



HD-SDI to HDMI Scale Converter with built-in repeater

SC-HDR01S

User's Manual

SC-HDR01S



Precaution and Safety Guidelines

Please read this user's manual thoroughly prior to use the unit for its easy and convenient use.

- Do not install the product in the following places: extremely low or high temperature conditions; places exposed to rain, snow, or high humidity; places containing or exposed to oil and gas; places exposed to vibration and shock; places under direct sunlight or exposed to outdoor weather conditions; places exposed to radio waves (RF) or near to power lines. It may cause low performance or malfunction of the unit.
- When using this device adjacent to equipment which generates strong radio waves such as radio transceivers (walkie-talkies), repeaters, it may influence HD-SDI and/or EX-SDI signals, cause a malfunction of the device or some noise on the screen, or the screen may be broken, etc. Therefore, please do not use the influencing and relevant equipment where this device is installed and/or used.
- Do not disassemble the product or insert foreign objects.
- The unit is subject to electric shock hazard. Be careful not to get an electric shock while using the device.
- Please use only electrical safety approved power supply unit with electromagnetic compatibility.
- Do not use and/or connect any devices inappropriate to the unit. It may cause malfunction of the unit or fire.
- Use this product under temperature conditions only between - 10°C and +50°C.
- Should be careful not to have the lines changed when connecting them.
- Prior to turn on the device, check the cable insulation condition of the data cable, connected with external devices.
- Before installing the product, check its voltage rate and then turn on the power.
- Make sure to turn off the product prior to installation.
- Do not subject the product to physical shock or exert excessive force to operate the product.
- Do not use the device when any smoke or smell is produced from the unit. It may be subject to fire or electric shock. If any smoke or smell is produced, please turn off the unit and remove the power cable immediately, and contact your distributor to check the device properly.
- If the power does not turn ON, please check whether the power cable is connected correctly or not.
- Please note the transmission distance may vary depending on the cable quality and its loop resistance. Please refer to the transmission distance reference table per type of coaxial cable.
- If the device does not work properly, please contact your distributor.
- When thunder or lightning, please unplug the power cord for your safety.

1. Introduction

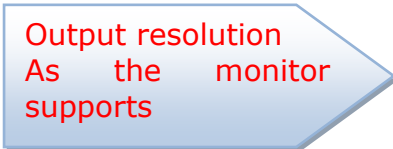
1-1. Overview

SC-HDR01S, HD-SDI to HDMI scale converter, receives HD-SDI (Standard SMPTE) signal and converts to HDMI (Multi-media signal). This device supports various output resolutions, which your monitor supports, regardless of the input resolution. By using the rotary switch, it is possible to set the output resolution as selected. Also, it has a repeater feature so that it can send the signal in a remote distance.

1-2. Features

- Possible to select the output resolution which your monitor supports
- Convert a received HD-SDI signal to HDMI format in the signal output
- Built-in repeater function (Full HD: 1.5G, Max.200m with RG-6/U)
- Effective and economical cabling solution, compared with Fiber-optic and HDMI cabling
- Surge protection built-in transmitter

1-3. Supportive resolution (Input / Output)

Input resolution (HD-SDI input signal)		S/W NO	Output resolution (HDMI output signal)
1920*1080p 25,30,50,60		0	1280 * 720p 60
1920*1080i 50,59.94,60		1	1280 * 720p 50
1280*720p 25,30,50,60		2	1920 * 1080i 59.94
		3	1920 * 1080i 50
		4	1920 * 1080p 30
		5	1920 * 1080p 25
		6	1920 * 1080p 60
		7	1920 * 1080p 50

※ **Factory default resolution: 1920 * 1080p 60(S/W NO: 6)**

<Tip> How to check which resolutions your monitor supports.

- . Connect SC-HDR01S with a monitor over HDMI cable and then turn the power on.
(** Do not input the HD-SDI signal in SC-HDR01S in this case)
- . Check if the color bar is displayed on the monitor by turning the rotary switch.
- . When the color bar is shown on the monitor, the monitor supports that resolution.
- . The output resolution will be displayed on the left-top side of the monitor for around 10 seconds.

1-4. HD Signals Standards

- SeeEyes HD-SDI transmission solutions are conformed with the SDI signals standards of the SMPTE(Society of Motion Picture and Television Engineers)
- The SDI (Serial Digital Interface) transmission system is the innovative

transmission system with which it can transmit incompressible video signals over one single cable. As the SDI signals are digital signals, it is possible to transmit limitless distance without modification by equalizing and re-clocking at each certain distance. Also, since the signals are incompressible signals, there is no aging or delay of video signals caused by the compression.



HD-SDI (SMPTE 292M)	3G-SDI (SMPTE 424M)
1280 x 720p, 50/59.94/60	1920 x 1080p, 50/59.94/60
1920 x 1080i, 50/60	
1920 x 1080p, 29.97/30	

2. Components

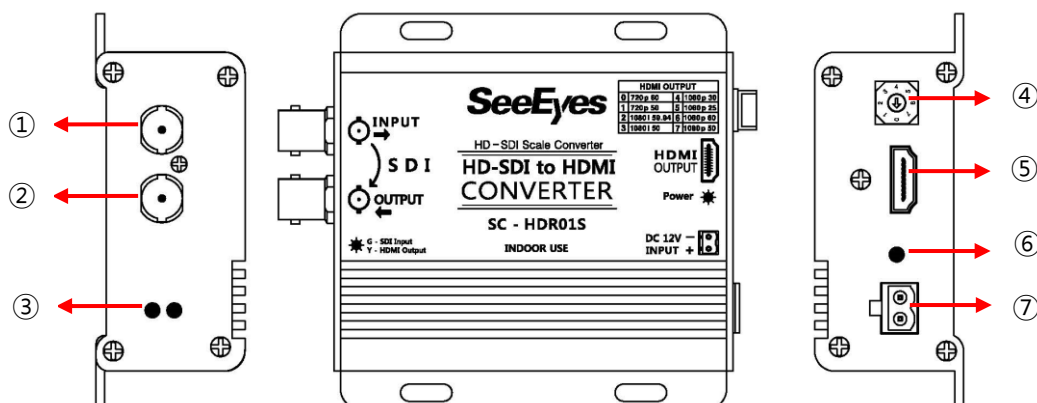
2-1. SC-HDR01S

Model	Design	PSU (Optional)	Harness Cable	User's Manual
SC-HDR01S				

2-2. Sub-brand products

Model	Power Supply	Design	Features
SC-HDT0801S	DC12V/0.67A		<ul style="list-style-type: none"> - Converting HDMI to HD-SDI Signal - HDMI Loop Out Port / 2 HD-SDI Out Ports
SC-HD1VDA	DC12V/0.165A Power Input: DC12V~48V		<ul style="list-style-type: none"> - 1 In 4 Out distribution - SMPTE 292M / 424M compliant - Various inputs (Full HD: 1.5 G, Full HD: 3 G, EX-SDI 1.0 / 2.0)

3. Product Parts & Peripheral Device Connection



- ① HD-SDI INPUT: Port for receiving HD-SDI signal
- ② HD-SDI OUTPUT: Re-sending the received HD-SDI signal (Repeater function)
- ③ LED Indicator for input/output signal state

LED state	Indication
Green On	HD-SDI Signal Input
Yellow On	HDMI signal Output

- ④ Rotary switch for HDMI output resolutions
 - Possible to select the output resolution which the monitor supports

Image	S/W NO	Output resolutions	S/W NO	Output resolutions
	0	1280 * 720p 60	4	1920 * 1080p 30
	1	1280 * 720p 50	5	1920 * 1080p 25
	2	1920 * 1080i 59.94	6	1920 * 1080p 60
	3	1920 * 1080i 50	7	1920 * 1080p 50

※ **Factory default resolution: 1920 * 1080p 60 (S/W NO: 6)**

- ⑤ **HDMI Output port:** Connect to HDMI input monitor or DVR (HDMI A Type)
 - In case that there is no HD-SDI input signal, the color bar pattern will be displayed on the monitor as set in "④"
- ⑥ **Power:** Power state LED
- ⑦ **DC INPUT:** DC12V/0.5A Power input port (2Pin T.M Block)

4. Transmission Distance between two HD-SDI transmission solutions, depending on coaxial cable type [Table 4-1]

CABLE Type	M.F	1.5G	3G	LOOP Resistance		SDI Max. Trans. distance	
		dB/100m					
		750MHz	1.5GHz	R/200m	R/m	1.5G	3G
5C-HFBT	U-JIN	17.8	26.3	8.32	0.0416	200	100
	KUMKANG	17.8	26.3	10	0.05	200	100
L-5CFB	CANARE	17.7	26.1	6.2	0.031	200	100
S-5C-FB	TACHII	18.1	29.2	7.4	0.037	200	100
S-5C-FV	TACHII	19.7	31.5	10.4	0.052	180	80
L-5C-2V	CANARE	25.7	-	8.8	0.044	120	70
L-3C-2V	CANARE	40.0	-	21	0.105	90	50
RG6/U(1694A)	BELDEN	16.4	24.1	6.1	0.0305	200	100
RG59/U(1505A)	BELDEN	21.3	30.5	9.1	0.0455	150	85

- Please note the distance may be reduced in the actual site due to any possible video loss. Therefore, we recommend you to connect the cable under 70% of the maximum distance stated above.
- It is recommended to use BNC connectors with low connection resistance when connecting the coaxial cables or connectors.
- Please be careful not to make deformation of the cables when wiring them.
- Please avoid pulling the cables by force when wiring them.
- Please avoid bending the coaxial cables too tightly when wiring them. It may make deformation of the cables.

5. FAQ

A. Is there any advice for HD-SDI product installations?

☞ As HD-SDI signal is a high-transmission-frequency signal, the transmission distance may vary, depending on the cable specifications. Please get advised from an expert on selecting coaxial cable and using the existing cable and the connectors for HD-SDI before the installation.

B. Power LED is not ON.

- ☞ Check the polarity of the power connection port of the device.
- ☞ Check if the power cord is connected properly.

C. Even though there is no problem with the installation, Green LED is not ON or LED is blinking.

- ☞ Check if you used proper cables and/or the transmission distance exceeded the recommended distance. The transmission distance may vary, depending on the cable type and quality. [Refer "Table 4-1"]
 - ☞ Check if the connection of the coaxial cables is properly clipped.
- In case of extending the cable, connect the cable in the following way.
The order of BNC connector connection: BNC-M - BNC-JJ - BNC-M: (For HD-SDI)



- Do not use RCA cable for the connection.

D. All LED on the device is ON but the video is not displayed

- ☞ Check if HDMI cable is connected properly.
- ☞ Check if HDMI cable is working with other devices.
- ☞ Check if the HDMI output resolution is complied with the resolution that the monitor supports.
- ☞ How to check the supportive resolution between the device and the monitor.
Without the HD-SDI input signal source, the color bar pattern signal is displayed through HDMI output port.
- Supply power to the device → Connect the device with the monitor over HDMI cable → Control the rotary switch on the device.
- Possible to check if the monitor supports a specific resolution by the color bar pattern. If the pattern comes out to the monitor when the rotary switch points at a specific resolution, that means the monitor supports the relevant resolution.

E. what is the input/output video resolution?

- ☞ How to check the input video resolution
- When the HD-SDI signal goes into the device, the screen will be displayed as below. And the input video resolution will be displayed on the left-top side of the monitor for around 10 seconds.
- When you change the resolution with the rotary switch and change back to the previous resolution, the screen will be displayed as below.



Version v1.00.00
 INPUT - 1920 x 1080p 30Hz
 OUTPUT - 1920 x 1080p 30Hz

- ☞ How to check the input video resolution when there is no HD-SDI input signal.
- The selected resolution by the rotary switch will be displayed on the left-top side of the color bar screen for 10 seconds as shown below.
- Check the number shown on the rotary switch and check the resolution specs in front of SC-HDR01S.

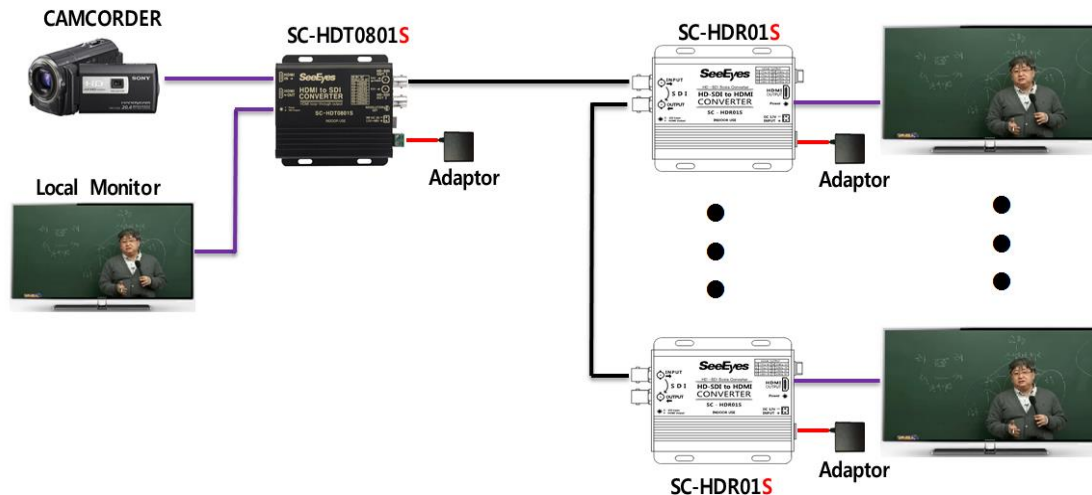


Version v1.00.00
 INPUT - [NO SIGNAL]
 OUTPUT - 1920 x 1080p 30Hz

6. Connection Diagram

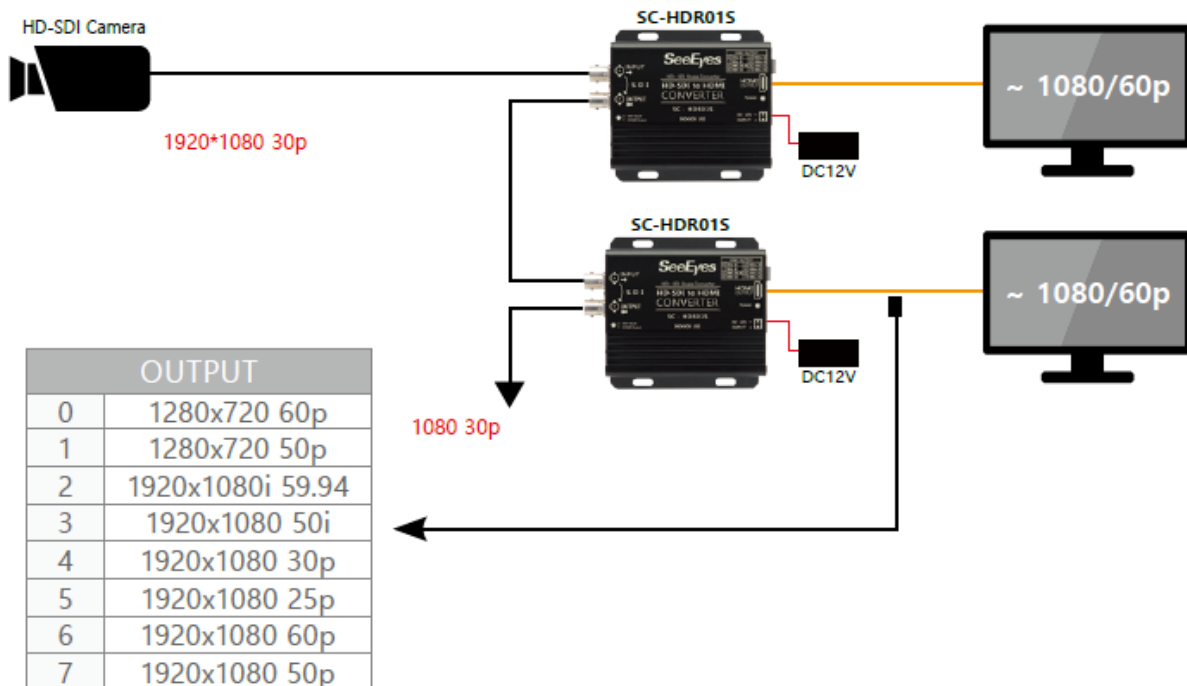
6-1. Transmitting the same video signals from camcorders to the monitors at real time.

It is possible to transmit the HD camcorder video to more than two monitors in the same image by using one piece of SC-HDT0801S and many of SC-HDR01S. This device is applicable in schools, academies for online studying and church and so on via a high-resolution Full HD video. Refer to the connection diagram below.



6-2. HD-SDI camera to HDMI monitor (Daisy Chain available)

It is possible to up-scale/down-scale HDMI resolutions.



7. SPECIFICATION

Model		SC-HDR01S			
Video In		HD-SDI(SMPTE292/1.5G, SMPTE424/3G)			
Video Out		HDMI 1.3, DVI 1.0 Compliant			
HDMI Output Resolution (Rotary DIP Switch)		SW NO	OUTPUT	SW NO	OUTPUT
		0	1280*720p 60	4	1920*1080p 30
		1	1280*720p 50	5	1920*1080p 25
		2	1920*1080i 59.94	6	1920*1080p 60
		3	1920*1080i 50	7	1920*1080p 50
Connection Port	HD-SDI input/output	BNC-F_75Ω			
	HDMI output	HDMI A Type			
	Power input	2PIN Terminal Block			
LED	Green	On: Receiving SDI			
	Yellow	On: HDMI OUT			
Power input		DC12V/0.5A			
Power consumption		MAX 2.6W			
Temperature / Humidity		-10°C ~ +50°C / 0 ~ 80%			
Case body / Weight		Aluminum / 210g			
Dimensions		93(W) X 93(D) X 35(H)mm			

[MEMO]

[MEMO]

8. Warranty Certificate

This product has passed thorough quality control and test, and if this gets broken during normal use, we provide the two-year warranty service.

Model No.	
Serial No.	
Distributor	
Date you purchased	
Place you purchased	
Warranty Period	Two(2) years from the date of purchase
Purchaser	Name
	Address

- Please check this warranty indication first.
- Please contact your distributor after checking out any defect in the products.
- The standard for repairing, replacement or reimbursement follows Customer.
- Warranty content any defect under normal use within the warranty service period we give you free repair service according to the warranty certificate.
- We charge you with the fee of parts and service despite of free warranty service period. Any breakage made without care such as:
 - Breakage or trouble made by natural disaster.
 - Breakage or trouble made by breaking the product guide or manual.
 - Breakage or trouble made by wrong power voltage or frequency.
 - When you want to reassemble for full system or replace parts within warranty service period.
 - When unauthorized person modified or made damage on the product trying to repair it.
 - Thunderstroke.
- Please note that we don't support the breakage after warranty service period is expired. If the customer wants to get it repaired, we charge them with the fee.
- The specification is subject to change without prior notice for quality improvement.



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