



# SD/HD/3G-SDI 1 to 4 Distribution Amplifier

## HD-SD-124



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

This Distribution Amplifier distributes a single SDI video signal data to several video signal adapter amplification equipment of SDI signal at the same time. There is no signal loss in the switching process. It supports almost all video formats which is SMPTE compliant. It can also achieve up to 1080p@60Hz for Full HD output performance perfectly.

In professional application systems, it needs several digital display terminals to show the same SDI video, and this device is specially designed for satisfying this type of requirement. It widely applies to surveillance, broadcast TV station, TV media, video conferences, electronic teaching, wired network areas, etc.

### Features

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- Support SD-SDI (270Mbps), HD-SDI (1.485Gbps) & 3G-SDI (2.97Gbps)
- Full HD video format
- Built-in Cable Equalizer, Re-clocker & Cable Driver
- Max. cable length (Belden 1694A): SD-SDI 400m/1300ft, HD-SDI 200m/600ft, 3G-SDI 140m/450ft
- Excellent SDI signal jitter suppression function
- Power supply and SDI signal format indicator
- Embedded ESD to protect the circuit
- 5V~24V DC



**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**

#### **1. 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.

#### **2. 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  $-0^{\circ}\text{C}\sim 40^{\circ}\text{C}$  /  $32^{\circ}\text{F}\sim 104^{\circ}\text{F}$ .

#### **3. Check the power source voltage**

The power source voltage should be within the specified range. (Product must meet the specifications).

#### **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

1. One (1) SDI to HDMI Converter
2. One (1) User Manual

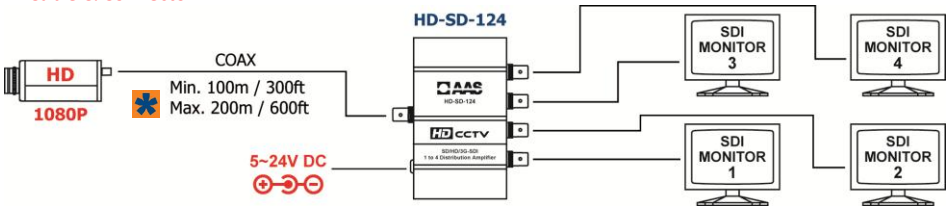


\*5V~24V DC Power Adapter not included.

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.

## Application Diagram

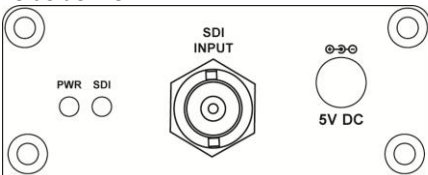
\* The distance depends on the quality of the SDI signal from the HD camera source and also the Coax Cable & Connector



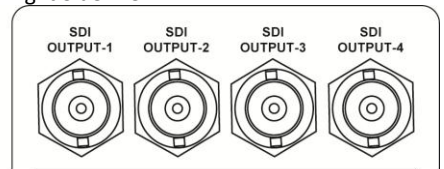
See page 6 for Important Notes about Cable and Connector for SDI HD Camera

## Parts & Functions

Left Side View:



Right Side View



Name	Color	Status	Description
SDI	Green	ON	SDI signal is active
		OFF	SDI signal is inactive
POWER	Green	ON	Power on
		OFF	Power off

## Hardware Installation ..

1. Check the power supply configuration and connect the correct voltage according to the power supply input requirements.
2. Use the standard HDMI cable and connect the HDMI source to HDMI input port.
3. Use SDI coaxial cable and connect the SDI output port with the display equipment.
4. Turn on the power switch.

## Technical Specifications ..

<b>Model</b>	<b>HD-SD-124</b>
<b>Input Interface</b>	1x BNC SDI, HD-SDI, 3G-SDI
<b>Input Signal Type</b>	SD-SDI (270Mbps), HD-SDI (1.485Gbps), 3G-SDI (2.97Gbps)
<b>Support Input Format</b>	SD-SDI: 480i, 576i HD-SDI: 720p24/25/30/50/59.94/60 all frame rate; 1080i all frame rate, 1035i all frame rate; 1080p all frame rate 3G-SDI: 1080p all frame rate
<b>Video Standard</b>	SMPTE 424M, SMPTE 292M and SMPTE 259M ITU-R BT.601 · ITU-R BT.1120
<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>HDMI/DVI Output Interface</b>	Nx BNC SD-SDI, HD-SDI, 3G-SDI
<b>Re-clocking</b>	Auto Support 270Mbps/1.485Gbps/2.97Gbps
<b>Power Supply</b>	5V~24V DC, 2A w/ Locking Power Connector
<b>Power Consumption</b>	10 Watts (max)
<b>Operating Temperature</b>	0°C ~ 40°C / 32°F ~ 104°F
<b>Storage Temperature</b>	-20°C ~ 60°C / -4°F ~ 140°F
<b>Relative Humidity</b>	20~90% RH (Non-condensation)
<b>Dimension</b>	120 x 57 x 36 mm / 4.72 x 2.24 x 1.42 inches

\*Specifications are subject to change without notice

## Key Components

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### Components Made in USA for this product:

Name of Component	Manufacturer
Multi-Rate SDI Adaptive Cable Equalizer	Mindspeed & Gennum
Multi-Rate SDI Automatic Reclocker	Mindspeed & Gennum
Multi-Rate Dual Slew-Rate Cable Driver	Mindspeed & Gennum

### Components Made in Taiwan for this product:

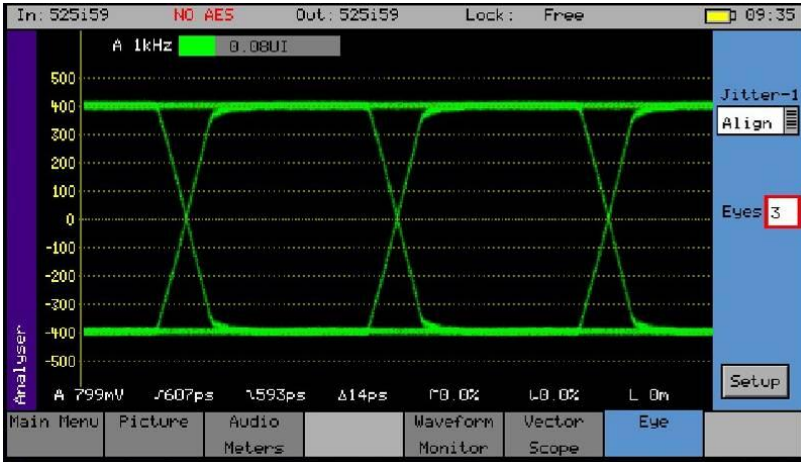
Name of Component	Manufacturer
DC/DC Converter	Richtek

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

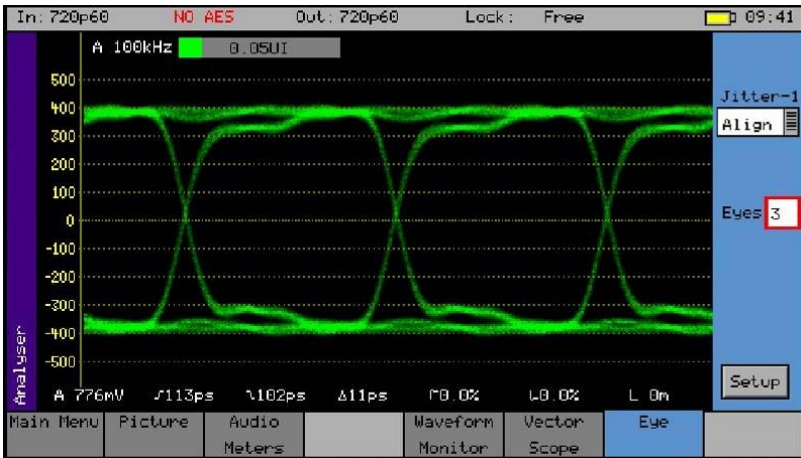
## Eye Diagram

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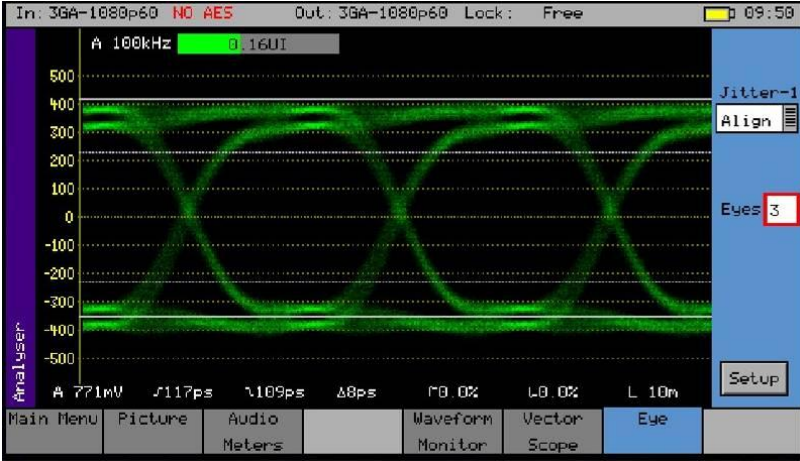
### SD-SDI Mode



### HD-SDI Mode



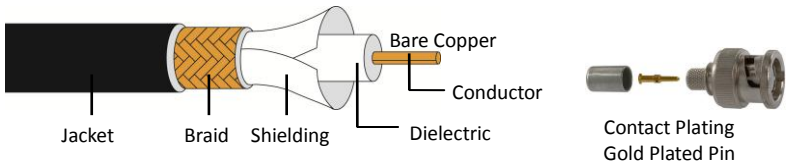
## 3G-SDI Mode



### 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:

1. **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.
2. **Good Quality BNC Connectors:** Contact Plating Gold plated pins provide exceptional conductivity.
3. **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 or a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warrant, 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.

## Related Products

### SD/HD/3G-SDI 1x2 Distribution Amplifier & Extender

#### HD-SDE-122

This Economical device is a reliable video device splitting a SDI or HD-SDI video source to four HD-SDI or SD-SDI display at the same time. Receives one SDI input, perfectly duplicates it, then it re-transmits, for real time multi-viewing.



### SD/HD/3G-SDI 1x2 Repeater & Distribution Amplifier with Re-clocking Function

#### HD-SDE-122R

This device is the same as the Economical type but It takes one input then re-clocks and equalizes the signal and distributes it to two identical outputs.



### SD/HD/3G-SDI Extender over UTP CAT5 /6 Kit

#### HD-SDE-UTPK

This kit allows HD-SDI to be transmitted up to 60m / 200ft via CAT5e/6 cable in a point-to-point configuration. The SDI-UTP Extender supports transmission of up to 1.485 Gbps uncompressed, un-encrypted digital video (optionally including embedded Audio and/or Time Code) within television facilities and between professional video equipment.





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

This Standard Series device converts a single channel SDI signal to different kinds of HD Multimedia HDMI signal. It integrates SDI Cable equalizer and reclocker to enhance video performance and stability. Simultaneously, it also separates and converts the audio signals of SDI, embedding it to HDMI signal or output to analog audio DACs.



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

The Pro Series device converts a single channel SDI signal to different kinds of HD Multimedia HDMI signals AND CVBS signal. It integrates SDI Cable equalizer and reclocker to enhance video performance and stability. Simultaneously, it also separates and converts the audio signals of SDI, embedding it to HDMI signal or output to analog audio DACs.



## SD/HD/3G-SDI Transmission over Ethernet Kit HD-SDE-SEDK

These devices are a kind of HD SDI video network H.264 Encoder/Decoder with high performance capability. It adopts industrial level design, reliable performance, and outstanding quality. The Encoder supports 1 channel SD/HD/3G-SDI input interface and it supports high definition digital video which is up to 1080p30 and AES/EBU embedded audio. The SDI can output with loopback circuit simultaneously.



## SD/HD/3G-SDI Pattern Generator Tester with HDMI Input HD-PG-HDMI

This device is an advance SDI pattern generator with multi-format (SD/HD/3G) and multi-pattern support. It offers the most common patterns, SMPTE color bars and checkfield, for SDI testing thru front panel buttons.



MADE IN CHINA