elvid

SignalMaster
HDMI-SDI Up/Down/Cross Converter

USER
MANUAL

elvid®

THANK YOU FOR CHOOSING ELVID.

The Elvid SignalMaster is a compact, sturdy, and reliable up-down cross converter that's ideal for broadcast, live event, and live streaming applications. HDMI and 3G-SDI inputs and outputs let you input virtually any video signal, and convert and scale it to the output signal required for a monitor, switcher, or recorder. A simple interface lets you quickly adjust settings on the fly, and a 1/4-20 socket lets you conveniently mount the converter on a camera rig.

This converter accepts simultaneous SDI and HDMI input signals, and it offers a variety of output options including loop through, scaling, and signal conversion from HDMI to SDI, or vice versa. Audio output pairs can also be configured from the audio menu. The unit is powered by the included power supply or the USB-C port.
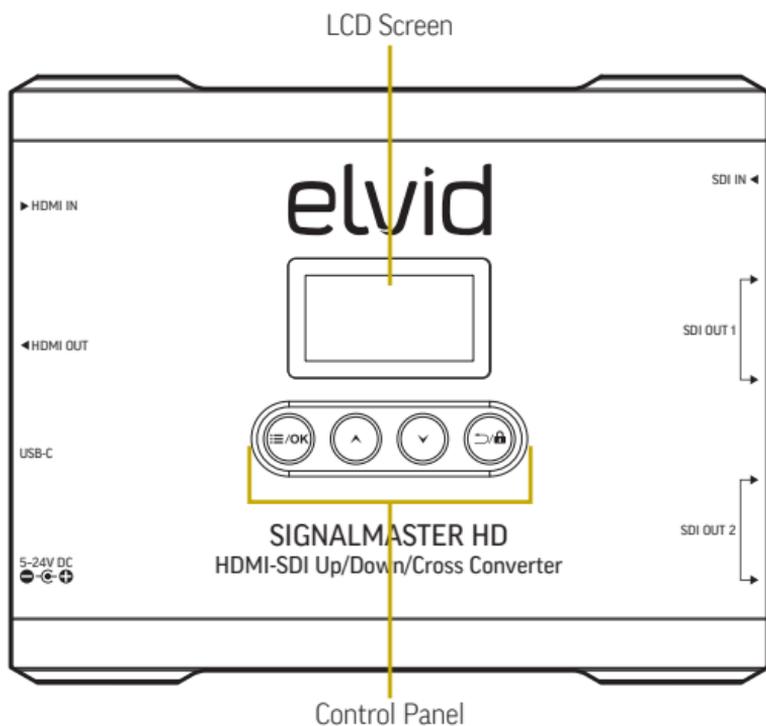
PRECAUTIONS

- Keep this product away from water and any flammable gases or liquids.

- Do not expose this product to humidity or extreme heat or cold.

- Use only the correct, recommended voltage.

- Do not attempt to disassemble or repair this product.

- Handle this product with care. Avoid any impacts to this product.

- Disconnect this product from its power source before storage.

- 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.

TABLE OF CONTENTS

LCD Screen

Control Panel

CONTENTS INCLUDE

- Converter
- Power supply
- HDMI cable
- USB cable

LEFT SIDE

HDMI Input

HDMI Input LED

HDMI Output

USB-C (power)

Power LED

Power Input

RIGHT SIDE

3G-SDI Input

SDI Input LED

3G-SDI Output 1

3G-SDI Output 2
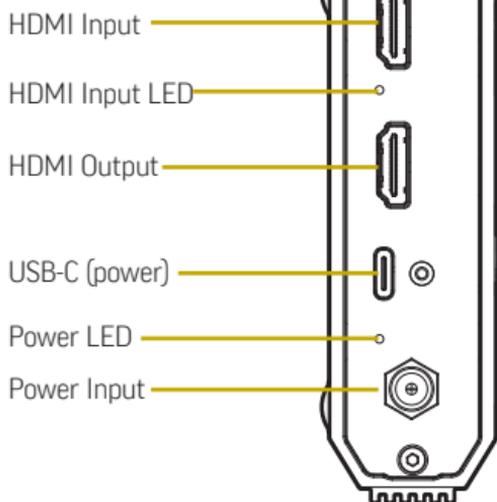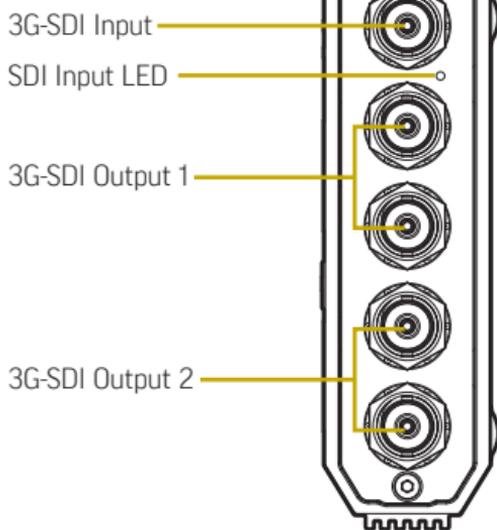
AC POWER ADAPTER

Plug the barrel connector into the converter's power socket and securely tighten the connector's locking ring. Then plug the AC adapter into a power outlet.

USB POWER

Use the included USB cable to connect the converter's USB-C port to a power bank, battery, USB power adapter, or other 5V USB power source.

The power indicator lights up when a power source is connected. Once the converter is connected to a power source, the LCD screen turns on, and the converter is operational.
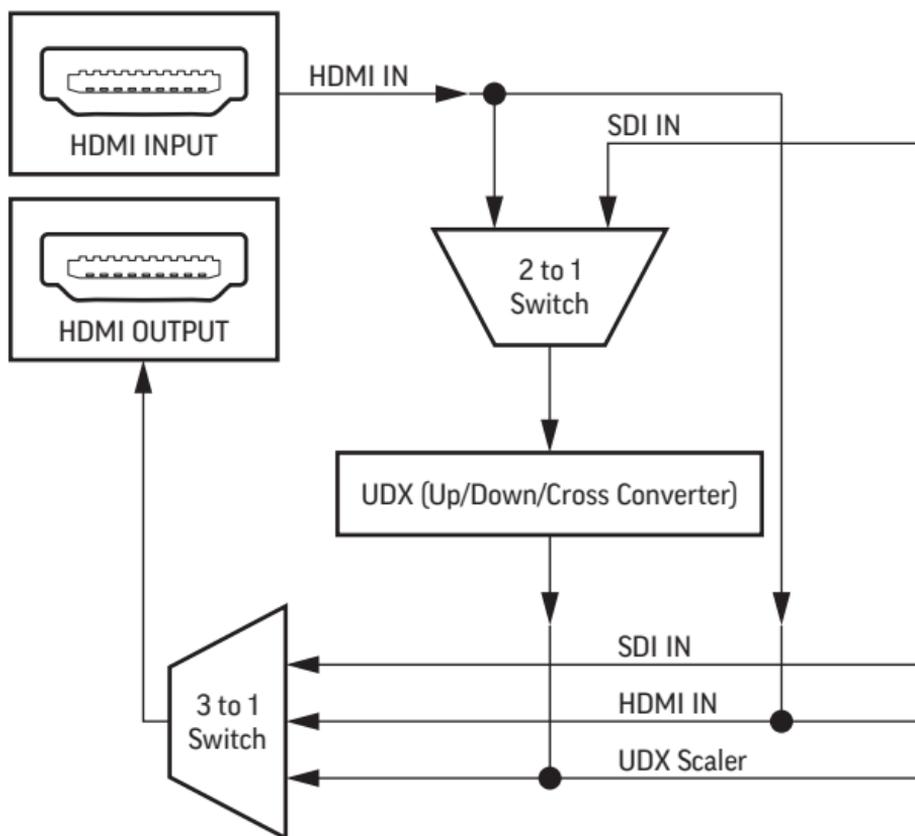
The converter restarts with the most recent settings.

USER
INTERFACE

Menu/ Scroll Scroll Back
Select Up Down (Return to previous menu)
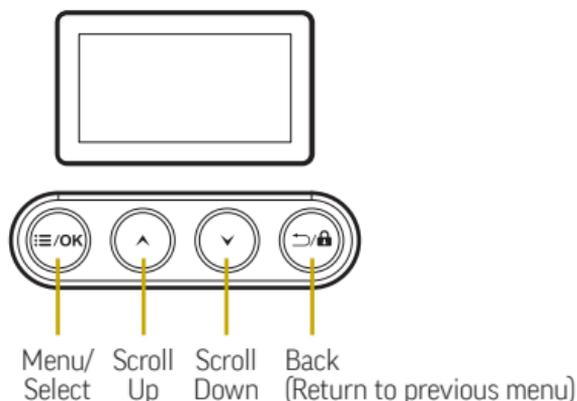
- Press the Select button to open menu mode and to open a
  sub menu.
- Use the scroll up ∧ and scroll down ∨ buttons to scroll
  through menu selections.
- A ∨ icon at the bottom of the page means there are
  additional menus on the next page below. Press the
  ∨ button to continue down to the next page.
- A ▶ icon to the right of a menu indicates there is a sub menu
  for that item. Press the Select ≡/oĸ button when the menu is
  highlighted to enter the sub menu.
- Press the Back button ⊃/🔒 to return to the previous menu.
- Press the Select ≡/oĸ button when a value is highlighted to
  set the new value.

HDMI IN

HDMI INPUT

SDI IN

HDMI OUTPUT

2 to 1
Switch

UDX (Up/Down/Cross Converter)

SDI IN

HDMI IN

3 to 1
Switch

UDX Scaler

SDI IN   (3G/HD/SD)-
           SDI INPUT

2 to 1
Switch   2 × 3G/HD/SD
           SDI OUTPUT 1

3 to 1
Switch   2 × 3G/HD/SD
           SDI OUTPUT 2

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H/I: No Signal          HDMI input
S/I: No Signal          SDI input
H/O: No Signal          HDMI output
S/O: No Signal          SDI output
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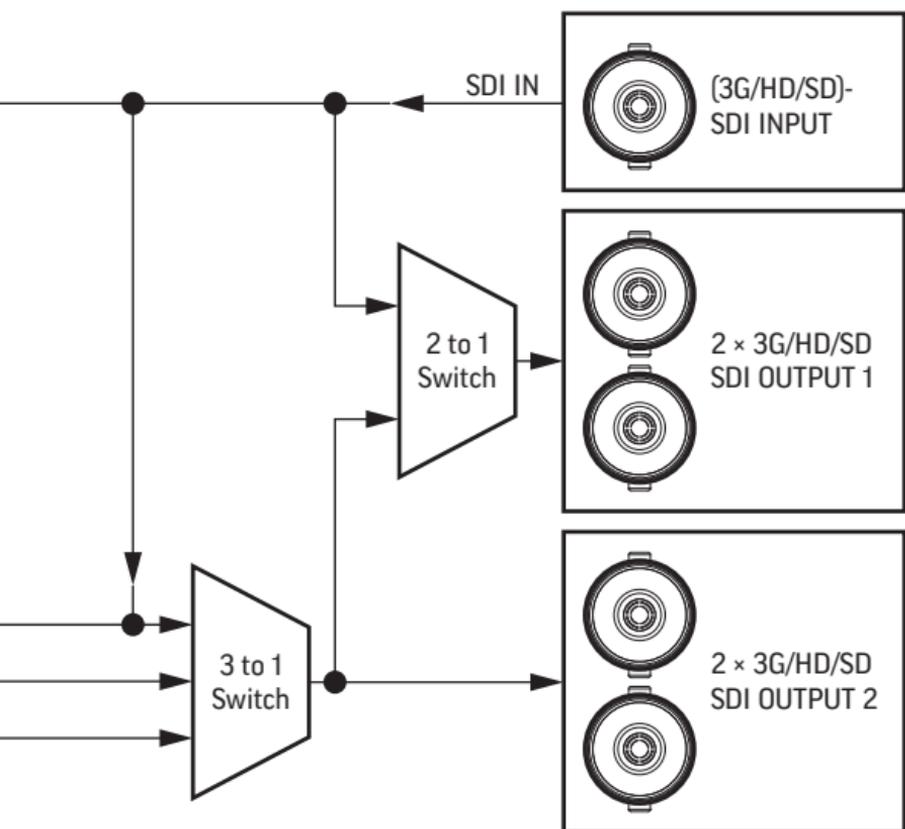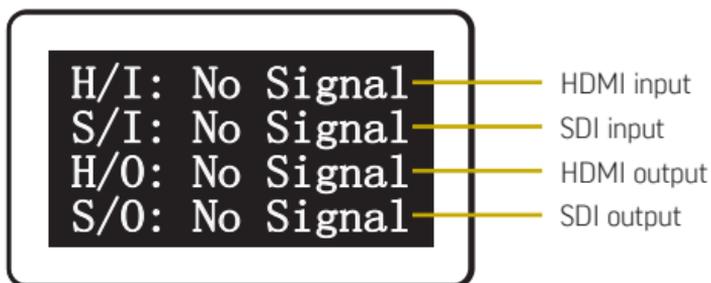
Displays the operating status of the converter.

- H/I and S/I display the format of the HDMI and SDI input signals.
- H/O and S/O display the HDMI and SDI output signal format including the scaler output format.

MAIN MENU

Press the Select button to open the main menu and select from the following options.

- Output   • Video   • Audio   • System

HDMI OUT SOURCE

Sets the source signal of the HDMI output.

- SDI In: Routes the SDI input signal to the HDMI output.
- HDMI In (default): Loops the HDMI input signal to the HDMI output.
- Scaler: Routes the scaler's signal to the HDMI output.

If Scaler is selected, see *Scaler Source* below, and *Output Format* in the Video Menu.

SDI OUT SOURCE

Sets the source signal of the SDI output.

- SDI In (default): Routes the SDI input signal to the SDI Out 1 and SDI Out 2 outputs.
- HDMI In: Routes the HDMI input signal to SDI Out 1 and SDI Out 2.
- Scaler: Routes the scaler's output signal to SDI Out 1 and SDI Out 2.

If Scaler is selected, see *Scaler Source* below, and *Output Format* in the Video Menu.

SCALER SOURCE

Sets the input video signal that's routed to the scaler.

- SDI In (default): Routes the SDI input signal to the scaler.
- HDMI In: Routes the HDMI input signal to the scaler.

SDI OUT 1&2

- Loop Out: SDI Out 1 and SDI Out 2 output two different signals. SDI Out 1 becomes an active loop output of the SDI input signal. SDI Out 2 will output the signal selected in SDI Out Source.
- Output (default): Sends the input signal or the scaler signal to both SDI Out 1 and SDI Out 2.

OUTPUT FORMAT

Displays the scaler's current output format.

The scaler's selected format will be output to the HDMI or SDI ports individually or simultaneously (see *Scaler Source* in the Output menu above).

1. 480i
2. 576i
3. 720p24
4. 720p25
5. 720p30
6. 720p50
7. 720p60
8. ED480p59.94
9. ED576p50
10. 1080i50

11. 1080i60
12. 1080p24
13. 1080p25
14. 1080p30
15. 1080p50
16. 1080p60
    (default)
17. 720p23.98
18. 720p29.97
19. 720p59.94

20. 1080sf23.98
21. 1080sf24
22. 1080sf25
23. 1080sf29.97
24. 1080sf30
25. 1080i59.94
26. 1080p23.98
27. 1080p29.97
28. 1080p59.94

HDMI CS

Sets the video and audio formats of the HDMI output signal. This menu is useful for formatting output signals to different types of HDMI monitors or projectors. Choose RGB or YCbCr formats along with 2–8 audio channels.

HDMI CS MENU SETTING	SIGNAL TYPE, COLOR SPACE, AND NUMBER OF AUDIO CHANNELS
DVI RGB444	DVI-D RGB 4:4:4
HDMI RGB444 2CH	HDMI RGB 4:4:4 with 2 audio channels
HDMI YUV444 2CH	HDMI YCbCr 4:4:4 with 2 audio channels
HDMI YUV422 2CH	HDMI YCbCr 4:2:2 with 2 audio channels
HDMI RGB444 8CH (Default)	HDMI RGB 4:4:4 with 8 audio channels
HDMI YUV444 8CH	HDMI YCbCr 4:4:4 with 8 audio channels
HDMI YUV422 8CHS	HDMI YCbCr 4:2:2 with 8 audio channels

3G-SDI OUT

Select between outputting a 3G-SDI Level-A or 3G-SDI Level-B signal.

Important! When outputting a 3G-SDI signal, make sure the switcher is set to the correct Level-A or Level-B signal. Otherwise, the video signal will not be recognized by incompatible equipment, and it will not display a picture.

SD2SD ASPECT

Selects the aspect ratio of the input SDI signal and the aspect ratio of the output SDI signal.

1. ANAMORPHIC (IN and OUT have same aspect)
2. IN=16:9 FS, OUT=14:9 / 16:9 LB (default)
3. IN=16:9 FS, OUT=4:3 / 16:9 LB
4. IN=16:9 FS, OUT=14:9 / 16:9 CC
5. IN=16:9 FS, OUT=4:3 / 16:9 CC
6. IN=16:9 / 14:9 PB, OUT=4:3 / 14:9 LB
7. IN=16:9 / 14:9 PB, OUT=4:3 / 14:9 CC
8. IN=16:9 / 14:9 PB, OUT=16:9 / 14:9 ZM
9. IN=16:9 / 4:3 PB, OUT=14:9 / 4:3 PB
10. IN=16:9 / 4:3 PB, OUT=16:9 / 4:3 ZM
11. IN=16:9 / 4:3 PB, OUT=14:9 / 4:3 ZM
12. IN=14:9 FS, OUT=16:9 / 14:9 PB
13. IN=14:9 FS, OUT=4:3 / 14:9 LB
14. IN=14:9 FS, OUT=4:3 / 14:9 CC
15. IN=14:9 FS, OUT=16:9 / 14:9 ZM
16. IN=14:9 / 4:3 PB, OUT=16:9 / 4:3 PB
17. IN=14:9 / 4:3 PB, OUT=16:9 / 4:3 ZM
18. IN=14:9 / 4:3 PB, OUT=14:9 / 4:3 ZM
19. IN=14:9 / 16:9 LB, OUT=4:3 / 16:9 LB
20. IN=14:9 / 16:9 LB, OUT=14:9 / 16:9 CC
21. IN=14:9 / 16:9 LB, OUT=4:3 / 16:9 CC
22. IN=4:3 FS, OUT=16:9 / 4:3 PB

23. IN=4:3 FS, OUT=14:9 / 4:3 PB
24. IN=4:3 FS, OUT=16:9 / 4:3 ZM
25. IN=4:3 FS, OUT=14:9 / 4:3 ZM
26. IN=4:3 / 16:9 LB, OUT=14:9 / 16:9 LB
27. IN=4:3 / 16:9 LB, OUT=14:9 / 16:9 CC
28. IN=4:3 / 16:9 LB, OUT=4:3 / 16:9 CC
29. IN=4:3 / 14:9 LB, OUT=16:9 / 14:9 PB
30. IN=4:3 / 14:9 LB, OUT=4:3 / 14:9 CC
31. IN=4:3 / 14:9 LB, OUT=16:9 / 14:9 ZM

SD2HD ASPECT

Selects the aspect ratio of the input SDI signal and the aspect ratio of the output HDMI signal.

1. ANAMORPHIC (IN and OUT have same aspect)
2. IN=16:9 / 14:9 PB, OUT=16:9 / 14:9 ZM (default)
3. IN=16:9 / 4:3 PB, OUT=16:9 / 4:3 ZM
4. IN=14:9 FS, OUT=16:9 / 14:9 PB
5. IN=14:9 FS, OUT=16:9 / 14:9 ZM
6. IN=14:9 / 4:3 PB, OUT=16:9 / 4:3 PB
7. IN=14:9 / 4:3 PB, OUT=16:9 / 4:3 ZM
8. IN=4:3 FS, OUT=16:9 / 4:3 PB
9. IN=4:3 FS, OUT=16:9 / 4:3 ZM
10. IN=4:3 / 14:9 LB, OUT=16:9 / 14:9 PB
11. IN=4:3 / 14:9 LB, OUT=16:9 / 14:9 ZM

HD2SD ASPECT

When the scaler converts HDMI to SDI, this menu selects the aspect ratio of the input HDMI signal and the aspect ratio of the output SDI signal.

1. ANAMORPHIC (IN and OUT have same aspect)
2. IN=16:9 FS, OUT=14:9 / 16:9 LB (default)
3. IN=16:9 FS, OUT=4:3 / 16:9 LB
4. IN=16:9 FS, OUT=14:9 / 16:9 CC
5. IN=16:9 FS, OUT=4:3 / 16:9 CC
6. IN=16:9 / 14:9 PB, OUT=4:3 / 14:9 LB
7. IN=16:9 / 14:9 PB, OUT=4:3 / 14:9 CC
8. IN=16:9 / 14:9 PB, OUT=16:9 / 14:9 ZM
9. IN=16:9 / 4:3 PB, OUT=14:9 / 4:3 PB
10. IN=16:9 / 4:3 PB, OUT=16:9 / 4:3 ZM
11. IN=16:9 / 4:3 PB, OUT=14:9 / 4:3 ZM

HD2HD ASPECT

When the scaler converts HDMI to HDMI, this menu selects the aspect ratios of the input and output HSMI signals.

1. ANAMORPHIC (IN and OUT have same aspect)
2. IN=16:9 / 14:9 PB, OUT=16:9 / 14:9 ZM (default)
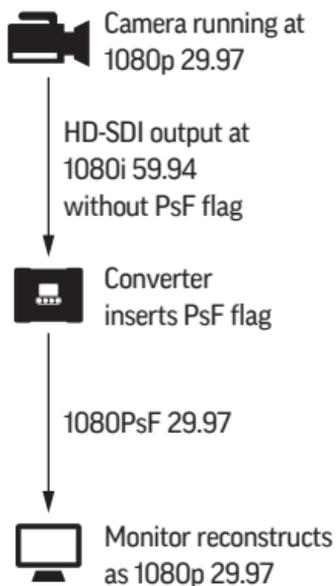3. IN=16:9 / 4:3 PB, OUT=16:9 / 4:3 ZM

1080i=1080PsF

This option helps to solve interlaced and progressive video signal compatibility issues between cameras, switchers, and monitors.

Select **YES** to apply PsF (Progressive segmented Frame) flag metadata to the incoming 1080i video, and allow compatible equipment to recognize the signal and reconstruct it into a progressive-scan visual.

Selecting **NO** will output the 1080i signal as it is received.

Yes

Camera running at 1080p 29.97

HD-SDI output at 1080i 59.94 without PsF flag

Converter inserts PsF flag

1080PsF 29.97

Monitor reconstructs as 1080p 29.97

No

Camera running at 1080p 29.97

HD-SDI output at 1080i 59.94

Converter makes no change

1080i 59.94

Monitor displays as 1080i 59.94
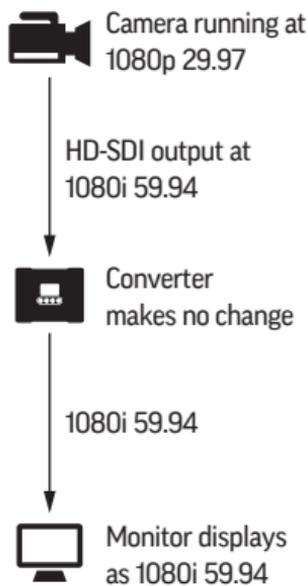
SDI OUT FLIP

Changes the orientation of the SDI output signal. This is useful if a video is being projected from behind the screen, or if a projector is hanging upside down from a ceiling mount.

- Off (default): No change to the original image.
- H Flip: Flips the image horizontally (L/R).
- V Flip: Flips the image vertically (U/D).
- V&H Flip: Flips the image both vertically and horizontally.

DE-INTERLACE

The Signalmaster offers two options for converting interlaced video (i) into non-interlaced, or progressive (p) video format via the scaler.

- Top and Bottom:Ideal for viewing motion or action by prioritizing smooth motion over image sharpness. The Signalmaster scales each interlaced field to fill the frame and reduces combing artifacts by maintaining the source video's field rate.
- Weave: The Signalmaster simultaneously weaves the consecutive fields of interlaced video, prioritizing image sharpness for stationary objects over smooth motion by halving the source video's field rate.

HDMI OUT FLIP

Changes the orientation of the HDMI output signal.

- Off (default): No change to the original image.
- H Flip: Flips the image horizontally (L/R).
- V Flip: Flips the image vertically (U/D).
- V&H Flip: Flips the image both vertically and horizontally.

AUDIO MENU

The audio menu routes the pairs of audio channels to the desired audio outputs of HDMI and SDI signals.

The converter offers four stereo pairs for HDMI signals and eight stereo pairs for SDI signals. Enter the audio menu and press Select for a list of audio inputs.

Each input defaults to the same output stereo pair. To change the output, scroll to the stereo pair to be rerouted and press Select. Scroll to the channels that will output the audio, and press Select to set the change.

For HDMI audio, select CH1-2, 3-4, 5-6, and 7-8.

For SDI audio, select CH1-2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-14, and 15-16.

SCALER REF

Scaler Ref syncs the scaler's frame buffer to the selected input. Manually syncing to an input can be helpful in multi-source setups where out-of-sync signals can cause unwanted artifacts during switcher transitions.

Free-run: The scaler runs independently without referencing an external signal.

SDI In: The scaler references the SDI input signal.

HDMI In: The scaler references the HDMI input signal.

Source: The scaler references the selected video input.

NO SIGNAL INDICATOR

Select the monitor screen color when the converter isn't receiving an input signal.

Choose between Black (default), blue, green, cyan, red, magenta, yellow, or white.

LCD OFF

Adjusts the length of time the LCD screen stays on after the last button press. Select from 5 seconds to 30 minutes and Never (default—the LCD screen never shuts off).

BACK2STATUS

Set the length of time the LCD screen returns to the Status screen after the last button press.

Select from 5 seconds to 30 minutes, and Never (default—the LCD screen never automatically returns to the Status screen).

LANGUAGE

Select the language of the on-screen display.

FACTORY RESET

Restarts the converter and returns all settings to the original factory defaults.

1. Press the Select button to enter the main menu.
2. Scroll down to the System menu and press Select.
3. In the System menu, scroll down to the Factory Reset menu and press Select.
4. Press the ∧ or ∨ button to highlight Yes and press Select.

VERSION

Selecting the Version menu displays the hardware and firmware versions.

SPECIFICATIONS

Video Inputs	HDMI BNC (3G-SDI)
Video Outputs	HDMI BNC (3G-SDI) (×4 – Loop Output ×2)
Other I/O	USB Type-C (power input and computer control)
Resolution Support	NTSC, PAL, 480p, 576p, 720p, 1080i, 1080p
Embedded Audio	HDMI, SDI
HDR Support	No
Power Supply	Barrel (12V ⎓ 2A)
Power Consumption	4.8 W
Compatibility	HDMI and SDI video equipment
Material	Aluminum
Dimensions (H × D × W)	1.2 × 4.2 × 5.3 in. (3 × 10.8 × 13.5 cm)
Weight	15.6 oz. (442 g)

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 is provided by the Gradus Group. www.gradusgroup.com

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GG2