

# SD/HD/3G-SDI to HDMI & VGA Converter



NOTE: The casing design is subject to change without notice.

SD/HD/3G-SDI to HDMI & VGA Converter converts single channel SDI signal to HDMI signal and VGA signal. It integrates SDI Cable equalizer and re-clocker to enhance video performance and stability. Simultaneously it also separates and converts the audio signal of SDI, then embed it to HDMI signal or VGA signal. It supports multiple resolution up to 1920x1080@60Hz. It is without scaler, while it supports the most popular resolutions to ensure high compatibility with wide brands of PC and HDTV. It provides cheaper solution of connecting SDI to HDTV and VGA terminal.

### Features

- Support SDI input format: All SDI Formats
  - SD: 525i @ 59.94Hz, 625i @ 50Hz
  - HD: 720p @ 23.98Hz / 24Hz / 25Hz / 29.97Hz / 30Hz
  - 720p @ 50Hz / 59.94Hz / 60Hz
  - 1080i @ 50Hz / 59.94Hz / 60Hz
  - 1080p @ 23.98Hz / 24Hz / 25Hz / 29.97Hz / 30Hz
- 3G: 1080p @ 50Hz / 59.94Hz / 60Hz
- Support SMPTE 425M (A level and B level), SMPTE424M, SMPTE292M, SMPTE259M-C.
- Carry 1 channel SDI signal loop out.
- Max. cable length (Belden 1694A): SD-SDI 400m/1300ft, HD-SDI 200m/600ft, 3G-SDI 140m/450ft
- Automatically embed SDI audio signal to HDMI signal.
- User selectable output format (HDMI and CVBS)
- 5V~24V DC

R201212-V2.1

### 4. Objects and liquid entry

Never push objects of any kind into this product as this may touch dangerous voltage points of short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the product.

### 5. Cleaning

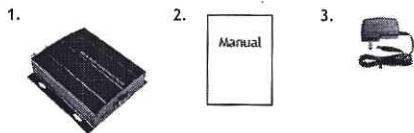
Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

### 6. Servicing

Do not attempt to service this product by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all service to qualified servicing personnel.

### Package Contents

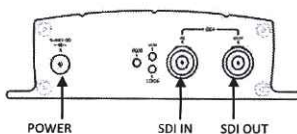
- One (1) SDI to HDMI & AV(CVBS) Converter
- One (1) User Manual
- One (1) AC Adapter



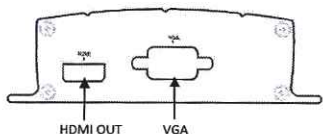
For any returns, please include all components listed above with original packaging in **Resalable Condition**. Absolutely No Returns will be accepted if any component is missing/damaged

### Parts & Functions

Left Side View:



Right Side View:



**!** Please read the Manual before attempting to use this product. Specifications and appearance are subject to change without notice.

**CAUTION**

RISK OF ELECTRIC SHOCK  
DO NOT OPEN!

TO REDUCE THE RISK OF ELECTRICAL SHOCK,  
DO NOT OPEN COVERS (OR BACK).  
NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED  
SERVICE PERSONNEL.



### Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

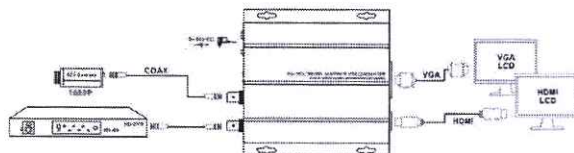
This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

### ! Caution

- Handle this product with care**  
Avoid any shock or bumping of the product. Improper handling could damage the product. Do not handle the unit with wet hands. Provide proper ventilation and air circulation and do not use near water.
- Requires a proper operating environment**  
This product is not waterproof and is designed for indoor use. The allowable temperature range for operation of this product is between 0°C~40°C / 32°F~104°F.
- Check the power source voltage**  
The power source voltage should be within the specified range. (Product must meet the specifications).

### Application Diagram

\* The distance depends on the quality of the SDI signal from the HD camera source and also the Coax Cable & Connector



See page 8 for Important Notes about Cable and Connector for SDI HD Camera

### Technical Specifications

Model	SDI to HDMI & VGA Converter
<b>Input Interface</b>	1x BNC SDI
<b>Input Signal Type</b>	SD-SDI (270Mbps), HD-SDI (1.485Gbps), 3G-SDI (2.97Gbps)
<b>Support Input Format</b>	SD: 525i @ 59.94Hz, 625i @ 50Hz HD: 720p @ 23.98Hz / 24Hz / 25Hz / 29.97Hz / 30Hz 720p @ 50Hz / 59.94Hz / 60Hz 1080i @ 50Hz / 59.94Hz / 60Hz 1080p @ 23.98Hz / 24Hz / 25Hz / 29.97Hz / 30Hz 3G: 1080p @ 50Hz / 59.94Hz / 60Hz
<b>SDI Signal Range</b>	0.8V p-p
<b>SDI Impedance</b>	75 ohms
<b>SDI Coupling Type</b>	AC Coupling
<b>Max. Input Coax Length</b>	Belden 1694A SD-SDI 400m / 1300ft ; HD-SDI 200m / 600ft ; 3G-SDI 140m / 450ft
<b>SDI Loop Out Interface</b>	1x BNC SDI
<b>HDMI/DVI Output Interface</b>	1x HDMI
<b>VGA Output</b>	1x VGA
<b>Frequency Bandwidth</b>	165MHz/ up to standard with HDCP :HDMI 1.3
<b>AV (CVBS) Output Format</b>	CVBS: PAL / NTSC
<b>Power Supply</b>	5V~24V DC
<b>Operating Temperature</b>	-10°C ~ 60°C / 14°F ~ 140°F
<b>Storage Temperature</b>	-30°C ~ 70°C / -22°F ~ 158°F
<b>Relative Humidity</b>	20~90% RH (Non-condensation)
<b>Dimension</b>	156 x 119x 36 mm / 6.14 x 4.69 x 1.42 inches
<b>Weight</b>	300g

\*Specifications are subject to change without notice

## Key Components

### Components Made in USA for this product:

Name of Component	Manufacturer
Multi-Rate SDI Adaptive Cable Equalizer	Gennum
Multi-Rate SDI Automatic Reclocker	Gennum
Multi-Rate Dual Slew-Rate Cable Driver	Mindspeed & Gennum
SDI SPD	Bourns
HDMI ESD Protection	Semtech
Micro Controller Unit	Texas Instruments

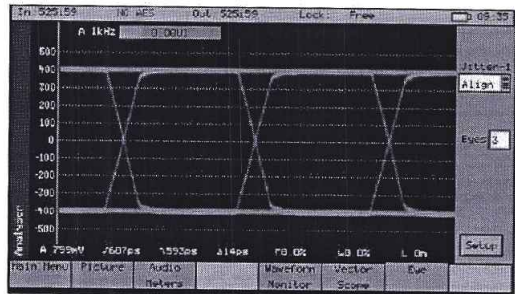
### Components Made in China for this product:

Name of Component	Manufacturer
DC/DC Converter	Richtek

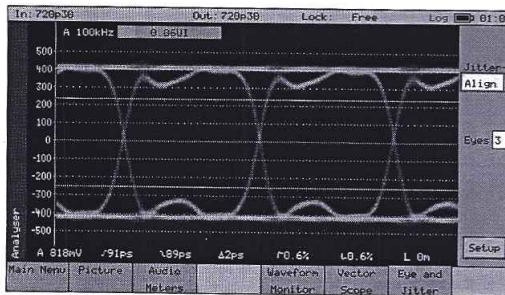
\*Key components are listed by the manufacturer and are subject to change without notice

## Eye Diagram

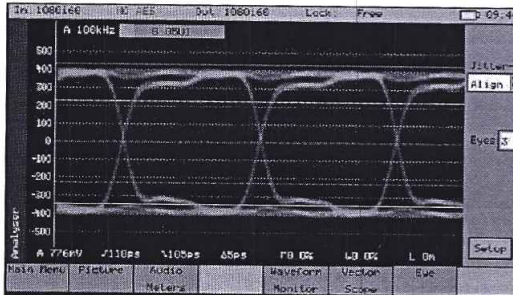
SD Mode  
525I59



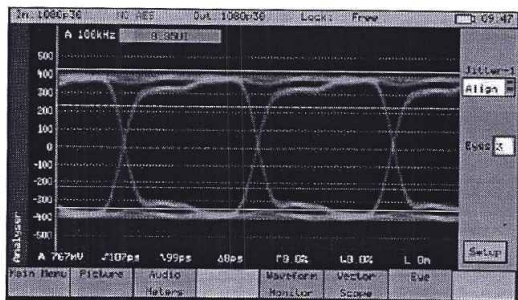
HD Mode  
720p30



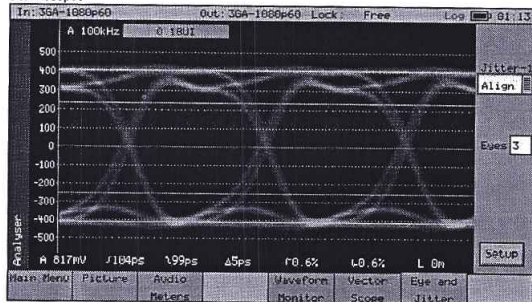
1080I60



1080p30



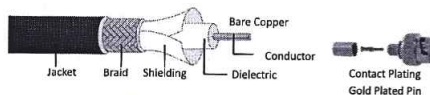
3GA-1080p60



### IMPORTANT NOTE: Cable & Connector for SDI HD Camera

In order to achieve the **Best Quality** and **Long Range** coax cable run of up to 200m / 600ft, you will need:

- Good Quality Cable:** We suggest using RG6 Belden 1694A Low Loss Serial Digital coax cable because RG6 cables have better grounding than RG59 cables. RG6 is for Digital Signal and RG59 is for Analog Signal.
- Good Quality BNC Connectors:** Contact Plating Gold plated pins provide exceptional conductivity.
- Good Quality Installation:** Do not over cut the braid because it will affect the grounding. The image will have lines and noise.



## Limited Warranty

### LIMITED ONE (1) YEAR WARRANTY AND EXCLUSIONS

Manufacturer warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Manufacturer is free of defects in materials and workmanship under normal and proper use for one (1) year from the purchase date. Manufacturer's only obligation is to correct such defects by repair or replacement, at its option, if within such one (1) year period the product is returned prepaid, with proof of purchase date, and a description of the problem. This warrant excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is voided if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other implied warranties of any kind, including merchantability and fitness for a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness of or a particular purpose, is limited to one (1) year. Manufacturer is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, loss sales or profits or delay or failure to perform this warranty obligation. The remedies, provided therein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.



MADE IN CHINA

R201212-V2