CLUX-SDI2HC
3G-SDI Extender with HDMI Converter

Power | Video Lock | Audio Lock | HDMI/DVI | Audio Out

3G | HD | SD | R | L

HDMI Out

3GSDI to HDMI CLUX-SDI2HC

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
V1	07/06/10	Preliminary Release
VR2	02/12/10	Storage Temperature
VR3	04/07/11	Add Support Timing
VR4	28/09/11	Spec. Position Change
VS5	11/07/12	Updated format/diagrams/SDI standards
VS6	19/07/12	First release

CONTENTS

1. INTRODUCTION

The SDI to HDMI Converter allows SD, HD and 3G-SDI signals to be shown on HDMI 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 HDMI displays. Furthermore, thanks to L/R audio outputs users can output audio in analog formats while the loop-through 3G-SDI design benefits users by letting them simultaneous show content on both SDI and HDMI displays.

2. APPLICATIONS

• SDI signal loop-out and extension
• Converts SDI signal (SD/HD/3G) to HDMI

3. PACKAGE CONTENTS

• 3G SDI to HDMI Extender
• 5V/2.6A DC power adaptor
• Operation Manual

4. SYSTEM REQUIREMENTS

• Source SDI input with an SDI cable and output to SDI and/or HDMI displays with suitable connection cables.
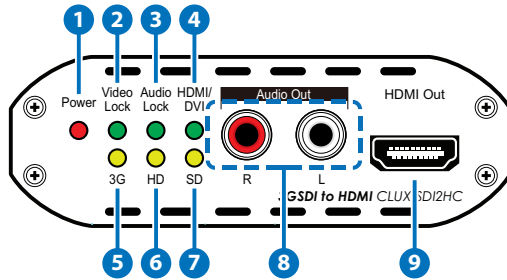
5. FEATURES

- Supports SD-SDI, HD-SDI and 3G-SDI input signals with auto-detection
- Supports HDMI 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
- Converts SDI signal to HDMI:
    1. SD-SDI (SMPTE 259M-C) to 480i/576i
    2. HD-SDI (SMPTE 292M) to 720p@50/59.94/60, 1080i@50/59.94/60
    3. 3G-SDI (SMPTE 424M/425M-AB) to 1080p@23.98/24/25/29.97/30/50/59.94/60, 1080PsF@23.98/24/25/29.97/30
- 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 2 CH
- Supports SDI input/output distance up to 100 meters (3G-SDI), 200 meters (HD-SDI), or 300 meters (SD-SDI)

Note: Tested with Belden 1694A cable. Operating distances may vary with other specifications of cable.
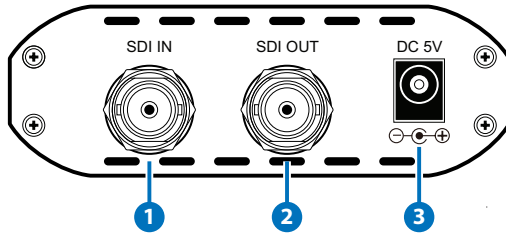
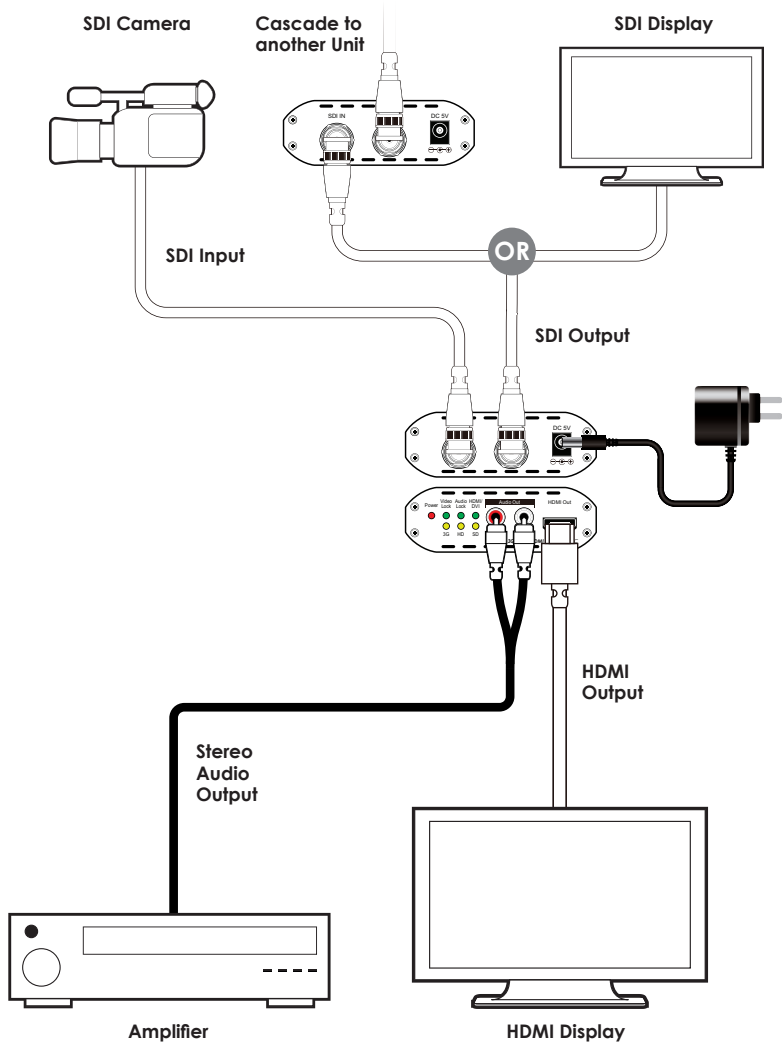# 6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panels

1 Power LED: The LED will illuminate red when the device is connected to a power supply.

2 Video Lock LED: The LED will illuminate green when both the input SDI source and the output HDMI display have successfully sent and received a signal.

3 Audio Lock LED: The LED will illuminate green when the input SDI source has an audio signal and when the output HDMI/DVI display is active.

4 HDMI/DVI LED: The LED will illuminate green only when connected to an HDMI display. It will remain off when connected to a DVI display. The device will read the output display's EDID information and automatically determine whether to send a HDMI or DVI signal.

5 3G LED: This LED illuminate yellow when a 3G-SDI input signal is detected.

6 HD LED: This LED illuminate yellow when a HD-SDI input signal is detected.

7 SD LED: This LED illuminate yellow when a SD-SDI input signal is detected.

8 Audio out R/L: Analogue audio output (L/R Stereo). Connect to an amplifier or recording device with a suitable analogue input.

9 HDMI Out: Connect to a HDMI equipped display or to a DVI Display with a HDMI to DVI adaptor cable.

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 or device. Can be connected to another SDI to HDMI converter/extender to extend the signal or to connect to multiple displays for mirrored output.

3 **DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

7. CONNECTION DIAGRAM

SDI Camera

Cascade to another Unit

SDI Display

SDI IN | DC 5V

SDI Input

OR

SDI Output

DC 5V

Power | Video Lock | Audio Lock | HDMI DVI | Audio Out | HDMI Out
3G | HD | SD

HDMI Output

Stereo Audio Output

Amplifier

HDMI Display

8. 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, 1.485/1.001 Gbps and 270 Mbps
Video Bandwidth	225 MHz/6.75Gbps
Input	1×BNC (SD/HD/3G-SDI)
Output	1×BNC (SD/HD/3G-SDI), 1×HDMI, 2×RCA
SDI Timing Support	SD-SDI: SMPTE 259M-C, 270 Mbit/s HD-SDI: SMPTE 292M, 1.485 & 1.485/1.001 Gbit/s 3G-SDI: SMPTE 424M/425M-AB, 2.970 & 2.970/1.001 Gbit/s
HDMI Timing Support	480i, 576i, 720p@50/59.94/60 1080i@50/59.94/60 1080p@23.98/24/25/29.97/30/50/59.94/60
SDI Cable Distance	3G/HD/3G-SDI up to 100 /200/300 meters with BELDEN 1694A Cable
Power Supply	5 V DC/2.6 A (US/EU standards, CE/FCC/ UL certified)
ESD Protection	Human-body Model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Dimensions	137 mm (W)×90 mm (D)×25 mm (H)
Weight	225 g
Chassis Material	Aluminum
Silkscreen Color	Black
Operating Temperature	0 °C~40 °C/32 °F~104 °F
Storage Temperature	−20 °C~60 °C/−4 °F~104 °F
Relative Humidity	20~90% RH (Non-condensing)
Power Consumption	4 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
3G	Bandwidth 2.97Gbps ≈ 3G
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital content protection
HDMI	High Definition Multimedia Interface
SDI	Serial Digital Interface