

VEO-SPH44

DISTRIBUTION AMPLIFIER / SPLITTER

1x4 HDMI 2.0 Distribution Amplifier / Splitter



USER MANUAL

INDEX

| | |
|---------------------------------------|---|
| 1. IMPORTANT REMARK | 3 |
| 2. IMPORTANT SAFETY INSTRUCTIONS..... | 3 |
| 3. IMPORTANT NOTE..... | 5 |
| 4. INTRODUCTION..... | 5 |
| 5. PACKAGE CONTENTS | 5 |
| 6. PANEL DESCRIPTION | 6 |
| 7. CONNECTION AND INSTALLATION..... | 7 |
| 8. APPLICATION DIAGRAM | 7 |
| 9. TECHNICAL SPECIFICATIONS..... | 8 |

1. IMPORTANT REMARK




WARNING: SHOCK HAZARD - DO NOT OPEN
AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING (If applicable): The terminals marked with symbol of “” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

WARNING: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

WARNING: An apparatus with Class I construction shall be connected to a mains socket-outlet with a protective earthing connection.

2. IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the apparatus during lightening sorts or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Disconnecting from mains: Switching off the POWER switch all the functions and light indicators of the amplifier will be stopped, but fully disconnecting the device from mains is done unplugging the power cord from the mains input socket. For this reason, it always shall remain readily operable.
15. Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
16. The marking information is located at the bottom of apparatus.
17. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

NOTE: *This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*



WARNING: This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.

NEEC AUDIO BARCELONA, S.L. accepts no liability for any damage that may be caused to people, animal or objects due to failure to comply with the warnings above.

3. IMPORTANT NOTE

Thank you for choosing our VEO-SPH44 distribution amplifier/splitter. It is very important to carefully read this manual and to fully understand its contents before making any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorised Technical Services.

The VEO-SPH44 comes with a 3-year warranty.

4. INTRODUCTION

Ecler VEO-SPH44 is a professional 1x4 HDMI 2.0 distribution amplifier/splitter. It supports HDR formats and HDMI data rate up to 18Gbps at 4K/UHD@60Hz video resolution with 4:4:4 chroma sampling. It includes EDID management in three different modes and it is HDCP 2.2 compliant. VEO-SPH44 guarantees seamless integration for all applications that require latest 4K/UHD and HDR sources and displays.

Features:

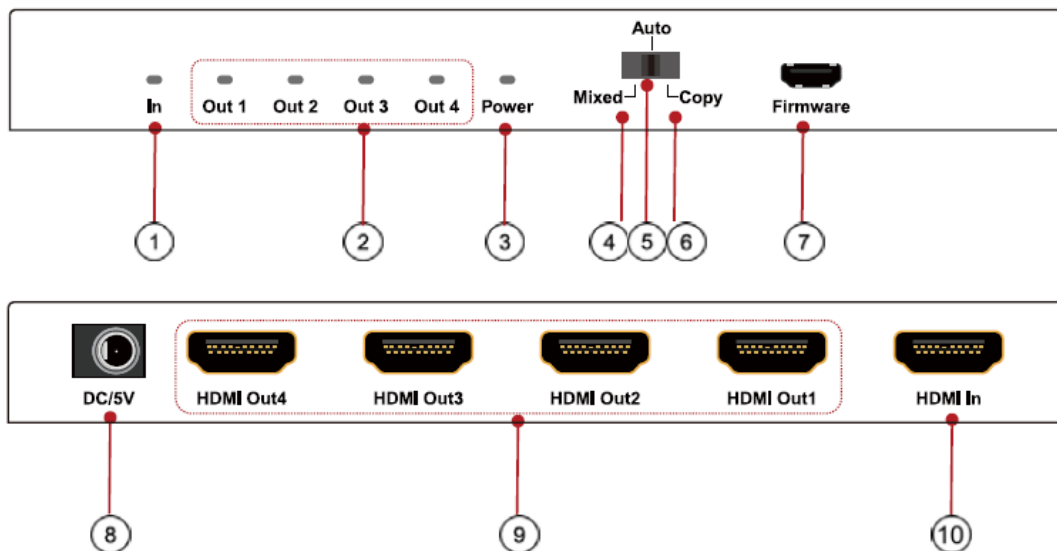
- Simultaneously displays Ultra Hi-Definition source on up to four Ultra HD displays
- Supports resolution up to Ultra HD 4Kx2K (4096x2160@60Hz YUV 4:4:4)
- Three EDID setting modes
- HDCP 2.2/1.4 Compliant
- Supports 36 bit Deep Color
- Supports LPCM 7.1, Dolby TrueHD, Dolby digital Plus, and DTS-HD Master Audio
- Supports HDR and 3D contents
- Supports up to 18Gbps video data rate

5. PACKAGE CONTENTS

- 1 x HDMI Distribution Amplifier/Splitter
- 1 x 5V DC 1A International Power Supply

6. PANEL DESCRIPTION

Front and Rear Panel



1. **HDMI Input link Indicator**
2. **HDMI Output link Indicators**
3. **Power LED Indicator**
4. **EDID Function Switch: Mixed mode**
EDID settings will follow the highest common resolution supported by display connected to Out4, in order to ensure compatibility between all displays.
5. **EDID Function Switch: Auto mode**
EDID information is managed by VEO-SPH44 as listed in table in paragraph 7.
6. **EDID Function Switch: Copy mode**
In this mode displays connected to Out1-3 will receive a copy of the EDID information negotiated by Out4.
7. **Firmware Upgrade Port**
8. **5V DC Power Connector**
9. **HDMI Output ports**
10. **HDMI Input port**

7. CONNECTION AND INSTALLATION

1. Connect HDMI signal source (such as PC, Blu-ray player, etc) to VEO-SPH44 HDMI input port.
2. Connect VEO-SPH44 HDMI output ports to displays.
3. Power up VEO-SPH44, displays and sources.

Note:

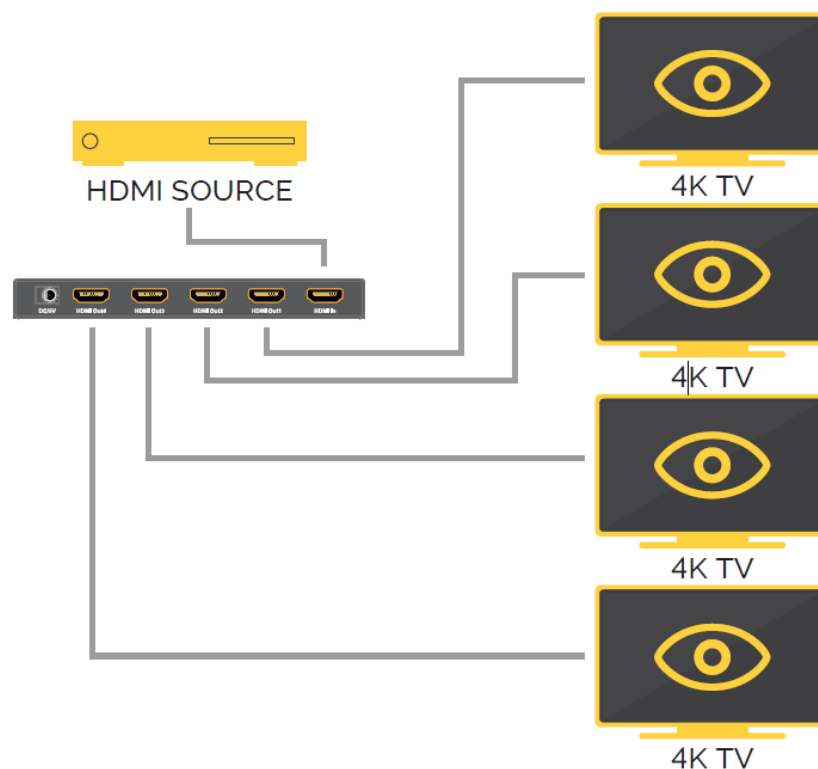
- HDCP version is prior to EDID: 4K@60Hz EDID settings will be accepted only if displays are HDCP 2.2 compliant, otherwise output will be automatically set to 1080p@60Hz

Please check the following table:

| Input source | HDMI display Support HDCP2.2 | HDMI display Doesn't support HDCP2.2 |
|-----------------|------------------------------|--------------------------------------|
| HDCP2.2 4K@60Hz | HDCP2.2 4K@60Hz | HDCP1.4 1080p@60Hz |
| HDCP2.2 4K@24Hz | HDCP2.2 4K@24Hz | HDCP1.4 1080p@24Hz |
| HDCP1.4 4K@24Hz | HDCP1.4 4K@24Hz | HDCP1.4 4K@24Hz |

- HDR formats are not supported when VEO-SPH42 is in “Auto” mode.

8. APPLICATION DIAGRAM



9. TECHNICAL SPECIFICATIONS

Supported Resolutions

4096x2160@24/25/30/50/60Hz,
 3840x2160@24/25/30/50/60Hz,2048x1080p
 1080p@23.98/24/25/29.97/30/50/59.94/60Hz,108
 0i@50/59.94/60Hz,720p@50/59.94/60Hz, 576p,
 576i, 480p, 480i

| | |
|------------------------------|---|
| Colorspace | YCbCr, RGB |
| Chroma Subsampling | 4:4:4, 4:2:2, 4:2:0 |
| Color depth | 8-bit, 10-bit, 12-bit |
| HDR | HDR10 |
| Signal Bandwidth | 18 Gbps |
| HDCP | 2.2, 1.4 Compliant |
| Audio Formats | PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby Digital, DTS 5.1, Dolby TrueHD, DTS-HD Master Audio |
| Sample Rate | 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz |
| Bitrate | up to 24-bit |
| HDMI Distance | up to 10 meters (33 feet) with Ecler VEO cables |
| Operating Temperature | -5 to +40°C (+41 to +104°F) |
| Humidity | 5 - 90% RH (no condensation) |
| Power Consumption | 2W Maximum |
| Power Supply | AC100~240V 50/60Hz Output: DC 5V/1A |
| Dimensions H x W x D | 150mm x 65mm x 17mm (5.9" x 2.56" x 0.67") |
| Weight | 245g (0.540 lbs) |

All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.

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