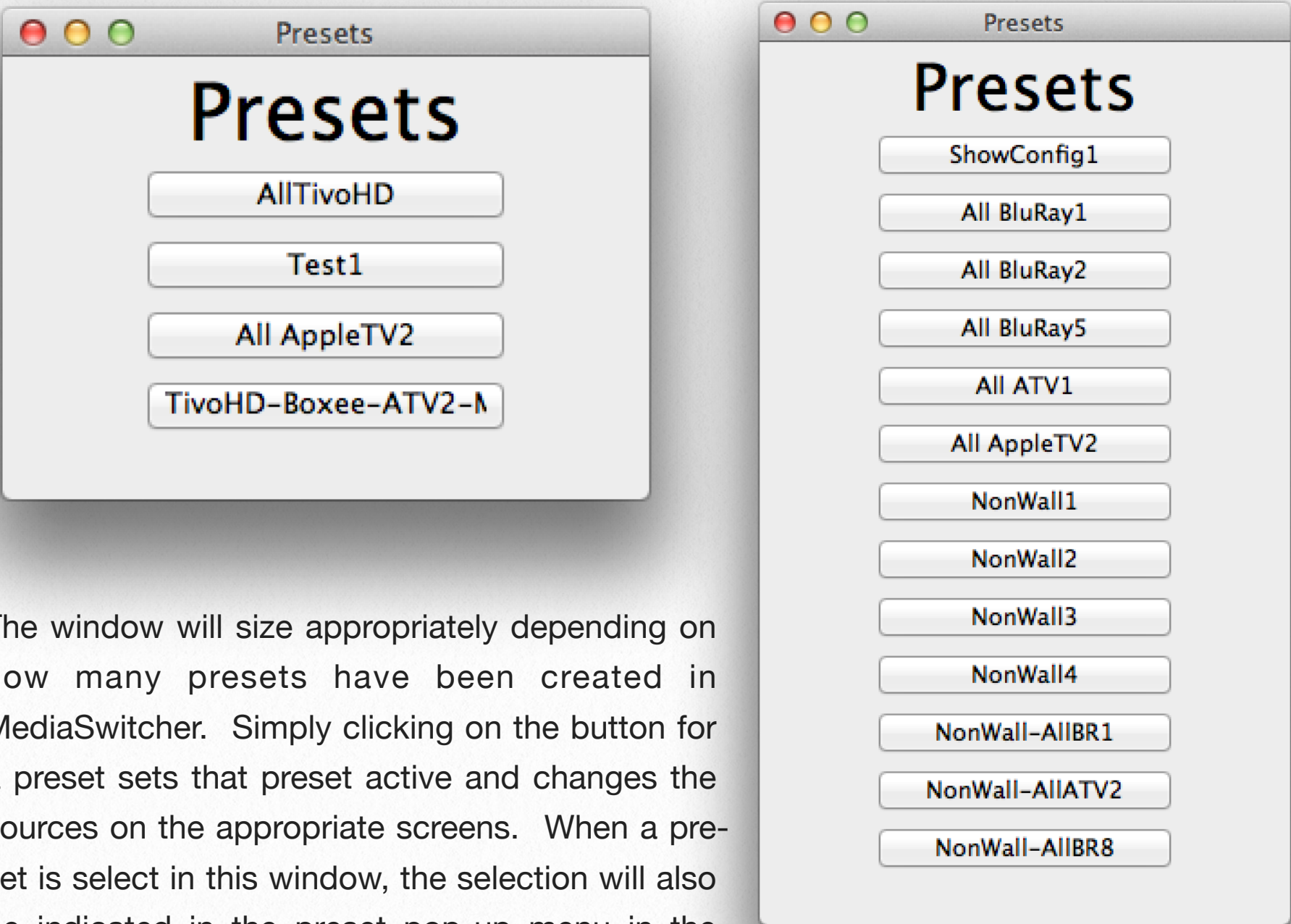
- 1.) If creating a new preset enter the name of the Preset in the Preset Name field. If editing a Preset, choose the preset to be edited from the pop-up menu by clicking on the arrow at the right side of the field.
- 2.) For each screen in the preset, choose the desired source. It is not required to set a source for each screen. If a screen is not included in the preset, it will not change when the preset is activated.
- 3.) To save the preset, click on “Save Preset.” If a preset with the same name already exists, a prompt will be presented asking if you want to overwrite the existing preset.
- 4.) To reset all screens so that there is no source selected, click the “reset sources” button. This is useful when creating multiple presets for large numbers of screens where not all screens will be in the preset.

To delete a preset, select the desired preset from the list and click the Delete Preset button.

To make a preset active (set all the screens according to the preset), click the “Activate” button.

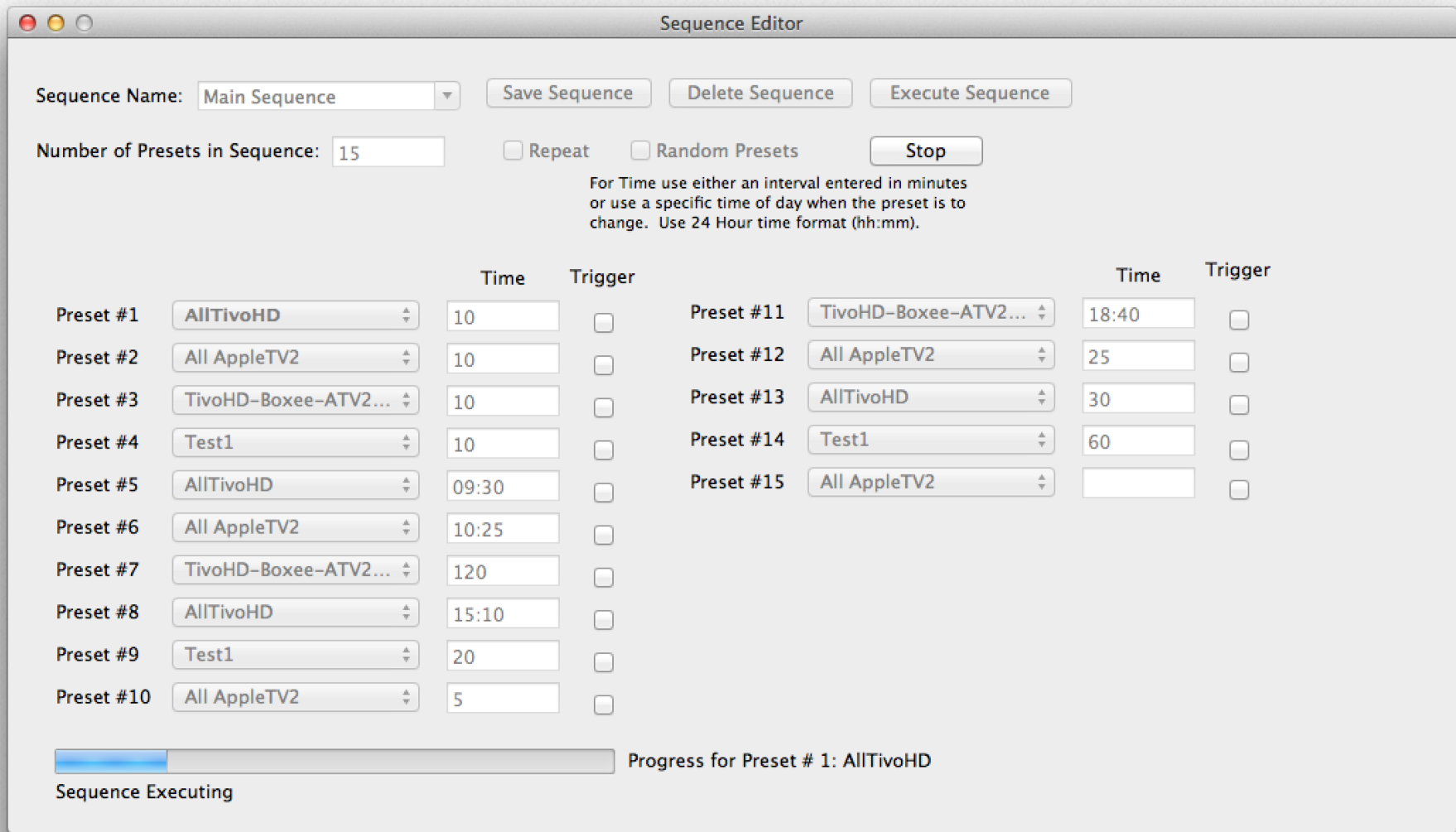
**Using the Preset Window:**

The Preset Window is a set of buttons with easy control to activate each preset. To open the window, choose Preset Window from the Window Menu or use the key combination Option-Command-P in OS X or Alt-Control-P in Windows and Linux. This window is shown below:



The window will size appropriately depending on how many presets have been created in MediaSwitcher. Simply clicking on the button for a preset sets that preset active and changes the sources on the appropriate screens. When a preset is select in this window, the selection will also be indicated in the preset pop-up menu in the main window.

# Sequences



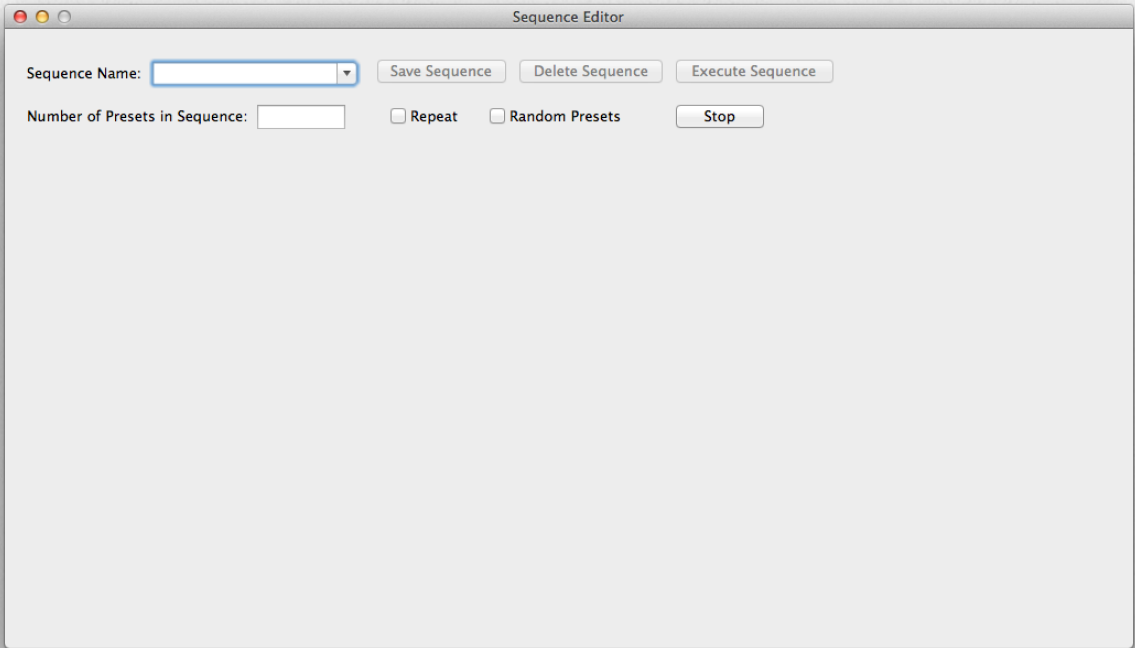
Sequences are time ordered sets of presets that change at a given time interval, time of day or a combination of both. They are available in the Pro and Custom versions of MediaSwitcher. Sequences can contain up to 20 presets. An unlimited number of sequences can be created.

Sequences also contain a feature called “Triggers.” A trigger is a set of commands that can be sent over IP to devices at the start and again at the end of the preset’s active time. So for example, if it is desired to start a video playing on a DVR or media player at the start of the preset and then pause it when the time is over.

To create sequences, first presets must be created. To open the Sequence Editor Window, select it from the Window menu or enter the keystrokes Control-Command-S in OS X or Control-Alt-S in Windows and Linux.

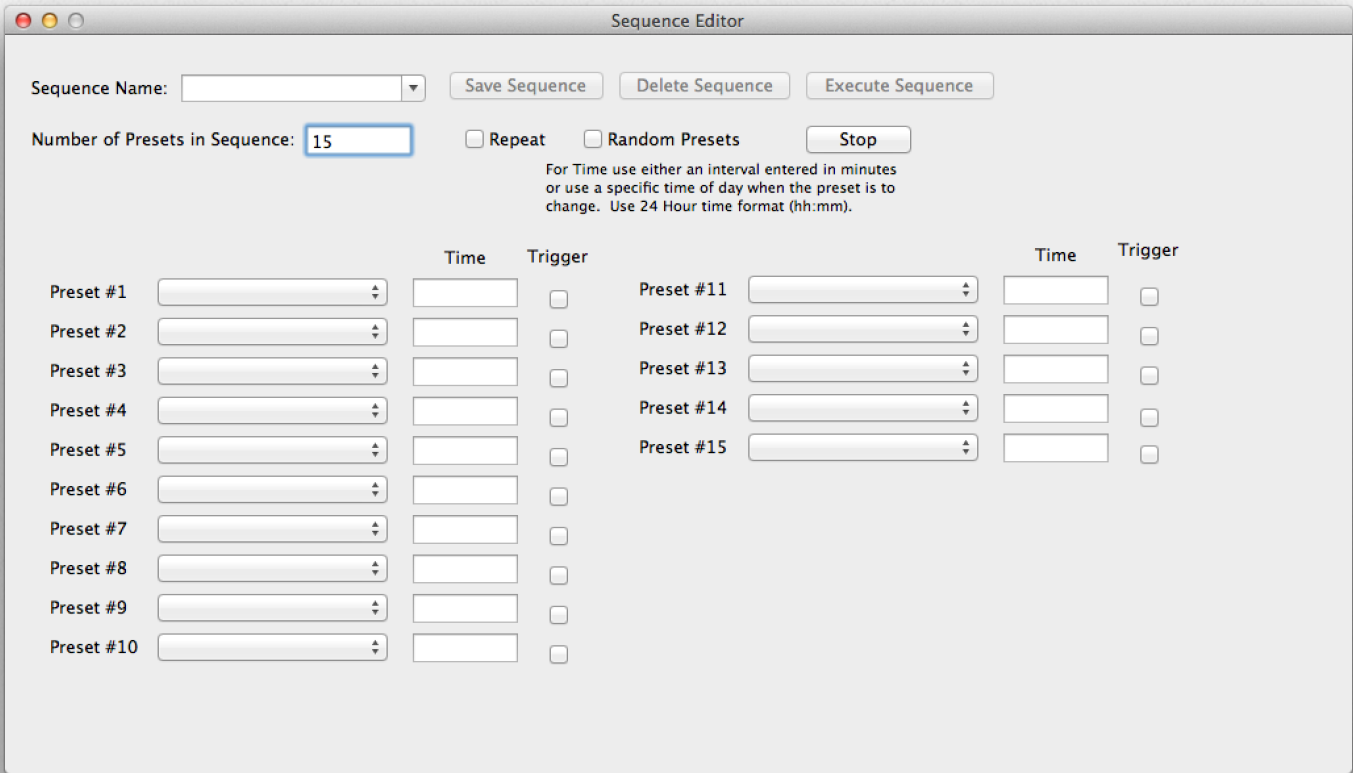
**Sequence Editor Window:**

The sequence editor window is shown below:



To create a Sequence:

- 1.) Select a Name for the Sequence if it is a new Sequence
- 2.) Enter the number of presets in the sequence. Up to 20 presets can be used. The example below uses 15 presets.



- 3.) Select a preset for each of the pop-ups in the sequence.
- 4.) Set the time for the preset. The time can be in a number of minutes or the time of day. Time of day is entered in 24 hour time as hh:mm. So 9:30 would mean 9:30 AM and 19:45 would mean 7:45 PM.
- 5.) If desired, set a trigger for any or all presets by clicking on the checkbox for the preset in question. Once that is done, the window at the right is shown. A command for an AV device can be set to execute at the start of the preset's time and a second one at the end. Enter the IP address and TCP port for the device to be controlled. Enter the command string in the field labeled command string. When finished click the OK button.

Trigger Data for Preset 1

Device and Command at Start of Preset

IP Address	Command String
<input type="text"/>	<input type="text"/>
Port	
<input type="text"/>	

Device and Command at End of Preset

IP Address	Command String
<input type="text"/>	<input type="text"/>
Port	
<input type="text"/>	

Cancel OK

Sequence Editor

Sequence Name:  Save Sequence Delete Sequence Execute Sequence

Number of Presets in Sequence:  ☐ Repeat ☐ Random Presets Stop

For Time use either an interval entered in minutes or use a specific time of day when the preset is to change. Use 24 Hour time format (hh:mm).

		Time	Trigger		Time	Trigger
Preset #1	AllTivoHD	5	<input checked="" type="checkbox"/>	Preset #11		<input type="checkbox"/>
Preset #2	All AppleTV2	9:30	<input type="checkbox"/>	Preset #12		<input type="checkbox"/>
Preset #3	TivoHD-Boxee-ATV2...	13:30	<input type="checkbox"/>	Preset #13		<input type="checkbox"/>
Preset #4	AllTivoHD	10	<input type="checkbox"/>	Preset #14		<input type="checkbox"/>
Preset #5			<input type="checkbox"/>	Preset #15		<input type="checkbox"/>
Preset #6			<input type="checkbox"/>			
Preset #7			<input type="checkbox"/>			
Preset #8			<input type="checkbox"/>			
Preset #9			<input type="checkbox"/>			
Preset #10			<input type="checkbox"/>			

6.) Once the sequence is complete, click on Save Preset to save the preset.

To edit an existing sequence, select the sequence from the pop-up of the Sequence Name field. It will then be shown, filled out in the window. Make the desired changes and then click the Save Sequence button. A prompt will appear confirming that you want to overwrite the sequence. Click OK to continue.

To Delete a Sequence, select it from the list and click the Delete Sequence button.

To start a sequence running, select the desired preset and click the “Execute Sequence” button. The sequence will begin running. A progress bar will be displayed at the bottom of the window indicating the percentage of the total time completed for the current preset. The currently active preset will be highlighted and the rest will be dimmed.

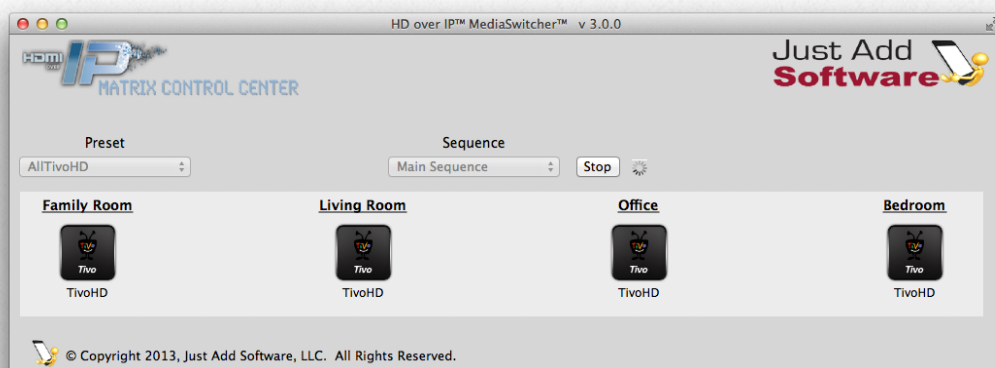
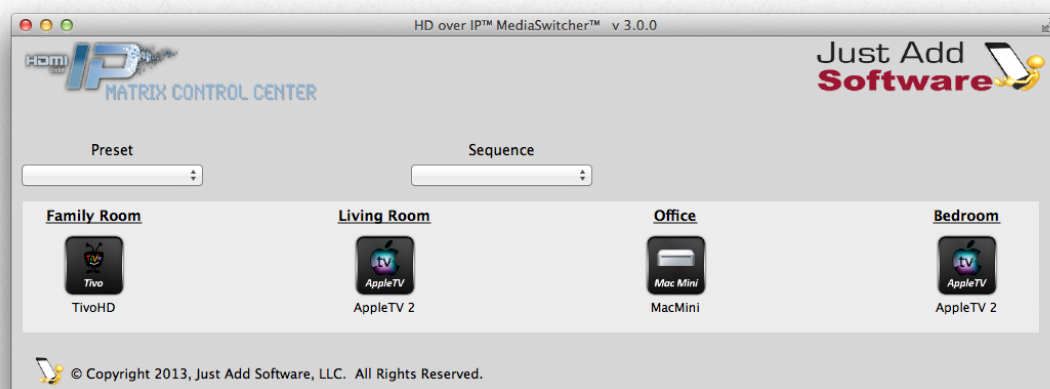
To repeat the sequence indefinitely, click the “Repeat” checkbox. The sequence will now continue to repeat until the stop button is pressed.

To stop a sequence in the middle of operation, click the stop button.

A sequence can be created using Random presets. To do this, click the “Random Presets” checkbox.

## **Sequence Control on Main Window:**

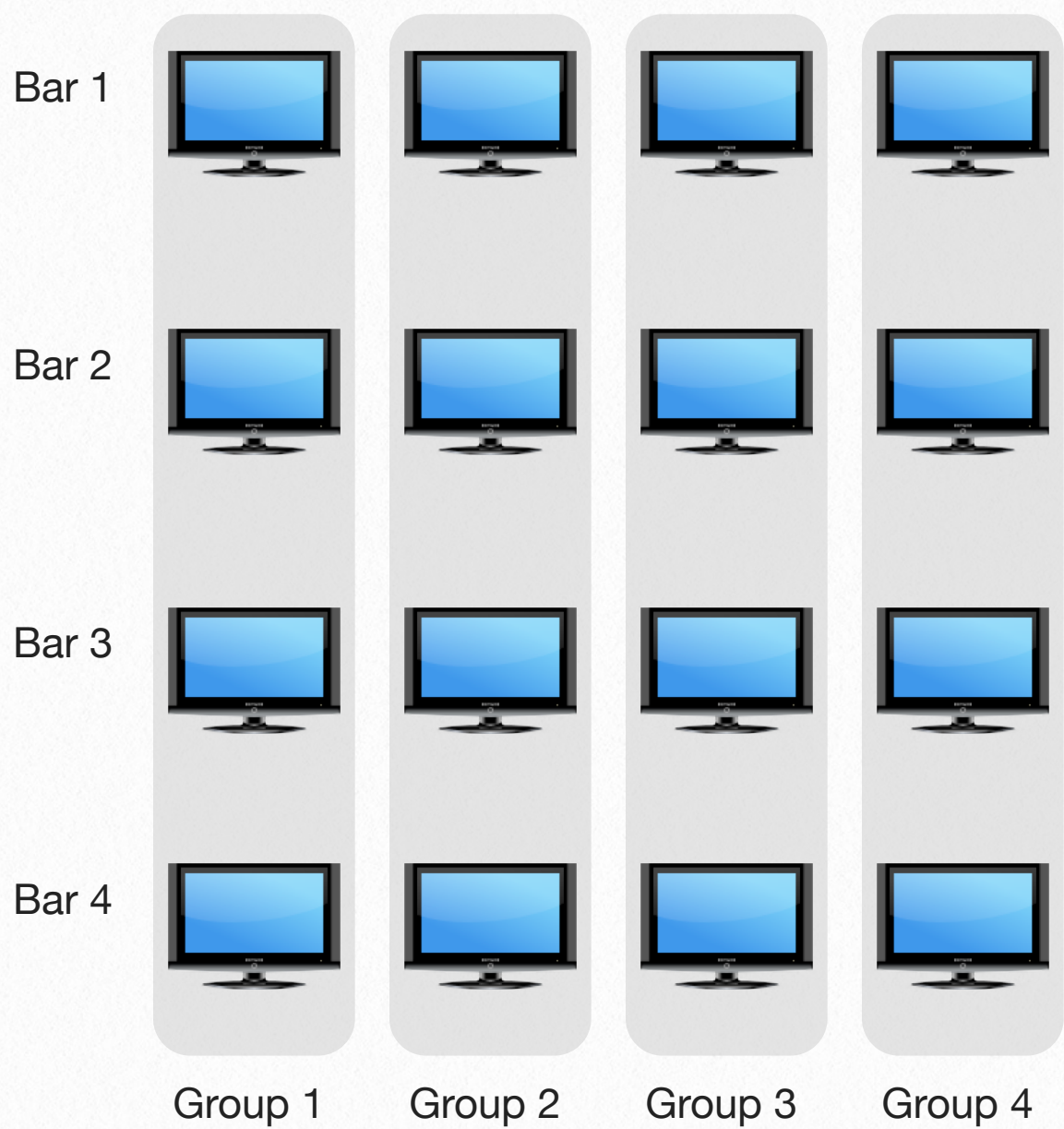
Once a sequence has been created, a new pop-up menu will appear on the main window. Selecting a sequence from this pop-up will start the sequence.



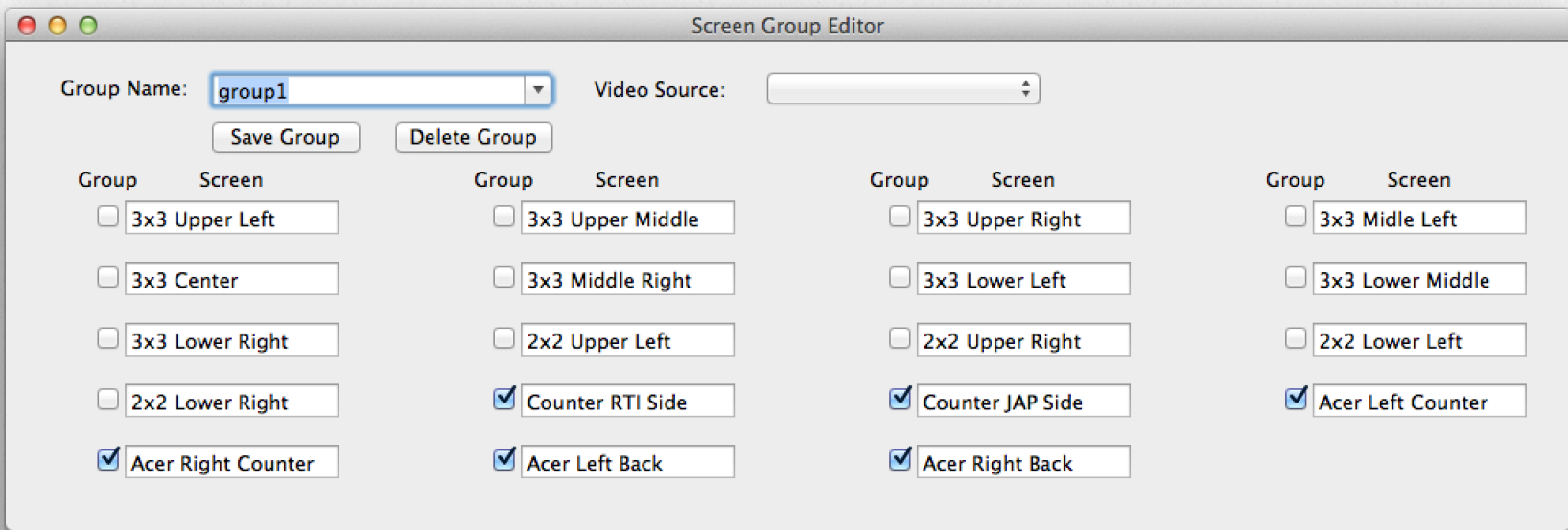
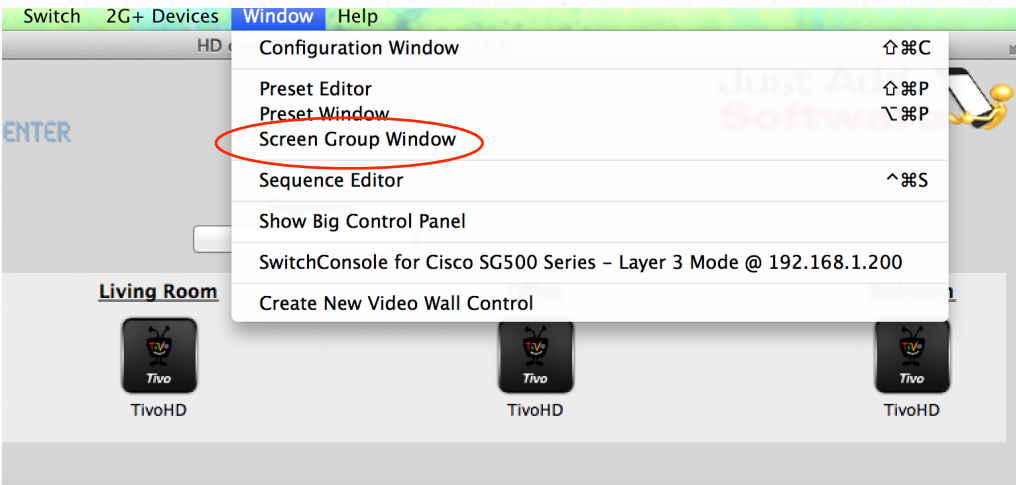
When a sequence is started, the sequence selection will be dimmed and a stop button and progress indicator will be shown. Stopping the sequence resets the view to what is shown above.

# Screen Groups

A screen group is defined as a set of TV screens that are set to the same source with a single control. Using screen groups, multiple screens can be changed to any source simultaneously. For example, if a sports bar has multiple bars with four TVs above each bar, and wants the same programming at the corresponding TV in each bar, four screen groups can be set up allowing each of the TVs to be changed as a group at every bar. In the diagram below, each row of TVs is at a specific bar. The grey rectangles indicate the group. The screens in each rectangle would all be on the same source.

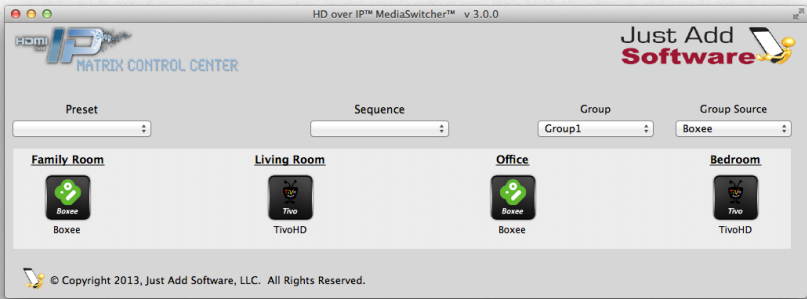


To create a screen group, access the Screen Group Window from the window menu as shown on the right. Once done, the editor will appear as shown below:

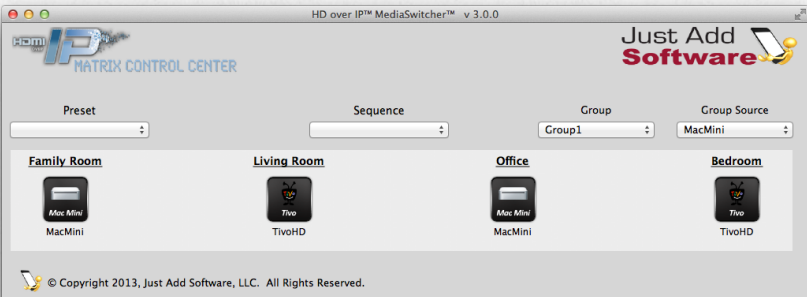


In this example, the checked screens are all part of group 1. The source the group is watching is set by the Video Source Pop-Up. Changing that will change the source displayed on all TVs in the group.

An unlimited number of groups are allowed. To make a new group simply type the group name, select the TVs desired in the group by checking their checkboxes and clicking Save. The source value is not saved with the group as it can change. To edit an existing group, pick the group from the group name list, make changes and click Save. A prompt will appear asking to confirm the change. To delete a group, select the group to be deleted and click “Delete Group.”

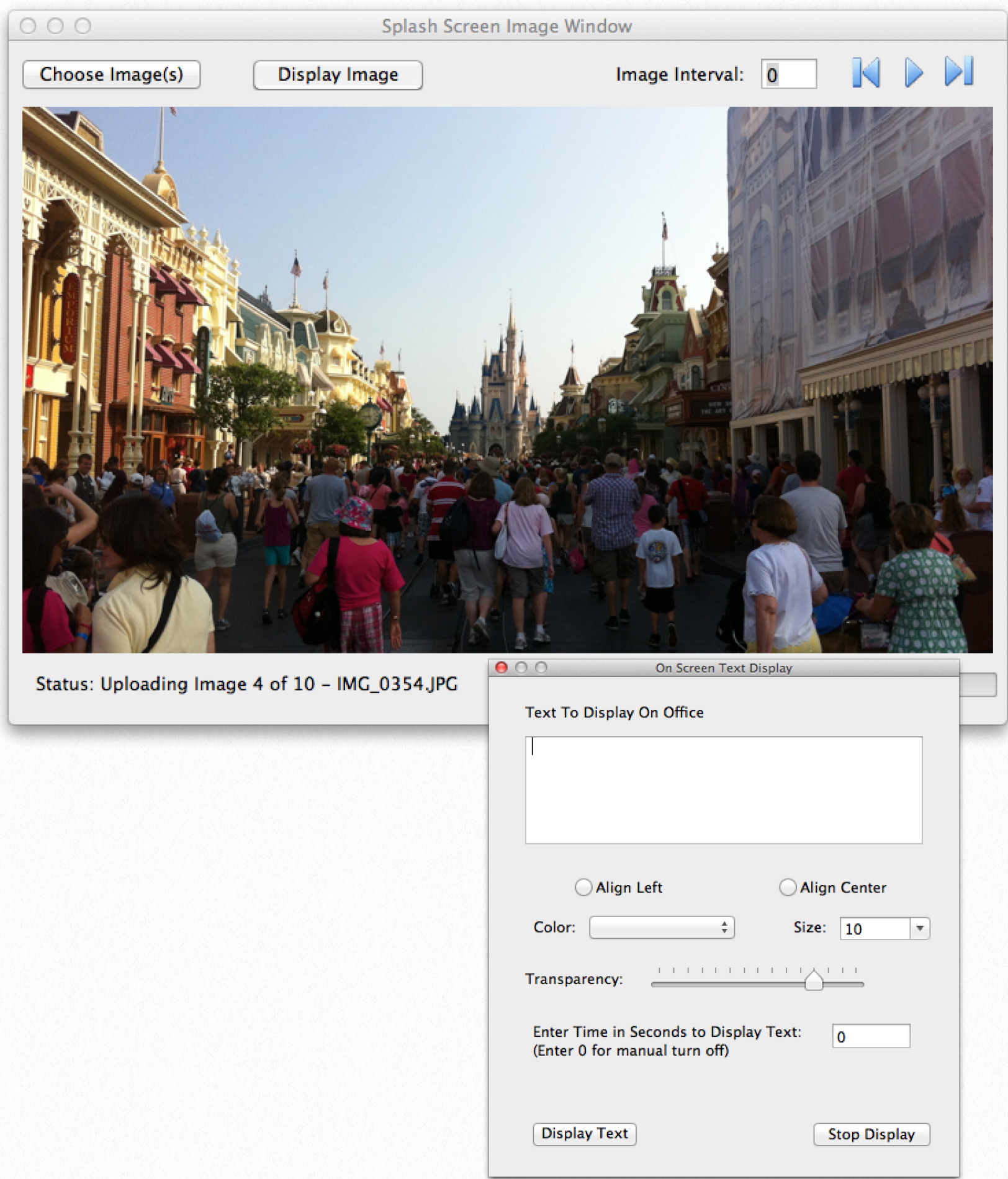


Once a group has been created a new pop-up is shown on the main window. Select the group desired and then select the source and changes will be made to all screens in the group.



# 5

## On Screen Display of Text and Images



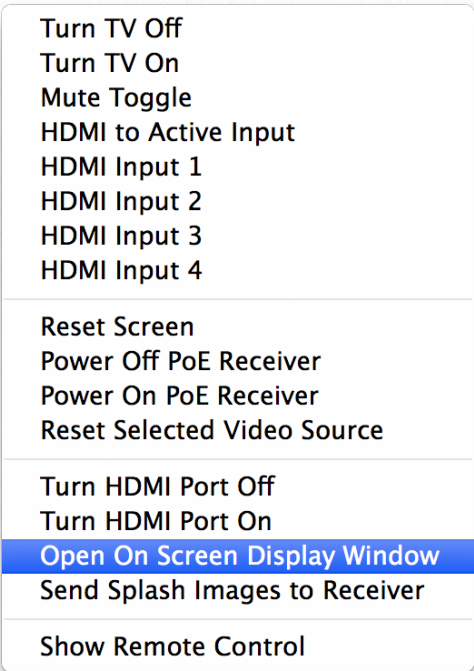
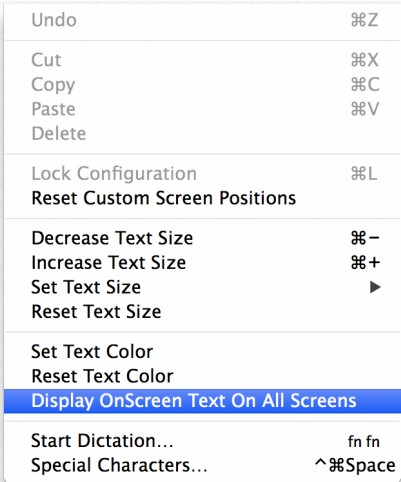
# On Screen Text Display



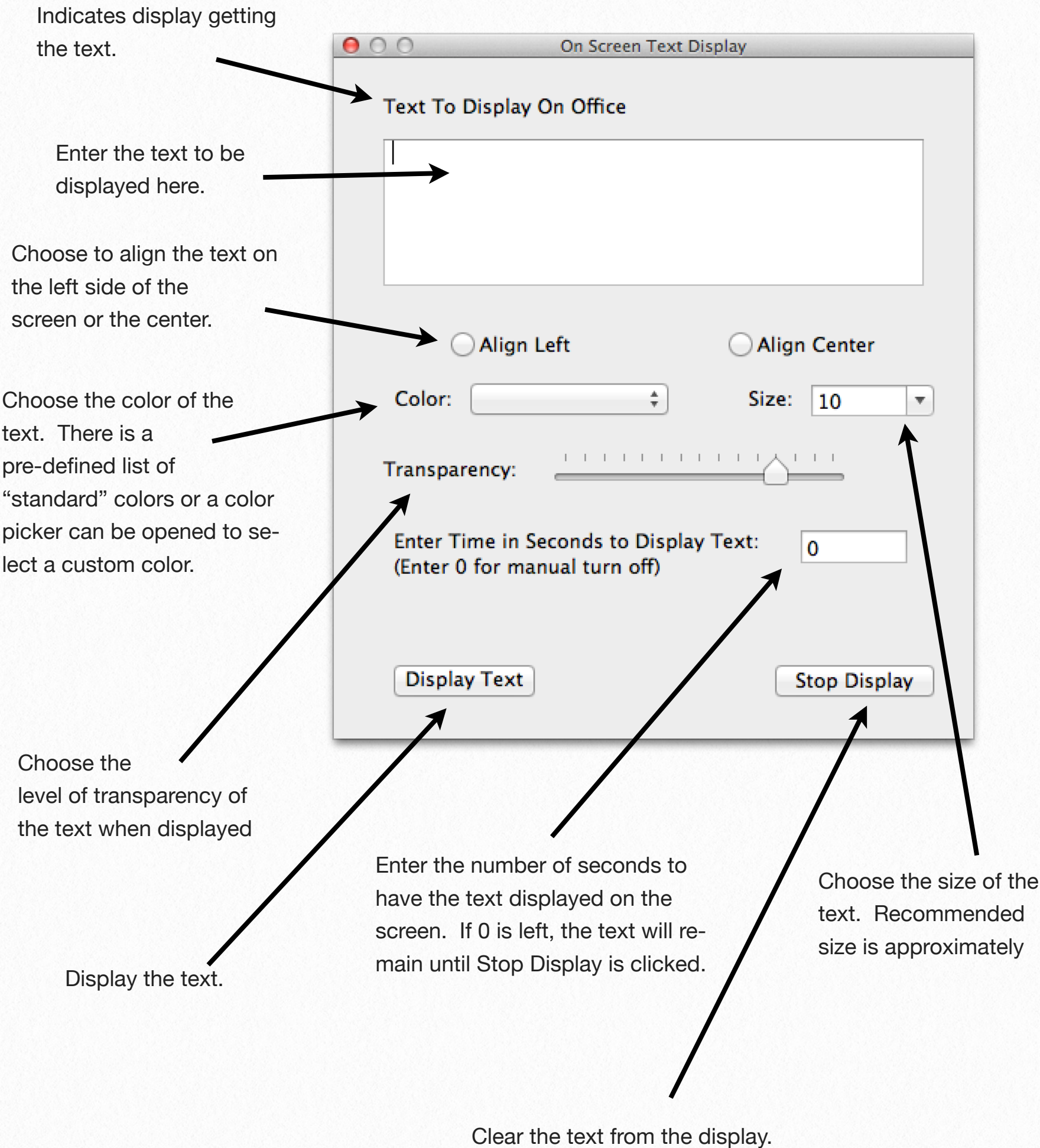
Available in Layer 3 mode, the On Screen text display function lets the operator of MediaSwitcher display text messages on screen on individual displays or all displays.

To display text on an individual display, right click on the display where the text is desired. From the menu, select “Open On Screen Display Window.”

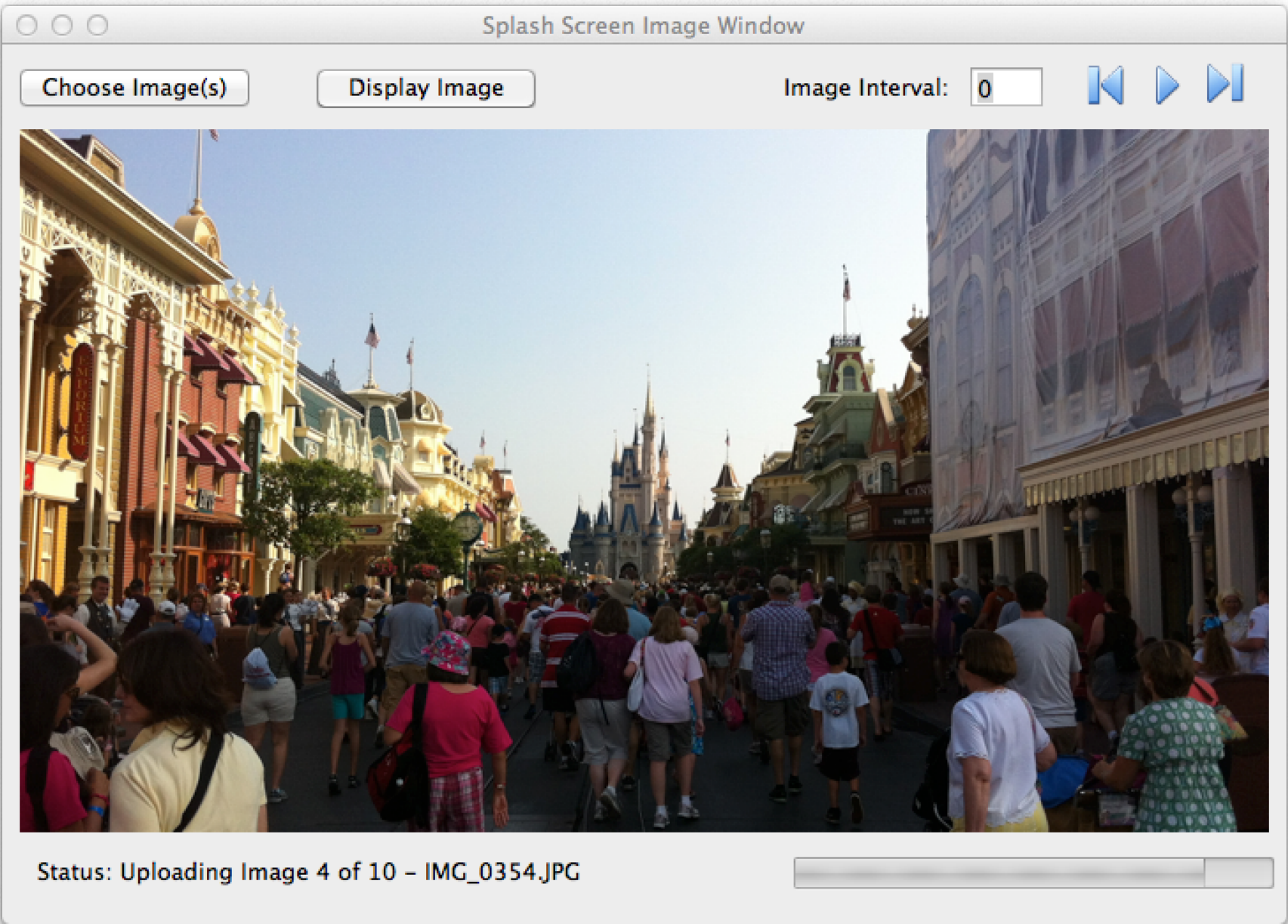
Displaying text on all displays is very similar except in this case, the selection is performed in the Edit menu available from the menu bar of the window:



Once either option is selected, the On Screen Display Window will be shown:



# Showing Images on the Splash Screen



Just Add Power 2G/2G+ firmware version A5.13c allows the for the upload and display of JPEG images on each receiver. MediaSwitcher includes a utility for uploading up to 50 images to each receiver. Images can be display individually by selection or a slideshow can be performed.

## Selecting Pictures:

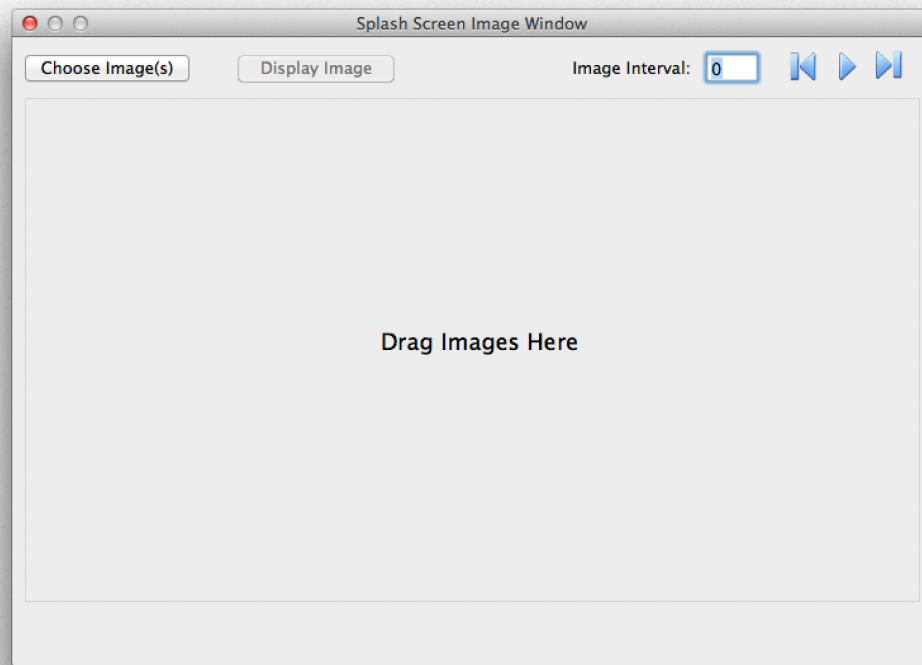
To select pictures to be uploaded to a receiver, right click on the icon of the screen where you wish to display the images. Select, “Send Splash Images to Receiver” as shown in the menu on the right. The image window will then be displayed as shown on the next page.

Turn TV Off  
Turn TV On  
Mute Toggle  
HDMI to Active Input  
HDMI Input 1  
HDMI Input 2  
HDMI Input 3  
HDMI Input 4

Reset Screen  
Power Off PoE Receiver  
Power On PoE Receiver  
Reset Selected Video Source

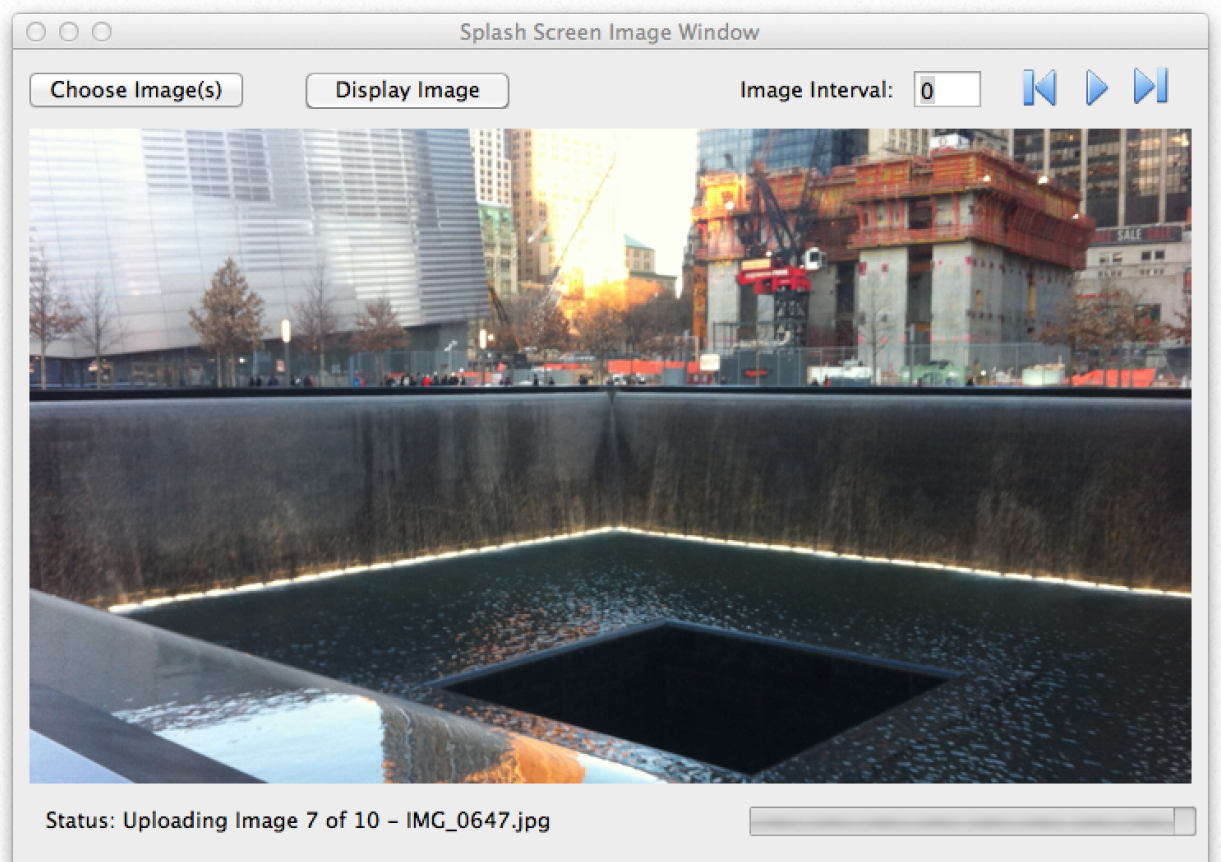
Turn HDMI Port Off  
Turn HDMI Port On  
Open On Screen Display Window  
Send Splash Images to Receiver

Show Remote Control



To add pictures, simply drag them into the area where indicated. Or select “Choose Images” to be presented with a dialog box to choose your images. When dropping images, you can drop them in folders or groups of folders. In OS X, you can choose groups of folders or images from the dialog as well. A total of 50 images can be loaded at any time. If more than 50 images are chosen, only the first 50 will be uploaded.

Once the images have been selected, they are uploaded to the receiver. During loading, MediaSwitcher will scale the images to the correct aspect ratio so they will look correct on screen without any distortion. It will then reduce the size to the exact number of pixels needed to display



the image (at this time, all Just Add Power receivers display the images in 640x480 resolution). A progress bar showing upload progress along with the name of each images will be displayed on the bottom of the window.

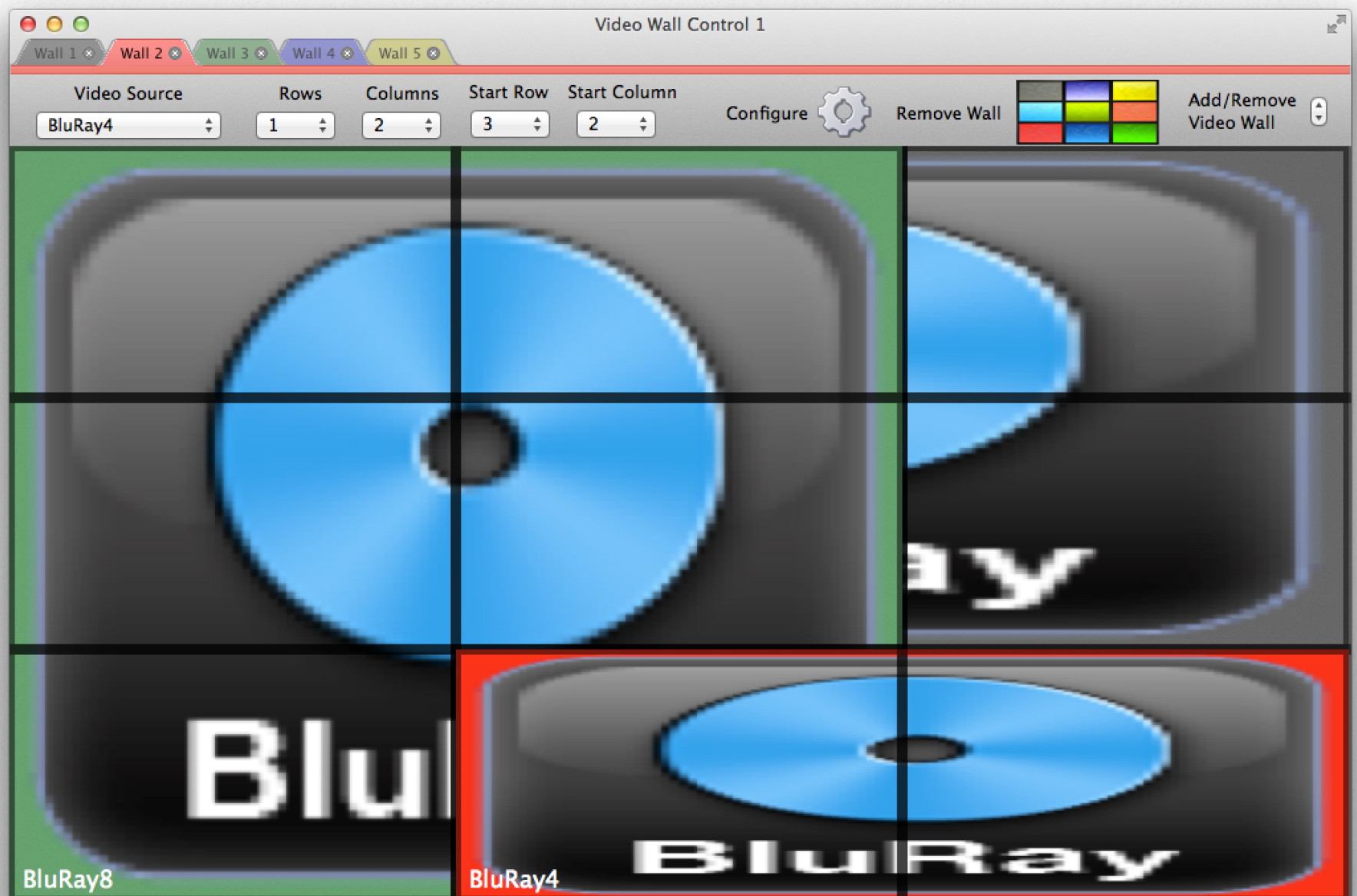
The images can be seen in the viewer section of the window. Click either of the arrow buttons to move to another picture. Clicking on “Display Image” will cause the selected image to be displayed on the receiver, the text on the button will change to “Display Video.” Clicking it again will result in switching back to the video stream. To display a slide show, enter the time between images and click the “play” button. The slide show will then loop continually until stopped.

Please note the following when using the splash screen image functions:

- 1.) The Just Add Power hardware shows the images at 640x480 pixels, so the TV will be forced to re-sync with the hardware. It is not a seamless transition.
- 2.) The images are not permanently kept in the receiver. Upon reboot of the receiver, they will be removed.
- 3.) Invoking the upload procedure a second time, will replace any existing images regardless of how many were previously uploaded.
- 4.) If MediaSwitcher is quit and restarted, there is no control available for any existing images on the receiver. The upload procedure will need to be started again.
- 5.) While the Just Add Power hardware has a slideshow function, this is not what MediaSwitcher uses.
- 6.) Each screen can have a separate upload. At this time, there is no “global” image upload command or capability in MediaSwitcher.
- 7.) Uploading too many sets of images can cause instability in the receiver and cause it to reboot. Please be aware of this when uploading images. It may be best to reboot the receiver before each upload cycle.
- 8.) Prior to doing any firmware updates, reboot any receiver that has received images. This will ensure enough memory for the firmware update.

# 6

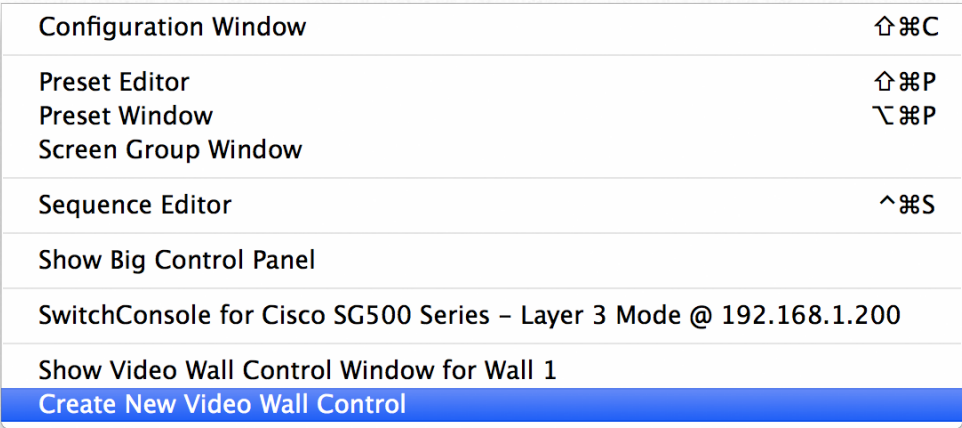
## Video Wall Control



MediaSwitcher Wall Control is an add-on enabled by the license code entered for the software. The Wall control feature enables full dynamic video wall control of the Just Add Power hardware. MediaSwitcher's video wall control supports video screen matrix sizes of up to 16 rows and 16 columns. Multiple screen matrices are supported for systems that need control of more than one matrix of displays. For each set of displays, multiple video

wall images are supported. So on a 4x4 wall, control of four 2x2 images or other possible combinations of images is supported. The examples presented in this manual demonstrate a 2x2 or a 3x3 sized video wall but the same principals apply regardless of size.

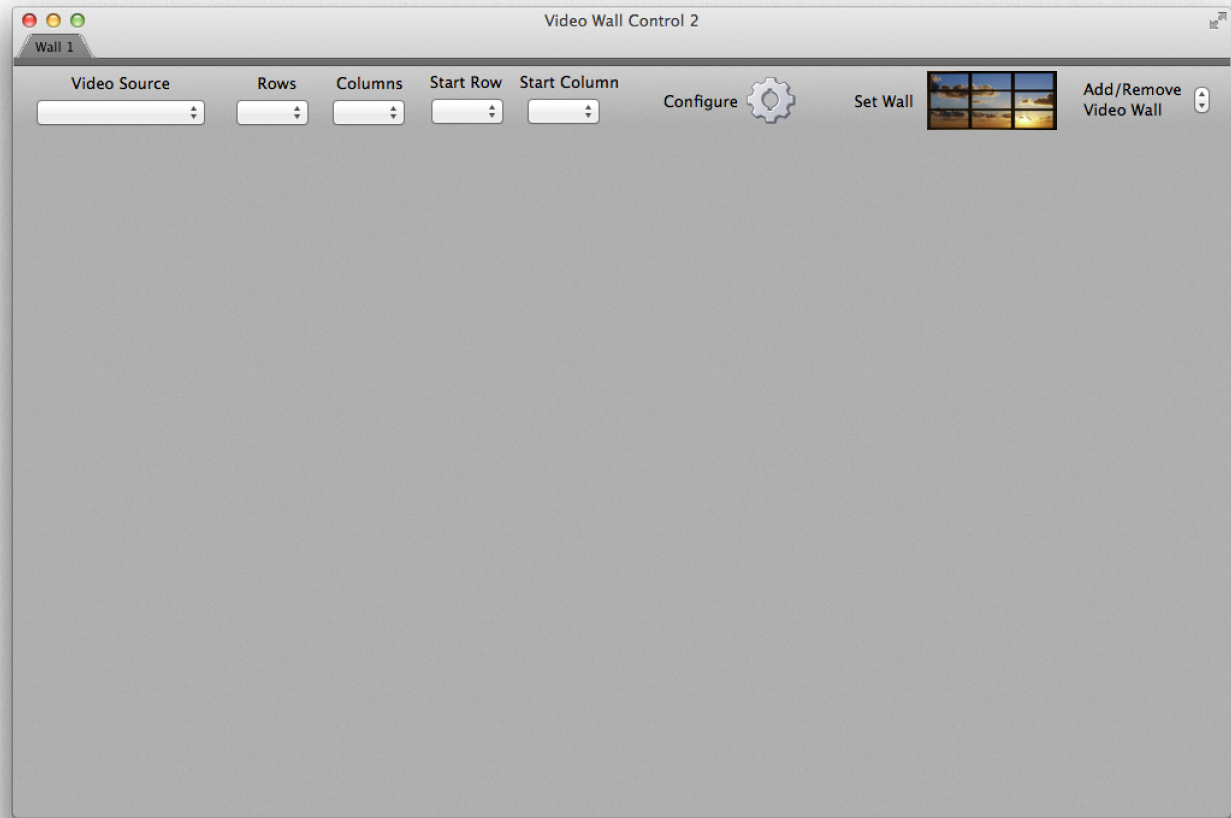
To create a new video wall, select “Create Video Wall Control” from the Window menu.



Once the control has been created, it will show in the menu and is numbered starting with 1. Additional controls for other screen matrices will be labeled, 2, 3, etc. Once a wall is created, it is not able to be deleted.

**Setting Up a Video Wall:**

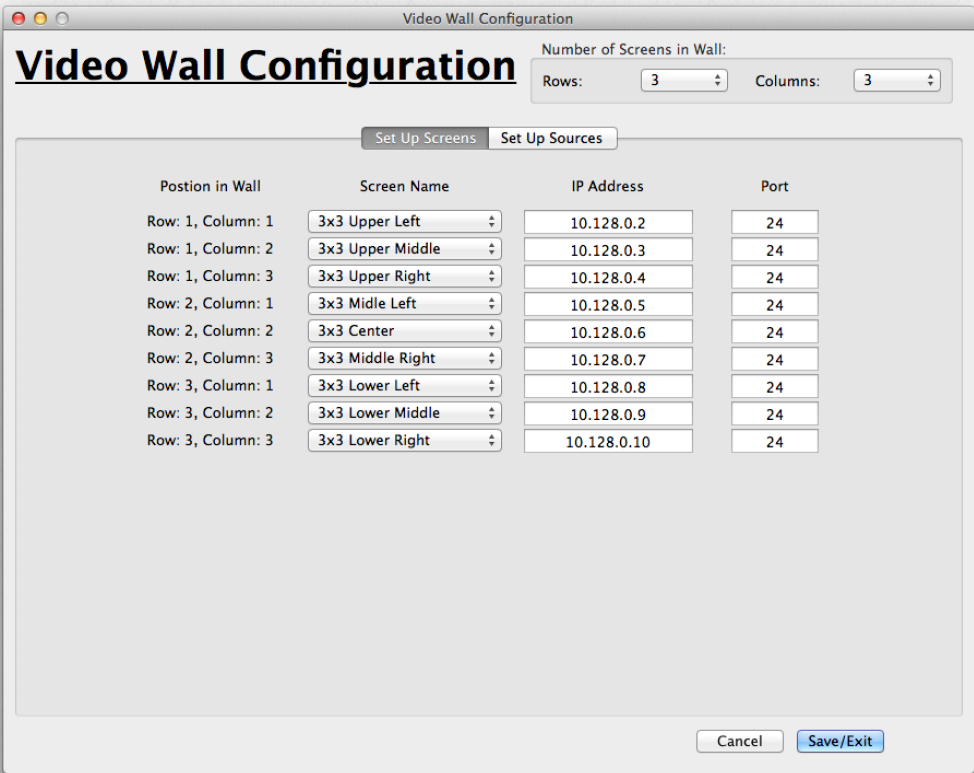
MediaSwitcher assumes that the screen matrix has already been configured using the web page GUI of the Just Add Power hardware. If this has not been completed, please complete that setup first before configuring MediaSwitcher to control the video wall.



Upon creating a new video wall control, the video wall control window is displayed. The initial display looks as shown to the left. Screens will need to be assigned to the wall, so click on the “configure” button.

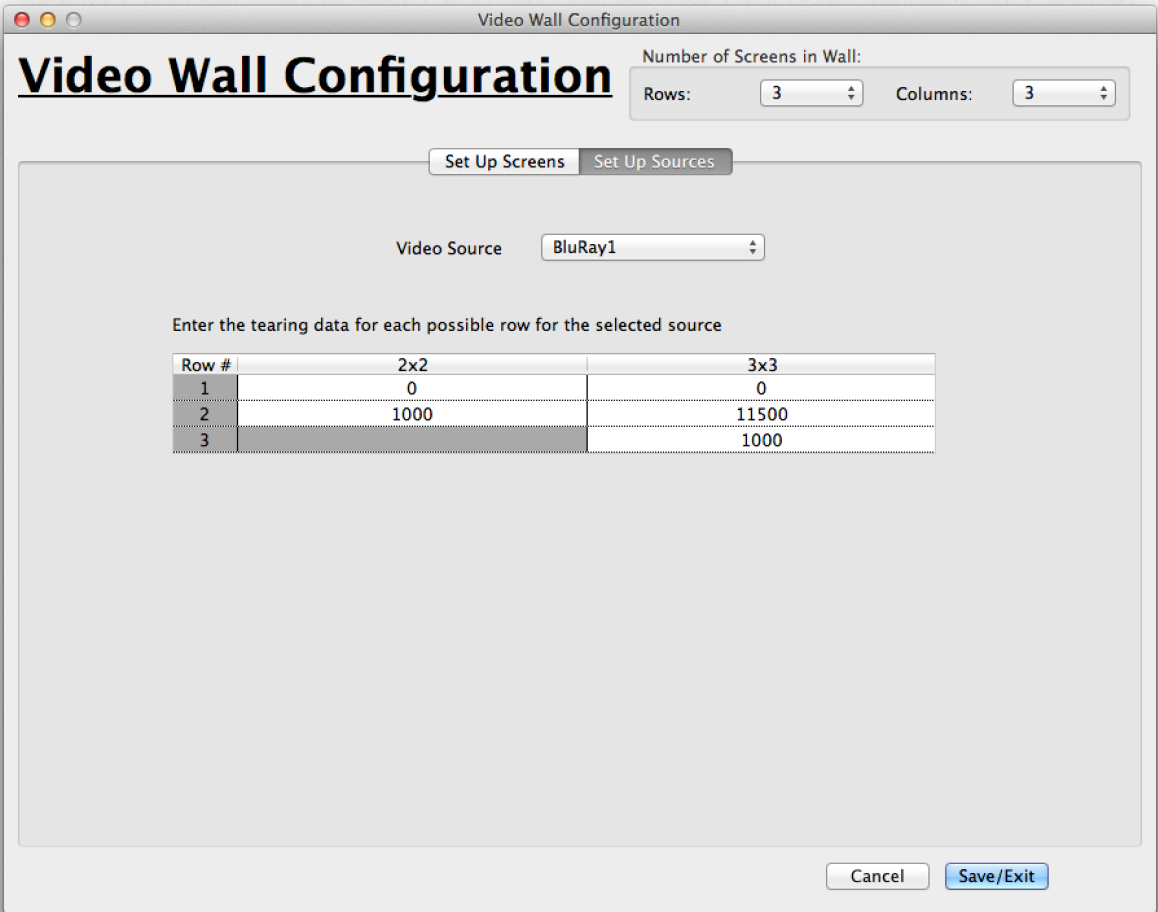
The video wall configuration window will open. In the upper right set the number of rows and columns. The number of screens will adjust. Then select which screen is assigned to each spot in the video wall.

Note that it is possible to assign a screen to two different positions in a single matrix or even in multiple matrices. Please be sure that each screen is only assigned to one position.



Once the screens have been assigned, click the Setup Sources tab in the window. The fields here are used to enter the tearing delay values that should have been determined during the initial configuration using the Just Add Power web GUI of the screen matrix. The tearing delay values are entered to remove tears in the video image which typically occur in the second and higher rows of the video wall image. Each different possible combination of video wall sizes needs

to have a tearing delay adjustment for each source. The delay for the first row is nearly always zero. Values for each additional row will need to be determined by viewing the image and adjusting the delay until the tear is moved off screen. Values are typically in the 1000s of milliseconds. Fine adjustment can be made by clicking on a screen in the video wall control window and adjusting the delay there.



Once everything has been entered click Save/Exit.

After a successful configuration, the video wall control window will now look something like the image on the right. Each TV screen is shown and identified with the name of the current source in the lower left corner and with the icon of the source that has been selected in the main window. Once a source for the wall has been selected,



selected, enabling the video wall can be done in one of two ways. First the user can select the number of rows and columns as well as the start row and the start column of the combined image by using the pop-up menus in the tool bar. Once this is done, click the “Set Wall” button.

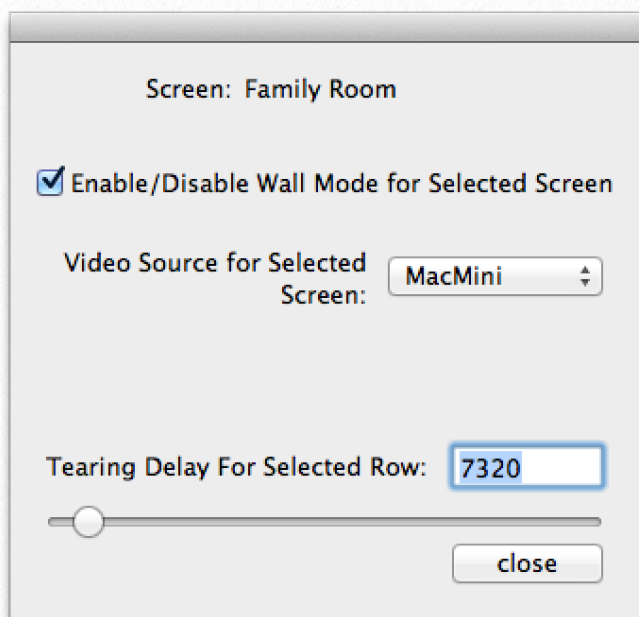
The second way to enable wall mode is by performing a shift-click-drag selecting the screens desired in the video wall. Once enabled, the screen will look as shown to the right.



### Manipulating the Wall:

- Resize the wall by adjusting the number of rows or columns or the start row or start column using the pop-up menus. Alternatively, this can be done by a shift-click-drag.

- Change the source by selecting a new source from the source popup menu.
- If the wall does not take up the entire matrix of screens, click on any screen and while holding down the mouse, drag to another screen. The position of the wall will now change.



- To adjust an individual screen, click on that screen and release. The window on the left will open. The screen can be taken in and out of wall mode by checking or unchecking the box (example shown below right). The source can be changed. Adjust the tearing delay by entering a new value in the field or by moving the

slider. Any adjustments are saved to the settings database for later recall.



### **Adding Multiple Video Wall Images:**

MediaSwitcher 3 allows for the creation of any number of video wall images on a screen matrix. To add a new video wall, click the up arrow on the right side of the video wall control window menu bar. A new tab will appear with a different background color. Select the screens to be in this video wall image the same way as done previously. The image on the right shows a 2x2 matrix of screens with two 2x1 images. The controls in the menu bar control the image belonging to the frontmost tab. Remove a tab by clicking its close button or clicking the down arrow on the right side of the screen. Whatever remains as the last tab cannot be removed. As changes are made, they are actively saved so the next time the program starts the last settings will be recalled.

Click the up arrow to add another tab. MediaSwitcher “layers” the images similar to the way photographs would be layered when stacked on top of each other. Clicking on a tab makes that image the top most layer.

The image on the right shows the fourth tab



of a five layer wall with all screens as part of the wall.

Clicking on the third tab makes the wall image on the third tab the top most layer as shown on below.

As can be seen, image 3 is layered on top of image 4. If the second tab is clicked, then the wall image for tab two is moved to the forefront and

placed on top of the layers. The image below shows this example.

While it may not make sense to layer normal video content in manners such as this, the example illustrates the power of MediaSwitcher’s video wall control capability. For certain things like artistic displays, the layering could be very useful.



The video on the screens will adjust to show similar to what is being displayed in the software. Depending on the size of the video wall, it may take a few seconds for the changes to be made for all screens.

As sources are changed in the wall window, the main window will change accordingly so that all screen icons display the correct source.

Video Wall controls for additional screen matrices are added in the similar fashion to the first control. Each is completely independent from the other. The only limit to the number of screen matrices is the number of screens in the system.

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## Device Control



For license levels standard and above, MediaSwitcher 3 features a very powerful and flexible device control feature. Any device that is capable of being controlled via TCP/IP can be set up and controlled in MediaSwitcher. This would include cable boxes, DVRs, BluRay players, lighting systems and more. Devices that are controllable via IR only can use devices such as Just Add Power's IR Manager or IR blaster boxes from OnControls, Global

Cache or Bitwise Solutions. It is up to the user to program the correct IR codes for these boxes. At this time MediaSwitcher does not provide a library of devices or commands.

MediaSwitcher 3 features two remote control windows. One is screen based and features a 22 programmable buttons. Each screen’s remote control window is unique. For Pro licenses and higher, the second is what is labeled the “Big Control Panel.” It features 121 programmable buttons. It is global and not tied to a specific screen.

To get to the remote control window for a screen, right click on the screen’s icon and select “Show Remote Control.”

Reset Screen  
Power Off PoE Receiver  
Power On PoE Receiver  
Send Splash Images to Receiver

Show Remote Control

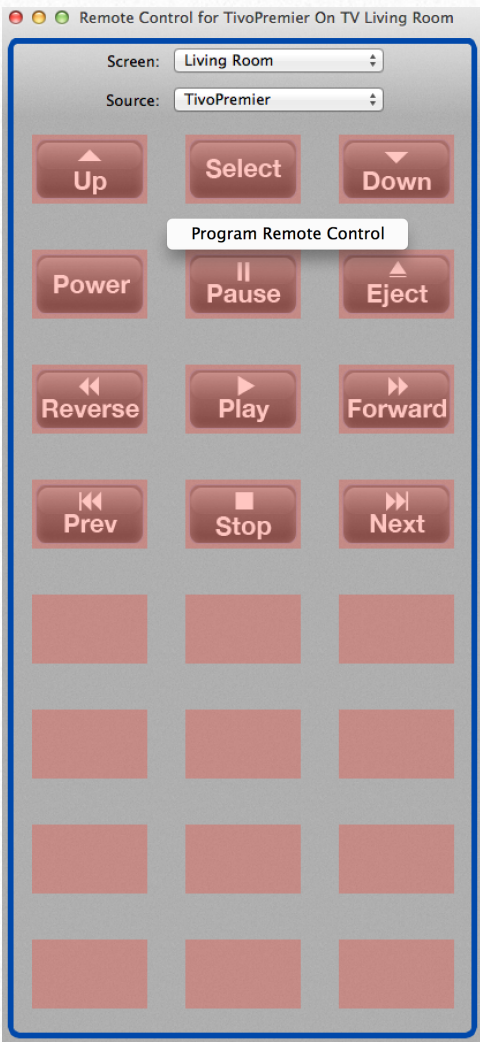
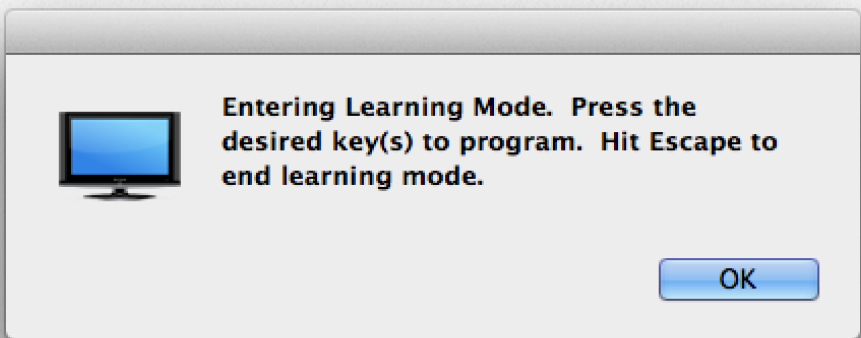


The initial remote control window will look as shown at the left below. Buttons with no programming are shaded red. The top 12 buttons all have “suggested” icons but these can be changed during programming. Changing the screen name from the pop-up menu will switch to the remote panel for the new screen. Changing the source will change the source for that screen and bring up that source’s programmed codes. Note that each screen has unique programming capable for each source. So in this example, any codes programmed for TivoPremier on the Living Room screen, are unique. Changing to another room, will switch to that room’s programming under TivoPremier which may or may not be the same as the codes under Living Room. Buttons can be programmed for ANY device on the network. Not just the source device or the TV. Any button can be programmed to anything.

Entering Learning Mode

1.) To enter learning mode and program buttons, right click in any blank area of the remote window (any area not on a button). A menu will show titled “Program Remote Control.”

Once selected a message will appear as shown below. Click OK to continue.



2.) Once in learning mode, the background of the remote control window will be shaded green and “Learning Mode” will be indicated on the window. Click on the desired button to be programmed. To exit learning mode, press the Escape key.

3.) Once the button to be programmed is pressed, the button programming window is opened as shown below:



The left panel contains icons for each button. Icons can be added to the library of icons by dragging and dropping an image file into the window. These will then show up under “User Saved Icons.” To show or hide a section of icons, click the disclosure icon next to the section title. In OS X this is a triangle; in Windows and Linux it is a box with a + or - sign inside. Icon categories are: User Saved Icons, Transport, Miscellaneous, Numbers, Directional, Devices, Channels.

Select the desired icon for the button being programmed.

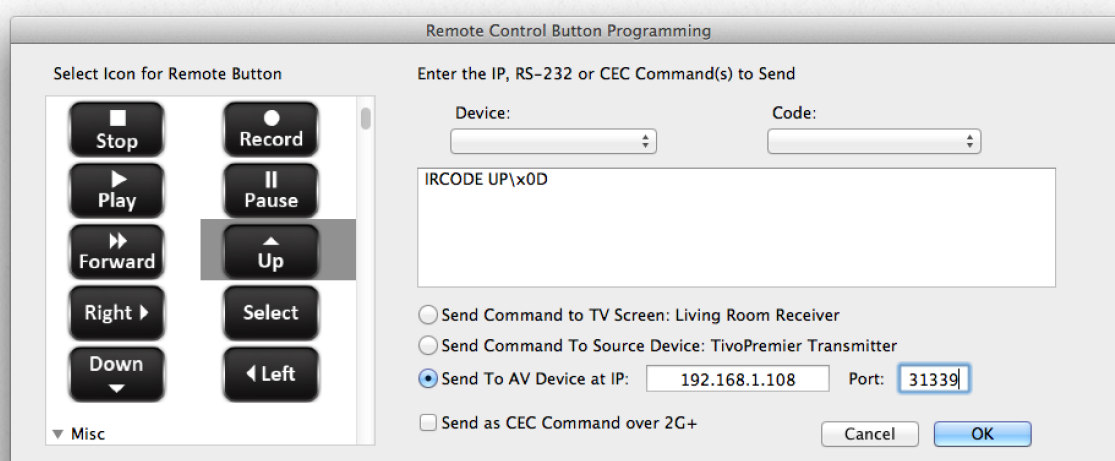
4.) Enter the desired command to send in the large blank text area. Multiple commands can be entered if required. If a carriage return is to be sent with the code enter

\x0D or 0x0D for the return. If the return key is pressed at the end of the command, this will be entered automatically.

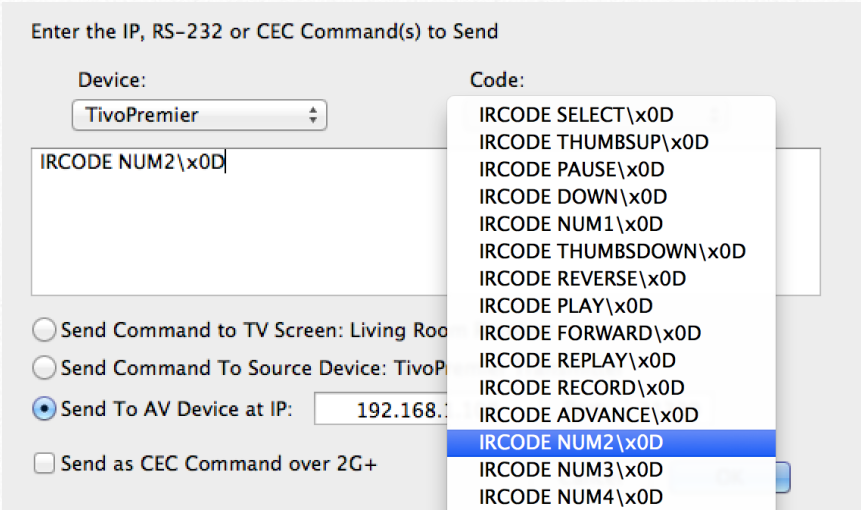
5.) Select where the command will be sent.

If the system is a layer 3 install clicking “Second Command to TV Screen” will send the command to port 6752 (the RS-232 port) of the Just Add Power receiver. Clicking “Send Command to Source Device” will send to port 6752 (the RS-232 port) on the Just Add Power transmitter. If it is desired to send a CEC command click the “Send as CEC command over 2G+” checkbox (only visible with 2G+ devices).

If the command is to be send to another network device or to the shell of a Just Add Power device, click the “Send to AV Device” button. Enter the IP address and port used for communication.

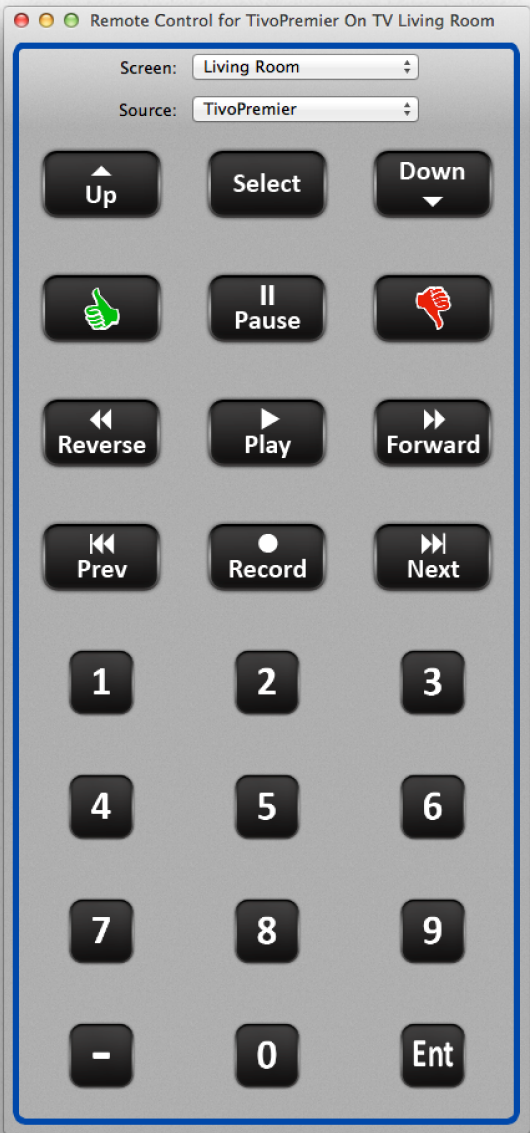


6.) The Device and Code pop-ups are used for easy recall of commands already entered. For example, if a “Play” code was already entered for the TivoPremier on another TV screen’s remote panel, that code will be available to be selected. Simply select the device name and the corresponding code in the code pop-up menu. Everything will be automatically entered. Use of these is entirely optional. Codes are saved for each device automatically as they are entered by the user.



Once the code has been entered properly, click the “OK” button. The programming window will close. The button on the remote control panel is now updated. Click the next button to continue programming. Once programming is complete, press the escape key to exit learning mode.

The image on the right shows a remote window with all buttons programmed and icons assigned. Pressing any of these keys will execute the programming command(s) for that button.

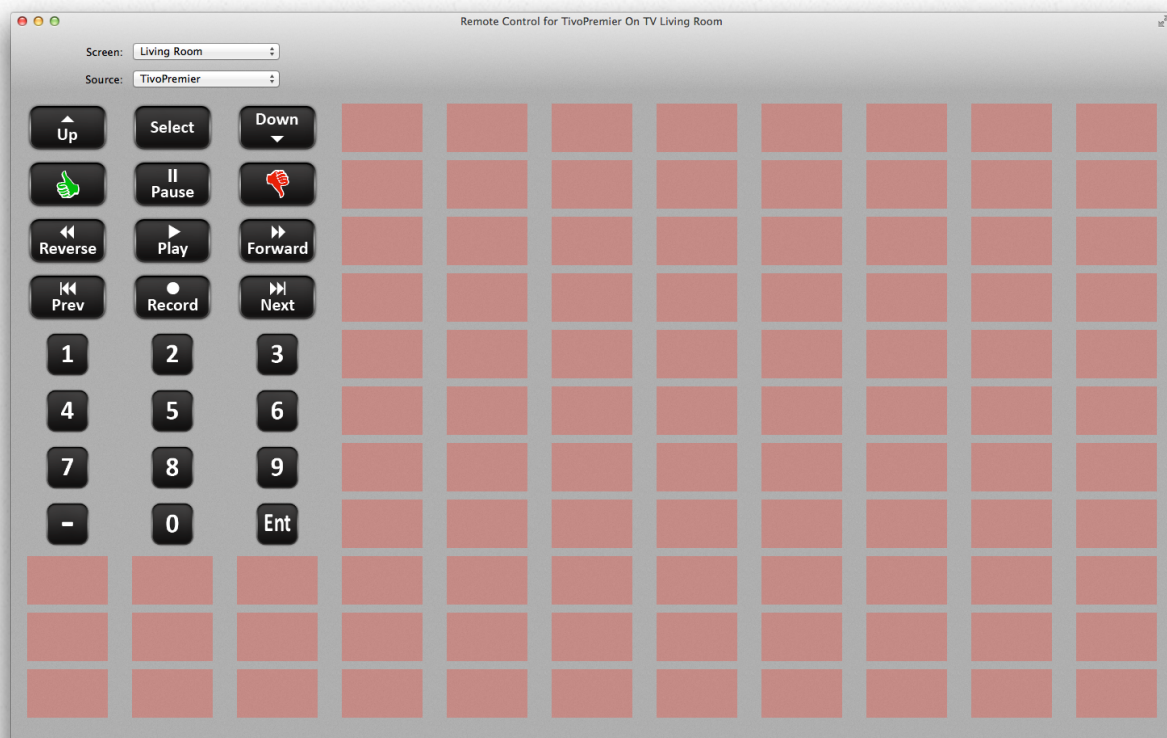


## Big Control Panel:

The “Big” Control panel is designed to be used in cases where a large system control panel is desired. It functions similarly to the individual remote for each screen. The window without any programming is shown below:



Programming is done just as it is for the screen based remote control panel. If buttons have already been programmed for a particular screen/source combination, those will show up here. In the image below, we'd already programmed the TivoPremier in Living Room so those buttons show up in the big panel:



Changing the source in the pull down on this widow performs the change in the video matrix for that screen as well. So it is conceivable that this window could be used full screen and all operations controlled for it. As with the smaller remote panel, each screen can have its own unique buttons for each source allowing for a very large number of devices to be controlled.

# 8

## Updating Firmware

For layer 3 installs, MediaSwitcher features the ability to update the firmware on one or more Just Add Power devices simultaneously. At present, MediaSwitcher does not check for the latest firmware version available. This will need to be obtained from the Just Add Power website.

To update the firmware, select “Update Just Add Power Firmware” from the File menu.

The update firmware window shows all the configured devices broken into TV Screens and Video Source groups. If the device is connected the font will be in bold type face.

Select the devices to update. Multiple devices can be selected by a normal shift-click or command-click in OS X or alt-click in Windows and Linux.

Click the “Update Firmware” button when all devices have been selected.

Save Current Settings as Default⌘S

Load Default Sources⌘D

Save Preset⇧⌘S

Check for New Version⌘N

Update Just Add Power Firmware

Update Device Firmware

Just Add Power Firmware Update

Select the device(s) to update

Device Type	Name	IP	Firmware
TV Screens	Family Room	10.0.10.101	A5.13d
	Living Room	10.0.10.102	A5.13d
	Office	10.0.10.103	A5.13d
	Bedroom	10.0.10.104	A5.13d
Video Sources	TivoHD	10.0.11.100	A5.13d
	AppleTV	10.0.12.100	A5.13d
	Vudu	10.0.13.100	A5.13d
	Boxee	10.0.14.100	A5.13d
	TivoPremier	10.0.15.100	A5.13d
	AppleTV 2	10.0.16.100	A5.13d
	MacMini	10.0.17.100	A5.13d

Update Firmware

Update Device Firmware

Just Add Power Firmware Update

Select the device(s) to update

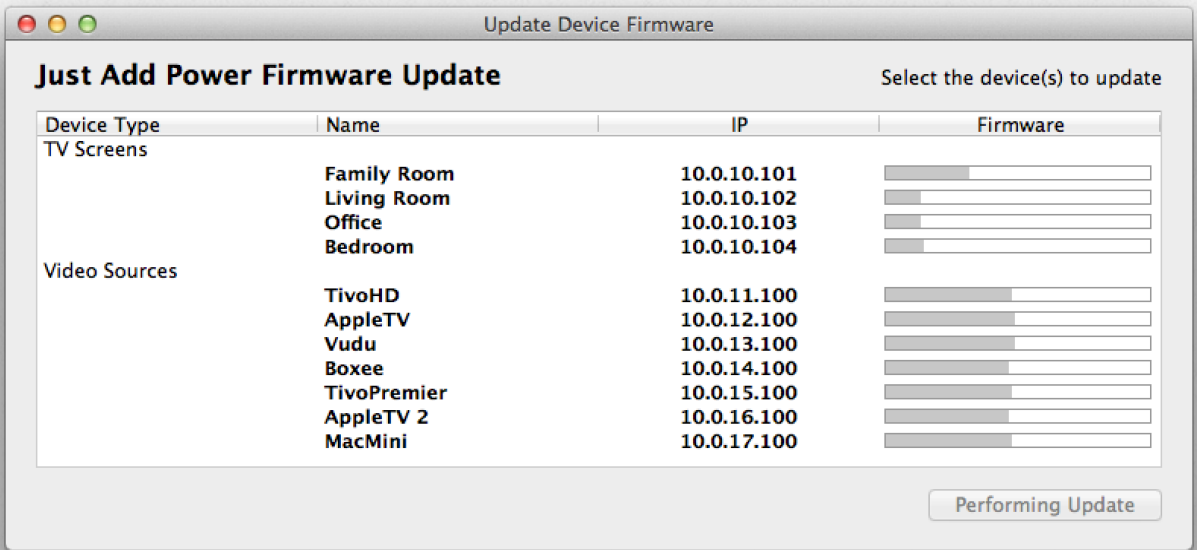
Device Type	Name	IP	Firmware
TV Screens	Family Room	10.0.10.101	A5.13d
	Living Room	10.0.10.102	A5.13d
	Office	10.0.10.103	A5.13d
	Bedroom	10.0.10.104	A5.13d
Video Sources	TivoHD	10.0.11.100	A5.13d
	AppleTV	10.0.12.100	A5.13d
	Vudu	10.0.13.100	A5.13d
	Boxee	10.0.14.100	A5.13d
	TivoPremier	10.0.15.100	A5.13d
	AppleTV 2	10.0.16.100	A5.13d
	MacMini	10.0.17.100	A5.13d

Update Firmware

The “firmware” column now indicates that the firmware is being uploaded.



Once the firmware has been uploaded to the hardware, the update process begins. Progress bars will appear in the firmware column showing the progress of the update.



When a device has finished, it reboots. This is noted in the firmware column. Once the device has restarted, MediaSwitcher will connect to the device and show the new firmware version in the Firmware column.



# 9

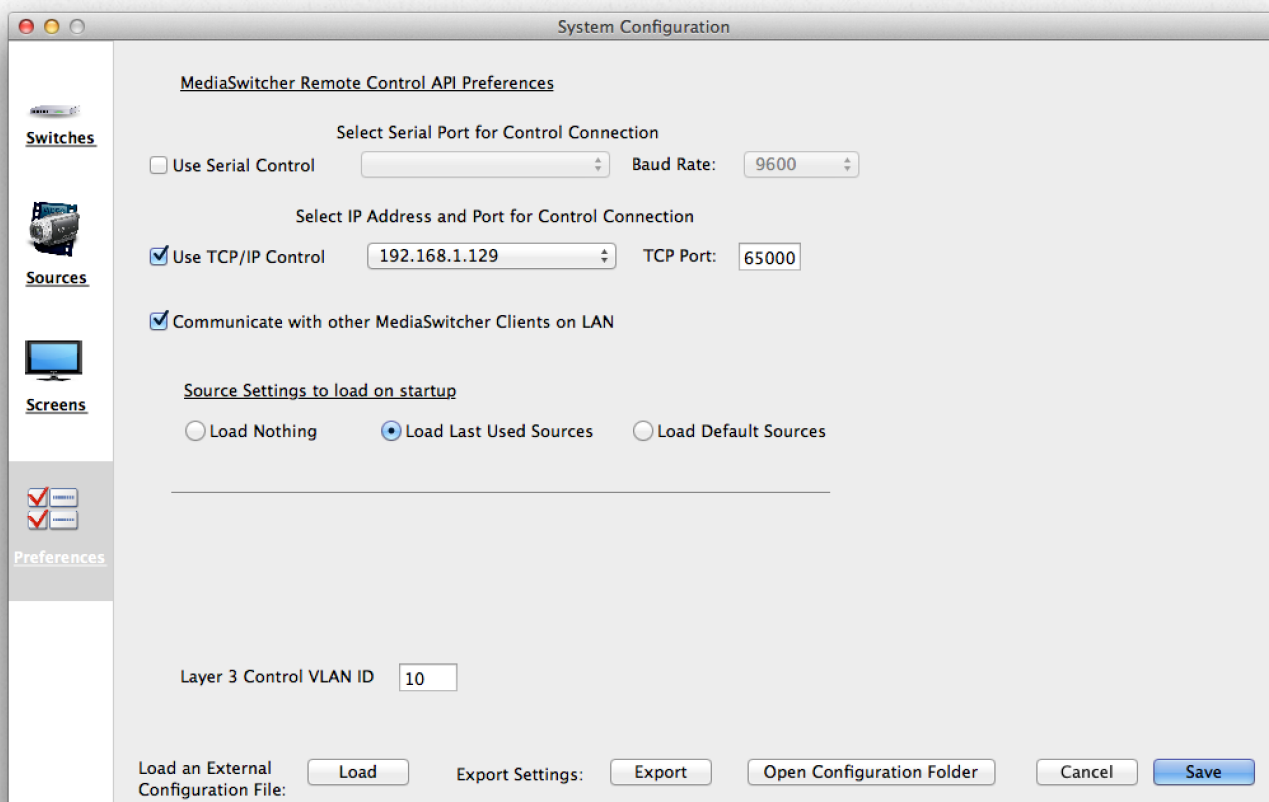
## Advanced Topics

---

# MediaSwitcher API for external control

MediaSwitcher™ contains an API (Application Programming Interface) allowing control of the software from external devices. This section of the manual will break out the format and commands of the MediaSwitcher Command Protocol™.

There are two different ways an external control system or application can interface with MediaSwitcher. The first is by using either telnet or RS-232 control. To set this up, please go to the configuration window and click on Preferences to show the preference screen:



If RS-232 control is desired, select “Use Serial Control” and set the baud rate. Then connect the MediaSwitcher computer via RS-232 to your control system.

If TCP/IP control is desired, select from the available IP addresses shown in the pop-up. If the computer running MediaSwitcher has just one active network interface, then only one address will be shown. If there are multiple network interfaces, select the correct one that will be used to interface with MediaSwitcher. Then set the port number to connect over. We recommend using a high port number like the default 65000.

Any command sent over the RS-232 or TCP/IP connections will cause MediaSwitcher to execute and make those changes as well as update its user interface.

The second form of communication with MediaSwitcher is via UDP packets. Sending commands via UDP can be used to send commands to multiple MediaSwitcher clients (web or desktop) that are running on the network. Unlike TCP/IP, UDP communications are not guaranteed. Therefore, MediaSwitcher uses UDP communications for user interface updates only. So commands sent via UDP, will cause MediaSwitcher's interface to change and update, but the control system will need to make the actual changes on the switch.

To use UDP, have the control system connect first to the MediaSwitcher UDP group at IP address 229.236.236.236. MediaSwitcher clients are set to listen on this address. All UDP commands are then sent to this address.

The commands used for communication are identical regardless of method used to connect.

## **Commands:**

### **Command Conventions:**

- Carriage Returns: This manual identifies the carriage return character by the use of <cr>. The actual "<cr>" characters are not to be sent, but instead, the appropriate carriage return symbol or string in the control system. Many times this is like \x0D or \r\n or similar.
- Source and Screen Numbers: Sources and screens are numbered beginning with 1 as the first screen or source entered in the MediaSwitcher configuration window and going up to the final number of sources or screens.
- Presets, Sequences and Groups are also numbered with the first item being created as number 1 and going up from there.

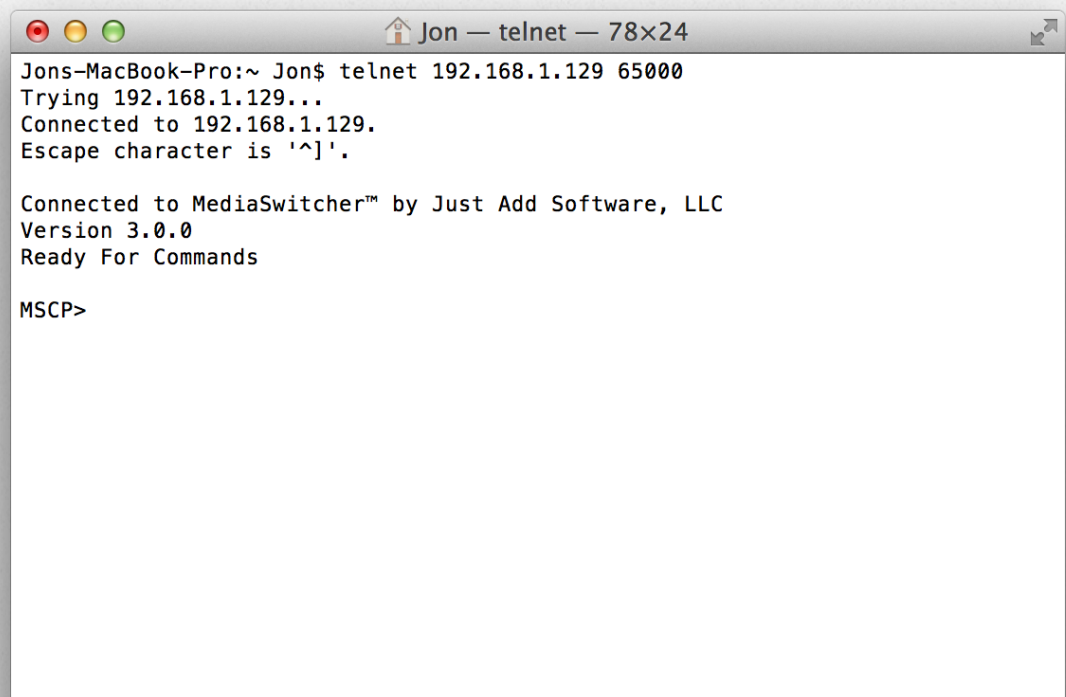
If a TCP/IP (telnet) connection is made, a “MediaSwitcher” shell appears and provides a prompt along with feedback (RS-232 does not yet provide feedback. UDP will not provide feedback by design).

### TCP/IP specific commands:

Using a TCP/IP connection, specific commands can be sent to the system to query information:

`sources?<cr>`

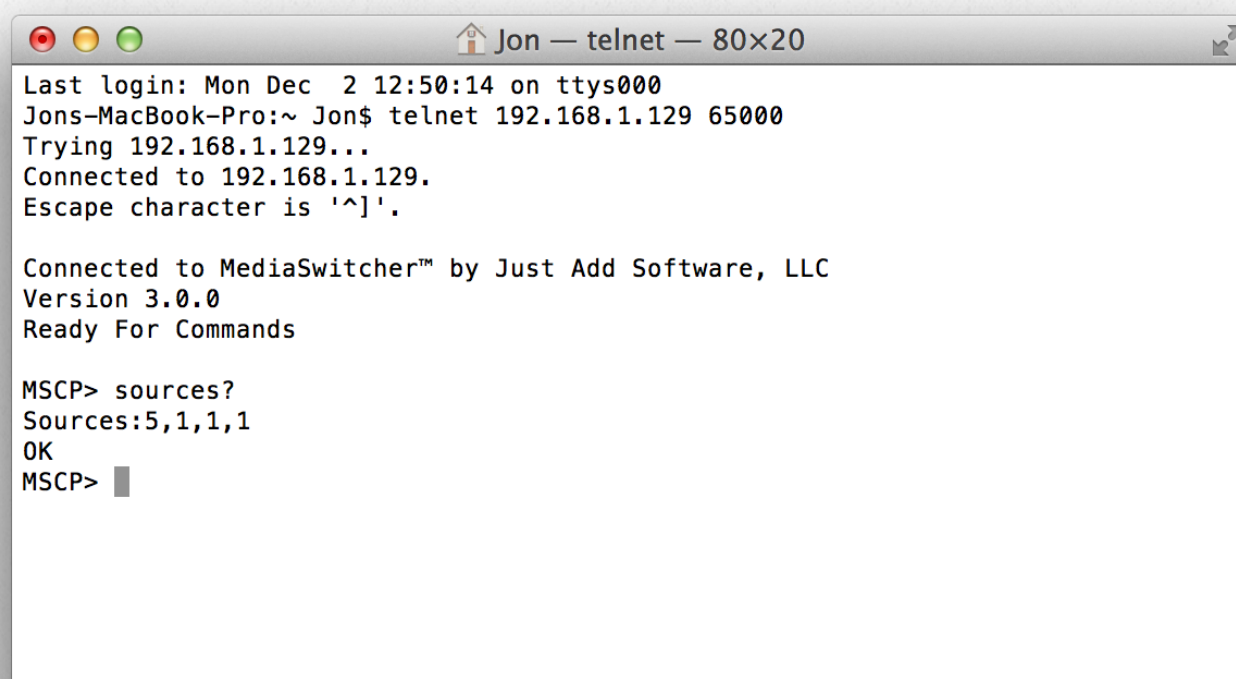
Responds with a numbered list of what sources are set on each screen:



```
Jon — telnet — 78x24
Jons-MacBook-Pro:~ Jon$ telnet 192.168.1.129 65000
Trying 192.168.1.129...
Connected to 192.168.1.129.
Escape character is '^]'.

Connected to MediaSwitcher™ by Just Add Software, LLC
Version 3.0.0
Ready For Commands

MSCP>
```



```
Jon — telnet — 80x20
Last login: Mon Dec  2 12:50:14 on ttys000
Jons-MacBook-Pro:~ Jon$ telnet 192.168.1.129 65000
Trying 192.168.1.129...
Connected to 192.168.1.129.
Escape character is '^]'.

Connected to MediaSwitcher™ by Just Add Software, LLC
Version 3.0.0
Ready For Commands

MSCP> sources?
Sources:5,1,1,1
OK
MSCP> █
```

In this example, there are four screens as there are 4 numbers returned (we also know this from our setup). The response contains the word “Sources:” followed by a list of the source number currently assigned to each screen beginning with the first. So in this example, screen 1 is on source 5 and screens 2, 3 and 4 are on source 1.

MediaSwitcher responds with “OK” after each successful command and then gives the command prompt. If a command is incorrect, invalid or contains other incorrect information, MediaSwitcher responds with, “MediaSwitcher Command Processor encountered an error.”

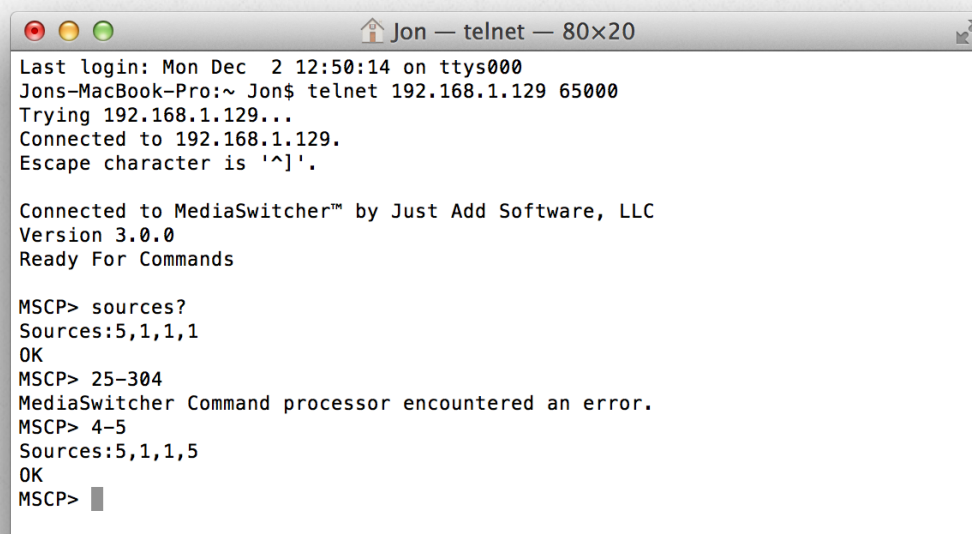
### Setting Sources on Screens:

Screen#-Source#<cr>

For example, if you wanted to set screen 4 to source 5, the command would be:

4-5<cr>

where <cr> is a carriage return. The second character is the dash, -, and is required.



```
Jon — telnet — 80x20
Last login: Mon Dec 2 12:50:14 on ttys000
Jon-MacBook-Pro:~ Jon$ telnet 192.168.1.129 65000
Trying 192.168.1.129...
Connected to 192.168.1.129.
Escape character is '^]'.

Connected to MediaSwitcher™ by Just Add Software, LLC
Version 3.0.0
Ready For Commands

MSCP> sources?
Sources:5,1,1,1
OK
MSCP> 25-304
MediaSwitcher Command processor encountered an error.
MSCP> 4-5
Sources:5,1,1,5
OK
MSCP> █
```

When using TCP/IP connections, MediaSwitcher reports back the new source assignments for each screen after successful completion of the command. As can be seen above, the fourth screen is now on source 5.

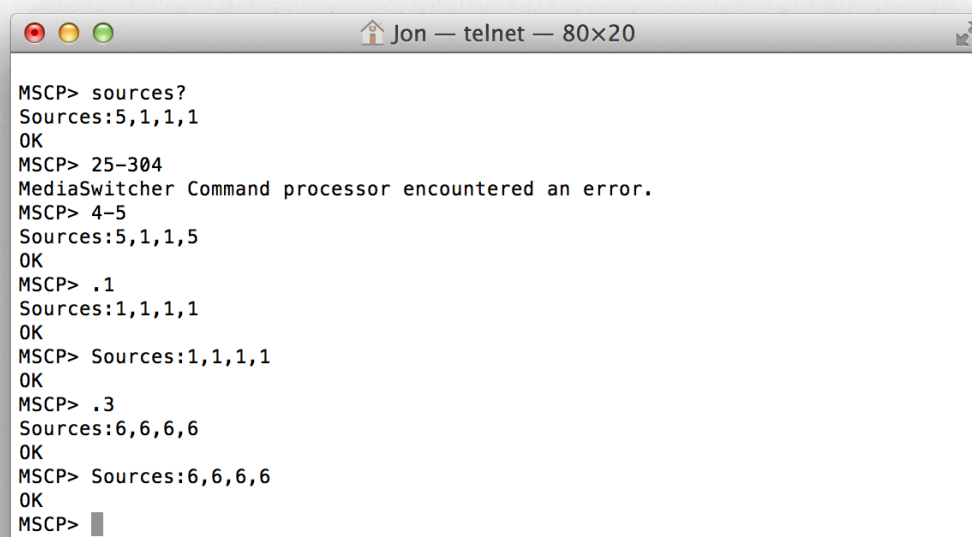
### Setting a Preset:

.Preset#<cr>

For example, if you wanted to set the system to preset 3, the command would be:

.3<cr>

where <cr> is a carriage return.



```
Jon — telnet — 80x20

MSCP> sources?
Sources:5,1,1,1
OK
MSCP> 25-304
MediaSwitcher Command processor encountered an error.
MSCP> 4-5
Sources:5,1,1,5
OK
MSCP> .1
Sources:1,1,1,1
OK
MSCP> Sources:1,1,1,1
OK
MSCP> .3
Sources:6,6,6,6
OK
MSCP> Sources:6,6,6,6
OK
MSCP> █
```

In the example to the right, sending .3 sets all screens to source number 6 which is what is configured for that preset.

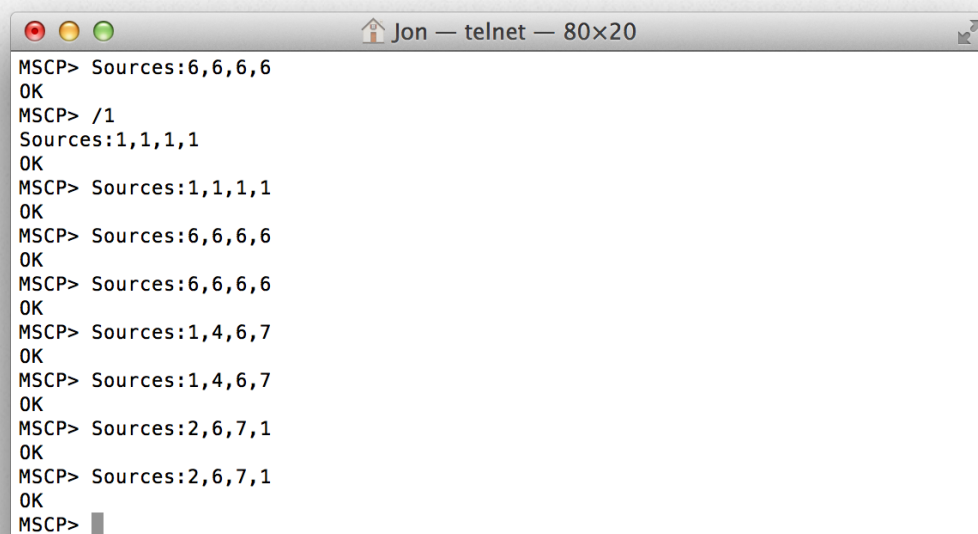
## For Starting a Sequence:

/Sequence#<cr>

For example, if you wanted to start sequence 2, the command would be:

/2<cr>

Where again, <cr> is a carriage return.



```
Jon — telnet — 80x20
MSCP> Sources:6,6,6,6
OK
MSCP> /1
Sources:1,1,1,1
OK
MSCP> Sources:1,1,1,1
OK
MSCP> Sources:6,6,6,6
OK
MSCP> Sources:6,6,6,6
OK
MSCP> Sources:1,4,6,7
OK
MSCP> Sources:1,4,6,7
OK
MSCP> Sources:2,6,7,1
OK
MSCP> Sources:2,6,7,1
OK
MSCP>
```

To stop a sequence from executing type /00<cr>.

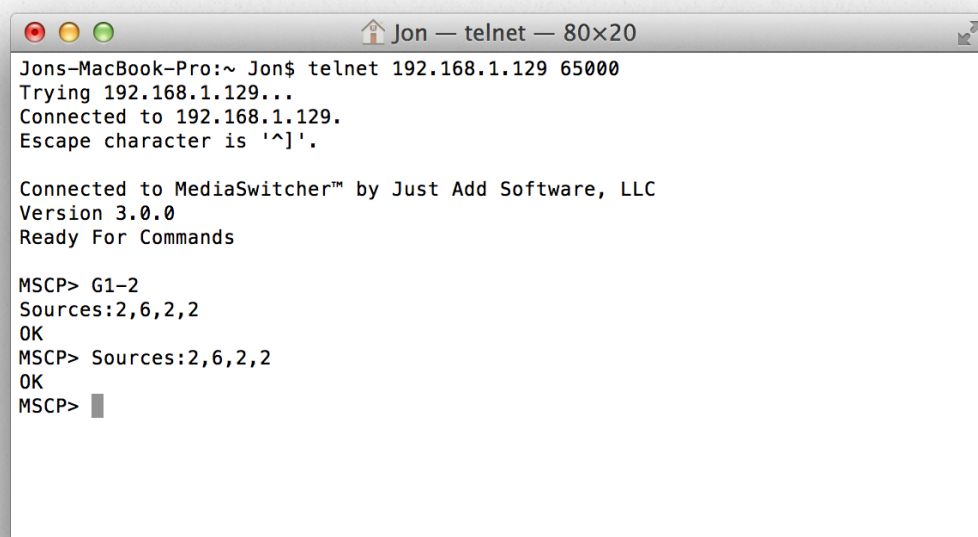
## For Changing the Source of a Screen Group:

GGroup#-Source#<cr>

So for example, to set Group 1 to Source 2, the command would be:

G1-2<cr>

As shown in the image on the right, the software reports back the source values as they are being set.



```
Jon — telnet — 80x20
Jons-MacBook-Pro:~ Jon$ telnet 192.168.1.129 65000
Trying 192.168.1.129...
Connected to 192.168.1.129.
Escape character is '^]'.

Connected to MediaSwitcher™ by Just Add Software, LLC
Version 3.0.0
Ready For Commands

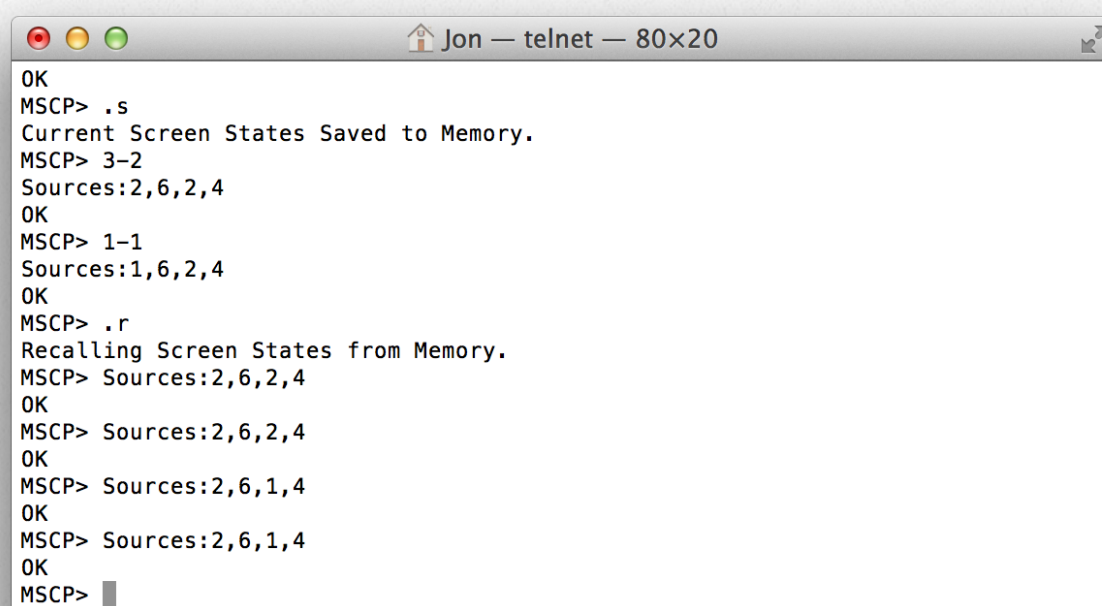
MSCP> G1-2
Sources:2,6,2,2
OK
MSCP> Sources:2,6,2,2
OK
MSCP>
```

## Save and Recall to Memory:

Sometimes it may be desired to temporarily save (and later recall) the current source value for each screen without creating a preset or saving it as default. The MediaSwitcher Command Protocol allows for this to happen. Save the current source values to memory. Make any desired changes and later recall the original values from memory. Please note that if MediaSwitcher quits for any reason, the source values saved to memory will be lost. To save and recall, issue the following commands:

- .s<cr> - Saves the current source settings to memory
- .r<cr> - Recalls the current source settings and applies them.

The image below shows an example of using save and recall in operation:



```
Jon — telnet — 80x20
OK
MSCP> .s
Current Screen States Saved to Memory.
MSCP> 3-2
Sources:2,6,2,4
OK
MSCP> 1-1
Sources:1,6,2,4
OK
MSCP> .r
Recalling Screen States from Memory.
MSCP> Sources:2,6,2,4
OK
MSCP> Sources:2,6,2,4
OK
MSCP> Sources:2,6,1,4
OK
MSCP> Sources:2,6,1,4
OK
MSCP> 
```

### Video Wall Control:

Video Wall Control using the MediaSwitcher Command Protocol was working in MediaSwitcher 2. Due to the changes in the video wall for MediaSwitcher 3, it has temporarily been disabled. It will be added back in a future release.

This command protocol also works via the following interfaces:

### Keyboard:

Using any keypad, the main window can be controlled by typing the appropriate keys. MediaSwitcher™ must be the active application with the main window as the active window in order for this to work. When using the keyboard, the carriage return is not used after commands. Enter the command minus the carriage return and about 2 seconds after the command is finished, the change will be executed. So for example to set screen 1 to source 3, just type: 1-3.

MediaSwitcher™ also supports the Bitwise Controls BC-IRI IR to RS-232 module (<http://www.bitwisecontrols.com/bc-iri.php>). This device recognizes Sony or NEC IR codes and converts them into data that is readable from the RS-232 serial port. MediaSwitcher™ is set up to recognize and interpret IR codes from NEC device code 0. The Pronto Hex codes for NEC device 0 are available from Bitwise Controls at: [http://www.bitwisecontrols.com/downloads/NEC\\_0-255.zip](http://www.bitwisecontrols.com/downloads/NEC_0-255.zip). They are also available from Just Add Software at: [http://downloads.justaddsoftware.net/BCIRI\\_RemoteCodes.zip](http://downloads.justaddsoftware.net/BCIRI_RemoteCodes.zip).

Because of the limited amount of IR codes needed to control the video matrix at this time, MediaSwitcher™ recognizes the codes for the following keys in the NEC remote files:

Digits 0-9  
Delimiter (the “-” key)  
Enter  
Favorites  
List

Commands sent via IR are sent in the same way as detailed in the section on the MediaSwitcher™ Control Protocol. The “-” character is represented by the Delimiter IR code. For presets the “Favorites” IR code is used instead of a period. And for Sequences, the List IR code is used instead of the forward slash. There is no support for Groups or Save and Recall using the BC-IRI. Please contact Just Add Software support at [support@justaddsoftware.net](mailto:support@justaddsoftware.net) for more information or help with the IR remote control feature.

#### Multiple MediaSwitcher™ Copies on LAN:

If you have multiple copies of MediaSwitcher™ on your LAN, they can be configured to communicate with each other so that if a change is made on one client, those changes are seen on all clients that have this feature enabled. To enable this be sure to check the “Communicate with other MediaSwitcher Clients on LAN checkbox in the preferences section of the configuration window.

# MediaSwitcher Export File Format

The configuration file for MediaSwitcher™ 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 MediaSwitcher™ the spreadsheet is simply exported as a CSV file. It can then be loaded into MediaSwitcher™ 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 MediaSwitcher™ 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 MediaSwitcher™ does not save these comments. So any configuration file written over by MediaSwitcher™ 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.

# Utility Programs



MediaSwitcher™ 3 includes two utility programs: MediaButtons™ and MediaCommand™.

## MediaButtons™:

MediaButtons™ allows for control of a single video screen using user defined icons for the individual source buttons. An example MediaButtons screen is shown above.

In this example, it is assumed that there are 5 different cable or satellite boxes, with each tuned to the channel icon dropped into place. Clicking on the channel icon will cause the computer running MediaButtons™ to connect to the computer running MediaSwitcher™ and the video source will be changed to that particular box. This program can be very useful for example, in corporate environments where there might be a computer in a conference room and it is desired to be able to switch the video in that conference room be-

tween different sources. Any picture or icon of any size can be dropped into the appropriate button in the application (they are blank by default) and that icon/image will then be loaded.

As the window is re-sized and moved around, the location and position of the buttons will change in an attempt to display them properly in the window. Please note that at this time, using a large number of icons (>15) will slow down loading of the program and rearrangement of the icons during resizing may not function properly. This is a known issue and will be fixed at some point in the future.

For instructions on setting up and configuring MediaButtons™ please see the MediaButtons™ Initial Setup document included with this distribution.

### **MediaCommand™:**

MediaCommand™ is a command line/shell utility that is used to allow command line control of MediaSwitcher™. This enables MediaSwitcher™ to effectively be scripted. Commands to control MediaSwitcher™ can be included in a batch file or script.

MediaCommand™ uses the MediaSwitcher™ Command Protocol as its command line arguments. Commands can be entered using the following syntax:

#### **Windows:**

```
mediacommand screen#-source# [IP_Address_of_MediaSwitcher Port_of_MediaSwitcher]
```

#### **OS X and Linux:**

```
./mediacommand screen#-source# [IP_Address_of_MediaSwitcher Port_of_MediaSwitcher]
```

The items IP\_Address\_of\_MediaSwitcher and Port\_of\_MediaSwitcher are optional but if used, BOTH must be included. If they are not used, there must be a file called "MediaCommand.ini" in the following directory:

OS X: ~/Library/Preferences/JustAddSoftware

Windows XP: c:\Documents And Settings\USERNAME\Application Data\JustAddSoftware

Win 7: c:\users\USERNAME\AppData\Roaming\JustAddSoftware

That file needs to have 2 lines in it:

- IP Address being used by MediaSwitcher
- Port on which to connect to MediaSwitcher

This file can be created and saved using any text editor.

So for example in Windows, let's say you want to change screen 1 to source 2 with MediaSwitcher running on a machine with an IP address of 192.168.1.10 and using port 65000. You would execute the following:

```
mediacommand 1-2 192.168.1.10 65000
```

On Mac or Linux this would be:

```
./mediacommand 1-2 192.168.1.10 65000
```

Alternatively, if the MediaCommand.ini file exists the commands would simply be:

```
mediacommand 1-2 for Windows and
```

```
./mediacommand 1-2 for OS X and Linux.
```

Any MediaSwitcher™ Control Protocol command can be sent using this utility. Please see the MediaSwitcher IP section of this manual.

MediaCommand™ is contained inside its own folder within the MediaSwitcher distribution. It also includes a library folder that must stay with it in order for it to properly run.

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