

# VEO-SPS44

## HDMI® SPLITTERS

4K 18Gbps HDMI® 1x4 Splitter with Cat Extension



## USER MANUAL



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WARRANTY & ENVIRONMENT
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## 1. PRECAUTIONS

### 1.1 Important Notice



**WARNING: SHOCK HAZARD - DO NOT OPEN**


**AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR**



The flashing light with an arrowhead symbol inside an equilateral triangle on it is intended to alert the user of the presence of non-insulated “dangerous voltage” within the enclosure, which might be of sufficient magnitude to pose a risk of electric shock to users.



The exclamation mark within an equilateral triangle is intended to alert the user of the requirement for important operating and maintenance (servicing), for which instructions may be found in the literature accompanying the appliance.

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

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

**WARNING:** A device with Class I manufacturing ought to be connected to a mains socket outlet with a protective earthing connection.



**WARNING:** Ecler products have a long lifetime of more than 10 years. This product must never be discarded as unsorted urban waste, but must be taken to the nearest electrical and electronic waste treatment centre.



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## 1.2 Key Safety Directions

1. Read the following directions.
2. Keep the following directions.
3. Observe all warnings.
4. Follow all instructions.
5. Do not use this device in proximity to water.
6. Clean only with a 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 devices (including amplifiers) that may release heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades, with one being 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, contact a qualified electrician for a 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 of exit from the device.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the device during lightning storms or when unused for long periods.
13. Refer all servicing to qualified personnel. Servicing is required when the device has been damaged in any way, such as power supply cord or plug damage, liquid spillage or objects onto the device, the device has been exposed to rain or humidity, does not operate normally, or has been dropped.
14. Disconnecting from mains: When switching off the POWER switch, all the functions and light indicators of the unit will be stopped, but fully disconnecting the device from mains is done by unplugging the power cable from the mains input socket, therefore, it should always remain easily accessible
15. Equipment is connected to a socket-outlet with an earthing connection by means of a power cord.
16. The marking information is located at the top/rear of the unit.
17. The device shall not be exposed to dripping or splashing liquids, and no liquid-filled objects, such as a filled up glass, shall be placed on top of the device.

## 1.3 Cleaning Directions



**Clean the unit with a soft, dry clean cloth** or slightly wet with water and neutral liquid soap only, then dry it with a clean cloth. Be careful that water never gets into the unit through any hole. Never use alcohol, benzine, solvents or abrasive substances to clean this unit.

**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.



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## 2. WARRANTY & ENVIRONMENT

**Thank you for choosing our Ecler VEO-SPS44!**

**We greatly value your trust.**

It is **VERY IMPORTANT** to carefully read this manual and to fully understand its contents before any connecting takes place in order to make the best use of this equipment, as well as to get the best performance from it.

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

**All ECLER products are covered by warranty**, please refer to [www.ecler.com](http://www.ecler.com) or the warranty card included with this product for the period of validity and conditions.



**Ecler is truly committed with the environment and planet sustainability, energy saving and CO<sub>2</sub> emission reduction.** Recycling materials and using non-contaminant components are also top priorities in our green crusade.

**Ecler has deeply evaluated and analyzed the environmental impacts of all the processes involved in the production of this product, including packaging, and has alleviated, reduced and/or compensated for them.**

## 3. PACKAGE CONTENTS

- 1x VEO-SPS44 (Splitter TX).
- 4x VEO-SPS4 (Receivers RX).
- 4x IR Receiver cable (1.5 meters).
- 1x IR Blaster cable (1.5 meters).
- 1x 3-pin Euroblock connector.
- 8x Mounting ears (Receivers RX).
- 2x Mounting ears (Splitter TX).
- 20x Mounting screws.
- 1 x PSU 12V/2.5A.
- First Steps Guide.
- Warranty card.



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## 4. DESCRIPTION & FEATURES

**VEO-SPS44** is an 18Gbps HDMI® 1×4 splitter that allows an HDMI® source signal to be distributed and extended to four remote displays, supporting up to 4K 60Hz 4:4:4 video signals. It includes an HDMI® loop output and four main single Cat outputs, allowing for transmission distances of up to 35 meters for 4K/60Hz, 50 meters for 4K/30Hz, or 70 meters for Full HD over a single Cat 5e or higher cable. In addition, it supports one-way IR control signal pass-through, stereo unbalanced audio extraction on Euroblock connector, EDID management, and RS-232 serial control, making it a reliable and versatile solution for professional video distribution applications.

### 4.1 Main Features

- Signal distribution and extension over a single Cat 5e or higher cable.
- Support for HDMI® 18Gbps 4K 60Hz 4:4:4 as specified in HDMI® 2.0b.
- Transmission distance for 4K/60Hz up to 35 meters, 4K/30Hz up to 50m and 1080p /60Hz up to 70m.
- Stereo unbalanced audio extraction via Euroblock connectors.
- Includes an HDMI® Loop Out and four RJ-45 extension outputs.
- Support for HDR10, HDR10+, Dolby Vision, and HLG video signals.
- Support for audio formats LPCM 2.0, LPCM 2.0, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD.
- EDID Management.
- HDCP 2.2 compliant.
- IR control extension.
- Support for RS-232 remote control.
- PoC function for the included receivers.



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## 5. PANEL FUNCTIONS

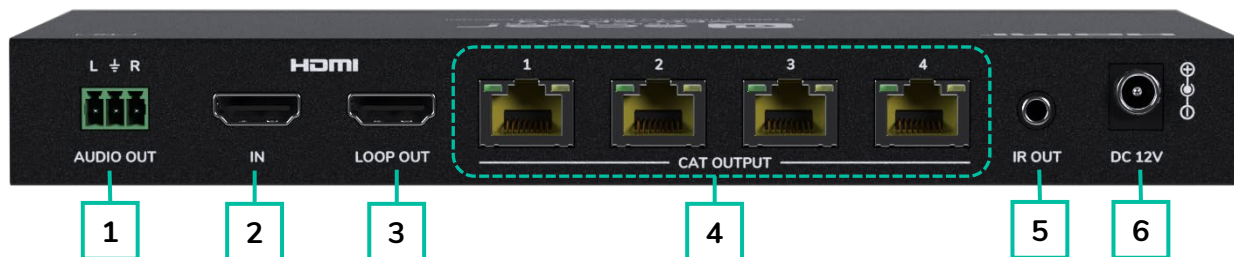
### 5.1 VEO-SPS44 (Splitter TX)

#### 5.1.1 Front & Side Panel



1. **Power LED:** When the device is powered on, the green power LED will be on.
2. **IN LED:** When the HDMI IN port connects an active source device, the green LED will be on.
3. **LOOP LED:** When the HDMI LOOP OUT port connects an active display device, the green LED will be on.
4. **OUT LED [1-4]:** When the CAT OUTPUT 1-4 port connects the CAT IN port of CAT receiver, the corresponding white OUT LED will be on.
5. **EDID Switch:** Used to set EDID mode. [Please refer to EDID Mode section for further details.](#)
6. **SERVICE:** Micro-USB used for firmware upgrade or serial port command control. [Please refer to ASCII Commands section for further detail for details.](#)

### 5.1.2 Rear Panel



1. **AUDIO OUT:** Stereo unbalanced audio extraction.
2. **IN:** HDMI® input connector.
3. **LOOP OUT:** HDMI® loop out connector.
4. **CAT OUTPUT [1-4]:** Connect it to the VEO-SPS4 receiver input port using a Cat 5e or higher cable. Only point-to-point connections are allowed.
5. **IR OUT:** 3.5mm jack to connect to the IR Blaster for extending an IR signal from the display to the source.
6. **DC 12V:** Power input for 12V DC supply.



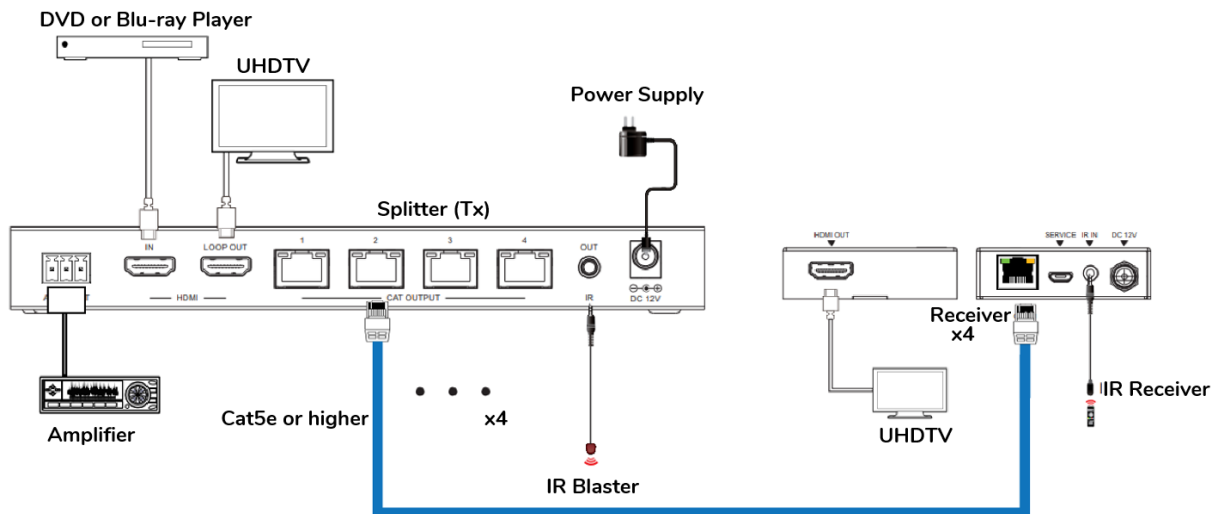
## 5.2 VEO-SPS4 (Receiver RX)

### 5.2.1 Front & Rear Panel



1. **CAT IN:** Port for connecting to the VEO-SPS44 splitter output using a Cat 5e or higher cable. Only point-to-point connections are supported.
2. **SERVICE:** Micro-USB used for firmware upgrade or serial port command control. [Please refer to ASCII Commands section for further details.](#)
3. **IR IN:** Input for the included IR receiver, allowing IR signal extension from the display to the source device.
4. **DC 12V:** Power input for 12V DC supply.
5. **OUT:** HDMI® output for connection to the display (e.g. 4K TV).

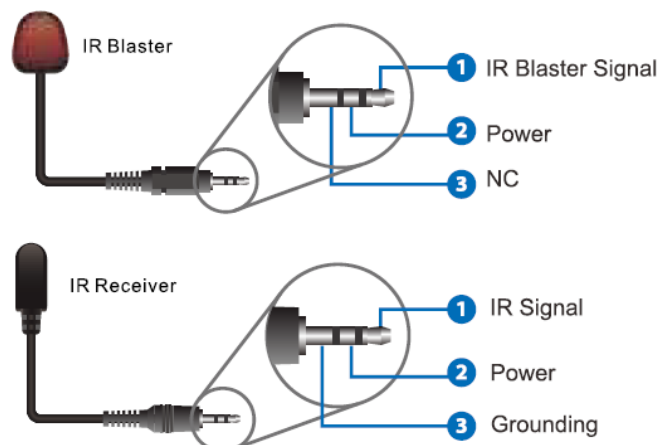
## 6. INSTALL & CONNECT



**!** Good quality standard Ethernet Cat 5e cables (or higher) are required to connect splitter and receiver in order to avoid connection issues and malfunctioning. **Shielded cables and shielded connectors are mandatory to ensure a good ground signal reference to the receiver and avoid electromagnetic interferences along the cable.**

**!** Please insert/extract the HDMI® cables gently.

1. **HDMI® signal sources** such as Blu-Ray Player, STB, etc: connect devices to the HDMI® input of VEO-SPS44.
2. **HDMI® Display devices** such as a 4K or 1080p display or projector: connect devices to the HDMI® port of VEO-SPS4 receiver or and the HDMI® loop out port of the VEO-SPS44.
3. **IR Blaster**: connect it to the IR-Out port of VEO-SPS44 splitter.
4. **IR Receiver**: connect it to the IR-In port of VEO-SPS4 receiver.



5. **Amplifiers or Audio devices:** connect to Audio ports of VEO-SPS44 splitter.
6. **Split & extend - CAT output ports 1~4:** connect Cat 5e+ cables from each RJ-45 output of the VEO-SPS44 splitter to the RJ-45 input of each VEO-SPS4 receiver to distribute the HDMI® signal and enable signal transmission.
7. **Power on:** connect the 12VDC power supply to the VEO-SPS44 splitter or VEO-SPS4 receiver.



Each receiver can be powered either via its power adapter or through PoC (Power over Cable) from the splitter. Only one method is required.



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## 7. SYSTEM SETTINGS

### 7.1 EDID Mode

The following table provides the predefined EDID setting list for the product, specifying supported video resolutions and audio formats associated with each EDID mode.

	EDID Mode	EDID Description
1	11111	1080P, Stereo Audio 2.0
2	11110	1080P, Dolby/DTS 5.1
3	11101	1080P, HD Audio 7.1
4	11100	1080I, Stereo Audio 2.0
5	11011	1080I, Dolby/DTS 5.1
6	11010	1080I, HD Audio 7.1
7	11001	1080P 3D, Stereo Audio 2.0
8	11000	1080P 3D, Dolby/DTS 5.1
9	10111	1080P 3D, HD Audio 7.1
10	10110	4K @ 30Hz, 4:4:4, Stereo Audio 2.0
11	10101	4K @ 30Hz, 4:4:4, Dolby/DTS 5.1
12	10100	4K @ 30Hz, 4:4:4, HD Audio 7.1
13	10011	4K @ 60Hz, 4:2:0, Stereo Audio 2.0
14	10010	4K @ 60Hz, 4:2:0, Dolby/DTS 5.1
15	10001	4K @ 60Hz, 4:2:0, HD Audio 7.1
16	10000	4K @ 60Hz, 4:4:4, Stereo Audio 2.0
17	01111	4K @ 60Hz, 4:4:4, Dolby/DTS 5.1
18	01110	4K @ 60Hz, 4:4:4, HD Audio 7.1
19	01101	4K @ 60Hz, 4:4:4, Stereo Audio 2.0 HDR
20	01100	4K @ 60Hz, 4:4:4, Dolby/DTS 5.1 HDR
21	01011	4K @ 60Hz, 4:4:4, HD Audio 7.1 HDR
22	01010	COPY_FROM_LOOP OUT
23	01001	COPY_FROM_CAT OUT1
24	01000	COPY_FROM_CAT OUT2
25	00111	COPY_FROM_CAT OUT3
26	00110	COPY_FROM_CAT OUT4
27	00101	1080P, Stereo Audio 2.0
28	00100	1080P, Stereo Audio 2.0
29	00011	1080P, Stereo Audio 2.0
30	00010	1080P, Stereo Audio 2.0
31	00001	1080P, Stereo Audio 2.0
32	00000	PC control mode

## 7.2 ASCII Commands

ASCII command control is supported via the SERVICE port. When connected to a PC using a micro-USB cable, a serial command tool can be used to send ASCII commands. The following tables provide a summary of all supported commands, including their functions, expected feedback, and default settings.

The communication settings must be configured as follows:

- Baud rate: 115200 (default)
- Data bits: 8bit
- Stop bits: 1
- Check bit: 0

Each command consists of a structure with specific delimiters and parameters, as described below:

- [y] - Parameter 1
- [z] - Parameter 2
- ! - Delimiter (all commands must end with '!')

The command set includes functions to control power, retrieve device information, configure video and audio outputs, manage EDID settings, and more. The following tables provide a comprehensive list of available commands grouped by functionality.

### EXAMPLE OF USE:

To enable HDCP on CAT output 1: < s cat [y] hdcp [z]! >

- y=1 defines the CAT output port 1
- z=1 enables HDCP

The command to use is: < s cat 1 hdcp 1! >

This command activates HDCP on CAT output 1.

To disable HDCP for all CAT outputs, the user should use: < s cat 0 hdcp 0! >

Power		
Command Code	Variable	Description
s power [z]!	z=0~1 • 0 = power off • 1 = power on	Power on/off the device
r power!	-	Get current power state
s reboot!	-	Reboot the device

System Setup		
Command Code	Variable	Description
help!	-	List all commands
r type!	-	Get device model
r status!	-	Get device current status
r fw version!	-	Get Firmware version
r link in!	-	Get HDMI in
r link out [y]!	y=0~4 • 0 = all • 1..4 = CAT output 1..4	Get the connection status of the output port
r link loop out [y]!	y=1 • 1 = HDMI loop output port	Get the connection status of the y loop output port
s reset!	-	Reset to factory defaults

Output Setting		
Command Code	Variable	Description
s hdmi stream [z]!	z=0~1 • 0 = disable • 1 = enable	Set hdmi loop output stream on/off
s cat [y] stream [z]!	y=0~4 • 0 = all • 1..4 = CAT output 1..4 z=0~1 • 0 = disable • 1 = enable	Set cat output y stream on/off
r hdmi stream!	-	Get hdmi loop out stream status
r cat [y] stream!	y=0~4 • 0 = all • 1..4 = CAT output 1..4	Get cat output y stream status
s hdmi hdcp [z]!	z=0~1 • 0 = disable • 1 = enable	Set hdmi loop out hdcp status
r hdmi hdcp!	-	Get HDCP status of loop out
s cat [y] hdcp [z]!	y=0~4 • 0 = all • 1..4 = CAT output 1..4 z=0~1 • 0 = disable • 1 = enable	Set cat output port hdcp status
r cat [y] hdcp!	y=0~4 • 0 = all • 1..4 = CAT output 1..4	Get HDCP status of cat out
s cat [y] dsc mode [z]!	y=0~4 • 0 = all • 1..4 = CAT output 1..4 z=1~3 • 1 = CAT cable distance normal • 2 = CAT cable distance 35m mode • 3 = CAT cable distance 70m mode	Set cat output y port dsc mode status

r cat [y] dsc mode!	y=0~4 • 0 = all • 1..4 = CAT output 1..4	Get dsc mode of cat out y
s audio mute [y]!	y=0~1 • 0 = unmute • 1 = mute	Set audio output port mute status
r audio mute!	-	Get audio output mute status






EDID Setting		
Command Code	Variable	Description
s edid in from [z]!	z=1~26 <a href="#">Please refer to EDID Mode chapter for EDID 1~26 details.</a>	Set input EDID from default
s edid user1 00 FF FF FF ...!	-	Set user1 EDID data
r edid user1!	-	Get user1 EDID data
r edid in!	-	Get EDID status of the input
r edid in data!	-	Get the EDID data of the HDMI input

## 8. TECHNICAL DATA

### 8.1 Technical Specifications

#### VEO-SPS44

Video performances	
Video Input Connectors	1 x HDMI® Type A Female, 2.0, 18Gbps
Video Output Connectors	1 x HDMI® Type A Female, 2.0, 18Gbps; 4 x RJ-45 Female
Video Input Resolutions	480i, 480p, 720i, 720p, 1080i, 1080p up to 60Hz, 4K up to 60Hz
Video Output Resolutions	HDMI® OUT on VEO-SPS4 RX & HDMI® Loop Out: 480i, 480p, 720i, 720p, 1080i, 1080p up to 60Hz, 4K up to 60Hz
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Colour Depth	8-bit (4K 60Hz 4:4:4) , 10-bit / 12-bit (4K 60Hz 4:2:2 – 4:2:0)
Colour Space	RGB, YCbCr, YUV
HDCP	2.2 / 1.4
HDR	HLG, HDR 10, HDR10+, Dolby vision
Scaling Features	No
HDMI® Distance	4K/60Hz: 5m with IN/OUT HDMI® Cable Up to 1080p/60Hz, Up to 4K/30Hz: 10m with IN/OUT HDMI® Cable
Audio performances	
Audio Output Connectors	1 x 3-pin unbalanced Euroblock
Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
Sample Rate	48KHz, 96KHz, 192KHz
Bit Depth	Up to 24-bit
Frequency Response	20Hz-20KHz (±3dB)
Device control	
Control Connectors	1 x Micro USB Type B, 1 x DIP Switch
Control Protocols	RS-232
EDID Management	EDID Copy, Internal EDID Options
Status Indicators	Power LED, Link Status LED
Pass-through control	
Pass-through Connectors	1 x IR Jack 3,5mm
Pass-through Protocols	IR
Connection specification	
HDMI® Extension	Point-to-Point extension with zero latency
Transmission Distance	4K/60Hz up to 35m with Cat 5e or higher (600Mhz) 4K/30Hz up to 50m with Cat 5e or higher (300Mhz) 1080p/60Hz up to 70m with Cat 5e or higher (148,5Mhz)
Electrical	
Power supply	External: Input 100-240VAC 50-60Hz 0.3A, Output 12VDC-1A
AC mains connector	External PSU. Included 4 region power blades (UK,US,AU,EU)
DC mains connector	DC Locking
Power consumption	14W

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## Physical

Operating temperature	Min: 0°C; 32°F Max: 40°C; 104°F
Operating humidity	20% to 90% HR, non-condensing
Storage temperature	Min: -20°C ; -4°F Max: 60°C ; 140°F
Storage humidity	40% to 60% HR, non-condensing
Included accessories	4 x VEO-SPS4 Receiver, 4 x IR Receiver cable (1.5 meters), 1 x IR Blaster cable (1.5 meters), 1 x 3-pin 3.5mm Euroblock connector, 8 x Mounting ears (Receiver), 2 x Mounting ears (Splitter), 20 x Mounting screw, 1 x PSU 12V/2.5A
Dimensions (WxHxD)	<ul style="list-style-type: none"> <li>• VEO-SPS44 (Splitter TX): 210 x 25 x 100 mm / 8.27 x 0.98 x 3.94 in.</li> <li>• VEO-SPS4 (Receiver RX): 88 x 18 x 61 mm / 3.46 x 0.71 x 2.4 in.</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• VEO-SPS44 (Splitter TX): 0.617 Kg / 1.36 lb</li> <li>• VEO-SPS4 (Receiver RX): 0.155 Kg / 0.34 lb</li> </ul>
Shipping dimensions (WxHxD)	320 x 91 x 305 mm / 12.60 x 3.58 x 12.01 in.
Shipping weight	1.906 kg / 4.20 lb
Chassis material	Metal
Finished colour	Black



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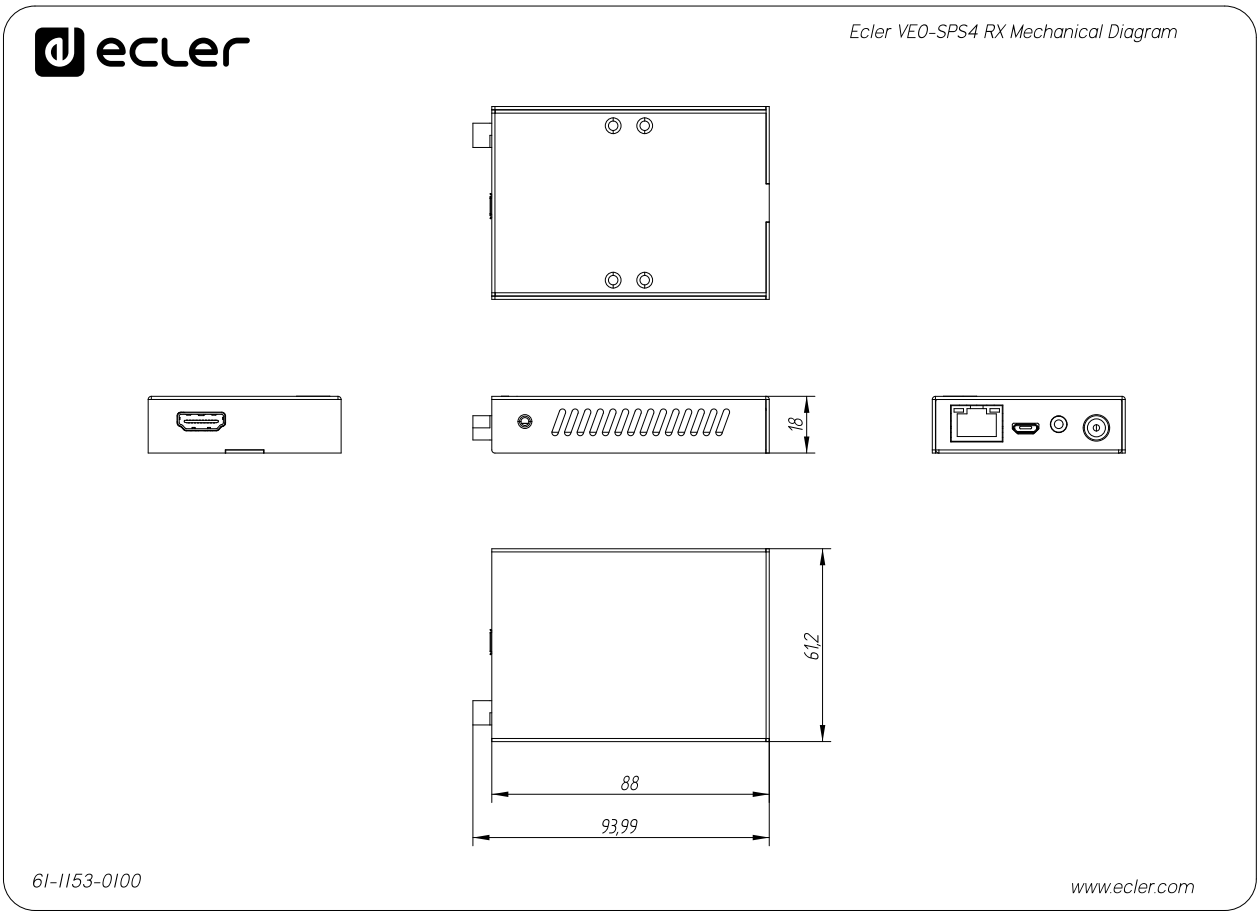
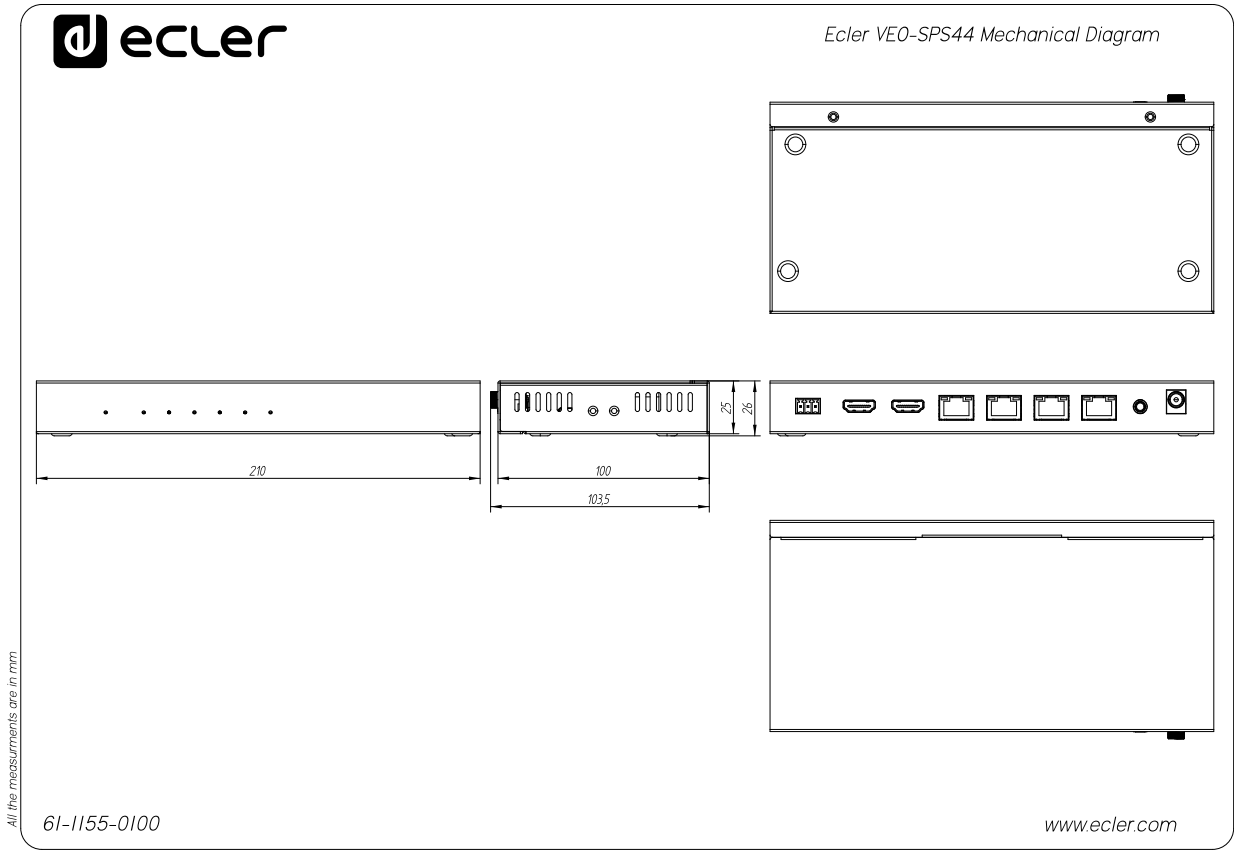
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## 8.2 Mechanical Diagram

All measurements are in mm.





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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.

For technical queries contact your supplier, distributor or complete the contact form on our website, in [Support / Technical requests](#).

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