Multiview Seamless Switcher

EXT-HD-MVSL-441

User Manual
Release A8
Important Safety Instructions

GENERAL SAFETY INFORMATION

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.
Warranty Information

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

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1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

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PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.
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Technical Support Hours: 8:00 AM to 5:00 PM Monday - Friday, Pacific Time

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Operating Notes

- When using the 4x1 Multiview Seamless Switcher for HDMI for the first time, it is recommended that the unit be configured using the Gefen Syner-G Software Suite. Download the application here:  http://www.gefen.com/synerg/
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- lwIP
- jQuery

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Features

• Seamless switcher scales and sizes each of the four inputs, and outputs them one at a time or as windows on a single display
• Input and Output resolutions up to 1080p Full HD and 1920x1200 (WUXGA)
• HDCP compliant
• Seamless switching ensures no switching delay and no picture loss during transitions
• Default pre-configured Multiview window arrangements can be accessed via five front panel preset push-buttons
• Custom user-configurable Multiview window layouts can be accessed via five front panel preset push-buttons
• User-selectable playback of HDMI audio content from any of the four inputs
• Controllable via front panel controls, IR, IP (web server interface, Telnet, and UDP), and RS-232
• Easy to use on-screen Graphical User Interface (GUI) and web server interface
• Handheld IR remote control and IR Extender input on back panel
• Field-upgradable firmware via web server interface
• USB port (reserved for future product enhancements)
• Locking power supply connector
• 1U tall rack-mountable enclosure, rack ears included

Packing List

The 4x1 Multiview Seamless Switcher for HDMI ships with the items listed below. If any of these items are not present in your box when you first open it, immediately contact your dealer or Gefen.

• 4x1 Multiview Seamless Switcher for HDMI
• 4 x 6 ft. Locking HDMI Cables
• 1 x 6 ft. DB-9 Cable
• 1 x 12V DC Power Supply
• 1 x IR Extender Module
• 1 x IR Remote
• 1 x Set of Rack Ears
• 1 x Quick-Start Guide
# Table of Contents

## 01 Getting Started

Panel Layout ............................................................................................................................... 2
  Front ......................................................................................................................................... 2
  Back .......................................................................................................................................... 3
IR Remote Control Unit ........................................................................................................... 4
  Top ........................................................................................................................................... 4
  Bottom ...................................................................................................................................... 6
Battery Cover ............................................................................................................................ 6
  Installing the Batteries ........................................................................................................... 7
Battery Cover ............................................................................................................................. 7
  Setting the IR Channel ........................................................................................................... 8
Installation ................................................................................................................................ 9
  Connecting the 4x1 Multiview Seamless Switcher for HDMI ............................................... 9
  Sample Wiring Diagram ....................................................................................................... 9
  Network Configuration using Syner-G .................................................................................... 10

## 02 Operating the 4x1 Multiview Seamless Switcher for HDMI

Introduction .............................................................................................................................. 14
  Standby Mode ....................................................................................................................... 14
  Turning on the 4x1 Multiview Seamless Switcher for HDMI ............................................... 14
Window Basics ........................................................................................................................ 15
  Selecting a Window Configuration ....................................................................................... 15
  Single Window Nomenclature ............................................................................................. 16
  Changing the Routing State (Single Window) ..................................................................... 19
Multiple Window Nomenclature .............................................................................................. 21
Masking / Unmasking Outputs .............................................................................................. 25
Window Priority ....................................................................................................................... 26
  Assigning Window Priority ................................................................................................... 27
Video Effects ............................................................................................................................ 28
  Using Fade ............................................................................................................................ 28
  Using Chroma Key ............................................................................................................... 29
  Using Mirror ........................................................................................................................ 31
Locking / Unlocking the Switcher ........................................................................................... 32
Using the IR Extender .............................................................................................................. 34
Menu System ............................................................................................................................ 35
  Accessing the Menu System ................................................................................................. 35
  Setting the Output Resolution .............................................................................................. 38
  Adjusting the Brightness ....................................................................................................... 40
  Adjusting the Contrast .......................................................................................................... 42
  Adjusting the Saturation ....................................................................................................... 44
  Adjusting the Hue ................................................................................................................ 46
OSD Settings ............................................................................................................................ 48
Table of Contents

EDID Management.................................................................51
Mirror.................................................................................53
Fade In-Out........................................................................55
Chroma Key ........................................................................57
Changing the IP Settings.....................................................59
Changing the Telnet Settings...............................................62
Changing the UDP Settings..................................................64
System Settings....................................................................67

Web Interface.........................................................................68
Using the built-in Web Interface.........................................68
Main ▶ Routing....................................................................69
Main ▶ I/O Status.................................................................77
Main ▶ Display Info..............................................................79
I/O Setup ▶ Settings.............................................................80
I/O Setup ▶ HPD Control.......................................................82
I/O Setup ▶ HDCP.................................................................83
Window Setup.......................................................................85
Presets..................................................................................88
EDID ▶ Assign.....................................................................90
EDID ▶ Bank Names.............................................................94
EDID ▶ Upload / Download..................................................95
Network................................................................................97
System...............................................................................101

03 Advanced Operation

RS-232 and IP Configuration...............................................106
Using Telnet..........................................................................106
Using RS-232.......................................................................106
UDP Configuration..............................................................107
Commands..........................................................................108

04 Appendix

Default Settings.................................................................188
Upgrading the Firmware.....................................................189
Specifications.....................................................................190
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01 Getting Started
### Panel Layout

#### Front

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Input Indicators</td>
<td>These LED indicators display the state of each input. See <a href="#">Window Basics</a> for more information.</td>
</tr>
<tr>
<td>2</td>
<td>Window Buttons</td>
<td>Press these buttons to display up to four windows on a single display.</td>
</tr>
<tr>
<td>3</td>
<td>Window Presets</td>
<td>Use these buttons to select the desired window configuration. Five default presets and 5 user-definable window presets are available. See <a href="#">Window Basics</a> for more information.</td>
</tr>
<tr>
<td>4</td>
<td>Menu System Controls</td>
<td>Use these buttons to select and change settings within the built-in menu system. See <a href="#">Menu System</a> for details.</td>
</tr>
<tr>
<td>5</td>
<td>IR</td>
<td>This IR sensor receives signals from the included IR remote control unit.</td>
</tr>
<tr>
<td>6</td>
<td>Lock</td>
<td>Use this button to lock the 4x1 Multiview Seamless Switcher for HDMI and prevent accidental changes. See <a href="#">Locking / Unlocking the Switcher</a> for more information on this feature.</td>
</tr>
<tr>
<td>7</td>
<td>Standby LED Indicator</td>
<td>This LED will remain illuminated when the 4x1 Multiview Seamless Switcher for HDMI is powered OFF.</td>
</tr>
<tr>
<td>8</td>
<td>Power</td>
<td>This button is used to power ON and power OFF the 4x1 Multiview Seamless Switcher for HDMI. This button will remain illuminated while the switcher is powered ON.</td>
</tr>
</tbody>
</table>
### Panel Layout

**ID** | **Name** | **Description**
--- | --- | ---
1 | IR Ext | Connect the included IR Extender (Gefen part no. EXT-RMT-EXTIRN) to this port.
2 | In (1 - 4) | Connect up to four Hi-Def sources to these inputs using HDMI cables.
3 | HDMI Out | Connect an HDMI cable from this port to an HD display.
4 | IP Cont. | Connect a shielded CAT-5e (or better) cable between this jack and a LAN to use IP control. Refer to RS-232 and IP Configuration for more information on setting up IP control.
5 | USB | Not used. Reserved for future expansion.
6 | RS-232 | Connect an RS-232 cable from this port to an RS-232 device. See RS-232 and IP Configuration for more information on setting up RS-232 control.
7 | 12V DC | Connect the included 12V DC power supply from this power receptacle to an available AC electrical outlet. Do not overtighten the locking connector on the power receptacle.
IR Remote Control Unit

Top

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Info</td>
<td>Used to toggle notifications on all outputs.</td>
</tr>
<tr>
<td>2</td>
<td>Audio (1 - 4)</td>
<td>Selects the audio source to be used on the output.</td>
</tr>
<tr>
<td>ID</td>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>----</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3</td>
<td>Menu</td>
<td>Press this button to display the built-in menu system.</td>
</tr>
<tr>
<td>4</td>
<td>◄/►/▲/▼/OK</td>
<td>Used to access and change features within the menu system. Use the arrow buttons to move around within the menu system or change a value. Press the OK button to make a selection within the menu system.</td>
</tr>
<tr>
<td>5</td>
<td>Exit</td>
<td>Press this button to exit the main menu or exit from sub-menus.</td>
</tr>
<tr>
<td>6</td>
<td>Default Presets</td>
<td>Use these button to select the desired window configuration. See Window Basics for information on selecting window configurations.</td>
</tr>
<tr>
<td>7</td>
<td>User Presets</td>
<td>These buttons are used to store custom window configuration presets. See Window Basics for more information.</td>
</tr>
<tr>
<td>8</td>
<td>In (1 - 4)</td>
<td>Use this buttons to select the input.</td>
</tr>
<tr>
<td>9</td>
<td>Power</td>
<td>Press this button to power-ON or power-OFF the Multiview Seamless Switcher.</td>
</tr>
<tr>
<td>10</td>
<td>Window (1 - 4)</td>
<td>Use these buttons to select the desired window. Each of these buttons is associated with the buttons on the front panel (Window A - D). See Window Basics for more information on working with windows and inputs.</td>
</tr>
<tr>
<td>11</td>
<td>Lock</td>
<td>Press this button to lock or unlock the 4x1 Multiview Seamless Switcher for HDMI.</td>
</tr>
<tr>
<td>12</td>
<td>Mute</td>
<td>Mutes the audio on all outputs.</td>
</tr>
<tr>
<td>13</td>
<td>Rotate</td>
<td>Press this button to cycle through right-90°, 180°, left 90°, and no rotation. Only single-window mode can be rotated.</td>
</tr>
<tr>
<td>14</td>
<td>Mirror</td>
<td>Applies a horizontal transformation (rotated 180° about the y-axis) to window output A.</td>
</tr>
</tbody>
</table>
### Bottom

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Battery slot (shown without batteries)</td>
<td>Holds the batteries for operating the IR remote. Use only 1.5V “AAA”-type batteries. See <a href="#">Installing the Batteries</a> for information on battery installation.</td>
</tr>
<tr>
<td>2</td>
<td>DIP switch bank</td>
<td>Use these DIP switches to set the IR channel of the remote. See <a href="#">Setting the IR Channel</a> for details.</td>
</tr>
</tbody>
</table>
Installing the Batteries

1. Remove the battery cover on the bottom of the IR remote control unit.

2. Make sure that the batteries are installed with the correct polarity, as shown in the illustration, below. Always use two 1.5V AAA-type batteries.

3. Replace the battery cover.

WARNING: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
Setting the IR Channel

In order to function correctly, both the switcher and the IR remote control must be set to the same IR channel. To set the IR channel of the switcher, use the `#set_ir` command or use the IR Channel setting under the System page of the Web interface.

<table>
<thead>
<tr>
<th>IR Channel</th>
<th>DIP settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ON</td>
</tr>
<tr>
<td>1</td>
<td>ON</td>
</tr>
<tr>
<td>2</td>
<td>ON</td>
</tr>
<tr>
<td>3</td>
<td>ON</td>
</tr>
</tbody>
</table>
Connecting the 4x1 Multiview Seamless Switcher for HDMI

1. Connect up to four Hi-Def sources to the input ports (In 1 - In 4) ports on the 4x1 Multiview Seamless Switcher for HDMI.

2. Connect an HD display to the HDMI Out port on the 4x1 Multiview Seamless Switcher for HDMI.

3. OPTIONAL: Connect an RS-232 cable from the RS-232 port on the 4x1 Multiview Seamless Switcher for HDMI to the RS-232 connector on the automation controller.

4. OPTIONAL: Connect a CAT-5e (or better) cable from the IP Control port on the 4x1 Multiview Seamless Switcher for HDMI to a Local Area Network (LAN).

5. OPTIONAL: Connect the included IR extender to the IR Ext port on the 4x1 Multiview Seamless Switcher for HDMI.

6. Connect the included 12V DC locking power supply to the power receptacle on the 4x1 Multiview Seamless Switcher for HDMI. Do not overtighten the locking power connector.

7. Connect the power supply to an available electrical outlet.

Sample Wiring Diagram
Network Configuration using Syner-G

1. Launch the Gefen Syner-G application. Download the application here: http://www.gefen.com/synerg/

2. Select the EXT-HD-MVSL-441 from the list of products.

3. Under the Device Settings section, select either Static or DHCP from the IP Mode drop-down list.
   - Select Static to manually enter the IP address, subnet mask, and gateway IP. Consult with your network administrator, if necessary.
   - Select DHCP to let the DHCP server automatically assign the IP address, subnet mask, and gateway IP.
4. Click the **Save** button at the bottom of the screen.

5. The unit will automatically reboot and use the new network settings.

6. Use the IP address of the switcher to access the built-in web interface or start a Telnet session. See the following for more information:

   - Web Interface
   - RS-232 and IP Configuration
02 Operating the 4x1 Multiview Seamless Switcher for HDMI
Standby Mode

The LED next to the **Power** button, on the front panel, indicates the power state of the 4x1 Multiview Seamless Switcher for HDMI. In *standby mode*, power is being supplied to the 4x1 Multiview Seamless Switcher for HDMI but the unit is not turned on. This LED will be red and remain illuminated as long as the unit is in *standby mode*. If this LED does not illuminate, check the connection between the power receptacle on the 4x1 Multiview Seamless Switcher for HDMI and the AC outlet.

**Turning on the 4x1 Multiview Seamless Switcher for HDMI**

Press the **Power** button to power-on the switcher. The **Power** button will turn blue and remain illuminated as long as the switcher is powered-on. To power-off the 4x1 Multiview Seamless Switcher for HDMI and return to *standby mode*, press the **Power** button again.
Window Basics

Selecting a Window Configuration

The 4x1 Multiview Seamless Switcher for HDMI provides the ability to display four Hi-Def sources on one HD display. In addition, the 4x1 Multiview Seamless Switcher for HDMI allows the creation of an infinite number of window configurations using the built-in Web interface. Windows can be individually scaled, resized, and positioned within any area of the display area.

The 4x1 Multiview Seamless Switcher for HDMI comes with 5 default window presets. An illustration of each of these window presets is displayed above each of the Default preset buttons on the front panel:

These presets can be selected from the top-row of buttons on the front panel. The button for the currently selected window configuration will turn blue and remain illuminated as long as the preset is selected.

The bottom row of buttons are used to store and recall custom presets. Custom presets are created and saved using the built-in Web interface. See the Presets section of the Web interface for more information.

When the 4x1 Multiview Seamless Switcher for HDMI is shipped from the factory, the Default 2 preset will be automatically loaded when the unit is powered-ON.
Single Window Nomenclature

The 4x1 Multiview Seamless Switcher for HDMI can display up to four sources on one display. When multiple sources are displayed on the screen, we refer to each source as a *window*. In general terms, a *window* is defined as an input. However, before we discuss multiple windows, we will define the operation of a single window.

In our example, below, we have four Hi-Def sources connected to the 4x1 Multiview Seamless Switcher for HDMI. Each source is represented by a colored rectangle. When the 4x1 Multiview Seamless Switcher for HDMI is shipped from the factory, the Default 2 preset will automatically be loaded when the unit is powered ON:

![Diagram of input connections]

Now, let’s look at one of the default presets that displays a single-window output:

1. Press the Default 1 button on the front panel.

![Image of front panel with Default 1 button highlighted]
The Default 1 preset uses *Window A*:

To switch to the Default 1 single-window configuration using the IR remote control, press the Default Preset 1 button.

2. The image displayed on the output will be dictated by the current routing state of the switcher. In this example, the source that is connected to Input 2 is displayed.
Note that on the previous page that Window B is displayed. This is because the button for Windows B was pressed. The button for the current Window will remain illuminated until another Window button is pressed.

In single-window mode, each Window button (A - D) on the front panel represents one of the four inputs.

3. Try pressing each of the Window buttons on the front panel and observe how the image on the display changes.

The included IR remote control can also be used to switch between Windows by pressing the Window buttons.
Changing the Routing State (Single Window)

There are two methods for performing this operation: 1) Select a different Window button with a different input. 2) Change the routing state for the current output. We will cover both methods.

For this example, we want to view the source connected to Input 3.

Method 1:

1. Press Window C on the front panel.

If using the IR remote control, press the Window 3 button.
2. The numbers in each of the colored boxes, below, represent the currently select input for each Window. Since Input 3 has already been routed to Window C, the source connected to Input 3 will be displayed:

Method 2:

1. Press the button for Window B on the front panel to select it.

2. Press the button for Window B again to select Input 3.

   If using the IR remote control, press the Window 2 button, then press the In 3 button.

3. Input 3 has now been routed to Window B. Since Window B is the active output, the source connected to Input 3 will be displayed:

Note that the Window name is the same. The only difference is that the input has changed.
Multiple Window Nomenclature

NOTE: The 4x1 Multiview Seamless Switcher for HDMI is designed to be used as a 2x2 video wall. 4x1 rows and 1x4 columns are not supported.

To recap, the 4x1 Multiview Seamless Switcher for HDMI can display up to four sources on one display. When multiple sources are displayed on the screen, we refer to each source as a window. In general terms, a window is defined as an input. It is recommended that the Single Window Nomenclature section be read before continuing.

When working with a single window, we saw how we could switch inputs, allowing us to view different sources, one at a time.

In order for the switcher to display more than one window at a time, the switcher identifies each window using an alphabetic character.

Default 1 preset is identified as Window B.

Default 2 preset is identified as follows:

Each window is also assigned a default input, which is notated by a numeral from 1 to 4.

Window A will use Input 1, Window B will use Input 2, and so on. Of course, any input can be assigned to any window.

Another example is the Default 3 window preset:

Although the arrangement of each window—or the input to each window—can be different, the window ID (A - D) does not change.
When using multiple windows, multiple window buttons will active. We will continue with the last example in the Single Window Nomenclature section to the difference.

In the illustration, below, Window C has been selected. Input 3 is routed to Window C. Therefore, the source connected to Input 3 is displayed.

1. Press the Default 2 button. This will create a basic 2x2 multi-window display.
2. The image on the output will be equally divided into four windows. This window arrangement is used by Default Preset 2.

[Diagram of window arrangement for Default Preset 2]

3. Now, let’s change the routing state so that the source connected to Input 2 covers the top half of the screen.

If we look at our window template for Default 2, we can see that routing Input 2 to Window A will accomplish this task.

[Diagram of window arrangement for Default Preset 2]
4. Press the button for Output A once. The LED indicator will change from Input 1 to Input 2.

5. The output on the display will now appear, as follows:
Masking / Unmasking Outputs

**NOTE:** Masking must be performed by using the buttons on the front panel or through the built-in Web interface.

“Masking” prevents a window from displaying the signal from the source device. Instead of powering-down or disconnecting the input device, individual or multiple outputs can be masked. Masking can be used with single window and multiple-window configurations.

Using the Front Panel Buttons

1. Press the button of the desired output to be masked. For this example, we will select Window B:

   ![Press Output B](image)

2. Continue pressing the button for Window B until the “M” LED indicator is illuminated.

   ![Output B is masked](image)

3. To unmask an window, press the button for the window and select the desired input.
Window Priority

The built-in Web interface allows windows to be re-sized and arranged in any order. Windows can also be placed above or below one another. The ordering of overlapping objects in two-dimensional space is sometimes referred to as the z-order.

In the illustration above, the red window is set to priority 1 and will be displayed on top of all other windows. Setting a window to priority 4 (the blue window) will move the window to the bottom-most position. The smaller the number, the higher priority. Multiple windows cannot share the same priority.

Note that the 4x1 Multiview Seamless Switcher for HDMI does not allow a window to have a transparency property. This is only used by the diagram, above, to illustrate how windows can be placed behind or in front of one another.

NOTE: Window B is always set to priority 1 and cannot be changed. Refer to Single Window Nomenclature for more information.
Assigning Window Priority

1. Access the Web interface for the 4x1 Multiview Seamless Switcher for HDMI. See the Web Interface for more information.

2. Go to the Window Setup page of the Web interface.

3. We’ve selected Preset - 8 from the Select Preset drop-down list. We’ve also repositioned and resized the windows, as follows:

4. Select one of the windows by clicking on it or selecting it from the Select Window drop-down list. For this example, we are going to select window D and make it the top-most window.

5. The current priority of the selected window will appear in the Priority drop-down list.

6. Select 1 from the Priority drop-down list.

7. Window D is now the top-most window. This window can be positioned anywhere within the interactive workspace and the window will appear on top of all windows.

8. Click the Save button to save any changes to the preset.
Video Effects

NOTE: Video effects are only applicable to single-window applications. Multiple-window effects are not supported.

When using single windows, the 4x1 Multiview Seamless Switcher for HDMI provides three unique post-production video effects: Fade, Chroma Key, and Mirror.

Using Fade

The *fade* effect applies a one-second cross-dissolve transition when switching between windows that are receiving video from different sources. This feature, as with all video effects, is only available when viewing a single window output.

1. Access the Web interface for the 4x1 Multiview Seamless Switcher for HDMI. See the section Web Interface for more information.

2. Selecting the Routing tab.

3. Click the radio button next to the Default 1 preset.

4. Click to place a check mark in the Fade check box.

5. To see the fade effect, switch between outputs using the IR remote control or the window buttons on the front panel.
Using Chroma Key

The chroma key effect, also referred to as “color-keying”, is a post-production technique for layering two images or video signals together. The first layer involves filming a subject in front of a solid color background. The second layer serves as the background for the final composite image. By combining the two images together and removing (“keying”) the background color from the first layer, the subject will appear in front of the background from the second layer. When chroma-keying a live feed (e.g. a meteorologist standing in front of a weather map), a “traveling matte” is created.

1. Access the Web interface for the 4x1 Multiview Seamless Switcher for HDMI. See the section Web Interface for more information.

2. Selecting the Routing tab.

3. Click the radio button next to the Default 1 preset.

4. Route the image with the subject and solid color background to Window B.

5. Route the background image to Window B.

6. Click to place a check mark in the Chroma Key check box.
Because shadows and other lighting imperfections are always present when photographing a subject against a solid color background, the background will never be a pure RGB value (as shown below). For this reason, a color range with minimum and maximum values needs to be specified.

7. Set the Min RGB values for the color to be “keyed”.

```
<table>
<thead>
<tr>
<th>Red Min</th>
<th>Green Min</th>
<th>Blue Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16</td>
<td>32</td>
</tr>
</tbody>
</table>
```

8. Set the Max RGB values for the color to be “keyed”.

```
<table>
<thead>
<tr>
<th>Red Min</th>
<th>Green Min</th>
<th>Blue Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16</td>
<td>32</td>
</tr>
</tbody>
</table>
```

9. The final composite will be displayed on **Window A**.
Using Mirror

The *mirror* effect, applies a horizontal transformation (rotated 180° about the y-axis) to window Output A.

1. Access the Web interface for the 4x1 Multiview Seamless Switcher for HDMI. See the section **Web Interface** for more information.
2. Selecting the **Routing** tab.
3. Click the radio button next to the **Default 1** preset.
4. Click to place a check mark in the **Mirror** check box.

5. The image on **Window B** will be flipped horizontally.
Locking / Unlocking the Switcher

Locking the switcher will prevent any changes by disabling all buttons (except the Lock button) on the front panel. This feature is useful in preventing routing or other changes caused by accidentally bumping or pressing the buttons on the front panel.

Using the Front Panel Buttons

1. Press and hold the **Lock** button on the front panel. The **Lock** button will begin to flash.

2. Continue holding down the **Lock** button until it stops flashing.

3. The switcher is now locked. The **Lock** button will remain illuminated as long as the switcher is locked.

4. To unlock the switcher, press and hold the **Lock** button. The **Lock** button will begin to flash.

5. Continue holding down the **Lock** button until it stops flashing.

6. The switcher is now unlocked and can be used normally.

Once the switcher is unlocked, the **Lock** button will no longer be illuminated.
Using the IR Remote Control

1. Press the **Lock** button on the IR remote control.

![Lock button on IR remote control](image1)

2. The **Lock** button, on the front panel of the switcher, will remain illuminated as long as the switcher is locked.

![Front panel of switcher with Lock button illuminated](image2)

3. To unlock the switcher, press the **Lock** button. The **Lock** button will turn off.

![Front panel of switcher with Lock button off](image3)

4. The switcher is now unlocked and can be used normally.

Once the switcher is unlocked, the **Lock** button will no longer be illuminated.
Using the IR Extender

There may be situations where the IR sensor is blocked by a cabinet or other mounting device. In this case, the included IR extender (Gefen part no. EXT-RMT-EXTIRN) can be connected to the IR Ext port on the 4x1 Multiview Seamless Switcher for HDMI. The sensor on the IR extender behaves exactly like the sensor on the front panel of the switcher. Always point the IR remote control unit in the direction of the IR sensor.
Menu System

Accessing the Menu System

The HD Video Wall Controller uses a built-in menu system to manage and control all video features. To access the menu system, press the **Menu** button on the front panel or on the included IR remote control.

After pressing the **Menu** button on the front panel, the **Menu** button will remain illuminated as long as the menu system is displayed on the screen. By default, the menu system will be displayed within the top-left display.

The time-out value (duration) for the menu system can be changed in the **OSD Settings** page of the menu system.
Using the Front Panel Controls

Use the ◄, ►, ▲, and ▼ buttons on the front panel to move around within the menu system. Press the ▲ and ▼ buttons to move up and down. Press the ◄ or ► buttons to change the value of the current selection. Press the Select button to make the desired selection. The current selection will be highlighted in green.
Using the IR Remote Control

The IR remote control has buttons which represent the controls on the front panel. Use the ◄, ►, ▲, and ▼ buttons to move around within the menu system. Press the ▲ and ▼ buttons to move up and down. Press the ◄ or ► buttons to change the value of the current selection. Press the OK button to make the desired selection. The current selection will be highlighted in green.
Setting the Output Resolution

NOTE: Before changing this setting, make sure that all connected displays can support the selected output resolution.

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the **Select** button to display the **I/O Setup** menu. If using the IR remote, press the **OK** button.

3. Press the **Select** button again to display the **Output Resolution** menu. If using the IR remote, press the **OK** button.
5. Use the ▲ or ▼ buttons to highlight the desired output resolution.

6. Press the Select button to apply the highlighted resolution. If using the IR remote, press the OK button.

   If the display does not support the selected resolution, use the #fadefault command to reset the 4x1 Multiview Seamless Switcher for HDMI.

   See RS-232 and IP Configuration for more information on commands.
Adjusting the Brightness

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the **Select** button to display the **Setup Menu**. If using the IR remote, press the **OK** button.

3. Use the ▲ or ▼ buttons to highlight **Picture Settings**.

4. Press the **Select** button to display the **Picture Settings** menu. If using the IR remote, press the **OK** button.

5. The **Input** option should be highlighted. If not, use the ▲ or ▼ buttons to highlight it. Each input can have individual contrast settings. Therefore, the input must be selected before making changes to it.
6. Press the **Select** button to select the **Input** option. The currently selected input will be highlighted in orange.

7. Select the desired input using the ◄ or ► buttons.

```
INPUT    VIDEO 1
BRIGHTNESS 050
CONTRAST 050
SATURATION 050
HUE 050
RESTORE DEFAULTS
BACK
EXIT
```

8. Press the **Select** button to accept the current input selection.

9. Use the ▲ or ▼ buttons to highlight the **Brightness** option.

10. Press the **Select** button to select the **Brightness** option.

11. Change the brightness value using the ◄ or ► buttons.

```
INPUT    VIDEO 1
BRIGHTNESS 071
CONTRAST 050
SATURATION 050
HUE 050
RESTORE DEFAULTS
BACK
EXIT
```

12. Press the **Select** button to accept the change.
Adjusting the Contrast

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the **Select** button to display the **Setup Menu**. If using the IR remote, press the **OK** button.

3. Use the ▲ or ▼ buttons to highlight **Picture Settings**.

4. Press the **Select** button to display the **Picture Settings** menu. If using the IR remote, press the **OK** button.

5. The **Input** option should be highlighted. If not, use the ▲ or ▼ buttons to highlight it. Each input can have individual contrast settings. Therefore, the input must be selected before making changes to it.
6. Press the **Select** button to select the **Input** option. The currently selected input will be highlighted in orange.

7. Select the desired input using the ◄ or ► buttons.

8. Press the **Select** button to accept the current input selection.

9. Use the ▲ or ▼ buttons to highlight the **Contrast** option.

10. Press the **Select** button to select the **Contrast** option.

11. Change the contrast value using the ◄ or ► buttons.

12. Press the **Select** button to accept the change.
Adjusting the Saturation

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the **Select** button to display the **Setup Menu**. If using the IR remote, press the **OK** button.

3. Use the ▲ or ▼ buttons to highlight **Picture Settings**.

4. Press the **Select** button to display the **Picture Settings** menu. If using the IR remote, press the **OK** button.

5. The **Input** option should be highlighted. If not, use the ▲ or ▼ buttons to highlight it. Each input can have individual contrast settings. Therefore, the input must be selected before making changes to it.
6. Press the Select button to select the Input option. The currently selected input will be highlighted in orange.

7. Select the desired input using the ◄ or ► buttons.

8. Press the Select button to accept the current input selection.

9. Use the ▲ or ▼ buttons to highlight the Saturation option.

10. Press the Select button to select the Saturation option.

11. Change the saturation value using the ◄ or ► buttons.

12. Press the Select button to accept the change.
Adjusting the Hue

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the Select button to display the Setup Menu. If using the IR remote, press the OK button.

3. Use the ▲ or ▼ buttons to highlight Picture Settings.

4. Press the Select button to display the Picture Settings menu. If using the IR remote, press the OK button.

5. The Input option should be highlighted. If not, use the ▲ or ▼ buttons to highlight it. Each input can have individual contrast settings. Therefore, the input must be selected before making changes to it.
6. Press the **Select** button to select the **Input** option. The currently selected input will be highlighted in orange.

7. Select the desired input using the ◄ or ► buttons.

8. Press the **Select** button to accept the current input selection.

9. Use the ▲ or ▼ buttons to highlight the **Hue** option.

10. Press the **Select** button to select the **Hue** option.

11. Change the hue value using the ◄ or ► buttons.

12. Press the **Select** button to accept the change.
OSD Settings

The OSD Settings menu controls how the OSD is displayed.

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the Select button. If using the IR remote, press the OK button.

3. Use the ▲ or ▼ buttons to highlight OSD Settings.

4. Once the desired option is highlighted, press the Select button to select it. If using the IR remote control, press the OK button.

When an option is selected, its current value will be highlighted in orange.
5. Use the ◄ or ► buttons to change the current value.

6. Press the Select button to accept the current changes. If using the IR remote control, press the OK button.

Info Display

If this option is turned On, then the status window is activated.

H Offset

The horizontal offset of the OSD, as it appears on the display.
V Offset

The vertical offset of the OSD, as it appears on the display.

Timeout

Once the Menu button is pressed, the OSD will appear. Timeout is the duration, in seconds, when the OSD will be automatically dismissed. If set to Off, then the OSD must be hidden manually by pressing the Menu button.
EDID Management

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Press the Select button. If using the IR remote, press the OK button.

3. Use the ▲ or ▼ buttons to highlight the EDID option.

4. Press the Select button to display the EDID menu. If using the IR remote, press the OK button.
5. Press the Select button to select the Lock EDID option.

6. Use the ◄ or ► buttons to change the value of the Lock EDID option.

7. Press the Select button to accept the Lock EDID value.

Selecting an EDID

1. Make sure the Lock EDID option is set to No.

2. Use the ▲ or ▼ buttons to highlight the desired output, containing the EDID to be copied to the input. The 1080p 2 Ch or 1080p Multi Ch EDID can also be selected.

   When selecting an EDID, make sure that all displays can support the same audio and video capabilities

3. Press the Select button to accept the current output selection. If using the IR remote, press the OK button.

4. The display will flash momentarily. The EDID from the selected output will be copied to the input and will be used by all outputs.
Applies a horizontal transformation (rotated 180° about the y-axis) to window output A.

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight Window.

3. Press the Select button to display the Window Settings menu. If using the IR remote, press the OK button.

4. Use the ▲ or ▼ buttons to highlight Window Convert.

5. Press the Select button to display the Window Convert menu. If using the IR remote, press the OK button.
6. Press the **Select** button to select the **Mirror** option. The currently selected value will be highlighted in orange.

7. Use the ◄ or ► buttons to switch mirroring On or Off.

8. Press the **Select** button to accept the current changes. If using the IR remote, press the **OK** button.
Fade In-Out

Adds a 1 second transition to Window A and another window, when switching between windows.

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight Window.

3. Press the Select button to display the Window Settings menu. If using the IR remote, press the OK button.

4. Use the ▲ or ▼ buttons to highlight Window Convert.

5. Press the Select button to display the Window Convert menu. If using the IR remote, press the OK button.
6. Use the ▲ or ▼ buttons to highlight **Fade In-Out**.

7. Press the **Select** button to select the **Fade In-Out** option. The currently selected value will be highlighted in orange.

8. Use the ◄ or ► buttons to switch the fade feature On or Off.

9. Press the **Select** button to accept the current changes. If using the IR remote, press the **OK** button.
Chroma Key

See Using Chroma Key for more information about the chroma key process.

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight Window.

3. Press the Select button to display the Window Settings menu. If using the IR remote, press the OK button.

4. Use the ▲ or ▼ buttons to highlight Chroma Key.

5. Press the Select button to display the Chroma Key menu. If using the IR remote, press the OK button.
6. Use the ▲ or ▼ buttons to highlight the Minimum R option.

7. Press the Select button to select the Minimum R option. The currently selected value will be highlighted in orange.

8. Use the ◄ or ► buttons to change the current value.

9. Press the Select button to accept the current changes. If using the IR remote, press the OK button.

10. Repeat this process for each of the Maximum and Minimum R, G, and B values.

11. Highlight and select the Chroma Key option

12. Use the ◄ or ► buttons to turn chroma keying On or Off.

13. Press the Select button to accept the current changes. If using the IR remote, press the OK button.
Changing the IP Settings

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight the **Network** option.

3. Press the **Select** button to display the **Network** menu. If using the IR remote, press the **OK** button.

4. Press the **Enter** button again to display the **IP Settings** menu. If using the IR remote, press the **OK** button.
5. Use the ▲ or ▼ buttons to highlight the option to change. The Mode option will be highlighted, automatically.

6. Once the desired option is highlighted, press the Select button to select it. If using the IR remote control, press the OK button.

When an option is selected, its current value will be highlighted in orange.

7. Use the ◄ or ► buttons to change the current value.

8. Press the Select button to accept the current changes. If using the IR remote control, press the OK button.

Mode
Set this option to either Static or DHCP. If using the Static option, the IP address must be specified. Use the Byte 1 High, Byte 2, Byte 3, and Byte 4 Low options to set each of the digits in the IP address, subnet mask, and gateway.

Static Set
Use this option to switch between the IP address (IP), subnet mask (Mask), and gateway (Gate).

Byte
Use the Byte 1 High, Byte 2, Byte 3, and Byte 4 Low options to set each of the digits in the IP address, subnet mask, and gateway.

HTTP Port
Sets the HTTP listening port for the 4x1 Multiview Seamless Switcher for HDMI.
Re-link

Use this option to attempt to re-link to the network using the current IP settings.

Restore Defaults

This option will reset the default IP settings for the 4x1 Multiview Seamless Switcher for HDMI.
Changing the Telnet Settings

1. Press the Menu button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight the Network option.

3. Press the Select button to display the Network menu. If using the IR remote, press the OK button.

4. Use the ▲ or ▼ buttons to highlight the Telnet Settings option.

5. Press the Enter button again to display the Telnet Settings menu. If using the IR remote, press the OK button.
5. Use the ▲ or ▼ buttons to highlight the option to change. The **Telnet Access** option will be highlighted, automatically.

6. Once the desired option is highlighted, press the **Select** button to select it. If using the IR remote control, press the **OK** button.

When an option is selected, its current value will be highlighted in orange.

![TELNET SETTINGS]

7. Use the ◄ or ► buttons to change the current value.

8. Press the **Select** button to accept the current changes. If using the IR remote control, press the **OK** button.

**Telnet Access**

Enables (Yes) or disables (No) Telnet access for the 4x1 Multiview Seamless Switcher for HDMI.

**Require Password**

Enables (Yes) or disables (No) the password prompt at the beginning of a Telnet session.

**Terminal Port**

Sets the Telnet listening port for the 4x1 Multiview Seamless Switcher for HDMI.
Changing the UDP Settings

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight the **Network** option.

3. Press the **Select** button to display the **Network** menu. If using the IR remote, press the **OK** button.

4. Use the ▲ or ▼ buttons to highlight the **UDP Settings** option.

5. Press the **Enter** button again to display the **UDP Settings** menu. If using the IR remote, press the **OK** button.
5. Use the ▲ or ▼ buttons to highlight the option to change. The **UDP Access** option will be highlighted, automatically.

6. Once the desired option is highlighted, press the **Select** button to select it. If using the IR remote control, press the **OK** button.

   When an option is selected, its current value will be highlighted in orange.

   **UDP SETTINGS**

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDP ACCESS</td>
<td>No</td>
</tr>
<tr>
<td>UDP PORT</td>
<td>50007</td>
</tr>
<tr>
<td>REMOTE UDP ACCESS</td>
<td>No</td>
</tr>
<tr>
<td>REMOTE UDP ADDR</td>
<td>IP</td>
</tr>
<tr>
<td>BYTE 1 HIGH</td>
<td>192</td>
</tr>
<tr>
<td>BYTE 2</td>
<td>168</td>
</tr>
<tr>
<td>BYTE 3</td>
<td>001</td>
</tr>
<tr>
<td>BYTE 4 LOW</td>
<td>080</td>
</tr>
<tr>
<td>REMOTE UDP PORT</td>
<td>50008</td>
</tr>
<tr>
<td>BACK</td>
<td></td>
</tr>
<tr>
<td>EXIT</td>
<td></td>
</tr>
</tbody>
</table>

7. Use the ◄ or ► buttons to change the current value.

8. Press the **Select** button to accept the current changes. If using the IR remote control, press the **OK** button.

   **UDP Access**

   Enables or disables UDP access to the 4x1 Multiview Seamless Switcher for HDMI.

   **UDP Port**

   Sets the UDP port for the 4x1 Multiview Seamless Switcher for HDMI.

   **Remote UDP Access**

   Enables or disables remote UDP access for the 4x1 Multiview Seamless Switcher for HDMI.

   **Remote UDP Addr**

   Sets the remote UDP IP address for the 4x1 Multiview Seamless Switcher for HDMI.
Byte

Use the Byte 1 High, Byte 2, Byte 3, and Byte 4 Low options to set the IP address of the digits in the UDP IP address, subnet mask, and gateway.

Remote UDP Port

Sets the remote UDP listening port for the 4x1 Multiview Seamless Switcher for HDMI.
System Settings

1. Press the **Menu** button on the front panel or on the IR remote control. The menu system will be displayed.

2. Use the ▲ or ▼ buttons to highlight the **System** option.

3. Press the **Select** button to display the **System** menu. If using the IR remote, press the **OK** button.

4. Use the ▲ or ▼ buttons to highlight the desired option.

5. Press the **Select** button to make the selection. If using the IR remote control, press the **OK** button.

Selecting **Factory Reset** will reset the 4x1 Multiview Seamless Switcher to factory-default settings

Selecting **Reboot** will reboot the 4x1 Multiview Seamless Switcher. This option is the same as disconnecting and reconnecting the AC power cord, on the back of the switcher.
Using the built-in Web Interface

Access the built-in Web interface by entering the IP address of the 4x1 Multiview Seamless Switcher for HDMI in a browser window. See Network Configuration using Syner-G for more information on obtaining the IP address of the switcher. Once connected to the switcher, the login screen will be displayed.

Username
Select the username from the drop-down list.

Options:
Operator, Administrator

Administrator login provides unrestricted access to all features and settings. Operator login limits access to routing, display information, and routing preset features.

Password
Enter the password for the associated username. The password can also be set using the #set_webui_op_pass and the #set_webui_ad_pass commands. The password is masked when it is entered.
The Web interface is divided into seven pages: **Routing, I/O Setup, Window Setup, Presets, EDID, Network, and System**. Each main page is represented by a tab at the top of the screen. The **EDID** page has its own set of sub-tabs. Click on the desired tab to open the desired page.

**NOTE:** In order to view all seven tabs at the top of the screen, the user must be logged in as “Administrator”. If logged-in as “Operator”, only the **Routing** tab will be visible.

**Power**
Click this button to toggle the power state of the 4x1 Multiview Seamless Switcher for HDMI. When the switcher is powered-on, the button will read “STANDBY”.

**? Help**
Click the “? Help” button to display context-sensitive help. This button is available on all pages.

**Log Out**
Click **Log Out** to terminate the current Web session and return to the login page.
Lock Matrix
Locks or unlocks the switcher. Once the switcher is locked, settings cannot be changed using the front-panel buttons or through the Web GUI.

When the switcher is locked, the button text will read “Unlock Matrix” and a red bar will appear across the top portion of the screen with the text “Matrix is LOCKED”.

Click the “Unlock Matrix” button to unlock the switcher.
Current State
Displays the current preset that is loaded into memory.

Each window is color-coded for easy identification. The letter in the upper-left corner of each window represents the output.

The input used by each window output is displayed using a number from 1 to 4.

Routing
Click the radio button to select the desired input. Each column represents an output.

Mask
Click to place a check mark in the check box in order to mask the selected output. Click to clear the check box and remove the mask.

Audio
Click the radio button to select the input to be used as the audio source.

Mute
Click to place a check mark in this check box in order to mute the selected input. Click to clear the check box and un-mute the input.
Web Interface

Default Presets

Click the radio button to select the desired preset. The default presets are identical to the Default preset buttons on the front panel of the switcher. If Default 1 preset is selected, then additional image adjustment information will be displayed. See the next page for details on each of these features.

Front Panel Presets

Click the radio button to select the desired preset. These presets are identical to the Custom buttons on the front panel of the switcher.
Routing (Default 1 only)
When the Default 1 preset is loaded, routing buttons will appear over each column of inputs. Click these buttons (A - D) to change the output that is displayed. Each output will use the currently selected input (1 - 4).
Fade
This feature adds a 1 second transition between window output A and another window output. Click to place a check mark in the check box to enable the fade effect. Click to clear the check box and disable the fade effect. This feature is only available when using a single window. See Using Fade for more information using this effect.

Rotate
Click the drop-down list to select the desired rotation of the output image. The output image can be rotated 90° clockwise, 90° counter-clockwise, or flipped 180°, horizontally. This feature is only available when using a single window.

Chroma Key
Click to place a check mark in the check box in order to enable chroma keying for window output A. Click to clear the check box and disable the chroma keying. This feature is only available when using a single window. See Using Chroma Key for more information.

Mirror
Applies a horizontal transformation (rotated 180° about the y-axis) to window output A. This feature is only available when using a single window. See Using Mirror for more information on using this effect.
Min (Red, Green, Blue)
Click the drop-down list to select the desired minimum RGB colors for the chroma key value. See Using Chroma Key for more information.

Max (Red, Green, Blue)
Click the drop-down list to select the desired maximum RGB colors for the chroma key value. See Using Chroma Key for more information.

The Chroma Key check box must be enabled in order to access each of these drop-down lists.

<table>
<thead>
<tr>
<th>Options (min. / max. values)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>176</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>224</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>240</td>
<td></td>
</tr>
</tbody>
</table>
Additional Presets

The Web interface provides an additional 10 presets which are not available from the front panel buttons. Click the radio button to select the desired preset.

By default, each of these presets use the same window arrangement as Default Preset 2.
Operating the 4x1 Multiview Seamless Switcher for HDMI

## Web Interface

### Main ➤ I/O Status

#### Output

<table>
<thead>
<tr>
<th>Name</th>
<th>OUTPUT1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSENSE</td>
<td>On</td>
</tr>
<tr>
<td>HPD</td>
<td>High</td>
</tr>
<tr>
<td>HDCP</td>
<td>Inactive</td>
</tr>
</tbody>
</table>

Displays the Name, RSENSE, HPD, and HDCP status for the output.

**Name**
Displays the name of the output.

**RSENSE**
Displays the current Rsense state.

**HPD**
Displays the current HPD state.

**HDCP**
Displays the current HDCP state. The HDCP state can be set using the `#set_hdcp` command or through the I/O Setup ➤ HDCP section of the Web interface.
### Web Interface

#### Operating the 4x1 Multiview Seamless Switcher for HDMI

**Input**

<table>
<thead>
<tr>
<th>Name</th>
<th>INPUT1</th>
<th>INPUT2</th>
<th>INPUT3</th>
<th>INPUT4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color Depth</strong></td>
<td>8-bit</td>
<td>8-bit</td>
<td>8-bit</td>
<td>8-bit</td>
</tr>
<tr>
<td><strong>Color Space</strong></td>
<td>RGB</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>HDCP</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Active Signal</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Vertical Resolution</strong></td>
<td>720</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Horizontal Resolution</strong></td>
<td>1280</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Progressive / Interlaced</strong></td>
<td>P</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Refresh Rate</strong></td>
<td>60Hz</td>
<td>0Hz</td>
<td>0Hz</td>
<td>0Hz</td>
</tr>
<tr>
<td><strong>Video Mode</strong></td>
<td>HDMI</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Name**
The name of the input.

**Color Depth**
The color depth of the input signal (8-bit, 16-bit, etc).

**Color Space**
The color space (RGB or YUV) of the input signal.

**HDCP**
Displays whether or not HDCP is detected on the input.

**Active Signal**
Detects whether an input signal is present or not.

**Vertical Resolution**
The vertical resolution (in pixels) of the input signal.

**Horizontal Resolution**
The horizontal resolution (in pixels) of the input signal.

**Progressive / Interlaced**
Detects whether the input signal is progressive or interlaced.

**Refresh Rate**
The refresh rate (frequency) of the input signal.

**Video Mode**
The video mode (HDMI or DVI) of the input signal.
Main ➤ Display Info

Choose EDID
Select the EDID from the drop-down list. The selected EDID will be copied from the Output or selected EDID Bank to the desired input(s) and used by the source.

Options
- Bank 1 ... Bank 8
- Output 1

Feature / Audio Formats
Displays the capabilities of the display (or sink device), based on the EDID.
I/O Setup ➤ Settings

Select Input
Select the desired input from the drop-down list. The Brightness, Contrast, Saturation, and Hue settings are applied to the selected input.

Options
- input 1
- input 2
- input 3
- input 4

Brightness
Enter the desired brightness value in this field.

Contrast
Enter the desired contrast value in this field.

Saturation
Enter the desired saturation value in this field.

Hue
Enter the desired hue value in this field.

Reset All
Click this button to reset picture setting to factory-default.
Info Display
When enabled, this feature will momentarily display information about the current window, whenever a change is made to the input/output resolution, source routing, or preset. To enable this feature, click the check box.

Resolution
Select the desired output resolution from the drop-down list.

<table>
<thead>
<tr>
<th>Options</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>480p</td>
<td>1280 x 1024</td>
</tr>
<tr>
<td>576p</td>
<td>1366 x 768</td>
</tr>
<tr>
<td>720p @ 50 Hz</td>
<td>1440 x 900</td>
</tr>
<tr>
<td>720p @ 60 Hz</td>
<td>1600 x 900</td>
</tr>
<tr>
<td>1080p @ 24 Hz</td>
<td>1600 x 1200</td>
</tr>
<tr>
<td>1080p @ 50 Hz</td>
<td>1680 x 1050</td>
</tr>
<tr>
<td>1080p @ 60 Hz</td>
<td>1920 x 1200</td>
</tr>
<tr>
<td>1024 x 768</td>
<td>Native</td>
</tr>
<tr>
<td>1280 x 800</td>
<td>Native</td>
</tr>
</tbody>
</table>

Save
Click to save the current settings.
I/O Setup ► HPD Control

**Input #**
The number of the input.

**Name**
The name of the input.

**Pulse**
Click the Pulse button to cycle the HDP line on the desired input. This is the equivalent of physically disconnecting and reconnecting the HDMI cable between the source device and the switcher.
Operating the 4x1 Multiview Seamless Switcher for HDMI

Web Interface

I/O Setup ► HDCP

HDCP Pass Through

Inputs

<table>
<thead>
<tr>
<th>Input #</th>
<th>Name</th>
<th>Accept / Not Accept</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>input 1</td>
<td>Accept</td>
</tr>
<tr>
<td>2</td>
<td>input 2</td>
<td>Accept</td>
</tr>
<tr>
<td>3</td>
<td>input 3</td>
<td>Accept</td>
</tr>
<tr>
<td>4</td>
<td>input 4</td>
<td>Accept</td>
</tr>
</tbody>
</table>

All Inputs

Accept / Not Accept

Input #
The number of the input.

Name
The name of the input.

Accept / Not Accept
Click the Accept button to allow HDCP content to pass on the input. Click the Do Not Accept button to prevent HDCP content from being transmitted to the input.

To change all inputs to “Accept” at once, click the Accept button in the row labeled “All Inputs”.

To change all outputs to “Do Not Accept” at once, click the Do Not Accept button in the row labeled “All Inputs”
Always On / Follow Input
Click the Always On button to allow HDCP to pass through on the output. Click the Follow Input button to have the output follow the input setting (Accept / Not Accept). See the previous page for details.

To change all outputs to “Always On” at once, click the Always On button in the row labeled “All Outputs”.

Operating the 4x1 Multiview Seamless Switcher for HDMI
Window Setup

Select Preset
Click this drop-down list to select and load the desired preset.

Lock Aspect Ratio
Click to place a check mark in the check box in order to lock the aspect ratio. When enabled, the height and width of a window will be proportional when resized. Click to clear the check box and allow the window to be re-sized, without restriction.

Interactive Workspace
Position the mouse over any window in this area to display the “move” icon. Click and drag to reposition a window. The selected window will be displayed in the Select Window drop-down list (see the next page). Windows can also be re-sized to the desired height and width by clicking and dragging any of the four corners (circled in red) of a window.
Select Window
Click this drop-down list to select the desired window. A window can also be selected by clicking the desired window in the Interactive Workspace (see the previous page).

Width
The width (in pixels) of the selected window. If this value is changed, the associated window in the interactive workspace will automatically be updated. Alternatively, if the window is resized using the mouse, this value is automatically updated.

Height
The height (in pixels) of the selected window. If this value is changed, the associated window in the interactive workspace will automatically be updated. Alternatively, if the window is resized using the mouse, this value is automatically updated.

X Position
The horizontal position (in pixels), relative to the current output resolution, of the selected window. If this value is changed, the associated window in the interactive workspace will automatically be updated. Alternatively, if the window is repositioned using the mouse, this value is automatically updated.

Y Position
The vertical position (in pixels), relative to the current output resolution, of the selected window. If this value is changed, the associated window in the interactive workspace will automatically be updated. Alternatively, if the window is repositioned using the mouse, this value is automatically updated.

Priority
Click this drop-down list to change the priority of the selected window. See Window Priority for more information on this feature.
Routing
Click the radio button to select the desired input. Each column represents an output.

Mask
Click to place a check mark in the check box in order to mask the selected output. Click to clear the check box and remove the mask.

Audio
Click the radio button to select the input to be used as the audio source. The \#set_audio command can also be used to assign the audio source.

Mute
Click to place a check mark in this check box in order to mute the selected input. Click to clear the check box and unmute the input.

Save
Click to save the current settings. The current settings will be saved to the selected preset displayed in the Select Preset drop-down list.

Reset All
Click this button to reset the window layout to four equally-sized windows.
### Presets

<table>
<thead>
<tr>
<th>Presets</th>
<th>Front Panel Presets</th>
<th>Additional Presets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Default Presets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEFAULT1</td>
<td>PRESET 1</td>
<td>PRESET11</td>
</tr>
<tr>
<td>DEFAULT2</td>
<td>PRESET 2</td>
<td>PRESET12</td>
</tr>
<tr>
<td>DEFAULT3</td>
<td>PRESET 3</td>
<td>PRESET13</td>
</tr>
<tr>
<td>DEFAULT4</td>
<td>PRESET 4</td>
<td>PRESET14</td>
</tr>
<tr>
<td>DEFAULT5</td>
<td>PRESET 5</td>
<td>PRESET10</td>
</tr>
</tbody>
</table>

**Preset Names**
Type the desired name of each preset in these fields.

**Save**
Click to save the changes to the preset names.
Operating the 4x1 Multiview Seamless Switcher for HDMI

Web Interface

**Import Presets**
- **Browse...**
  Click this button to select the desired preset file.

**Upload**
Click this button to upload the preset file to the switcher.

**Export Presets**
- **Download**
  Click to save the current preset configurations and names to file.
EDID ➤ Assign

Lock EDID
Secures the Local EDID and disables automatic EDID loading during power-up.

If the Lock EDID button is clicked (enabled), the “EDID locked on power cycle” message will be displayed in red. The local EDID information will now be locked once the switcher is rebooted. Click the Unlock EDID button to disable the Lock EDID feature.

Unlock EDID
EDID locked on power cycle.

Copy EDID From
Select the EDID from the drop-down list. The EDID will be copied from the Output or selected EDID bank to the destination

Copy EDID To - Please select from the inputs below

Options
- Bank1 ... Bank8
- A - Output 1
**Web Interface**

**Inputs**

**EDID Modes**
Select the EDID mode from the drop-down list.

<table>
<thead>
<tr>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal - 720p 2 ch audio</td>
</tr>
<tr>
<td>Internal - 720p Multi ch</td>
</tr>
<tr>
<td>Internal - 1080p 2 ch audio</td>
</tr>
<tr>
<td>Internal - 1080p Multi ch</td>
</tr>
<tr>
<td>External - Output</td>
</tr>
<tr>
<td>Custom - User</td>
</tr>
</tbody>
</table>

**Select All Inputs**
Click to place a check mark in the check box to select all inputs. Click to clear the check box and allow the deselect all inputs.
### Input #
The number of the input.

### Name
The name of the input.

### EDID Source
The current EDID source being used.

### EDID Name
The name of the EDID.
Operating the 4x1 Multiview Seamless Switcher for HDMI

Web Interface

**Banks**

<table>
<thead>
<tr>
<th>Copy To</th>
<th>Bank #</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>Bank1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Bank2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Bank3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Bank4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Bank5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Bank6</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Bank7</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Bank8</td>
</tr>
</tbody>
</table>

**EDID Name**

- HD-MVSL-441

**Copy To**
Click to place a check mark in the check box where the EDID will be copied.
Click to clear the check box and deselect the bank.

**Bank #**
The number of the bank.

**Name**
The name of the bank.

**Select All Banks**
Click to place a check mark in the check box in order to select all banks. Click to clear the check box and deselect all banks.

**Copy**
Press this button to execute the copy operation.

**Cancel**
Clears all check marks from each box.
**Bank Names**

**Bank #**
Indicates the EDID bank number.

**Name**
Type the desired name of the EDID bank in this field.

**Save**
Saves the current name change to the EDID bank(s).

**Cancel**
Restores the previous name or each bank, if the name was edited.
Operating the 4x1 Multiview Seamless Switcher for HDMI

Web Interface

EDID ► Upload / Download

Upload EDID

Select EDID File to Upload:

Browse...

Select Bank Location:

Bank1 ...

Upload

Browse...
Click this button to select the EDID file to be uploaded.

Select Bank Location
Click this drop-down list to select the bank to where the EDID will be uploaded.

Options
Bank1 ... Bank8

Upload
Click this button to upload the EDID to the specified bank.
Select EDID File to Download
Click this box to select the EDID that is to be saved to a file. The EDID file will be saved in binary (.bin) format.

Options
Bank1 ... Bank8
A - [Display Name] (Output)
1 - HD-MVSL-441 ... 4 - HD-MVSL-441 (Inputs)

Download
Click this button to download the selected EDID to a (.bin) file.
## Network

**IP Settings**

<table>
<thead>
<tr>
<th>MAC Address</th>
<th>00:1c:91:03:a0:10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode</td>
<td>DHCP</td>
</tr>
<tr>
<td>IP Address</td>
<td>10.5.64.199</td>
</tr>
<tr>
<td>Subnet</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Gateway</td>
<td>10.5.64.1</td>
</tr>
<tr>
<td>HTTP Port</td>
<td>80</td>
</tr>
</tbody>
</table>

**MAC Address**
The MAC address of the switcher. The MAC address cannot be changed.

**Mode**
The network mode setting.

**Options**

- **Static**
- **DHCP**

**IP Address**
Enter the IP address of the switcher in this field. This option is only available if the network mode is set to **static**.

**Subnet**
Enter the subnet mask of the switcher in this field. This option is only available if the network mode is set to **static**.

**Gateway**
Enter the gateway (router) address in this field. This option is only available if the network mode is set to **static**.

**HTTP**
Enter the HTTP listening port in this field.
Enable UDP Access
Click to place a check mark in the check box to enable TCP. Click to clear the check box and disable TCP access.

Require Password on Connect
Click to place a check mark in the check box to force the password prompt at the beginning of a Telnet session. Click to clear the check box and disable the password prompt.

Show Login Message on Connect
Click to place a check mark in the check box to display the Telnet Welcome Message. Click again to clear the check box and disable the Telnet Welcome Message.

User Name
Enter the user name, required for login, in this field.

Old Password
Type the current (old) password in this field.

New Password
Type the new password in this field.

Confirm Password
Type the new password in this field.

Terminal Port
Enter the Telnet listening port in this field.
Enable UDP Access
Click to place a check mark in the check box to enable UDP access. Click to clear the check box and disable UDP access.

UDP Port
Enter the UDP listening port in this field.

Remote UDP IP Address
Enter the remote UDP IP address in this field.

Remote UDP Port
Enter the remote UDP listening port in this field.
**Web Interface**

Operating the 4x1 Multiview Seamless Switcher for HDMI

**Web Login Settings**

- **Username**: Click this drop-down list to select the user name.
- **Old Password**: Type the old (current) password in this field.
- **New Password**: Type the new password in this field.
- **Confirm New Password**: Re-type the new password in this field.

**Set Network Defaults**
Click to reset the network settings to factory-default.

**Save**
Click this button to save any network changes made on this page.
**Download**
Click this button to download the current settings and configuration to a file.

**Browse...**
Click this button to select the desired configuration file to upload to the switcher. Any current settings will be overwritten when uploading a configuration file.

**Restore**
Click this button to upload the selected configuration file to the switcher.
**Browse...**
Click this button to select the firmware file to be uploaded. See [Upgrading the Firmware](#) for details on updating the firmware.

**Update**
Click this button to begin the update process, once the firmware file is selected.

**IR Channel**
Click this drop-down list to select the desired IR channel for the switcher. The default IR channel of the 4x1 Multiview Seamless Switcher for HDMI is channel 0. In order to function correctly, the included IR remote control must also be set to the same channel. See [Setting the IR Channel](#) for more information.

**Reset**
Click this button to set the switcher to factory-default settings. The TCP/IP settings are preserved.

**Reboot**
Click this button to reboot the switcher.
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03 Advanced Operation
RS-232 and IP Configuration

Using Telnet

1. Launch the desired terminal application. For example, on the Windows operation system, we can use Hyperterminal; on Mac OS X, we can use the Terminal application.

2. In this example, we will use Terminal in Mac OS X. At the command prompt, type the following:

   `telnet ip_address`

   where `ip_address` is the IP address of the switcher.

3. After correct settings have been used in the terminal program, information similar to the following will be displayed:

   `Welcome to EXT-HD-MVSL-441 TELNET`

   `telnet->`

4. Type `#help` for a list of commands or refer to the tables on the following pages.

Using RS-232

1. Launch the desired terminal application.

2. Selected the desired COM port.

3. Configure the RS-232 port to the following settings. Only TxD, RxD, and GND pins are used.

<table>
<thead>
<tr>
<th>Description</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud rate</td>
<td>19200</td>
</tr>
<tr>
<td>Data bits</td>
<td>8</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop bits</td>
<td>1</td>
</tr>
<tr>
<td>Hardware flow control</td>
<td>None</td>
</tr>
</tbody>
</table>

4. Connect to the RS-232 port.

5. Type `#help` for a list of commands or refer to the tables on the following pages.
UDP Configuration

The 4x1 Multiview Seamless Switcher also supports the UDP protocol. To configure UDP settings, click the Network tab within the Web interface.

See Network for more information on available UDP settings.

NOTE: Depending upon the network, all related IP, Telnet, and UDP settings will need to be assigned. Consult your network administrator to obtain the proper settings.
## Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#chromakey</td>
<td>Enables or disables chroma-keying</td>
</tr>
<tr>
<td>#chromakey_color</td>
<td>Sets the RGB color range for the chroma key</td>
</tr>
<tr>
<td>#display_telnet_welcome</td>
<td>Enables or disables the Telnet welcome message</td>
</tr>
<tr>
<td>#fade</td>
<td>Enable or disable fade effect</td>
</tr>
<tr>
<td>#fadefault</td>
<td>Resets the current routing and masking state to factory-default settings</td>
</tr>
<tr>
<td>#help</td>
<td>Displays the list of available commands</td>
</tr>
<tr>
<td>#hdp_pulse</td>
<td>Cycles the HPD line on the specified input</td>
</tr>
<tr>
<td>#lock_aspect</td>
<td>Locks the aspect ratio of all inputs</td>
</tr>
<tr>
<td>#lock_edid</td>
<td>Locks the local EDID when the switcher is power-cycled</td>
</tr>
<tr>
<td>#lock_matrix</td>
<td>Locks or unlocks the switcher</td>
</tr>
<tr>
<td>#mask</td>
<td>Masks the specified outputs</td>
</tr>
<tr>
<td>#mirror</td>
<td>Enables or disables window mirroring</td>
</tr>
<tr>
<td>#mute</td>
<td>Enables or disables muting on all outputs</td>
</tr>
<tr>
<td>#power</td>
<td>Toggles the power on the switcher</td>
</tr>
<tr>
<td>#reboot</td>
<td>Reboots the switcher</td>
</tr>
<tr>
<td>#recall_preset</td>
<td>Loads the specified routing preset into memory</td>
</tr>
<tr>
<td>#reset_picture</td>
<td>Resets picture settings to factory-default</td>
</tr>
<tr>
<td>#rotate</td>
<td>Rotates the output video signal</td>
</tr>
<tr>
<td>#save_preset</td>
<td>Saves a routing preset to memory</td>
</tr>
<tr>
<td>#set_audio</td>
<td>Sets the audio input</td>
</tr>
<tr>
<td>#set_bank_name</td>
<td>Assigns a name to the specified bank</td>
</tr>
<tr>
<td>#set_brightness</td>
<td>Sets the brightness level for all outputs</td>
</tr>
<tr>
<td>#set_contrast</td>
<td>Sets the contrast level for all outputs</td>
</tr>
<tr>
<td>#set_device_descr</td>
<td>Sets the name of the switcher</td>
</tr>
<tr>
<td>#set_edid</td>
<td>Assigns the specified EDID to an input or bank</td>
</tr>
<tr>
<td>#set_gateway</td>
<td>Sets the gateway address</td>
</tr>
<tr>
<td>#set_hdcpc</td>
<td>Enables or disables HDCP detection</td>
</tr>
<tr>
<td>#set_hposition</td>
<td>Sets the horizontal position of the specified window</td>
</tr>
<tr>
<td>#set_hsize</td>
<td>Sets the horizontal size of the specified window</td>
</tr>
<tr>
<td>#set_http_port</td>
<td>Sets the HTTP listening port</td>
</tr>
<tr>
<td>#set_hue</td>
<td>Sets the hue for all outputs</td>
</tr>
<tr>
<td>#set_ipadd</td>
<td>Sets the IP address</td>
</tr>
<tr>
<td>#set_ipmode</td>
<td>Sets the IP mode (DHCP or static)</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><code>#set_ir</code></td>
<td>Sets the IR channel of the switcher</td>
</tr>
<tr>
<td><code>#set_netmask</code></td>
<td>Sets the subnet mask</td>
</tr>
<tr>
<td><code>#set_osd</code></td>
<td>Enables or disables the OSD (On-Screen Display)</td>
</tr>
<tr>
<td><code>#set_output</code></td>
<td>Sets the output resolution</td>
</tr>
<tr>
<td><code>#set_preset_name</code></td>
<td>Assigns a name to the specified preset</td>
</tr>
<tr>
<td><code>#set_priority</code></td>
<td>Sets the priority for the specified window</td>
</tr>
<tr>
<td><code>#set_saturation</code></td>
<td>Set the saturation for the specified window</td>
</tr>
<tr>
<td><code>#set_telnet_pass</code></td>
<td>Sets the Telnet password</td>
</tr>
<tr>
<td><code>#set_telnet_port</code></td>
<td>Sets the Telnet listening port</td>
</tr>
<tr>
<td><code>#set_telnet_user</code></td>
<td>Sets the Telnet user name</td>
</tr>
<tr>
<td><code>#set_udp_port</code></td>
<td>Sets the local UDP listening port</td>
</tr>
<tr>
<td><code>#set_udp_remote_ip</code></td>
<td>Sets the remote UDP IP address</td>
</tr>
<tr>
<td><code>#set_udp_remote_port</code></td>
<td>Sets the remote UDP port</td>
</tr>
<tr>
<td><code>#set_vposition</code></td>
<td>Sets the vertical position of the specified window</td>
</tr>
<tr>
<td><code>#set_vsize</code></td>
<td>Sets the vertical size of the specified window</td>
</tr>
<tr>
<td><code>#set_webui_ad_pass</code></td>
<td>Sets the Administrator password for the Web interface</td>
</tr>
<tr>
<td><code>#set_webui_op_pass</code></td>
<td>Sets the Operator password for the Web interface</td>
</tr>
<tr>
<td><code>#show_bank_name</code></td>
<td>Displays the name of the specified EDID bank</td>
</tr>
<tr>
<td><code>#show_brightness</code></td>
<td>Displays the brightness value for all outputs</td>
</tr>
<tr>
<td><code>#show_chromakey_color</code></td>
<td>Displays the minimum or maximum value of the specified chroma key color component</td>
</tr>
<tr>
<td><code>#show_contrast</code></td>
<td>Displays the contrast value for all outputs</td>
</tr>
<tr>
<td><code>#show_device_descr</code></td>
<td>Displays the IP address of the (router) gateway</td>
</tr>
<tr>
<td><code>#show_hdcp</code></td>
<td>Displays the HDCP status of the specified input</td>
</tr>
<tr>
<td><code>#show_http_port</code></td>
<td>Displays the Web server listening port</td>
</tr>
<tr>
<td><code>#show_hue</code></td>
<td>Displays the hue value for all outputs</td>
</tr>
<tr>
<td><code>#show_ip</code></td>
<td>Displays the current IP address of the switcher</td>
</tr>
<tr>
<td><code>#show_ipconfig</code></td>
<td>Displays the current TCP/IP settings of the switcher</td>
</tr>
<tr>
<td><code>#show_ipmode</code></td>
<td>Displays the current IP mode (DHCP or static)</td>
</tr>
<tr>
<td><code>#show_ir</code></td>
<td>Displays the current IR channel of the switcher</td>
</tr>
<tr>
<td><code>#show_mac_addr</code></td>
<td>Displays the MAC address of the switcher</td>
</tr>
<tr>
<td><code>#show_netmask</code></td>
<td>Displays the current subnet mask</td>
</tr>
<tr>
<td><code>#show_osd</code></td>
<td>Enables or disables the OSD (On-Screen Display)</td>
</tr>
<tr>
<td><code>#show_output</code></td>
<td>Displays the output resolution</td>
</tr>
<tr>
<td><code>#show_power</code></td>
<td>Displays the power state of the switcher</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>#show_preset_name</td>
<td>Displays the name of the specified preset</td>
</tr>
<tr>
<td>#show_saturation</td>
<td>Displays the saturation value for all outputs</td>
</tr>
<tr>
<td>#show_tcp_access</td>
<td>Displays the current TCP access state</td>
</tr>
<tr>
<td>#show_telnet_port</td>
<td>Displays the current Telnet port</td>
</tr>
<tr>
<td>#show_udp_port</td>
<td>Displays the current UDP serial port</td>
</tr>
<tr>
<td>#show_udp_remote_ip</td>
<td>Displays the current UDP remote IP address</td>
</tr>
<tr>
<td>#show_udp_remote_port</td>
<td>Displays the current UDP remote port</td>
</tr>
<tr>
<td>#show_ver_data</td>
<td>Displays the current hardware and software version</td>
</tr>
<tr>
<td>#unmask</td>
<td>Disables masking on the specified output</td>
</tr>
<tr>
<td>#use_tcp_access</td>
<td>Enables or disables Telnet access</td>
</tr>
<tr>
<td>#use_telnet_pass</td>
<td>Forces password credentials for each Telnet session</td>
</tr>
<tr>
<td>#use_udp_access</td>
<td>Enables or disables UDP access</td>
</tr>
<tr>
<td>m</td>
<td>Displays the switcher routing status</td>
</tr>
<tr>
<td>r</td>
<td>Routes the specified input to the output</td>
</tr>
<tr>
<td>s</td>
<td>Routes the specified input to all outputs</td>
</tr>
</tbody>
</table>
#chromakey

The #chromakey command enables or disables chroma-keying. This command is only applicable when viewing a single input (full screen). Executing this command when viewing multiple windows will return an error.

Syntax

#chromakey param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0 ... 1]</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>Disable</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Enable</td>
</tr>
</tbody>
</table>

Examples

#chromakey 1
CHROMAKEY EFFECT ON

If command is run when viewing multiple windows:

#chromakey 1
CURRENT ROUTING STATE IS WRONG!
#chromakey_color

The `#chromakey_color` command sets the RGB color range for the chroma key. See Using Chroma Key for more information using this feature.

Syntax

```
#chromakey_color param1 param2 param3
```

Parameters

**param1**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>Red channel</td>
</tr>
<tr>
<td>g</td>
<td>Green channel</td>
</tr>
<tr>
<td>b</td>
<td>Blue channel</td>
</tr>
</tbody>
</table>

**param2**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>min</td>
<td>Minimum value</td>
</tr>
<tr>
<td>max</td>
<td>Maximum value</td>
</tr>
</tbody>
</table>

**param3**

<table>
<thead>
<tr>
<th>Value</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>63</td>
</tr>
<tr>
<td>4</td>
<td>64</td>
<td>79</td>
</tr>
<tr>
<td>5</td>
<td>80</td>
<td>95</td>
</tr>
</tbody>
</table>

*If `param2` = min, then value under the Min column will be used. If `param2` = max, then get the value under the Max column.*
<table>
<thead>
<tr>
<th>Value</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>96</td>
<td>111</td>
</tr>
<tr>
<td>7</td>
<td>112</td>
<td>127</td>
</tr>
<tr>
<td>8</td>
<td>128</td>
<td>143</td>
</tr>
<tr>
<td>9</td>
<td>144</td>
<td>159</td>
</tr>
<tr>
<td>10</td>
<td>160</td>
<td>175</td>
</tr>
<tr>
<td>11</td>
<td>176</td>
<td>191</td>
</tr>
<tr>
<td>12</td>
<td>192</td>
<td>207</td>
</tr>
<tr>
<td>13</td>
<td>208</td>
<td>223</td>
</tr>
<tr>
<td>14</td>
<td>224</td>
<td>239</td>
</tr>
<tr>
<td>15</td>
<td>240</td>
<td>255</td>
</tr>
</tbody>
</table>

**Examples**

```
#chromakey_color r min 2
CHROMA KEY VALUE FOR R MIN SET TO 32

#chromakey_color r max 14
CHROMA KEY VALUE FOR R MAX SET TO 239
```
#display_telnet_welcome

The `#display_telnet_welcome` command enables or disables the Telnet welcome message during a Telnet session.

**Syntax**

```
#display_telnet_welcome param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable welcome message</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable welcome message</td>
</tr>
</tbody>
</table>

**Example**

```
#display_telnet_welcome 1

TELNET WELCOME SCREEN IS ENABLED
```

When enabled and a Telnet session has been started, the following will appear:

```
Welcome to EXT-HD-MVSL-441 TELNET
```
#fade

The `#fade` command enables or disables fade effects.

Syntax

`#fade param1`

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable fade effects</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable fade effects</td>
</tr>
</tbody>
</table>

Example

`#fade 1`

FADE EFFECT ON
**#fadefault**

The `#fadefault` command resets the 4x1 Multiview Seamless Switcher for HDMI to factory-default settings. Outputs are unmasked and all IP and UDP settings are reset to default settings.

**Syntax**

```
#fadefault
```

**Parameters**

`None`

**Example**

```
#fadefault
```
The #help command displays the list of available RS-232 / Telnet commands. Help on a specific command can be displayed when using param1.

Syntax

#help param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Command name (optional)</th>
<th>[STRING]</th>
</tr>
</thead>
</table>

Example

#help #sipadd
SET IP ADDRESS
#SIPADD PARAM1
PARAM1 = XXX.XXX.XXX.XXX
WHERE XXX: 0 - 255
# hdp_pulse

The `#hdp_pulse` command cycles the HPD line on the specified input. Issuing this command is identical to physically disconnecting and reconnecting the cable between the source and the switcher. If `param1 = 0`, then an HPD pulse is sent to all inputs.

**Syntax:**

```
#hdp_pulse param1
```

**Parameters:**

- `param1` Input [1 ... 4]

**Examples:**

```
#hdp_pulse 1
HPD PULSE HAS BEEN SENT TO INPUT 1
```
#lock_aspect

The #lock_aspect command locks or unlocks the aspect ratio of all inputs. This command is only applicable when viewing multiple input (multiple windows). Executing this command when viewing a single window will return an error.

Syntax

#lock_aspect param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0 ... 1]</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>Unlock</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Lock</td>
</tr>
</tbody>
</table>

Example

#lock_aspect 1
ASPECT RATIO LOCKED

If command is run when viewing a single window:

#lock_aspect 1
CURRENT ROUTING STATE IS WRONG!
#lock_edid

The `#lock_edid` command secures the Local EDID by disabling the automatic loading of the downstream EDID when the switcher is powered.

**Syntax**

```
#lock_edid param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Unlock EDID</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Lock EDID</td>
</tr>
</tbody>
</table>

**Example**

```
#lock_edid 1
EDID IS LOCKED
```
#lock_matrix

The #lock_matrix command locks or unlocks the switcher. When the switcher is locked, all functions are disabled including the front panel, RS-232, and Telnet.

Syntax

#lock_matrix param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Unlock</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Lock</td>
</tr>
</tbody>
</table>

Example

#lock_matrix 1
ALL MATRIX FUNCTIONS IS LOCKED
The `#mask` command masks the video on the specified window(s). Use the `#unmask` command to disable output masking. If `param1 = 0`, then all outputs are masked.

**Syntax**

```
#mask param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Window</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0 ... 4]</td>
</tr>
</tbody>
</table>

**Examples**

```
#mask 1
OUTPUT A IS MASKED

#mask 0
ALL OUTPUTS ARE MASKED
```
#mirror

The #mirror command enables or disables window mirroring. This command applies a horizontal transformation (rotated 180° about the y-axis) to window output A.

Syntax

#mirror param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable</td>
</tr>
</tbody>
</table>

Example

#mirror 1
MIRROR EFFECT ON
#mute

The `#mute` command enables or disables audio muting on all outputs.

**Syntax**

`#mute param1`

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Unlock</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Lock</td>
</tr>
</tbody>
</table>

**Example**

`#mute 1`

`AUDIO IS MUTED`
#power

The `#power` command toggles power on the 4x1 Multiview Seamless Switcher for HDMI.

Syntax

```
#power param1
```

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Off</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>On</td>
</tr>
</tbody>
</table>

Examples

```
#power 0
POWER IS OFF

#power 1
POWER IS ON
```
#reboot

The #reboot command reboots the 4x1 Multiview Seamless Switcher for HDMI. Executing this command is the equivalent of disconnecting and reconnecting the AC power cord, on the back of the switcher. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after changing any of the IP settings.

Syntax

#reboot

Parameters

None

Example

#reboot
DEVICE HAS BEEN REBOOTED
IP: 192.168.5.155
Netmask: 255.255.255.0
Gateway: 192.168.5.254
Ethernet Cable Plug in!!
#recall_preset

The `#recall_preset` command loads the routing preset.

**Syntax**

```
#recall_preset param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Preset</th>
<th>[1 ... 10]</th>
</tr>
</thead>
</table>

**Example**

```
#recall_preset 2
INPUT 4 IS ROUTED TO WINDOW OUTPUT A
RECALL ROUTING STATE PRESET 2
```
#reset_picture

The `#reset_picture` command resets all picture settings to factory-default.

Syntax

`#reset_picture`

Parameters

`None`

Example

`#reset_picture`

PICTURE SETTINGS HAVE BEEN SET TO DEFAULTS
#rotate

The #rotate command is used to rotate the output image. This command can only be used when using single window mode. See Single Window Nomenclature for information on using a single window. Set param1 = 0 to turn off image rotation.

Syntax

#rotate param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Right 90º</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Left 90º</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>180º</td>
</tr>
</tbody>
</table>

Example

#rotate 2
ROTATE VIDEO SET TO L90
#save_preset

The `#save_preset` command saves the current routing state to a specified preset.

**Syntax**

```
#save_preset param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preset</td>
<td>[1 ... 10]</td>
</tr>
</tbody>
</table>

**Example**

```
#save_preset 1
CURRENT ROUTING STATE IS SAVED TO PRESET 1
```

#set_audio

The `#set_audio` command sets the audio input.

**Syntax**

```
#set_audio param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Audio Input</td>
<td>[1 ... 4]</td>
</tr>
</tbody>
</table>

**Example**

```
#set_audio 1
AUDIO INPUT 1 IS SELECTED
```
#set_bank_name
The #set_bank_name command names the specified bank.

Syntax

#set_bank_name param1 param2

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Bank</th>
<th>[1 ... 8]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Name</td>
<td>[STRING]</td>
</tr>
</tbody>
</table>

Example

#set_bank_name 5 Dell_24
Dell_24 NAME IS ASSIGNED TO BANK 5

#set_brightness
The #set_brightness command sets the brightness level of the video signal on the specified input.

Syntax

#set_brightness param1 param2

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Input</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Level</td>
<td>[0 ... 100]</td>
</tr>
</tbody>
</table>

Examples

#set_brightness 1 65
INPUT 1 IS SET TO BRIGHTNESS VALUE : 65
#set_contrast

The #set_contrast command sets the contrast level of the video signal on the specified input. If param1 = 0, then all inputs are affected.

Syntax

#set_contrast param1 param2

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Input</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Level</td>
<td>[0 ... 100]</td>
</tr>
</tbody>
</table>

Examples

#set_contrast 1 74
INPUT 1 IS SET TO CONTRAST VALUE 74
#set_device_descr

The #set_device_descr command assigns a name to the switcher. This is useful when there are multiple devices on a network and you want to give them different names (e.g. Conf Rm, Wall Unit 1, etc.) The value of param1 cannot exceed 12 characters in length. The default name is EXT-HD-MVSL-441.

Syntax

#set_device_descr param1

Parameters

param1 Name [STRING]

Examples

#set_device_descr WallTwo
DEVICE DESCRIPTION NAME IS SET TO WallTwo
#set_edid

The #set_edid command sets the specified EDID type to an input or bank. Note that the argument for param2 is dependent upon the value of param1. Similarly, the argument for param4 is dependent upon the value of param3.

Syntax

#set_edid param1 param2 param3 param4

Parameters

<table>
<thead>
<tr>
<th>param1 Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>int</td>
<td>Uses default (Internal) EDID</td>
</tr>
<tr>
<td>bank</td>
<td>Uses EDID bank</td>
</tr>
<tr>
<td>output</td>
<td>Uses EDID on Output (sink)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>param2* Source</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1 ... 4        | 1 = 720p / 2CH  
|                | 2 = 720p / Multichannel  
|                | 3 = 1080p / 2CH  
|                | 4 = 1080p / Multichannel  |
| 1 ... 8        | EDID bank |
| 1 ... 4        | Output |

* When specifying param2, the available arguments will depend upon the value of param1:

If param1 = int, then param2 must specify an internal EDID from 1 to 4. If param1 = bank, then param2 must specify an EDID bank from 1 to 8. If param1 = output, then param2 must specify an output from 1 to 4.

(continued on next page)
### param3

<table>
<thead>
<tr>
<th>Target</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>input</td>
<td>Specifies an input</td>
</tr>
<tr>
<td>bank</td>
<td>Specifies an EDID bank</td>
</tr>
</tbody>
</table>

**param4**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ... 4</td>
<td>Input</td>
</tr>
<tr>
<td>1 ... 8</td>
<td>EDID bank</td>
</tr>
</tbody>
</table>

** When specifying param4, the available arguments will depend upon the value of param3:

If `param3 = input`, then `param4` must be an input from 1 to 4. If `param3 = bank`, then `param4` must specify an EDID bank from 1 to 8.

### Examples

```bash
#set_edid int 2 input 4
INTERNAL EDID 2 IS SAVED TO INPUT4

#set_edid bank 3 bank 5
BANK EDID 3 IS SAVED TO BANK5
```
#set_gateway

The #set_gateway command sets the gateway address. The gateway must be typed using dot-decimal notation. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command. The default gateway is 192.168.1.1.

Syntax

#set_gateway param1

Parameters

param1          Gateway

Example

#set_gateway 192.168.1.5
GATEWAY : 192.168.1.11
#set_hdcp

The #set_hdcp command disables or enables HDCP pass-through on the specified input. If \( \text{param2} = 0 \), then all inputs are affected.

Syntax

#set_hdcp param1 param2 param3

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Input</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Output</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>param2</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Input 1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Input 2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Input 3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Input 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>param3</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Accept / Follow Input</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Not Accept / Always On</td>
</tr>
</tbody>
</table>

(continued on next page)
The meaning of \textit{param3} changes depending upon the value specified by \textit{param1}. For example, if param1 = 0, then the HDCP settings will affect the inputs. Setting \textit{param3} = 0 will result in setting the specified input to “Accept”. If \textit{param3} = 1, then the input will be set to “Not Accept”.

Conversely, if \textit{param1} = 1, then the HDCP settings will affect the outputs. Setting \textit{param3} = 0 will result in the affecting the outputs: If \textit{param3} = 0, then the specified output will be set to “Follow Input”. If \textit{param3} = 1, then the specified input will be set to “Always On”.

\textbf{Examples}

\begin{verbatim}
#set_hdcp 0 2 1
HDCP SET TO NOT ACCEPT ON INPUT 2

#set_hdcp 1 1 0
HDCP SET TO FOLLOW INPUT FOR OUTPUT 1

#set_hdcp 0 0 1
HDCP SET TO NOT ACCEPT ON ALL INPUTS
\end{verbatim}
#set_hposition

The `#set_hposition` command sets the horizontal position of the specified window. `param2` is the number of horizontal pixels for the resolution of the specified window. This command is only applicable when viewing multiple input (multiple windows). Executing this command when viewing a single window will return an error.

Syntax

```
#set_hposition param1 param2
```

Parameters

- `param1` Window [1 .. 4]
- `param2` Horizontal Pixels (active) [0 .. n]

Example

```
#set_hposition 1 300
```

SET HORIZONTAL POSITION VALUE TO 300 PIXELS FOR WINDOW 1

If command is run when viewing a single window:

```
#set_hposition 1 300
```

CURRENT ROUTING STATE IS WRONG!
#set_hsize

The #set_hsize command sets the horizontal size of the specified window. *param2* is the number of horizontal pixels for the resolution of the specified window. This command is only applicable when viewing multiple input (multiple windows). Executing this command when viewing a single window will return an error.

**Syntax**

#set_hsize param1 param2

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Window</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Horizontal Pixels (active)</td>
<td>[0 ... n]</td>
</tr>
</tbody>
</table>

**Example**

#set_hsize 1 600
SET HORIZONTAL STRETCH VALUE TO 600 PIXELS FOR WINDOW 1

If command is run when viewing a single window:

#set_hsize 1 600
CURRENT ROUTING STATE IS WRONG!
#set_http_port

The `#set_http_port` command specifies the Web server listening port. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command. The default port setting is 80. Use the `#show_http_port` command to display the current HTTP listening port.

Syntax

```
#set_http_port param1
```

Parameters

```
| param1 | Port | [1 ... 1024] |
```

Example

```
#set_http_port 82
HTTP PORT 82 IS SET
```

#set_hue

The `#set_hue` command sets the hue for the video signal on the specified input. If `param1 = 0`, then all inputs are affected.

Syntax

```
#set_hue param1 param2
```

Parameters

```
<table>
<thead>
<tr>
<th>param1</th>
<th>Input</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Value</td>
<td>[0 ... 100]</td>
</tr>
</tbody>
</table>
```

Example

```
#set_hue 1 30
INPUT 1 IS SET TO HUE VALUE 30
```
#set_ipadd

The #set_ipadd command sets the IP address of the 4x1 Multiview Seamless Switcher for HDMI. The IP address must be entered using dot-decimal notation. The switcher must be rebooted after executing this command. The default IP address is 192.168.1.72. Use the #show_ipconfig or #show_ip command to display the current IP address of the 4x1 Multiview Seamless Switcher for HDMI.

Syntax

#set_ipadd param1

Parameters

param1  IP address

Example

#set_ipadd 192.168.1.190
IP ADDRESS : 192.168.1.190
#set_ipmode

The #set_ipmode command sets the IP mode to DHCP or static. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command.

Syntax

#set_ipmode param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>DHCP</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Static</td>
</tr>
</tbody>
</table>

Example

#set_ipmode 1
IP MODE SET TO STATIC
PLEASE REBOOT TO ACTIVATE!!!
The \texttt{#set_ir} command sets the IR channel for the switcher. The default IR channel setting is 1. The IR channel for the switcher can also be set under the \texttt{System} tab within the Web interface.

Both the switcher and the included IR remote control must be set to the same IR channel in order to work properly. To set the IR channel for the included IR remote control, see \texttt{Setting the IR Channel}.

\textbf{Syntax}

\texttt{#set_ir param1}

\textbf{Parameters}

\begin{tabular}{ll}
\textit{param1} & Channel \\
\hline
0 & \texttt{IR channel 0} \\
1 & \texttt{IR channel 1} \\
2 & \texttt{IR channel 2} \\
3 & \texttt{IR channel 3} \\
\end{tabular}

\textbf{Example}

\texttt{#set_ir 1}

\texttt{IR CHANNEL IS SET TO 1}
#set_netmask

The #set_netmask command sets the subnet mask. The subnet mask must be entered using dot-decimal notation. The switcher must be rebooted after executing this command. The default subnet mask is 255.255.255.0. Use the #show_netmask or #show_ipconfig command to display the current subnet mask of the switcher.

Syntax

#set_netmask param1

Parameters

param1 Subnet mask

Example

#set_netmask 255.255.255.0
NETMASK : 255.255.255.0
#set_osd

The #set_osd command enables or disables the OSD (On-Screen Display). The OSD is enabled, by default.

Syntax

#set_osd param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable</td>
</tr>
</tbody>
</table>

Example

#set_osd 0
OSD IS SET TO OFF
#set_output

The `#set_output` command sets the output resolution. The specified output resolution is applied to all outputs.

Syntax

`#set_output param1`

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>480p</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>576p</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>720p @ 50 Hz</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>720p @ 60 Hz</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1080p @ 24 Hz</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1080p @ 50 Hz</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1080p @ 60 Hz</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1024 x 768</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1280 x 800</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1280 x 1024</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1366 x 768</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>1440 x 900</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1600 x 900</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1600 x 1200</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1680 x 1050</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1920 x 1200</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Native</td>
<td></td>
</tr>
</tbody>
</table>

Example

```
#set_output 17
OUTPUT RESOLUTION IS SET TO Native 1920x1080P 60HZ
```
#set_preset_name

The #set_preset_name command assigns a name to the specified preset. The name of the preset is limited to 8 characters. Names longer than 8 characters will be truncated. To display the name of a preset, use the #show_preset_name command. Presets 1 through 5 cannot be changed.

Syntax

#set_preset_name param1 param2

Parameters

<table>
<thead>
<tr>
<th>Param</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>param1</td>
<td>Preset</td>
<td>[6 ... 20]</td>
</tr>
<tr>
<td>param2</td>
<td>Name</td>
<td>[STRING]</td>
</tr>
</tbody>
</table>

Example

#set_preset_name 8 MyWinCfg
MyWinCfg NAME IS ASSIGNED TO PRESET 8
#set_priority

The `#set_priority` command sets the priority for the specified window. Windows assigned with a priority of 1 will appear on top of all other windows. Windows with a priority of 4 will be displayed on the bottom of all other windows. See Window Priority for more information.

Syntax

```
#set_priority param1 param2
```

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Window</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Priority</td>
<td>[1 ... 4]</td>
</tr>
</tbody>
</table>

Example

```
#set_priority 2 1
WINDOW 2 SET TO PRIORITY 1
```
#set_saturation

The `#set_saturation` command sets the color saturation level for the specified input. If `param1 = 0`, then all inputs are affected.

**Syntax**

```
#set_saturation param1 param2
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Input</th>
<th>[0 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Level</td>
<td>[0 ... 100]</td>
</tr>
</tbody>
</table>

**Example**

```
#set_saturation 1 65
INPUT 1 IS SET TO SATURATION VALUE 65
```
The \texttt{#set_telnet_pass} command sets the Telnet password. The password cannot exceed 10 characters in length.

\textbf{Syntax}

\texttt{#set_telnet_pass \textit{param1}}

\textbf{Parameters}

\begin{tabular}{lll}
\textit{param1} & \textbf{Password} & [STRING] \\
\end{tabular}

\textbf{Example}

\texttt{#set_telnet_pass Fl0ti11a}

TELNET INTERFACE PASSWORD IS SET Fl0ti11a
The `#set_telnet_port` command sets the Telnet listening port. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command. The default port setting is 23. Use the `#show_telnet_port` command to display the current Telnet listening port.

**Syntax**

```
#set_telnet_port param1
```

**Parameters**

- `param1`          Port [1 ... 1024]

**Example**

```
#set_telnet_port 24
TELNET PORT 24 IS SET
```
#set_telnet_user

The #set_telnet_user command creates a Telnet username.

Syntax

#set_telnet_user param1

Parameters

| param1 | Username | [STRING] |

Example

#set_telnet_user bo55man
TELNET INTERFACE USERNAME IS SET bo55man
#set_udp_port

The #set_udp_port command sets the UDP listening port.

Syntax

#set_udp_port param1

Parameters

| param1 | Port | [1 ... 65535] |

Example

#set_udp_port 1002
UDP COMMUNICATION PORT 1002 IS SET
PLEASE REBOOT THE UNITS
The #set_udp_remote_ip command sets the remote UDP IP address. The IP address must be specified using dot-decimal notation. The default UDP remote IP address is 192.168.1.255. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command.

**Syntax**

```
#set_udp_remote_ip param1
```

**Parameters**

- `param1`  
  UDP address

**Example**

```
#set_udp_remote_ip 192.168.1.227
UDP REMOTE IP ADDRESS : 192.168.1.227
```
#set_udp_remote_port

The #set_udp_remote_port command sets the remote UDP listening port. The default remote UDP listening port is 50008. The 4x1 Multiview Seamless Switcher for HDMI must be rebooted after executing this command.

Syntax

#set_udp_remote_port param1

Parameters

| param1   | Port     | [0 ... 65535] |

Example

#set_udp_remote_port 50008

REMOTE UDP COMMUNICATION PORT 50008 IS SET.
#set_vposition

The `#set_vposition` command sets the vertical position of the specified window. `param2` is the number of vertical pixels for the resolution of the specified window. This command is only applicable when viewing multiple windows. Executing this command when viewing a single window will return an error.

Syntax

```
#set_vposition param1 param2
```

Parameters

- **param1**  
  Window  
  [1 ... 4]
- **param2**  
  Vertical Pixels (active)  
  [0 ... n]

Example

```
#set_vposition 2 100
SET VERTICAL POSITION VALUE TO 100 PIXELS FOR WINDOW 2
```

If command is executed when viewing a single window:

```
#set_vposition 2 100
CURRENT ROUTING STATE IS WRONG!
```
#set_vsize

The #set_vsize command sets the vertical size of the specified window. param2 is the number of vertical pixels for the resolution of the specified window. This command is only applicable when viewing multiple windows. Executing this command when viewing a single window will return an error.

Syntax

#set_vsize param1 param2

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Window</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>param2</td>
<td>Vertical Pixels (active)</td>
<td>[0 ... n]</td>
</tr>
</tbody>
</table>

Example

#set_vsize 3 250
SET VERTICAL STRETCH VALUE TO 250 PIXELS FOR WINDOW 3

If command is executed when viewing a single window:

#set_vsize 3 250
SET VERTICAL STRETCH VALUE TO 250 PIXELS FOR WINDOW 3
#set_webui_ad_pass

The #set_webui_ad_pass command sets the Administrator password for the Web GUI. The password is case-sensitive and cannot exceed 8 characters in length. The default password is Admin.

Syntax

#set_webui_ad_pass param1

Parameters

param1 Password

Example

#set_webui_ad_pass bossman
WEB UI ADMINISTRATOR PASSWORD IS SET bossman
### #set_webui_op_pass

The `#set_webui_ad_pass` command sets the Operator password for the Web GUI. The default password is Admin.

**Syntax**

```
#set_webui_op_pass param1
```

**Parameters**

- `param1` Password

**Example**

```
#set_webui_op_pass minion
WEB UI OPERATOR PASSWORD IS SET minion
```

### #show_audio

The `#show_audio` command displays the current audio source. Use the `#set_audio` command to set the audio source.

**Syntax**

```
#show_audio
```

**Parameters**

- `None`

**Example**

```
#show_audio
AUDIO SOURCE 1 IS SELECTED
```
#show_bank_name

The `#show_bank_name` command displays the name of the specified EDID bank. To assign a name to an EDID bank, use the `#set_bank_name` command.

Syntax

```
#show_bank_name param1
```

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Bank</th>
<th>[1 ... 8]</th>
</tr>
</thead>
</table>

Example

```
#show_bank_name 5
THE NAME FOR BANK5 IS : Dell24
```
#show_brightness

The #show_brightness command displays the brightness level for the specified input. If $param1 = 0$, then the brightness value for all inputs are returned.

Syntax

#show_brightness param1

Parameters

None

Examples

#show_brightness 1
INPUT 1 IS SET TO BRIGHTNESS VALUE 65

#show_brightness 0
INPUT 1 IS SET TO BRIGHTNESS VALUE 65
INPUT 2 IS SET TO BRIGHTNESS VALUE 50
INPUT 3 IS SET TO BRIGHTNESS VALUE 50
INPUT 4 IS SET TO BRIGHTNESS VALUE 50
#show_chromakey_color

The #show_chromakey_color command displays the minimum or maximum value of the specified chroma key color component.

Syntax

#show_chromakey_color param1 param2

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Color channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>r</td>
<td>Red channel</td>
</tr>
<tr>
<td>g</td>
<td>Green channel</td>
</tr>
<tr>
<td>b</td>
<td>Blue channel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>param2</th>
<th>Color range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>min</td>
<td>Minimum value</td>
</tr>
<tr>
<td>max</td>
<td>Maximum value</td>
</tr>
</tbody>
</table>

Example

#show_chromakey_color r max
CHROMA KEY VALUE FOR R MAX SET TO 15
#show_contrast

The #show_contrast command displays the contrast level for the specified input. If `param1` = 0, then the contrast value for all inputs are returned.

Syntax

```
#show_contrast param1
```

Parameters

- `aparam1`  
  Input  
  `[0 ... 4]`

Example

```
#show_contrast 1
INPUT 1 IS SET TO CONTRAST VALUE 74

#show_contrast 0
INPUT 1 IS SET TO CONTRAST VALUE 74
INPUT 2 IS SET TO CONTRAST VALUE 50
INPUT 3 IS SET TO CONTRAST VALUE 50
INPUT 4 IS SET TO CONTRAST VALUE 50
```

#show_device_descr

The #show_device_descr command displays the device description. Use the #set_device_descr command to assign the device description.

Syntax:

```
#show_device_descr
```

Parameters:

None

Example:

```
#show_device_descr
DEVICE DESCRIPTION NAME IS SET TO WallTwo
```
#show_discovery

The `#show_discovery` command displays the Discovery Service status.

**Syntax:**

```
#show_discovery
```

**Parameters:**

None

**Example:**

```
#show_discovery
GATEWAY : 192.168.1.11
```

#show_gateway

The `#show_gateway` command displays the current gateway address of the 4x1 Multiview Seamless Switcher. Use the `#set_gateway` command to set the gateway address.

**Syntax:**

```
#show_gateway
```

**Parameters:**

None

**Example:**

```
#show_gateway
GATEWAY : 192.168.1.11
```
### #show_hdcp

The `#show_hdcp` command displays the current HDCP setting for inputs or outputs.

#### Syntax

```
#show_hdcp param1 param2
```

#### Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>[0 ... 1]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>Input</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Output</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>param2*</th>
<th>Value</th>
<th>[0 ... 1]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>All</td>
</tr>
<tr>
<td>1 - 4</td>
<td></td>
<td>Input</td>
</tr>
</tbody>
</table>

*If `param1` = 0, then `param2` can be any value from 0 to 4. If `param1` = 1, then `param2` = 1.

#### Examples

```
#show_hdcp 0 1
HDCP SET TO ACCEPT ON INPUT 1

#show_hdcp 1 1
HDCP SET TO FOLLOW INPUT ON OUTPUT 1
```
#show_http_port

The #show_http_port command displays the current HTTP listening port of the 4x1 Multiview Seamless Switcher for HDMI. Use the #set_http_port command to set the HTTP listening port.

Syntax

#show_http_port

Parameters

None

Examples

#show_http_port
HTTP PORT IS 80

#show_hue

The #show_hue command displays the current hue setting for all outputs. If \( param1 = 0 \), then the hue value for all inputs are returned.

Syntax

#show_hue param1

Parameters

\( param1 \)  
Input  
[0 ... 4]

Example

#show_hue 1
INPUT 1 IS SET TO HUE VALUE 30
#show_ip

The #show_ip command displays the current IP address of the 4x1 Multiview Seamless Switcher for HDMI.

Syntax

#show_ip

Parameters

None

Example

#show_ip
IP ADDRESS : 192.168.1.190
#show_ipconfig

The #show_ipconfig command displays the current TCP/IP settings.

Syntax

#show_ipconfig

Parameters

None

Example

#show_ipconfig
IP CONFIGURATION IS:
(STATIC)
   IP : 192.168.1.190
   NETMASK : 255.255.255.0
   GATEWAY : 192.168.1.11
   MAC ADDRESS = 00:1c:91:03:b0:00

#show_ipmode

The #show_ipmode command displays the current IP mode. To set the IP mode, use the #show_ipmode command.

Syntax

#show_ipmode

Parameters

None

Example

#show_ipmode
IP MODE SET TO STATIC
#show_ir

The #show_ir command displays the IR channel of the switcher.

Syntax

#show_ir

Parameters

None

Example

#show_ir
IR CHANNEL IS SET TO 0

#show_mac_addr

The #show_mac_addr command displays the MAC address of the switcher.

Syntax

#show_mac_addr

Parameters

None

Example

#show_mac_addr
MAC ADDRESS IS 00:1c:91:03:b0:00
#show_me

The #show_me command enables or disables the “Show Me” feature. When the “Show Me” feature is enabled, all the buttons and LED indicators on the front panel (except for the Exit button) will flash. This quickly identifies a unit and is useful when multiple units are being used. The default setting is Off.

Syntax

#show_me

Parameters

None

Example

#show_me 1
SHOW ME FUNCTION IS ENABLED

#show_netmask

The #show_netmask command displays the current net mask of the HD Video Wall Controller. Use the #set_netmask command to set the net mask.

Syntax

#show_netmask

Parameters

None

Example

#show_netmask
NETMASK : 255.255.255.0
#show_osd

The `#show_osd` command displays the current OSD state (ON or OFF).

Syntax

`#show_osd`

Parameters

None

Example

`#show_osd`
OSD IS SET TO ON
#show_output

The `#show_output` command displays the current output resolution for the display area. Use the `#set_output` command to set the output resolution of the display area.

**Syntax**

```
#show_output
```

**Parameters**

*None*

**Example**

```
#show_output
OUTPUT RESOLUTION IS SET TO 1280x720P 60HZ
```

#show_power

The `#show_power` command displays the current power state. Use the `#power` command to power-ON or power-OFF the switcher.

**Syntax**

```
#show_power
```

**Parameters**

*None*

**Example**

```
#show_power
POWER IS ON
```
#show_preset_name

The `#show_preset_name` command displays the name of the specified preset. To assign a name to a preset, use the `#set_preset_name` command.

**Syntax**

```
#show_preset_name param1
```

**Parameters**

`param1`  
Preset  
6 ... 20

**Example**

```
#show_preset_name 8
THE NAME FOR PRESET 8 IS: MyWinCfg
```

#show_saturation

The `#show_saturation` command displays the saturation for all outputs. If `param1` = 0, then the saturation value for all inputs are returned. Use the `#set_saturation` command to set the output resolution.

**Syntax**

```
#show_saturation param1
```

**Parameters**

`param1`  
Input  
0 ... 4

**Example**

```
#show_saturation 1
INPUT 1 IS SET TO SATURATION VALUE 65
```
#show_tcp_access
The #show_tcp_access command displays the current TCP access state (enabled or disabled). Use the #use_tcp_access command to enable or disable TCP access.

Syntax

#show_tcp_access

Parameters

None

Example

#show_tcp_access
TCP ACCESS IS DISABLED

#show_telnet_port
The #show_telnet_port command displays the current Telnet port. Use the #set_telnet_port command to set the Telnet listening port.

Syntax

#show_telnet_port

Parameters

None

Example

#show_telnet_port
TELNET PORT IS 23
#show_telnet_user

The `#show_telnet_user` command displays the login name (username) used in the current Telnet session.

**Syntax**

`#show_telnet_user`

**Parameters**

None

**Example**

```
#show_telnet_user
TELNET INTERFACE USERNAME IS bo55man
```

#show_udp_port

The `#show_udp_port` command displays the current UDP serial port. Use the `#set_udp_port` command to set the UDP listening port.

**Syntax:**

`#show_udp_port`

**Parameters:**

None

**Example:**

```
#show_udp_port
UDP COMMUNICATION PORT IS: 1002
```
#show_udp_remote_ip

The #show_udp_remote_ip command displays the current remote UDP address. Use the #set_udp_remote_ip command to set the remote UDP address.

Syntax

#show_udp_remote_ip

Parameters

None

Example

#show_udp_remote_ip
UDP REMOTE IP ADDRESS : 192.168.1.227

#show_udp_remote_port

The #show_udp_remote_port command displays the current remote UDP port. Use the #set_udp_remote_port command to set the remote UDP port.

Syntax

#show_udp_remote_port

Parameters

None

Example

#show_udp_remote_port
REMOTE UDP COMMUNICATION PORT IS: 508
#show_ver_data

The #show_ver_data command displays the current software and hardware version.

Syntax

#show_ver_data

Parameters

None

Example

#show_ver_data
SOFTWARE AND HARDWARE VERSION: V1.40

#unmask

The #unmask command unmasks the specified output(s). Use the #mask command to mask the specified window(s). Multiple windows may be specified. If param1 = 0, then all windows are unmasked.

Syntax

#unmask param1 [param2...param4]

Parameters

param1 Window [0 ... 4]

Example

#unmask 2
WINDOW 2 IS UNMASKED
The `#use_discovery` command enables or disables the Discovery Service which is used by the Gefen Syner-G Discovery Tool. The default value is Enabled.

**Syntax**

```
#use_discovery param1
```

**Parameters**

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0 ... 1]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Disabled</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enabled</td>
</tr>
</tbody>
</table>

**Example**

```
#use_discovery 1
DISCOVERY PROTOCOL IS ENABLED
```
#use_tcp_access

The #use_tcp_access command enables or disables Telnet access.

Syntax

#use_tcp_access param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[0 ... 1]</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>Disable Telnet access</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Enable Telnet access</td>
</tr>
</tbody>
</table>

Example

#use_tcp_access 1
TCP ACCESS IS ENABLED
#use_telnet_pass

The #use_telnet_pass command forces the password credentials for each Telnet session. The default setting is disabled. Use the #set_telnet_pass command to set the Telnet password.

Syntax

#use_telnet_pass param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable password</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable password</td>
</tr>
</tbody>
</table>

Example

#use_telnet_pass 1
TELNET INTERFACE PASSWORD IS ENABLED
#use_udp_access

The #use_udp_access command enables or disables UDP access.

Syntax

#use_udp_access param1

Parameters

<table>
<thead>
<tr>
<th>param1</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>Disable UDP access</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Enable UDP access</td>
</tr>
</tbody>
</table>

Example

#use_udp_access 1  
UDP ACCESS IS ENABLED
The `m` command displays the current routing status of the 4x1 Multiview Seamless Switcher for HDMI. Masking and locking status of the switcher is also provided. Do not precede the `m` command with the `#` symbol.

**Syntax**

```
m
```

**Parameters**

*None*

**Example**

```
m
WINDOW : A B C D
IN     : 1 2 3 4
```
The `r` command routes the specified input to the output. Do not precede this command with the “#” symbol. Also see the `s` command. If `param2 = 0`, then the specified input (`param1`) will be routed to all window outputs.

**Syntax**

```
r param1 param2
```

**Parameters**

<table>
<thead>
<tr>
<th><code>param1</code></th>
<th>Input</th>
<th>[1 ... 4]</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>param2</code></td>
<td>Output</td>
<td>[0, A ... D]</td>
</tr>
</tbody>
</table>

**Examples**

```
r 3 a
SOURCE 3 IS SET TO WINDOW OUTPUT FULL
```

```
r 1 0
SOURCE 1 IS SET TO WINDOW OUTPUTS FULL
```
The $s$ command routes the specified input to all outputs. Do not precede this command with the “#” symbol.

**Syntax**

$s \ param1$

**Parameters**

$param1$ Input [1 ... 4]

**Example**

$s \ 2$

ALL OUTPUTS ARE ROUTED TO INPUT 2
This page left intentionally blank.
Multiview Seamless Switcher

04 Appendix
# Default Settings

<table>
<thead>
<tr>
<th>Description</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC Address</td>
<td>Device-dependent (cannot be modified)</td>
</tr>
<tr>
<td>IP Address</td>
<td>192.168.1.72</td>
</tr>
<tr>
<td>Subnet Mask</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Default Gateway</td>
<td>192.168.1.1</td>
</tr>
<tr>
<td>HTTP Listening Port</td>
<td>80</td>
</tr>
<tr>
<td>Telnet Listening Port</td>
<td>23</td>
</tr>
<tr>
<td>Telnet / TCP Access</td>
<td>Enabled</td>
</tr>
<tr>
<td>UDP Port</td>
<td>50007</td>
</tr>
<tr>
<td>Enable UDP Access</td>
<td>Disabled</td>
</tr>
<tr>
<td>Remote UDP IP Address</td>
<td>192.168.1.255</td>
</tr>
<tr>
<td>Remote UDP Port</td>
<td>50008</td>
</tr>
<tr>
<td>Remote UDP Access</td>
<td>Disabled</td>
</tr>
<tr>
<td>Gefen Syner-G Discovery</td>
<td>Enabled</td>
</tr>
<tr>
<td>Gefen Syner-G Discovery Mode</td>
<td>Read / Write</td>
</tr>
<tr>
<td>Gefen Syner-G Show Device</td>
<td>Hide Me</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Name</td>
<td>OUTPUT1</td>
</tr>
<tr>
<td>A/V Input Names</td>
<td>INPUT1 - INPUT4</td>
</tr>
<tr>
<td>HDCP (each output)</td>
<td>Follow Input</td>
</tr>
<tr>
<td>IR Channel</td>
<td>1</td>
</tr>
<tr>
<td>Preset Names (excludes Default)</td>
<td>PRESET 1 - PRESET15</td>
</tr>
</tbody>
</table>
Upgrading the Firmware

1. Download the firmware update from the Support section of the Gefen Web site.

2. Extract the firmware file from the .ZIP file.

3. Power-ON the 4x1 Multiview Seamless Switcher for HDMI.

4. Connect an Ethernet cable between the switcher and the computer running the Web interface.
   
   It is unnecessary to disconnect any cables or extenders from the 4x1 Multiview Seamless Switcher for HDMI during the upgrade process.

5. Click the **System** tab in the Web interface and click the **Browse...** button under the **Firmware Update** section.

6. Select the firmware file and click the **Update** button.

7. The switcher will display a prompt to verify that the current firmware will be overwritten. Click the **OK** button on the dialog box to begin uploading the firmware file.

8. The 4x1 Multiview Seamless Switcher for HDMI will begin the upgrade process. This process will take several minutes. The upgrade process may be monitored using the RS-232 interface.

9. After the 4x1 Multiview Seamless Switcher for HDMI has been updated, the unit will automatically reboot.

10. The firmware upgrade process is complete.

**IMPORTANT:** *DO NOT* power-off or disconnect the AC power cord from the switcher, at any time, during the firmware upgrade process.
# Specifications

## Supported Formats

| Resolutions (max.)       | • 1080p Full HD  
|                         | • 1920 x 1200 (WUXGA) |

## Electrical

<table>
<thead>
<tr>
<th>Maximum Pixel Clock</th>
<th>• 225 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preset Select Buttons</td>
<td>• 10 x Tact-type, blue backlight</td>
</tr>
<tr>
<td>Window Select Buttons</td>
<td>• 4 x Tact-type, blue backlight</td>
</tr>
<tr>
<td>Menu Button</td>
<td>• 1 x Tact-type, blue backlight</td>
</tr>
<tr>
<td>Menu Control Buttons</td>
<td>• 6 x Tact-type, blue backlight</td>
</tr>
<tr>
<td>On / Standby Button</td>
<td>• 1 x Tact-type, blue backlight</td>
</tr>
<tr>
<td>Standby Indicator</td>
<td>• 1 x LED, red</td>
</tr>
<tr>
<td>Input Indicators</td>
<td>• 20 x LED, blue</td>
</tr>
</tbody>
</table>

## Connectors

| Video Input             | • 4 x HDMI Type A 19-pin, female, locking |
| Video Output            | • 1 x HDMI Type A 19-pin, female, locking |
| RS-232                  | • 1 x DB-9, female |
| IP Control              | • 1 x RJ-45 |
| USB                     | • Mini-B |
| IR Extender             | • 1 x 3.5mm mini-stereo |
| Power                   | • Locking-type |

## Operational

| Power Input             | • 12V DC |
| Power Consumption       | • 24W (max.) |

## Physical

| Dimensions (W x H x D)  | • 16.9" x 1.7" x 7.9"  
|                         | (430mm x 42mm x 200mm) |
| Unit Weight             | • 5.0 lbs (2.3 kg) |
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Stretch It, Switch It, Split It.
Gefen’s Got It. ®

20600 Nordhoff St., Chatsworth CA 91311
1-800-545-6900  818-772-9100  fax: 818-772-9120
www.gefen.com  support@gefen.com

This product uses UL or CE listed power supplies.