

# CLUX-SDI2HS

## SDI to HDMI Scaler with Audio

*Operation Manual*



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## • **Safety Precautions**

Please read all instructions before attempting to unpack or 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 module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

## • **Revision History**

<b><i>Version No</i></b>	<b><i>Date</i></b>	<b><i>Summary of Change</i></b>
<b><i>VR0</i></b>	<b><i>20110325</i></b>	<b><i>Preliminary Release</i></b>
<b><i>VR1</i></b>	<b><i>20110928</i></b>	<b><i>Add Support Timing</i></b>

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## **1. Introduction**

The SDI to HDMI Scaler with Audio allows SD, HD and 3G-SDI signals to be display on HDMI/SDI displays while ensuring high bit rates of 2.970 Gbps gives you fast signal transmission without signal loss. For professional this means that it is now easier to distribute and extend your SDI signal while giving you the ability to display your work on HDMI displays. Further, the design of coaxial and L/R audio output allows user to output audio with both digital and analog format and the loop-through 3G-SDI design also benefit user to enjoy both SDI and HDMI display synchronously.

## **2. Applications**

- Broadcast video signal to HDMI/SDI display
- Broadcast video signal extension
- 3G SDI signal conversion into HDMI signal

## **3. Package Contents**

- SDI to HDMI Scaler with Audio
- 5V/2.6A DC power adaptor
- Operation Manual

## **4. System Requirements**

Input source equipment such as SNG camera or any SDI signal with connection cables and output to LCD TV or SDI monitor with connection cables.

## **5. Features**

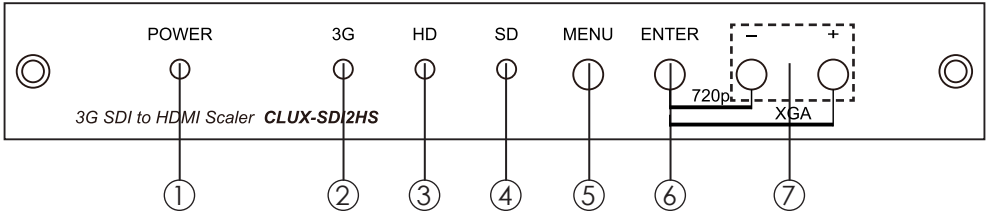
- Operation at 2.970Gbps, 2.970/1.001Gbps, 1.485Gbps, 1.485/1.001Gbps and 270Mbps
- Supports SMPTE 425M (Level A and Level B), SMPTE 424M, SMPTE 292M, SMPTE 259M-C
- Equalized and re-clocked loop output
- Alternative audio output to coaxial and analog 2CH
- Integrated audio de-embedded for max 8 channels of 48kHz audio
- Auto video mode detection (3G/SD/HD)
- Conversion from SMPTE 425M level B to Level A for 1080p 50/59.94/60 4:2:2 10-bit
- SDI loop-through for long distance
- Convert SDI HD timing to PC timing

## 6. Specifications

SMPTE Standard	425M Level A & B, 424M, 292M, 259M-C
SDI Transmission Rates	2.970 Gbps, 2.970/1.001 Gbps 1.485 Gbps, 1.485/1.001Gbps and 270 Mbps
Frequency Bandwidth	165MHz/link
Input Port	1 x BNC (SD/HD/3G-SDI)
Output Port	1 x BNC (SD/HD/3G-SDI), 1 x HDMI, 1 x Coaxial, 1 x L/R (RCA)
SDI In/Output	480i, 576i
Supports Timing	720p@50/59.94/60, 1080i@50/59.94/60, 1080p@ 23.98/24/25/29.97/30/50/59.94/60, 1080PsF@ 23.98/24/25/29.97/30
HDMI Output Support Timing	480i, 576i, 720p@50/59.94/60, 1080i@50/59.94/60, 1080p@23.98/24/25/29.97/30/50/59.94/60
Power Supply	5V DC/ 2.6A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: $\pm 8\text{kV}$ (air-gap discharge) $\pm 4\text{kV}$ (contact discharge)
SDI Cable Distance	3G up to 100M (BELDEN 1694A) HD up to 200M (BELDEN 1694A) SD up to 300M (BELDEN 1694A)
Dimension (mm)	180(W) x 142(D) x 25(H)
Weight (g)	460
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 (W)	4

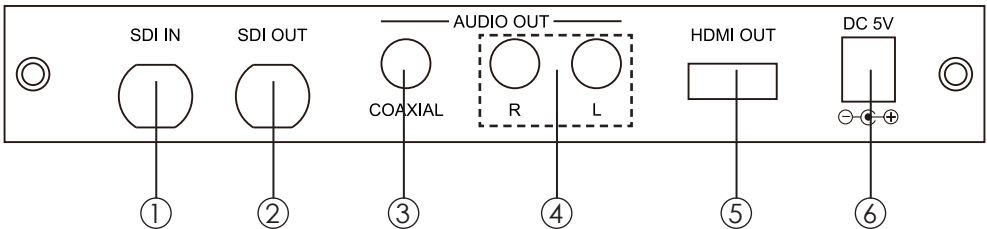
# 7. Operation Controls and Functions

## 7.1 Front Panel



- ①. Power LED: This blue LED will illuminate when the device is connected with power supply.
- ②. 3G LED: This green LED illuminate when the input SDI signal is with 3G format.
- ③. HD LED: This green LED illuminate when the input SDI signal is with HD format.
- ④. SD LED: This green LED illuminate when the input SDI signal is with SD format.
- ⑤. MENU: Press this button to enter/exit the OSD menu.
- ⑥. ENTER: Press this button to confirm your selection. Press both ENTER and - buttons together to switch output timing to 720p instantly and press with + buttons together to switch output timing to XGA.
- ⑦. -/+ : Press these buttons to move up or down the OSD selections.

## 7.2 Rear Panel



- ①. SDI IN: This slot is where you connect the SDI source output for SDI signal sending to be display on screen.
- ②. SDI OUT: This slot is where you connect the SDI display with SDI cable for input source display.
- ③. AUDIO OUT COAXIAL: This slot is where you connect the amplifier with coaxial cable and from amplifier to speaker
- ④. AUDIO OUT R/L: These slots are where you connect the speaker or amplifier with RCA jack for audio signal display.
- ⑤. HDMI Out: This slot is where you connect the HDMI / DVI display with HDMI or HDMI to DVI cable.
- ⑥. DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to AC wall outlet. Blue LED will illuminate when the power is ON.

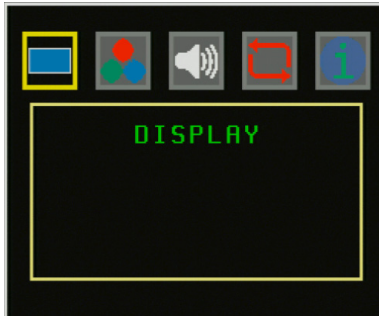
## 8. OSD Menu and Function List

1st Layer	2nd Layer	3rd Layer
Display	Output	NATIVE
		800 x 600 @60
		1024 x 768 @60
		1280 x 768 @60
		1360 x 768 @60
		1280 x 800 @60
		1280 x 1024 @60
		1440 x 900 @60
		1400 x 1050 @60
		1680 x 1050 @60
		1600 x 1200 @60
		1920 x 1200 @60
		720 x 480p @60
		1280 x 720p @60
		1920 x 1080p @60
		720 x 576p @50
		1280 x 720p @50
		1920 x 1080p @50
		1920 x 1080i @60
		1920 x 1080i @50
	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	0~63 (32)
	G Offset	0~63 (32)
	B Offset	0~63 (32)
	Exit	
SDI Audio	Group 1	
	Group 2	
	Group 3	
	Group 4	
	Auto	
	Off	
Factory Reset	Yes	
Information	Input Timing, Output Timing & Version	

## 1. Display



- Output Timings: There are total 20 timings available for user's selection.
- Size: Adjust the display's screen size from Full, Over Scan, Under Scan, Letter box or Pan scan to fit the different timing's display and make the viewing become more pleasure.

## 2. Color



Adjust screen color RGB's Contrast and or Brightness.

## 3. SDI Audio



Select SDI audio output from 4 different group and each group contents 2CH or from auto which contain up to 7.1CH follow by input source signal. If no audio output is require the audio can also be mute by selecting off.

#### 4. Factory Reset



Select YES to return to the factory setting. Factory setting on display is at 1280 x 720p @60Hz with full size screen, Color setting are as the bracket in the OSD chart and SDI audio is on auto.

#### 5. Information



Displaying both input source and output display timing with software version.

## 9. Connection and Installation



Camcorder



SDI Monitor



AMP

or



LCD TV

or



Monitor

# Acronyms

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<b>Acronym</b>	<b>Complete Term</b>
3G	Bandwidth 2.97G bps $\approx$ 3G
SDI	Serial Digital Interface
HD	High Definition







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