CLUX-SDI2CSS

SDI to CV/SV Scaler with Audio

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	13/05/11	Preliminary Release
VR1	28/09/11	Spec. Transmission Typo
VS1	17/07/12	Updated format/diagrams/SDI standards
VS2	19/07/12	First release

CONTENTS

1. INTRODUCTION

The SDI to CV/SV Scaler allows SD, HD and 3G-SDI signals to be shown on CV/SV display. This means that it is now easier for professionals to distribute and extend their SDI signal while giving the ability to display work on PC/HD display. Furthermore, thanks to coaxial (S/PDIF) and L/R audio outputs users can output audio in both digital and analog formats while the loop-through 3G-SDI design benefits users by letting them simultaneous show content on SDI, Composite Video and S-Video displays.

2. APPLICATIONS

- Broadcast video signal transmission to SDI display
- 3G-SDI signal conversion into Composite Video (CVBS)/S-Video

3. PACKAGE CONTENTS

- SDI to CV/SV Scaler with Audio
- 5 V/2.6 A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

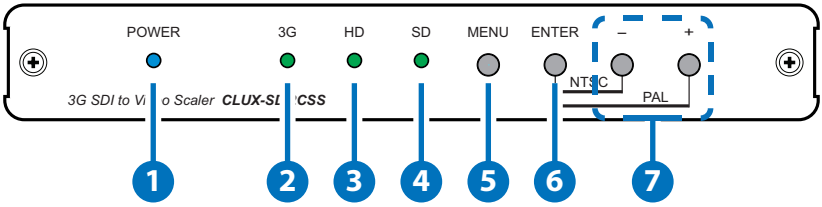
Input broadcast video with an SDI cable and output to SDI and/or Composite Video (CVBS)/S-Video displays or recording Devices with suitable connection cables.

5. FEATURES

- Supports SD-SDI, HD-SDI and 3G-SDI input signals with auto-detection
- Supports CV/SV and SDI (bypass) output simultaneously
- SDI interface operates at bitrates of 2.970 Gbit/s, 2.970/1.001 Gbit/s, 1.485 Gbit/s, 1.485/1.001 Gbit/s and 270 Mb/s
- Supports SDI input/output distance up to 100 meters (3G-SDI), 200 meters (HD-SDI), or 300 meters (SD-SDI)
- Scale any SDI signal to CV/SV of NTSC or PAL format
- Supports SDI input modes:
    1. SD-SDI: SMPTE 259M-C, at bitrates of 270 Mbit/s
    2. HD-SDI: SMPTE 292M, at bitrates of 1.485 Gbit/s and 1.485/1.001 Gbit/s
    3. 3G-SDI: SMPTE 424M/425M-AB, at bitrates of 2.970 Gbit/s and 2.970/1.001 Gbit/s
- Equalized and re-clocked loop output
- Alternative audio output to coaxial and analog 2CH

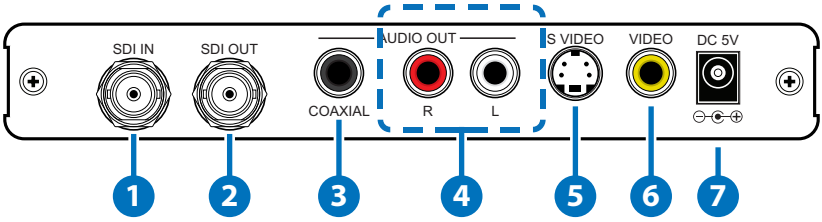
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1. **Power LED:** The LED will illuminate blue when the device is connected to a power supply.
2. **3G LED:** This LED illuminate green when a 3G-SDI input signal is detected.
3. **HD LED:** This LED illuminate green when a HD-SDI input signal is detected.
4. **SD LED:** This LED illuminate green when a SD-SDI input signal is detected.
5. **MENU:** Press this button to enter/exit the On-Screen Display (OSD) menu.
6. **ENTER:** Press this button to confirm your selection. Press both ENTER and 'Minus' (−) buttons together to switch the Composite or S-Video output to NTSC format or press both ENTER and 'Plus' (+) buttons together to switch to switch the Composite or S-Video output to PAL format. After making the selection, press ENTER to confirm the output format.
7. **−/+:** Press these buttons to move up or down the OSD selections.

6.2 Rear Panel

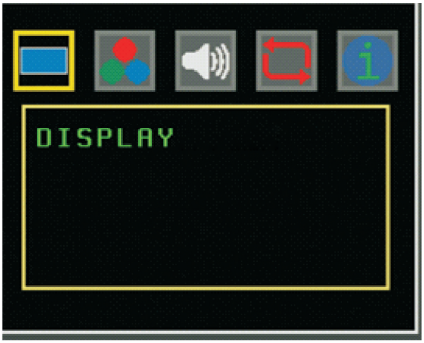


1. **SDI IN:** Connect to the SDI output of the SDI source device. Accepts SD,HD or 3G SDI signals.
2. **SDI OUT:** Provides a 'loop-through' SDI signal output for connection to a SDI display.
3. **AUDIO OUT COAXIAL:** Digital Audio output (SP/DIF). Connect to an amplifier or recording device with a suitable digital coaxial input.
4. **AUDIO OUT R/L:** Analogue audio output (L/R Stereo). Connect to an amplifier or recording device with a suitable analogue input.
5. **S-VIDEO:** Analogue S-Video output. Connect to an display or recording device with a S-Video input.
6. **VIDEO:** Analogue Composite Video (CVBS) output. Connect to an display or recording device with a Video input.
7. **DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet. The 'POWER' LED will illuminate blue when the power is ON.

7 OSD MENU AND FUNCTIONS

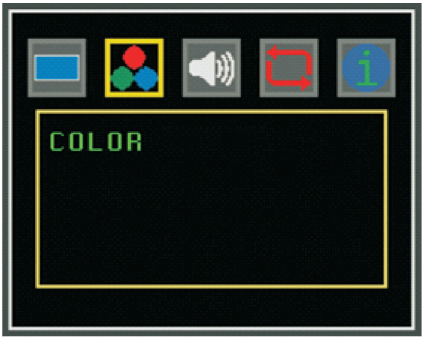
First Layer	Second Layer	Third Layer
Display	Output	NTSC
		PAL
	Size	Full
		Over Scan
		Under 1
		Under 2
		Letter Box
		Pan Scan
	Exit	
Color	Contrast	0~255 (105)
	Brightness	0~192 (96)
	R	0~255 (128)
	G	0~255 (128)
	B	0~255 (128)
	R Offset	0~64 (32)
	G Offset	0~64 (32)
	B Offset	0~64 (32)
	Exit	
SDI Audio	Group 1	
	Group 2	
	Group 3	
	Group 4	
	Auto	
	Off	
Factory Reset	Yes	
Information	Input, Output and Revision	

7.1 Display



- **Output**: NTSC & PAL options are available for selection.
- **Size:** Adjusts the displayed screen size from Full, Over Scan, Under Scan, Letter box or Pan scan to fit the current display size or aspect ratio.

7.2 Color

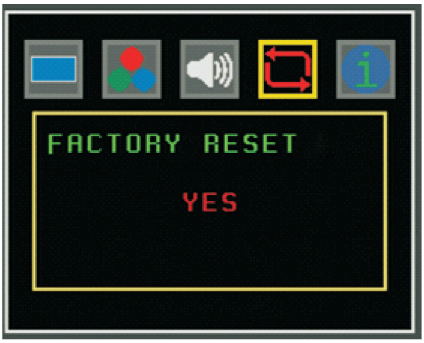


- Adjusts the screen's RGB Color, Contrast and/or Brightness.

7.3 SDI Audio

- Selects the SDI audio output from 4 different audio groups and each group's 2CH contents. If no audio output is required, the audio can also be muted by selecting 'OFF'.

7.4 Factory Reset

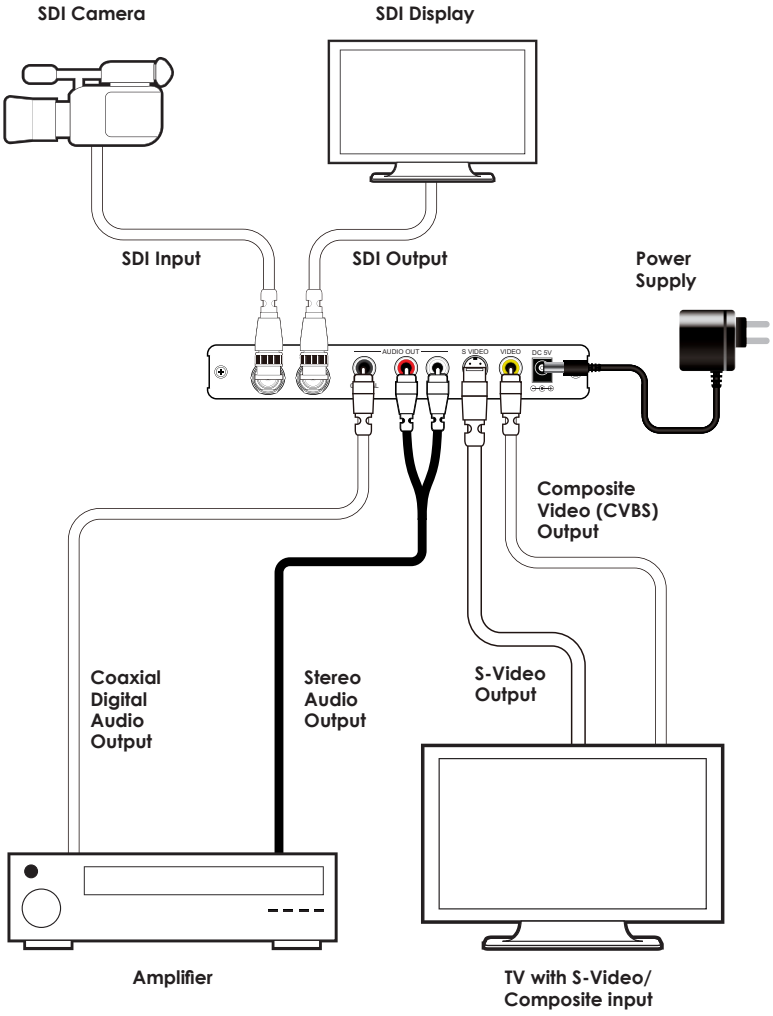


- Select YES to return the unit to the factory settings. The default Factory Setting for Video display is 'Full Screen' (1024×768@60Hz), Color setting's factory default rate is the same as shown on the OSD and SDI audio is 'AUTO'.

7.5 Information

- Displays the source input format, the output display format and the unit's software version.

8. CONNECTION DIAGRAM



9. SPECIFICATIONS

SMPTE Standard	425M Level A & B, 424M, 292M, 259M-C
SDI Transmission Rates	2.970 Gbps and 2.970/1.001 Gbps, 1.485 Gbps, 1.485/1.001 Gbps, and 270 Mbps
Input Port	1×BNC (SD/HD/3G-SDI)
Output Port	1×BNC (SD/HD/3G-SDI bypass), 1×CV, 1×SV, 1×Coaxial, 1×R/L RCA Jack
Video Output Support	NTSC/PAL
SDI Timing Support	SD-SDI: SMPTE 259M-C, at bitrates of 270 Mbit/s HD-SDI: SMPTE 292M, at bitrates of 1.485 Gbit/s and 1.485/1.001 Gbit/s 3G-SDI: SMPTE 424M/425M-AB, at bitrates of 2.970 Gbit/s and 2.970/1.001 Gbit/s
Power Supply	5 V DC/2.6 A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human-body Model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
SDI Cable Distance	3G up to 100 m (BELDEN 1694A Cable) HD up to 200 m (BELDEN 1694A Cable) SD up to 300 m (BELDEN 1694A Cable)
Dimensions	180 mm (W)×142 mm (D)×25 mm(H)
Weight	435 g
Chassis Material	Aluminum
Silkscreen Color	Gray
Operating Temperature	0 ˚C~40 ˚C/32 ˚F~104 ˚F
Storage Temperature	−20 ˚C~60 ˚C/−4 ˚F~140 ˚F
Relative Humidity	20~90% RH (Non-condensing)
Power Consumption	8.5 W

10. ACRONYMS

ACRONYM	COMPLETE TERM
3G	Bandwidth 2.97G bps ≈ 3G
SDI	Serial Digital Interface

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