NEXIS

SP914E

4K UHD+ 1×4 HDMI Splitter



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.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

REVISION HISTORY

VERSION NO.	DATE	SUMMARY OF CHANGE
VS1	15/03/18	Final technical review
VS2	06/09/18	Updated Section 8.2

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1. INTRODUCTION

This 4K UHD HDMI Splitter with HDCP 2.2 is an advanced solution providing high performance audio and video support including HDR and other features defined by the HDMI 2.0a specification. 4K UHD HDMI video sources, up to and including 4K@60Hz (4:4:4, 8-bit) as well as 10/12-bit sources with HDR, are able to be passed along to 4 outputs. Pass-through of multiple digital audio formats such as LPCM 7.1, Bitstream and advanced HD Bitstream with audio sampling rates up to 192kHz are also supported. An independent HDCP management engine for each output ensures stable HDCP performance.

When a mixture of displays with different specifications are connected, each output will automatically scale 4K to 1080p or apply color space conversion (4:4:4 to 4:2:0), as appropriate, based on each connected display's EDID. Support for the CEC "active source" command to periodically reset input selection on CEC-compatible connected displays is also included. This unit is controllable via simple front-panel switches with easy to read informational LEDs.

2. APPLICATIONS

- Classroom and Lecture Hall Presentations
- Showrooms and Demo Rooms
- Hotel Lobby information Displays
- Public Commercial Displays

3. PACKAGE CONTENTS

- 1×HDMI Splitter
- 1×5V/2.6A DC Power Adapter
- 1×Shockproof Feet (Set of 4)
- 1×Operation Manual

4. SYSTEM REQUIREMENTS

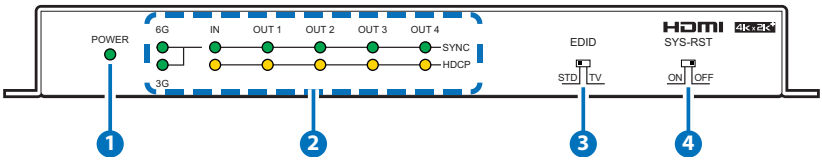
- HDMI source equipment such as a media player, video game console or set-top box.
- HDMI receiving equipment such as HDTVs, monitors or audio amplifiers.
- The use of "Premium High Speed HDMI" cables is highly recommended.

5. FEATURES

- HDMI with HDR, 3D & 4K@60Hz support, DVI 1.0 compatible
- HDCP 2.2 and HDCP 1.x compliant
- 1 HDMI input and 4 HDMI outputs
- Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video signals
- Supports current 10-bit and 12-bit HDR (High Dynamic Range) formats
- Supports pass-through of LPCM 7.1, Bitstream and advanced HD Bitstream audio formats
- Automatic 4K to 1080p down-scaling and color space conversion (4:4:4 to 4:2:0) for each independent output based on each connected display's EDID
- Independent HDCP management engine for each output ensures stable HDCP performance
- Simple to use EDID management options
- Support for the CEC "active source" command to periodically reset input selection on CEC-compatible connected displays
- Controllable via front-panel switches

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1. **POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.

2. **6G LED:** When the input source bandwidth is above 340MHz, the 6G LED will illuminate.

   3G LED: When the input source bandwidth is between 275MHz and 340MHz, the 3G LED will illuminate.

   IN HDCP LED: When HDCP is required by the input source, this LED will illuminate. If no HDCP is detected, the LED will remain off.

   OUT 1~4 HDCP LEDs: When a connected display supports HDCP and HDCP is active, the LED for that output will illuminate. If HDCP is not active, the LED will remain off.

   IN SYNC LED: When sync from a live source has been detected on the input, this LED will illuminate. If no source is detected, the LED will remain off.

   OUT 1~4 SYNC LEDs: When a live source is being sent to a connected display, the associated LED will illuminate. If no display is connected or no signal is being passed, the LED will remain off.

3. **EDID:** This switch selects the EDID that is provided to the input.

   TV Mode: The "TV Mode" setting copies the EDID from the display connected to output 1 and passes it to the input.

   Note: If the connected outputs are a mixture of HDMI and DVI displays, the EDID's color space will be set to RGB for compatibility reasons.

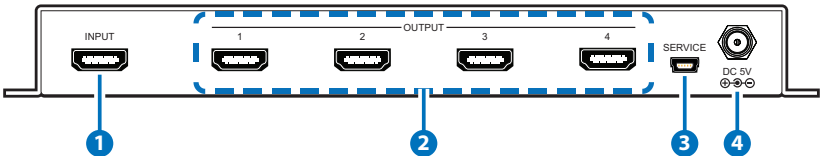
   STD Mode: The "Standard Mode" setting provides a pre-defined internal EDID (3840×2160@60Hz, RGB, LPCM 2.0) to the input.

4. **SYS-RST:** Controls the CEC "active source" reset functionality of the unit. When switched to the "ON" position the unit will send a CEC

active source reset command to all connected displays every 8~10 minutes. This command requests that any connected CEC compliant TVs switch to the input the unit is connected on.

Note: This function is ideal for TV displays where the public has access to the controls and might switch the input away from the preferred source.

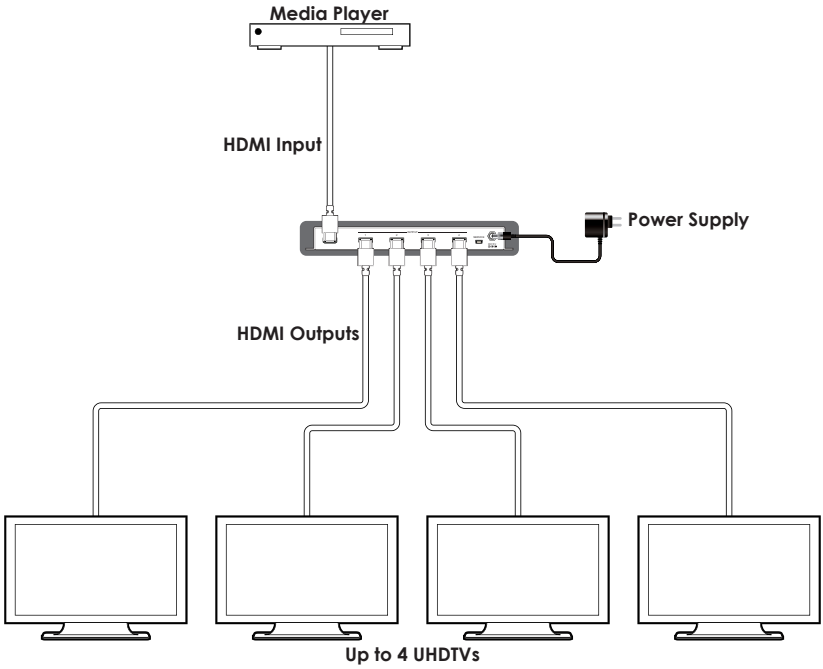
6.2 Rear Panel



1. **INPUT:** Connect to HDMI source equipment such as a media player, game console or set-top box.
2. **OUTPUT 1~4:** Connect to HDMI TVs, monitors or amplifiers for digital video and audio output.

   Note: This unit employs automatic 4K to 1080p down-scaling and color space conversion (4:4:4 to 4:2:0) for each independent output based on each connected display's EDID. If a display cannot support the source's 4K resolution/timing, the signal will be converted.
3. **SERVICE:** This slot is reserved for firmware update use only.
4. **DC 5V:** Plug the 5V DC power adapter into this port and connect it to an AC wall outlet for power.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

HDMI Bandwidth	600MHz/18Gbps
Input Port	1×HDMI
Output Ports	4×HDMI
HDMI Cable Distance	5m, 4K@60Hz (YUV 4:4:4, 8-bit) 10m, 1080p@60Hz (12-bit) 15m, 1080p@60Hz (8-bit)
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human Body Model: ±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions	231.5mm×25mm×108mm (W×H×D) [Case Only] 231.5mm×30mm×117mm (W×H×D) [All Inclusive]
Weight	608g
Chassis Material	Metal
Silkscreen Color	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 (Non-condensing)
Power Consumption	3.08W

8.2 Video Specifications

Resolutions/Timing (Hz)	Support		Can Convert to 1080p	Can Convert to 4:2:0
	In	Out		
640×480p@60	✓	✓	×	×
640×480p@72	✓	✓	×	×
640×480p@75	✓	✓	×	×
640×480p@85	✓	✓	×	×
720×400p@70	✓	✓	×	×
720×400p@85	✓	✓	×	×
720×480i@59	✓	✓	×	×
720×480i@60	✓	✓	×	×
720×480p@59	✓	✓	×	×
720×480p@60	✓	✓	×	×
720×576i@50	✓	✓	×	×
720×576p@50	✓	✓	×	×
800×600p@56	✓	✓	×	×
800×600p@60	✓	✓	×	×
800×600p@72	✓	✓	×	×
800×600p@75	✓	✓	×	×
800×600p@85	✓	✓	×	×
848×480p@60	✓	✓	×	×
1024×768p@60	✓	✓	×	×
1024×768p@70	✓	✓	×	×
1024×768p@75	✓	✓	×	×
1024×768p@85	✓	✓	×	×
1152×864p@70	✓	✓	×	×
1152×864p@75	✓	✓	×	×

Resolutions/Timing (Hz)	Support		Can Convert to 1080p	Can Convert to 4:2:0
	In	Out		
1152×864p@85	✓	✓	×	×
1280×720p@23	×	×	×	×
1280×720p@24	×	×	×	×
1280×720p@25	✓	✓	×	×
1280×720p@29	✓	✓	×	×
1280×720p@30	✓	✓	×	×
1280×720p@50	✓	✓	×	×
1280×720p@59	✓	✓	×	×
1280×720p@60	✓	✓	×	×
1280×768p@60	✓	✓	×	×
1280×768p@60 (RB)	✓	✓	×	×
1280×768p@75	✓	✓	×	×
1280×768p@85	✓	✓	×	×
1280×800p@60	✓	✓	×	×
1280×800p@60 (RB)	✓	✓	×	×
1280×800p@75	✓	✓	×	×
1280×800p@85	✓	✓	×	×
1280×960p@60	✓	✓	×	×
1280×960p@85	✓	✓	×	×
1280×1024p@60	✓	✓	×	×
1280×1024p@75	✓	✓	×	×
1280×1024p@85	✓	✓	×	×
1360×768p@60	✓	✓	×	×
1366×768p@60 (RB)	✓	✓	×	×
1366×768p@60	✓	✓	×	×
1400×1050p@60	✓	✓	×	×

Resolutions/Timing (Hz)	Support		Can Convert to 1080p	Can Convert to 4:2:0
	In	Out		
1400×1050p@60 (RB)	✓	✓	×	×
1440×900p@60	✓	✓	×	×
1440×900p@60 (RB)	✓	✓	×	×
1440×900p@75	✓	✓	×	×
1600×900p@60 (RB)	✓	✓	×	×
1600×1200p@50	×	×	×	×
1600×1200p@60	✓	✓	×	×
1600×1200p@65	✓	✓	×	×
1600×1200p@70	✓	✓	×	×
1600×1200p@75	✓	✓	×	×
1600×1200p@85	✓	✓	×	×
1680×1050p@60	✓	✓	×	×
1680×1050p@60 (RB)	✓	✓	×	×
1920×1080p@23	✓	✓	×	×
1920×1080p@24	✓	✓	×	×
1920×1080p@25	✓	✓	×	×
1920×1080p@29	✓	✓	×	×
1920×1080p@30	✓	✓	×	×
1920×1080p@50	✓	✓	×	×
1920×1080p@59	✓	✓	×	×
1920×1080p@60	✓	✓	×	×
1920×1080i@50	✓	✓	×	×
1920×1080i@59	✓	✓	×	×
1920×1080i@60	✓	✓	×	×
1920×1200p@60 (RB)	✓	✓	×	×
2560×1600p@60 (RB)	×	×	×	×

Resolutions/Timing (Hz)	Support		Can Convert to 1080p	Can Convert to 4:2:0
	In	Out		
2048×1080p@23	✓	✓	×	×
2048×1080p@24	✓	✓	×	×
2048×1080p@25	✓	✓	×	×
2048×1080p@29	✓	✓	×	×
2048×1080p@30	✓	✓	×	×
2048×1080p@50	✓	✓	×	×
2048×1080p@59	✓	✓	×	×
2048×1080p@60	✓	✓	×	×
3840×2160p@23 (4:2:2)	✓	✓	×	×
3840×2160p@24 (4:2:2)	✓	✓	×	×
3840×2160p@25 (4:2:2)	✓	✓	×	×
3840×2160p@29 (4:2:2)	✓	✓	×	×
3840×2160p@30 (4:2:2)	✓	✓	×	×
3840×2160p@50 (4:2:2)	✓	✓	×	×
3840×2160p@60 (4:2:2)	✓	✓	×	×
3840×2160p@50 (4:2:0)	✓	✓	✓	×
3840×2160p@59 (4:2:0)	✓	✓	✓	×
3840×2160p@60 (4:2:0)	✓	✓	✓	×
3840×2160p@23 (4:4:4)	✓	✓	✓	×
3840×2160p@24 (4:4:4)	✓	✓	✓	×
3840×2160p@25 (4:4:4)	✓	✓	✓	×
3840×2160p@29 (4:4:4)	✓	✓	✓	×
3840×2160p@30 (4:4:4)	✓	✓	✓	×
3840×2160p@50 (4:4:4)	✓	✓	✓	✓
3840×2160p@59 (4:4:4)	✓	✓	✓	✓
3840×2160p@60 (4:4:4)	✓	✓	✓	✓

Resolutions/Timing (Hz)	Support		Can Convert to 1080p	Can Convert to 4:2:0
	In	Out		
4096×2160p@23 (4:2:2)	✓	✓	×	×
4096×2160p@24 (4:2:2)	✓	✓	×	×
4096×2160p@25 (4:2:2)	✓	✓	×	×
4096×2160p@29 (4:2:2)	✓	✓	×	×
4096×2160p@30 (4:2:2)	✓	✓	×	×
4096×2160p@50 (4:2:2)	✓	✓	×	×
4096×2160p@60 (4:2:2)	✓	✓	×	×
4096×2160p@50 (4:2:0)	✓	✓	✓	×
4096×2160p@59 (4:2:0)	✓	✓	✓	×
4096×2160p@60 (4:2:0)	✓	✓	✓	×
4096×2160p@23 (4:4:4)	✓	✓	✓	×
4096×2160p@24 (4:4:4)	✓	✓	✓	×
4096×2160p@25 (4:4:4)	✓	✓	✓	×
4096×2160p@29 (4:4:4)	✓	✓	✓	×
4096×2160p@30 (4:4:4)	✓	✓	✓	×
4096×2160p@50 (4:4:4)	✓	✓	✓	✓
4096×2160p@59 (4:4:4)	✓	✓	✓	✓
4096×2160p@60 (4:4:4)	✓	✓	✓	✓

9. ACRONYMS

ACRONYM	COMPLETE TERM
CEC	Consumer Electronics Control
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HD	High-Definition
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDR	High Dynamic Range
LPCM	Linear Pulse-Code Modulation
UHD	Ultra-High-Definition
USB	Universal Serial Bus
VGA	Video Graphics Array (640×480@60Hz)
WUXGA	Wide Ultra Extended Graphics Array (1920×1200@60Hz)