

VEO-SWM44

SWITCHER

4K 4x1 presentation switcher with VEOCast



USER MANUAL

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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 lightning 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-SWM44 switcher**. 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.

Ecler VEO-SWM44 comes with a **3-year warranty**.

4. INTRODUCTION

VEO-SWM44 is a compact 4K presentation switcher that includes two HDMI 2.0, a USB-C and a BYOD wireless input via VEOCast technology and a HDMI 2.0 output, supporting resolutions up to 4K/60Hz 4:4:4 HDR10 and Dolby Vision. An integrated audio de-embedder provides stereo analogue balanced outputs on Euroblock connectors. VEO-SWM44 includes two USB 3.0 type B and 2 USB 3.0 type A ports in order to support soft codec applications and external devices like webcam and KVM kits. Input selection is available via auto-switching function, front panel buttons or RS232. Display control is available via front panel buttons through CEC or RS-232. It also features smart EDID management and HDCP 2.2 support.

Features:

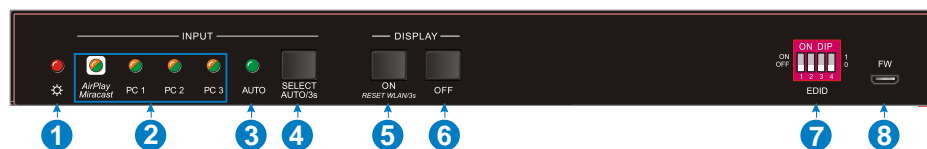
- Bandwidth up to 18Gbps, resolution up to 4k @60hz, YUV, 4:4:4, HDR10 and Dolby Vision
- Wireless BYOD (bring your own device) capability via VEOCast (for macOS, iOS, Android and Windows devices)
- Provides up to 60W powering supply, USB data and 4K video over USB-C
- HDMI Audio de-embedded via balanced analog audio port on Euroblock connectors.
- HDCP2.2 Compliant
- EDID Smart Management (via Dip-switch)
- Switching function via front panel, auto-switching function, RS232
- Configuration via web-page (WiFi)
- CEC and RS232 commands for display control

5. PACKAGE CONTENTS

- 1 x HDMI 4x1 4K Presentation Switcher
- 2 x Mounting Ears
- 4 x Rubber feet
- 1 x 5-pin Euroblock connector
- 1 x RS-232 cable (DB9 to 3-pin Euroblock)
- 1 x Wireless Antenna
- 1 x 24VDC/5A International Power Supply
- 1 x Quick start and Warranty sheet

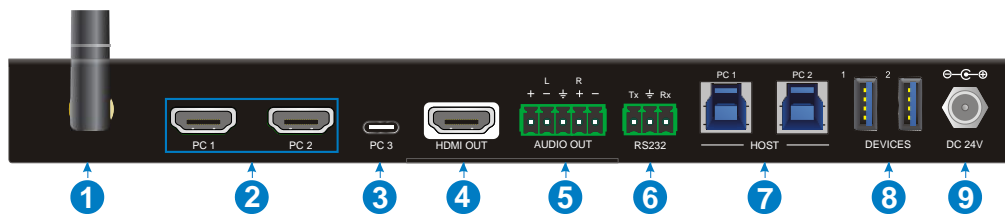
6. PANEL DESCRIPTION

6.1. Front Panel



- 1. Power LED Indicator:** The LED illuminates red when power is applied.
- 2. Input Status LED indicators:** The LED illuminates orange when video signal is detected on the corresponding input channel, and it will be off when there is no signal. It will illuminate green when the video signal is chosen as input source.
- 3. AUTO LED:** The LED illuminates green when the switcher is in auto-switching mode, and it will be off when exit the auto-switching mode.
- 4. SELECT AUTO/3s:** Press the button to select input source or press and hold it at least 3 seconds to enable auto-switching mode. Please refer to the [Frontal Panel Control](#) chapter for more details about switching rules.
- 5. DISPLAY ON:** Press the button to send CEC “Display On” command in order to turn on the display. Note that the RS232 command needs to be set by user.
If an exception occurs at the VEOCast input, press and hold the button at least 3 seconds to reset it.
- 6. DISPLAY OFF:** Press the button to send “Display Off” command to turn off the display. Note that the RS232 command needs to be set by user.
- 7. EDID: 4-pin DIP Switch** for EDID Settings. Please refer to chapter [EDID Settings](#) for more details.
- 8. FW: Micro USB port** for firmware upgrade.

6.2. Rear Panel



1. **VEOCast Antenna connection:** Connect to the external antenna.
2. **PC1 - PC2 Input:** Two type-A female HDMI input ports to connect HDMI source devices.
3. **PC3 Input:** Type-C USB with charging capability to connect devices with USB-C outputs.
Note: USB-C Thunderbolt™ 3 cable is recommended to ensure optimal performances.
4. **HDMI Output:** Type-A female HDMI output port to connect display device.
5. **AUDIO OUT:** 5-pin Euroblock for audio de-embedding from HDMI output.
6. **RS-232:** 3-pin Euroblock to connect RS232 controllers (e.g. PC) or third-party devices controllable via RS232 commands.
7. **HOST (PC1 & PC2):** Two type-B USB 3.0 ports to connect PC1 and PC2 individually in order to access the USB peripherals connected to “Devices 1&2” .
8. **DEVICE (1&2):** Two type-A USB ports to connect USB devices to each PC1 or PC2 (e.g. KVM, Webcam...):
 - When the HDMI PC1 is selected as video input source, the USB devices are switched to be controlled by the PC1 host.
 - When the HDMI PC2 is selected as video input source, the USB devices are switched to be controlled by the PC2 host.
 - When the USB-C PC3 is selected as video input source, the USB devices are switched to be controlled by the USB-C PC3. In this scenario audio, video and further data travel within the same wire.
 - When the VEOCast is selected as video input source, the USB peripherals are not available for use. These devices are only accessible through wired HDMI and USB-C connections.
9. **DC 24V Power Connector:** Plug-in the included 24V DC power supply.

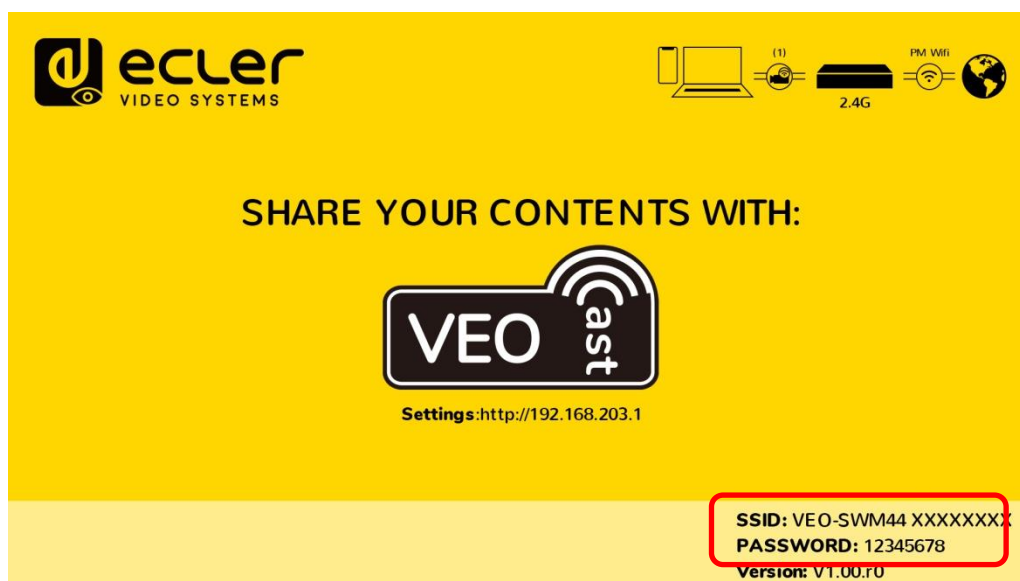
7. VEOCast Connection

VEOCast is a multiplatform wireless technology protocol allowing for two devices to detect and connect to each other. Once connected, the source can be mirrored into the sink display without requiring additional applications. Devices like macOS, iOS, Android and Windows 10 can be used as input source.

When switching to the VEOCast input by pressing the “SELECT AUTO/3s” button, the Wi-Fi SSID and password will be showed on the display device as follows.

SSID: VEO-SWM44 XXXXXXXX

Password: 12345678



There are two working modes:

7.1. Screen sharing using the switcher internal wireless hot-spot

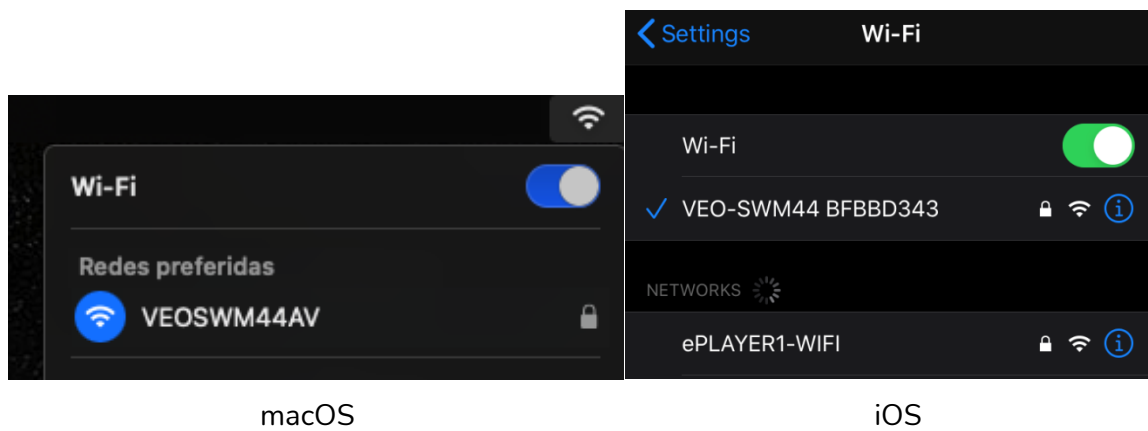
A device will be able to share its screen when connected to the internal hot-spot of the switcher.

In this scenario, the source will only be able to share its screen wirelessly to VEO-SWM44 but it won't be able to access the internet.



7.1.1 Screen sharing with Apple devices (Airplay)

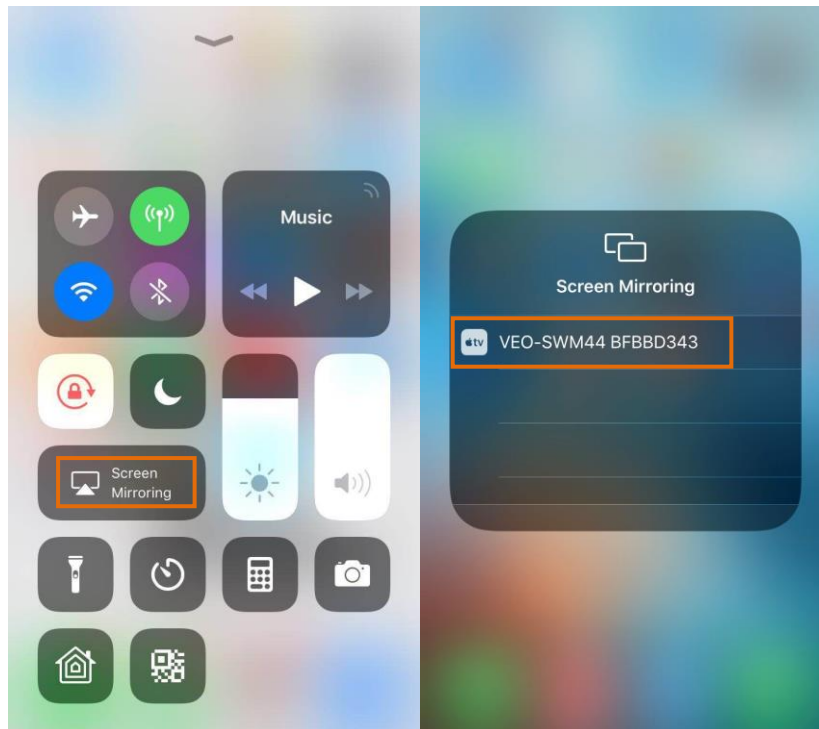
1. Connect a compatible macOS or iOS device to VEO-SWM44 SSID using WiFi settings



2. Slide the screen to enter Control Center, click on *Screen Mirroring* and then the VEO-SWM44 SSID to start casting.



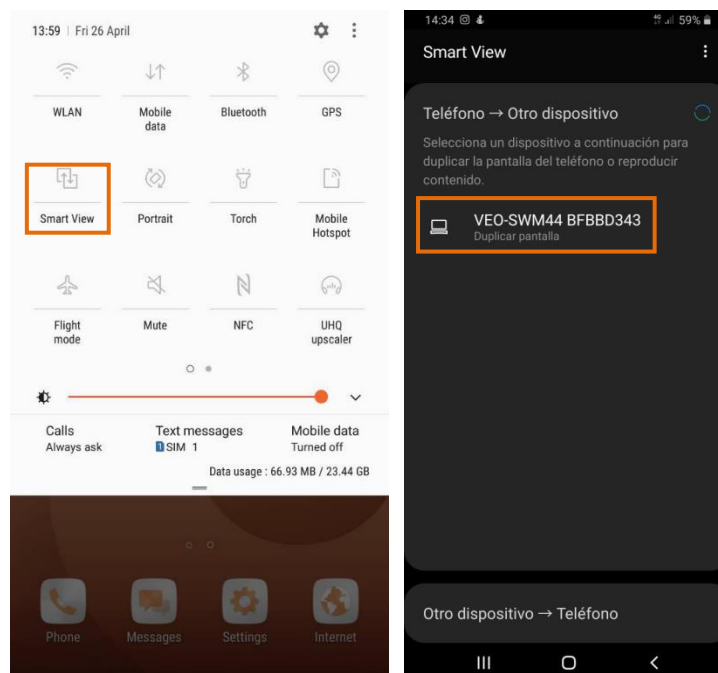
macOS



iOS


7.1.2. Screen sharing with Android Devices

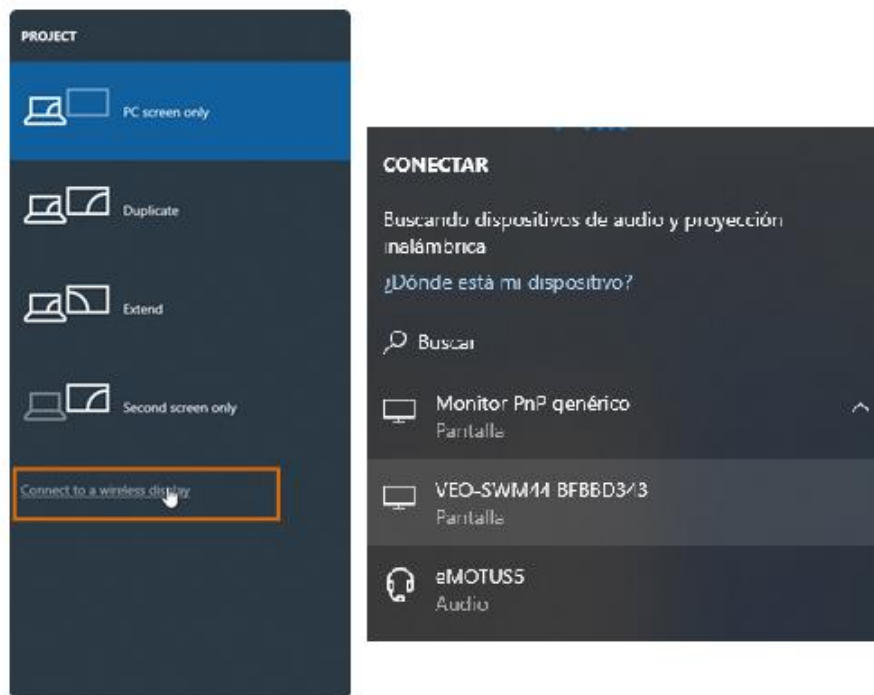
1. Connect your Android device to VEO-SWM44 SSID using Wi-Fi settings
2. Slide down the Android screen and click on the Android Screen Mirroring options (Smart View for Samsung in this example) and click on VEO-SWM44 to start casting.



Note: in case your smartphone doesn't include a Screen Mirroring app, you can download it from Google Play store.

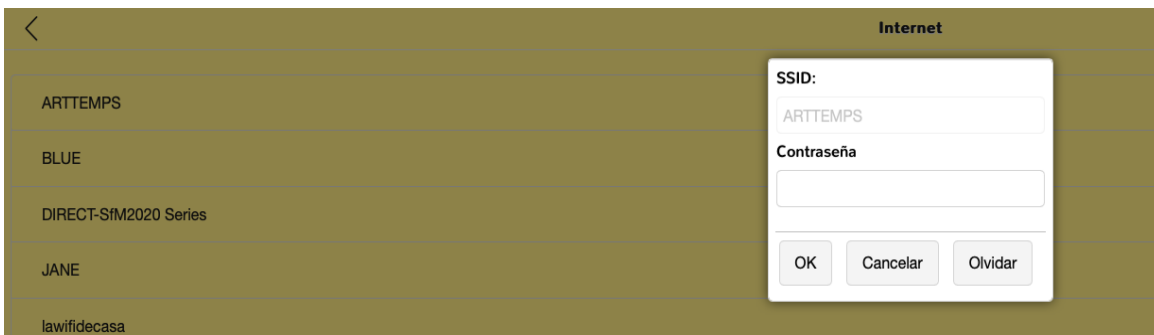
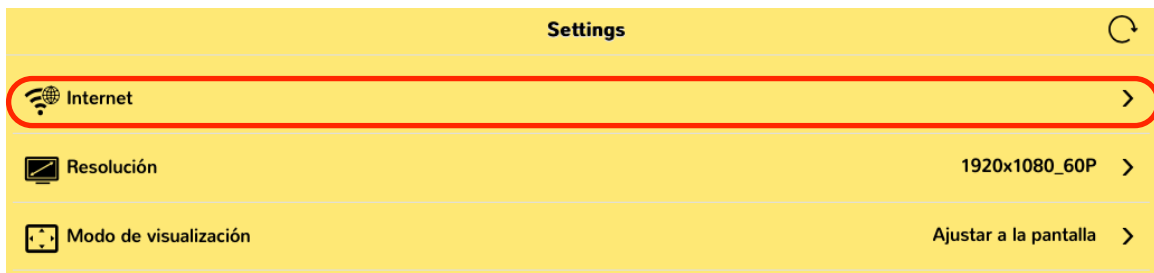
7.1.3. Screen sharing with Windows 10

1. Press  + P and then click “Connect to a wireless display” in the pop-up window.
2. Click on VEO-SWM44 to start casting.

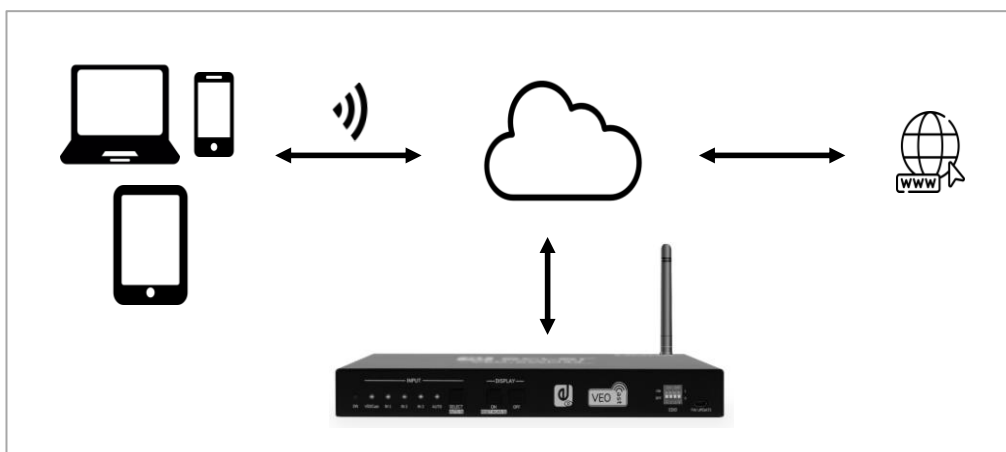


7.2. Screen sharing when source and switcher are connected to an existing network

In this scenario, both the VEO-SWM44 and the source device need to be previously connected to a common wireless network when screen sharing. In order to do that, first its required to enter the network credentials on the *settings* web page. See [Web settings](#) chapter for more information,



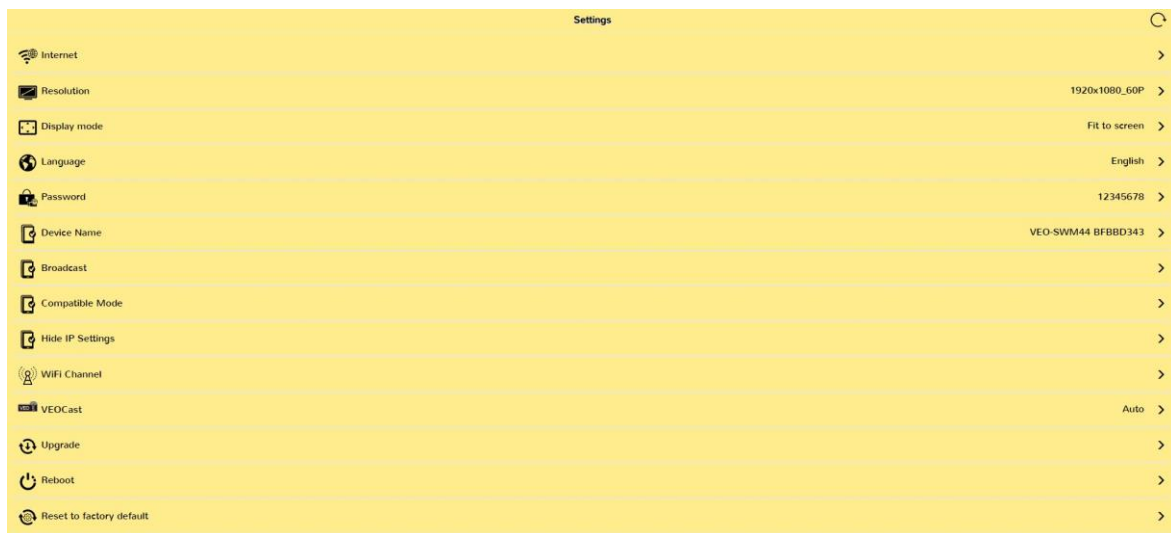
If both the source device and VEO-SWM44 are connected to the same network, the source device will be able to share content with VEO-SWM44 without the need of previously connecting to the switcher's own internal hot-spot. In this case, the source device will also be able to browse the internet as long as the common existing network has access to it.



8. WEB SETTINGS

Once connected to the VEO-SWM44 SSID, it will be possible to customize the device settings by entering in the web page available at **192.168.203.1** (Default IP).

The main menu will appear like follows:



Network settings can be consulted at the bottom of the in-built WEB GUI setting's page.

SSID : VEO-SWM44 BFBBDD343	Password : 12345678
MAC : D0:C0:BF:BB:D3:43	IP : 192.168.203.1
Firmware Version : 1.0.2	WiFi Channel : 11

8.1 Internet

This menu will show all the WiFi networks available in order to connect your VEO-SWM44 to an existing network (DHCP mode). Manual setup is also available through the “add network” tab.

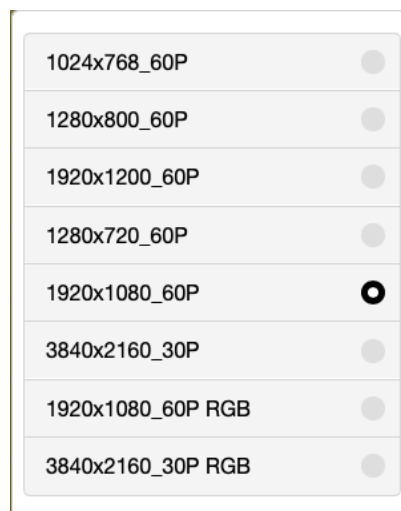
Seguridad

WPA/WPA2
 OPEN

SSID:

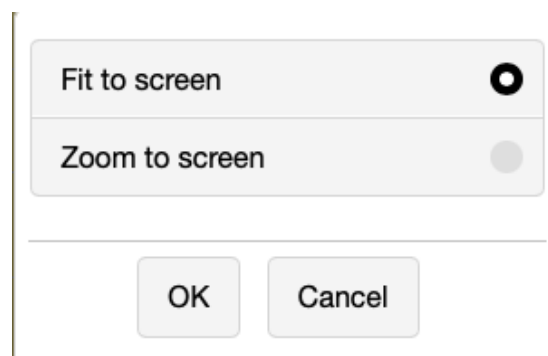
8.2 Resolution

This menu allows to choose the output video resolution.



8.3 Display mode

With this option it is possible to adapt the image shown choosing between “Fit to screen” and “Zoom to screen” adjustments.



8.4 Language

The settings menu is available in many languages selectable through this section.

8.5 Password

This section allows changing the password of VEOCast connection.

8.6 Device Name

This allows to customize the name of the device that appears on screen.

8.7 Broadcast

This allows to hide the VEO-SWM44 internal WiFi hot-spot. When this mode is activated, manual access is required in order to enter the switcher's WiFi SSID and its WEB GUI page.

8.8 Compatible Mode

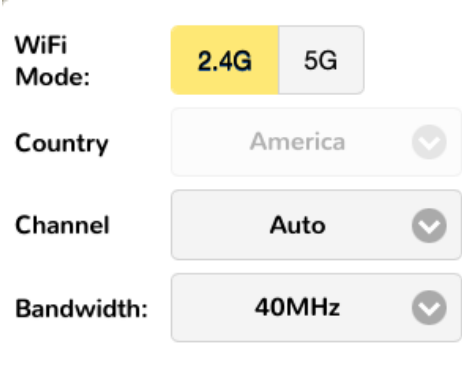
It optimizes the performance of devices with older HDCP versions that could cause issues while screen sharing.

8.9 Hide IP Settings

With this setting it is possible to hide the IP address shown on the welcome screen of the device in order to avoid unwanted access to the settings page.

8.10 WiFi Channel

With this setting it is possible to set the preferred WiFi band and channels.



The screenshot shows a settings menu for WiFi. It includes four rows of controls: 'WiFi Mode' with radio buttons for '2.4G' (selected) and '5G'; 'Country' with a dropdown menu set to 'America'; 'Channel' with a dropdown menu set to 'Auto'; and 'Bandwidth' with a dropdown menu set to '40MHz'. A horizontal line is visible below the settings.

8.11 VEOCast

This option will bring an optimized performance of the screen sharing feature due to the differences present in each of the most common operating systems. "Auto" mode is the recommended setting.

8.12 Upgrade

This tab will look for the latest firmware available. If an Internet connection is available, the automatic update service will be automatically enabled. It is completely required that the VEO-SWM44 is connected to the internet to complete this process.

9. FRONTAL PANEL CONTROL

9.1 Manual-Switching

When the switcher is in manual switching mode, pressing the “**SELECT AUTO/3s**” button repeatedly will navigate between the four video inputs. Each corresponding source LED will lit green immediately.

9.2 Auto-Switching

Pressing and holding the “**SELECT AUTO/3s**” button during at least three seconds will enable auto-switching and turn the “**AUTO**” LED green. In this mode, the switcher will switch according to the following rules:

- When a new input is connected, the switcher automatically selects it. The input source can also still be switched manually.
- When an active displayed source is removed, the switcher will switch back to the first active input following the established input priorities (VEOCast > PC1 > PC2 > PC3)
- If there’s a cut in power, the switcher will reconnect to the last active input selected before shutdown upon power restoring.
- If AUTO mode is deactivated, the current input source will not be changed.

Note: VEOCast input is not considered to be active when there is no screen sharing connection.

9.3 Display Control

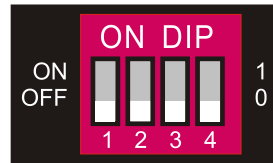
- **Manual Control:** Pressing the “**DISPLAY ON/OFF**” buttons on the front panel will simultaneously send RS232 and CEC commands to turn on/off the display device.

Auto Control: When detecting a video input signal (Hot Plug Detection), the switcher will automatically send CEC and RS232 commands to turn on the display device.

Please refer to the chapter [Special Commands](#) for more details regarding RS232 remote control.

9.4 EDID Settings

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. The DIP switch on the front panel can be used to set the EDID to a fixed value to ensure the compatibility in video resolution. The switch represents “0” when in the lower (**OFF**) position, and it represents “1” while putting the switch in the upper (**ON**) position.



Note: The EDID DIP switch only used for setting the EDID of HDMI source device, and the USB-C source device will automatically gain the EDID of display device.

Switch Status	Video Resolution	Audio Format
0000	EDID Pass-through	
0001	1280x720@60Hz	Stereo
0010	1920x1080@60Hz DVI	-
0011	1920x1080@60Hz 8bit	Stereo
0100	1920x1080@60Hz 8bit	High Definition
0101	1920x1200@60Hz 8bit	Stereo
0110	3840x2160@30Hz 8bit	Stereo
0111	3840x2160@30Hz 8bit	High Definition
1000	3840x2160@30Hz 8bit HDR	Stereo
1001	3840x2160@60Hz Deep Color	Stereo
1010	3840x2160@60Hz Deep Color HDR	High Definition
Switch Status	EDID	Note
1011	User-defined EDID 1	The five user-defined EDID can be uploaded by sending RS232 command “#UPLOAD_USER_EDID [PARAM]”, please refer to the chapter 10.2.3 Function Setting for more details.
1100	User-defined EDID 2	
1101	User-defined EDID 3	
1110	User-defined EDID 4	
1111	User-defined EDID 5	

- **Stereo:** LPCM 2CH.
- **High Definition Audio:** LPCM 8Ch, AC-3 6Ch, DTS 5.1, Dolby Digital5.1, DTS-HD7.1, Dolby TrueHD 7.1
- **Deep Colour:** 8bit, 10bit, 12bit

10. RS232 Control

Connect the RS-232 port to control device (e.g. PC, Third party control system) using a cable with DB9 connector. The switcher can be controlled by sending the RS232 commands listed below

10.1 RS232 Communication protocol

The serial parameters for a correct transmission are:

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

10.2 List of commands

The ending mark of command is "<CR><LF>".

Command	Description	Command & Feedback Example
#GET_FIRMWARE_VERSION	Get the firmware version.	@V1.0.0
#FACTORY_RESET	Restore to factory defaults.	@FACTORY_RESET
#REBOOT	System reboot.	@REBOOT
#HELP [PARAM]	Get the command details. <ul style="list-style-type: none"> [PARAM]=Null; Get all command list. [PARAM]=Any command; Get the English description and usage of the command. 	#HELP SET_AV @SELECT VIDEO AND AUDIO INPUT PORT #SET_AV PARAM1 PARAM=A,PC1,PC2,PC3 A - VEOCast PC1 - HDMI1 PC2 - HDMI2 PC3 - TYPE-C
#SET_RST_WIRELESS	Reset VEOCast power	@RESET WIRELESS DEVICE
#SET_KEYPAD_LOCK 1	Lock front panel buttons.	#SET_KEYPAD_LOCK 1
#SET_KEYPAD_LOCK 0	Unlock front panel buttons (Default).	#SET_KEYPAD_LOCK 0
#GET_KEYPAD_LOCK	Get the locking status of the front panel buttons.	@KEYPAD_LOCK 1

10.2.1 Source Switching

Command	Description	Command & Feedback Example
#SET_AV A	Select the input source: VEOCast (Default).	@AV VEOCast
#SET_AV PC1	Select the input source: PC1.	@AV PC1
#SET_AV PC2	Select the input source: PC2.	@AV PC2
#SET_AV PC3	Select the input source: PC3.	@AV PC3
#GET_AV	Get the current input source.	@AV PC1
#SET_AUTO_SWITCH 0	Disable auto-switching mode.	@AUTO_SWITCH 0
#SET_AUTO_SWITCH 1	Enable auto-switching mode.	@AUTO_SWITCH 1
#GET_AUTO_SWITCH	Get the auto-switching status.	@AUTO_SWITCH 1

10.2.2 CEC/RS232 Function Setting

The ending mark of command is “<CR><LF>”.

Command	Function	Command & Feedback Example
#SET_SYNCACT_CEC 1	Enable the function of automatically sending CEC commands. When detecting video input signal or not detecting any video signal, the switcher will automatically send the corresponding CEC command to control the display device.	@SYNCACT_CEC 1
#SET_SYNCACT_CEC 0	Disable the function of automatically sending CEC commands.	@SYNCACT_CEC 0
#GET_SYNCACT_CEC	Get the function setting status of automatically sending CEC commands.	@SYNCACT_CEC 1
#SET_SYNCACT_RS232 1	Enable the function of automatically sending RS232 commands. When detecting video input signal or not detecting any video signal, the switcher will automatically send the corresponding RS232 command to control the display device.	@SYNCACT_RS232 1
#SET_SYNCACT_RS232 0	Disable the function of automatically sending RS232 commands.	@SYNCACT_RS232 0
#GET_SYNCACT_RS232	Get the function setting status of automatically sending RS232 commands.	@SYNCACT_RS232 1
#SET_DISPLAY 1	Power on display device (Simultaneously sending CEC and RS232 commands to display device).	@DISPLAY 1
#SET_DISPLAY 0	Power off display device (Simultaneously sending CEC and RS232 commands to display device).	@DISPLAY 0

10.2.3 Function Setting

The ending mark of command is "<CR><LF>".

Command	Description	Command & Feedback Example
#SET_OFF_CNT 1	Set the number of sending DISPLAY OFF command to 1 time.	@OFF_CNT 1
#SET_OFF_CNT 2	Set the number of sending DISPLAY OFF command to 2 times.	@OFF_CNT 2
#GET_OFF_CNT	Get the number of sending DISPLAY OFF command.	@OFF_CNT 1
#SET_OFF_DELAY [PARAM]	Set the delay time of sending DISPLAY OFF command to [PARAM]. [PARAM]=5~100 (1=100ms).	#SET_OFF_DELAY 5
		@OFF_DELAY 5
#GET_OFF_DELAY	Get the delay time of sending DISPLAY OFF command.	@OFF_DELAY 5
#SET_OUTPUT_HDCP [PARAM]	Set the HDCP mode of output port to [PARAM]. [PARAM]=1~3: 1 - ACTIVE 2 - ON 3 - OFF	#SET_OUTPUT_HDCP 1
		@OUTPUT_HDCP 1
#GET_OUTPUT_HDCP	Get the HDCP mode of output port.	@OUTPUT_HDCP 1
#SET_SW_HDCP_MODE [PARAM]	Switch the input ports to support HDCP2.2 status. [PARAM]= 0/1. 0 - UNSUPPORT HDCP2.2 1 - SUPPORT HDCP2.2	#SET_SW_HDCP_MODE 1
		@SW_HDCP_MODE 1
#GET_SW_HDCP_MODE	Get the HDCP2.2 status of input ports.	@SW_HDCP_MODE 1
#UPLOAD_USER_EDID [PARAM]	Upload the user-defined EDID [PARAM]. PARAM = 1 ~ 5 1 - User-defined EDID 1 2 - User-defined EDID 2 3 - User-defined EDID 3 4 - User-defined EDID 4 5 - User-defined EDID 5 When the command applied, system prompts to upload the EDID file (.bin). Operation will be cancelled in 10 seconds.	#UPLOAD_USER_EDID 1
		@USER_EDID 1 READY PLEASE SEND EDID DATA IN 10S OK/ERROR
#SET_DTIME [PARAM1]: [PARAM2]	When not detecting video input signal, set the auto power-off time of display device to [PARAM1]: [PARAM2]. The default time is 10 minutes. [PARAM1]=0~30 minutes. [PARAM2]=0~1800 seconds.	#SET_DTIME 1:30
		@DTIME 1:30
#GET_DTIME	Get the auto power-off time of display device.	@DTIME 30:0

10.2.4 Special Commands

Note: The below commands don't need ending mark.

Command	Description	Command & Feedback Example
#SET_ON_[PARAM1]_[PARAM2]:XXXX	<p>Set the ASCII RS232 command XXXX to be sent to control the third-party device when the DISPLAY ON button is pressed.</p> <ul style="list-style-type: none"> [PARAM1] = 00~06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400 [PARAM2] = 00~99. The delay time of sending command. XXXX: Any ASCII code (up to 48 bytes). 	<p>#SET_ON_05_30:1234567</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY ON TO SEND:1234567</p>

Command	Description	Command & Feedback Example
#SET_H_ON_[PARAM1]_[PARAM2]:XX XX	<p>Set the HEX RS232 command XX XX to be sent to control the third-party device when the DISPLAY ON button is pressed.</p> <ul style="list-style-type: none"> [PARAM1] = 00~06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400 [PARAM2] = 00~99. The delay time of sending command. XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX). 	<p>#SET_H_ON_05_30:31 32 33 34 35</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY ON HEX TO SEND:31 32 33 34 35</p>
#SET_OF_[PARAM1]_[PARAM2]:XXXX	<p>Set the ASCII RS232 command XXXX to be sent to control the third-party device when the DISPLAY OFF button is pressed.</p> <ul style="list-style-type: none"> [PARAM1] = 00~06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400 [PARAM2] = 00~99. The delay time of sending command. XXXX: Any ASCII code (up to 48 bytes). 	<p>#SET_OF_05_30:ABCD EFG</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY OFF TO SEND:ABCDEFG</p>

Command	Description	Command & Feedback Example
#SET_H_OF_[PARAM1]_ [PARAM2]:XX XX	<p>Set the HEX RS232 command XX XX to be sent to control the third-party device when the DISPLAY OFF button is pressed.</p> <ul style="list-style-type: none"> [PARAM1] = 00~06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400 [PARAM2] = 00~99. The delay time of sending command. XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX). 	<p>#SET_H_OF_05_30:41 42 43 44 45</p> <p>@BAUDRATE: 4800</p> <p>@DELAY TIME: 30 s</p> <p>@DISPLAY OFF HEX TO SEND:41 42 43 44 45</p>

11. FIRMWARE UPGRADE

When the device is connected to the internet, the firmware update will be done automatically.

In case of manual update, the following steps should be followed:

- 1) Prepare the latest upgrade file (.bin) and rename it as “FW_MERG.bin” on PC.
- 2) Power off the switcher and connect the **FW** port of switcher to the PC with USB cable.
- 3) Power on the switcher, and then the PC will automatically detect a U-disk named of “BOOTDISK”.
- 4) Double-click the U-disk, a file named of “READY.TXT” would be showed.
- 5) Directly copy the latest upgrade file (.bin) to the “BOOTDISK” U-disk.
- 6) Reopen the U-disk to check the filename “READY.TXT” whether automatically becomes “SUCCESS.TXT”, if yes, the firmware was updated successfully, otherwise, the firmware updating is failed, the name of upgrade file (.bin) should be confirm again, and then follow the above steps to update again.
- 7) Remove the USB cable after firmware upgrade.
- 8) After firmware upgrade, the switcher should be restored to factory default by sending command.

12. TROUBLESHOOTING & MAINTENANCE

Problems	Potential Causes	Solutions
Output image with white noise.	Bad quality of the connecting cable	Try another high-quality cable.
	Fail or loose connection	Make sure the connection is good.
	HDCP issues	Check compatibility
No output image when switching	No signal at the input / output end.	Check if there is any signal at the input/ output end.
	EDID issues	Check resolutions compatibility
	Fail or loose connection.	Make sure the connection is good.
POWER indicator doesn't work or no respond to any operation	Fail connection	Make sure the power cord connection is good.
	Power Supply is damaged	Check the power supply
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong RS-232 communication parameters or connection.	Type in correct RS232 communication parameters and check the connection.
	RS-232 port is damaged	Send it to authorized dealer for checking.

Note: If the problem still persists after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.

13. TECHNICAL SPECIFICATION

13.1. VIDEO PERFORMANCES

Input Resolution	HDMI: Up to 4Kx2K@60Hz 4:4:4 HDR10, Dolby Vision USB-C: Up to 4K@30Hz 4:4:4 VEOCast: Up to 4K@30Hz 4:4:4
Output Resolution	Up to 4Kx2K@60Hz 4:4:4 HDR10, Dolby Vision
Color depth	Up to 12-bit
Signal Bandwidth	18 Gbps Input (HDMI 2.0b)
HDCP	2.2/1.4 Compliant
Video Input Connectors	2 x Type A female HDMI 1 x Type C USB 3.0 connector 1 x External Antenna connector
Video Output Connectors	1 x Type A female HDMI
HDMI Distance	up to 10 meters (33 feet) with Ecler VEO cables

13.2. AUDIO PERFORMANCES

Audio Formats	Dolby® Atmos, Dolby® TrueHD, Dolby® Digital Plus, Dolby® Digital, DTS-X™, DTS-HD Master Audio™, DTS 5.1™, PCM;
Sample Rate	up to 24-bit
PCM Bit rate	32 KHz, 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176.4 KHz, 192 KHz
Frequency Response	20Hz–20KHz, ±3dB
Max Output Level	2.0Vrms ± 0.5dB
THD+N	< 0.05%, 20Hz – 20KHz bandwidth, 1KHz sine at 0dBFS level (or max level)
SNR	>80dB, 20Hz - 20KHz bandwidth
Audio Connectors	5-pin Euroblock (Balanced Stereo)

13.3. CONTROL

Control ports	1 x 4-pin DIP switch 2 x HOST (PC1&PC2), 2 x DEVICES 1 x RS232 1 x FW Update
Control Connectors	2 x Type-B USB 3.0 2 x Type-A USB 3.0 1 x 3-pin Euroblock 1 x Micro-USB

13.4. NETWORK

WLAN Standards	IEEE 802.11ac
Wireless Band	2.4 GHz / 5 GHz
Max Wireless Coverage	≤5m, environment dependent, reduce disturbance to increase transmission distance up to 15m
OS supported Versions	iOS 7 or above, MacOS, Android 4.0 or above, Windows 8.1 or above

13.5 ENVIRONMENTAL

Operating Temperature	-5°C - +55°C / 23°F - 131°F
Humidity	10 - 90% RH (no condensation)

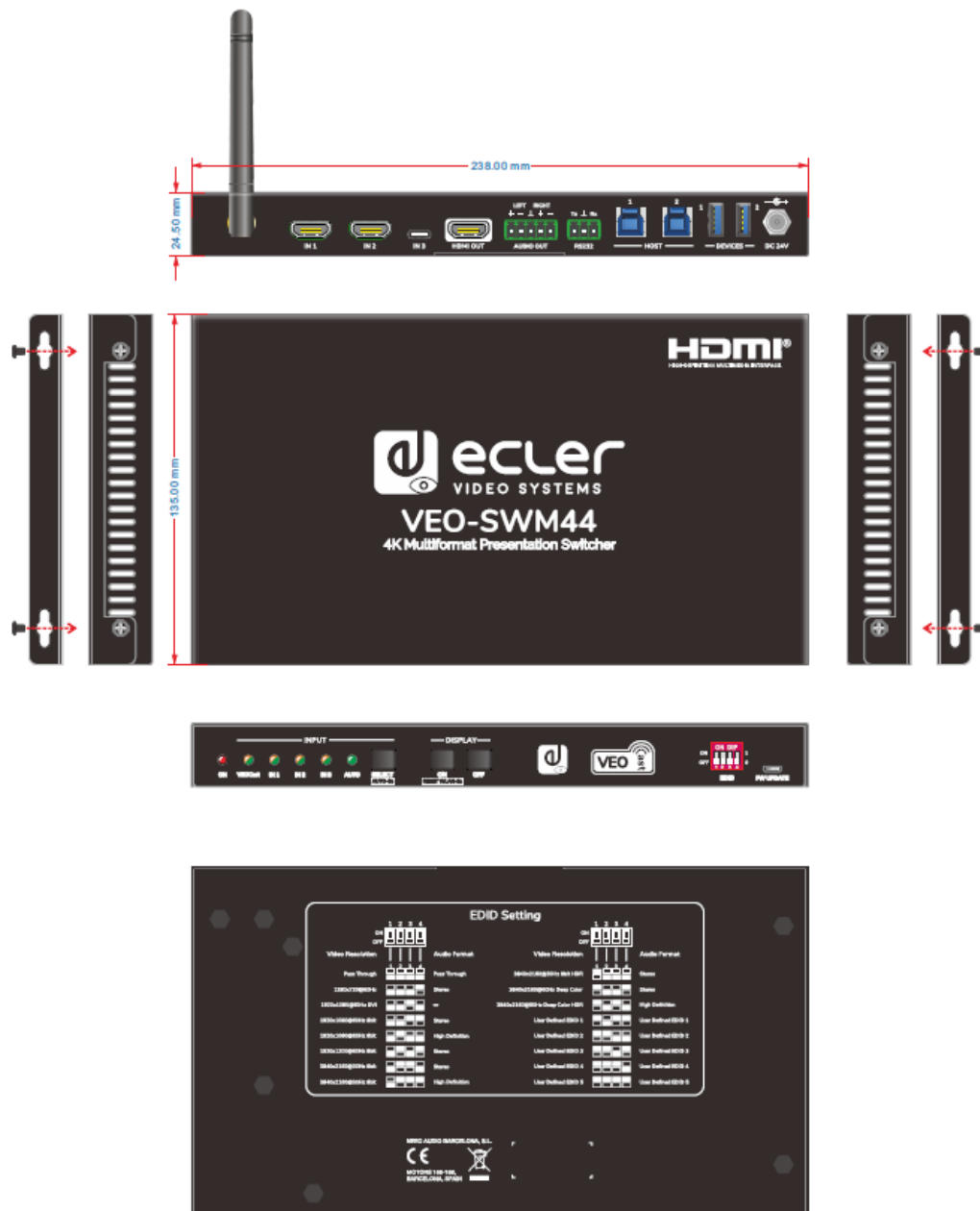
13.6. POWER SUPPLY

Power Consumption	85 W Max (60W Max power charging over USB-C)
Power Supply	AC 100V ~ 240V 50/60Hz Output: DC 24V---5A

13.7. MISCELLANEOUS

Dimensions H x W x D	150mm x 220mm x 44mm (5.90" x 8.66" x 1.73")
Weight	1250g / 2,75 lbs

14. MECHANICAL DIAGRAMS



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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