

3G-SDI/HD-SDI to HDMI Converter

Converts SDI (Serial Digital Interface) video for output to an HDMI® display.

- Supports 3G-SDI (3 Gbps), HD-SDI, and SD-SDI input on coax BNC.
- Use to add an HDMI screen to a high-end broadcasting or AV application.



**Customer
Support
Information**

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500) • FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746 • Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: www.blackbox.com • E-mail: info@blackbox.com

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Normas Oficiales Mexicanas (NOM) Electrical Safety Statement INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.

NOM Statement

5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

Safety Notice

Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on the unit.
- Do not attempt to service the unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device away from it, and place the unit on stable surfaces.
- Only use the power adapter, power cords, and connection cables designed for the unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

Table of Contents

Table of Contents

1. Specifications.....	7
2. Overview	8
2.1 Introduction	8
2.2 Features.....	8
2.3 What's Included	8
2.4 Hardware Description	9
2.5 Typical Application.....	11
3. Troubleshooting.....	12
3.1 Contacting Black Box.....	12
3.2 Shipping and Packaging.....	12

1. Specifications

SDI Signaling Resolutions Supported — SMPTE 424M: 3G-SDI 1080p at 50/59.94/60 Hz (4:2:2);

SMPTE 292M, 296M: HD-SDI 720p at 50/59.94/60 Hz, 1080i at 50/59.94/60 Hz, 1080p at 23.98/24/25/29.97/30 Hz;

SMPTE 259M: SD-SDI NTSC 525 at 59.94 Hz, PAL 625 at 50 Hz

NOTE: SMPTE = Society of Motion Picture and Television Engineers.

SDI Speeds Supported — 270 Mbps, 1.4835 Gbps, 2.967 Gbps

SDI Standards Supported — Cable equalization: 3G-SDI: Up to 300 ft. (90 m), HD-SDI: Up to 500 ft. (150 m), SD-SDI: Up to 1000 ft. (300 m)

RoHS — Yes

Connectors — SDI input: (1) BNC (75 ohm);

Local loopout: (1) BNC (75 ohm);

HDMI output: (1) HDMI F

Indicators — (2) LEDs: (1) Power, (1) Activity

Temperature Tolerance — Operating: +32 to +104° F (0 to +40° C);

Storage: -4 to +140° F (-20 to +60° C)

Power — AC input: 100–240 VAC, 50–60 Hz, 0.8 amps;

Output: 5 VDC, 4 amps;

Consumption: 3 watts (maximum)

Size — 1.2"H x 3.3"W x 3.1"D (2.7 x 8.4 x 7.9 cm)

Weight — 8.8 oz. (250 g)

Chapter 2: Overview

2. Overview

2.1 Introduction

The 3G-SDI/HD-SDI to HDMI Converter with loopout converts 3G-SDI/HD-SDI to HDMI compliant format. The conversion between SDI and HDMI is pure digital and guarantees no loss of audio and video. With up to eight channels of audio support, 7.1 or 5.1 channel audio becomes available. The converter also has two low-jitter and re-clocked outputs for daisychain or multiple monitors.

2.2 Features

Converts serial digital interface video for output to an HDMI display.

- Supports 3G-SDI (3 Gbps), HD-SDI, and SD-SDI input on coax BNC.
- Use to add an HDMI screen to a high-end broadcasting or AV application.
- Also has SDI loopout for a local SDI monitor or daisychaining.
- Handles higher SDI bit rates of 2.97 Gbps (3G-SDI).
- Autodetects SDI video standard on its 75-ohm coax input.
- Supports 1080p HDMI video with Deep Color depth.
- Reclocks SDI data for low-jitter video output.
- Provides up to eight-channel audio support.
- No software or driver installation required.
- Wallmountable for space-saving installation.

2.3 What's Included

- 3G-SDI/HD-SDI to HDMI Converter
- Power supply
- This user's manual

2.4 Hardware Description

Figures 2-1 and 2-2 show the front and back panels of the converter. Table 2-1 describes the components.

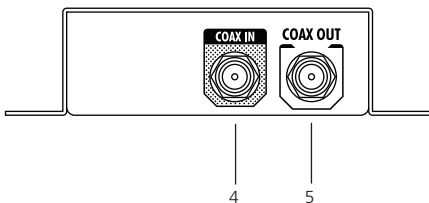


Figure 2-1. Front panel.

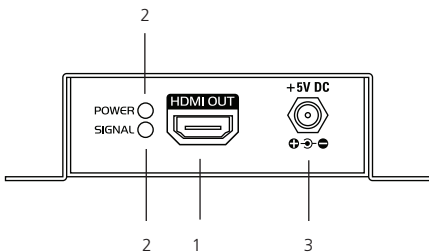


Figure 2-2. Back panel.

Chapter 2: Overview

Table 2-1. Front and back panel components.

Number	Component	Description
1	HDMI connector	HDMI output
2	(2) LEDs	Green: both power and signal are active Orange: only power is active
3	Interlocked +5 V power jack	Links to power
4	BNC connector	3G-HD/SD-SDI input
5	BNC connector	3G-HD/SD-SDI output

2.5 Typical Application

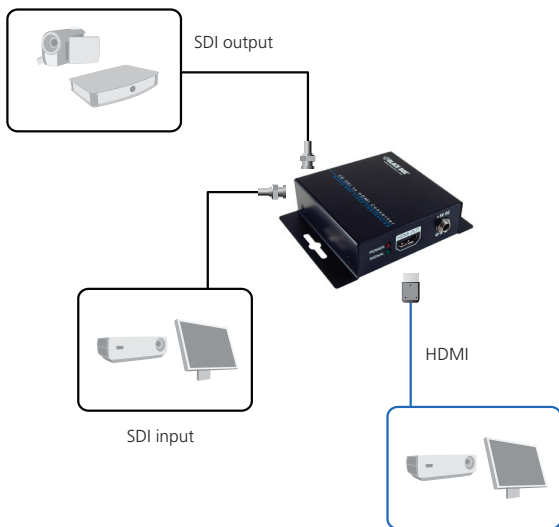


Figure 2-3. Application diagram.

3. Troubleshooting

3.1 Contacting Black Box

If you determine that your 3G-SDI/HD-SDI to HDMI Converter is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

3.2 Shipping and Packaging

If you need to transport or ship your 3G-SDI/HD-SDI to HDMI Converter:

- Package it carefully. We recommend that you use the original container.
- If you are returning the unit, make sure you include everything you received with it. Before you ship for return or repair, contact Black Box to get a Return Authorization (RA) number.

Black Box Tech Support: FREE! Live. 24/7.

Tech support the
way it should be.



Great tech support is just 30 seconds away
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About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 30 seconds or less.

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VSC-SDI-HDMI, version 1

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