

Just Add Power Video System Overview

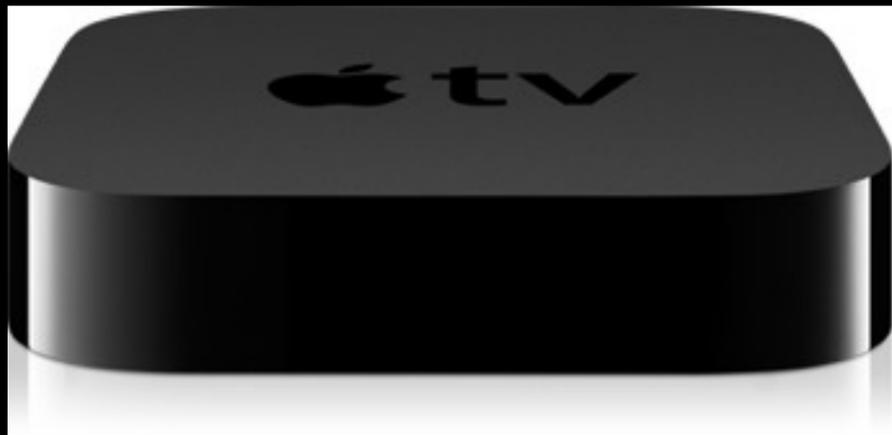


HD over IP - What is it?

- Provides an economical and scalable method of distributing video
- Can send multiple HD video sources to multiple HD video screens
- Easily scalable and expandable video matrix
- Uses standard CAT-5 cable and ethernet networks for video transport.
- HDMI is converted at the source to an IP data stream and passed to the network.
- IP data stream is converted back to HDMI at the receiver for delivery to video screen.

Why HDMI?

- Analog Sunset - HD Content over Component is going away
- Many “hot” new devices no longer include component outputs
- Examples: AppleTV, GoogleTV, Boxee Box



NONE OF THESE BOXES HAVE COMPONENT OUTPUTS!!

Standard HDMI Video Distribution



Traditional 4x4 and 8x8 matrix switchers cause HDCP handshake issues, are not scaleable, can not distribute properly, and are far from cost effective.

They also have long switching lag time

HDMI Baluns are unreliable and require more cabling with limited results

Just Add Power I G Hardware



Single Transmitter
\$349 MSRP



3 Input Single Rack Space
Transmitter
\$1299 MSRP



Receiver
\$300 MSRP



POE Receiver
\$399 MSRP

POE is Power Over Ethernet so with a POE switch no power supply is needed at display

I G System Facts

- Economical Solution for HD video distribution
- Streams at roughly 30 to 40 Mb/sec - JPE2G000 Compression
- There are compression artifacts particularly around some text
- Built in scaler - ideal in environments with mixed TV resolutions
- Features instant, seamless switching
- Supports 16x16 to 2048x2048 resolutions

Just Add Power 2G Hardware



Single Transmitter
\$599 MSRP



POE Receiver
\$699 MSRP



3 Input Single Rack Space
Transmitter
\$1999 MSRP



Receiver
\$599 MSRP



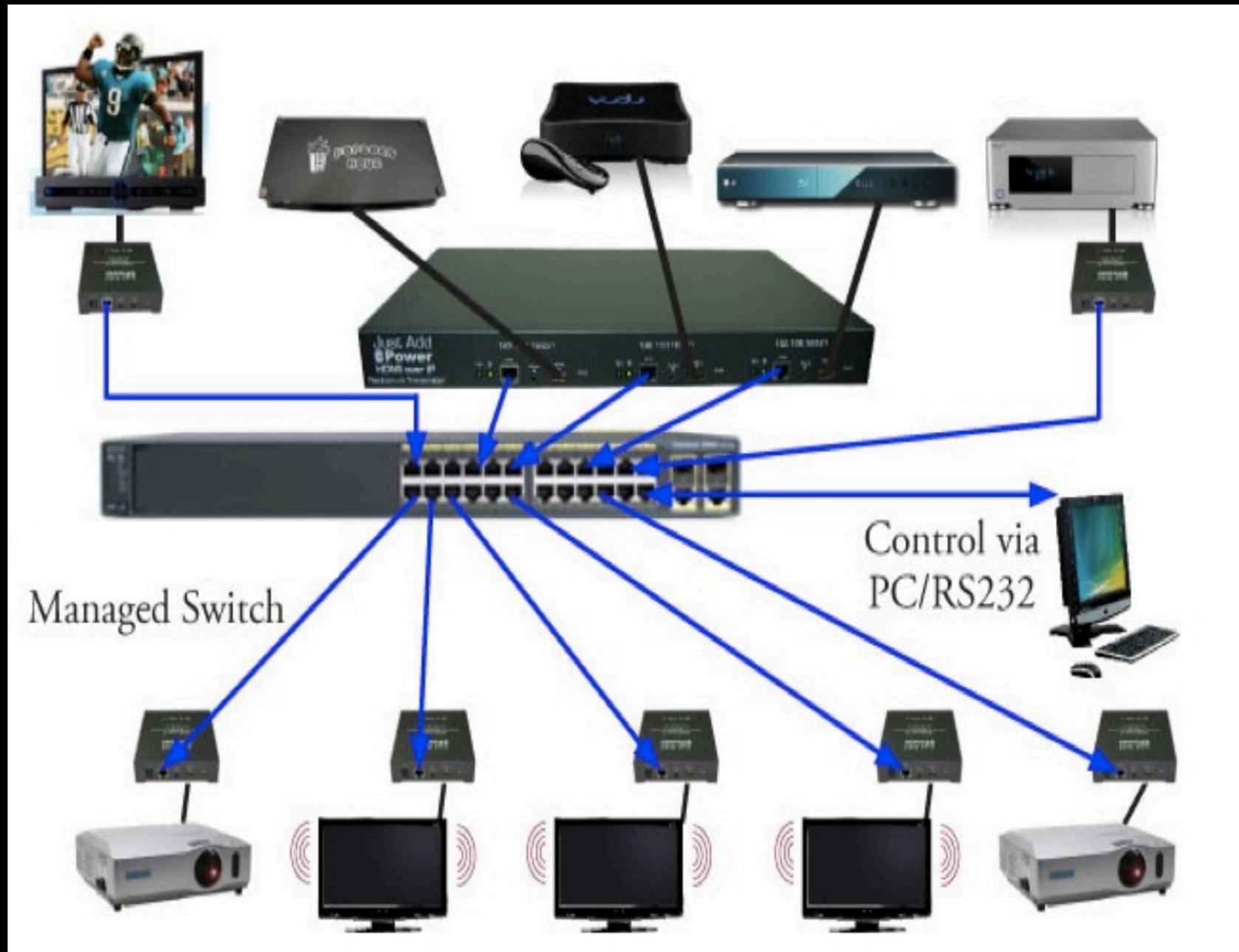
IR Manager
\$249 MSRP

POE is Power Over Ethernet so with a POE switch no power supply is needed at display

2G System Facts

- Phenomenal Video Quality - “Visually Lossless”
- Streams at data rates of 100 to 300 Mb/sec
- Features instant, seamless switching
- Utilizes minimal video compression
- No built in scaler - straight pass through of video
- Serial over IP control system built in for controlling devices
- Runs on BusyBox Linux - can be upgraded easily w/new features
- Ability to program custom EDIDs in transmitters
- Capable of being used in video wall applications (up to 16x16 - 256 screens!)
- Supports 5.1 Multichannel audio formats (DD5.1, DTS, DD+, etc)

Basic system layout



- This example shows the following
- 5 sources (one triple transmitter and 2 single transmitters)
- 3 Flat Panels and 2 projectors using 5 receivers



Reliable??

- Just Add Power has been used in many commercial applications
- Fenway Park has 8 selectable 1080p live video feeds.
 - Fenway suites allow the user to select what camera and video feed they want to watch this is a 8 source to 80 displays setup
- 17 x 56 installations at Toby Keith's "I Love this Bar" in Denver and Boston, MA, 12 x 32 installation at Toby Keith's in Cincinnati
- CBS Sports in NYC runs video between two buildings
- 11x25 installation at The Metropolitan Opera in NYC

Operational Information

- Each source is attached to a transmitter. The transmitter is then assigned a VLAN on the switch.
- Each TV screen is attached to a receiver. The receivers move between VLANs depending on what content is desired on that TV.
- We DO directly program the switch.
 - We recommend a separate “video only” switch in “complex” or corporate networks

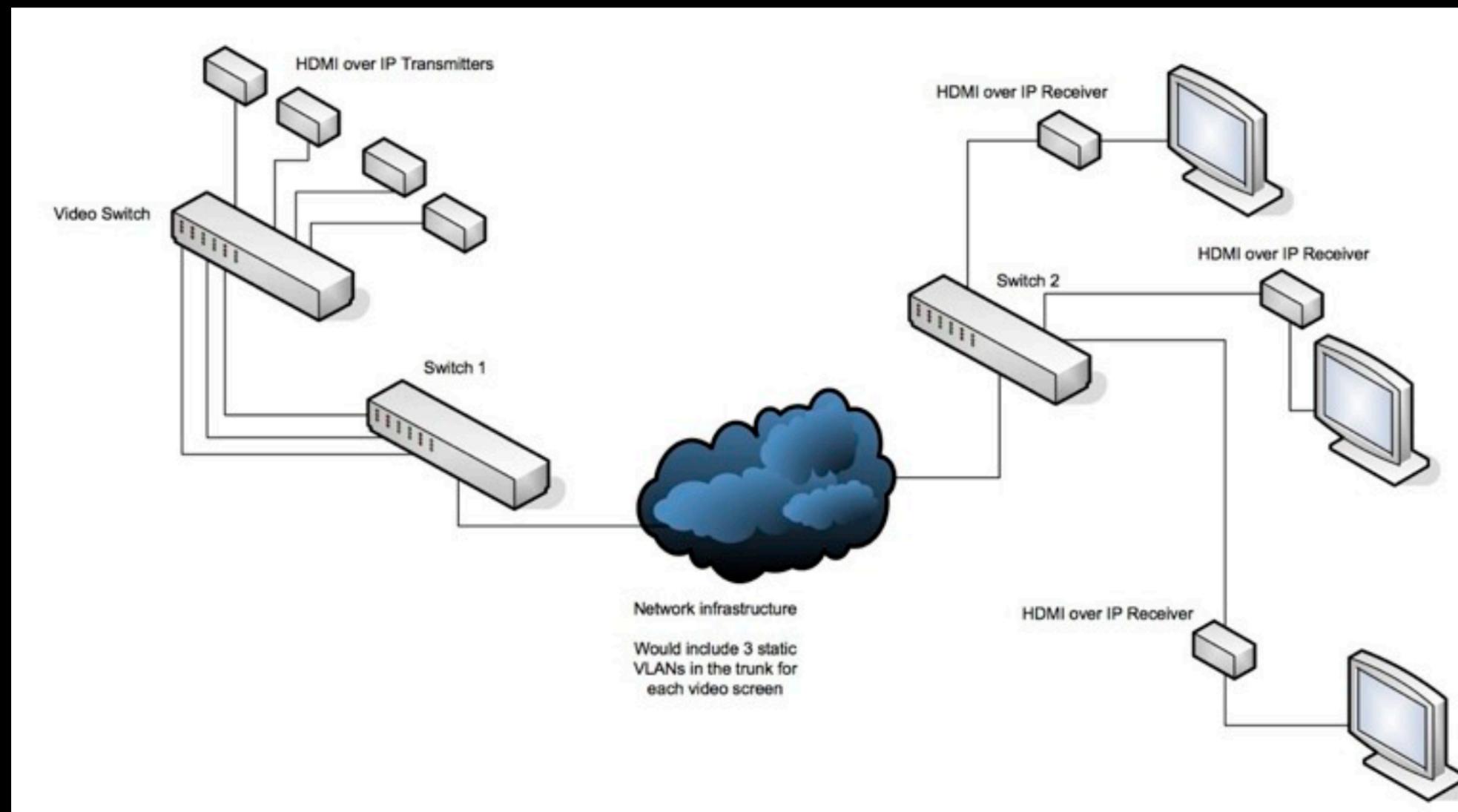
“Complex” Networks

- Any network with switches in multiple places on the network
 - Could be new or existing corporate network
- Introduces the requirement to program multiple switches to direct the video signals
- But it's desirable not to actively program more than a single switch
 - Corporate sites typically locked down and can't be actively programmed
 - Don't want to jeopardize other applications/data on the network because of a programming error.
 - Difficult to implement controlling multiple switches in a control system.

Solution for “Complex” Networks

- Create VLANs and trunks on the existing network that are run to a central location. These VLANs can be used for either screens or sources that are remotely located.
- Connect these VLANs into a separate switch (or switch stack) that will be used solely for controlling video switching
- VLANS and Trunks act as virtual ethernet cables
- “Video” switch is outside the normal network and can be controlled/programmed as necessary without affecting the control or programming of other switches
- Won’t affect other traffic since all video content is isolated on VLANs on the core network.
- Easy to implement in control systems as all control is done on a single switch.

“Complex” Network Example



In this example, we have three screens in one part of a network that need video. VLANs and Trunks are created across the network and brought to switch 1 where a connection is made for each screen into the video switch.

Video Wall App

- Just Add Power 2G devices now have a built in Video Wall App for creating video walls.
- Can create anything from 2x2 to 16x16 video wall.
- No extra hardware or software needed to create simple video walls (generally 2x2).
- For larger walls (3x3 and up) MediaSwitcher 2.0 will perform dynamic resizing and source control on the walls with minimal control system programming.
- 2G Hardware features a built in Web based configuration GUI for setting up the wall.

Just Add Software Products



Just Add Software produces several cross platform applications used to control the video network and/or other devices.

- Media-Switcher™
- InstallerPro™
- Media-Switcher™ Web
- OnControls iOS app

MediaSwitcher™



- Allows for Configuration and Control of the video network from a desktop or laptop computer.
- Runs on Windows, OS X and Linux
- Ethernet based - uses TCP/IP Connection to switch
- Capability of being remotely controlled via keyboard, serial or TCP/IP
 - Another control system can control MediaSwitcher
 - Multiple Copies of MediaSwitcher on the same LAN can communicate with each other
- Provides for some configuration of switch
 - Sets up VLANs
 - optimizes port operation
- Interactive console interface to the switch

MediaSwitcher™



- Supports switches from Cisco, Dell, Netgear, HP, D-Link and Packedge
- Customized versions and switch driver development available.
- Available in several different versions that have varying feature sets
 - “Lite” allows for up to 8 sources and 12 screens
 - “Standard” allows for up to 16 sources and 16 screens. Also has a “preset” function for easily changing multiple screens to pre-defined sources
 - “Pro” allows for up to 50 sources and 50 screens. Also adds sequences (automated groups of presets).
 - “Wall” has all the features of Pro but adds video wall control.
 - “Custom” - For larger sized networks greater than 50 sources or 50 screens.

MediaSwitcher™

Main Window



Version 1 UI,
Version 2 looks
completely different

Presets can be
loaded and saved
from the main
page.

Screen	Source	Screen	Source	Screen	Source
Dining Room 1	Tivo HD	Dining Room 2	DirectTV3	Dining Room 3	DirectTV5
Main Bar 1	DirectTV2	Main Bar 2	AppleTV	Main Bar 3	Tivo Premier
Entrance	DirectTV4	Patio 1	Tivo Premier	Patio 2	DirectTV1
Main Bar Matrix 1	DirectTV1	Main Bar Matrix 2	DirectTV5	Main Bar Matrix 3	DirectTV5
Main Bar Matrix 4	DirectTV5	Dining Room 4	DirectTV1	Dining Room 5	DirectTV2
2nd Dining Room 1	DirectTV1	2nd Dining Room 2	DirectTV1	2nd Dining Room 3	DirectTV1
Private Room 1	DirectTV7	Private Room 2	DirectTV6	Private Room 3	DirectTV4
Men's Room 1	DirectTV4	Men's Room 2	DirectTV5	Men's Room 3	DirectTV6
Women's Room 1	DirectTV7	Women's Room 2	DirectTV6	Women's Room 3	DirectTV5
Outside 1	BluRay2	Outside 2	BluRay1	Outside 3	BluRay3

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Custom branding
- your logo can
be loaded here
(328 x 93 px)

Load and run
sequences

You can see what
source is on what
screen. Not so
with other control
systems.

“Friendly” names
for screens and
sources - sources
selected by pull-
down “pick list”

MediaSwitcher™ Version 2 Sneak Peak



Custom icons can be loaded for every source and are loaded upon selection of that source.

You can re-arrange controls as you want, drop a layout in the window and position controls in the layout similar to where the screen really are.

MediaSwitcher™

Configuration Page



Switch and Video System Information

Video Matrix Configuration

Just Add Power 1G System
 Just Add Power 2G System

2G Switching Mode
 Smooth Surf

Switch Brand: Using Stacked Switches

Switch IP Address: Port:

Switch User Name: Password:

Using "Instant" Receivers

Number of Video Sources:

Number of Video Screens:

Load an External Configuration File:

All files stored here incl. logo

Load an external CSV based config file

Video source and TV screen info

MediaSwitcher™

Source and Screen Pages



User Friendly Source and Screen Names

Drop Image Here for custom Icon

Physical Port Number on Switch

VLAN ID - Any # but 1

Click to Program Switch with VLANs

Source Name	Switch Port #	VLAN ID	Stack #
TNT HD	1	2	2
ESPN HD	2	3	2
ESPN Full Court	3	4	2
ESPN Game Plan	4	5	2
ESPN U	5	6	2
Fox News Channel	6	7	2
FSN - Cincinnati	7	8	2
NBA League Pass	8	9	2
NFL Network	9	10	2
CNN	10	11	2

Delete Existing VLANs

Screen Name	Switch Port #	Stack #
Dining Room 1	2	0
Dining Room 2	4	0
Dining Room 3	6	0
Main Bar 1	41	0
Main Bar 2	40	0
Main Bar 3	39	0
Entrance	38	0
Patio 1	37	0
Patio 2	36	0
Main Bar Matrix 1	35	0
Main Bar Matrix 2	34	0
Main Bar Matrix 3	33	0
Main Bar Matrix 4	32	0
Dining Room 4	31	0
Dining Room 5	30	0
2nd Dining Room 1	29	0
2nd Dining Room 2	28	0
2nd Dining Room 3	27	0
Private Room 1	26	0
Private Room 2	25	0
Private Room 3	24	0
Men's Room 1	23	0
Men's Room 2	22	0
Men's Room 3	21	0
Women's Room 1	20	0
Women's Room 2	19	0

MediaSwitcher™

Preset Editor



Blank out all sources -
start over

Name a new Preset or
edit existing

Activate, Save or Delete the
current Preset

Select desired source for
each screen. Can leave a
source blank.

The screenshot shows the 'Preset Editor' window with the following elements:

- Preset Name:** A dropdown menu currently showing 'Preset2'.
- Buttons:** 'Activate', 'Save Preset', 'Delete Preset', and 'Reset Sources'.
- Grid:** A 3x10 grid of screens and sources. Each cell contains a screen name and a source dropdown menu.

Screen	Source	Screen	Source	Screen	Source
Dining Room 1	DirectTV1	Dining Room 2	DirectTV2	Dining Room 3	DirectTV3
Main Bar 1	DirectTV1	Main Bar 2	DirectTV1	Main Bar 3	DirectTV1
Entrance	BluRay1	Patio 1		Patio 2	
Main Bar Matrix 1	DirectTV4	Main Bar Matrix 2	DirectTV5	Main Bar Matrix 3	DirectTV6
Main Bar Matrix 4	DirectTV7	Dining Room 4	DirectTV8	Dining Room 5	Tivo Premier
2nd Dining Room 1		2nd Dining Room 2		2nd Dining Room 3	
Private Room 1		Private Room 2		Private Room 3	
Men's Room 1	DirectTV6	Men's Room 2	DirectTV5	Men's Room 3	DirectTV8
Women's Room 1	Tivo HD	Women's Room 2	AppleTV	Women's Room 3	Vudu
Outside 1	BluRay1	Outside 2	BluRay2	Outside 3	BluRay3

MediaSwitcher™

Sequence Editor



Name a new Sequence or select one to edit/execute

Up to 20 Presets can be in a sequence

Select which Preset to be used at each step

The screenshot shows the 'Sequence Editor' window with the following fields and controls:

- Sequence Name: **Daily Sequence** (dropdown menu)
- Buttons: **Save Sequence**, **Delete Sequence**, **Execute Sequence**
- Number of Presets in Sequence: **5** (text input)
- Repeat** (checkbox)
- Random Presets** (checkbox)
- Stop** (button)
- Time: **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).**
- Table of Presets and Times:

Preset #	Preset Name	Time
Preset #1	Preset1	10:00
Preset #2	Preset2	5
Preset #3	Preset3	14:30
Preset #4	Preset4	50
Preset #5	Test1	21:00

Annotations on the screenshot:

- Arrow pointing to the 'Sequence Name' dropdown: Name a new Sequence or select one to edit/execute
- Arrow pointing to the 'Number of Presets in Sequence' input: Up to 20 Presets can be in a sequence
- Arrow pointing to the 'Preset #' dropdowns: Select which Preset to be used at each step
- Arrow pointing to the 'Repeat' checkbox: Repeat sequence indefinitely
- Arrow pointing to the 'Random Presets' checkbox: Use random presets in sequence
- Arrow pointing to the 'Time' input fields: Time can be an interval in minutes or time of day in 24 hour format

MediaSwitcher™

Sequence Editor



Edit controls disabled during execution - Stop enabled

Active Preset is highlighted

Progress bar shows relative time progress of active Preset

Sequence Editor

Sequence Name:

Number of Presets in Sequence: Repeat Random Presets

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 #	Preset	Time
Preset #1	Preset1	5
Preset #2	Preset2	12:00
Preset #3	Preset3	14:30
Preset #4	Preset4	50
Preset #5	Preset3	21:00

Progress for Preset # 1: Preset1

Sequence Executing

MediaSwitcher™ Version 2

Just Add
Software 

Video Wall Control - Sneak Peak

- Allows for control of up to 16x16 video wall
- Graphically controlled UI - click and drag to create the size wall desired. Move the wall around by dragging the wall image around the screen.
- Take individual screens in and out of wall mode by clicking on their image and selecting from pop-up menu.



MediaSwitcher™

Config File Format



- All configuration files can be text, CSV based
- MediaSwitcher 2.0 will use SQLite database to store all info but will read these CSV formats.
- Master Template can be an Excel file
 - Use among various jobs/sites
 - Export master as CSV file for particular job and load into MediaSwitcher™.
- Lines beginning with ! are comments and are ignored by the program
- Preset & Sequence Files also CSV
- Specs are provided in MediaSwitcher™ documentation.

A screenshot of an Excel spreadsheet titled 'MSwitcherPrefs'. The spreadsheet contains configuration data for a switch. It includes sections for general settings, source information, and a table of source mappings. The 'Source Information' section lists various devices like Tivo Premier, Tivo HD, AppleTV, VuDu, and DirectTV models. The table below maps these devices to specific Ethernet ports, VLANs, stack numbers, and instant ports/stack numbers.

! Source Information	Ethernet Port	VLAN	Stack #	Instant Port #	Instant Stack #
Tivo Premier	1	2	0	2	1
Tivo HD	3	3	0	4	1
AppleTV	5	4	0	6	1
VuDu	7	5	0	8	1
DirectTV1	9	6	0	10	1
DirectTV2	11	7	0	12	1
DirectTV3	13	8	0	14	1
DirectTV4	15	9	0	16	1
DirectTV5	17	10	0	18	1
DirectTV6	19	11	0	20	1

InstallerPro™

- Utility to configure switch specifically for installers
 - Out of Box
 - Any other state
- RS-232 based
- Can be used regardless of end control system
- Installer can decide what to configure
- Reads/Writes MediaSwitcher compatible configuration files
- All configuration files are text comma separated
- Provides for FAST configuration of the switch
- Interactive Console
- Includes utility to set the IP address and serial port settings on 2G hardware

InstallerPro™



Select Serial Port

Network Configuration

Configure Video Sources and Screens

Save Configuration to File

Perform Configuration

Video Matrix Configuration

InstallerPro™

Just Add Software

Computer Serial Port:

Just Add Power Gen 1 System Using "Instant" Receivers
 Just Add Power Gen 2 System Using Stacked Switches

Switch Brand:

Switch IP Address: Port:

Switch User Name: Password:

Number of Video Sources:

Number of Video Screens:

Load an External Configuration File:

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Interactive Console

```
console(config-if)# no shutdown
console(config-if)# Power Inline Auto
% Unrecognized command
console(config-if)# spanning-tree portfast
console(config-if)# exit
console(config)# Interface ethernet e21
console(config-if)# switchport access vlan 2
console(config-if)# speed 100
console(config-if)# switchport mode access
console(config-if)# no shutdown
console(config-if)# Power Inline Auto
% Unrecognized command
console(config-if)# spanning-tree portfast
console(config-if)# exit
console(config)# no ip igmp snooping
console(config)# exit
console# copy running-config startup-config
Overwrite file [startup-config] ?[Yes/press any key for no]...02-3
02-Jan-2000 01:38:23 %COPY-N-TRAP: The copy operation was completed
Copy succeeded
console#
```

Interactive Console

MediaSwitcher Web™



- Provides MediaSwitcher “main window” functionality to control the video matrix from any web browser
- Add-on product for MediaSwitcher™
- Allows for use of unlimited control computers on the network
- Requires MediaSwitcher™
- Allows control via mobile devices - iPhones, iPads, iPods, Android devices, etc.



MediaSwitcher Web™ Customizations

Just Add
Software 

- Can easily customize MediaSwitcher Web to your project's desired graphics and requirements. Image here is custom iPad layout for Toby Keith's in Cincinnati.



OnControls iOS App



- Provided by JustAddSoftware on the iOS App Store in partnership with OnControls
- Complete iPhone/iPod/iPad Remote Control system with programming stored in “the cloud”
- Works directly with OnControls network hardware to provide IR, Serial or relay contact control of A/V devices, lighting, and more.
- Allows for different iOS devices on the system to control different sets of hardware
- Can embed web pages (such as MediaSwitcher Web) right into the app.
- For more information visit OnControls at www.oncontrols.com

