



Matrix Control Center

MediaSwitcher™

User Manual V1.2

Just Add  **Software**

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Introduction

Just Add Software's MediaSwitcher™ software allows fast and simple control of the Just Add Power HD over IP™ video distribution system. The software is very flexible and can be configured to any combination of video screens and sources. Configuration of the program can be done via entry inside the software or by loading a comma delimited text file that conforms to the program specifications. In addition a utility is provided that allows configuration of the switch and VLANs.

MediaSwitcher™ supports switches from Dell, Cisco, Linksys, DLink, Netgear, HP and PackEdge. It is Just Add Software's intention to continually add support for additional models of switches. If you have a switch that needs to be supported please contact Just Add Software at support@justaddsoftware.net and request support for your switch. Depending on the brand and type of switch, a development charge may apply.

The software comes in two versions: Standard and Pro. The standard version offers switch configuration and basic control over what video source is shown on any screen. It is limited to a maximum of 8 video sources and 8 video screens.

The Pro version supports an unlimited number of sources and screens (1st Generation Just Add Power HD over IP™ products are limited to 200 screens) and also adds presets and sequences. A preset is a predefined source to screen relationship for all screens in your installation. MediaSwitcher™ supports an unlimited number of presets. This allows for nearly instantaneous switching of all screens in an installation to pre-defined sources. In addition, the Pro version supports a feature called "Sequences." A sequence is set of up to 20 presets which execute at given time intervals and/or time of day. For example, a user could want to have 5 different presets changed throughout the day. Rather than manually change each preset at the desired time, the user can simply set up a sequence where each preset is chosen for whatever time desired. An unlimited number of sequences is supported.

Both versions include an interactive switch console window where commands can be sent to the switch or the response from the switch can be seen.

MediaSwitcher™ also features the ability in both versions to be remotely controlled. Using a simple protocol, a user can send commands to change sources on a given screen and change presets or sequences (Presets and Sequences available in the Pro version only). Commands can be sent either via the keyboard, a TCP/IP connection or an RS-232 Serial connection. Additionally, users with multiple instances of MediaSwitcher™ on their LAN can configure the software so that the copies talk to each other and changes made on one machine are reflected on the others.

Getting Started

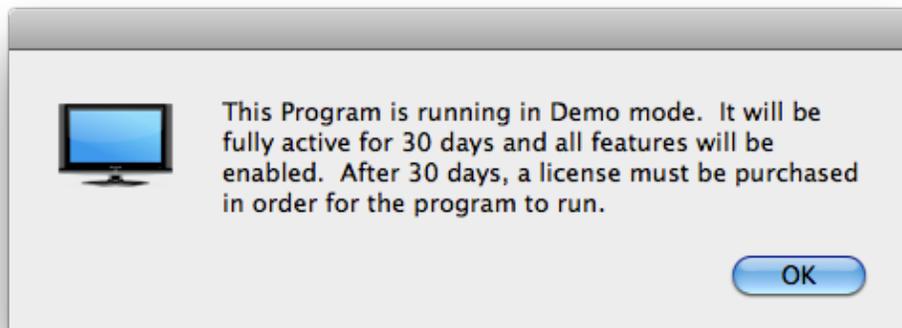
Out of Box Switch Configuration:

When the managed switch is initially installed or has a factory reset performed, the user will need to connect to the console port on the switch via serial cable. A terminal session will need to be opened and an initial switch configuration performed (for best results, Just Add Software recommends our “InstallerPro™” package to configure the switch). You can find this information in the Getting Started section of your switch documentation. There is generally a “wizard” that runs allowing you to set your IP address and other network information for the switch along with user name, password, etc. Once this is completed, all further configuration can be done via TCP/IP network connections in the MediaSwitcher™ software. For more information on initial switch configuration please see the Just Add Software/Just Add Power initial configuration application note for your brand/model of switch. These are available online at www.justaddpower.com or via an e-mail request sent to support@justaddsoftware.net.

Initial Startup of software:

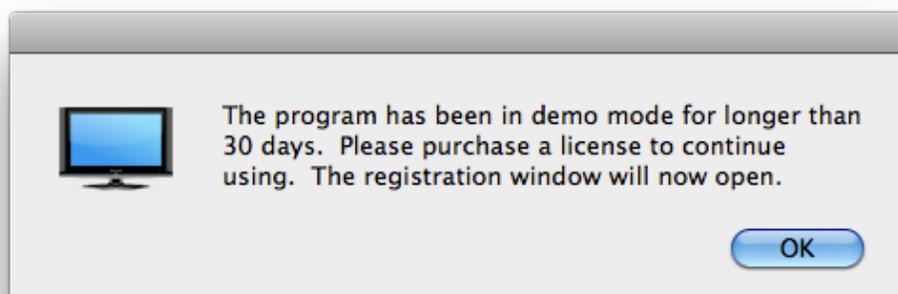
Demo Mode:

When the software is first installed, the user will be given a 30 day trial period in which to evaluate the software before purchase. All functions of the software will be active during this



time. Once the 30 day period is complete, a license code must be purchased. Without one, the software will not run. During the 30 day period, each time MediaSwitcher™ is started, a reminder window will be shown indicating the amount of time left in the trial period.

After the 30 day demo period, the message below will be shown.



After clicking, “OK”, the registration window will open (see section below on registration). If the user does not register at that time, the program will then quit.

New Configuration:

If this is a new install or no configuration has been saved, the window below will pop-up after the demo mode notice.



Since this is the first start-up of the software, no configuration file is present. The video matrix will need to be configured before it is possible to perform any operations. The main window will then appear as shown below.



To configure the HD over IP™ video matrix, please see the section entitled “Configuring the Video Matrix” beginning on page 6.

Version Checking:

Starting with version 1.2 of MediaSwitcher™, if an internet connection is present, the software checks to see if it is the most current version available. If a newer version has been released, a message will be displayed with the most current version and asking the user to contact Just Add Software or an authorized dealer for more information.

Registration:

Registration is required in order to use the program past the initial thirty day trial period. A separate registration code is required for each computer that will use this software. Follow these steps to receive a registration code:

1.) To open the Registration window in OS X, please go to the Application Menu and Select “Register.”



On Windows and Linux, “Register” can be found under the Help menu.

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 informatio and click "Send Registration Request."

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

Name:

Email Address:

Registration ID:

License Code:

Pro Version

Not registered

2.) Once Register is selected, the registration window will open. In this window, you will see a "Registration ID" code. Please send this code along with your name and e-mail address to registration@justaddsoftware.net. We will then process your registration request and provide you with a registration code which will enable operation. For convenience, a "request registration key" button has been provided (an internet connection is required to use this feature). Simply click this button and the registration request will be e-mailed to Just Add Software. If requesting a registration key for the Pro version of the software, please make sure that the Pro version checkbox is checked (default). MediaSwitcher™ is not shareware and a purchase must be made in order to receive a license code. Once the software purchase is verified, a registration code will be e-mailed to the email address specified in the registration request. The standard and Pro versions have different registration codes, but the standard version can be upgraded to the Pro version at any time. Contact your authorized Just Add Software dealer or distributor for more details.

Upon receipt of the registration code, enter your name, email address and the registration code exactly as provided. Failure to do so will result in a notice of an invalid registration code. Once registered a "thank you" notice will appear and the text in the registration window will change to "Registered."

The registration code is tied to the hardware and settings in your computer. If you change computers or make significant hardware changes, your code will become invalid. Please contact Just Add Software or your authorized dealer/distributor if this happens.

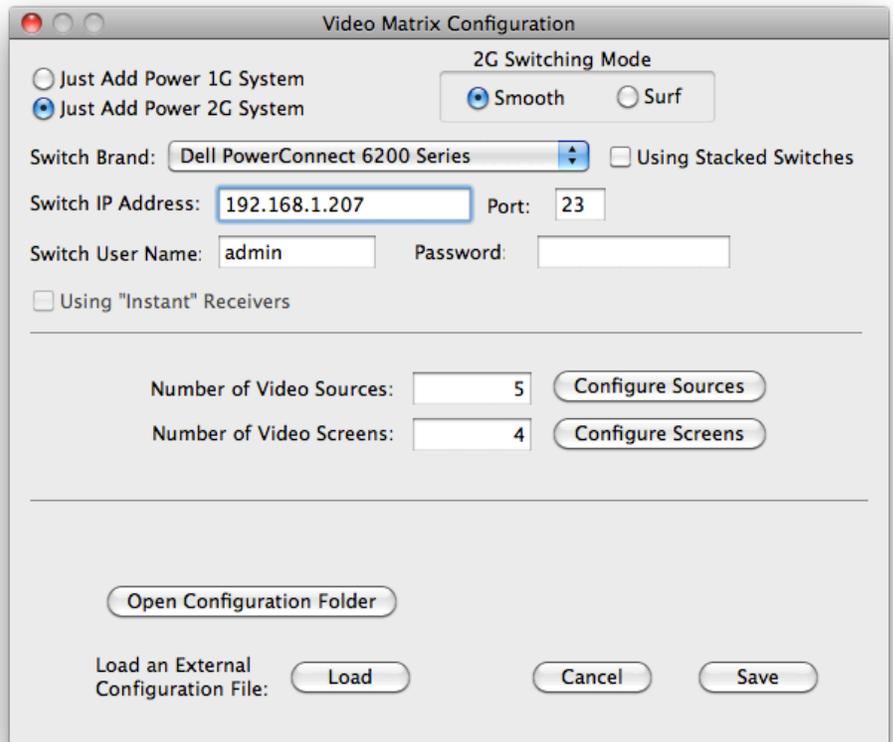
Configuring the Video Matrix

Configuration Window:

Open the configuration window by going to the Window menu and selecting Configuration Window. Alternatively, you can use Shift-⌘-C in OS X or Shift-Alt-C in Windows and Linux. The window below will be shown.

Select 1G or 2G System: Select which generation of Just Add Power HD over IP™ product that will be used. The two generations are not compatible and the 2G system requires a gigabit Ethernet switch. The default is 1G.

2G Switching Mode: This option is visible only if a 2G system has been selected. For most users, the default “smooth” mode will provide the best operation. For those installations where screens need to be switched rapidly and only remain on a source for just a few seconds, choose surf mode. It is recommended to leave this setting in the default “Smooth” mode unless instructed otherwise.



Switch Brand: Choose the brand/model of switch being used. This list will vary depending on which generation of product was selected in the previous step.

Using Stacked Switches: If a stacked switch configuration is being used, check this box. Stacking is when 2 or more switches are connected together and acting as one switch. All switches must be the same brand and firmware revision. See your switch manual for more information on stacking.

Switch IP Address: Enter the IP address that was set during the initial configuration of the switch. Please note that your computer will need to have a network adapter that is on the same subnet as this IP. If you attempt to operate MediaSwitcher™ without an address on the same subnet as the switch, you will be given a notice indicating this.

Port: This is the telnet port used to connect to the switch. The default is 23 and will rarely need to be changed.

Switch User Name: This is “admin” for most switches. If a user name was configured during initial setup of the switch that is different, please enter that name here. The field can be left blank for Cisco 2960 and HP ProCurve switches as they do not use the username.

Password: This is the password for the switch that was configured during its initial setup. Please note that a password is required for Cisco 2960 switches when being managed over TCP/IP. Please see the Just Add Software Application Note on configuring Cisco Switches for more information. For other brands, a password is optional but recommend as having a password also allows MediaSwitcher™’s configuration to be locked preventing accidental or unauthorized changes to the configuration.

Using Instant Receivers: “Instant Receivers” is a special configuration of extra Just Add Power HD over IP™ receivers that allow instantaneous switching of TV monitors without any delay. Without “Instant Receivers” if a Just Add Power HD over IP™ transmitter is not connected to a screen, the data stream stops. If a receiver is then connected to the same VLAN as the transmitter, the data stream will start but this process takes a few seconds and during this time, the screen will be blank. In order to prevent this, Just Add Power and Just Add Software recommend using extra receivers that always stay connected to their respective video sources. These receivers are not connected to any screens but instead allow for true matrix wide instant switching. If using these receivers, check this box. The instant receiver function is only available on 1G systems.

Sources: This is the number of video sources in use. Click the “Configure Sources” button to enter your source information.

Screens: This is the number of television screens/monitors being used in the installation. For first generation Just Add Power systems, the number of screens is limited to 200. Second generation systems do not have this limitation.

Open Configuration Folder: Clicking this button will open the folder containing the MediaSwitcher™ configuration files.

Load an External Configuration File: One of the advantages of the MediaSwitcher™ platform is that all configuration files are stored as comma delimited text files. A master template can be created and used across multiple installation sites or computers. Clicking this button will allow the user to load a previously generated MediaSwitcher™ compatible configuration file. Please see the appendix section of this user manual for information on the file format.

Configuring Sources:

Clicking the “Configure Sources” button will open the source configuration window.

Fill in the name of the sources, the physical port number on the switch used by the source’s Just Add Power HD over IP™ transmitter, and the desired VLAN ID. Depending on the number of sources, the size of the window will change.

Navigation between fields in this window can be accomplished by using tab and shift-tab to move between fields on the same line. To move between fields in the same column use the up and down arrow keys. If there are more sources than space available in the window, a scroll bar will appear allowing the user to scroll the additional fields into view. Scrolling can be accomplished by using the arrows on the scroll bar, by using the up or down arrows on the keyboard when moving between fields, by using the tab key to move between fields or by using the scrolling abilities of a mouse or trackpad.

The screenshot shows a window titled "Source Configuration" with a table of source configurations. The table has six columns: Source Name, Switch Port #, VLAN ID, Stack #, Instant Port #, and Instant Stack. The sources listed are Tivo Premier, Tivo HD, AppleTV, Vudu, DirectTV1 through DirectTV8, and BluRay1 through BluRay3. At the bottom of the window, there is a checkbox for "Delete Existing VLANs", a "Setup VLANs on Switch" button, and "Cancel" and "OK" buttons.

Source Name	Switch Port #	VLAN ID	Stack #	Instant Port #	Instant Stack
Tivo Premier	1	2	1	2	1
Tivo HD	3	3	1	4	1
AppleTV	5	4	1	6	1
Vudu	7	5	1	8	1
DirectTV1	9	6	1	10	1
DirectTV2	11	7	1	12	1
DirectTV3	13	8	1	14	1
DirectTV4	15	9	1	16	1
DirectTV5	17	10	1	18	1
DirectTV6	19	11	1	20	1
DirectTV7	21	12	1	22	1
DirectTV8	23	13	1	24	1
BluRay1	1	14	2	2	2
BluRay2	3	15	2	4	2
BluRay3	5	16	2	6	2

The example above is a 15 source installation using stacked switches and instant receivers. The Instant Port # field represents the physical switch port to which the Just Add Power HD over IP™ Instant Receiver is connected. Instant Stack is the switch stack number for the Instant Port.

Note that the “Stack #” and “Instant Stack” fields will only be available if “Using Stacked Switches” is checked on the configuration window. “Instant Port” and “Instant Stack” will only be available if “Using Instant Receivers” is checked on the configuration window. “Instant Receivers” are only available with 1G HD over IP systems.

Once, all source information has been entered, click “Setup VLANs on Switch.” This will send the configuration commands to the switch to create and name the VLANs and set the HD over IP™ transmitters to the proper VLAN IDs. If Instant Receivers are being used, these will be assigned to the proper VLAN ID as well. If deleting any existing VLANs is desired, check the “Delete Existing VLANs” checkbox prior to clicking the “Setup VLANs on Switch” button. This will delete all VLANs numbered 2 through 99.

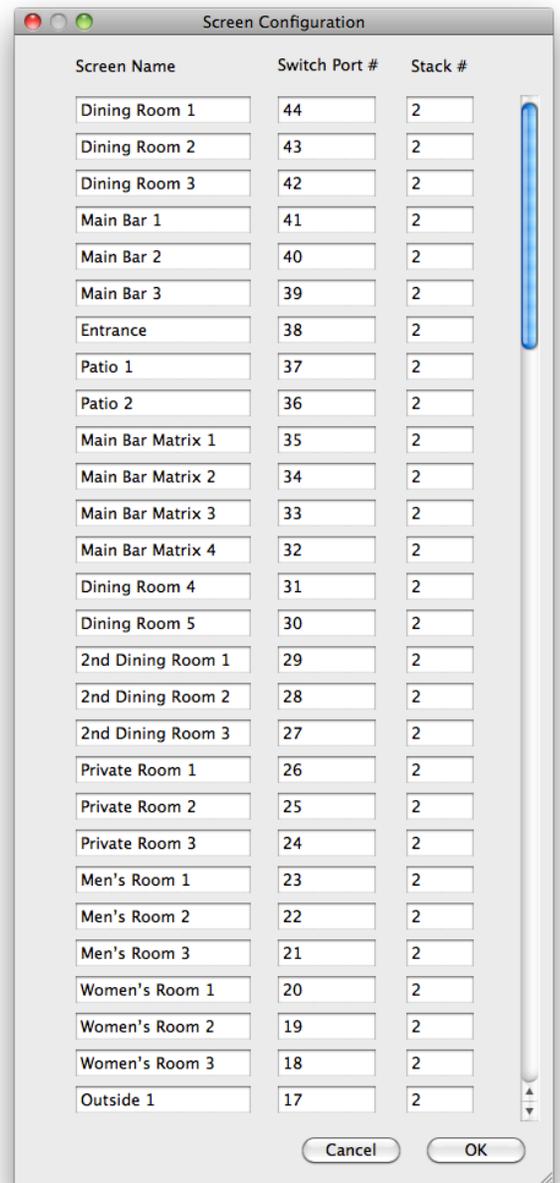
Once the “Setup VLANs on Switch” button has been pressed, the text will change to show that this step has been completed. Then click the “OK” button to save the changes and exit the window. The Cancel button will discard any changes in the window (but any commands sent to the switch will not be reversed). If you do not wish to configure the VLANs via MediaSwitcher™ only click the OK button. The window will close and the configuration window will be in the foreground again.

Configuring Screens:

The next step is to configure the screens. Click on the “Configure Screens” button. The screen configuration window will then appear. An example is shown here of a 30 screen application using stacked switches. If stacked switches are not used, the “Stack #” column will not be visible. Note that the first 28 screens only are shown as this was what would fit in the window when this screen capture was taken. The remaining two screens can be made visible by scrolling them into view. Scrolling works the same way as described above in the source window.

Once all screen information is complete, please click the “OK” button to save the screen data and send the configuration commands for each device to the switch. To discard changes, click “Cancel.” The window will then close and the main configuration window will be in the foreground.

Once screens and sources have been configured, the configuration is now ready to be saved. Click the “Save” button to save the configuration to disk or click cancel and discard all changes (remember if you clicked the “Setup VLANs on Switch” button, the switch is still programmed). For convenience, the configuration file is saved as a comma delimited text file named “MSwitcherPrefs” in the following locations:



OS X: Home Directory/Library/Preferences/MediaSwitcher/

Win XP: C:\Document and Settings\USERNAME\Application Data\MediaSwitcher\

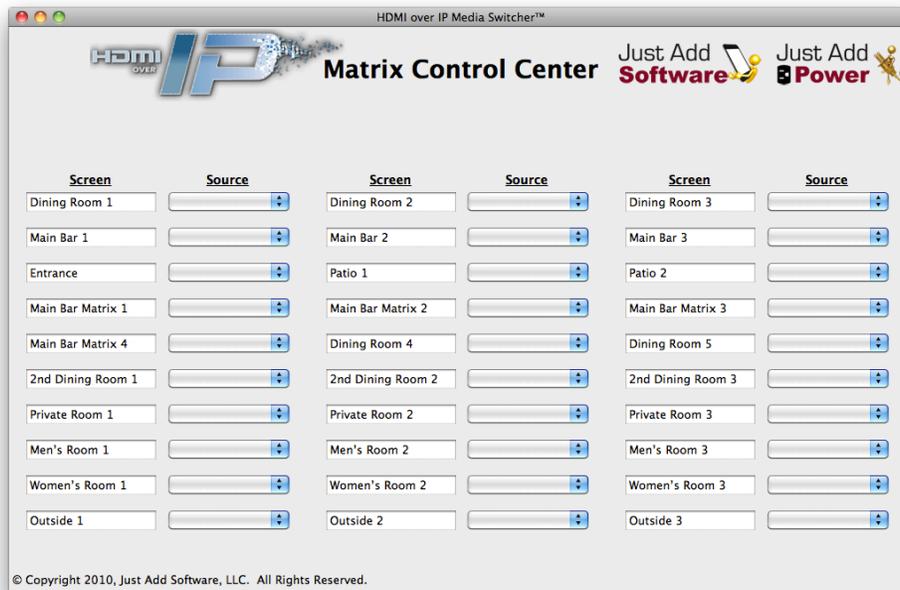
Win 7: C:\Users\USERNAME\ApplicationData\Roaming\MediaSwitcher\

Linux: /V/lib/MediaSwitcher/

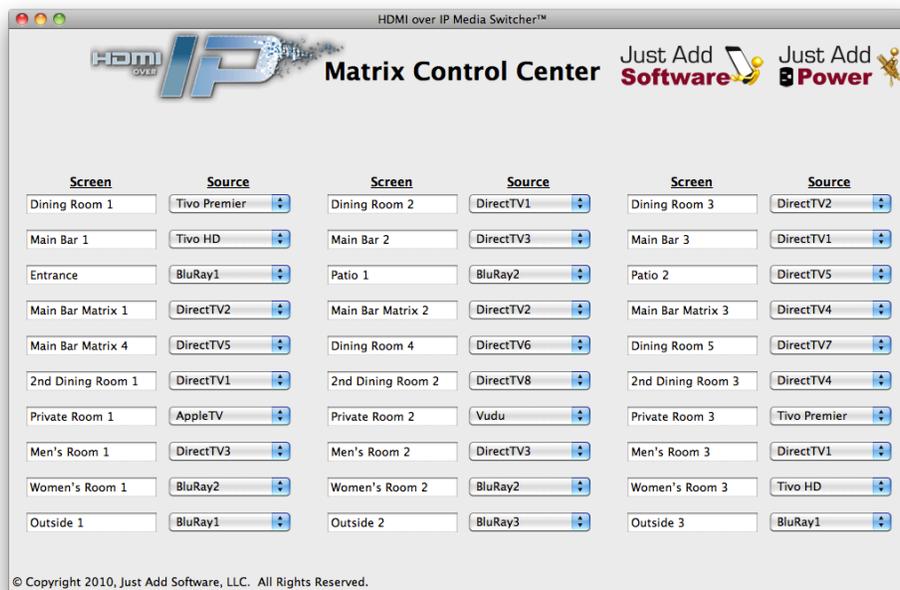
Please see the Advanced Topics section of this document for the format for creating your own configuration file using an external editor such as Excel and then for loading that file.

Main Window Operations

Once the video matrix has been configured, the main window will show a text box with the name of each configured screen. Next to the screen name will be a pop-up menu with a pick list of the available sources. Below is what the main window would look like using our 30 screen example given above.

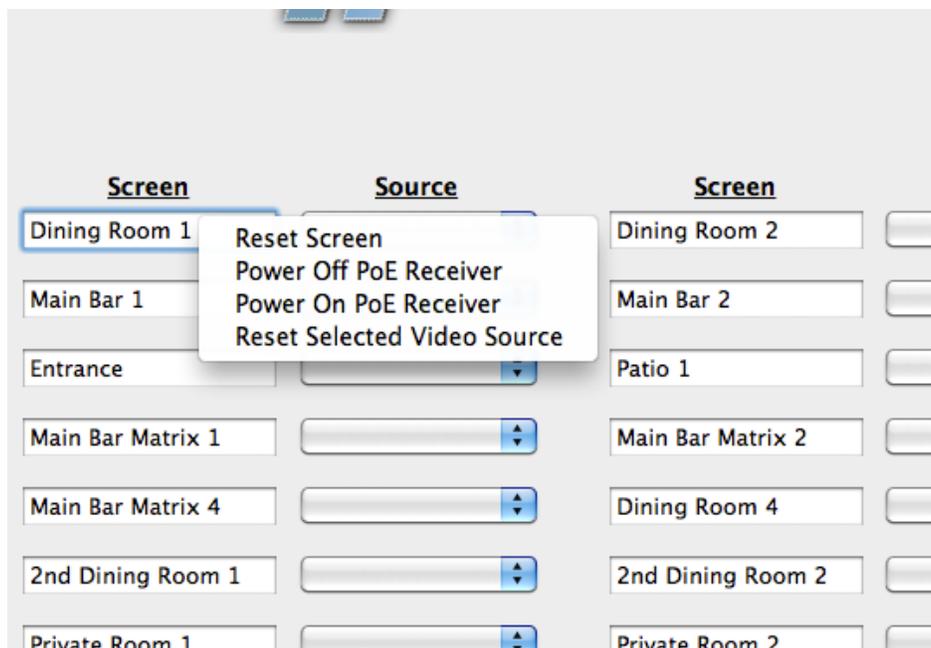


To change a source for a particular screen, select the source you wish to view. The commands will be sent to the switch to assign the HD over IP™ receiver of the screen you've specified to the VLAN of the source picked. The picture below shows a populated main window with sources picked for all screens.



For convenience, it is possible to enter screen and source combinations on the keypad and have them automatically recognized by the software. The format is screen # - source #. So to set screen #1 to source #5, simply enter 1-5 and after approximately 3 seconds, the program will automatically change screen number 1 to source number 5. Screen 10 to source 15 would be 10-15 and so on. This allows for remote wireless keypads to be used away from the computer running the software.

Each screen has a contextual menu that can be accessed by a right mouse click over the screen text field. This contextual menu allows the user to reset the port to which the screen's receiver is connected (see explanation in the Switch Monitoring and Diagnostics section) as well as turn the Power over Ethernet (PoE) to the receiver on or off (only works with PoE switches and Just Add Power PoE receivers). Additionally if a source is selected, the user can



reset the selected video source port from this menu as well. On Windows and Linux, once a source has been selected, the pop-up control also has a contextual menu that will allow the user to reset the selected source.

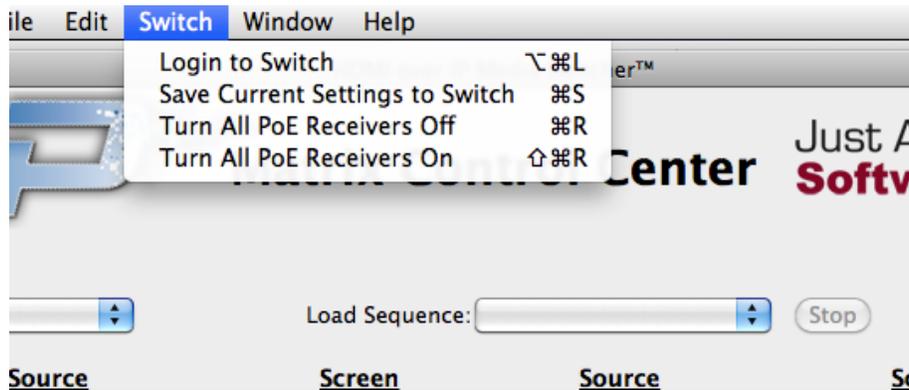
Switch Menu:

The main window also contains a menu item labeled "Switch." This menu allows sending some additional commands to the switch that can be quite useful:

- * Login to Switch - This command will send a new login sequence to the switch. This function is useful, particularly on Linksys switches which have a difficult login sequence. If the switch is busy processing commands when a login is attempted, the login may not be successful and any commands sent to the switch will be ignored. If changing video sources in MediaSwitcher™ is having no effect, try using this command to force a new login to the switch.

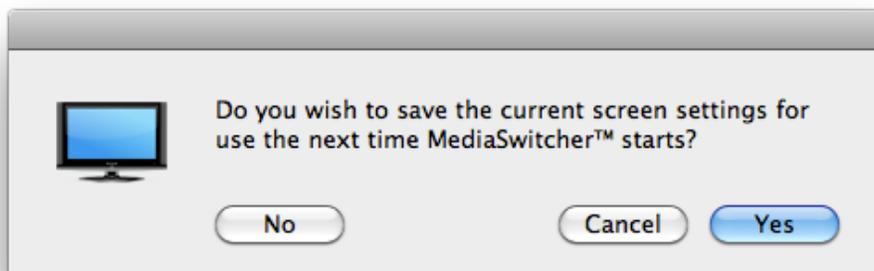
- * Save Current Settings to Switch - This command will cause the switch to save all of its current settings (including VLAN port assignments) to its non-volatile flash memory. In the event of a power failure and subsequent reboot, the switch will start-up with the last saved configuration. So it is recommended, that if the user has a default main window configuration that this be saved to the switch so that in the event of a switch reboot, power failure, etc, all screens will come back to the desired setting.
- * Turn All PoE Receivers Off - If using a PoE switch and Just Add Power HD over IP™ PoE receivers, issuing this command will turn off the PoE on all ports, thereby turning off the receivers. Note that this will not turn off the screens attached to the receivers.
- * Turn All PoE Receivers On - This is the opposite of above. All PoE ports are powered on and all Just Add Power HD over IP™ PoE receivers will be turned on. This will not turn on the corresponding screens - just the HD over IP™ receiver.

Below is an image of the Switch menu:



Quitting:

If the user clicks the close box on the main window or chooses quit from the File/Application menu a dialog will pop-up asking if the user wishes to save the current screen settings for use the next time MediaSwitcher™ starts. If "Yes" is clicked, the current source to screen settings will be saved to disk. The next time MediaSwitcher™ is started, this configuration will be loaded and the screens set to the same sources as when the program quit. If "No" is selected, the program will just quit and the next time it is started any previously saved screen settings will be loaded if they exist (if no settings have been saved, all screens will come up blank).



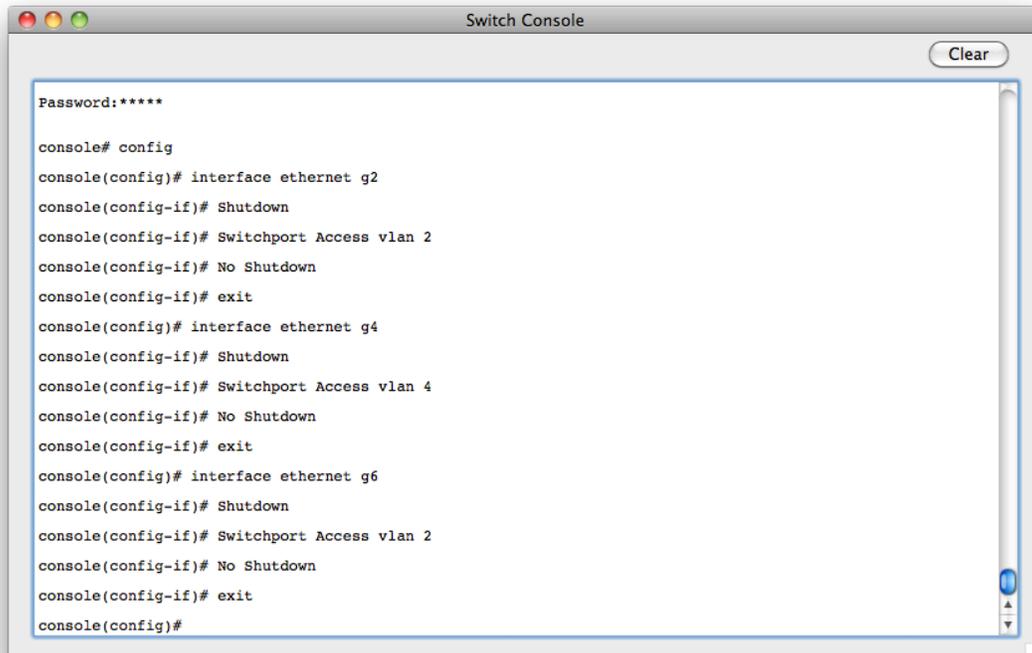
Cancel will re-open the main window and not quit the program. This can be disabled in the Preferences menu (see the preferences section).

Display of this dialog can be turned off in the preferences window (see page xx). If start-up settings have already been saved, this can be safely turned off and the settings will always load at startup.

Saving the start-up settings for MediaSwitcher™ only saves the settings to disk. It does not save the settings as the default startup settings for the switch itself. The default startup settings for the switch can be a completely different set of sources for each screen. See the “Save Current Settings to Switch” on page 14 for more information.

Switch Console Window

The Switch Console Window can be accessed from any window in the program via the Window menu or by entering ⌘-M in OS X or Alt-M in Windows or Linux. The Switch Console window is a fully interactive text console allowing the user to see the output from the switch as well as send CLI commands back to the switch. Clicking on “Clear” will clear all receive buffers and blank the window thereby allowing for a clean view of text received back from the switch.

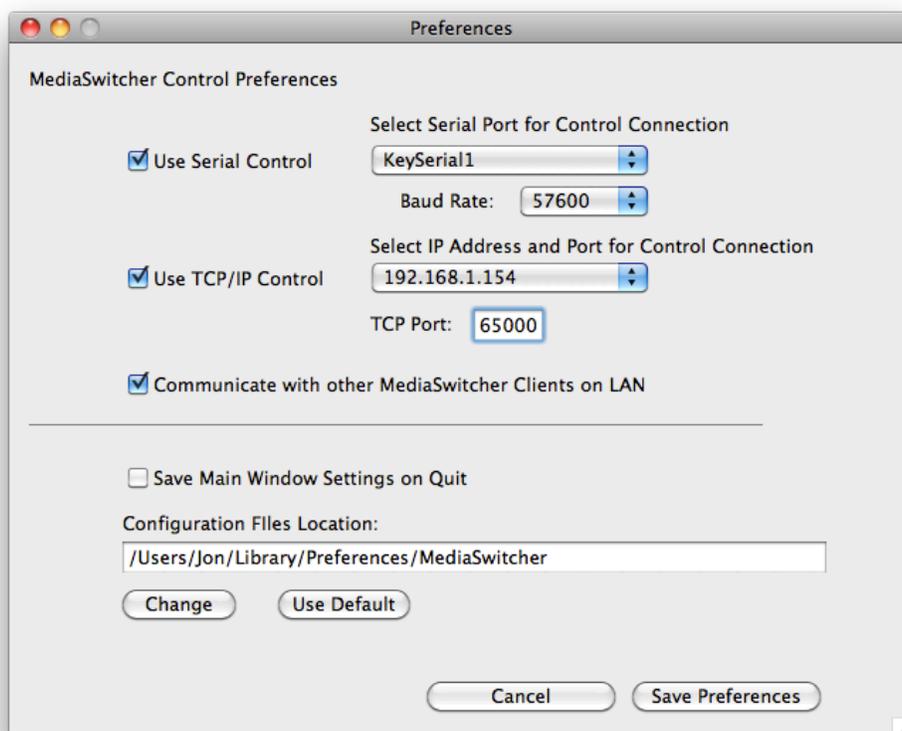


Setting Preferences

MediaSwitcher™ 1.2 features several user definable preferences that modify specific functions of the software. The preferences window is accessed from the Preferences Menu (under the Application Menu in OS X and under the Help Menu in Windows and Linux) or by typing ⌘-, in OS X or Alt-, in Windows and Linux .



Once selected, the preferences window looks as below:



Use Serial Control: If use serial control is checked, a pop-up menu will be enabled allowing the user to specify a serial port on the computer allowing remote control of MediaSwitcher™ via an RS-232 connection using the MediaSwitcher™ Command Protocol (discussed later). Select the desired serial port and desired baud rate from the list and MediaSwitcher™ will listen for commands on that port. See the section on remotely controlling MediaSwitcher™ in the Advanced Topics are of this manual for further information.

Use TCP/IP Control: If Use TCP/IP Control is checked, a pop-up menu will be enabled allowing the user to select the desired Network Interface (NIC) to be used for remote control of MediaSwitcher™. The IP addresses of each NIC on the computer are shown in the pop-up menu. Select the IP address of the desired NIC and enter the desired TCP port in the port box (default is 65000). MediaSwitcher™ will then be configured the listen for MediaSwitcher™ Command Protocol commands on that IP address and port. See the Command Protocol section for the list of commands.

Communicate with other MediaSwitcher™ Clients on LAN: If this box is checked in an environment running multiple copies of MediaSwitcher™, changes made on one MediaSwitcher™ client will be reflected in others running on the same LAN. All clients wishing to communicate must have this box checked (It is highly recommended that all clients communicate with each other but not all clients on a LAN are required to communicate with the other clients.).

Save Main Window Settings on Quit: If this box is checked (default), when MediaSwitcher™ is quit, the user will be asked if they wish to save the current main window settings for the next time the program starts up (see page 14 of this manual). Once a startup configuration has been saved, this box can be unchecked so as to eliminate the message upon quit. The startup configuration will continue to be loaded when the program starts.

Configuration Files Location: By default, MediaSwitcher™ stores its configuration files in the following locations:

OS X: ~/Library/Preferences/MediaSwitcher

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

Win7: c:\users\USERNAME\AppData\Roaming\MediaSwitcher

Linux: /usr/lib/MediaSwitcher

It may be desirable in environments with multiple copies of MediaSwitcher™, that all copies utilize the same set of configuration files. For example, a shared drive accessible by all clients could be used to store the files. If this is the case, simply click the “change” button and navigate to the desired storage folder or type the path in the location box. To return to the default location, click the “Use Default” button.

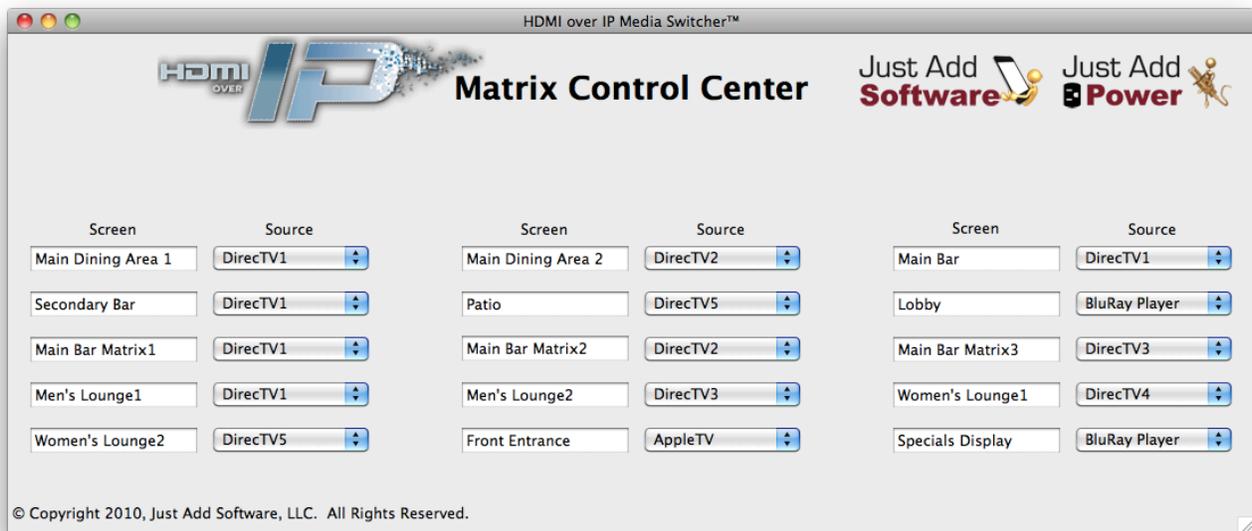
Click “Save Preferences” to make the changes permanent and exit the preferences window or hit cancel to exit without saving.

Pro Version Features

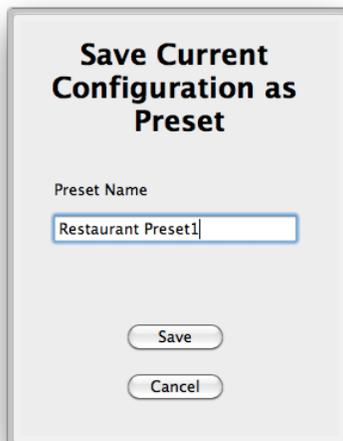
The Pro version of MediaSwitcher™ is designed for commercial applications where pre-configured screen to source relationships that occur on a regular basis are desired. MediaSwitcher Pro™ addresses this requirement in two ways: Presets and Sequences.

Presets:

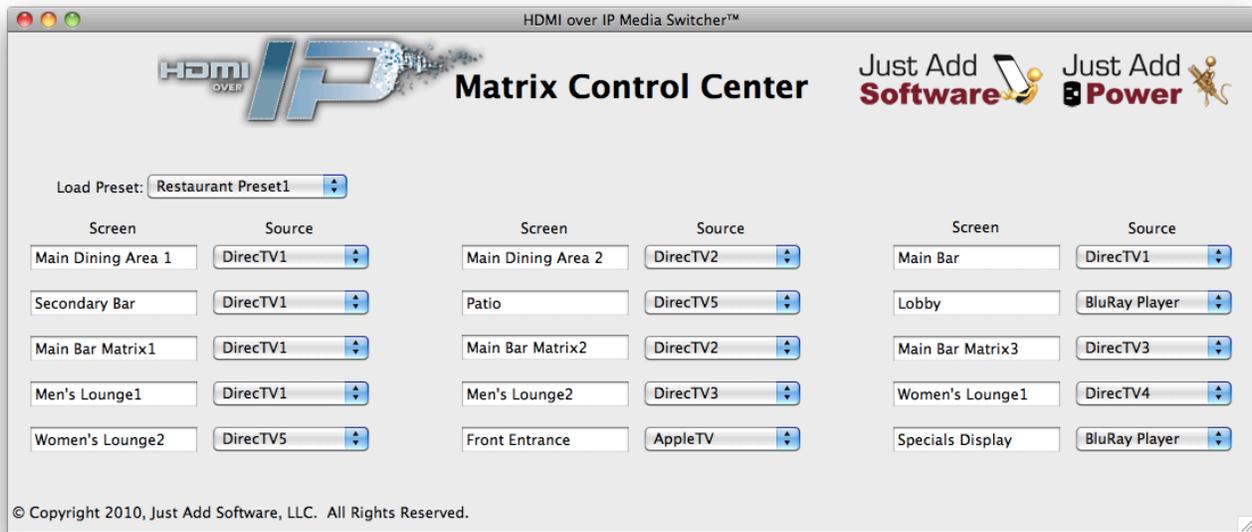
A Preset is a pre-defined set of sources for each of the user's screens. An example of a restaurant/sports bar is shown with sources defined similar to what may be used. In this example, we have 15 screens and 10 sources. Below is the main window for this setup:



To change a significant number of these screen-source relationships on a regular basis can be tedious at best. If this is a configuration that is regularly used, it can be saved as a preset. The simplest way to do this is to point to the File menu and select "Save Preset." Alternatively, the keystrokes ⌘-S in OS X and Alt-S in Windows and Linux can be used. A drawer window will then slide out in OS X and a floating window in Windows and Linux allowing you to save this setup as a preset:



Name the Preset and Click Save or hit cancel or click anywhere else in the window to close it. Now a new control will show up on the main menu where you can control what preset is being used:



To change the screen-source relationships for another preset, simply click on the preset control and select the desired preset from the list:



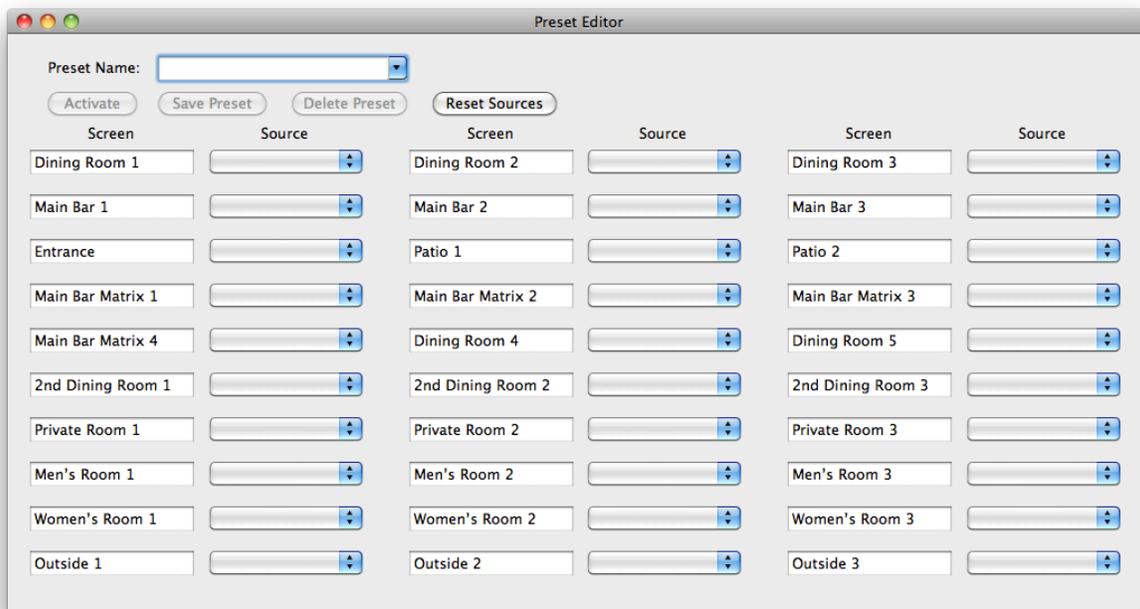
Note in the example how changing to “Restaurant Preset2” changed the sources on several of the screens.

Alternatively, presets can be changed from the main window using keypad entires. Presets are changed by entering a period/dot, “.”, followed by the number of the new preset. So to change to preset 2, the user would enter (without quotes), “.2”.

When saving the presets, if you attempt to name a preset with a name that already exists, you will be prompted if you wish to overwrite the existing preset.

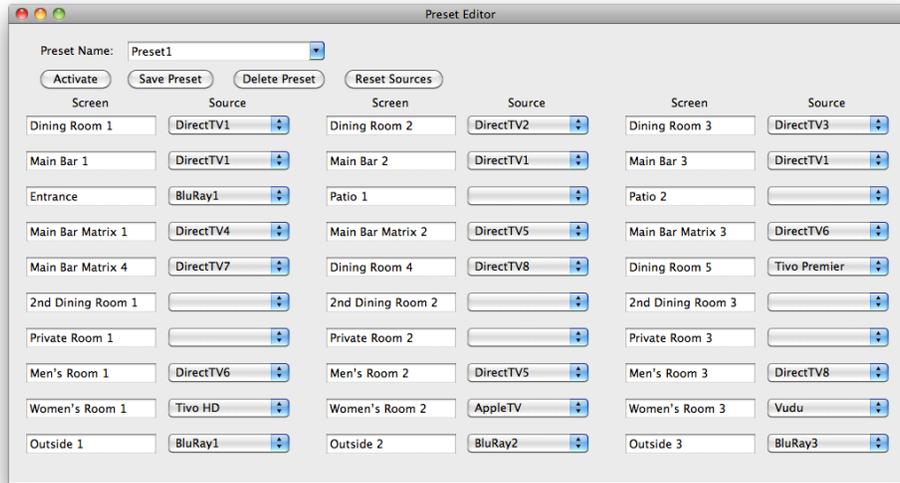
Preset Editor:

For more control over the presets including creating new presets without forcing a change in the existing screen-source relationships and deleting presets, a full ‘Preset Editor’ window has been provided. To open this window, select “Preset Editor” from the Window menu or alternatively Shift-⌘-P in OS X or Shift-Alt-P in Windows and Linux.

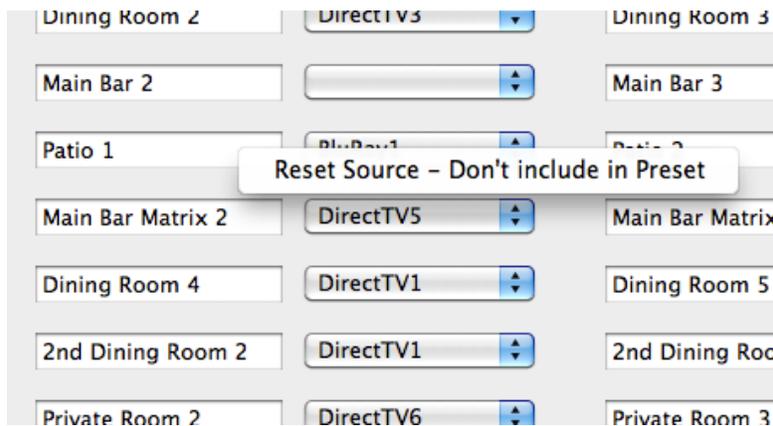


In this window, the contents of an existing preset can be changed and saved. Presets can be deleted as well. Changes to an existing preset name will be prompted to be sure you wish to overwrite the existing preset. To enter a new preset name, simply start typing in the “Preset Name” box. Then choose the sources for each screen and click on “Save Preset.” The preset will then be saved to disk and added to the list of available presets. In addition, presets can be activated (made the currently working preset) by clicking on the “Activate” button. MediaSwitcher™ supports an unlimited number of presets. Note that the “Activate”, “Save Preset”, and “Delete Preset” buttons may be grayed out and inactive unless all necessary information is provided (i.e.: preset name, sources picked for each screen, etc.).

When picking sources for screens, it is not necessary that every screen have a source picked. If a source for a particular screen is left blank, that screen will not change when the preset is activated. It will retain whatever source was set on the main window. This can be useful when a user desires to have pre-determined configurations for some screens but not for others. Please see the image below for an example of such a preset.



If a source is picked for a screen in a preset and later it is desired to leave that particular screen unchanged, the user can right click on the screen name. A menu will pop up that will allow the source to be reset and not included in the preset. Additionally, if the user wishes to reset all sources in a preset, the “Reset Sources” button can be pressed and this will blank all sources.



All preset data is saved in a comma delimited text file. Please see the advanced topics section of this document for further information on file specifications.

Preset Window:

The preset window is provided to allow quick switching between presets using buttons. This is sometimes easier and quicker than picking a preset from the pop-up menu pick lists. To open the preset window, go to the Window menu and select “Preset Window.” The image below shows an example of the Preset Window.

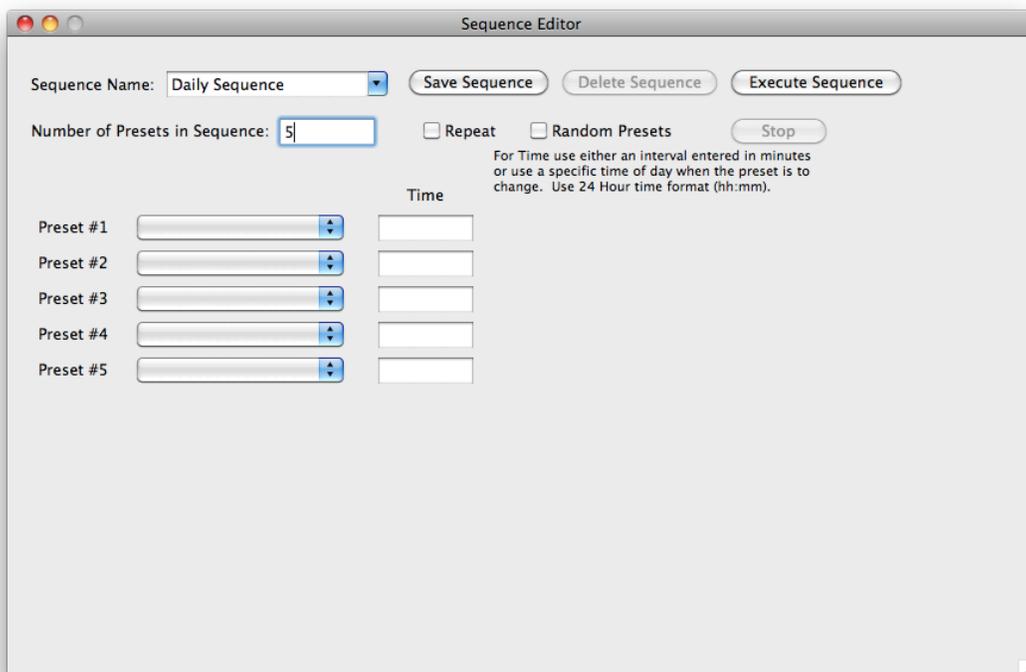


Sequences:

A sequence is a set of presets that execute on a user defined time interval (in minutes) or time of day (in 24 hour format) or a combination of both. Each sequence can contain up to 20 presets. MediaSwitcher™ supports an unlimited number of sequences.

To create, edit or delete sequences, open the Sequence Editor window. Go to the Window menu and select “Sequence Editor” or alternatively Shift-⌘-S in OS X and Shift-Alt-S in Windows and Linux.

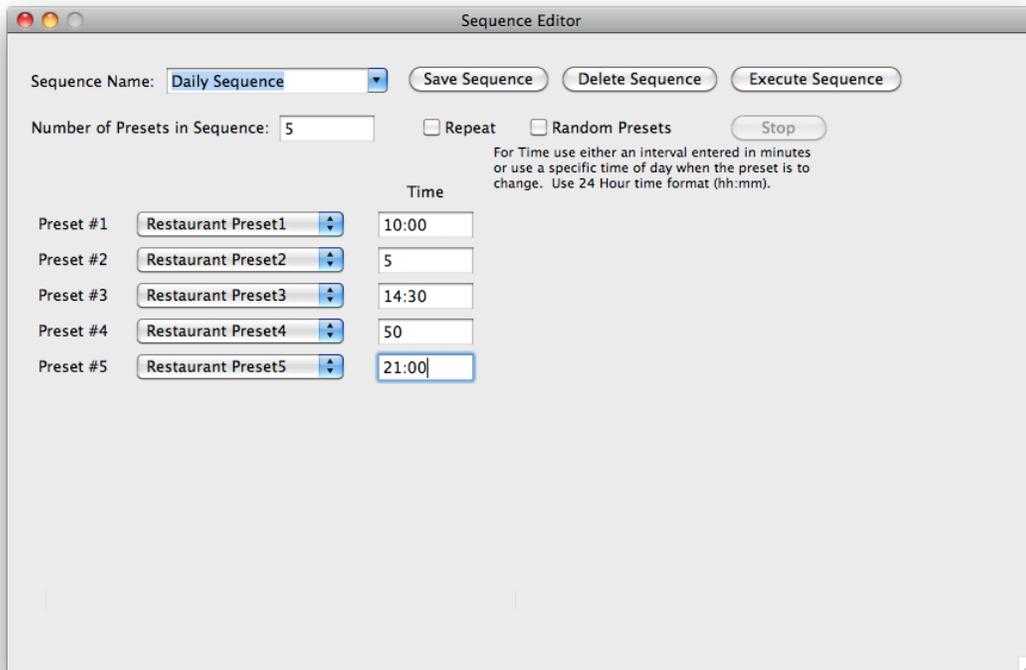
When the Sequence Editor opens, a name and the number of presets will need to be specified. Once this is complete, the window changes to what is shown below:



Pick the presets desired in this sequence and the number of minutes that the preset should be active or the time of day when the preset should change to the next preset. The time entered must be in 24 hour format (i.e.: 14:00 is 2 PM). Decimal values can be entered for partial minutes (ie: 0.5 is 30 seconds or 1.5 is 90 seconds) If a time entered is less than the current time when the sequence is started, then that preset will be active until that time the next day. If a random selection of presets is desired, click the “Random Presets” button. For the example shown, if the random button were pressed, 5 random presets would be used each running for the time specified for each preset.

If the “repeat” button is selected, the sequence will continue to execute without stopping until the Stop button is pressed.

Once the names of the presets and the time intervals are filled in, the window will look like:

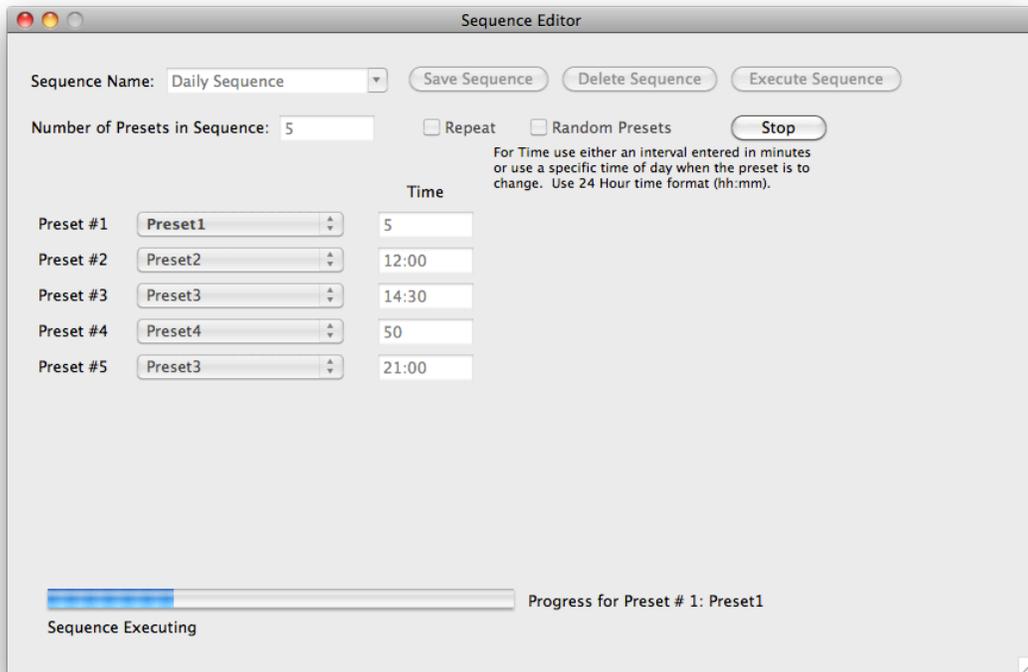


The execute sequence button is now enabled. It is recommended to save the sequence before proceeding. When one or more sequences have been saved, the “delete sequence” button will be enabled allowing the sequence to be deleted.

At any time, the number of presets may be changed by simply entering a new number of presets. The screen will update with additional fields to pick from and the sequence can be saved again.

If you attempt to edit a sequence and then save it or if you choose a name that is already saved in the sequence file a warning will be displayed that the sequence name already exists asking if you wish to overwrite it. Select yes to overwrite it or cancel (or no) to go back and edit the name of the sequence.

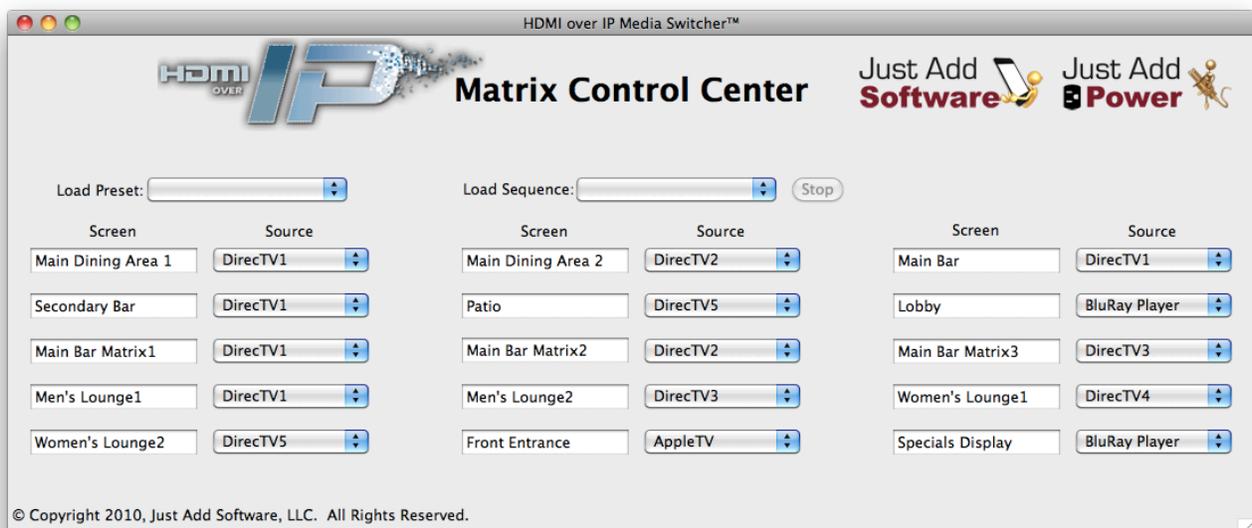
When the sequence is executing, a progress bar will show at the bottom of the window to give the user a graphical idea of the amount of time elapsed for the currently active preset. Additionally, the name of the active preset will be highlighted. Execution can be stopped at any time by pressing the stop button.



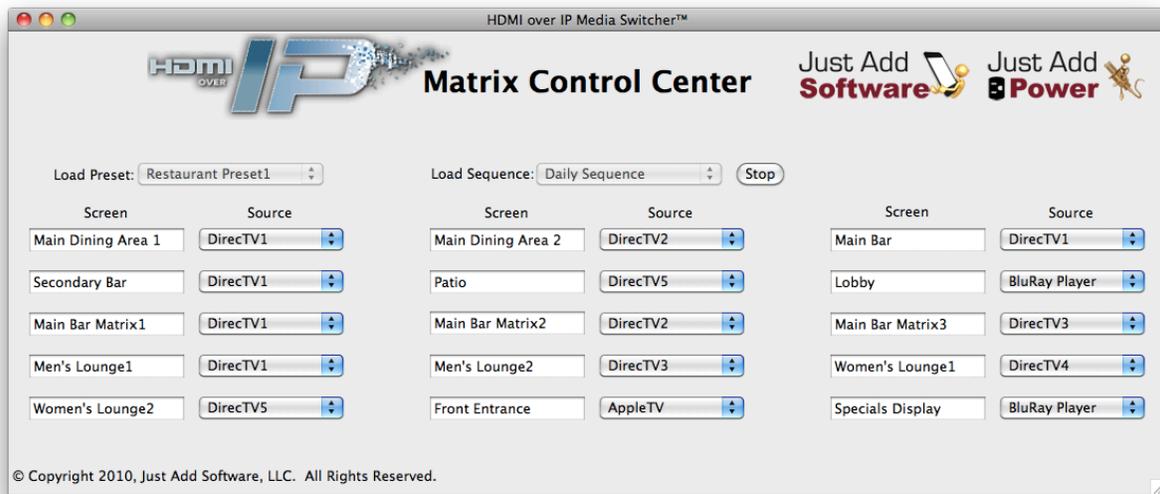
During the execution of a sequence all other controls are disabled so as to prevent accidental changes to the sequence.

When the “Repeat” button is checked, the Sequence will run until interrupted until the stop button is clicked. Using a properly crafted sequence, it is possible that a repeating 24 hour long sequence could be put into place that continually executes thereby completely automating the video control throughout the day for the restaurant.

In the main window, a new control for loading sequences will be shown.



Picking a sequence from the list will start the sequence running. Once running, the stop button is enabled and the “Load Preset” and “Load Sequence” controls will be disabled. All individual screen controls are enabled during execution of a sequence. This still allows individual screen changes to be made to meet customer requests and last minute configuration changes. The “Load Preset” control will show the name of the currently loaded preset and the screens will all be updated with the current source for the loaded preset. Note that sequences that repeat or use random presets cannot be run from the main window. Those must be run from the sequence editor window.



Alternatively, a preset can be started using key stroke commands. To start a sequence using key strokes enter the / key followed by the sequence number. So to start sequence 1 enter /1 and the sequence will start. Enter /00 to stop the execution of the sequence.

Advanced Topics

Remote Control of MediaSwitcher™:

MediaSwitcher™ can be remotely controlled in multiple ways enabling integration with a number of different control systems. Control is done via the MediaSwitcher™ Control Protocol which is a simple set of characters enabling full control of the video matrix.

For 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.

For 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.

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.

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

This command protocol 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

** RS-232 Serial:*

Using the RS-232 Serial port of your computer, MediaSwitcher™ can be controlled from other systems using RS-232. Set the baud rate in the preferences window to what is required from your control system. The control protocol works as shown above. For RS-232 connections, MediaSwitcher™ does not need to be the active program on the computer (just needs to be running) and the main window does not need to be the active window.

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. They are also available from Just Add Software at: 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. Please contact Just Add Software support at support@justaddsoftware.net for more information or help with the IR remote control feature.

** Telnet:*

By opening a Telnet session to MediaSwitcher™ on the port specified in the preferences window, the MediaSwitcher™ control protocol commands can be sent over TCP/IP. The commands follow the same protocol and rules as they do for RS-232. When using Telnet, MediaSwitcher™ does not need to be the active program on the computer.

** 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. When starting up, MediaSwitcher™ will use the currently active network interface for this communication. One item to note when using this

feature is that in MediaSwitcher™ 1.2, each client attempts to make its own connection to the switch. Some switches have a limitation on how many connections can be made simultaneously. This feature will be improved upon in upcoming versions of the software so that this will no longer be an issue.

Loading Configuration Files:

MediaSwitcher™ has 3 different configuration files. They are located at the following locations

OS X: ~/Library/Preferences/MediaSwitcher

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

Win7: c:\users\USERNAME\AppData\Roaming\MediaSwitcher

Linux: /usr/lib/MediaSwitcher

The three files are named: MSwitcherPrefs, Presets and Sequences - All are comma delimited text files.

MSwitcherPrefs:

Generation, 2G Switch Mode (1G or 2G for Generation & Smooth or Surf for 2G switch mode)

Number Of Sources

Number of Screens

Switch IP Address

Switch Brand

Switch UserName

Switch Password

Switch TCP Connection Port

Stacked Configuration - True or False

Instant Receiver Configuration - True or 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

Source #3 Name,Physical Ethernet Port,VLAN ID,Stack ID,Instant Port,Instant stack

.

.

.

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 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.

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

```
1G
10
5
192.168.1.2
Dell PowerConnect
admin

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:

```
1G
10
5
192.168.1.2
Dell PowerConnect
admin

23
False
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
```

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.

It is important that the switch brand/model be properly entered. The following models are currently supported at the time of the release of version 1.2:

1G Systems:

```
Dell PowerConnect
Dell PowerConnect 5400 Series
Dell PowerConnect 6200 Series
Cisco Catalyst
Cisco Catalyst Gigabit
DLink DES-3226L
Linksys SRW2 Series
```

Linksys SGE2000 Series
Netgear 7000 Series
HP ProCurve
HP ProCurve Gigabit
PackEdge

2G Systems (requires Gigabit):

Dell PowerConnect 5400 Series
Dell PowerConnect 6200 Series
Cisco Catalyst Gigabit
Linksys SRW2 Series
Linksys SGE2000 Series
Netgear 7000 Series
HP ProCurve Gigabit

An incorrect entry will bring up a message indicating that switch model is not supported.

Preset and Sequence Files:

Preset and Sequence files are also comma delimited text files, but as of right now, there is no way to load them when inside the program. The files can be edited or added directly to the MediaSwitcher™ folder in the directory location specified above. Just as long as they are named Presets and Sequences they will load. For convenience, the MediaSwitcher™ folder can be opened from inside the program by going to the configuration window and clicking on the “Open Configuration Folder” button. The formats for the files are shown below.

Presets:

Number of Presets

Preset 1 Name, Source for Screen 1, Source for Screen 2,...,Source for Screen x

Preset 2 Name, Source for Screen 1, Source for Screen 2,...,Source for Screen x

.
.

Last Preset Name, Source for Screen 1, Source for Screen 2,...,Source for Screen x

"x" is the final screen number. Some important points: The Source for Screen 1, etc. are the source numbers. But they are "0" based. Meaning the first source is 0. So if we have 4 sources, the source numbers are 0, 1 ,2 and 3. This may change in later versions of the program. If there are more screens than you have sources called out in the preset, the screen will then be loaded with the first source which is 0. If it is desired that a particular screen be skipped, enter a source value of "-1." You can have an unlimited number of presets.

Here are some example presets:

5
Restaurant Preset1,1,2,1,1,5,6,1,-1,-1,1,3,4,5,7,6
Restaurant Preset2,2,3,4,4,4,7,8,9,3,4,5,4,5,7,6
Restaurant Preset3,1,1,0,0,1,9,0,2,3,1,3,4,5,7,6
Restaurant Preset4,0,0,0,0,3,9,0,-1,3,1,3,4,1,9,1
Restaurant Preset5,0,0,0,0,3,9,0,2,3,4,6,4,1,9,1

Sequences:

Number of Sequences
Sequence Name1, Preset# Time, Preset# Time.....
Sequence Name2, Preset# Time, Preset# Time.....

Note that Time is either a time increment in minutes or a time of day in 24 hour format.

Each sequence can have up to 20 presets. MediaSwitcher™ supports an unlimited number of sequences. So the format for editing in Excel would be to put the sequence name in the first column, then in the second column it would be the preset number followed by a space and then the time in minutes or that preset or the time of day when you wish that preset to change to the next. Then go to the third column and enter the same for the second preset, etc. The preset numbers are 0 based. So the items that is your Preset 1 in the presets file is considered item 0.

This is the Sequence file that was used in the Sequences section of this document:

1
Daily Sequence,5,0 10:00,1 5,2 14:30,3 50,4 21:00