

VEO-XCTRL4D

VIDEO DISTRIBUTION OVER IP
JPEG2000 4K Over IP Video Controller



USER MANUAL



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WARRANTY & ENVIRONMENT
PACKAGE CONTENTS
DESCRIPTION & FEATURES
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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.

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-XCTRL4D!

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 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 CO₂ 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

- 1 x VEO-XCTRL4D unit.
- 1 x IR Receiver cable (1.5 meters).
- 1 x 3-pin Euroblock Connector.
- 1 x 6-pin Euroblock Connector.
- 2 x Mounting Ears.
- 4 x Mounting Screws.
- 1 x PSU 12V/1A .
- First Steps Guide.
- Warranty card.



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4. DESCRIPTION & FEATURES

VEO-XCTRL4D is a controller module designed to manage and operate VEO-XTI4D and VEO-XRI4D video over IP devices in complex multipoint-to-multipoint AV systems. It features dual dedicated LAN ports to support independent Control and Video networks, ensuring seamless integration across diverse setups. The VEO-XCTRL4D includes a user-friendly web interface with a setup wizard, matrix control, smart video wall creation, drag-and-drop source selection, video preview, and TCP and RS-232 control commands. Supporting PoE functionality, the VEO-XCTRL4D is an advanced management tool suited for a wide range of AV over IP installations.

4.1 Main Features

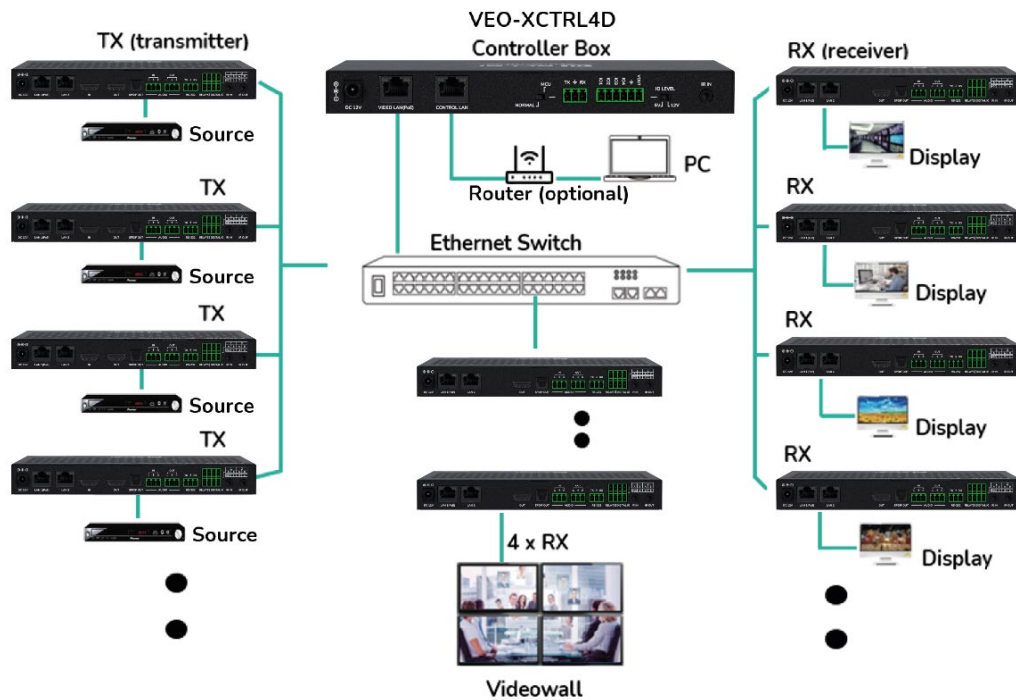
- Easy to create project, control and manage the system.
- Flexibly support Auto, DHCP and Manual three types of IP configurations.
- HTTPS, SSH, SFTP security compatible.
- Built-in Web GUI control interface, supporting Drag & Drop operations.
- Support image preview.
- Support video, audio, RS-232, IR, KVM, CEC control and management of the distributed system.
- Dual network ports (VIDEO LAN port supports PoE function) to isolate Controls and Multicast networks.
- Support LAN/RS-232 port control and third-party central control.
- Support IR signal receiving (3.5mm audio jack, 12V level).
- 4 channel GPIO control ports (5V/12V optional level).
- Multiple circuits protection, lightning protection and ESD design.
- Reliable system design, ensuring 7*24 hours reliable and stable work.


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5. INSTALL & CONNECT

5.1 Connection Diagram

In a typical configuration the devices are connected like follows:



! When the Network Switch does not support PoE, then VEO-XTI4D, VEO-XRI4D and VEO-XCTRL4D, should be powered by the included DC power adapter.

5.2 Network Requirements And Configuration

VEO-XCTRL4D, is not limited to certain brands of network hardware, but the **network must support the following features:**

- Layer 2 managed network switch.
- Jumbo Frame / MTU management.
- IGMP snooping support.

! In order to prevent malfunctioning, interference or drop in signal performance due to other network products bandwidth requirements or network design, it is highly recommended to check with the chosen network IT staff how to properly set the Multicast products connected to the local network switch.

💡 One of the advantages in the use of VEO-XCTRL4D is the **possibility to separate the Video Network to the Control Network**. In this way, the consistent multicast traffic generated by the video over IP extenders can be isolated from the control traffic generated by the embedded or by the third-party control system. We can think of VEO-XCTRL4D as a **gateway between the control network and the video network**.



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5.2.1 Web Connection And Settings.

If there is no DHCP server in the system, the default IP addresses of VEO-XCTRL4D for Control LAN Port is 192.168.6.100 and for its Video LAN Port is 169.254.8.100.

! To configure and manage the system, ensure that the VEO-XTI4D and VEO-XRI4D are set within the same network range as the VEO-XCTRL4D VIDEO LAN Port. By default, the subnet masks for the VEO-XTI4D, VEO-XRI4D, and VEO-XCTRL4D are set to 255.255.0.0.

5.3 Configuration Using Web Interface

VEO-XCTRL4D can be configured through its own built-in web interface which can be accessed through the following two methods:

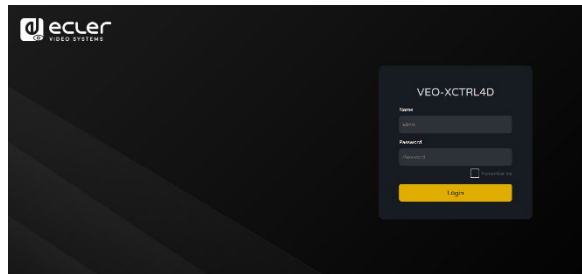
- Typing the chosen or the default IP address of the device (192.168.6.100 if no DHCP server is used) in the web browser search tab.
- Typing the URL “controller.local” (this tag can be customized. [For further details, see Controller Settings section.](#)

5.3.1 Initial Setup

Upon initial access to the webpage, the default credentials that must be entered are:

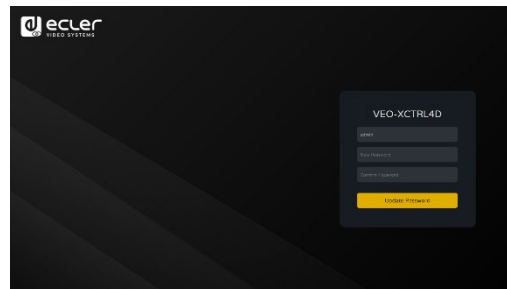
The default credentials to log in are:

- User name: admin
- Password: admin



The "Remember Me" button stores the user's credentials to allow automatic login in future sessions.

Once logged in, the system will prompt the user to change the password for the administrator automatically.

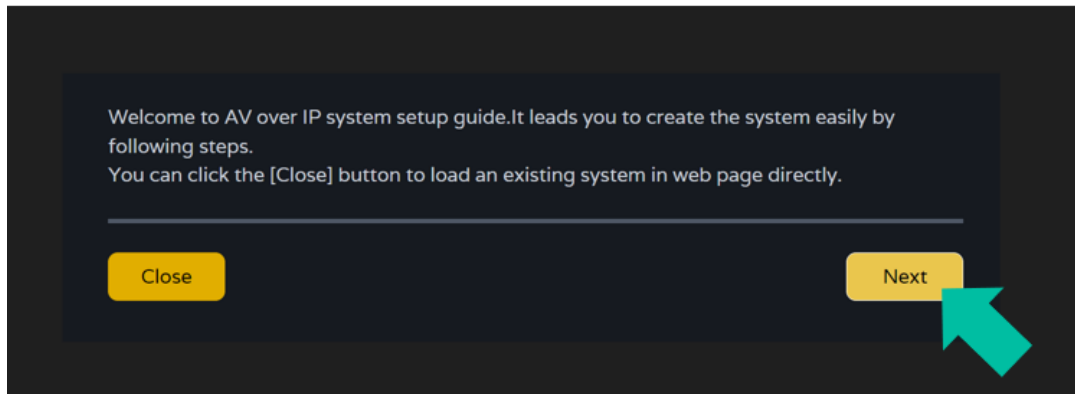


The new password must meet the minimum requirement of 6 characters and should be both secure and memorable. Users should avoid using easily guessable passwords or sharing them with unauthorized individuals.

5.3.2 Wizard Setup

Once logged in, **if there's no existing project, this message will appear to help the user to configure the system** through the wizard procedure.

Then **click “Next”** to advance to the next page.

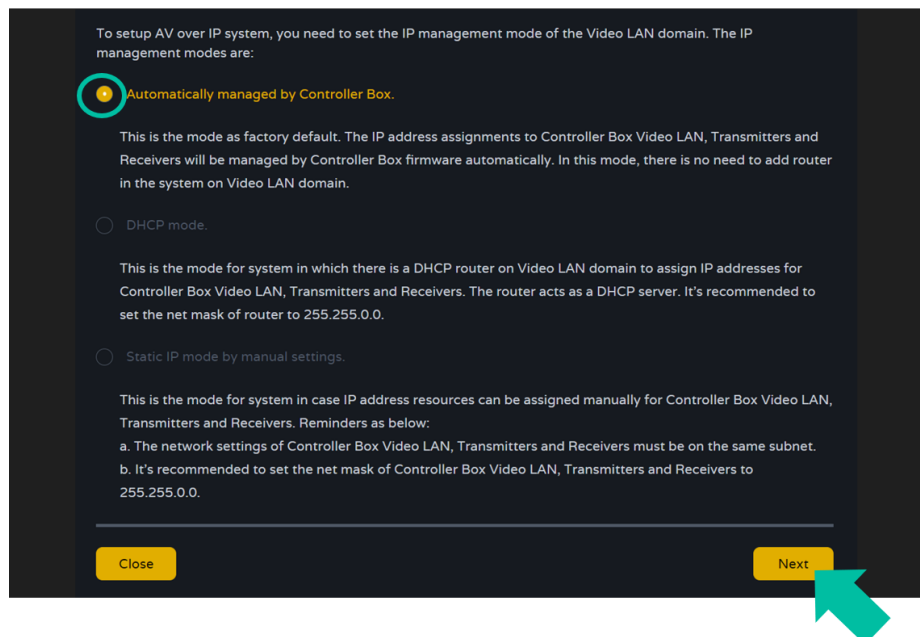


 If the system has already been configured previously, **clicking “Close” will take the user directly to the system control page.**

5.3.2.1 Automatically Managed by Controller Box

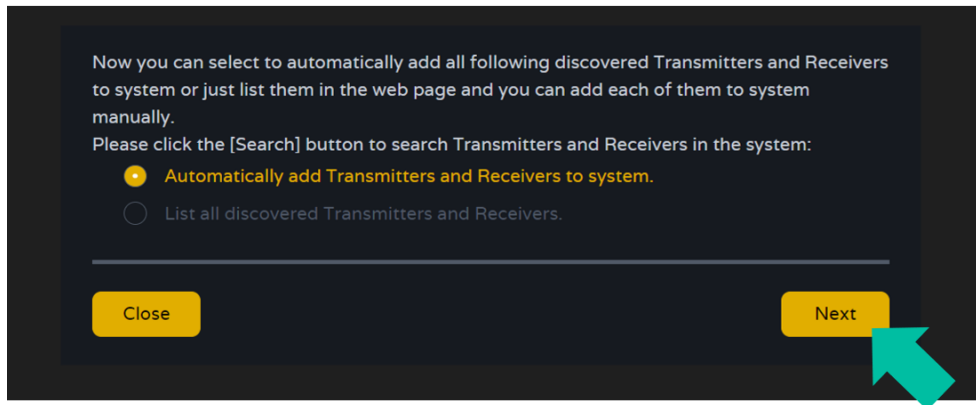
Select this option and once the IP address management settings have been selected, **the controller will proceed to scan for devices in the VIDEO network.**

Then **click “Next”** to advance to the next page.

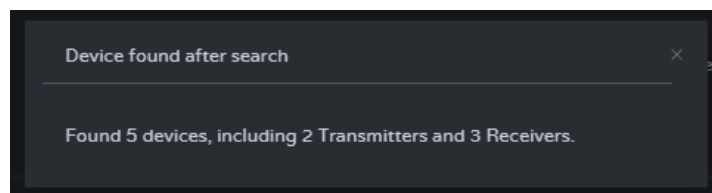


It will then be possible to decide whether to add all the connected devices to the new project (brand new installation) or to add them selectively in case of changes to an existing system.

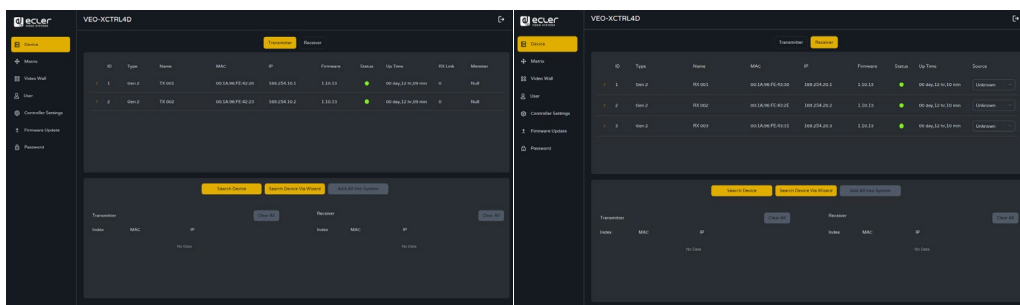
1. If you select “Automatically add Transmitters and Receivers to system” and click the “Next” button to enter the Project page.



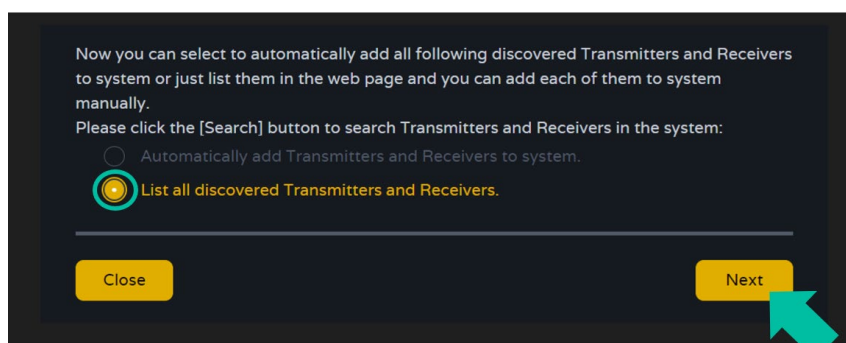
A pop up with the devices found after the search will show up.



Then all the connected devices will be listed in the Transmitter and Receivers pages.



2. If the second option is selected “List all discovered Transmitters and Receivers.” in the wizard windows and click the “Next” button to enter the Project page.



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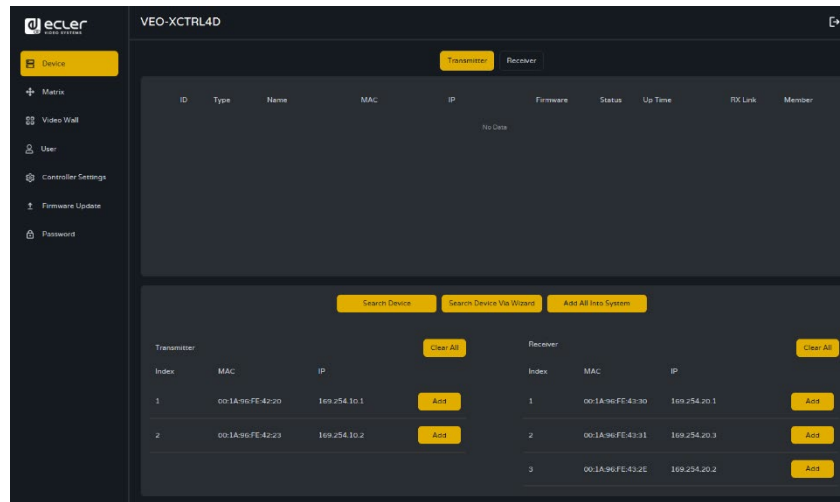
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Then all the connected devices will be listed in the Unassigned Devices and the “Add All” and “Add” buttons behind Unassigned Transmitters and Unassigned Receivers will become operational.

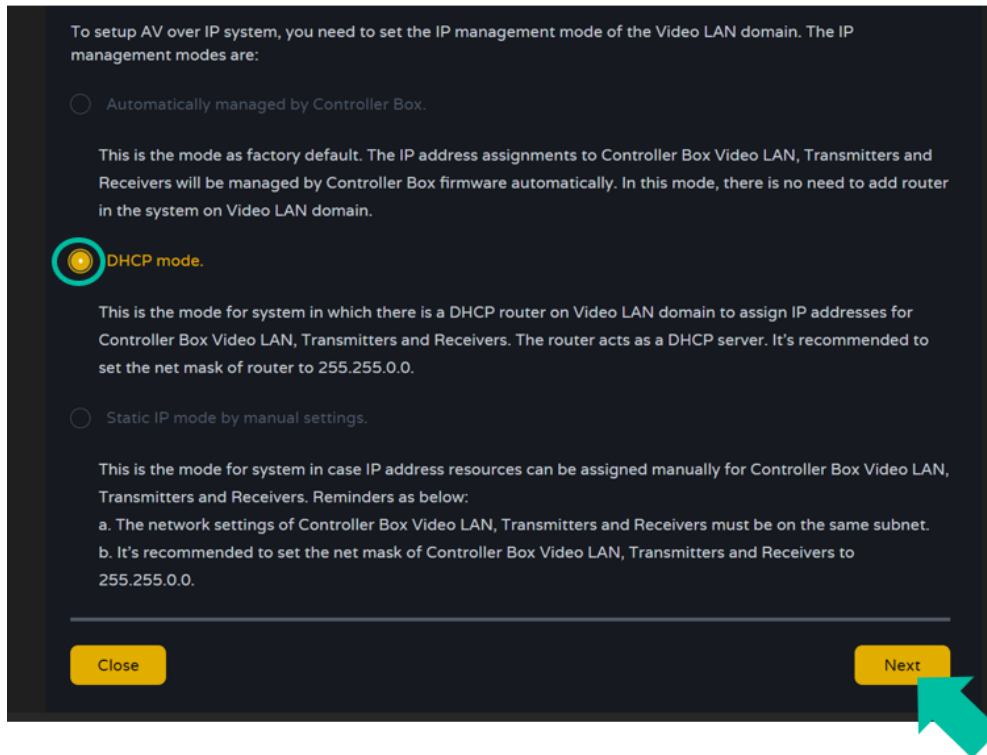


At this time, the “Add” button can be clicked behind each unregistered Transmitter or Receiver to add the device to the project one by one or click the “Add All” button to add all Transmitters or Receivers to the project.

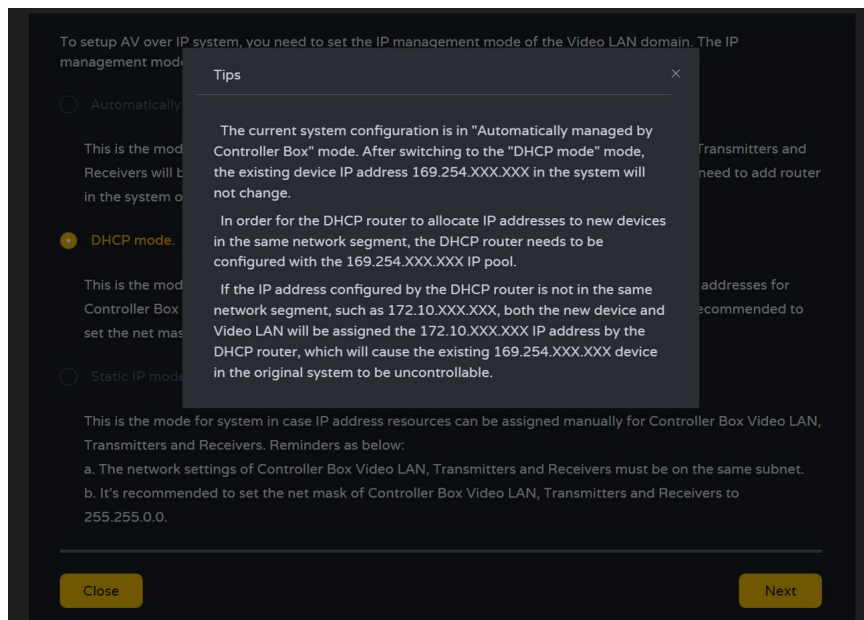
Transmitters and Receivers that have been added to the project will appear on top of the Device section in the Transmitter and Receiver pages.

5.3.2.2 DHCP Mode

The procedure is identical to the previous one, with the only difference that in this case **the IP addresses are assigned by a DHCP server.**



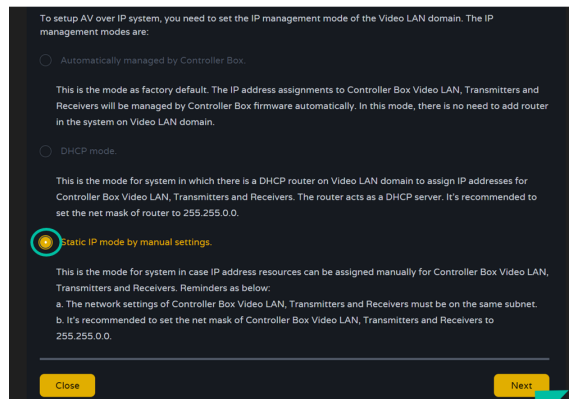
A pop-up warning will show up when changing to DHCP mode



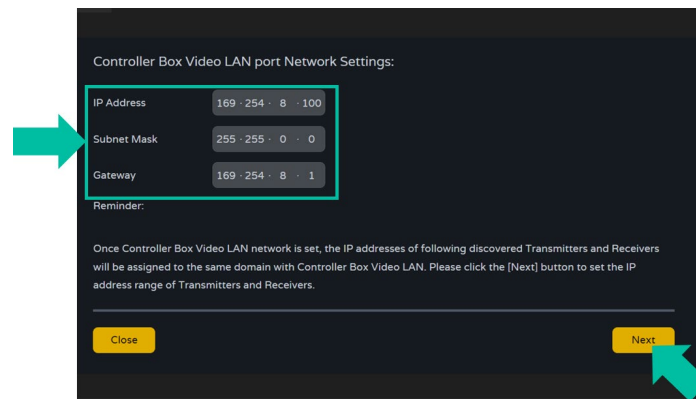
 There will be no need to set up the Video LAN port settings of the VEO-XCTRL4D controller box in Auto or DHCP as they will be automatically configured by the controller.

5.3.2.3 Static IP Mode by Manual Settings

1. Select the static IP mode by manually settings option, to manually enter the IP address.

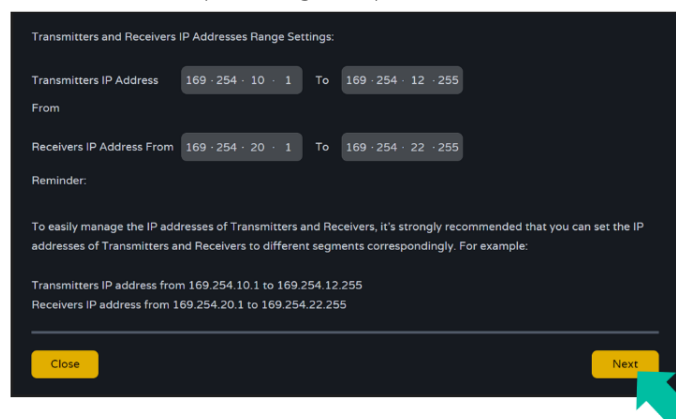


2. Press "Next" and then manually set the IP address, subnet mask and gateway of the Video LAN and then press "Next".



 It is strongly recommended to use different IP network domain from Control LAN port.

3. After the progress reaches 100%, enter the interface as shown in the figure below. On this interface, you can set the IP address range of Transmitters and Receivers. Once the setting is complete, click the "Next" button and the rest of the steps are the same as the first "Automatically Managed by Controller Box" mode.



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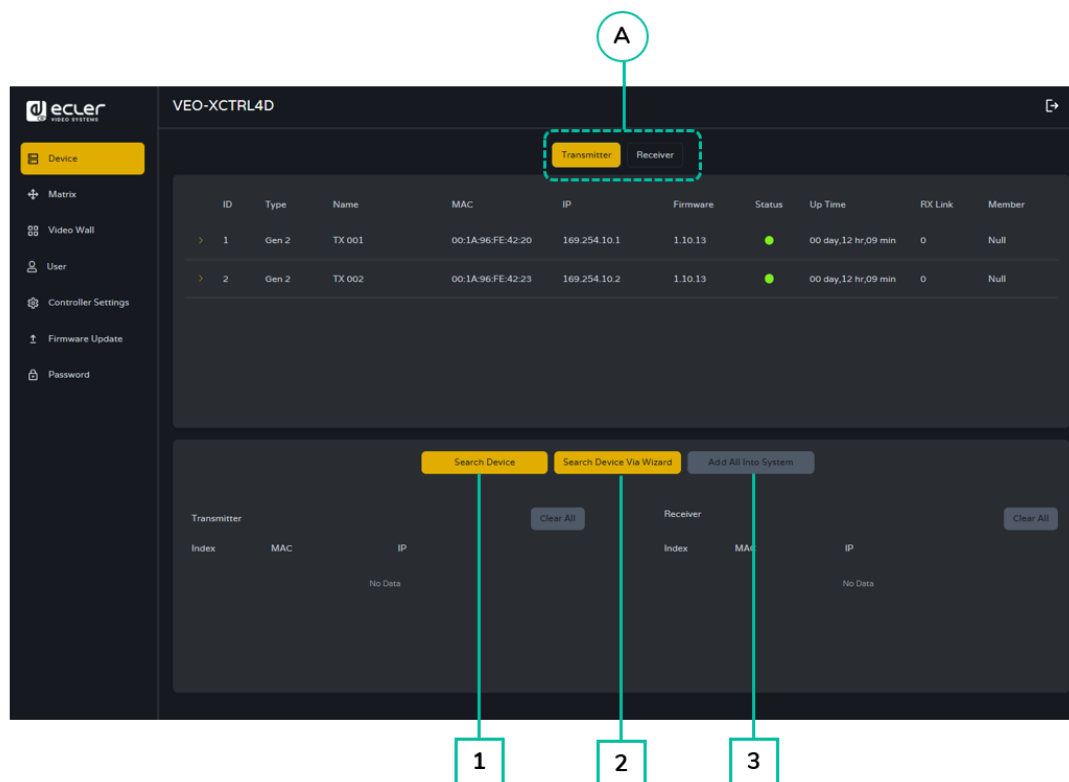
6.1 Web Functions and Operation

After setting up VEO-XCTRL4D and assigning the VEO-XTI4D and VEO-XRI4D devices connected to the network to a given project, the **following menus of the web settings page will let the user manage and operate different aspects and functionalities concerning Transmitter and Receiver operation as explained in the next chapters.**

6.1.1 Device

This section allows the user to **create a Project**.

- A. Transmitter / Receiver:** Shows devices that have been added to the current project. Click Transmitter or Receiver to **display the list of the Transmitters or Receivers respectively** and the information of each one linked to the project. For more information see chapter [Transmitters](#) or [Receivers](#) respectively.



To add Devices to the current project:

1. Click **“Search Device”** to search the unassigned devices that do not appear in the current project.
2. Click **“Search Device Via Wizard”** to change to Wizard Setup and search new devices. [For more information see Wizard Setup section.](#)
3. Click **“Add all into system”** to add all the unassigned devices to the current project.



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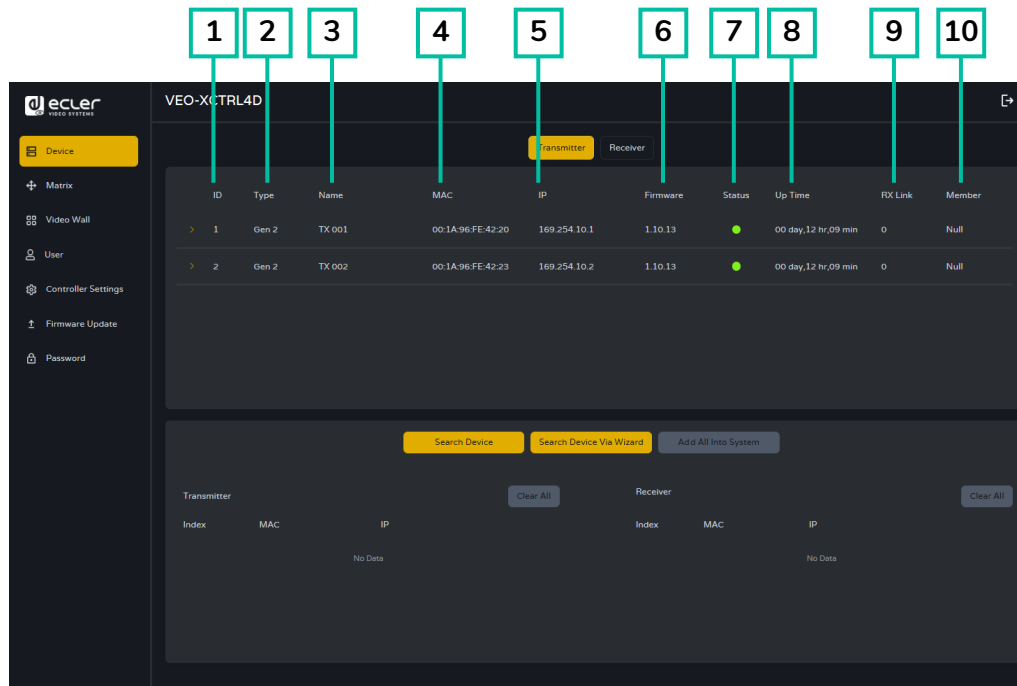
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6.1.1.1 Transmitters

This page allows to **setup the current Transmitter** as required.



1. **ID:** The ID of the current device. ID's are never duplicated.
2. **Type:** The type of device. "Gen 2" for the transmitter and receiver box and "WPTI4D" transmitter wall panel.
3. **Name:** The name of the current device. Must be unique.
4. **MAC:** The MAC Address of the current device.
5. **IP:** The IP Address of the current device.
6. **Firmware:** Current firmware version installed on the device.
7. **Status:** Device availability indicator:
 - **Green:** Online and operational.
 - **Grey:** Offline or powered down.
 - **Red:** Connected but temporarily unavailable (e.g., rebooting, factory reset, or syncing).
8. **Up Time:** The time the current device has been up.
9. **Rx Link:** Receivers tuned to the current device.
10. **Member:** Name of the linked receiver, if any.



Click the arrow icon placed left to "ID" column to see the expanded management menu to check the detail information about the current Transmitter and tweak as needed, as shown in below.



A Basic Settings:

- **Name:** The name of the current device. (Note: Name can't be duplicated.).
- **Change ID:** The ID of the current device. (Note: ID is never duplicated.)
- **Power LED Flashing:** Sets the blinking behaviour of the power LED:
 - **OFF:** LED remains static.
 - **Flashing:** LED blinks continuously.
 - **Flashing 90s then OFF:** LED blinks for 90 seconds, then turns off.
- **Preview:** Displays a preview of the content from the selected transmitter.

B A/V Settings:

- **EDID:** The EDID of the current device.
- **EDID Setting Range:** Applies EDID configuration for all the transmitters.
- **Audio:** The Audio Selection of the current device (Analogue or HDMI®).

- **Copy EDID:** Allows importing EDID from a selected receiver.
- **ARC/eARC Return From:** Defines return audio path from receiver.
 - **S/DPDIF** always outputs either ARC or the S/DPDIF signal selected from the receiver.
 - If “Capability of Amplifier on HDMI IN Port” only supports ARC, but the selected receiver under “ARC/eARC Return From” supports eARC, then the receiver's “eARC Downgrade to ARC” setting must be enabled to ensure proper audio return path.



Enabling eARC downgrade on the receiver, applies to all transmitters that select this receiver under “ARC/eARC Return From”.



Select “Apply” to save the changes.

C Network settings:

- **IP Mode:** The configuration defining how IP addresses are assigned in a network (STATIC/ DHCP).
- **Subnet Mask:** A mask used to separate the part of the IP address that identifies the network and the part that identifies devices on that network.
- **IP Address:** A unique identifier assigned to each device on a network to enable communication within that network.
- **Gateway:** A device that acts as an entry or exit point for communication between different networks or between a network and the internet.



Select “Apply” to save the changes.

D Dual LAN Port Settings:

- **LAN Mode:** Selects network port configuration.
 - **Mode 1:** Both ASpeed video and Dante audio streams are routed through LAN1 (PoE).
 - **Mode 2:** ASpeed video stream runs on LAN1 (PoE), Dante audio stream runs on LAN2.
- **Dante VLAN IP Mode:** Specifies the IP assignment method for Dante VLAN (DHCP or Static).
- **Dante VLAN Subnet Mask:** Defines the subnet mask for Dante VLAN.
- **Dante VLAN Tag(1-4095):** Sets the VLAN ID for Dante traffic.



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- **LAN Mode Range:** Applies the selected LAN Mode to all the transmitters.
- **Dante VLAN IP Address:** Sets a static IP address for Dante VLAN (only if Static is selected).
- **Dante VLAN Gateway:** Sets the default gateway for Dante VLAN.
- **Dante VLAN:** Enables or disables Dante VLAN functionality.



Changing the LAN Mode or any Dante VLAN setting reboots the device to apply changes.



Select “Apply” to save the changes.

E Hardware Usage:

- **CEC Pin Usage:** Enables or disables CEC signal use on HDMI pins.



Any change in this section triggers a device reboot.

- **Dante Bridge:** Activates Dante audio bridging to allow audio from the Dante network to be used as input for the AV-over-IP system.
- **Transmission Mode:** Sets the video transmission type.
 - **Multicast:** One transmitter can stream to multiple receivers (all receivers must also be in multicast mode).
 - **Unicast:** One transmitter can stream to a single receiver (both transmitter and receiver must be in unicast mode).



This setting affects video streams only. Dante audio stream mode must be configured separately in [Dante Controller](#).

- **Capability of Amplifier On HDMI IN Port:** Declares whether the connected amplifier (via the HDMI IN port) supports ARC or eARC.
- **Network Interface Usage:** Defines the physical network interface in use (e.g., Copper or Fiber).



Select “Apply” to save the changes.

- F **RS-232 Settings:** This submenu lets the user to configure the settings for a serial communication. The user also will be able to turn “Serial Guest Mode” on or off. [Please refer to RS-232 Routing section to learn the types of RS-232 command transmission in the system.](#)



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- **RS-232 Command Relay:** When enabled, this feature disables the Receiver's Locked Signal Routing.
- **Baud Rate:** The speed at which data is transmitted between devices.
- **Stop Bits:** The number of bits used to indicate the end of a data character in serial communication (1bit / 2 bit).
- **Parity:** A method used to detect errors in transmitted data by adding an additional bit (NONE/ODD/EVEN).
- **Data Bits:** The number of bits used to represent each character of data in serial communication (5 to 8 bit).

 **Select “Apply” to save the changes.**

G Port Settings:

- **IR Voltage:** Sets the output voltage level for infrared control.
- **IO 1 Direction:** Configures I/O port 1 behaviour (Input/Output).
- **IO 2 Direction:** Configures I/O port 2 behaviour (Input/Output).
- **Relay 1:** Relay 1 status configuration (Open/Closed).
- **IO Voltage:** Sets the voltage level applied to the I/O ports.
- **IO 1:** Displays the current logical state of I/O Port 1 (High or Low).
- **IO 2:** Displays the current logical state of I/O Port 2 (High or Low).
- **Relay 2:** Relay 2 status configuration (Open/Closed).

H **Reboot:** Restarts the selected transmitter.

I **Reboot all transmitters:** Restarts all transmitters.

J **Replace:** Assigns a new device to replace one that is offline and factory reset.

K **Remove:** Unassigns the selected transmitter from the current project.

L **Remove all Transmitters:** Unassigns all the transmitters from the current project.

M **Factory Reset:** Restores the selected transmitter to default settings.

N **Factory Reset all Transmitters:** Resets all transmitters to factory defaults.



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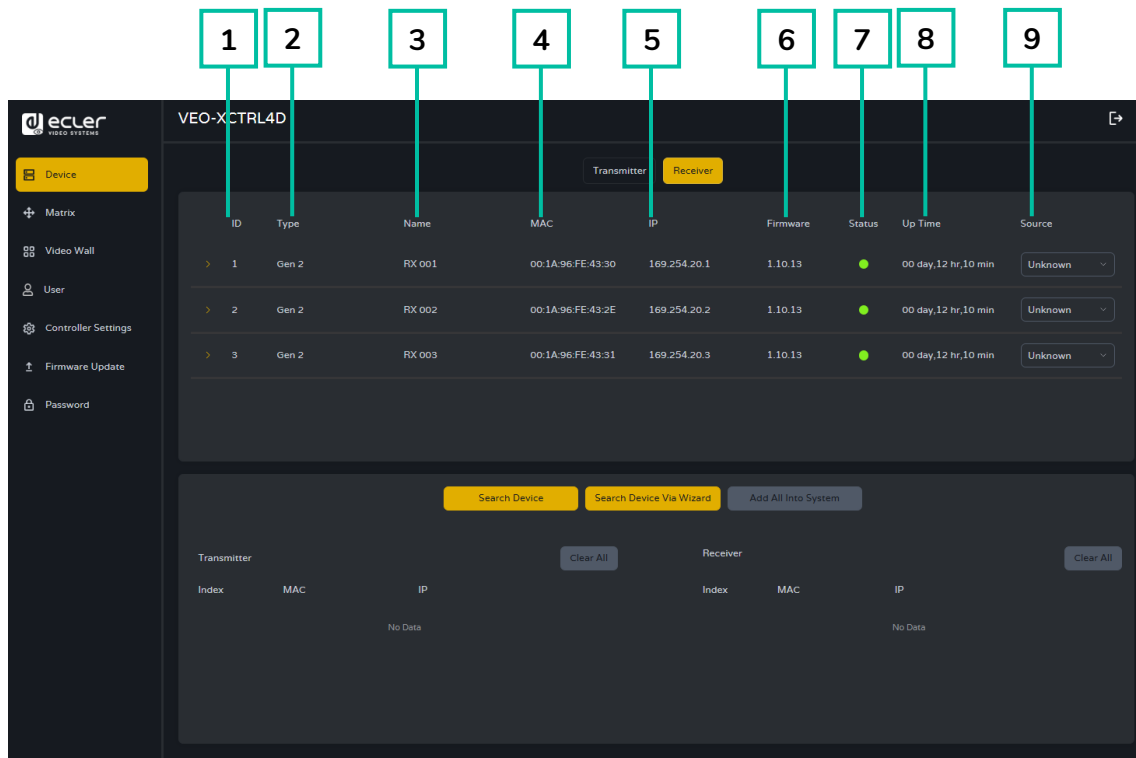
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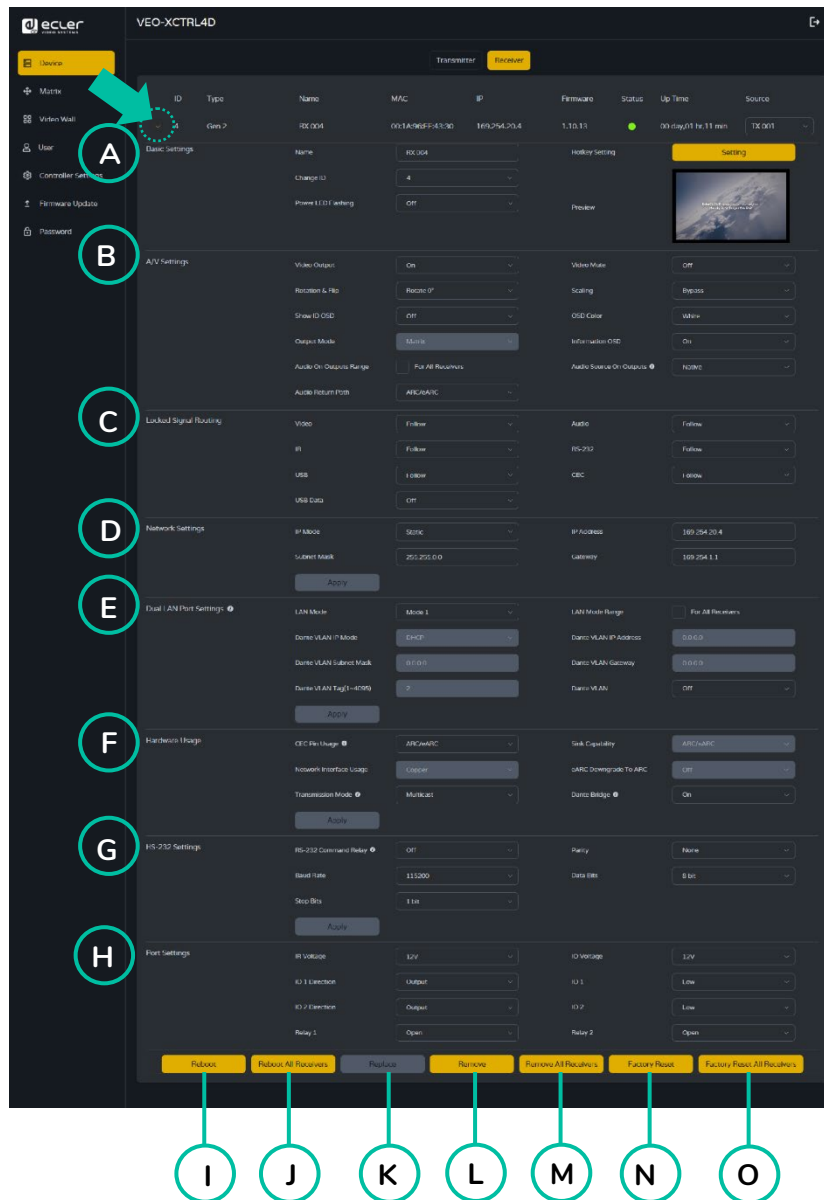
6.1.1.2 Receivers

On this page, the user can **setup the current Receiver as required**.



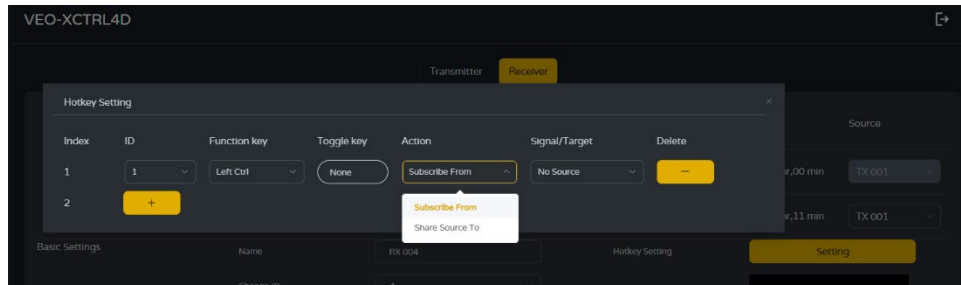
1. **ID:** The ID of the current device. ID's are never duplicated.
2. **Type:** The type of device. "Gen 2" for the receiver box.
3. **Name:** The name of the current device. Must be unique.
4. **MAC:** The MAC Address of the current device.
5. **IP:** The IP Address of the current device.
6. **Firmware:** Current firmware version installed on the device.
7. **Status:** Device availability indicator:
 - **Green:** Online and operational.
 - **Grey:** Offline or powered down.
 - **Red:** Connected but temporarily unavailable (e.g., rebooting, factory reset, or syncing).
8. **Up Time:** The time the current device has been up.
9. **Source:** The signal source (transmitter) of the current device, if any.

 Click the arrow icon placed left to "ID" column to see the expanded management menu to check the detail information about the current receiver and tweak as needed, as shown in below.



A. Basic settings:

- **Name:** The name of the current device. (Note: Name can't be duplicated.).
- **Change ID:** The ID of the current device. (Note: ID is never duplicated.)
- **Power LED Flashing:** Sets the blinking behaviour of the power LED:
 - **OFF:** LED remains static.
 - **Flashing:** LED blinks continuously.
 - **Flashing 90s then OFF:** LED blinks for 90 seconds, then turns off.
- **Hotkey Setting:** The Hotkey Setting section allows the user to assign custom keyboard shortcuts to trigger specific actions on the receiver. This feature provides quick control without needing to access the web interface or external control systems.



- **Index:** Entry number used to organize multiple hotkey configurations.
- **ID:** Unique identifier for each hotkey setup.
- **Function Key:** The main key to be used in the hotkey combination (e.g., Ctrl, Alt, Shift).
- **Toggle Key:** Optional secondary key for combination (e.g., "1", "A"). If set to "None", only the function key will be used.
- **Action:** Defines what the hotkey will do when triggered:
 - **Subscribe From:** The receiver switches to the selected transmitter.
 - **Share Source To:** (Used on transmitters) Shares the current source with another device.
- **Signal/Target:** Specifies the transmitter that the receiver will switch to when the hotkey is used.
- **Delete:** Removes the corresponding hotkey entry.

 To add more hotkeys, click the "+" button. To remove an entry, click the "-" button next to it.

- **Preview:** Displays a preview of the content from the linked transmitter.

B A/V Settings:

- **Video Output:** Enables or disables the HDMI® output of the device.
- **Video Pause:** Freezes the last video frame displayed on the screen.
- **No Video Case:** Defines a timeout (in minutes) after which the HDMI® output is disabled if no video signal is detected.
- **Rotation & Flip:** Rotates the output image in steps (0°, 90°, 180°, or 270°).
- **Show ID OSD:** Displays the device's Product ID as an on-screen display (OSD).
- **Output Mode:** Sets the operation mode of the device: Matrix or Videowall.
- **Audio On Outputs Range:** Defines the audio output behaviour across all receivers.
- **Audio Return Path:** Selects the audio return method: ARC/eARC or S/PDIF.
- **Video Mute:** Replaces the current video with a black screen.
- **Scaling:** Configures the output resolution of the receiver.

- **OSD Color:** Changes the colour of the on-screen display elements.
- **Information OSD:** Sets the display of device information (options: Off, On, All Receivers, All Transmitters).
- **Audio Source On Outputs:** Defines the audio source for both HDMI and analog outputs on the receiver.
 - **Native:** Uses the AV over IP system's native audio stream.
 - **Dante:** Uses audio from the Dante network.

 **When managing audio routing through Dante Controller, this option must be set to "Dante".**

C Locked Signal Routing: Enables independent signal paths (Video, Audio, Serial, etc.) between devices for fixed routing or control system integration.

- **Video:** When set to FOLLOW, the video signal is received from the currently selected transmitter.
- **IR:** Infrared control signal. FOLLOW routes the IR from the current transmitter.
- **USB:** Routes USB signals. FOLLOW syncs it with the active transmitter.
- **USB Data:** This setting can only be On or Off. When On, USB data communication is enabled between the devices.
- **Audio:** Routes audio signals. When set to FOLLOW, the signal is taken from the current transmitter.
- **RS-232:** Serial control signal routing. FOLLOW routes it from the active transmitter.
- **CEC:** HDMI CEC signal routing. FOLLOW passes CEC commands from the selected transmitter.

 **When the drop-down box shows "FOLLOW", the corresponding signal will come from current transmitter device.**

 **When Serial Guest Mode is disabled, Locked Signal Routing is enabled.**

D Network Settings:

- **IP Mode:** The configuration defining how IP addresses are assigned in a network (STATIC/ DHCP).
- **Subnet Mask:** A mask used to separate the part of the IP address that identifies the network and the part that identifies devices on that network.



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- **IP Address:** A unique identifier assigned to each device on a network to enable communication within that network.
- **Gateway:** A device that acts as an entry or exit point for communication between different networks or between a network and the internet.

 **Select “Apply” to save the changes.**

E Dual LAN Port Settings:

- **LAN Mode:** Selects network port configuration.
 - **Mode 1:** Both ASpeed video and Dante audio streams are routed through LAN1 (PoE).
 - **Mode 2:** ASpeed video stream runs on LAN1 (PoE), Dante audio stream runs on LAN2.
- **Dante VLAN IP Mode:** Specifies the IP assignment method for Dante VLAN (DHCP or Static).
- **Dante VLAN Subnet Mask:** Defines the subnet mask for Dante VLAN.
- **Dante VLAN Tag(1-4095):** Sets the VLAN ID for Dante traffic.
- **LAN Mode Range:** Applies the selected LAN Mode to all the receivers.
- **Dante VLAN IP Address:** Sets a static IP address for Dante VLAN (only if Static is selected).
- **Dante VLAN Gateway:** Sets the default gateway for Dante VLAN.
- **Dante VLAN:** Enables or disables Dante VLAN functionality.

 **Changing the LAN Mode or any Dante VLAN setting reboots the device to apply changes.**

 **Select “Apply” to save the changes.**

F Hardware Usage:

- **CEC Pin Usage:** Enables or disables CEC signal use on HDMI pins.

 **Any change in this section triggers a device reboot.**

- **Network Interface Usage:** Defines the physical network interface in use (e.g., Copper or Fiber).
- **Transmission Mode:** Sets the video transmission type.



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- **Multicast:** One transmitter can stream to multiple receivers (all receivers must also be in multicast mode).
- **Unicast:** One transmitter can stream to a single receiver (both transmitter and receiver must be in unicast mode).



This setting affects video streams only. Dante audio stream mode must be configured separately in Dante Controller.

- **Sink Capability:** Indicates ARC/eARC support of the connected HDMI device.
- **eARC Downgrade To ARC:** Enables or disables fallback to ARC when eARC is unsupported, ensuring continued audio functionality.
- **Dante Bridge:** Activates Dante audio bridging to allow audio from the Dante network to be used as input for the AV-over-IP system.



Click “Apply” to keep the changes.

G RS-232 Settings: This submenu allows the user to configure the settings for a serial communication. Additionally, the user can enable or disable “Serial Guest Mode”. [For further information on the types of RS-232 command transmission in the system, please refer to the RS-232 Routing section.](#)

- **RS-232 Command Relay:** When enabled, this feature disables the Receiver's Locked Signal Routing.
- **Baud Rate:** The speed at which data is transmitted between devices.
- **Stop Bits:** The number of bits used to indicate the end of a data character in serial communication (1bit / 2 bit).
- **Parity:** A method used to detect errors in transmitted data by adding an additional bit (NONE/ODD/EVEN).
- **Data Bits:** The number of bits used to represent each character of data in serial communication (5 to 8 bit).



Click “Apply” to keep the changes.

H Port Settings:

- **IR Voltage:** Sets the output voltage level for infrared control.
- **IO 1 Direction:** Configures I/O port 1 behaviour (Input/Output).
- **IO 2 Direction:** Configures I/O port 2 behaviour (Input/Output).
- **Relay 1:** Relay 1 status configuration (Open/Closed).



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- **IO Voltage:** Sets the voltage level applied to the I/O ports.
- **IO 1:** Displays the current logical state of I/O Port 1 (High or Low).
- **IO 2:** Displays the current logical state of I/O Port 2 (High or Low).
- **Relay 2:** Relay 2 status configuration (Open/Closed).

- I Reboot:** Restarts the selected receiver.
- J Reboot all receivers:** Restarts all receivers.
- K Replace:** Assigns a new device to replace one that is offline and factory reset.
- L Remove:** Unassigns the selected receiver from the current project.
- M Remove all Receivers:** Unassigns all the receivers from the current project.
- N Factory Reset:** Restores the selected receiver to default settings.
- O Factory Reset all Receivers:** Resets all receivers to factory defaults.

6.1.1.3 RS-232 Routing

“Serial Guest Mode” can be enabled/disabled on the Transmitter / Receiver web setting page. See chapter [Transmitters](#) or [Receivers](#) section to assign the RS-232 type of routing:

- **ON:** turned on it allows the RS-232 connection of a device to be sent over the IP network (IP / RS232 command in, to RS-232 out). This will allow third party control systems the ability to send an RS-232 or IP command to the VEO-XCTRL4D and a RS-232 command to be sent out of a Receiver or a Transmitter as a result.

 It is recommended turning “Serial Guest Mode” on and off when required as serial commands being sent into the VEO-XCTRL4D will be forwarded to every device that has it enabled. When Serial Guest Mode is enabled, Locked Signal Routing is disabled.

- **OFF:** a static fixed routing for distributing two-way RS-232 commands between a set of Transmitters and all the associated Receivers that have Fixed Routing configured. So, this serial connection allows point to point, point to multipoint and multipoint to multipoint serial bidirectional transmitting scenarios.

 When Serial Guest Mode is disabled, Locked Signal Routing is enabled.



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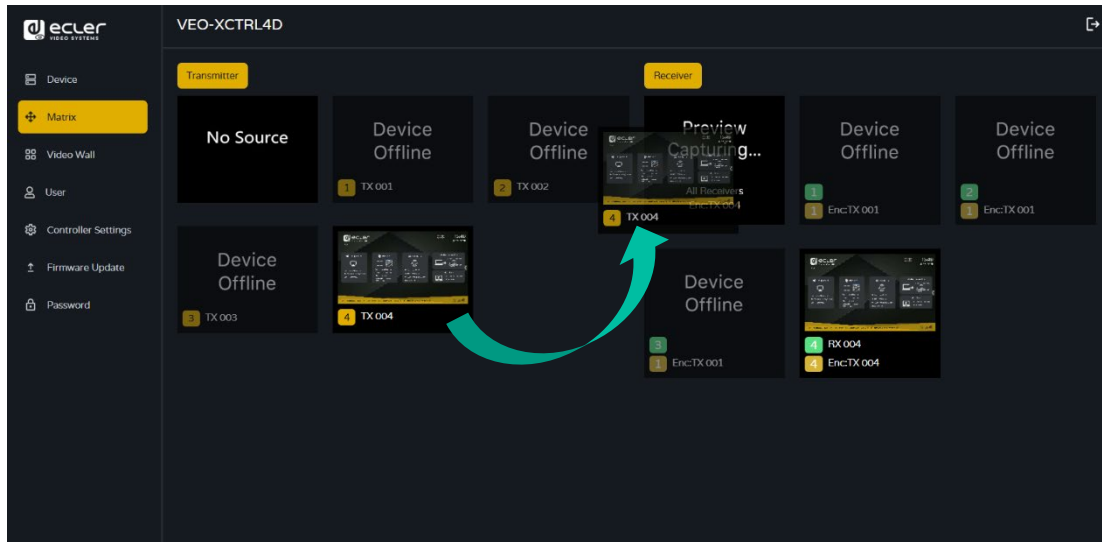
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6.1.2 Matrix

This page allows the selection and preview of video content from any configured Transmitter or Receiver in the system. The section is divided into two subsections: Transmitter and Receiver, each displaying a square preview for each device. The user can drag and drop a Transmitter to a Receiver to visualize the content.



Assigning a Transmitter to Receivers (Drag and Drop)

1. **Transmitter Section:** The Transmitter subsection displays all configured transmitters. Each transmitter is represented by a square preview with the device name. If a Transmitter is linked but not connected now, its preview appears in a greyed-out state.
2. **Receiver Section:** The Receiver subsection shows all configured receivers. Each receiver is represented by a square preview, with the receiver's name on the first line and the name of the assigned Transmitter on the second line. If a Receiver is linked but not connected, its preview also appears in a greyed-out state.
3. **Drag and Drop:**
 - **To assign a Transmitter to one or more Receivers,** the user clicks and drags the square preview of the Transmitter from the Transmitter subsection.
 - **The Transmitter can be dropped onto the Receiver subsection:**
 - Dropping the Transmitter onto the Receiver section assigns it to all receivers at once.
 - Dropping the Transmitter onto a specific Receiver assigns it to that particular Receiver.

4. "No Source" Option (Unassign a Transmitter):

In the Transmitter subsection, there is an option labelled "No Source". **This option allows the user to unassign a Transmitter from any Receiver.** By selecting the "No Source" option, the user can remove the Transmitter from a specific Receiver or unassign it from all Receivers simultaneously.

! When a Receiver is assigned to a Video Wall, it will not appear in the Receiver subsection. A Receiver can either function as part of a Video Wall or as a standalone Receiver, but not both simultaneously. This ensures that the Receiver is dedicated to a single function at any given time. **Additionally, when a group of Receivers is assigned to a Video Wall, they are removed from the Matrix section.** Once the Video Wall is removed, the Receivers will become available again in the Matrix section.

This also applies to the "All Receivers" option, where dragging and dropping a Transmitter automatically assigns it to all available Receivers at once.

6.1.3 Video Wall

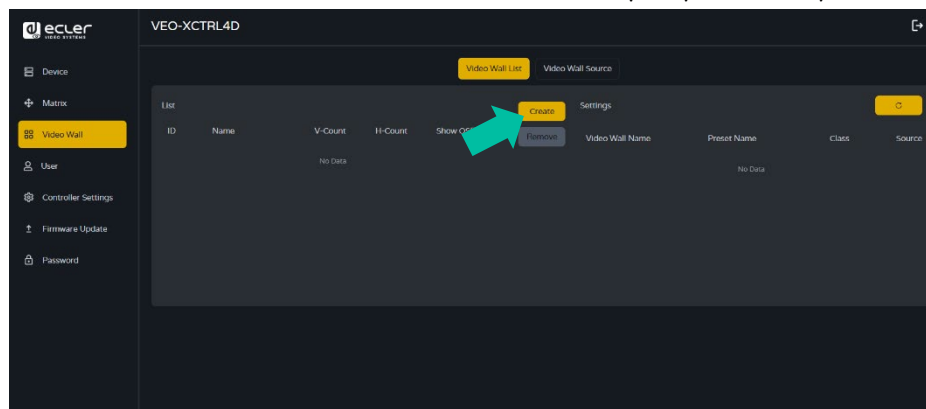
This section is divided in two pages. In each one, allows the user to create and manage the listed video walls and the source selected in the videowall.

6.1.3.1 Video Wall List

On this page, the user can **create and configure videowall** as required.

- Each Receiver can be set into a part of a videowall layout.
- Each system can contain multiple video walls with different sizes.
- Each video wall can be assigned to different screens and different layouts that range from 1x2 up to 9x9.

The controller creates and manages the videowall configurations and provides a simplified control interface and API commands to third party control system.



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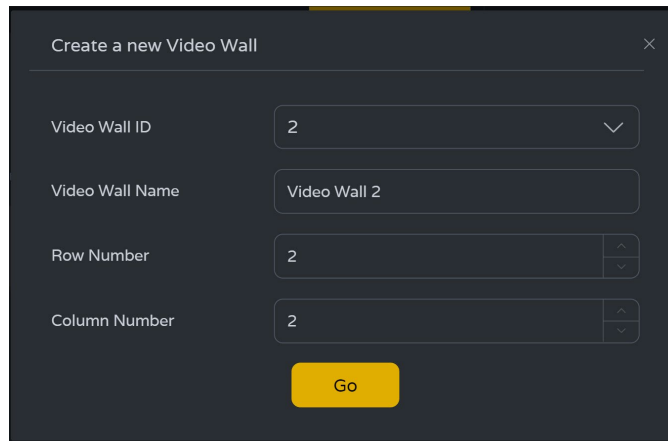
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1. Click “Create”, then a pop-up window will be shown as below.

The user can set the Video Wall ID, Name, Horizontal and Vertical panel numbers.

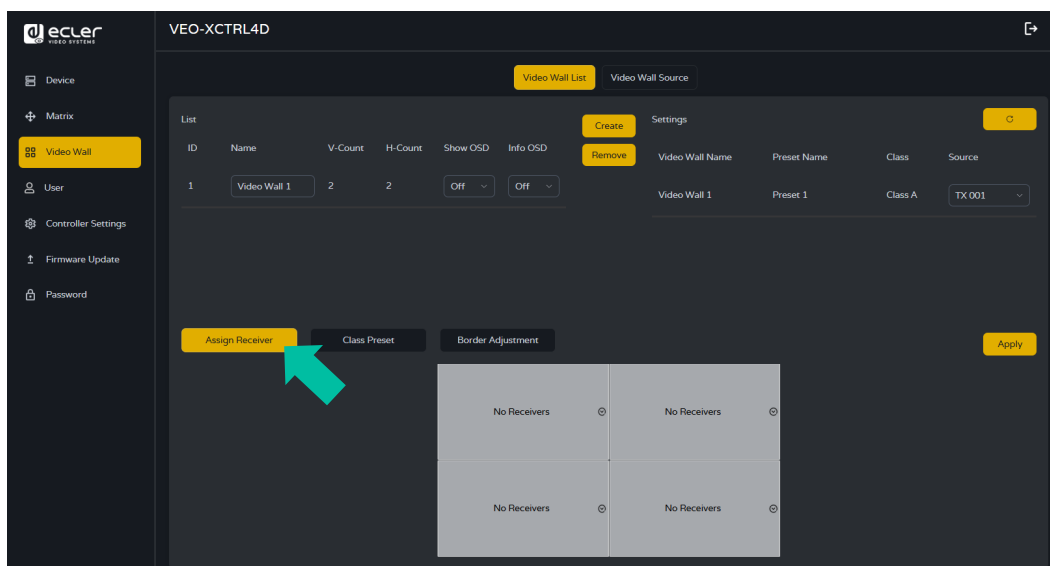
Then click “Create” to create the Video Wall.

 Remove button is used to delete the videowall set up.

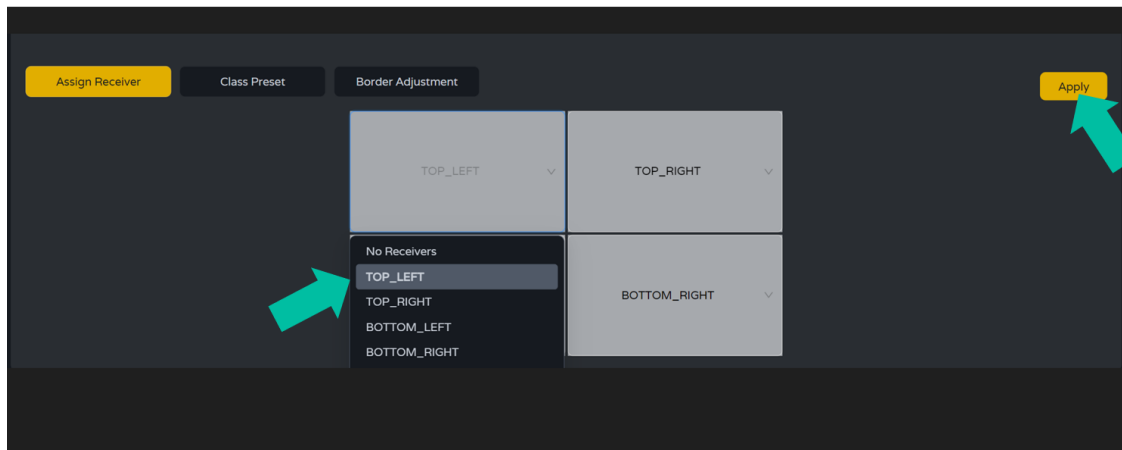


 Up to 9 videowalls can be created.

2. Select the video wall that you want to configure on the “Video Wall List”, then click “Assign Receiver” to enter the Receiver assignment page.



- Click each screen to select the corresponding Receiver device, then click “Apply”.

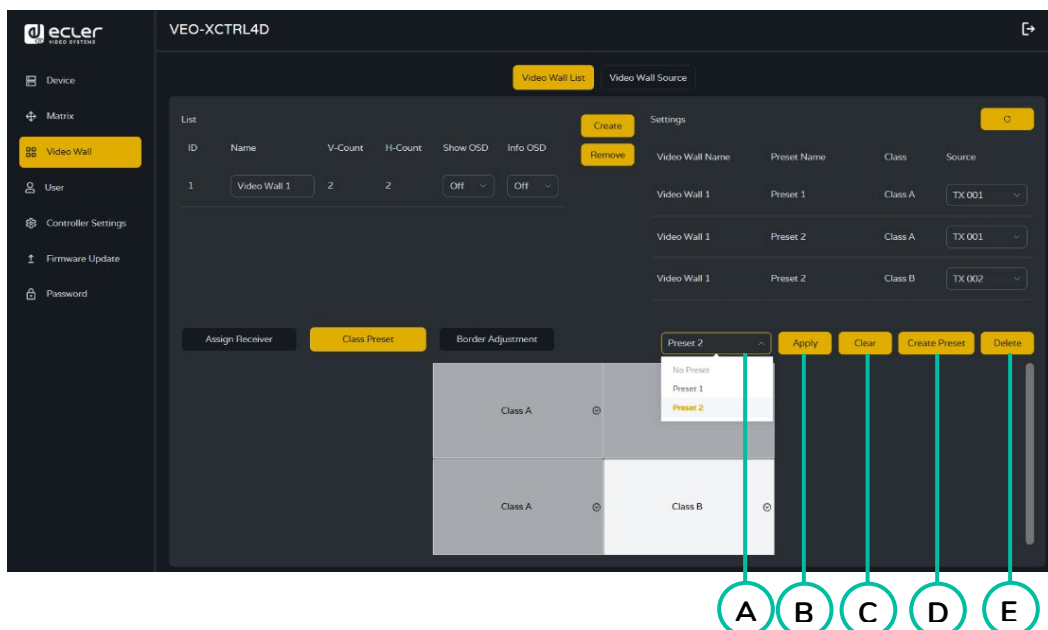


! Before assigning a Receiver to a Video Wall, it must not be linked to any Transmitter in the Matrix section. Receivers can only operate in one mode at a time either as part of a video wall or as standalone receivers in the matrix.

! A Receiver can only be assigned to one videowall.

! When a group of receivers is assigned to a video wall, they are removed from the matrix section. When the video wall is removed, the receivers will become available in the matrix section again.

- Click “Class Preset” to enter the class configuration page, then click each screen to select the corresponding Class as required (the same class name will form a video wall, and a regular or irregular video wall can be created by Class Configuration). Then click “Apply”.



- A. **Preset name:** Dropdown menu with all the presets' names.
- B. **Apply:** when changes are made in the current preset, apply to the project.
- C. **Clear:** Clears the current video wall preset and sets up all the displays in the same class.
- D. **Create Preset:** to create a new preset.
- E. **Delete:** Delete the current preset.



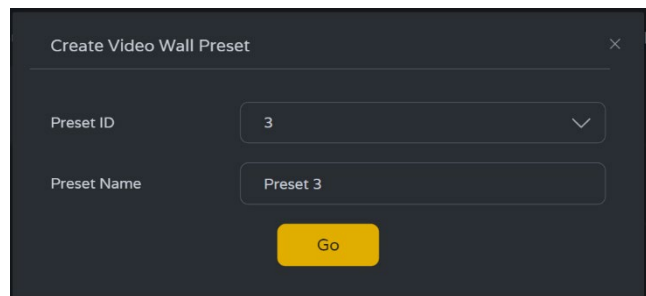
The user can create a class preset and edit it selecting between the presets available.

- **Main mode:** the entire video wall is assigned to the same class.
- **Picture in picture mode:** allows combination between different sources in the same video wall structure (main and a secondary attendees).

5. Click “Create Preset”, then a pop-up window will be shown as below.

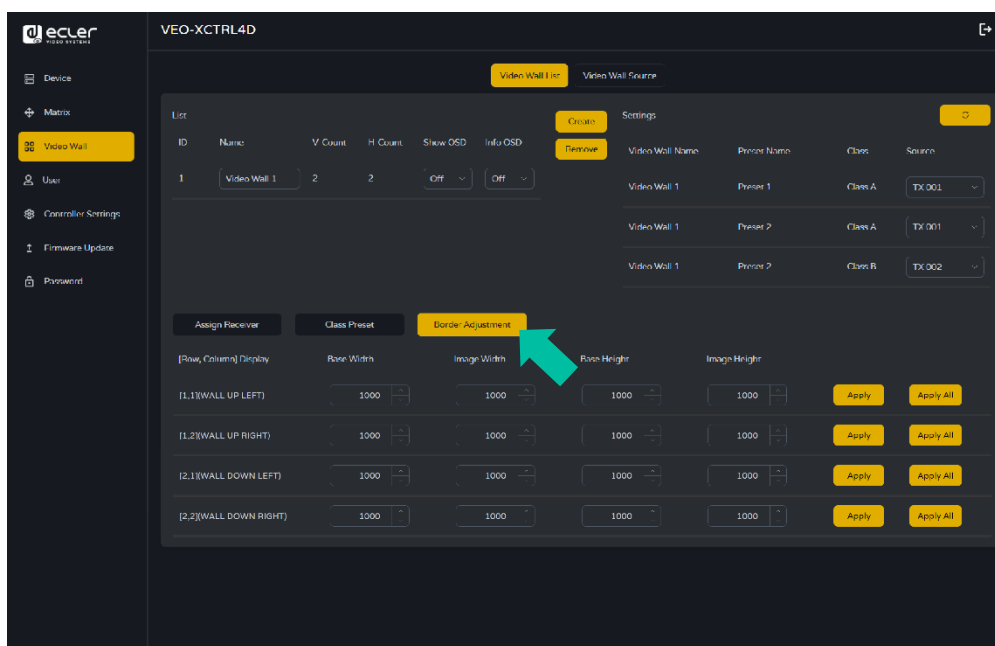
Class ID and Name can be set.

Then click “Go” to create the Class Preset.




Up to 7 configurations can be set up for different application scenarios.

6. Click “Border Adjustment” to enter the adjustment configuration of each display. This allows the user to adjust the width and the height of the display.



[Row, Column] Display	Row Width	Image Width	Row Height	Image Height	Apply	Apply All
[1,1](WALL UP LEFT)	1000	1000	1000	1000	Apply	Apply All
[1,2](WALL UP RIGHT)	1000	1000	1000	1000	Apply	Apply All
[2,1](WALL DOWN LEFT)	1000	1000	1000	1000	Apply	Apply All
[2,2](WALL DOWN RIGHT)	1000	1000	1000	1000	Apply	Apply All



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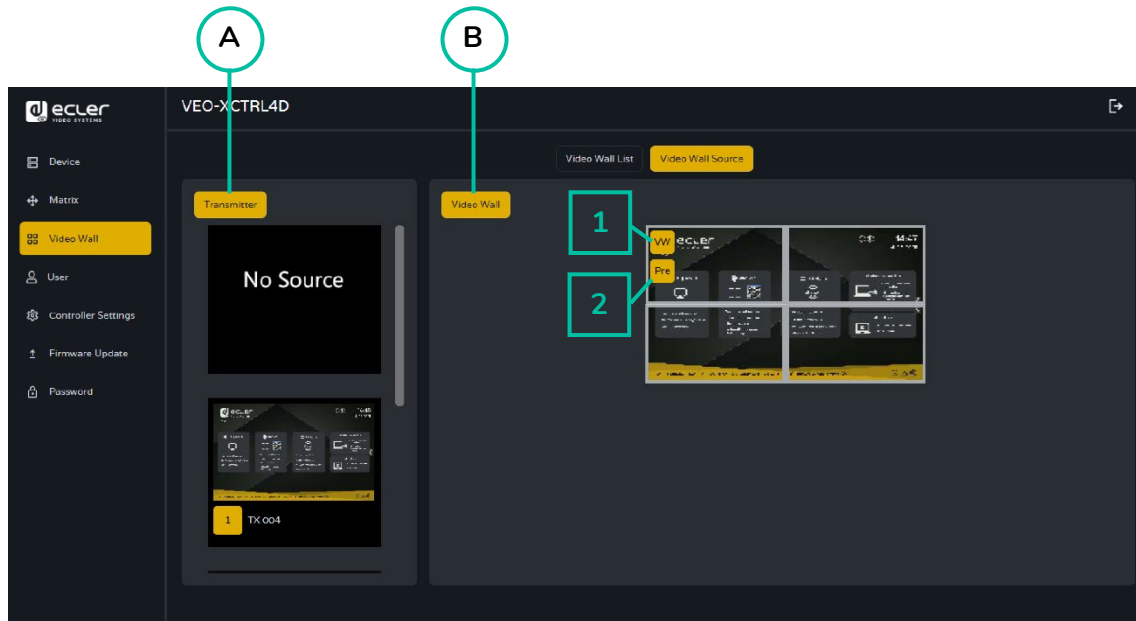
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6.1.3.2 Video Wall Source

This page allows to **select different videowalls and class preset configurations** that have been set up on the “Video Wall List” page.



- A. **Transmitter:** Column list of the Transmitters' preview of the project.
- B. **Video Wall:** Current Video Wall preview.

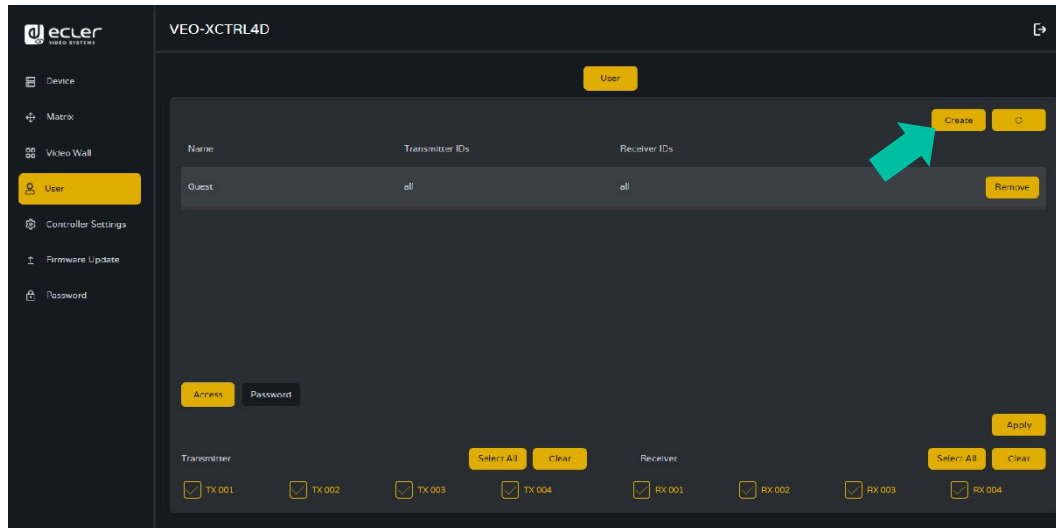
1. **VW:** a Video Wall project can be selected.
2. **Pre:** Class preset can be selected.

 The "No Source" option in this section functions in the same way as in the Matrix section. It enables the remove the video source from one or more Receivers within the video wall.

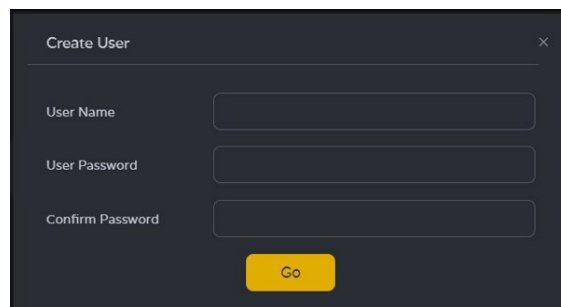
 Dragging Transmitters at the left column of the page and drop the device to the videowall will assign the selected Transmitter to the chosen Receiver (and associated screen on the video wall composition).

6.1.4 User

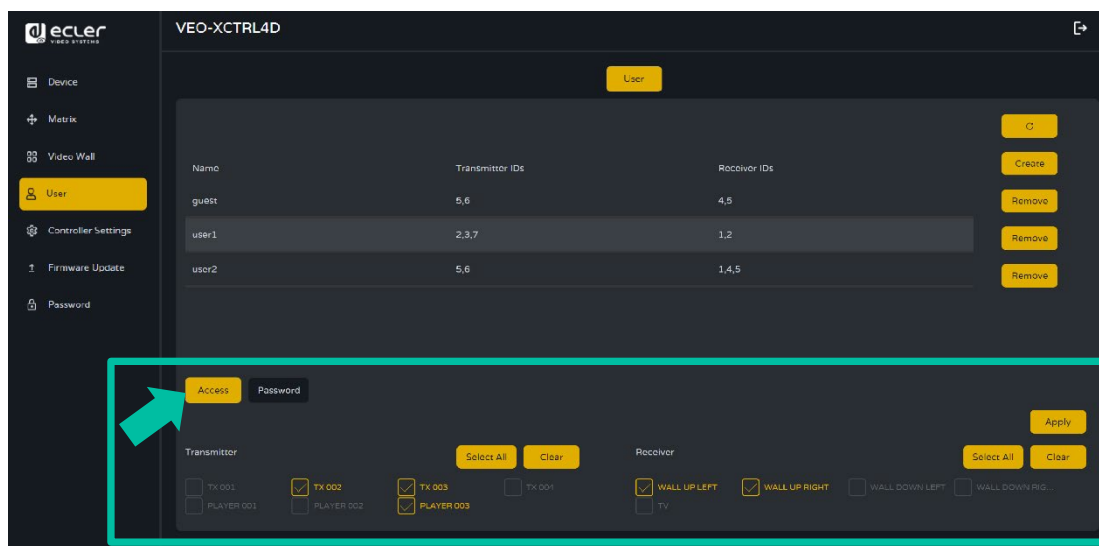
On this page, **new user accounts can be added**. The controller web GUI can be setup with different users each with their own control privileges. This will allow the user to create a unique login and feature settings such as inputs and outputs that each person has access to.



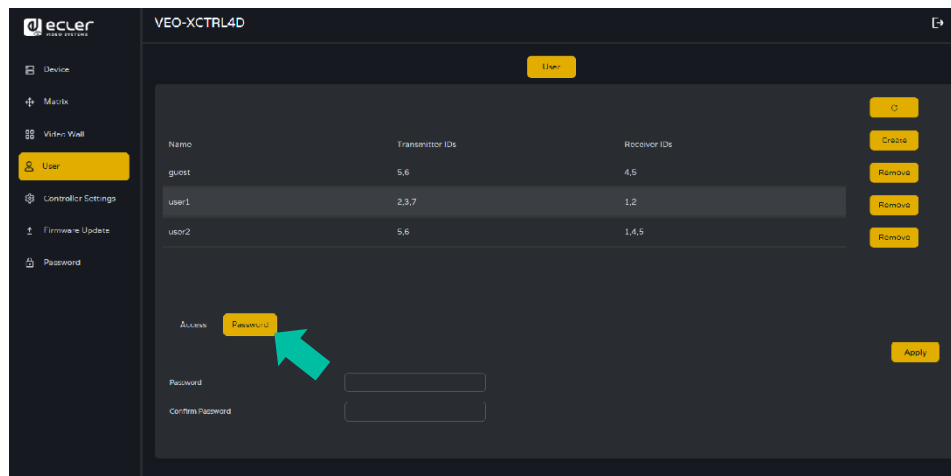
1. Click “Create” to create a new user.



2. Click “Access” button to manage user access privileges. The user can choose which transmitters and receivers the new user he has created can access. Click “Apply” once the configuration of the devices needed on the user is complete to save changes.



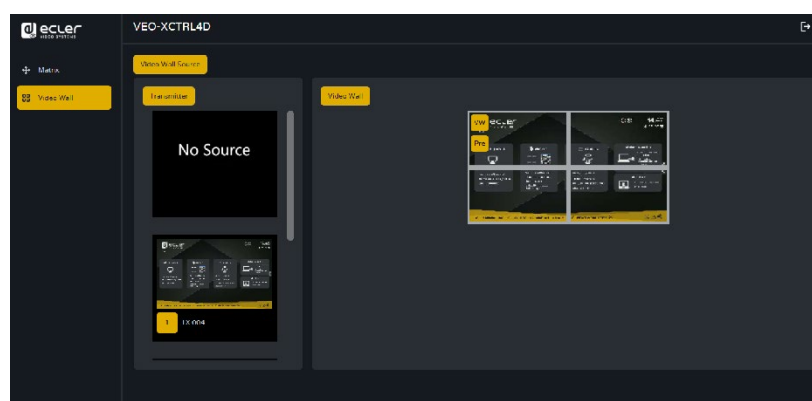
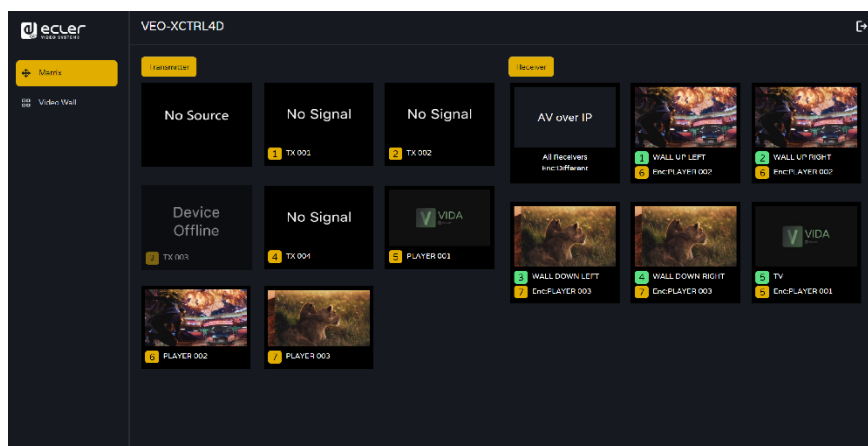
- Click "Password" button and select the user profile to change the password.



6.1.4.1 User interface

Log Out the Admin interface and Log In [with the credentials set up in the previous step.](#)

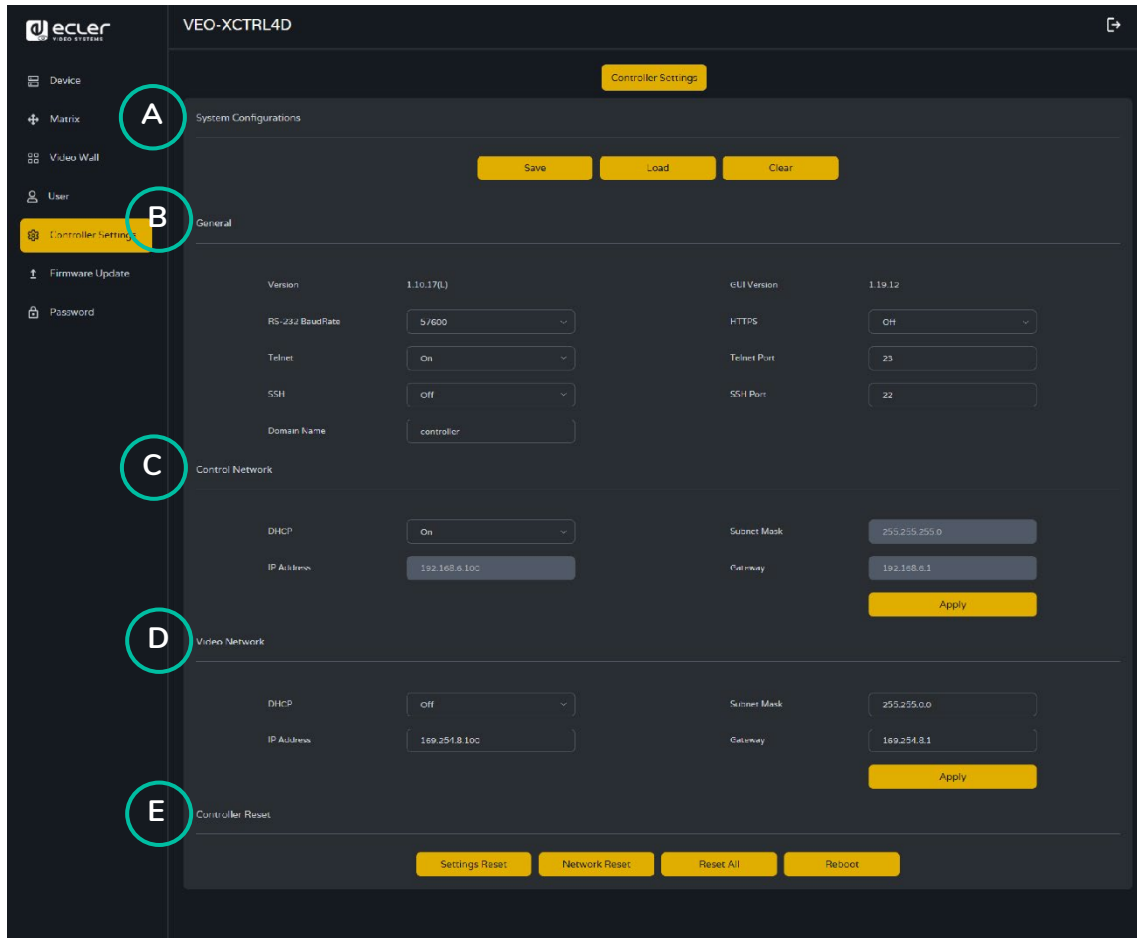
Once Logged In, the user will have access to Matrix and Video Wall sections and that will allow the user to drag and drop any source in both sections.



Please note that the user interface will only display the transmitters and receivers that have been previously selected.

6.1.5 Controller Settings

On this page, the user can configure communication and network settings for the control and video LAN networks as required.



The screenshot shows the 'Controller Settings' page for the 'VEO-XCTRL4D' device. The left sidebar contains navigation links: Device, Matrix, Video Wall, User, Controller Settings (highlighted), Firmware Update, and Password. The main content area is titled 'System Configurations' and includes a 'Controller Settings' button. Below this are three tabs: 'General', 'Control Network', and 'Video Network'. The 'General' tab is active, showing fields for Version (1.10.176), RS-232 BaudRate (57600), Telnet (On), SSH (Off), Domain Name (controller), GLI Version (1.19.12), HTTPS (On), Telnet Port (23), and SSH Port (22). The 'Control Network' tab shows DHCP (On), IP Address (192.168.6.100), Subnet Mask (255.255.250.0), and Gateway (192.168.6.1). The 'Video Network' tab shows DHCP (Off), IP Address (169.254.8.100), Subnet Mask (255.255.0.0), and Gateway (169.254.8.1). At the bottom, there is a 'Controller Reset' section with buttons for Settings Reset, Network Reset, Reset All, and Reboot.

A. System Configurations:

- Click “**Save Project**” to save the project file (config_file.json), so that you can use the saved project next time without scanning devices again.
- Click “**Load Project**” to load the project file (config_file.json) to recover the saved project.
- Click “**Clear Project**” to clear the current project, then you will need to setup devices again.

B. General:

- **Version:** Identifies the specific release or iteration of a software or hardware product.
- **RS-232 BaudRate:** The speed at which data is transmitted over a RS-232 serial connection.
- **Telnet:** A network protocol used for remote terminal access to devices or systems.

- **SSH:** Secure Shell, a network protocol for secure remote access and control of devices or systems.
- **Domain name:** allows the user to change the domain tag that can be used instead of the current IP address to enter the Web GUI and entering the new name.
- **GUI Version:** A graphical user interface (GUI) representation of a software application's version.
- **HTTPS:** A secure communication protocol used over the internet, providing encryption and authentication.
- **Telnet Port:** The network port used for Telnet communication.
- **SSH Port:** The network port used for SSH communication.

C. **Control Network:** This section allows the user to set the network configuration and DHCP parameters for the VEO-XCTRL4D “Control LAN” port.

 Select “Apply” to save the changes.

D. **Video Network:** This section allows the user to set the network configuration for the VEO-XCTRL4D “Video LAN” port.

 Select “Apply” to save the changes.

E. **Controller Reset:**

- **Settings Reset:** Restores the controller to default settings.
- **Network Reset:** Restores the network configuration to default settings.
- **Reset All:** Restores all devices to default settings.
- **Reboot:** Restarts all devices.



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6.1.6 TCP Command List

To make use of TCP 3rd party remote control, it is necessary to enter current IP address of VEO-XCTRL4D and TELNET port (23 by default) configured to access the device.

 To access to telnet the user must write “telnet [controller IP]”. Then, to visualize the data of all the devices connected to the controller, execute "get status".

 The list of commands below is accessible through a Telnet session utilizing the command 'help'.

 It is important to add carriage return (<CR>,\r,0x0D) and line feed (<LF>,\n,0x0A) characters at the end of each command.

How do you have to enter the command?

To launch a remote control command, it needs to be written as follows:

“<Command> [Param 1] <Variable> [Param 2]”

[Param 1], [Param 2] will not always be required for every command.

EXAMPLE OF USE:

Switch the channel of transmission of a VEO-XRI4D (Rx) to receive the content of a VEO-XTI4D (Tx) :

- VEO-XTI4D: "Local ID" parameter defines a unique ID for the transmitter as well as the transmission channel.
- VEO-XRI4D: "Local ID" parameter defines a unique ID for the receiver. "Source Local ID" defines the transmission channel in which the receiver is tuned to.

 For further details see [Startup and Operation](#) section.

The command to use is “SET DEC [dec] SWITCH [enc] ALL”

“SET DEC 1 SWITCH 2 ALL\r\n”

VEO-XRI4D with Local ID 1 will switch its “Source local ID” to 2, tuning all services (video, audio, RS-232) to channel transmission 2 assigned the VEO-XTI4D with “Local ID” 2.

System Control		
Command	Variable	Description
SET IR [state]	state = [ON, OFF]	Set controller IR control ON or OFF.
SET RS232BAUDRATE [a]	a = [0:115200, 1:57600, 2:38400, 3:19200, 4:9600]	Set RS-232 baud rate to a bps.
SET REBOOT		Reboot controller.
SET RESET		Reset controller system settings
	NETWORK	Reset controller network settings.
	ALL	Reset controller system network

Transmitter and Receiver Control		
Command	Variable	Description
SET ENC [enc] ⁽¹⁾ PRESET or SET DEC [dec] ⁽²⁾ PRESET	IPMODE [mode] • mode=[0:AUTOIP 1:DHCP 2:STATIC]	Preset transmitter or receiver ip mode.
	START IP [start address] • start address = [xxx.xxx.xxx.xxx]	Preset transmitter or receiver start ip address.
	END IP [end address] • end address = [xxx.xxx.xxx.xxx]	Preset transmitter or receiver end ip address.
	GW [gateway ip] • gateway ip=[xxx.xxx.xxx.xxx]	Preset transmitter or receiver gateway ip address.
	SM [subnetmask] • subnetmask = [xxx.xxx.xxx.xxx]	Preset transmitter or receiver subnet mask address.
	APPLY	Apply the transmitter or receiver preset ip configuration.
SET ENC [enc] ⁽¹⁾ IPMODE or SET DEC [dec] ⁽²⁾ IPMODE	DHCP	Set the transmitter or receiver dhcp mode.
	STATIC	Set the transmitter or receiver static ip address.
SET ENC [enc] ⁽¹⁾ or SET DEC [dec] ⁽²⁾	STATIC IP [ip address] • ip address = [xxx.xxx.xxx.xxx]	Set the transmitter or receiver static ip address.
	STATIC GATEWAY [gateway ip] • gateway ip=[xxx.xxx.xxx.xxx]	Set the transmitter or receiver static gateway address.
	STATIC MASK [subnetmask] • subnetmask = [xxx.xxx.xxx.xxx]	Set the transmitter or receiver static subnet mask address.
	NETWORK REBOOT	Set the transmitter or receiver network reboot.
	ID [id] • id = [1..762]	Set the index ID of the transmitter or receiver.
	DELETE	Delete the transmitter or receiver in the current configuration.
	REBOOT	Set the transmitter or receiver reboot.
	RESET	Set the transmitter or receiver factory reset.
	NAME [name] • name: max 16 characters	Set the name of the transmitter or receiver.
	LED [state] • state = [ON, OFF]	Set the transmitter or receiver flash power LED or disable flash power LED.
	LED ON 90	Set the transmitter or receiver flash power LED timeout in 90 seconds.
	FPLED [fl] • fl: [0: Always On 9: On 90s]	Set the transmitter or receiver front panel LED automatic off time.

	GUEST [state] BR [br] BIT [bit] • state = [ON, OFF] • br = [0:300 1:600 2:1200 3:2400 4:4800 5:9600 6:19200 7:38400 8:57600 9:115200] • bit = Data Bits + Parity + Stop Bits example: 8n1 Data Bits=[5...8], Parity=[n o e] Stop Bits=[1..2]	Set the transmitter or receiver serial guest configuration.
	GUEST	Start serial guest mode to transmitter "enc" or receiver "dec"
	IR VOL [vol] • vol = [5V, 12V]	Set the transmitter or receiver IR voltage 5V or 12V.
EXITGUEST		To close guest mode
GET ENC [enc]⁽¹⁾ or GET DEC [dec]⁽²⁾	STATUS	Get the transmitter or receiver Status.
SET ENC [enc] ⁽¹⁾	STREAM BITRATE [rate] • rate = [0:1Mb 1:4Mb 2:8Mb 3:16Mb 4:20Mb]	Set the transmitter stream encoding bitrate.
	AUDIO FORMAT [format] • format = [PCM, AAC]	Set the transmitter audio encoding format PCM or AAC.
	AUDIO INPUT [input] • input = [HDMI, ANA]	Set the transmitter audio input HDMI or embedded analogue L/R.
	EDID COPY [dec] ⁽²⁾	Set the transmitter EDID copy from receiver.
	EDID DEFAULT [edid] • edid = 00: HDMI 1080p@60Hz, Audio 2CH PCM 01: HDMI 720p@60Hz, Audio 2CH PCM 02: DVI 1280x1024@60Hz, Audio None 03: DVI 1920x1080@60Hz, Audio None 04: DVI 1920x1200@60Hz, Audio None 05:HDMI 1920x1200p@60Hz, Audio 2CH PCM 06: Copy EDID 07: User EDID 1 08: User EDID 2	Set the transmitter Default EDID.

SET DEC [dec] ⁽²⁾ SWITCH [enc] ⁽¹⁾	ALL	Set the receiver switch all signals. Note: enc=0 mean no source in this case.
	VIDEO	Set the receiver switch video only signals.
	IR	Set the receiver switch IR only signals.
	RS232	Set the receiver switch RS232 only signals.
	USB	Set the receiver switch USB only signals.
SET DEC [dec] ⁽²⁾ OUTPUT	[state] state = [ON, OFF]	Set the receiver output ON or OFF.
	OSD [state] state = [ON, OFF]	Set the receiver output to show ID OSD or hide ID OSD.
	OSD ON 90	Set the receiver output show ID OSD timeout in 90 seconds.
	OSD COLOR [co] • co = [0:WHITE 1:GRAY 2:BLACK 3:RED 4:MAROON 5:YELLOW 6:OLIVE 7:LIME 8:GREEN 9:AQUA 10:TEAL 11:BLUE 12:NAVY 13:FUCHSIA 14:PURPLE]	Set the receiver output OSD color.
	RESOLUTION [res] • res = [0:Bypass 1:1080p@60 2:1080p@50 3:1080p@30 4:1080p@25 5:1080p@24 6:720p@60 7:720p@50 8:576p@50 9:480p@60 10:640x480@60 11:800x600@60 12:1024x768@60 13:1280x800@60 14:1280x1024@60 15:1366x768@60 16:1440x900@60 17:1600x1200@60 18:1680x1050@60 19:1920x1200@60]	Set the receiver output resolution.
	ROTATE [rtt] • rtt = [0:0 1:90 2:180 3:270]	Set the receiver output rotate.
	PAUSE [state] • state = [ON, OFF]	Set the receiver output pause ON or OFF.
	MUTE [state] • state = [ON, OFF]	Set the receiver output mute ON or OFF.
	AUTO [state] • state = [ON, OFF]	Set the receiver output Automatically ON or OFF.
	LOST [time] • time = [0...60]	Set the receiver output video lost timeout in minute. Note: time = 0 Output lost disabled.

SET DEC [dec] ⁽²⁾	BUTTON [state] • state = [ON, OFF]	Set the receiver front panel button enable ON or OFF.
	IR [state] • state = [ON, OFF]	Set the receiver rear panel IR enable ON or OFF.
	MODE [mode] • mode = [MX, VW]	Set the receiver output mode to matrix or video wall.
	STREAM [stream] • stream = [UNICAST, MULTICAST]	Set the receiver output stream transmission mode UNICAST or MULTICAST.

- ⁽¹⁾enc=000: All transmitters
enc=[001...762]: One transmitter
- ⁽²⁾dec=000: All receivers
dec=[001...762]: One receiver

Video wall control		
Command	Variable	Description
CREATE WALL	HANDLE [hdl] ⁽³⁾	Create video wall.
DELETE WALL	HANDLE [hdl] ⁽³⁾	Delete video wall.
SET WALL [hdl] ⁽³⁾	NAME [name] • name: max 16 characters	Set the video wall name.
	C [c] R [r] • c=[01...09]: Number of columns in video wall • r=[01...09]: Number of rows in video wall	Set the video wall columns and rows.
SET WALL [hdl] ⁽³⁾ DEC [dec] ⁽²⁾	H [h] ⁽⁶⁾ V [v] ⁽⁷⁾	Set the video wall position (h,v) receiver.
CREATE WALL [hdl] ⁽³⁾	PRESET [prs] ⁽⁴⁾	Create video wall preset.
DELETE WALL [hdl] ⁽³⁾	PRESET [prs] ⁽⁴⁾	Delete video wall preset.
SET WALL [hdl] ⁽³⁾ PRESET [prs] ⁽⁴⁾	NAME [name] : • name: max 16 characters	Set the video wall preset name.
	CLASS [cls] ⁽⁵⁾ H [h] ⁽⁶⁾ V [v] ⁽⁷⁾	Set the video wall preset position (H,V) as class.
	CLASS [cls] ⁽⁵⁾ SOURCE [enc] ⁽¹⁾	Set the video wall preset class from the source.
	MATRIX H [h] ⁽⁶⁾ V [v] ⁽⁷⁾	Set the video wall preset to specify the location as a matrix mode.
	MATRIX H [h] ⁽⁶⁾ V [v] ⁽⁷⁾ SOURCE [enc] ⁽¹⁾	Set the video wall preset class from the source.

SET WALL [hdl] ⁽³⁾	H [h] ⁽⁶⁾ V [v] ⁽⁷⁾ WIDTH BEZEL BW [o] ⁽⁸⁾ IW [w] ⁽⁹⁾	Set the video wall position (h,v) base width and image width.
	H [h] ⁽⁶⁾ V [v] ⁽⁷⁾ HEIGHT BEZEL BH [o] ⁽⁸⁾ IH [w] ⁽⁹⁾	Set the video wall position (h,v) base height and image height.
GET WALL [hdl] ⁽³⁾	STATUS	Get the video status
APPLY WALL [hdl] ⁽³⁾	PRESET [prs] ⁽⁴⁾	Apply video wall preset.

⁽³⁾ hdl=[01...09]: Video wall handle

⁽⁴⁾ prs=[01...09]: Preset index

⁽⁵⁾ cls=[A...G]: Class index

⁽⁶⁾ h=[01...09]: Horizontal position in video wall

⁽⁷⁾ v=[01...09]: Vertical position in video wall

⁽⁸⁾ o=[100...1000]: Screen base width/height

⁽⁹⁾ w=[100...1000]: Screen image width/height

Device management		
Command	Variable	Description
SEARCH		Search all transmitters and receivers.
	RESET	Reset search transmitters and receivers.
GET SEARCH	STATUS	Get the search status.
ADD DEV [dev] • dev=[01...n]: Search list index value	ENC [enc] ⁽¹⁾	Add new transmitter devices.
	DEC [dec] ⁽²⁾	Add new receiver devices.
	RESET	Reset all transmitter/receiver/videowall/search configurations.
ADD	AUTO ALL	Automatically add transmitters and receivers for all new searches.

GPIO control		
Command	Variable	Description
SET GPIO [gpio] ⁽¹⁰⁾	DIR [dir] • dir = [IN, OUT]	Set the controller gpio as input or output.
	LEVEL [level] • level = [LOW, HIGH]	Set the controller gpio output low level or high level.
GET GPIO [gpio] ⁽¹⁰⁾	LEVEL	Get the controller gpio input level.
	STATUS	Get the controller gpio status.

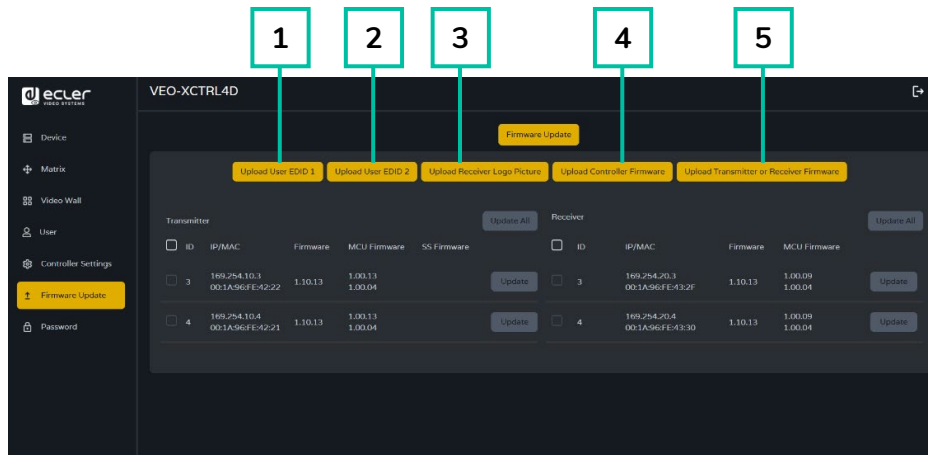
⁽¹⁰⁾ gpio=00: All IO ports

gpio=[01...04]: One IO port

Network control		
Command	Variable	Description
SET NETWORK LAN [lan] • lan=LAN1: Video LAN(PoE) • lan=LAN2: Control LAN(Web GUI)	DHCP [state] • state = [ON, OFF]	Set the controller network dhcp ON or OFF.
	STATIC IP [ip address] • ip address =[xxx.xxx.xxx.xxx]	Set the controller network static ip address.
	STATIC GATEWAY [gateway ip] • gateway ip =[xxx.xxx.xxx.xxx]	Set the controller network static gateway address.
	STATIC MASK [subnetmask] • subnetmask =[xxx.xxx.xxx.xxx]	Set the controller network static subnet mask address.
SET NETWORK	REBOOT	Set the controller network reboot.
	TELNET [state] • state = [ON, OFF]	Set the controller network telnet ON or OFF.
	TELNET PORT [port] • port=[22...65535]	Set the controller network telnet port.
	SSH [state] • state = [ON, OFF]	Set the controller network ssh ON or OFF.
	SSH PORT [port] • port=[22...65535]	Set the controller network ssh port.
	HTTPS [state] • state = [ON, OFF]	Set the controller network https ON or OFF.
	WEB [state] • state = [ON, OFF]	Set the controller network web GUI ON or OFF.
	DNS [hostname]	Set the controller network domain name to hostname.

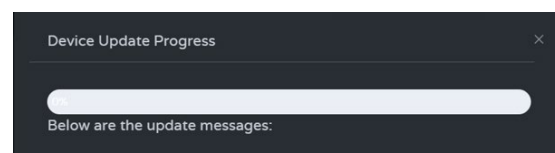
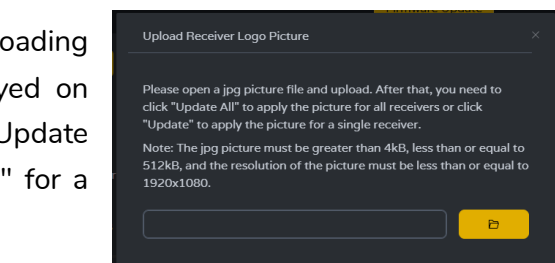
6.1.7 Firmware Update

This section allows the user to manage **firmware updates** and upload configuration files for **Transmitters, Receivers**, and the **system controller**. Firmware can be updated individually or simultaneously, and specific features like **EDID files** and **receiver logo pictures** can also be uploaded for customization.



1. **Upload User EDID 1:** Uploads the first custom EDID binary file to be used by the system.
2. **Upload User EDID 2:** Uploads the second custom EDID binary file to be used by the system.
3. **Upload Receiver Logo Picture:** Allows uploading a custom logo (.jpg format) to be displayed on receivers. After selecting the image, click "Update All" to apply it to all receivers or "Update" for a single receiver.
 - File format must be .jpg
 - File size must be greater than 4 kB and less than or equal to 512 kB
 - Maximum resolution: 1920 × 1080
4. **Upload Controller Firmware:** Updates the firmware of the system controller. Follow the on-screen instructions after selecting the firmware file.
5. **Upload Transmitter or Receiver Firmware:**
 - **Transmitter / Receiver firmware can be updated one by one** by clicking the "Update" button on the right of each Transmitter / Receiver.
 - **Firmware of all Transmitters / Receivers can be updated simultaneously** by clicking the "Update All" button of Transmitter / Receiver.

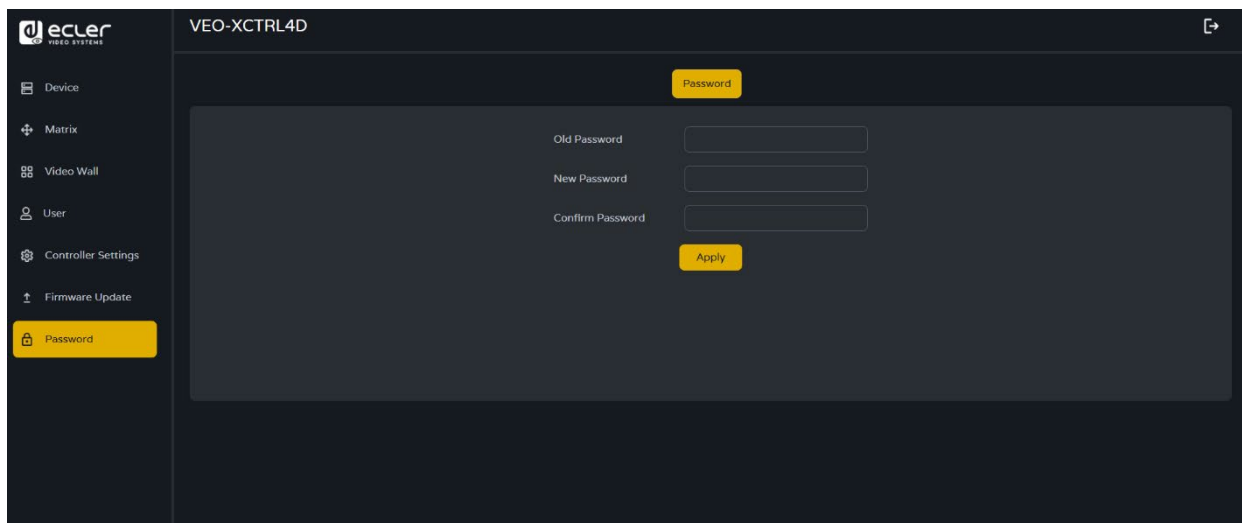
Once clicked the "Update" button a progress bar will show up and it will be updated in a short time (about 1 minute approx.)



6.1.8 Password Update

This page allows to change the password.

 Please note that after changing, it will skip to the Web browser home page or the Web GUI login interface automatically. Once changed, log in the Web GUI again with the new password.



6.1.9 Log out

This parameter  allows the user to sign out of the Web Gui interface.

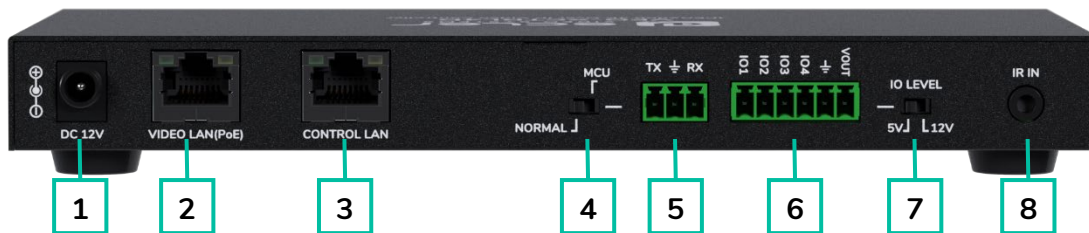
7. PANEL FUNCTIONS

7.1 Front Panel



1. **RST (RESET Button):** Press and hold this button (about 10 seconds) until Status LED starts flashing: the controller will be reset automatically.
2. **POWER LED:** The green LED will light on when the controller is powered on.
3. **STATUS LED:** The status LED will flash in white every 1 second until the controller boots up is complete and Control LAN is ready, then it stops blinking.

7.2 Rear Panel



1. **DC 12V:** DC 12V/1A power input port.
2. **VIDEO LAN (PoE):** 100Mbps Video LAN port, supporting PoE function.

 When PoE is enabled, DC 12V/1A power supply is not required.
3. **CONTROL LAN:** 100Mbps LAN control port.
4. **MCU/NORMAL DIP Switch:**
 - **Normal mode (Default):** The RS-232 port is used for serial port commands control.
 - **MCU mode:** The RS-232 port is used for MCU software upgrade.
5. **RS-232 Port:** Serial Communication Port
6. **GPIO Port:** 4 channel I/O level outputs, 1 channel grounding, 1 channel power supply to the outside (reserved for future upgrades).
7. **I/O LEVEL Switch:** Used to control I/O level output and VOUT voltage (reserved for future upgrades).
 - **Switch to left:** 5V I/O level output, VOUT is 5V.
 - **Switch to right:** 12V I/O level output, VOUT is 12V.
8. **IR Input:** 12V IR Input port (reserved for future upgrades)



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8. TECHNICAL DATA

8.1 Technical Specifications

VEO-XCTRL4D

Device control		
	Control Connectors	1 x RJ-45, 1 x 3-pin Euroblock, 1 x Jack 3,5mm
	Control Protocols	Web, Telnet, RS-232, IR
	Control Buttons	1 x Reset button
	Status Indicators	Power LED, Link LED, 3 digit display
Pass-through control		
	Pass-through Connectors	1 x 3-pin Euroblock, 1 x 6-pin Euroblock, 1 x 3.5mm Jack
	Pass-through Protocols	RS-232, Relay IO, IR
Network		
	Network Connectors	2 x RJ- 45
	Network Requirements	Jumbo Frame, IGMP Management
	Average Streaming Bitrate	Configurable via software 1-20 Mbps
	Transmission Distance	100m via Ethernet (CAT 6 / 6A / 7)
Electrical		
	Power supply	PoE; External: Input 100-240 VAC @ 50/60Hz, Output: 12VDC-1A
	AC mains connector	External PSU. Included 4 region power blades (UK,US,AU,EU)
	DC mains connector	DC Locking
	Power consumption	4.5W
Physical		
	Operating temperature	Min: 0°C ; 32°F Max: 40°C ; 104°F
	Operating humidity	20% - 90% RH, no condensing
	Storage temperature	Min: -20°C ; -4°F Max: 60°C ; 140°F
	Storage humidity	20% - 90% RH, no condensing
	Included accessories	1 x IR Receiver cable (1.5 meters), 1 x 3-pin 3.5mm Euroblock connector, 1 x 6-pin 3.5mm Euroblock connector, 2 x Mounting ears, 4 x Mounting screw, 1 x PSU 12V/1A
	Dimensions (WxHxD)	204 x 21.5 x 98.5 mm / 8.03 x 0.85 x 3.88 in.
	Weight	0.509 Kg / 1.12 lb
	Shipping dimensions (WxHxD)	280 x 80 x 180 mm / 11.02 x 3.15 x 7.09 in.
	Shipping weight	0.9 kg / 1.98 lb
	Chassis material	Metal
	Finished colour	Black



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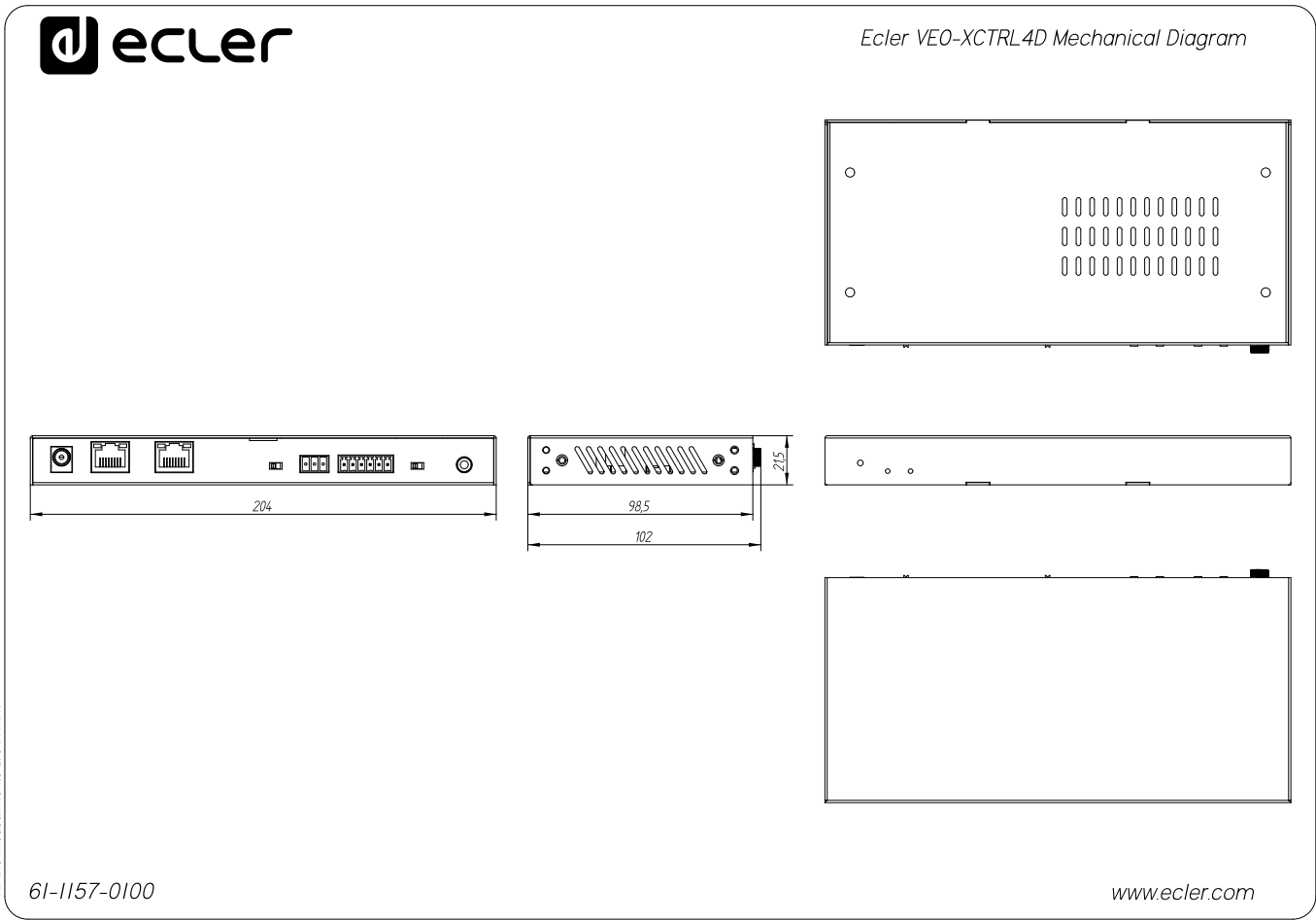
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8.2 Mechanical Diagram

All measurements are in mm.



All the 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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