



# LinkBridge™ 18G/4K HDMI Enhanced Splitter 1x2 or 1x4

## LB-H2-SP2E



## LB-H2-SP4E



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# SAFETY INSTRUCTIONS AND COMPLIANCE DECLARATION

PLEASE OBSERVE THE FOLLOWING SAFETY PRECAUTIONS

## **SURGE PROTECTION DEVICE RECOMMENDED**

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection system is highly recommended in order to protect and extend the life of your equipment.

## SAFETY INFORMATION

Do not use this device near water/liquids. This device should not be exposed to dripping and splashing or liquids.

Clean only with dry cloth.

Do not use solvents such as paint thinners and acetone to clean external casing. Such agents will remove any labels on the device.

Do not block any ventilation openings.

Do not install near any sources of intense heat such as radiation, boilers, or other equipment that produce heat

Not intended for use/storage in close proximity of critical medical supplies such as those that might come into direct contact with patients or medical staff.

Protect the power cord from being pinched or damaged at receptacles and the point of exit from the device.

Only use attachment /accessories specified by manufacturer. If you have any questions about the compatibility of an accessory, contact your dealer.

In case liquid spillage on device, unplug mains power cord and contact your dealer. Continuous use in this case may result in fire or electric shock.

To reduce the risk of electric shock, do not touch connectors with wet hand.

Only power with the marked voltage on the device. Any other voltage can cause fire or electric shock.

Do not use the device if an abnormality occurs. If any smoke or odor becomes apparent, unplug the power cord and contact your dealer. Do not try to repair the device yourself.

Avoid using physically damaged devices. If your device metal housing is seriously physically damaged, the internal components may function abnormally. Contact your dealer.

Do not install the device in an area heavy with dust or constant high humidity. Operating the device in this case may result in fire or electric shock.

Only use supplied power supply. For a list of other compatible power supplies, contact your dealer.

Install this device in a secure location where it cannot be easily pushed or knocked over.

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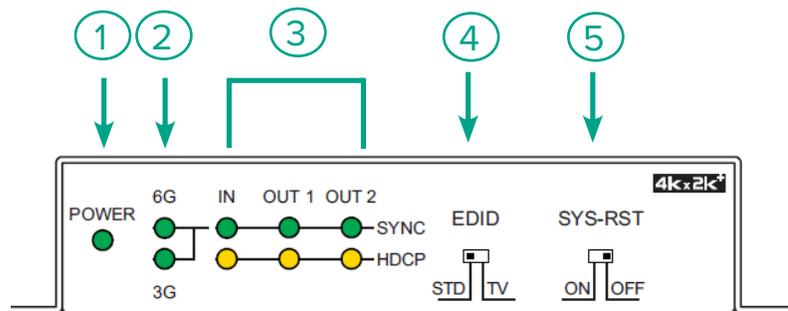
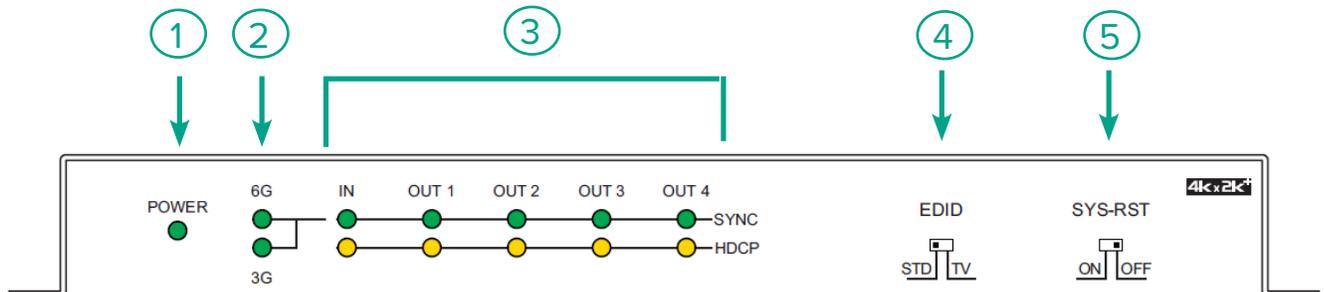
The LB-H2-SP2E and LB-H2-SP4E is an advanced solution providing high performance audio and video support including HDR and other features defined by the HDMI 2.0 specification. 4K UHD HDMI video sources, up to and including 4K@60Hz (4:4:4, 8-bit) as well as 10/12-bit sources with HDR, are able to be 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 resolution formats are connected, the splitter will automatically maintain the highest resolution video format while offering 4K to 1080p scaling as needed, 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. These units are controllable via simple front-panel switches with easy to read informational LEDs.

#### **FEATURES:**

- HDMI with HDR, 3D & 4K@60Hz support, DVI 1.0 compatible
- HDCP 2.2 and HDCP 1.x compliant
- 1 HDMI input and 2 (LB-H2-SP2E) or 4 HDMI outputs (LB-H2-SP4E)
- 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

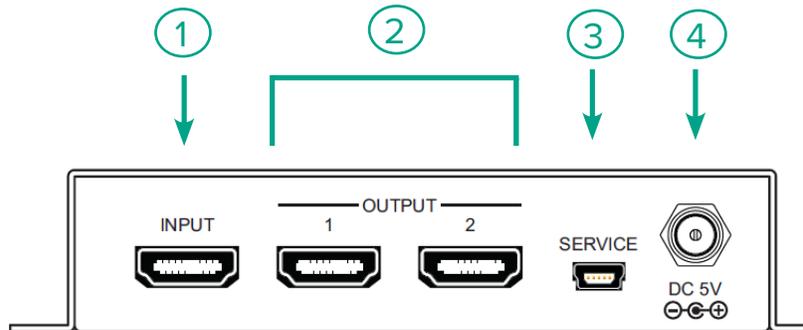
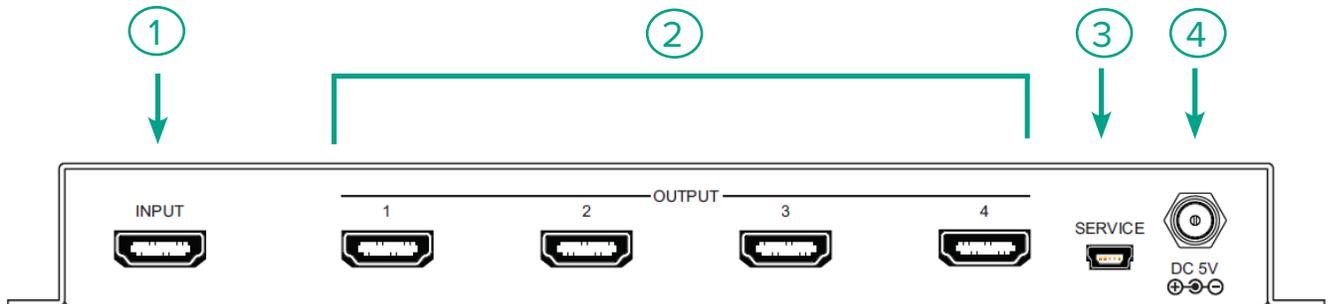
## FRONT PANEL

LB-H2-SP2E  
FRONT PANELLB-H2-SP4E  
FRONT PANEL

**FRONT PANEL**

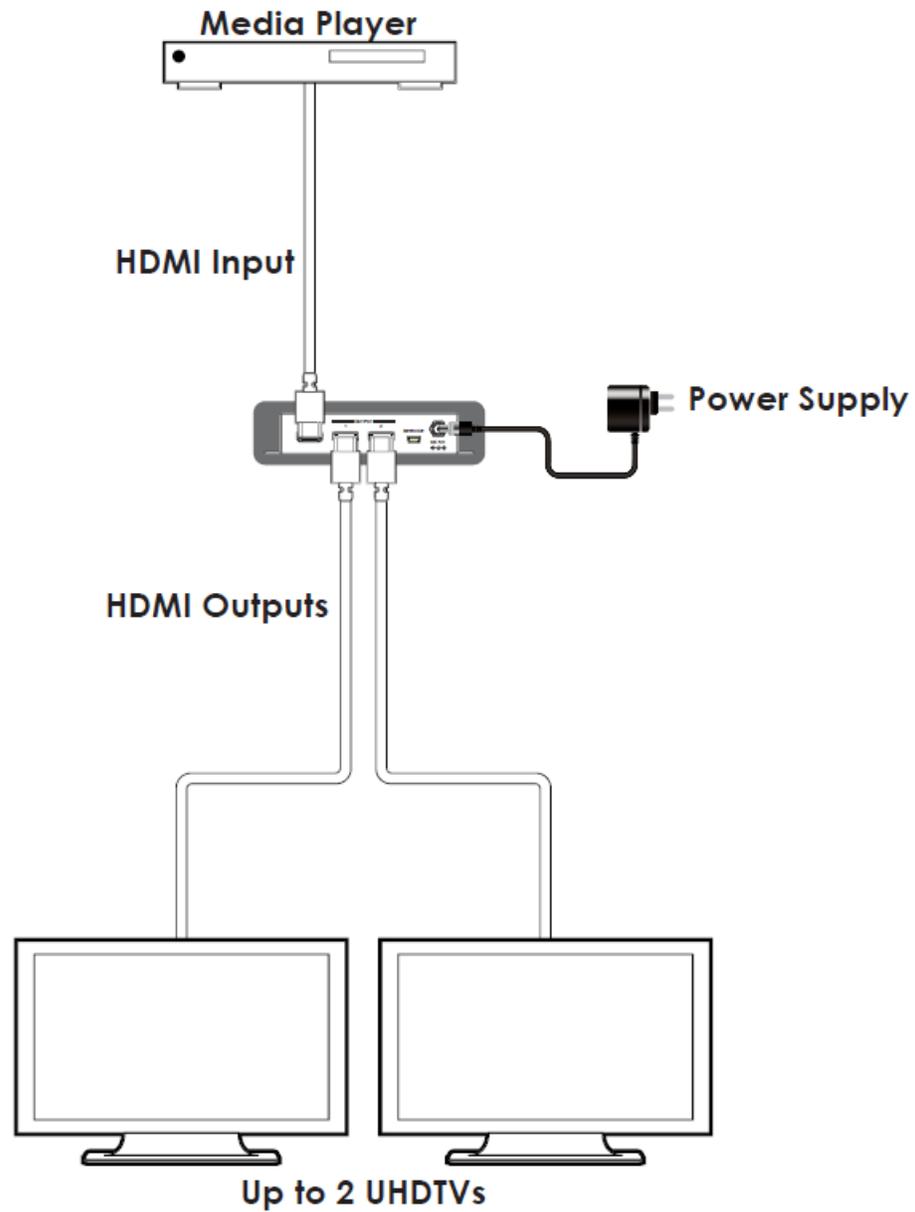
- ① **POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.
- ② **6G LED:** When the input source bandwidth is above 340MHz, the 6G LED will illuminate.
- ③ **3G LED:** When the input source bandwidth is between 275MHz and 340MHz, the 3G LED will illuminate.
- IN HDCP LED:** When HDCP is required by the input source, this LED will illuminate. If no HDCP is detected, the LED will remain off.
- OUT 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 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.
- ④ **EDID:** This switch selects the EDID that is provided to the input.
- 4a) 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.
- 4b) STD Mode:** The “Standard Mode” setting provides a pre-defined internal EDID (3840x2160@60Hz, RGB, LPCM 2.0) to the input.
- ⑤ **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.

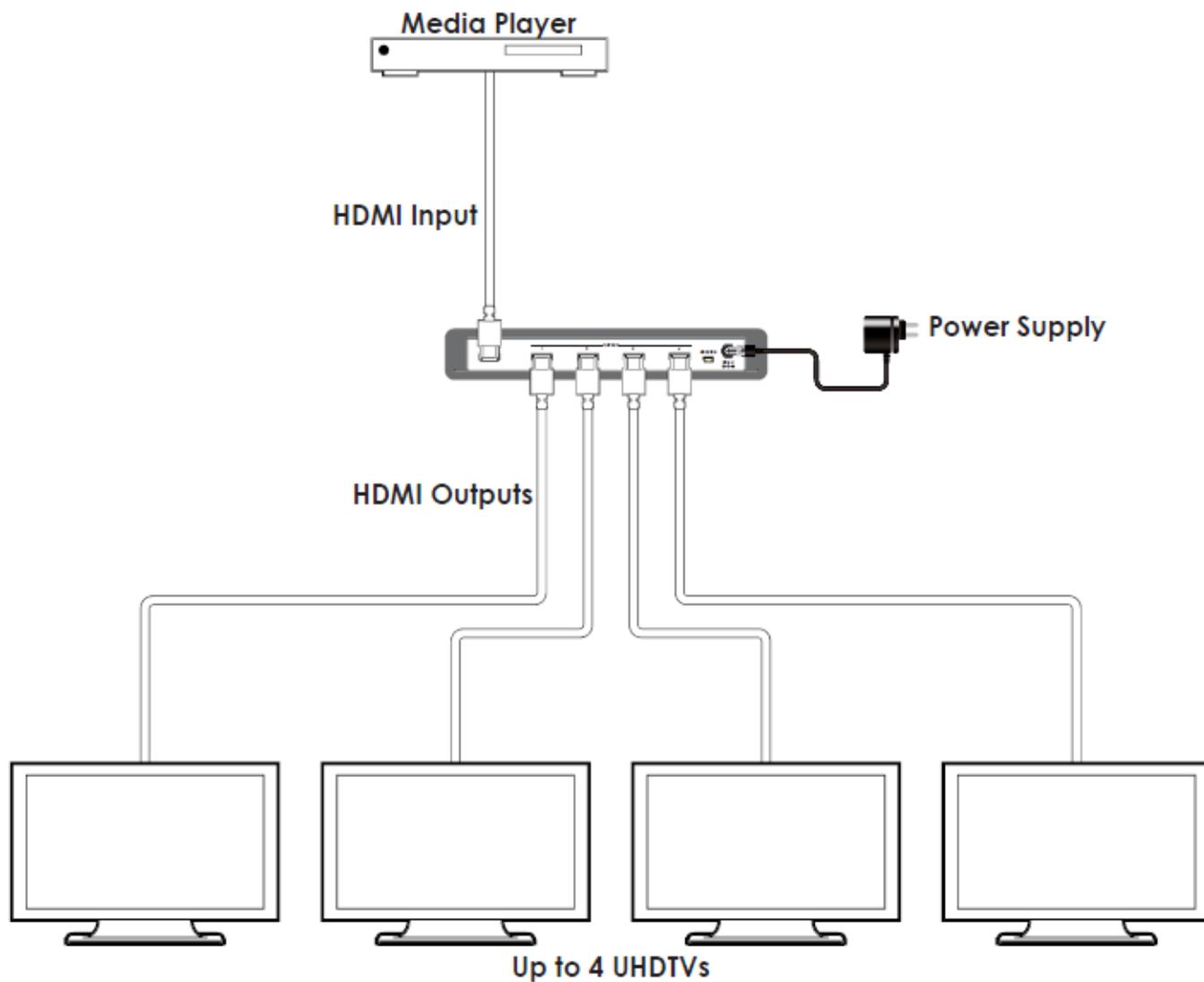
## REAR PANEL

LB-H2-SP2E  
FRONT PANELLB-H2-SP4E  
FRONT PANEL

## REAR PANEL

- ① **INPUT:** Connect to HDMI source equipment such as a media player, game console or set-top box.
- ② **OUTPUT:** 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.





**INPUT PORTS**

**Ports** HDMI x 1, USB Mini B (Service Port)

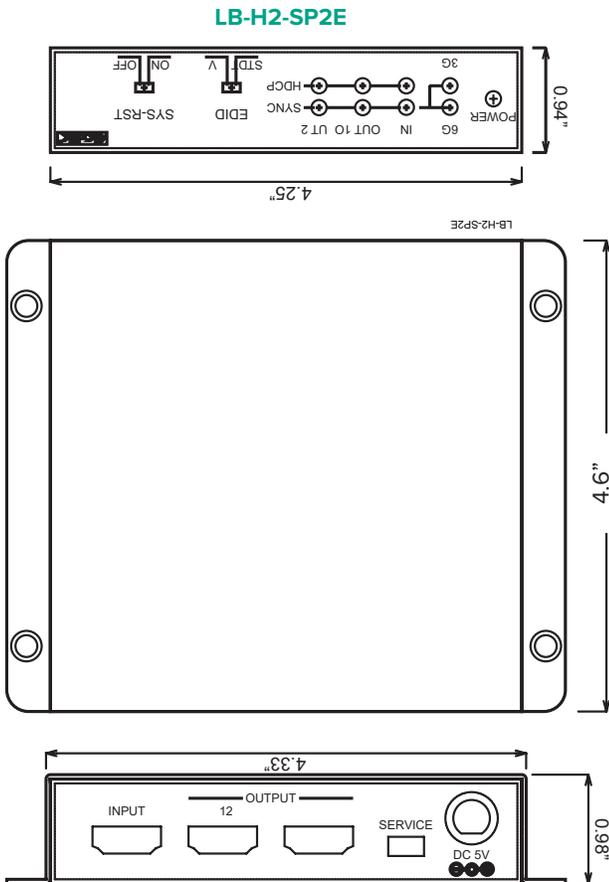
**OUTPUT PORTS**

**Ports** HDMI x 2 (LB-H2-SP2E)  
HDMI X 4 (LB-H2-SP4E)

**STATUS LED INDICATORS**

- Power** Indicates input power is present
- IN SYNC** Indicates input source is present
- IN HDCP** Indicates input HDCP is present
- OUT SYNC** Indicates output sink is present
- OUT HDCP** Indicates HDCP output is present
  
- 3G** Indicates input video bandwidth is between 275MHz and 340MHz
- 6G** Indicates input video bandwidth is above 340MHz

**PANEL DRAWING**



**PHYSICAL**

- Dimensions LB-H2-SP2E** 5.04"(W) x 4.60"(D) x 1.18"(H)
- Dimensions LB-H2-SP4E** 9.09"(W) x 4.60"(D) x 1.18"(H)
- Power Rating LB-H2-SP2E** 5V DC, 0.4A
- Power Rating LB-H2-SP4E** 5V DC, 0.55A
- Operating Temperature** 0 to 40°C, operating
- Humidity** 20 to 90% RH, Non-Condensing

**CERTIFICATIONS**

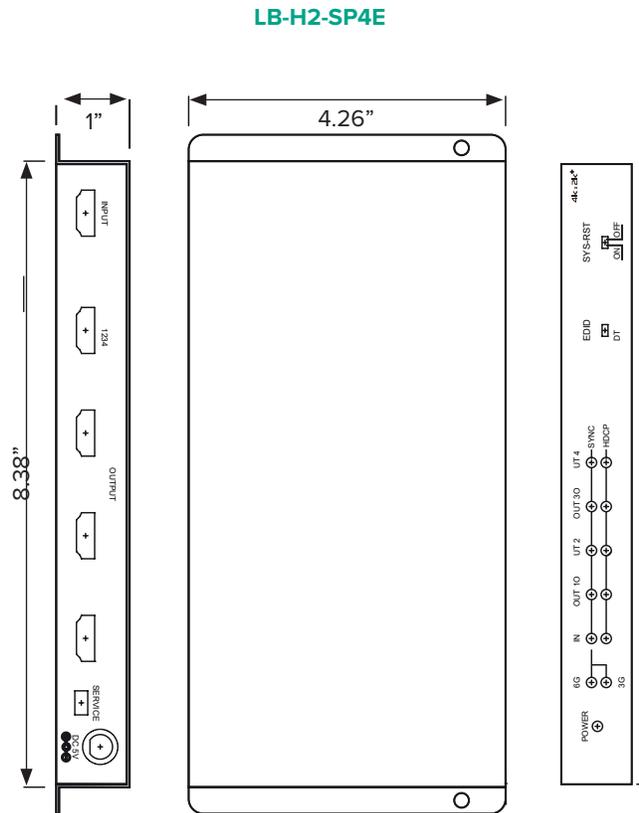
CE, FCC

**GREEN COMPLIANCE**

RoHS

**ORDER INFORMATION**

- LB-H2-SP2E** 18G/4K HDMI Enhanced Splitter 1x2
- LB-H2-SP4E** 18G/4K HDMI Enhanced Splitter 1x4
- Included Accessories** 5V DC Power Adapter



RESOLUTION/TIMING (HZ)	SUPPORT		CAN CONVERT TO 1080P	CAN CONVERT TO 4:2:0
	IN	OUT		
640×480P@60	✓	✓	X	X
640×480P@72	✓	✓	X	X
640×480P@75	✓	✓	X	X
640×480P@85	✓	✓	X	X
720×400P@70	✓	✓	X	X
720×400P@85	✓	✓	X	X
720×480I@59	✓	✓	X	X
720×480I@60	✓	✓	X	X
720×480P@59	✓	✓	X	X
720×480P@60	✓	✓	X	X
720×576I@50	✓	✓	X	X
720×576P@50	✓	✓	X	X
800×600P@56	✓	✓	X	X
800×600P@60	✓	✓	X	X
800×600P@72	✓	✓	X	X
800×600P@75	✓	✓	X	X
800×600P@85	✓	✓	X	X
848×480P@60	✓	✓	X	X
1024×768P@60	✓	✓	X	X
1024×768P@70	✓	✓	X	X
1024×768P@75	✓	✓	X	X
1024×768P@85	✓	✓	X	X
1152×864P@70	✓	✓	X	X
1152×864P@75	✓	✓	X	X
1152×864P@85	✓	✓	X	X
1280×720P@23	X	X	X	X
1280×720P@24	X	X	X	X
1280×720P@25	✓	✓	X	X

RESOLUTION/TIMING (HZ)	SUPPORT		CAN CONVERT TO 1080P	CAN CONVERT TO 4:2:0
	IN	OUT		
1280×720P@29	✓	✓	X	X
1280×720P@30	✓	✓	X	X
1280×720P@50	✓	✓	X	X
1280×720P@59	✓	✓	X	X
1280×720P@60	✓	✓	X	X
1280×768P@60	✓	✓	X	X
1280×768P@60 (RB)	✓	✓	X	X
1280×768P@75	✓	✓	X	X
1280×768P@85	✓	✓	X	X
1280×800P@60	✓	✓	X	X
1280×800P@60 (RB)	✓	✓	X	X
1280×800P@75	✓	✓	X	X
1280×800P@85	✓	✓	X	X
1280×960P@60	✓	✓	X	X
1280×960P@85	✓	✓	X	X
1280×1024P@60	✓	✓	X	X
1280×1024P@75	✓	✓	X	X
1280×1024P@85	✓	✓	X	X
1360×768P@60	✓	✓	X	X
1366×768P@60 (RB)	✓	✓	X	X
1366×768P@60	✓	✓	X	X
1400×1050P@60	✓	✓	X	X
1400×1050P@60 (RB)	✓	✓	X	X
1440×900P@60	✓	✓	X	X
1440×900P@60 (RB)	✓	✓	X	X
1440×900P@75	✓	✓	X	X
1600×900P@60 (RB)	✓	✓	X	X
1600×1200P@50	X	X	X	X
1600×1200P@60	✓	✓	X	X

RESOLUTION/TIMING (HZ)	SUPPORT		CAN CONVERT TO 1080P	CAN CONVERT TO 4:2:0
	IN	OUT		
1600×1200P@65	✓	✓	X	X
1600×1200P@70	✓	✓	X	X
1600×1200P@75	✓	✓	X	X
1600×1200P@85	✓	✓	X	X
1680×1050P@60	✓	✓	X	X
1680×1050P@60 (RB)	✓	✓	X	X
1920×1080P@23	✓	✓	X	X
1920×1080P@24	✓	✓	X	X
1920×1080P@25	✓	✓	X	X
1920×1080P@29	✓	✓	X	X
1920×1080P@30	✓	✓	X	X
1920×1080P@50	✓	✓	X	X
1920×1080P@59	✓	✓	X	X
1920×1080P@60	✓	✓	X	X
1920×1080I@50	✓	✓	X	X
1920×1080I@59	✓	✓	X	X
1920×1080I@60	✓	✓	X	X
1920×1200P@60 (RB)	✓	✓	X	X
2560×1600P@60 (RB)	X	X	X	X
2048×1080P@23	✓	✓	X	X
2048×1080P@24	✓	✓	X	X
2048×1080P@25	✓	✓	X	X
2048×1080P@29	✓	✓	X	X
2048×1080P@30	✓	✓	X	X
2048×1080P@50	✓	✓	X	X
2048×1080P@59	✓	✓	X	X
2048×1080P@60	✓	✓	X	X
3840×2160P@23 (4:2:2)	X	X	X	X
3840×2160P@24 (4:2:2)	✓	✓	X	X

RESOLUTION/TIMING (HZ)	SUPPORT		CAN CONVERT TO 1080P	CAN CONVERT TO 4:2:0
	IN	OUT		
3840×2160P@25 (4:2:2)	✓	✓	X	X
3840×2160P@29 (4:2:2)	✓	✓	X	X
3840×2160P@30 (4:2:2)	✓	✓	X	X
3840×2160P@50 (4:2:2)	✓	✓	X	X
3840×2160P@59 (4:2:2)	✓	✓	X	X
3840×2160P@60 (4:2:2)	✓	✓	X	X
3840×2160P@50 (4:2:0)	✓	✓	✓	X
3840×2160P@59 (4:2:0)	✓	✓	✓	X
3840×2160P@60 (4:2:0)	✓	✓	✓	X
3840×2160P@23 (4:4:4)	✓	✓	✓	X
3840×2160P@24 (4:4:4)	✓	✓	✓	X
3840×2160P@25 (4:4:4)	✓	✓	✓	X
3840×2160P@29 (4:4:4)	✓	✓	✓	X
3840×2160P@30 (4:4:4)	✓	✓	✓	X
3840×2160P@50 (4:4:4)	✓	✓	✓	✓
3840×2160P@59 (4:4:4)	✓	✓	✓	✓
3840×2160P@60 (4:4:4)	✓	✓	✓	✓
4096×2160P@23 (4:2:2)	✓	✓	X	X
4096×2160P@24 (4:2:2)	✓	✓	X	X
4096×2160P@25 (4:2:2)	✓	✓	X	X
4096×2160P@29 (4:2:2)	✓	✓	X	X
4096×2160P@30 (4:2:2)	✓	✓	X	X
4096×2160P@50 (4:2:2)	✓	✓	X	X
4096×2160P@59 (4:2:2)	✓	✓	X	X
4096×2160P@60 (4:2:2)	✓	✓	X	X
4096×2160P@50 (4:2:0)	✓	✓	X	X
4096×2160P@59 (4:2:0)	✓	✓	X	X
4096×2160P@60 (4:2:0)	✓	✓	X	X
4096×2160P@23 (4:4:4)	✓	✓	X	X
4096×2160P@24 (4:4:4)	✓	✓	X	X

RESOLUTION/TIMING (HZ)	SUPPORT		CAN CONVERT TO 1080P	CAN CONVERT TO 4:2:0
	IN	OUT		
<b>4096×2160P@25 (4:4:4)</b>	✓	✓	X	X
<b>4096×2160P@29 (4:4:4)</b>	✓	✓	X	X
<b>4096×2160P@30 (4:4:4)</b>	✓	✓	X	X
<b>4096×2160P@50 (4:4:4)</b>	✓	✓	X	X
<b>4096×2160P@59 (4:4:4)</b>	✓	✓	X	✓
<b>4096×2160P@60 (4:4:4)</b>	✓	✓	X	✓

### 3.1 Maintenance

There is no operator maintenance other than keeping the units clean. However, observe the following light indicators to make sure that the unit is working properly:

### 3.2 Troubleshooting

If the LB-H2-SP2E & LB-H2-SP4E units do not operate properly after installation, check for possible cable breaks, loose connections, and incorrect cable connections. If problems persist that may be fiber related, contact BCI at 1-800-214-0222 for further assistance.

For electrical problems, perform the following troubleshooting procedures:

1. If the POWER indicator is OFF, check for the following:
  - a. The line cord is plugged into the unit and your outlet has power.
2. If the POWER indicator is ON, but the Link indicator is OFF, check for the following:
  - a. Make sure the appropriate cables are being used.
  - b. Cable and cable connectors are not broken.
  - c. For each unit, the transmit (TX) cable is connected to the other unit's receiver (RX).
3. If the POWER indicator and Link indicator are ON, but the channels are not operating, then:
  - a. Check to see that the attached user equipment is turned on.
  - b. Both ends of the link are connected to the corresponding equipment and to the same corresponding channel port.
  - c. Cable connections at both channels are securely fastened to each connector. Turn the power off, then back on to reset the link.

### 5.1 Replacement Policy

Standard products found defective on arrival (DOA) will be replaced, based on availability, within 24 to 48 hours anywhere in the U.S. Please call Customer Service at 800-214-0222 for information.

### 5.2 Return/Repair Service

The LB-H2-SP2E and LB-H2-SP4E contains no user serviceable components. If you have a problem with your unit, please contact the Customer Service Department. To facilitate our return/ repair processing please contact Broadata Communications, Inc. to obtain a Return Material Authorization (RMA). Please include the following information:

- Product Model Number
- Serial Number
- Complete Description of Problem
- Hardware Installation Description

Broadata Communications, Inc.  
2545 West 237th Street, Suite K  
Torrance, CA 90505  
1-800-214-0222  
(310) 530-1416  
(310) 530-5958 (Facsimile)  
e-mail: CustomerService@Broadatacom.com

Website: [www.broadatacom.com](http://www.broadatacom.com)

## 6.0 LIMITED WARRANTY

Broaddata Communications, Inc. (BCI) warrants, for a period of one year from date of shipment, each product sold shall be free from defects in material and workmanship. BCI will correct, either by repair, or at BCI's election, by replacement, any said products that in our sole discretion prove to be defective and are returned to the manufacturing location within 30 days after such defect is ascertained. All warranties are limited to defects arising under normal use and do not include malfunctions or failure resulting from misuse, abuse, neglect, alterations, electrical power problems, usage not in accordance with product instructions, improper installation, or damage determined by BCI to have been caused by the Buyer or repair made by a third party. Limited warranties granted on products are to the initial customer end-user and are not transferable. OUR LIABILITY UNDER THIS WARRANTY SHALL IN ANY CASE BE LIMITED TO THE INVOICE VALUE OF THE PRODUCT SOLD AND BCI SHALL NOT BE LIABLE TO ANYONE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE USE OF ITS PRODUCTS OR THE SALE THEREOF. WE MAKE NO WARRANTY AS TO THE MERCHANTABILITY OF ANY GOODS, OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE OR END APPLICATION NOR DO WE MAKE ANY WARRANTY, EXPRESSED OR IMPLIED OTHER THAN AS STATED ABOVE.



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