elvid

VSW-4H-USB

4-Input HDMI Switcher with USB Output

USER MANUAL

THANK YOU FOR CHOOSING ELVID.

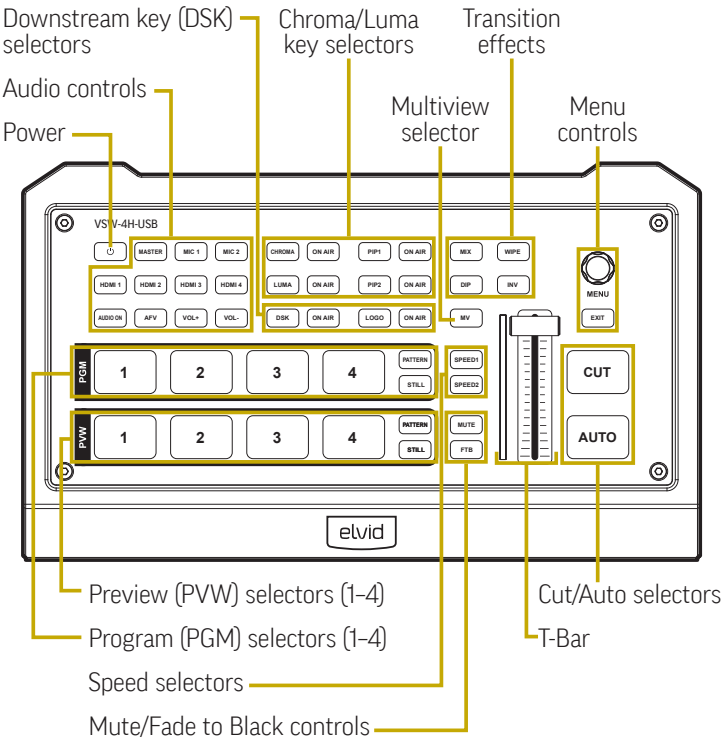
The Elvid VSW-4H-USB Broadcast Video Switcher is a powerful yet compact unit that puts advanced switching and professional video effects at your fingertips. Great for livestreaming and broadcast applications, this switcher will boost the production value of any multicamera presentation, concert, panel discussion, or interview.

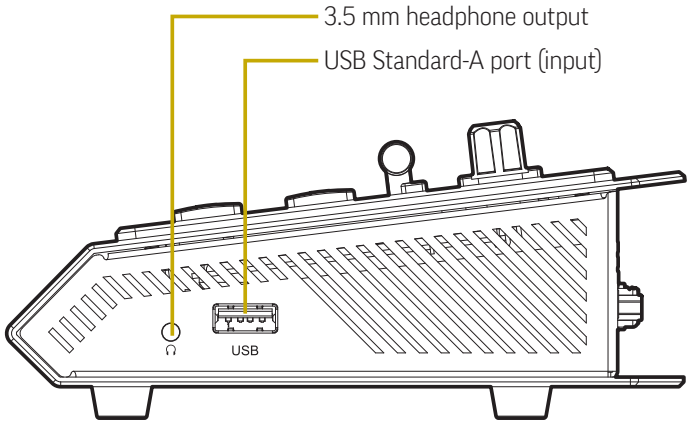
The VSW-4H-USB features four HDMI inputs that support up to full HD 1080p video, and a USB input to upload your graphics, logos, and artwork to the switcher's media library. Two configurable mic/stereo line inputs can add live narration or music to the production. Perform creative transitions, mix audio, and use the pattern generator and extensive pattern library to set up downstream and upstream keyers, all from the intuitive control panel. Flexible output options let you place a multiview screen in your control room or at your workstation, and a second monitor that displays the live broadcast or any one of the incoming video sources. The switcher's built-in encoder automatically scales and deinterlaces incoming video signals and outputs video to user-selected resolutions up to 1080p. The live broadcast can be outputted to a broadcast device, projector, or recorder, and simultaneously streamed to the internet via the USB output.

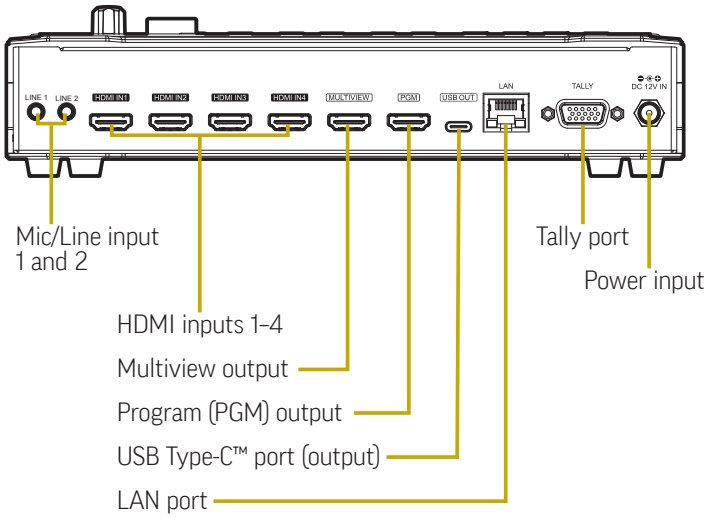
PRECAUTIONS

- Please read and follow these instructions, and keep this manual in a safe place.
- Keep this product away from water and any flammable gases or liquids.
- Do not expose this product to humidity or extreme heat or cold.
- Make sure this product is powered off when plugging it into a power source.
- Use only the correct, recommended voltage.
- Do not attempt to disassemble or repair this product–doing so will void the warranty, and Elvid will not be responsible for any damage.
- Handle this product with care. Avoid any impacts to this product.
- Do not block the vents in this product.
- Disconnect this product from its power source before storage and during electrical storms.
- Do not use chemical solutions to clean this product. Clean it with only a soft, dry cloth.
- Make sure that this product is intact and that there are no missing parts.
- All images are for illustrative purposes only.

OVERVIEW







CONTENTS INCLUDE

- Power supply (12 V, 2 A)
- USB cable (USB Standard-A to Type-C)
- Tally connector (DE-15)

POWERING THE SWITCHER

1. Make source and output device connections.
2. Plug the power cord into the switcher and tighten the locking ring until secure. Plug the power adapter into an outlet.
3. Press the Power button to turn on the switcher.

To turn off:

1. Press and hold the Power button for 3 seconds.
2. Turn the Menu knob to select YES in the onscreen prompt, then press the knob to select. The switcher will power down after 3 seconds.

CONNECTING THE INPUTS

VIDEO SOURCES

Plug HDMI cameras and other HDMI sources into the switcher's HDMI inputs 1–4.

Each of the HDMI windows will display the video signals when viewing in the Multiview screen.

COMPUTER CONNECTIONS

Computers can be connected to the switcher via an HDMI cable or with an appropriate adapter.

Note: When connecting a computer to one of the HDMI inputs, you may need to set the computer display setting to mirror the primary screen.

AUDIO CONNECTIONS

Connect microphones, an audio player, smartphone, or a wireless receiver to the switcher's audio inputs with a 3.5 mm TRS audio cable.

Connect stereo unbalanced audio sources such as audio interfaces, media players, smartphones, and laptops with a 3.5 mm TRS audio cable.

To connect a microphone or other balanced audio sources with an XLR connection, use an impedance-matching transformer, such as the Kopul LMT-100 (available separately). To ensure proper stereo representation of equipment with dedicated left and right balanced or unbalanced stereo outputs, use an unbalanced Y-cable to connect the device to either one of the switcher's audio inputs.

To set the inputs to receive a mic- or line-level signal, see *Working with Audio* below.

CONNECTING THE OUTPUTS

The switcher has a USB and two HDMI outputs. The HDMI outputs can be connected to monitors, a projector, or broadcast device.

The USB output lets your computer simultaneously monitor the Multiview, Program (PGM), or a user-selected signal, and stream it to the internet.

Both HDMI and USB ports can be configured to output HDMI 1–4, PGM, Clean PGM, Preview (PVW), Color Bar, or Multiview screens.

MULTIVIEW OUTPUT

The Multiview output displays seven windows onscreen: HDMI 1–4, Preview (PVW), Program (PGM), and Status/Menu.

Use the MV button to force the Multiview output to display the default Multiview layout.

PROGRAM (PGM) OUTPUT

The PGM output displays the final output that's sent to the recorder or broadcast device. This signal is what your audience will see.

USB OUTPUT

Use the included USB cable to connect the switcher to a computer. The computer can be used as a monitor or to stream video to the internet.

CHECKING YOUR VIDEO INPUTS

Make sure the switcher is receiving all connected video signals.

In Program view, press the PGM buttons to check your video's connections.

In Multiview, press the PVW buttons to check your video connections.

CONFIGURING THE OUTPUTS

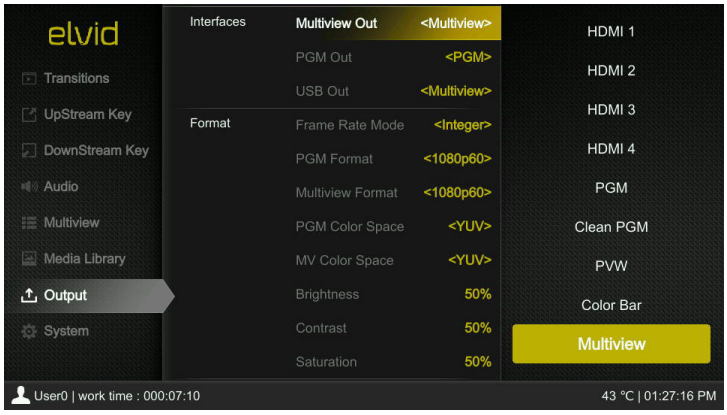
The Output menu configures the switcher's three output ports.

The Multiview port is preset to display the Multiview screen. The Program and USB ports are preset to display the Program screen.

Each port can output any one of the HDMI 1–4, Program (PGM), Clean Program (Clean PGM), Preview (PVW), Color Bar , and Multiview signals.

To configure the outputs:

1. Press the Menu knob to open the menu in the status window.
2. Scroll down to Output and press the Menu knob to open the submenu.
3. In the Interfaces submenu, choose the output signal for each port by scrolling and then pressing the Menu knob to select it.
4. Press the Exit button to return to the main menu. Press the Exit button again to return to the status window.



THE MULTIVIEW BUTTON

The Multiview port can be configured to display the HDMI 1–4, Program (PGM), Clean Program (Clean PGM), Preview (PVW) signals, or a color bar.

For example, the monitor connected to the Multiview port can display the Clean PGM without overlays, while the monitor connected to the PGM port will display the on-air program with upstream and downstream effects.

The **MV** button toggles the Multiview screen display. If an alternate signal is configured to be output from the Multiview port, pressing the **MV** button will quickly toggle the Multiview output to display the Multiview screen. While the Multiview screen is toggled on, the **MV** button will remain backlit.

This function is useful for quickly checking the switcher's status or accessing the menu.

Pressing the **MV** button again will toggle the configured output signal.

MENU NAVIGATION

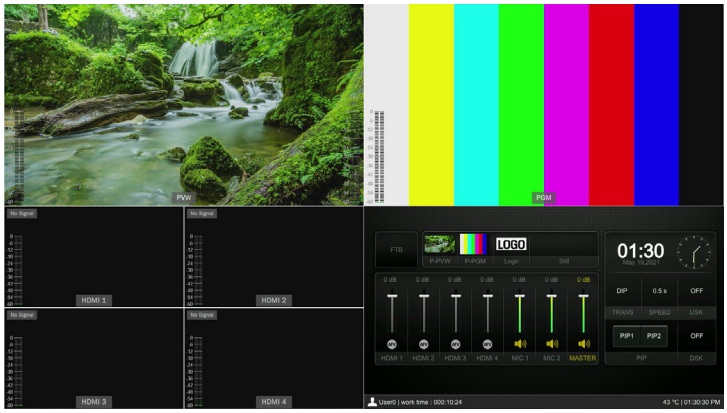
Menus are accessible only in the status window of the Multiview screen.

- Press the Menu knob. The menu display will open in the status window.
- Turn the Menu knob to scroll through the main menus. Press the Menu knob to select a menu and open its submenu.
- Scroll to a submenu item and press the Menu knob to select it. Turn the Menu knob to change the value of the option, and press the knob to accept the change and return to the submenu.

Press the Exit button to return to the previous menu. Press the Exit button repeatedly to return to the status screen.

MULTIVIEW SCREEN

Connect the Multiview HDMI output to a monitor to display the Multiview screen.



PGM: The Program window displays the on-air signal that's being recorded and/or broadcast. Set the Program signal by selecting one of the HDMI 1–4 PGM buttons.

PVW: The Preview window appears only in Multiview mode. Use the preview window to prepare an input to be switched to the program output. Set the Preview signal by selecting one of the HDMI 1–4 PVW buttons.

HDMI 1–4: The HDMI windows display the signals that are received by all connected sources. When there's no source, the HDMI window is black. A green tally border appears around the window that's switched to preview output. A red tally border appears around the window that's switched to the program output.

Status Window: The status window displays the audio mixer where you can adjust the audio settings for the six audio input signals and the master volume.
The status window also displays the date and time, pattern selection for the PGM and PVW screens, the selected logo and still images, and the transition selections. The active status of PIP1, PIP2, upstream key, downstream key, and Fade to Black are also displayed.

Input Information: The HDMI 1–4 windows include overlays that display resolution and frame rate information for each input video signal. See *Menus/Multiview* below to turn the overlays on or off.

Note: The layout and the displayed information on each screen can be customized to your production's needs. For complete information on editing and customizing these features, see *Menus/Multiview* below.

USING THE AUDIO MIXER

The audio mixer displays seven channels that can be individually configured and adjusted. The switcher's control panel features seven buttons that correspond to each audio channel.

Press the corresponding button on the control panel, and it will blink when the channel is activated.

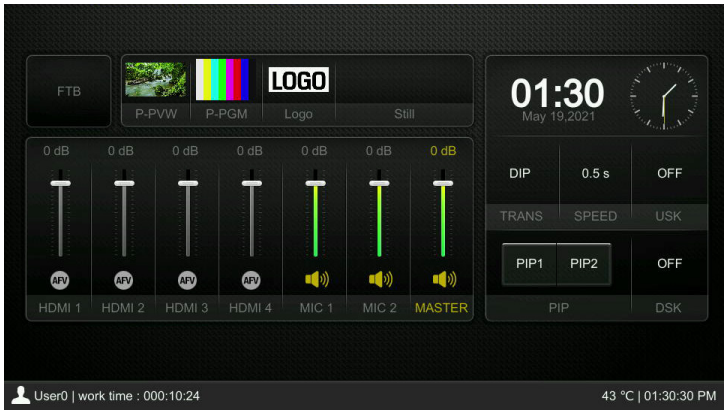
When the channel is active, adjust the output volume by turning the Menu knob.

The volume can also be adjusted with the VOL+ or VOL- buttons, which raise or lower the volume in 3 dB increments.

Audio On: Press to turn on the audio to the selected HDMI or audio channel, and a speaker icon will appear at the base of the fader. Press the **Audio on** button again to turn the channel off. When Audio On is set, the audio will always be on, even if the source video is not routed to the Program output. For more on audio settings, see *Working with Audio* below.
Note: Mic 1 and 2 inputs need to be configured to receive mic- or line-level signals. See *Working with Audio* below.

AFV: Audio Follow Video (AFV) is available for the four HDMI channels. When set to AFV, the audio will automatically turn on when that video signal is routed to PGM. With AFV activated on multiple HDMI channels, the audio will switch or fade as you switch or wipe to a different channel.

For full details of all user-definable settings in the Multiview window settings, see *Menus/Multiview* below.



The VSW-4H-USB offers four transition options: cut, wipe, mix, and DIP. Cut instantly transitions from PVW to PGM. Transitions like wipe, mix, and DIP appear as an effect and can be configured to your needs and production style.

CUT

1. Select the video signals with the PGM and PVW buttons. The selected PGM button will glow red. The selected PVW button will glow green.
2. Press the CUT button. The Preview signal will cut to the Program window. The signal that was in the Program window will now appear in the Preview window.
3. Press the CUT button again to cut back to the first signal.

In the HDMI 1–4 windows, the PGM video is highlighted with a red border. The PVW video has a green tally border.

WIPE

Transitions from the Preview signal to the Program signal with a preselected pattern and speed.

To use the wipe effect, first select the **Wipe** button on the control panel.

Using the AUTO Button

1. Select the video signals with the PGM and PVW buttons. The PGM button that is on-air will be red. The selected PVW button will be green.
2. Select the Speed 1 or Speed 2 button.
   To adjust the transition speed of the Speed 1 and Speed 2 buttons, see *Transition Speed* below.
3. Press the AUTO button. The Preview signal will transition to the Program window with the selected wipe transition at the selected speed. The signal that was in the Program window will now appear in the Preview window.
4. Press the AUTO button again to transition back to the first HDMI signal using the same wipe effect.

Using the T-Bar

1. Select the video signals with the PGM and PVW buttons. The PGM button that's on-air will glow red. The selected PVW button will glow green.
2. Slide the T-Bar all the way to the top or bottom. The transition will proceed at the speed you move it.
3. The transition is not complete until the T-Bar is completely up or down. When the T-Bar reaches the top or bottom, the status of both HDMI signals will reverse in the HDMI windows and HDMI buttons.

Selecting a Transition Pattern

The switcher has 11 preset transition patterns.

Select a pattern from the Transitions menu (see *Menus/Transitions* below). The selected pattern will play when you press the AUTO button or use the T-Bar.

Transition Speed

The amount of time a transition takes when the AUTO button is pressed.

To set the transition speed, select the Speed 1 or Speed 2 button before you press the AUTO button. The selected Speed button will glow.

Speed 1 is preset to 0.5 seconds, and Speed 2 is preset to 1.5 seconds. The transition speed can be set in the Transitions menu (see *Menus/Transitions* below).

MIX

The Mix transition effect cross dissolves the Preview and Program signals. As one fades out, the other fades in. This transition can be controlled with the AUTO button or the T-Bar.

To use the mix effect, first select the **Mix** button on the control panel.

1. Select the video signals with the PGM and PVW buttons. The selected PGM button will glow red. The selected PVW button will glow green.
2. Select the Speed 1 or Speed 2 button.
3. Press the AUTO button. The Preview signal will transition to the Program window. The signal that was in the Program window will now appear in the Preview window.
4. Press the AUTO button again to transition back to the first HDMI signal using the same mix effect.

DIP

Dip to Color transition (DIP) fades the Program signal to black and then fades up the Preview signal.

To use the DIP transition effect, first select the **DIP** button on the control panel.

1. Select the video signals with the PGM and PVW buttons. The selected PGM button will glow red. The selected PVW button will glow green.
2. Select the Speed 1 or Speed 2 button.
3. Press the AUTO button. The Preview signal will transition to the Program window. The signal that was in the Program window will now appear in the Preview window.
4. Press the AUTO button again to transition back to the first HDMI signal using the same dip effect.

Note: To set the screen color the DIP effect fades to, see the *Menus/ Transitions* section below.

FADE TO BLACK AND MUTE

The **FTB** button quickly fades the live on-air signal to black and mutes the audio. This feature is good for emergencies or to end a broadcast.

Pressing the **FTB** button again will restore video and audio.

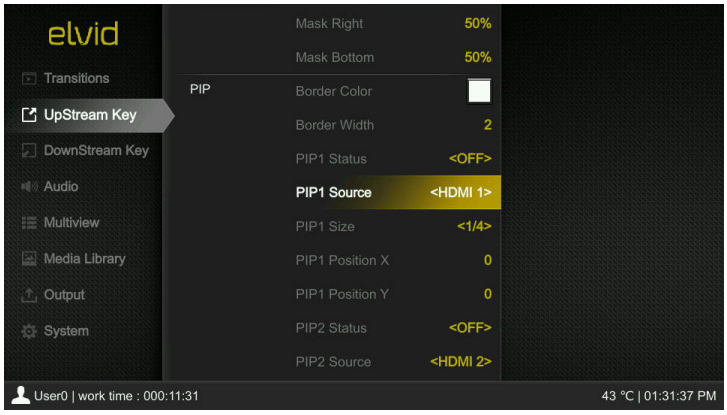
The **Mute** button mutes the master volume without affecting the video. Press again to restore the audio at its previous volume.

PIP AND POP

The PIP and POP features place two separate windows onscreen, each with its own separate video source.

PICTURE IN PICTURE (PIP)

1. Open the Upstream Key menu and scroll to PIP.



2. Select PIP1 Source and PIP2 Source menus to set the video source or image that will appear in each window.
   Note: Other aspects of the PIP windows like window size, window position, and border color and width can be configured in this menu. See Menus/Transition below.
3. Press the PIP1 and/or PIP2 buttons on the control panel, and the two PIP windows will appear at the top left and right sides of the PVW screen.
4. Press the ON AIR buttons to add or remove the PIP windows to or from the PGM screen.

When PIP is activated, it's preset to appear only in the Preview window. Use the PIP1 Status and PIP2 Status menus to set whether the PIP windows appear in the Program window or in both Program and Preview windows when you press the ON AIR buttons. See *Menus/Transitions* below.

PICTURE ON PICTURE (POP)

POP places two windows over the background screen, each spanning 50% of the screen's width and height at the center of the screen. When POP is enabled in the Upstream Key menu, it automatically overrides PIP.

If the POP windows are configured to appear on the Preview screen, press the PIP1 or PIP2 ON AIR buttons to add them to the Program window.

To configure PIP and POP, see *Menus/Upstream Key* below.

SCREEN PATTERNS

The switcher generates patterns that are displayed in the Program and Preview windows when no source signal is selected or when the PATTERN button is enabled. Select between Black, Color Bar, Color 1, Color 2, and Image. The PGM pattern is preset to Color Bar, and the PVW pattern is preset to Image.

SWITCHING TO A PATTERN

Pressing the **Pattern** button interrupts the video and audio signal and replaces it with a generated pattern.

To resume the video and audio signal, select an HDMI source with the PGM and PVW buttons.

SETTING PATTERNS

The Pattern menu selects what images will be displayed when the PATTERN button is enabled. To select the onscreen pattern from the Media Library, follow these steps:

In the Multiview screen, press the Menu knob to open the menus. Scroll down, and select the Media Library.

PATTERNS

Select between Black, Color Bar, Color 1, Color 2, and Image.

Black / Color Bar

Select Black to display a black screen. Select Color Bar to display the preset color bar.

Image

Default Image: Choose from 39 preloaded images in the library. Use the Menu knob to scroll to the desired pattern, and press the Menu knob to select it.

Local Image: Uploads and saves images from a USB flash drive, and displays saved images in the local image library.
To select local images, insert a flash drive into the switcher's USB port, and scroll to Local Image in the Pattern menu. The images on the flash drive will be displayed.
Use the Menu knob to scroll to the desired images, and press the Menu knob to select images as the default patterns on the PGM and PVW screens, or delete them from the library.

Capture Image: Captures screenshots from PGM, Clean PGM, or HDMI 1–4 screens. This menu displays the image library for image selection or deletion.
Use the Menu knob to scroll to and select or delete the image that will appear when the PATTERN button is activated.
Select a blank frame and select a source. The switcher will capture whatever is onscreen when the selection is made.

Color 1/Color 2

Hue: Select a hue from 0° to 360° on the displayed color wheel. Use the Menu knob to adjust the hue in 1° increments.

Saturation: Adjust the saturation level of the selected hue from 0% and 100%.

Luminance: Adjust the luminance level of the selected hue from 0% (black) to 100% (white).

FREEZING A PICTURE

Press the **Still** button to freeze the picture in the PGM or PVW screens. Press the STILL button again to return to the video signal.

Still images can be captured and stored in the Media Library. See *Patterns* above.

USING THE UPSTREAM KEYER

The upstream keyer lets you layer video, titles, graphics, and animation over a live video or graphic background with the Luma and Chroma Keys. Any key applied to the preview window will transition to the program window.

Luma Key and Chroma Key effects are configured in the Upstream Key menu.

LUMA KEY

Select Luma Key when the video or graphic you want to show onscreen is brighter than the background. Luma keys work best with high-contrast images like white elements on a black background, so you can use the contrast to cut out the black background and replace it with live video or broadcast graphics.

Luma Status Menu

The Luma Status menu sets the output of the luma effect.

OFF: The luma key effect is not visible.

KEY (PVW): Displays the luma key effect on only the Preview window.

ON AIR (PGM): Displays the luma key effect on only the Program window.

KEY & ON AIR: Displays the luma key effect on both windows.

To quickly change the output status, use the LUMA and ON AIR buttons on the control panel.

Key Source: This is the primary layer on which you will add the fill. The fill will show in the transparent areas of the key. You can select an image, a live video from HDMI 1–4, or a color.

Fill Source: This is the layer that will show in all the transparent areas of the key.

To create a luma key effect, follow these steps:

1. Open the Upstream Key menu and scroll to the Luma Key section.
2. In the Key Source menu, select a pattern from the menu.
   Important! If an image is selected for the key source, it must be selected in the Media Library. (See *Screen Patterns* above.)
3. In the Fill Source menu, select an image, video, or color from the menu.
4. Insert the background by selecting a video source from the program selectors. The full Luma Key effect will appear on the Preview window.
5. Add the effect to the live broadcast. Press the **On Air** button to instantly add it to the Program window. Or use a transition effect to add it to the Program window.
6. To turn the effect off, press the **LUMA** button on the control panel.

See the *Upstream Key* menu for a description of all the configurable Luma Key features.

Clip and Gain

Clip: Clip adjusts the Key source's transparency threshold. Raise the key clip percentage to increase the level at which the key becomes transparent. Lower the percentage to decrease the transparency level and reveal more of the background. If the screen is black, the clip is too low. If the key is not visible, the clip is too high.

Gain: In Luma Key, gain adjusts the transition between transparent and opaque areas of the key. Raise the gain to see partial transparencies. Lower the level to see only opaque and transparent areas without any partial transparency. In Chroma Key, gain adjusts the transparency of areas that are similar to the key color. Apply more Key Gain if the light areas become too transparent.

Using the Same Key and Fill Source

The Luma Key can be used to add a graphic, logo, or image to a background. This differs from the downstream keyer (see *Downstream Keyer* below) because it can be transitioned onto a background with the AUTO or CUT buttons, or the T-bar.

1. In the Key Source menu, select a graphic or image.
2. In the Fill Source menu, select the same image or graphic.
3. Use the ON AIR button to instantly add it to the Program window, or use the AUTO or CUT buttons or the T-bar to transition the effect to the Program window.

Invert Key

Selecting the Invert Key menu option turns it on. When turned on, it inverts the key and fill sources.

CHROMA KEY

Chroma key creates a key with a specific color. Any area with that color will be transparent. Chroma key is effective when shooting talent in front of a green or blue screen. The chroma key removes the specified color, and whatever image or graphic is on the background behind it will be visible.

To create a chroma key effect, follow these steps:

1. Open the Upstream Key menu, and scroll to the Chroma Key section.
2. In the Key Source menu, select a chroma key source from the menu options.
   Important! If Image is selected for the key source, it must be selected in the Media Library. See *Screen Patterns* above.
3. The switcher's chroma key is preset to green. The selected color is displayed in the Fetch Color menu. To select another color, use the Fetch Color control, or set the color manually using the RGB menus.
   RGB: Each color menu spans from 0 (no color) to 255 (full color). For example, full green is R=0, G=255, B=0. If you know the color's RBG setting, use the RGB menu to manually set it.
   Fetch Color: The Fetch Color control lets you select a color from the onscreen image of your key source.
   In the submenu, select Refresh Image to capture the screen image. A small square cursor will appear onscreen. Use the Fetch X and Fetch Y menus to move the cursor to a spot where the desired color appears. Press the **Menu** knob to accept the X and Y cursor positions. The color and corresponding RGB setting will appear at the bottom of the menu.
4. Insert the background by selecting a video source from the preview selectors. The full chroma key effect will appear in the Preview window.
5. Add the effect to the live broadcast. Press the **On Air** button to instantly add it to the Program window. Or use a transition effect to add it to the Program window.
6. To turn the effect off, press the **CHROMA** button on the control panel.

See *Upstream Key* for a description of all the configurable chroma key features.

Chroma Status Menu

The Chroma Status menu sets the output of the chroma effect.

OFF: The chroma key effect is not visible.

KEY (PVW): Displays the chroma effect only in the Preview window.

ON AIR (PGM): Displays the chroma effect only in the Program window.

KEY & ON AIR: Displays the chroma effect in both windows.

To quickly change the output status, use the CHROMA and ON AIR buttons on the control panel.

Invert

Selecting the Invert Key menu option turns it on. When turned on, it swaps the key and fill sources.

MASK (LUMA & CHROMA KEY)

Luma and Chroma Key menus feature mask adjustment menus.

When the Mask Enable menu is on, an adjustable rectangle can be configured to crop out any portions of the luma/chroma key effect you want to hide.

For example, if talent is talking in front of a green screen, but you want to cut out a microphone that's in the picture frame, resize the mask until the microphone is no longer visible.

1. Select the Mask Enable menu to turn the mask feature on.
2. Use the **Menu** knob to adjust the top, bottom, and sides of the luma or chroma key. Use the **Menu** knob to change the values, and press the Menu knob to accept the setting.
3. Select the Mask Enable menu again to turn it off.

USING THE DOWNSTREAM KEYER

The downstream key overlays all video that's switched to the Program window. Graphics that are added with the downstream key remain on the Program window regardless of transitions. This is useful for logos, lower thirds, and other graphics that need to remain onscreen throughout the program.

To create a downstream key effect, follow these steps:

1. Open the Downstream Key menu.
2. Select a Key Source from the menu options. The key source is the graphic that appears onscreen.
3. Select a fill source from the from the menu options.
   - Selecting the same image as the key and fill source will place a static graphic onscreen.
   - Selecting a separate fill source allows you to augment the key source with a background color, pattern, or video.

Important! If an image is selected for the key or fill source, it must be selected in the Media Library. See *Screen Patterns* above.

4. To add the downstream key to the Preview Window, press the **DSK** button on the control panel, or select KEY (PVW) in the DSK Status menu.
5. To add the downstream key to the Program Window, press the **On Air** button on the control panel, or select ON AIR or KEY & ON AIR in the DSK Status menu.
6. To remove the downstream key from the Preview window, press the **DSK** button again. Press the **On Air** button again to remove the downstream key from the Program window.

See *Downstream Key* for a description of all the configurable chroma key features.

Invert

Selecting the Invert Key menu option turns it on. When turned on, it inverts the key and fill sources.

Clip and Gain

Clip: Clip adjusts the Key source's threshold. Raise the key clip percentage to increase the level at which the key cuts a hole. Decrease the percentage to reveal more of the background. If the screen is black, the clip is too low. If the key is not visible, the clip is too high.

Gain: In luma key, key gain adjusts the transparency of the key's light or white areas. In chroma key, key gain adjusts the transparency of areas that are similar to the key color. Apply more Key Gain if the light areas become too transparent.

LOGO

The logo feature is another downstream key effect that lets you import a graphic that you can resize and position anywhere onscreen.

The logo feature supports PNG, BMP, JPG, GIF, JPEG, PPM, PBM, TIF, JPS, MPO, and TGA formats.

The Logo feature supports image sizes from 10×10 to 600×600 pixels.

To add a logo to your program, follow these steps:

1. In the Downstream Key menu, scroll down to the Logo section and select Logo Selection. This opens the media library.
2. Scroll to the desired logo with the Menu knob. Press the Menu knob to select it, and then to confirm the selection.
   - If a logo hasn't been stored in the media library, select one of the blank images by pressing the Menu knob, and import a graphic from a USB flash drive. After importing the graphic, select it by pressing the Menu knob.
3. Use the Position X and Position Y menus to adjust the logo's position on the screen.
4. Use the Size menu to resize the logo. The Size menu is preset to 1.0, full size.
5. Select the Opacity menu to adjust the transparency of the logo. The opacity is preset to 100, full opacity.
6. To add the logo to only the Preview window, press the **Logo** button on the control panel, or select KEY (PVW) in the Logo Status menu.
7. Press the **On Air** button next to the **Logo** button on the control panel to instantly add it to the Program window.
8. To turn the logo off, press the **Logo** or **On Air** button again.

TIE

The Tie option links the downstream key to the preview window. When the Tie option is turned on, anything "tied" to the preview window will switch to the program output. This allows you to build a screen with keys and logos, and switch all the elements to the program output.

Audio settings are made in the status window audio mixer or in the Audio menu.

MASTER VOLUME

The master volume sets the mix output for all enabled audio sources.

The master volume can be set and adjusted in both the Status Window and the Audio menu.

HDMI 1–4

Enable: The audio channel buttons are lit when enabled, and off when disabled. To enable or disable a channel, press the channel's button, and then press the AUDIO ON button. Press the channel's button again to confirm.

Volume: In the audio mixer, press the channel button on the control panel. When it blinks, use the Menu knob to adjust the volume.
In the Audio menu, scroll to the HDMI channel and select Volume. Adjust the volume, and press the Menu knob to accept the change.
Note: Volume changes made on the audio mixer will not show in the Audio menu. However, volume changes made in the Audio menu will show on the audio mixer.

AFV: Audio Follows Video (AFV) makes your transitions more realistic by creating an audio crossfade during transitions.
ON: When the AFV feature is enabled on the HDMI channels, the switcher raises the audio of the PVW video while it lowers the audio of the PGM video.
OFF: The audio is on whether the signal is on-air or not. The signal's volume can be adjusted or muted in the audio mixer or Audio menu.

Delay: The delay control in the Audio menu adjusts the sync if the audio is not synced with the video. The audio can be delayed by up to 500 milliseconds (0.5 seconds).

LINE 1 AND LINE 2

The LINE 1 and 2 inputs let you add live narration to the program. An audio device or smartphone can be connected to the MIC inputs to add music or other audio, like an interview or phone call, to the program.

Enable: The Mic channel buttons are lit when enabled, and off when disabled. To enable or disable a Mic channel, press the MIC 1 or MIC 2 button, and then press the AUDIO ON button. Press the MIC 1 or MIC 2 button again to confirm.

Input Mode (Audio menu only): Select Microphone level if a microphone is connected. Select Line level if an audio player or Smartphone is connected.

Volume: In the audio mixer, press the MIC 1 or MIC 2 button on the control panel. When it blinks, use the Menu knob to adjust the microphone output volume. Then press the MIC 1 or MIC 2 button to accept the change.
Important! This adjusts only the microphone's output volume. It does not adjust microphone gain. When Microphone is selected, the preamp level is set at 20 dB. When LINE is selected, the preamp level is set at 14 dB.
To adjust microphone's output volume in the Audio menu, scroll to the MIC channel, and select Volume. Adjust the volume, and press the Menu knob to accept the change.
Note: Volume changes made on the audio mixer will not show in the Audio menu. However, volume changes made in the Audio menu will show on the audio mixer.

Delay: The delay control in the Audio menu adjusts the sync if the audio is not synced with the video. The audio can be delayed by up to 500 milliseconds (0.5 seconds).

HEADPHONES (AUDIO MENU ONLY)

Enable: Selecting the enable feature toggles the earphone output status.

Volume: Scroll to the Earphone channel, and select Volume. Adjust the volume, and press the Menu knob to accept the change.
Note: For safety, the earphone output is preset to -24 dB.

Audio Source: Listen to the overall mix or each input individually. This is useful when you want to check the audio of each input before enabling the channel in the audio mixer. Select the Audio Source menu, and use the Menu knob to select an audio source. Select Master to monitor the program audio.

SYSTEM

This menu configures the switcher's operating parameters.

SYSTEM SETTING

Configure onscreen language, fan, reset, time, date, network, and user options.

Language

Select English (default), Chinese, or Portuguese as the onscreen language.

Fan

AUTO (Preset): Automatically adjusts the fan speed depending on the switcher's operating temperature.

OFF: Turns the fan off if you need a quiet environment for live broadcasts or recording dialog. If the operating temperature rises above 134°F (57°C), the text at the bottom of the Status menu will turn orange. If the operating temperature exceeds 140°F (60°C), the switcher will automatically switch to AUTO mode, and the fan will activate at its highest speed.

ON: Turns the fan on for constant operation. Use this setting for operating the switcher in high-temperature environments.

Reset Options

System Reset restores all default menu settings except for changes made to the Media Library, Time, Network, Language, Fan, and User Settings.

Factory Reset restores all settings to the default factory settings.

Download

Displays a QR code to download software and a manual for operating the switcher via remote control from a LAN connection.

Version

Displays the switcher's software, FPGA, MCU, and PCB versions.

TIME SETTING

Set the year, date, and time displayed in the status window. 12-hour (preset) and 24-hour time display formats are available. Time can also be synchronized with a PC when the computer and switcher are connected via a LAN.

NETWORK SETTING

DHCP / IP Address / Subnet Mask / Gateway

DHCP ON (Preset): The switcher automatically receives IP address information if there is a DHCP server on the network.

OFF: Displays preset IP, subnet mask, and gateway settings, and allows you to manually enter new settings.

USERS SETTING

Save all current settings into a user account that can be recalled. Multiple users can be stored in the switcher.

Switch

Choose the user setting to apply to the switcher.

New

Create a new user account to save the current switcher settings. The menu displays a keypad to enter the user name.

Rename

Rename previously saved user accounts.

Delete

Delete user accounts.

Import

Import a user account from a USB flash drive.

Export

Save a user account to a USB flash drive.

FAN SETTINGS

Select between Auto, On, and Off. See Fan above, under *System Setting*.

CONNECTING TO A NETWORK

You can connect the VSW-4H-USB to a network via the LAN connector. This allows you control the switcher over an Ethernet connection with the controller software.

You can also operate and control the switcher with the controller software via an internet connection.

NETWORK SETTINGS

The DHCP setting is preset to ON. When the switcher is recognized by a DHCP server on the same network, it is automatically assigned an IP address and becomes part of the LAN.

To manually configure the IP address, turn off the DHCP setting in the System menu. The IP address is displayed. Select the IP Address menu, and use the Menu knob to manually enter the new IP address.

To restore the factory preset IP address, use the reset option in the *System/System Setting* menu to restore the factory preset IP address.

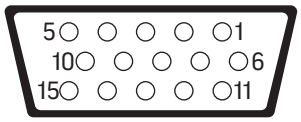
TALLY

Tally border indicators appear on the Multiview screen to indicate which HDMI source has been switched to the Preview and Program outputs.

The VSW-4H-USB automatically recognizes a camera that's connected to each input. The switcher generates a tally signal that triggers the tally indicator on the appropriate camera.

You can change the button mapping so camera inputs appear on different buttons. Refer to the chart below to reassign cameras to the buttons.

TALLY CONNECTOR PINOUT



PIN	DEFINITION
11	PGM In 1
12	PGM In 2
13	PGM In 3
14	PGM In 4
9	PVW In 1
8	PVW In 2
7	PVW In 3
6	PVW In
5	Ground

FIRMWARE UPDATES

Firmware updates for the VSW-4H-USB are posted to the product page on www.elvidcinema.com.

Use a USB flash drive with fat32 formatting and a 64 GB maximum capacity, and follow these steps:

1. Download the latest firmware version. Unzip the downloaded folder, and select to place the unzipped files into the flash drive's root directory. Do not save or place it in a folder on the flash drive. The switcher will not be able to access it.
2. While the switcher is off, insert the flash drive into the USB port.
3. Turn the switcher on. The switcher will automatically detect the upgrade on the flash drive and begin the updating process. There will be an upgrade prompt in the bottom of the status window of the Multiview screen. The T-bar indicator will show the update progress.
4. The switcher will automatically shut down when this step of the upgrade is complete. Do not remove the flash drive from the USB port.
5. Turn on the switcher again. It will automatically begin the upgrade's second step. This process is the same the first step.
6. After the second step is completed, the switcher will automatically shut down. Remove the flash drive.
   Note: If you do not unplug the flash drive, the switcher will begin the updating process again. If you're using the same flash drive to import or save images and user profiles, prevent the updating process from beginning again by deleting the update from the flash drive or by moving it into a folder.
7. To make sure the update was successful, check the version number by going to the System menu and selecting Version.

Note: If you cannot see the menu screen after completing the updating steps, the second step might not have been completed. Begin the updating steps again. Make sure the flash drive is not removed, and that the power supply is not disconnected during the process.

Menus are accessible only in Multiview mode.

TRANSITIONS

Wipe

Style: Select from 11 transition styles. Each style has a graphic representation.

Softness: Set the softness of the transition edge from 0% to 100%. The preset value is 10%.

Direction: Selects the direction of the wipe between. Choose Normal (right to left), Invert (left to right), or Flip Flop (alternates between normal and inverted wipes). The preset value is Normal.

DIP

Fades to user-selected set color before fading back into the next source. Colors are displayed in 6-digit hexadecimal number from #000000 to #ffffff. Preset value is #000000.

Color: Displays a color wheel. The preset color is #000000.

Speed

Transition: Sets the transition speed from 0.1 to 8.0 seconds. Speed 1 is preset to 0.5 s. Speed 2 is preset to 1.5 s. The auto transition speed is preset to Speed 1.

UPSTREAM KEY

Luma Key

Luma Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

Fill Source: Black, Color Bar, Color 1, Color 2, HDMI 1–4, and Image. The preset value is Color 1.

Key Source: Black, Color Bar, Color 1, Color 2, HDMI 1–4, and Image. The preset value is Image.

Clip: 0% to 100%. The preset value is 10%

Gain: 0% to 100%. The preset value is 0%.

Invert Key: Off / On. The preset is value is Off.

Mask Enable: Off / On. The preset value is Off.

Mask Left: 0% to 100%. The preset value is 0%

Mask Top: 0% to 100%. The preset value is 0%

Mask Right: 0% to 100%. The preset value is 50%.

Mask Bottom: 0% to 100%. The preset value is 50%.

Chroma Key

Chroma Status: Off, Key (PVW), On Air (PGM), Key & On Air. The preset value is Off.

Key Source: Black, Color Bar, Color 1-2, HDMI 1–4, Image. The preset value is Image.

Key Color R: (Red) 0 to 255. The preset value is 0.

Key Color G: (Green) 0 to 255. The preset value is 255.

Key Color B: (Blue) 0 to 255. The preset value is 0.

Fetch Color: Selects a color from the displayed screen image. The preset value is full green, as set in the Key Color Settings above.

Clip: 0% to 100%. The preset value is 10%.

Gain: 0% to 100%. The preset value is 10%.

Mask Enable: Off / On. The preset value is Off.

Mask Left: 0% to 100%. The preset value is 0%.

Mask Top: 0% to 100%. The preset value is 0%.

Mask Right: 0% to 100%. The preset value is 50%.

Mask Bottom: 0% to 100%. The preset value is 50%.

Picture in Picture (PIP)

Border Color: Sets the border color of the PIP windows. Choose the color from the displayed color wheel. The preset color is #ffffff.

Border Width: Sets the thickness of the PIP borders from 1 to 15. The preset value is 2.

PIP1 Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

PIP1 Source: Selects the input source for the PIP1 window. Choose Black, Color Bar, Color 1–2, HDMI 1–4, or Image. The preset value is HDMI 1.

PIP1 Size: Sets the proportion of the screen taken up by the PIP1 window. Select 1/2, 1/4, or 1/8. The preset value is 1/4.

PIP1 Position X: Adjusts the position of the PIP1 window along the x-axis from 0 (left) to 100 (right). The preset value is 0.

PIP1 Position Y: Adjusts the position of the PIP1 window along the y-axis from 0 (top) to 100 (bottom). The preset value is 0.

PIP2 Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

Pip2 Source: Selects the input source for the PIP2 window. Choose Black, Color Bar, Color 1–2, HDMI 1–4, or Image. The preset value is HDMI 2.

PIP2 Size: Sets the proportion of the screen taken up by the PIP2 window. Select 1/2, 1/4, or 1/8. The preset value is 1/4.

PIP2 Position X: Adjusts the position of the PIP2 window along the x-axis from 0 (left) to 100 (right). The preset value is 100.

PIP2 Position Y: Adjusts the position of the PIP2 window along the y-axis from 0 (top) to 100 (bottom). The preset value is 0.

Picture on Picture (POP)

POP Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

POP Source1: Selects the input source for the POP1 window. Choose Black, Color Bar, Color 1–2, HDMI 1–4, or Image. The preset value is HDMI 1.

POP Source2: Selects the input source for the POP2 Window. Choose Black, Color Bar, Color 1–2, HDMI 1–4, or Image. The preset value is HDMI 2.

DOWNSTREAM KEY

Tie (on/off): OFF/ON. The preset value is OFF.

DSK Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

Fill Source: Black, Color Bar, Color 1, Color 2, HDMI 1–4, and Image. The preset value is Color 1.

Key Source: Black, Color Bar, Color 1, Color 2, HDMI 1–4, and Image. The preset value is Image.

Clip: 0% to 100%. The preset value is 10%.

Gain: 0% to 100%. The preset value is 0%.

Invert Key: OFF/ON. The preset value is OFF.

Mask Enable: OFF/ON. The preset value is OFF.

Mask Left: 0% to 100%. The preset value is 0%.

Mask Top: 0% to 100%. The preset value is 0%.

Mask Right: 0% to 100%. The preset value is 50%.

Mask Bottom: 0% to 100%. The preset value is 50%.

Logo

Logo Status: Off, Key (PVW), On Air (PGM), and Key & On Air. The preset value is Off.

Logo Selection: Opens the media library.

Position X: Adjusts the position of the logo along the x-axis from 0% to 100%. The preset value is 98%.

Position Y: Adjusts the position of the logo along the y-axis from 0% to 100%. The preset value is 2%.

Size: Adjusts the logo size from 0.5 to 1.5 (50% to 150%) of the actual size of image from 10×10 to 600×600 pixels. The preset value is 1.0.

Opacity: Sets the transparency of the logo from 20 to 100 (fully opaque). The preset value is 100.

AUDIO

Master

Enable: Turns the master volume's output on or off. The preset value is ON.

Volume: Adjusts the master output volume from -60 to 12 dB. The preset value is 0 dB.

HDMI 1–4

Enable: Turns the audio channel's output on or off. The preset value is ON.

AFV: When Audio Follow Video (AFV) is on, the volume is controlled by the automated wipe or the T-Bar. The preset value is ON.

Volume: Adjusts the HDMI output volume from -60 to 12 dB. The preset value is 0 dB.

Delay: Adjusts the audio delay offset from 0 to 500 ms (0.5 s). The preset value is 0 ms.

Mic 1-2

Enable: Turns the mic channel's volume output on or off. The preset value is ON.

Input Mode: Select between mic and line level input signals. The preset value is Line.

Volume: Adjusts the mic channel's output volume from -60 to 12 dB. The preset value is 0 dB.

Delay: Adjusts the mic channel's delay offset from 0 to 500 ms (0.5 s). The preset value is 0 ms.

Earphone

Enable: Turns the headphone output's volume on or off. The preset value is ON.

Volume: Adjusts the Earphone output volume from -60 to 12 dB. The preset value is -24 dB.

Audio Source: Sets the headphone output's audio source. Choose Master, HDMI 1–4, or Mic 1–2. The preset value is Master.

MULTIVIEW

The Multiview menu configures the Multiview screen's features.

Layout

Layout Style: Select horizontal or vertical orientation of the Multiview screen. The preset value is Horizontal.

Audio Meter

Enable: Enables or disables the audio meters' faders. All Enable turns all faders on or off. The audio meters can be enabled and disabled individually. The preset is All Enable.
Note: Disabling the audio meter does not mute the audio channel. To mute and unmute channels, see *Using the Audio Mixer* above.

Position: Sets the side of the audio meter in the HDMI, PGM, and PVW screens. The preset value is Left.

Input Status

Enable: Turns the input status display in the four HDMI windows on or off. The preset value is On.

Opacity: Sets the transparency of the input status display in the four HDMI windows. Select 50%, 75%, and 100% (fully opaque). The preset value is 75%.

Size: Sets the size of the input status displays in the four HDMI windows. Select small, medium, or large. The preset value is small.

Position X: Adjusts the position of the input status displays along the x-axis from 0 to 100 (left to right). The preset value is 2.

Position Y: Adjusts the position of the input status displays along the y-axis from 0 to 100 (top to bottom). The preset value is 3.

Text Color: Displays a color wheel to select the text color of the input status displays. The preset value is #ffffff (white).

Background Color: Displays a color wheel to select the text color of the status window. The preset value is #606060 (dark gray).

UMD

Configures the name display of each window.

Enable: Turns the UMD display in the HDMI 1–4, PGM, and PVW screens on or off. The preset value is On.

Opacity: Sets the transparency of the UMD display to 50%, 75%, or 100%. The preset value is 75%.

Size: Sets the size of the UMD display to small, medium, or large. The preset value is small.

Position X: Adjusts the position of the UMD display along the x-axis from 0 to 100 (left to right). The preset value is 50.

Position Y: Adjusts the position of the UMD display along the y-axis from 0 to 100 (top to bottom). The preset value is 99.

Text Color: Displays a color wheel to select the text color of the UMD display. The preset value is #ffffff (white).

Background Color: Displays a color wheel to select the text color of the UMD display. The preset value is #606060 (dark gray).

UMD String

The UMD String menu lets you set custom names for the HDMI 1–4, PGM, and PVW screens. When each menu item is selected, a keyboard appears that lets you select a name for each screen. Each screen is preset to its output's name.

MEDIA LIBRARY

Pattern

The switcher can generate patterns that are displayed on the PGM and PVW screens when no source signal is selected or when the Pattern button is enabled. Black, Color Bar, Color 1, Color 2, or Image. The PGM pattern is preset to Color Bar. The PVW pattern is preset to Image.

Image

Default Image: Select the pattern that's displayed on the PGM and PVW screens when the Pattern button is enabled. Choose from 39 preloaded images in the library.

Local Image: Upload and saves images from a USB flash drive, and display saved images in the local image library. Select images as the default patterns on the PGM and PVW screens or delete them from the library.

Capture Image: Captures and saves still images from PGM, Clean PGM, or HDMI 1–4 screens. This menu displays the image library for image selection or deletion.

Color 1/Color 2

Hue: Select a hue from 0˚ to 360˚ on the displayed color wheel. Use the Menu knob to adjust the hue in 1˚ increments.

Saturation: Select a saturation level of the selected hue between 0% and 100%.

Luminance: Adjusts the luminance level of the selected hue from 0% to 100% (black to white).

Color 1 preset values are Hue: 240˚, Saturation: 50%, Luminance: 50%. Color 2 preset values are Hue: 0˚, Saturation: 0%, Luminance 100%.

OUTPUT

The Output menu sets the output signal of the Program (PMG), Preview (PVW), and USB ports.

Interfaces

Selects the output signal that's routed to each of the output ports. Select HDMI 1–4, PGM, Clean PGM, PVW, Color Bar, or Multiview. The USB port is preset to display the PGM screen.

The Multiview port is preset to display the Multiview screen when the MV button on the control panel is enabled. When the button is not enabled, the Multiview port will display the user-selected output signal.

Format

Frame Rate Mode: Select between Integer and Decimal. The preset value is Integer.

PGM/Multiview Format: Select the output video format of both outputs. Select 1080i50, 1080i60, 1080p24, 1080p25, 1080p30, 1080p48, 1080p50, or 1080p60 (preset).

PGM/MV Color Space: Select the color space for the output PGM and Multiview signals. Choose YUV (preset), RGB Full, and RGB Limit.

Brightness/Contrast/Saturation: Adjust the screen settings. All preset values are 50%.

FTB/MUTE Speed: Adjusts the Fade to Black speed from 0 to 3 seconds when the FTB button is pressed on the control panel. The preset value is 0.2 s.

FTB with Mute: OFF/ON. When ON (preset) is selected, the audio fades with the picture when the FTB button is pressed. When OFF is selected, the audio continues to play while the picture fades to black.

SYSTEM

Configures the operating parameters of the switcher.

System Setting

Language: Select English (default), Chinese, or Portuguese as the onscreen language.

Fan Setting: Choose AUTO (preset), OFF, or ON.

Reset Options: Off (preset). System Reset restores all default menu settings except for changes made to the Media Library, Time, Network, Language, Fan, and User Settings. Factory Reset restores all settings to the default factory settings.

Download: Displays a QR code to download software and a manual for operating the switcher via remote control from a LAN connection.

Version: Displays the switcher's software, FPGA, MCU, and PCB versions.

Time Setting

Set the year, date, and time displayed in the status window. 12-hour (preset) and 24-hour time display formats are available. Time can also be synchronized with a PC when the computer and switcher are connected via a LAN.

Network Setting

DHCP / IP Address / Subnet Mask / Gateway: ON (preset): Receives IP address information from a DHCP server on the same network. OFF: Manually enter IP, subnet mask, and gateway settings.

User Setting

Save all current settings into a user account that can be recalled. Multiple users can be stored in the switcher.

Switch: Choose the user setting to apply to the switcher.

New: Save settings to a new user account. Manually enter the account name.

Rename: Rename previously saved user accounts.

Delete: Delete user accounts.

Import: Import a user account from a USB flash drive.

Export: Save a user account to a USB flash drive.

SPECIFICATIONS

GENERAL

Keyers	Upstream: Luma Key, Chroma Key, PIP (×2), POP Downstream: DSK, Logo
Generators	Pattern generator Color generator (×2)
Number of Windows	6 and status (2 styles of Multiview layout)
Operating System Support	MacOS and Windows
Power Input	120 to 240 V, 50/60 Hz
Output Power	12 V, 2 A
Power Draw	12 W
Operating Temperature	-4°F to 140°F (-20°C to 60°C)
Storage Temperature	-22°F to 158°F (-30°C to 70°C)
Dimensions	9.6 × 5.6 × 1.8 in. (24.5 × 14.3 × 4.5 cm)
Weight	2.3 lb. (1030 g)

INPUT/OUTPUT

Video Input	HDMI Type-A (×4)
Audio Input	Mic/Line 3.5 mm TRS female (×2)
Video Output Connectors	HDMI Type A (PGM) HDMI Type A (Multiview) USB 2.0 Type-C (Streaming on PC) Assignable HDMI 1 to 4 (PGM, Clean PGM, PVW, Color bar, Multiview)
Monitor Output	Headphone 3.5 mm TRS female
Other I/O	Tally: DE-15 USB Standard-A (for image import and firmware upgrade)
PC Control Port	Ethernet (LAN)

VIDEO & AUDIO

Video Input Formats	1080p: 60/59.94/50/30/29.97/25/24/23.98 1080i: 50/59.94/60 720p: 60/59.94/50/30/25/24 576i: 50 576p: 50 480p: 59.94/60 480i: 59.94/60
Video Output Formats	1080p: 60/59.94/50/48/47.95/30/29.97/25/24/23.98 1080i: 60/59.94/50
Video Sampling	4:2:2
Color Precision	8 bit
Color Space	YUV
Color Space Conversion	Will convert RGB to YUV 4:2:2
Embedded Audio	2-channel (per output)
Audio Mixer	HDMI (×4) Mic/Line level (×2) Audio delay: 0-500 ms
Media Player	None
Still Image Capacity	Default image: 49 preset patterns Local image: Up to 16 imported images Capture image: Up to 16 captured images
Image Format Support	PNG, BMP, JPG, GIF, JPEG, PPM, PBM, TIF, JPS, MPO, TGA
Logo Format Support	PNG, BMP, JPG, GIF, JPEG, PPM, PBM, TIF, JPS, MPO, TGA
Logo Size Support	10 × 10 to 600 × 600 pixel

ONE-YEAR LIMITED WARRANTY

This Elvid product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of one (1) year from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.

To obtain warranty coverage, contact the Elvid Customer Service Department to obtain a return merchandise authorization ("RMA") number, and return the defective product to Elvid along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.

For more information or to arrange service, visit www.elvidcinema.com or call Customer Service at 212-594-2353.

Product warranty provided by the Gradus Group.

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