4k x 2k

SY-4KS
HDMI 4K Scaler (Optional Up & Down Scaling)

/// **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	SUMMARY OF CHANGE
v1.00	20/01/2014	First release

CONTENTS

1. INTRODUCTION

The SY-4KS HDMI Scaler is designed to upscale 1080p@24 signals to 4K Ultra High Definition (UHD) resolutions, or downscale a UHD 4K signal to 1080p@24 for integration into any AV system. The ability to downscale 4K signals to 1080p is a crucial function when working with 4K sources in a complex AV system and distributing the HDMI sources to multiple displays which have varying resolution support. This device allows the user to select the highest commonly supported resolution between source and display ensuring maximum compatibility in any system. The SY-4KS incorporates two HDMI outputs, one of which is a bypass (input follows output), and the second is a scaled output. The scaled output can be set to three modes, upscale to 4K, downscale from 4K, or as a bypass output. Both the bypass output and scaled output operate simultaneously.

2. APPLICATIONS

/// Display an Ultra HD source on a standard LED TV/monitor

/// Display an Ultra HD source on a 4K2K TV/Panel

/// Standard Blu-ray/DVD player source displaying on 4K2K TV/Panel

/// Standard Blu-ray/DVD player source displaying on standard LED TV/ monitor

3. PACKAGE CONTENTS

/// 1 x HDMI 4K2K Scaler

/// 1 x 5V/2.6A DC Power Supply
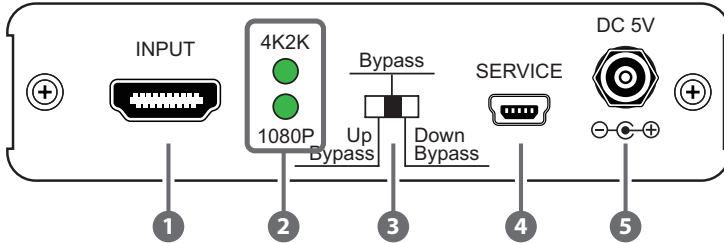
/// 1 x User Manual

4. SYSTEM REQUIREMENTS

Input source equipment such as DVD/Blu-ray(4K2K) player and output HDMI (4K2K) TV/display.

5. FEATURES

/// Supports HDMI upscaling to 4K or downscale to 1080p@24

/// Supports HDMI signal bypass

/// Simultaneous HDMI outputs

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel

1 **INPUT:** Connect to HDMI source equipment such as Blu-ray/DVD player with or without 4K2K signal.

2 **4K2K / 1080P LED:** These LED will illuminate according to input source signal's resolution when both LED are illuminating it indicates the input source's signal is not 4K2K/1080P.

3 **Bypass Switch:** Use this switch to select the input source signal to be Up/Down Bypass or to bypass it to the output display. Switch to Up/Down Bypass the Scaled output port will output 4K2K/1080p but Bypass port will output 4K2K on both Up/Down Bypass selection when the connected display supports the resolution or else it will output 1080p.

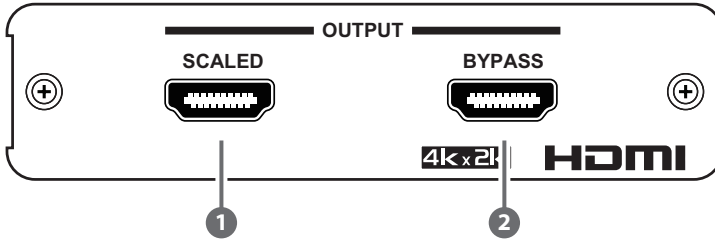| LED	Switch	Bypass	Scaled
1080P	Up	1080P/4K2K	4K2K
	Down	1080P	1080P
4K2K	Up	4K2K	4K2K
	Down	1080P/4K2K	1080P

Switch to Bypass the device will output 4K2K when the Bypass port supports 4K2K or else it will output a resolution that both output port can accept.

CYP

LED	Switch	Bypass	Scaled
1080P	Bypass	1080P	1080P
		1080P	1080P
4K2K	Bypass	4K2K	4K2K
		4K2K	4K2K

Note:

1. 1080p supports 24/25/30

2. 4K2K supports

   4096×2160p@24

   3840×2160p@24/25/30

3. Switch Down Bypass the input port does not supports 4096x2160p24

4. This device does not support 3D timing under Up/Down Bypass.

5. Other Timings not listed above will be bypass always.

6. HDMI output display change require power replug in order for the device to get the new EDID.

④ SERVICE: This slot is reserved for factory use only.

⑤ DC 5V IN: Connect 5V DC power supply into the unit and connect the adaptor to an AC outlet. Both 4K2K & 1080P's LEDs will illuminate when power is connected.
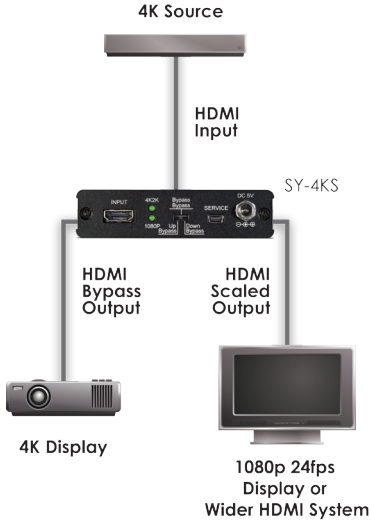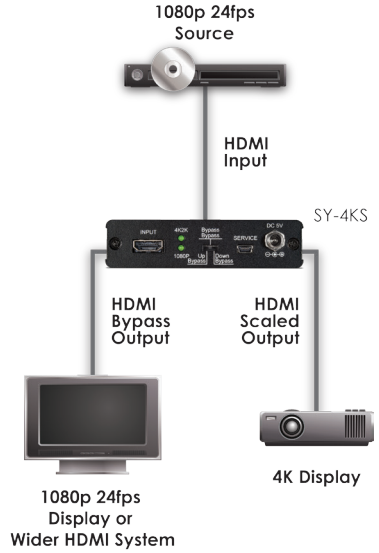
6.2 Rear Panel

1 **SCALED:** This slot is to connect with HDMI TV/display with or without 4K2K specification for output AV displaying according to Bypass switch setting.

2 **BYPASS:** This slot is to connect with HDMI TV/display with or without 4K2K specification for output AV displaying according to input source signal setting.

7. CONNECTION DIAGRAM

Option 1: 4K Downscale

Option 2: 4K Upscale

1080p 24fps
Source

4K Source

HDMI
Input

HDMI
Input

SY-4KS

SY-4KS

HDMI
Bypass
Output

HDMI
Scaled
Output

HDMI
Bypass
Output

HDMI
Scaled
Output

4K Display

4K Display

1080p 24fps
Display or
Wider HDMI System

1080p 24fps
Display or
Wider HDMI System

8. SPECIFICATIONS

Video Frequency	300 MHz/9 Gbps
Input Port	1×HDMI
Output Ports	2×HDMI
4K2K HDMI Cable Distance	In 5m, Out 10m
Power Supply	5 V/2.6A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
Dimensions (mm)	102 (W)×02(D)×25 (H) 102(W)×108.75(D)×25 (H)/Including Jacks
Weight	220 g
Chassis Material	Aluminum
Colour	Black
Operating Temperature	0 ˚C~40 ˚C / 32 ˚F ~ 104 ˚F
Storage temperature	−20 ˚C~60 ˚C / −4 ˚F ~ 140 ˚F
Relative Humidity	20~90 % RH (no condensation)
Power Consumption	2.4 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
4K×2K	UltraHD Resolution (3840×2160)
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
UHD	Ultra-High Definition (4Kx2K)