



TIVA[®] MXAV 44

4X4 HDMI 2.0 MATRIX

LDMXAV44;

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1 DOCUMENT VERSIONS AND REVISIONS

Version	Date	Implemented Changes
1	11/2025	Original version

2 INTRODUCTION

2.1 YOU MADE THE RIGHT CHOICE!

This product has been developed and manufactured to the highest quality standards to ensure many years of problem-free operation. Find further information about LD Systems on our website:

<https://www.ld-systems.com/>

2.2 CONTACTS

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Website	www.adamhall.com	www.adamhall.com

2.3 LINK TO THE DOWNLOAD CENTRE



You can download some information, such as CAD data or technical data, from the Download Centre. Scan the QR code or click the link to download this information:

2.4 VISUALISATION CONVENTIONS IN THIS USER MANUAL

In this manual we use graphical symbols and icons in certain contexts. Find below a table with explanations and use cases of the graphical symbols and icons.

Icon / Symbol	Designation	Context	Explanation / Example
✓	Prerequisite	Tasks	Used in task topics to indicate a prerequisite that must be met before beginning the task.
⇒	Result / Intermediate Result	Tasks	Used in task topics to indicate a result or intermediate result of an action step.
1 Step a) Substep	1 Action Step a) Substep	Tasks	Used in task topics to indicate action steps and substeps.

Icon / Symbol	Designation	Context	Explanation / Example
1	Callout	Graphics; tasks	Text-image reference or labeling of certain functions on the device
[...]	Value range indicator	Technical data; paragraphs; lists	Indicates the range of a value, such as "Compressor ratio: 1:1...20:1 ". Mostly used in tables or callouts.
*	Asterisk	Paragraphs; tables	Indicates additional information in a footnote.
The LIM LED lights up	General User Interface element	Paragraphs; tasks; tables; lists	The words presented in this way represent graphic user interface elements on the device.
PAGE button	Key / Button	Paragraphs; tasks; tables; lists	The words presented in this way represent user interface controls on the device.
<name>	User input	Paragraphs; tasks; tables; lists	The words presented in this way represent required user inputs.
<u>https://adamhall.com</u>	Weblink	Paragraphs; tables; lists	External link to a website

3 PRODUCT COMPLIANCE

3.1 MANUFACTURER'S DECLARATION

Adam Hall offers a voluntary, EU-wide manufacturer's guarantee of 5 years. The statutory warranty period is not affected by this voluntary guarantee.

Visit the Adam Hall Service Portal to access the **Download Centre**:

<https://portal.adamhall.com/>

Under the **Service & Regulations** section, you find our current detailed manufacturer's declarations, warranty conditions, and limitation of liability.

To request warranty for a product, please contact:

Adam Hall GmbH, Adam-Hall-Str. 1, 61267 Neu-Anspach

customerservice@adamhall.com

0049 (0)6081 / 9419-1000

3.2 DECLARATION OF CONFORMITY

UK
CA

Hereby, Adam Hall Ltd. declares that this product meets the following guidelines (where applicable)

- Electrical Equipment (Safety) Regulations 2016
- Electromagnetic Compatibility Regulations 2016 (SI 2016/1091)
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulation 2012 (SI 2012/3032)
- Radio Equipment Regulations 2017 (SI 2016/2015)

Products that are subject to Electrical Equipment(Safety)Regulation 2016, EMC Regulation 2016 or RoHS Regulation can be requested at info@adamhall.com. Products that are subject to the Radio Equipments Regulations 2017 (SI2017/1206) can be downloaded at <http://www.adamhall.com/compliance>.

4 SAFETY INSTRUCTIONS

4.1 INTENDED USE

This product is intended as a 4×4 HDMI matrix switcher, distributing any of four 4K60 HDMI sources to four 4K displays with optional downscaling to 1080p per output.

This product has been developed for the professional use in the field of event technology. Furthermore it is intended for qualified users with specialist knowledge of event technology only.

This product is intended for fixed installation and not for mobile application.

This product is intended for indoor use only.

This product is not suitable for domestic use.

Do not use the product outside the operating conditions as stated in the user manual under Technical Data. Liability for damage and third-party damage to persons and property due to inappropriate use is excluded.

This product is not suitable for children and persons with limited physical, sensory, or mental capabilities or lack of experience and knowledge.

4.2 EXPLANATION OF SAFETY AND WARNING SYMBOLS

Find the following safety and warning symbols on the device, the user manual, or the packaging:



This symbol indicates that you must read the complete user manual before using the product.



This symbol indicates a general hazardous situation.



This symbol indicates hazards that can cause electric shock.



This symbol indicates that the product is for indoor use only.



This symbol indicates that the product is not suitable for household use.



This symbol indicates that the product has no serviceable parts. Only authorized personnel is allowed to perform maintenance or service work.



This symbol indicates helpful hints or additional information.

4.3 STRUCTURE OF WARNING MESSAGES

In this user manual, warning messages are structured with a safety symbol, a signal word, a hazard description, and instructions on how to avoid injuries or death.

**DANGER**

Indicates a hazardous situation which will result in death or serious injury.

**WARNING**

Indicates a hazardous situation which could result in death or serious injury

**CAUTION**

Indicates a hazardous situation which could result in minor or moderate injury.

**NOTICE**

Indicates situations or conditions that could result in damage to property and/or the environment.

4.4

GENERAL SAFETY



- Read this document carefully.
- Keep this document for later reference.
- Follow closely the instructions in this document.
- This document is an integral part of the product. If you sell or pass on the product, you must include this document.
- Only use this product according to its intended use.
- Risk of choking. Keep small parts away from children and individuals with impaired physical, sensory, or mental capabilities.
- Risk of suffocation. Keep plastic bags away from children and individuals with impaired physical, sensory, or mental capabilities.
- Observe all safety instructions and warning messages in this document, on the device, and on the packaging.
- Products are subject to continuous further development. If you find discrepancies between this document and the product labeling, the information on the product always takes priority.
- Do not remove safety instructions or warning messages from the product.
- Do not open the device.
- Do not modify the product.
- If the product shows any sign of damage, do not use it.
- Do not operate the product with removed or missing covers.
- Do not expose the product to direct sunlight.

- If not further specified in the user manual under Technical Data, do not use the product in ambient temperatures that exceed 40 °C / 104 °F or fall below 0 °C / 32 °F
- Do not use the product in tropical climate.
- Do not use the product above 2000 metres of altitude.
- Unless otherwise stated, do not use the product under marine conditions.
- Use only accessories specified by the manufacturer.
- Maintenance and repairs may only be carried out by authorized service personnel.
- Store and transport the product in a dry and safe environment.
- Clean the product on a regular basis. If applicable, see the user manual for maintenance intervals.
- If the device was exposed to strong temperature changes, such as during transport, do not switch it on immediately. Wait until the device has reached ambient temperature.

4.5

ELECTRICAL SAFETY



- This is an electrical device in protection class III, using safety extra-low voltage (SELV) or protective extra-low voltage (PELV).
- Do not bypass the mains fuse.
- Use only mains fuses as specified by the manufacturer.
- Do not use kinked or otherwise damaged power cables.
- Only operate the device on compliant, tested and intact mains power outlets.
- Do not use the device in the vicinity of water. Keep the device away from splashing or dripping water.
- Make sure that the voltage and frequency of the mains power match the values specified by the manufacturer.
- Take suitable measures against overvoltage, such as lightning strikes.
- For devices with a power out connector, make sure the total current consumption of all connected devices does not exceed the value specified by the manufacturer.
- This device is suitable for continuous current.
- Disconnect the device from all poles before maintenance, repair or extend periods of non-use.
- Permanently connected power cables may only be replaced by a qualified service technician.

4.6

THERMAL SAFETY

- Do not install the device near heat sources, such as radiators or ovens.
- Do not block any ventilation openings.
- Unless otherwise stated, keep a minimum clearance of at least 20 centimetres around the device.
- Unless otherwise stated, keep flammable materials, such as paper or wood, at least 50 centimetres away from the device

4.7**DEVICE SAFETY**

- Do not switch the device on and off in quick succession, because this will shorten the device lifetime.

5 PRODUCT DESCRIPTION

5.1 PRODUCT OVERVIEW

This HDMI matrix switch supports routing and scaling of four HDMI input signals to four independent outputs, with compatibility for high-resolution video formats and audio de-embedding.

INTEGRATION-FRIENDLY FEATURES

- Four control methods:
 - Front panel buttons
 - IR remote
 - RS-232
 - Built-in Web GUI over TCP (Transmission Control Protocol) / IP (Internet Protocol)
- Advanced EDID management
- HDMI 2.0, HDCP 2.2 / HDCP 1.4, and DVI 1.0 compliant

PERFORMANCE-ENHANCING FEATURES

- Video resolution support: up to 4K@60Hz (YUV 4:4:4)
- Supports 18Gbps video bandwidth
- Individual output scaling for all four outputs (4K → 1080p)
- Audio de-embedding to analog L/R and coaxial outputs
- ARC (Audio Return Channel) to coaxial output

5.2 TECHNICAL DATA

Technical	
HDMI compliance	HDMI 2.0
HDCP compliance	HDCP 2.2 and HDCP 1.4
Video bandwidth	4K2K 50 Hz / 60 Hz 4:4:4 4K2K 50 Hz / 60 Hz 4:2:0 4K2K 30Hz 4:4:4 1080p 1080i, 720p, 720i, 480p, 480i All HDMI 3D TV formats All PC resolutions including 1920 x 1200
Output scaling	4K→1080p
3D support	Yes
Color space	RGB, YCbCr4:4:4, YCbCr4:2:2, YCbCr 4:2:0

Technical

Color depth	8-bit 10-bit 12-bit [1080P, 4K 30 Hz, 4K 60 Hz (YCbCr 4:2:0)] 8-bit [4K 60 Hz (YCbCr 4:4:4)]
HDMI audio Formats	PCM2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
Coaxial audio Formats	PCM2.0, Dolby Digital / Plus, DTS 2.0/5.1
L/R audio Formats	PCM2.0CH
HDR support	HDR10, HDR10+. Dolby Vision, HLG
ESD protection	Human-body Model: ±8kV (Air-gap discharge), ±4kV (Contact discharge)

Connections

Input ports	4 x HDMI Type A [19-pin female]
Output ports	4 x HDMI Type A [19-pin female] 4 x L/R audio out [3.5mm Stereo Mini-jack] 4 x COAX audio out [RCA]
Control ports	1 x TCP/IP [RJ45] 1 x RS-232 [3-pin terminal block connector] 1 x IR EXT [3.5 mm Stereo Mini-jack]

Mechanical

Housing	Metal enclosure
Colour	Black
Dimensions	220 mm (W)×105 mm (D)×44 mm (H)
Weight	792 g
Power supply	Input: AC 100V ... 240 V, 50 Hz / 60Hz Output: DC12 V / 2.5 A (Locking connector)
Power consumption	10 W (Max), 1.56 W (Standby mode)
Operating temperature	0°C ... 40°C / 32°F ... 104°F
Storage temperature	-20°C ... 60°C / -4°F ... 140°F
Relative humidity	20 % ... 90 % RH (non-condensing)

Recommended HDMI Cable

Video resolution / Cable Length	4K 60 - Metres / Feet	4K 30 - Metres / Feet	1080P60 - Metres / Feet
HDMI IN / OUT	3 m / 10 ft	10 m / 30 ft	15 m / 42ft

Recommended HDMI Cable

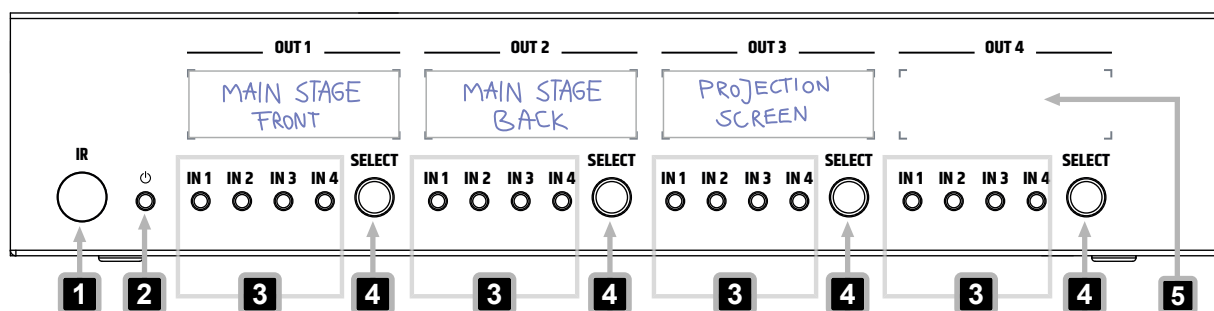
The use of "Premium High Speed HDMI" cables is highly recommended.

5.3

USER INTERFACE

5.3.1

FRONT PANEL



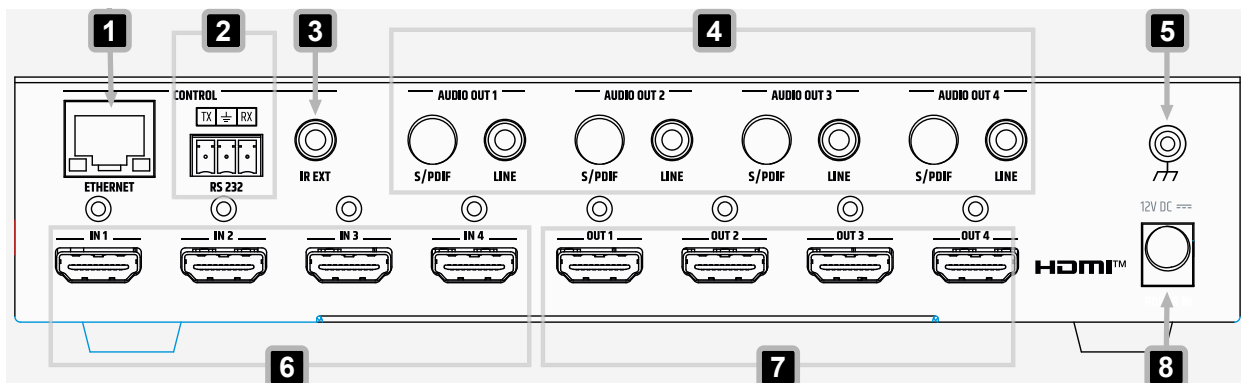
- 1** IR - Receives input from the remote control (included in the scope of delivery).
- 2** POWER LED - Lights up white when the device is powered on
- 3** IN 1 ... 4 LEDs - Light up white to indicate the active input assigned to the output
- 4** OUT 1 ... 4 Buttons -
Press: Cycle through the input sources
Press and hold (3 seconds): Toggle the output scaler mode
- 5** Label fields - Provides space for personalised labeling



The IR receiver is covered by a protective film that does not affect functionality. Removal is optional.

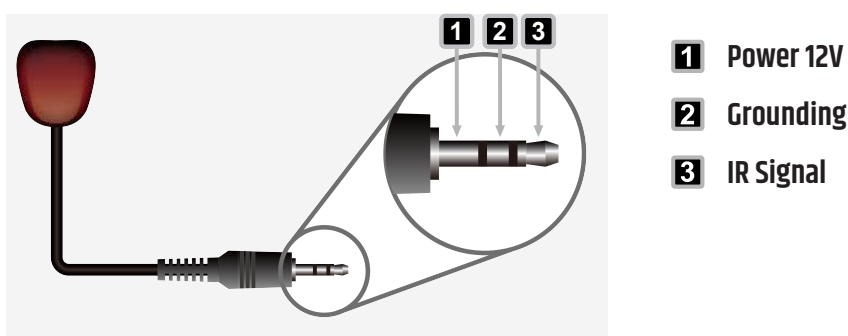
5.3.2

REAR PANEL



- 1** **ETHERNET** - Provides remote access to the built-in web interface for configuration and monitoring. The device can also be managed via QUESTRA® software or controlled by third-party systems using the API commands described in this manual.
- 2** **RS-232** - Connects to external serial devices for configuration, control, or data exchange
- 3** **IR EXT (External IR Receiver, 12V)** – 3.5mm jack - Connects the external IR receiver included in the package. The port supplies 12V power to the receiver and accepts the IR control signal, enabling flexible placement of the IR pickup when the front-panel IR sensor is not accessible.
- 4** **AUDIO OUT S/PDIF 1 ... 4** - Connect to external audio equipment via RCA, providing a digital audio signal (SPDIF) from the assigned HDMI audio channels.
AUDIO OUT LINE 1 ... 4 - Connect to external audio equipment via 3.5mm mini-jack, providing stereo line-level output from assigned HDMI audio channels.
- 5** $\perp$ - Connects to earth via screw terminal
- 6** **IN HDMI Input Ports 1 ... 4** - Connect to source devices via HDMI cable.
- 7** **OUT HDMI Output Ports 1 ... 4** - Connect to display devices such as TVs or monitors via HDMI cable
- 8** **POWER IN** - Connects to an DC external power adapter (5A, 12V)

5.3.3 INFRARED RECEIVER PIN ASSIGNMENT OVERVIEW



5.3.3.1 IR RECEIVER TRANSMISSION DISTANCE

Angle Between IR Receiver and Remote Control

$\pm 45^\circ$
 $\pm 0^\circ$

Transmission Distance

0-5 metres
 0-8 metres

6 PREPARATION

6.1 SCOPE OF DELIVERY

Item Description	Quantity
Device	1
12V / 2.5 A Locking power adapter	1
Remote control	1
38KHz IR Receiver cable (1.5 meters)	1
Mounting ear	2
Metric screw (M3 x 4)	4
Safety Compliance Information (en, de, fr, it, pl, es)	1

7 OPERATION

7.1 POWER SUPPLY

7.1.1 CONNECTING THE POWER ADAPTER

**WARNING****Mains voltage**

Risk of electric shock

- a. Do not use kinked or damaged mains power cables.

**NOTICE****Damage to the device**

- a. Make sure that the voltage of the mains power socket matches the device operating voltage.
- b. Do not plug the device under load.

- 1 Plug the DC output of the power adapter into the device's **POWER IN** connector.
- 2 Plug the AC input of the power adapter into a mains power socket.

7.1.2 TURNING THE DEVICE ON OR OFF



The device automatically turns on when connected to a power source using the included AC-DC adaptor.

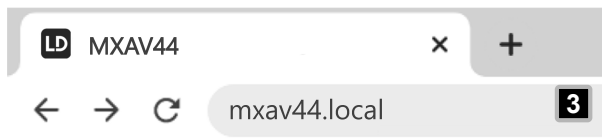
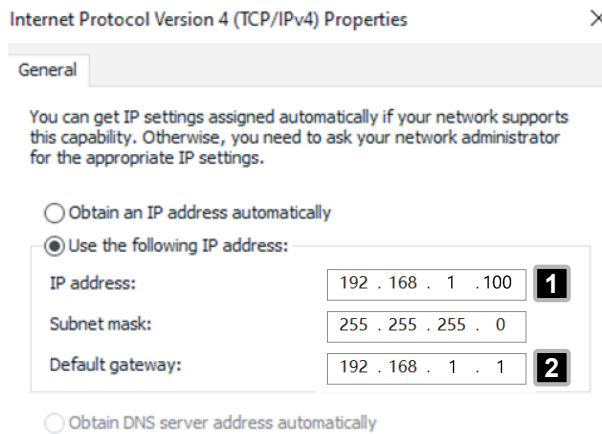
- 1 Plug in the power source to turn the device on.
- 2 Remove the power source to turn the device off.

7.2 WEB-BASED CONTROL

7.2.1 ABOUT WEB-BASED CONTROL

You can control the device via a web-based graphical user interface (GUI). Log in through a standard browser - preferably Google Chrome - on a computer, tablet, or smartphone to configure system parameters efficiently and securely.

7.2.2 ACCESSING THE WEB-INTERFACE



✓ UTP RJ45 Ethernet cable

- 1 Connect the **ETHERNET** port of the **TIVA® MXAV 44** to your PC using an RJ45 Ethernet cable.
- 2 Open the network adapter settings on your PC.
- 3 Configure your PC's IP address **1** to be in the same subnet as the **TIVA® MXAV 44** **2**.

The default settings of the device are:

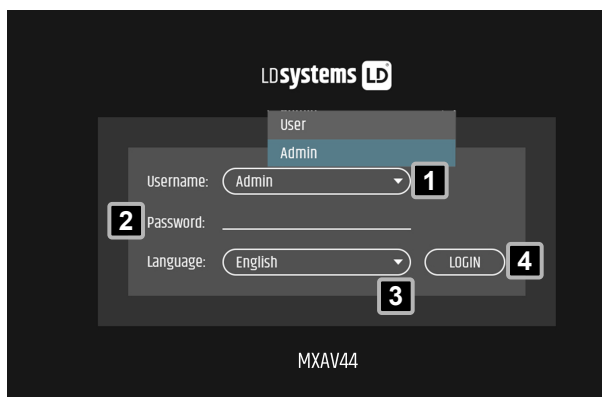
IP address:	192.168.1.44
Subnet mask:	255.255.255.0
Gateway:	192.168.1.1

- 4 Open a web browser on the connected PC.

i We recommend using Google Chrome for the best compatibility.

- 5 Enter `<mxav44.local>` into the address bar **3**.
- 6 Press the **return button** on your keyboard to access the web-based graphical user interface.

7.2.3 LOGGING INTO THE WEB-INTERFACE



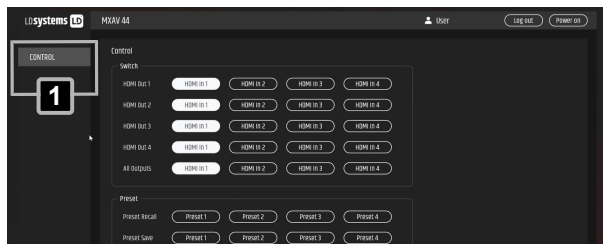
- 1 Open the **Username** drop-down menu to choose a user role **1** (**Admin**, **User**).

i We recommend logging in as an **Admin** first in order to change the passwords in the **SYSTEM** section. The default admin password is **ldsystems**.

- 2 Enter your password **2**.
- 3 Open the **Language** drop-down menu to choose a language **3**.
- 4 Click **LOGIN** to access the selection screen **4**.

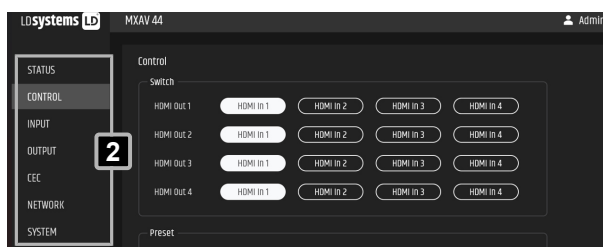
7.2.4 ABOUT ACCESS PERMISSIONS

USER ACCESS



Users with standard user permissions only have access to the **CONTROL** section **1**.

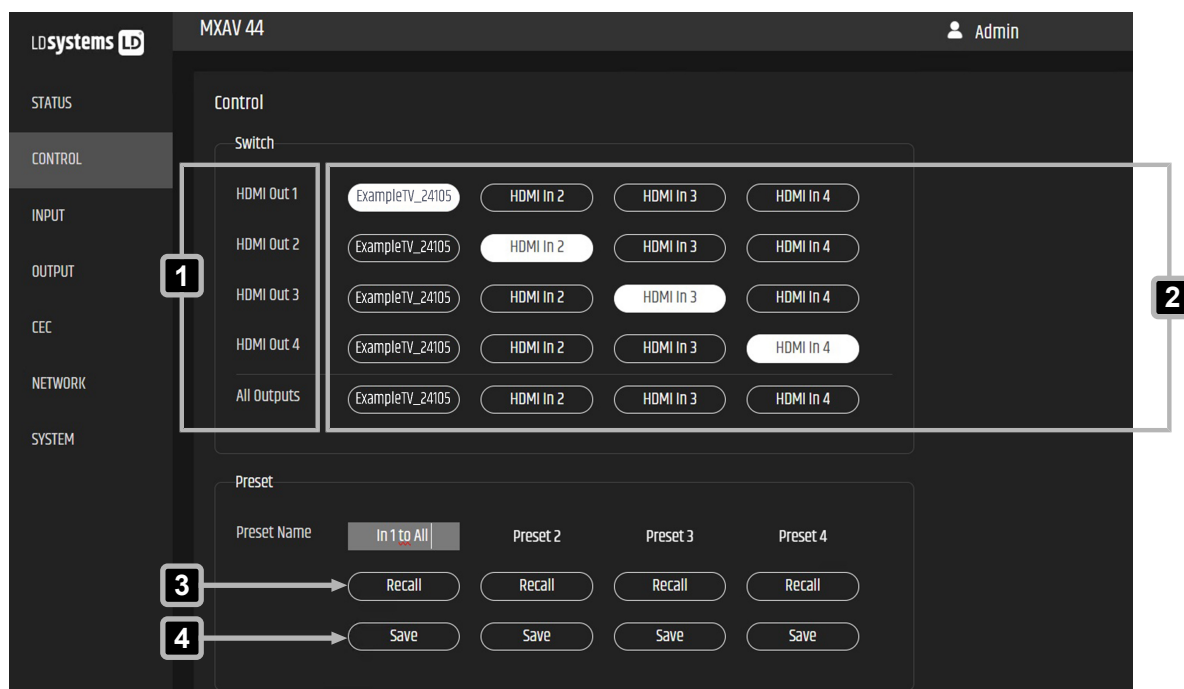
ADMIN ACCESS



Users with administrative permissions have full access to all sections **2**.

7.2.5 CONTROLLING THE AUDIO OUTPUT (USER & ADMIN ACCESS)

7.2.5.1 CONTROL SECTION OVERVIEW (USER & ADMIN ACCESS)



- 1** HDMI Out 1 ... 4 - Display available output channels
- 2** HDMI IN 1 ... 4 Buttons - Select the input sources for the corresponding HDMI outputs
- 3** Presets Recall Buttons - Load one of four saved configurations

4 Presets Save Buttons - Overwrite a preset with the current settings

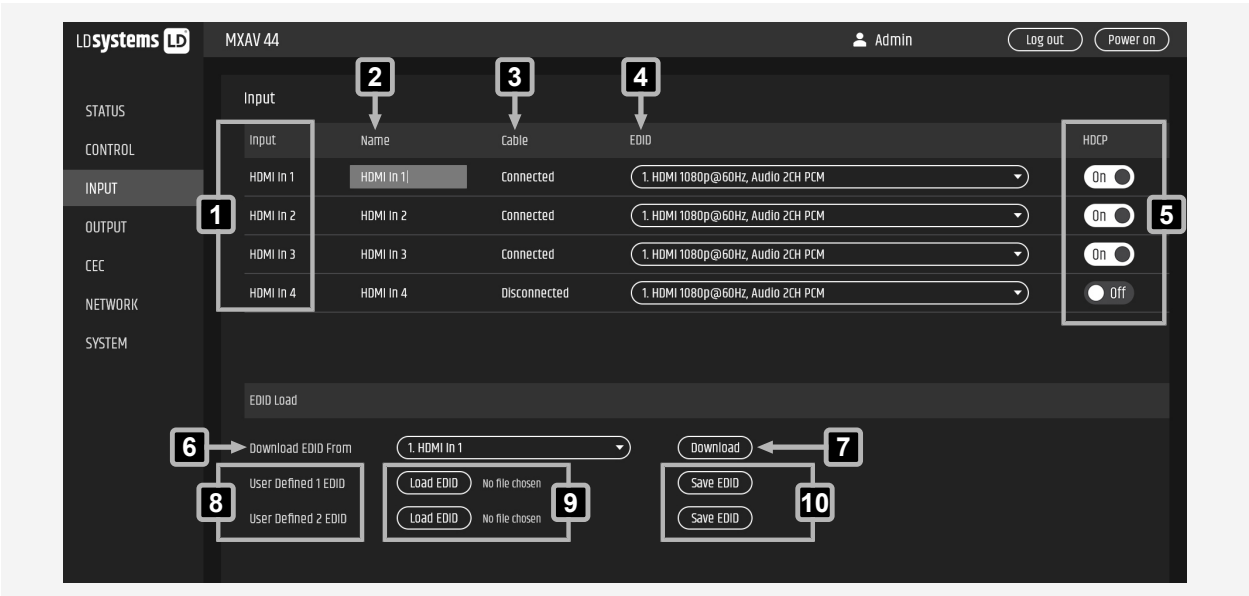
7.2.6 ADMIN ACCESS OVERVIEWS

7.2.6.1 STATUS SECTION OVERVIEW



1 Status - Displays the current system state (read-only)

7.2.6.2 INPUT SECTION OVERVIEW



1 Input - Displays the available input ports.

2 Name Input Field - Allows editing of input port names.

- 3** **Cable** - Shows cable connection status (Connected, Disconnected).
- 4** **EDID Drop-Down Menu** - Allows selection of video and audio configurations.
- 5** **HDCP** - Turns HDCP on or off.
- 6** **Download EDID From** - Selects the HDMI input or output port to copy the EDID (Extended Display Identification Data). This defines the display capabilities to replicate.
- 7** **Download Button** - Retrieves the EDID from the port selected in **Download EDID From** and loads it into the system.
- 8** **User Defined 1 & 2 EDID Drop-Down Menu** - Allows you to upload and manage custom EDID profiles for tailored display configurations.
- 9** **Load EDID Button** - Opens the file explorer to select and upload an EDID file for storage as user-defined 1 or 2.
- 10** **Save EDID Button** - Saves the active EDID configuration to the selected user-defined slot (1 or 2) for future use.

7.2.6.2.1 ABOUT EDID MODE

EDID stands for Extended Display Identification Data. It is a standardised data format used by display devices (such as monitors, TVs, or projectors) to communicate information to a video source.

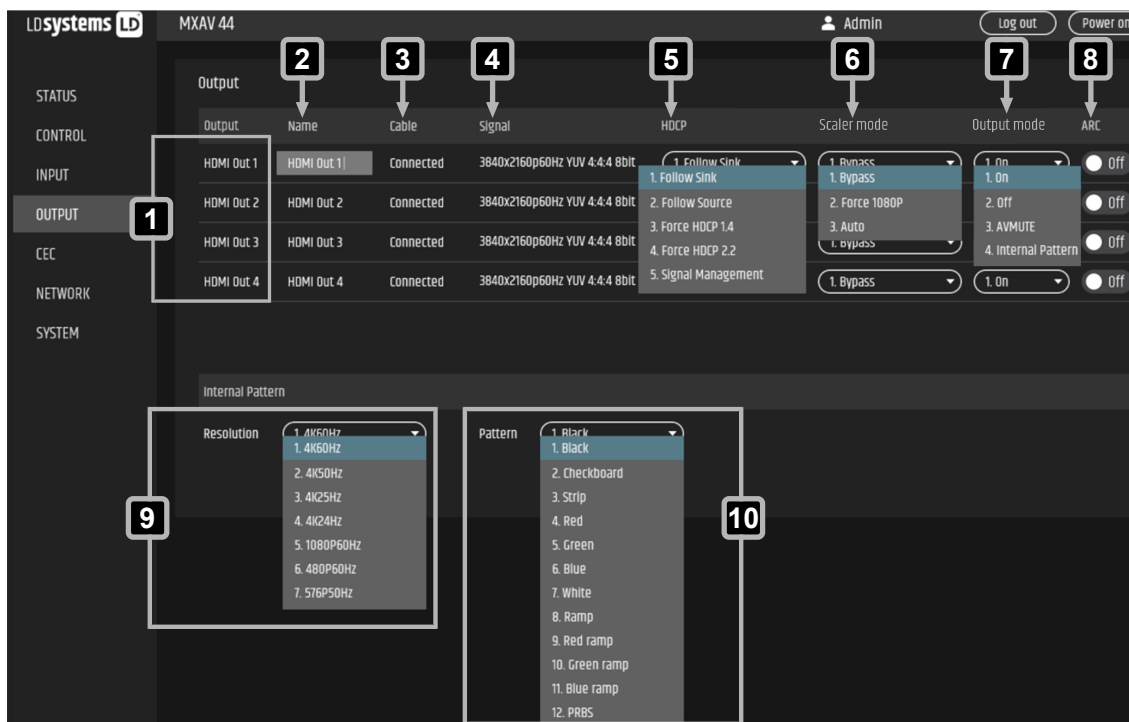
This includes information such as:

- Supported resolutions (e.g. 1080p, 4K, 8K)
- Refresh rates
- Audio formats (e.g. stereo, 5.1, 7.1)
- Colour depth and HDR support



To prevent compatibility problems, set a suitable EDID profile using the input section of the web-based interface.

7.2.6.3 OUTPUT SECTION OVERVIEW



- 1** **Output** - Displays the available output ports
- 2** **Name Input Fields** - Allows editing of output port names
- 3** **Cable** - Shows cable connection status (Connected, Disconnected)
- 4** **Signal** - Displays the format of the active video signal. from the assigned device.
- 5** **HDCP Drop-Down Menu** - Selects the HDCP mode for the HDMI output
- 6** **Scaler mode Drop-Down Menu** - Selects how the internal video scaler processes the output signal (Bypass, Force 1080P, Auto):
 - **Bypass** - Outputs the original resolution without scaling.
 - **Force 1080p** - Forces output resolution to 1080p.
 - **Auto** - Chooses the optimal resolution (4K or 1080p) based on display capabilities.
- 7** **Output mode Drop-Down Menu** - Selects the type of signal sent to the output (On, Off, AVMUTE, Internal Pattern):
 - **On** - Enables normal video and audio output.
 - **Off** - Disables the output signal.
 - **AVMUTE** - Mutes audio and video while keeping the HDMI link active.
 - **Internal Pattern** - Sends a built-in test pattern for troubleshooting or calibration.

- 8** **ARC (Audio Return Channel)**  - Enables or disables audio return from the TV via HDMI ARC.
ARC On: The mixer receives sound from the TV through the HDMI ARC port.
ARC Off: The mixer ignores incoming audio from the TV.
- 9** **Resolution Drop-Down Menu** - Selects the output format for the internal test signal, including resolution and frame rate.
- 10** **Pattern Drop-Down Menu** - selects internal test patterns for signal verification, display calibration, and troubleshooting (Black, Checkboard, Strip, Red, Green, Blue, White, Ramp, Red Ramp, Green Ramp, Blue Ramp, PRBS: Pseudo-Random Binary Sequence)

7.2.6.3.1 ABOUT HIGH-BANDWIDTH DIGITAL CONTENT PROTECTION (HDCP)

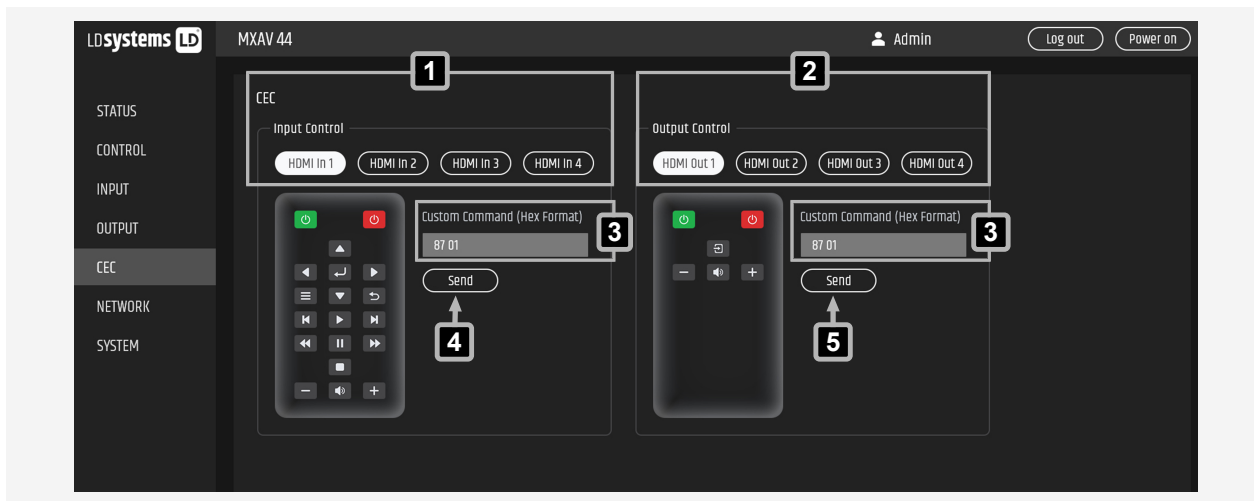
The mixer offers several options for managing HDCP (High-bandwidth Digital Content Protection), a system designed to prevent unauthorized copying of digital content—especially over HDMI connections. Choosing the correct setting is essential for stable signal transmission.

Setting	Description
Follow Sink	The mixer adjusts the HDCP level based on the connected output device (e.g., monitor or projector). The source is informed which HDCP version is supported. Important: If the source requires a higher HDCP level than the display supports, signal loss may occur.
Follow Source	The mixer adopts the HDCP level of the input source. The output device must support this level, or the signal will be blocked.
Force HDCP 1.4	Forces HDCP 1.4—suitable for Full HD content and legacy devices.
Force HDCP 2.2	Forces HDCP 2.2—required for 4K/UHD content. All devices in the signal chain must support HDCP 2.2.
Signal Management	Advanced handling of HDCP handshakes and signal behavior.



HDCP only works if all devices in the signal chain support the same HDCP level. For mixed environments, “Follow Sink” or “Signal Management” is recommended to maximize compatibility.

7.2.6.4 CONSUMER ELECTRONICS CONTROL (CEC) SECTION OVERVIEW

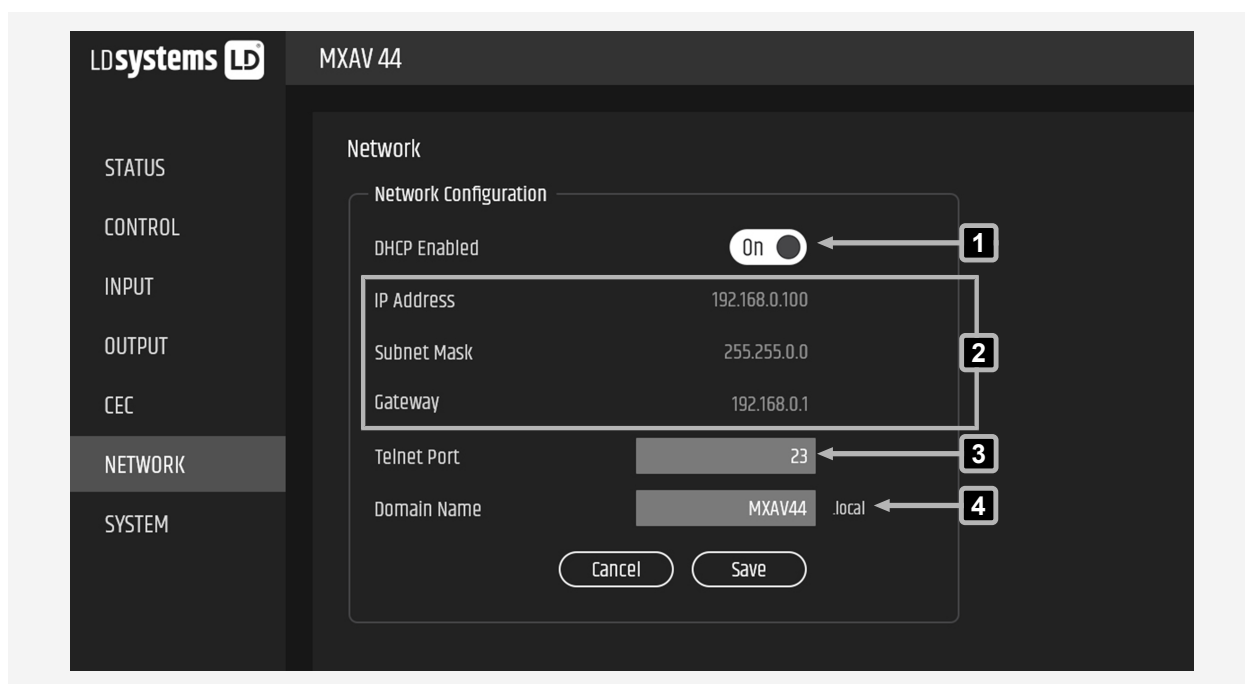


- 1 HDMI IN 1 ... 4 Buttons** - Select the HDMI input to receive CEC commands from the simulated remote control or a custom command entered in the input field.
- 2 HDMI Out 1 ... 4 Buttons** - Select the HDMI output to receive CEC commands from the simulated remote control or a custom command entered in the input field.
- 3 Custom Command (Hex Format)** - Input field that allows you to enter device-specific CEC commands in hexadecimal format.
- 4 Send Button Input Control** - Transmits the entered hex code to the selected HDMI input device.
- 5 Send Button Output Control** - Transmits the entered hex code to the selected HDMI output device.



Relevant hex codes can be found in the technical documentation or user manuals of the connected devices, as well as in professional forums and through diagnostic tools designed for HDMI-CEC communication.

7.2.6.5 NETWORK SECTION OVERVIEW



- 1 DHCP enabled** ☒ - Toggles on or off the automatic assignment of network settings via DHCP
DHCP Off: Allows editing the IP address, gateway and subnet mask
DHCP On: The device automatically receives its IP address, subnet mask, gateway, and other network settings from a DHCP server. Manual configuration is disabled in this mode
- 2 IP Address & Subnet Mask & Gateway Input Fields** -
DHCP Off: Display the current network settings
DHCP On: Allow to enter a custom IP address, subnet mask, and gateway
- 3 Telnet Port Input Field** - Allows to specify the port number for Telnet connections. (The default is usually port 23 unless configured otherwise)
- 4 Domain Name Input field** - Allows you to enter a unique name to the device. The full network name will be **<name>.local**, which you can enter in a web browser (e.g., **mxav44.local**) to access the Web GUI without using the IP address. This uses mDNS for easier, user-friendly access.

7.2.6.6 SYSTEM SETTINGS OVERVIEW



- 1 Front Panel Key** ☐ - Enables or disables access via the device's front panel keys.
- 2 IR Remote** ☐ - Enables or disables control via the infrared remote.
- 3 Beep** ☐ - Enables or disables audible feedback for user actions and system alerts.
- 4 RS-232 Baud Drop-Down Menu** - Selects the baud rate (115200, 57600, 56000, 38400, 19200, 14400, 9600, 4800, 2400)
- 5 Reboot Button** - Restarts the device without changing any settings.
- 6 Restore Factory Button** - Resets the device to its original factory settings. All user configurations will be lost.
- 7 Restore Factory (Including Network) Button** - Resets the device to factory defaults, including all network settings. All user configurations will be lost.
- 8 Export Settings Button** - Creates a backup file containing the current configuration settings for download or transfer.
- 9 Import Settings Button** - Loads a configuration file to apply previously saved settings to the device.
- 10 Choose File Button** - Opens a file dialog to select a firmware update file. The selected file name will be displayed next to the button. (Update IP first and then MCU)
- 11 Update Button** - Starts the firmware update process using the selected file.
- 12 Update Progress Bar** - Indicates the current progress of the firmware update process.
- 13 Old Password... Input Field** - Allows to enter their current password to authorise changes or verify identity.

- 14** **New Password... Input Field** - Allows to enter a new password
- 15** **Confirm Password... Input Field** - Allows to re-enter the new password to avoid input errors.
- 16** **Save Button** - Saves the changes made and applies the new settings.

7.3 QUESTRA®

7.3.1 DOWNLOADING QUESTRA® AND QUESTRA® PANELS APP



Visit the **LD Systems** website to download the **QUESTRA®** software. You will also find links to the Google Play Store and Apple App Store to download the **QUESTRA®** Panels app.

www.ld-systems.com/questra

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Durch das Herunterladen der QUESTRA® Software oder der QUESTRA® Panels App akzeptiere ich die **EULA** und bestätige, dass ich die Software oder die App nur gemäß den in der **EULA** beschriebenen Bedingungen nutzen werde.

7.4 REMOTE CONTROL

7.4.1 USING THE REMOTE CONTROL



You have to insert one CR2025 button cell battery to operate the device.
The battery is not included in the scope of delivery.



✓ One CR2025 button cell battery

- 1 Press the button to toggle between power on and standby mode.
- 2 Press the source buttons (1 ... 4) to select the HDMI input signal sources for the corresponding HDMI outputs.
- 3 Press to switch to the previous input source.
- 4 Press to switch to the next input source.
- 5 Press the button to switch between down-scale and bypass mode.



The white LEDs on the front panel light up to indicate which input source is assigned to each HDMI output port.

7.5

ASCII COMMAND API

7.5.1

ABOUT EXTENDED ASCII CODES

ASCII (American Standard Code for Information Interchange) is a character encoding standard used to represent text in digital systems. With 8 data bits, the system can represent up to 256 characters, known as Extended ASCII. This extended set is commonly used in serial communication.

7.5.2

USING ASCII-COMMANDS TO OPERATE THE TIVA® DEVICE VIA RS-232 INTERFACE



NOTICE

Electrical Signal Conflict

Risk of Hardware Damage or Communication Failure.

- a. Use only properly wired RS-232 cables with correct pin assignments according to the device's DTE/DCE configuration.
- b. Establish direct point-to-point serial connections between compatible RS-232 devices
- c. Do not connect RS-232 ports to TTL-level serial interfaces

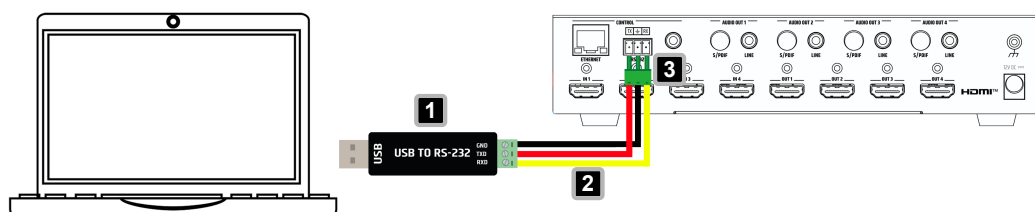
✓ Serial command tool

✓ Adapter cable with 3-pin male terminal block connector to DB9 male RS-232

- 1 Connect the **RS-232** port of the **TIVA® MXAV 44** to your PC.
- 2 Open a serial command tool on your PC.
- 3 Send ASCII commands to the **TIVA® MXAV 44** to control its functions.

If your PC doesn't have an RS-232 port, the following components are required and must be connected:

- **1** USB to RS-232 serial adapter with terminal block connector, featuring three pins labeled as TXD, RXD, and GND
- **2** 3-wire serial cable
- **3** 3-pin terminal block connector (included in the delivery)



7.5.3 USING ASCII-COMMANDS TO OPERATE THE TIVA® DEVICE VIA RJ45 INTERFACE

- ✓ TCP client software (Transmission Control Protocol – a standard for reliable network communication)
- ✓ PC connected to the same network as the device.
- ✓ RJ45 UTP Ethernet cable

- 1** Connect the **TIVA® MXAV 44** to your network using the RJ45 Ethernet port.
- 2** Open the TCP client tool and connect to the device's IP address on port 8000.
- 3** Send ASCII commands through the TCP session to control the functions of the **TIVA® MXAV 44**.

7.5.4 SERIAL COMMUNICATION PARAMETER

Serial Interface (RS-232)

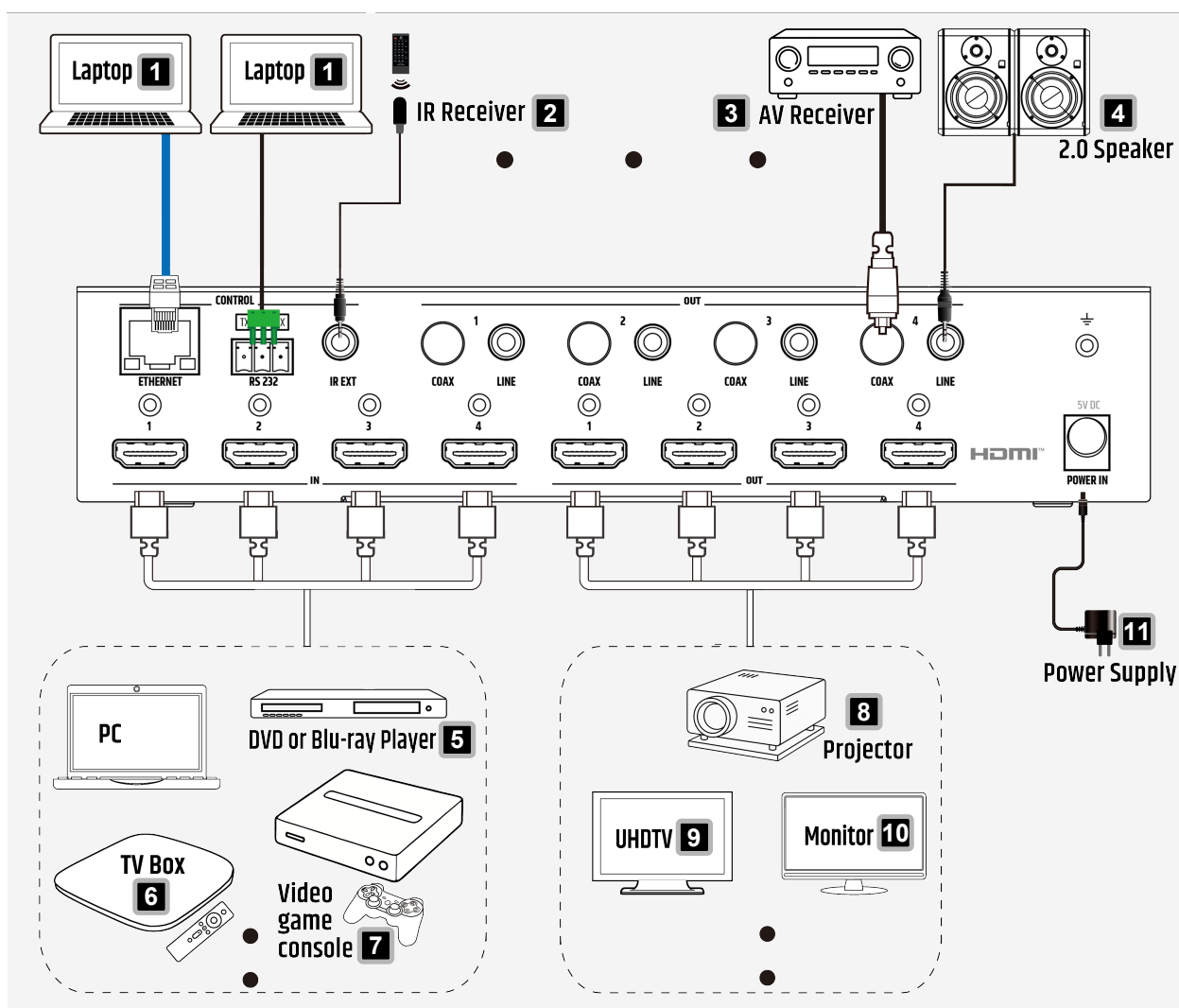
Baud rate	115200 (default speed for data transmission)
Data bit	8
Stop bit	1
Check bit	none

Ethernet Interface

TCP/IP Port	8000
-------------	------

7.6

USE CASE



- 1** Laptop
- 2** IR Receiver
- 3** Amplifier
- 4** Active Speakers
- 5** DVD or Blu-ray Player
- 6** TV Box
- 7** Video game console
- 8** Projector
- 9** UHDTV
- 10** Monitor

11 Power Supply

8 EXTENDED ASCII-CODES

8.1 COMMAND STRUCTURE AND IMPORTANT NOTES

COMMAND STRUCTURE

Placeholder for parameters X, Y, Z

Delimiter !

IMPORTANT NOTES

- Each command must end with an exclamation mark (!).
- Spaces are part of the syntax and must be used exactly as required.
- All responses from the device end with a CR/LF (Carriage Return + Line Feed).
- When querying all four inputs at once, the device will return each input on a separate line.
- When querying all four outputs at once, the device will return each output on a separate line.

8.2 EXTENDED ASCII-CODE OVERVIEW

SYSTEM SETTING

Command Code	Function Description	Example	Feedback	Factory Default
?	Get the list of all commands	?	List of all commands	
help	Get the list of all commands	help	List of all commands	
get model	Get device model	get model	MXAV44	
status	Get device current status	status	Please refer to the output example at the end of this list	
get version	Get firmware version	get version	MCU FW 1.01.00 WEB FW 1.01.00	
power on	Power on the device	power on	Power on... System Initializing... Initialization Finished! MCU FW 1.01.00 WEB FW 1.01.00	
power off	Power off the device	power off	Power off...	
get power	Get current power state	get power	Power on	

Command Code	Function Description	Example	Feedback	Factory Default
reboot	Reboot the device	reboot	Reboot... System Initializing... Initialization Finished! MCU FW 1.01.00 WEB FW 1.01.00	
reset	Reset system settings to default (Should type "yes" to confirm, "no" to discard)	reset	Sure to reset system settings to default? Type "yes" after next prompt to confirm...	
reset all	Reset system and network settings to default (Should type "yes" to confirm, "no" to discard)	reset all	Sure to reset system and network settings to default? Type "yes" after next prompt to confirm...	
set front panel lock x	Set front panel lock on/off (x=0~1) x=0: Off x=1: On	set front panel lock 1	Front panel lock on	0
get front panel lock	Get front panel lock on/off status	get front panel lock	Front panel lock on	
set ir x	Set IR on/off (x=0~1) x=0: Off x=1: On	set ir 1	IR on	1
get ir	Get IR on/off status	get ir	IR on	
set beep x	Set beep on/off (x=0~1) x=0: Off x=1: On	set beep 1	Beep on	0
get beep	Get beep on/off status	get beep	Beep on	
set baud x	Set RS-232 baud rate to x bps x=1: 4800 x=2: 9600 x=3: 19200	set baud 6	Baudrate 115200	115200

Command Code	Function Description	Example	Feedback	Factory Default
	x=4: 38400 x=5: 57600 x=6: 115200			
get baud	Get RS-232 baud rate	get baud	Baudrate 115200	

CONTROL SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set input x output y	Select input source (x=1~4) to output (y=0~4) x=1~4: Input 1~4 y=0: All outputs y=1~4: Output 1~4	set input 1 output 0	Input 1 to output 1 Input 1 to output 2 Input 1 to output 3 Input 1 to output 4	Input 1 to output 1 Input 1 to output 2 Input 1 to output 3 Input 1 to output 4
get output y	Get output (y=0~4) from which input y=0: All outputs y=1~4: Output 1~4	get output 0	Input 1 to output 1 Input 1 to output 2 Input 1 to output 3 Input 1 to output 4	

INPUT SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set input x name y	Set input ports (x=1~4) name to y (max 16 characters) x=1~4: Input 1~4	set input 1 name ExampleTV1	Input 1 name: ExampleTV1	HDMI In 1 HDMI In 2 HDMI In 3 HDMI In 4
get input x name	Get input ports (x=0~4) name x=0: All inputs x=1~4: Input 1~4	get input 0 name	Input 1 name: ExampleTV1 Input 2 name: ExampleTV2 Input 3 name: ExampleTV3 Input 4 name: ExampleTV4	

Command Code	Function Description	Example	Feedback	Factory Default
get input x cable	Get input ports (x=0~4) cable status x=0: All inputs x=1~4: Input 1~4	get input 0 cable	Input 1 cable: connected Input 2 cable: connected Input 3 cable: disconnected Input 4 cable: disconnected	
set input x edid y	Set input ports (x=0~4) EDID (y=1~27) x=0: All inputs x=1~4: Input 1~4 y=01: HDMI 1080p@60Hz, Audio 2CH PCM y=02: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY y=03: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD y=04: HDMI 1080i@60Hz, Audio 2CH PCM y=05: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY y=06: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD y=07: HDMI 4K@30Hz 4:4:4, 8-bit, Audio 2CH PCM y=08: HDMI 4K@30Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY y=09: HDMI 4K@30Hz 4:4:4, 8-bit, Audio 7.1CH DTS/DOLBY/HD y=10: HDMI 4K@60Hz 4:2:0, 8-bit, Audio 2CH PCM y=11: HDMI 4K@60Hz 4:2:0, 8-bit, Audio 5.1CH DTS/DOLBY y=12: HDMI 4K@60Hz 4:2:0, 8-bit, Audio 7.1CH DTS/DOLBY/HD y=13: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2CH PCM y=14: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY y=15: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 7.1CH DTS/DOLBY/HD y=16: HDMI 4K@60Hz 4:2:2, 12-bit HDR/DV, Audio 2CH	set input 0 edid 1	Input 1 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 2 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 3 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 4 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM	

Command Code	Function Description	Example	Feedback	Factory Default
	PCM y=17: HDMI 4K@60Hz 4:2:2, 12-bit HDR/DV, Audio 5.1CH DTS/DOLBY y=18: HDMI 4K@60Hz 4:2:2, 12-bit HDR/ DV, Audio 7.1CH DTS/DOLBY/HD y=19: DVI 1920x1080@60Hz, Audio None y=20: DVI 1920x1200@60Hz, Audio None y=21: HDMI 1920x1200@60Hz, Audio 2CH PCM y=22: User Defined 1 y=23: User Defined 2 y=24: EDID Pass-through (Copy From Out- put 1) y=25: EDID Pass-through (Copy From Out- put 2) y=26: EDID Pass-through (Copy From Out- put 3) y=27: EDID Pass-through (Copy From Out- put 4)			
get input x edid	Get input ports (x=0~4) EDID mode x=0: All inputs x=1~4: Input 1~4	get input 0 edid	Input 1 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 2 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 3 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 4 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM	
set user edid x <y>	Set user defined EDID (x=1~2) x=1: User defined 1 x=2: User defined 2 y = 00 FF FF FF (y is 256 bytes EDID data)	get input 0 edid	Input 1 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 2 EDID_01: HDMI 1080p@60Hz,	

Command Code	Function Description	Example	Feedback	Factory Default
			Audio 2CH PCM Input 3 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM Input 4 EDID_01: HDMI 1080p@60Hz, Audio 2CH PCM	
get edid data x	Get EDID data (x=0~10) x=0: All EDID x=1~4: Input 1~4 x=5~8: Output 1~4 x=9: User defined 1 x=10: User defined 2	get edid data 0	Input 1 EDID <00 FF FF FF....> Input 2 EDID <00 FF FF FF....> Input 3 EDID <00 FF FF FF....> Input 4 EDID <00 FF FF FF....> Output 1 EDID <00 FF FF FF....> Output 2 EDID <00 FF FF FF....> Output 3 EDID <00 FF FF FF....> Output 4 EDID <00 FF FF FF....> User defined 1 EDID <00 FF FF FF....> User defined 2 EDID <00 FF FF FF....>	
set input x hdcp y	Set input ports (x=0~4) HDCP on/off (y=0~1) x=0: All inputs x=1~4: Input 1~4 y=0: Off y=1: On	set input 0 hdcp 1	Input 1 HDCP: on Input 2 HDCP: on Input 3 HDCP: on Input 4 HDCP: on	

Command Code	Function Description	Example	Feedback	Factory Default
get input x hdcp	Get input ports (x=0~4) HDCP on/off status x=0: All inputs x=1~4: Input 1~4	get input 0 hdcp	Input 1 HDCP: on Input 2 HDCP: on Input 3 HDCP: on Input 4 HDCP: on	

OUTPUT SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set output x name y	Set output ports (x=1~4) name to y (max 16 characters) x=1~4: Output 1~4	set output 1 name ExampleTV1	Output 1 name: ExampleTV1	HDMI Out 1 HDMI Out 2 HDMI Out 3 HDMI Out 4
get output x name	Get output ports (x=0~4) name x=0: All outputs x=1~4: Output 1~4	get output 0 name	Output 1 name: ExampleTV1 Output 2 name: ExampleTV2 Output 3 name: ExampleTV3 Output 4 name: ExampleTV4	
get output x cable	Get output ports (x=0~4) cable status x=0: All outputs x=1~4: Output 1~4	get output 0 cable	Output 1 cable: connected Output 2 cable: connected Output 3 cable: disconnected Output 4 cable: disconnected	
get output x signal	Get output ports (x=0~4) signal status x=0: All outputs x=1~4: Output 1~4	get output 0 signal	Output 1 signal: 3840x2160p60Hz YUV 4:4:4 8bit Output 2 signal: 3840x2160p60Hz YUV 4:2:2 12bit Output 3 signal:	

Command Code	Function Description	Example	Feedback	Factory Default
			none Output 4 signal: none	
set output x hdcp y	Set output ports (x=0~4) HDCP mode (y=1~5) x=0: All outputs x=1~4: Output 1~4 y=1: Follow sink (default) y=2: Follow source y=3: Force HDCP 1.4 y=4: Force HDCP 2.2 y=5: Signal management	set output 0 hdcp 1	Output 1 HDCP: fol- low sink Output 2 HDCP: fol- low sink Output 3 HDCP: fol- low sink Output 4 HDCP: fol- low sink	
get output x hdcp	Get output ports (x=0~4) HDCP mode x=0: All outputs x=1~4: Output 1~4	get output 0 hdcp	Output 1 HDCP: fol- low sink Output 2 HDCP: fol- low sink Output 3 HDCP: fol- low sink Output 4 HDCP: fol- low sink	
set output x scaler mode y	Set output ports (x=0~4) scaler mode (y=1~3) x=0: All outputs x=1~4: Output 1~4 y=1: Bypass y=2: Force 1080p y=3: Auto	set output 0 scaler mode 1	Output 1 scaler mode: bypass Output 2 scaler mode: bypass Output 3 scaler mode: bypass Output 4 scaler mode: bypass	
get output x scaler mode	Get output ports (x=0~4) scaler mode x=0: All outputs x=1~4: Output 1~4	get output 0 scaler mode	Output 1 scaler mode: bypass Output 2 scaler mode: bypass Output 3 scaler	

Command Code	Function Description	Example	Feedback	Factory Default
			mode: bypass Output 4 scaler mode: bypass	
set output x output mode y	Set output ports (x=0~4) output mode (y=1~4) x=0: All outputs x=1~4: Output 1~4 y=1: On y=2: Off (disable TMDS output) y=3: Avmute y=4: Internal pattern	set output 0 output mode 1	Output 1 output mode: on Output 2 output mode: on Output 3 output mode: on Output 4 output mode: on	
get output x output mode	Get output ports (x=0~4) output mode x=0: All outputs x=1~4: Output 1~4	get output 0 output mode	Output 1 output mode: on Output 2 output mode: on Output 3 output mode: on Output 4 output mode: on	
set output x arc y	Set output ports (x=0~4) ARC on/off (y=0~1) x=0: All outputs x=1~4: Output 1~4 y=0: Off y=1: On	set output 0 arc 1	Output 1 ARC: off Output 2 ARC: off Output 3 ARC: off Output 4 ARC: off	
get output x arc	Get output ports (x=0~4) ARC on/off status x=0: All outputs x=1~4: Output 1~4	get output 0 arc	Output 1 ARC: off Output 2 ARC: off Output 3 ARC: off Output 4 ARC: off	
set pattern x y	Set internal pattern generator resolution (x=1~7) pattern (y=1~12) x=1: 4K60Hz x=2: 4K50Hz x=3: 4K25Hz x=4: 4K24Hz	set pattern 1 1	Pattern 4K60Hz black	

Command Code	Function Description	Example	Feedback	Factory Default
	x=5: 1080P60Hz x=6: 720P60Hz x=7: 480P60Hz y=1: Black y=2: Checkboard y=3: Strip y=4: Red y=5: Green y=6: Blue y=7: White y=8: Ramp y=9: Red ramp y=10: Green ramp y=11: Blue ramp y=12: PRBS			
get pattern	Get internal pattern generator resolution and pattern	get pattern	Pattern 4K60Hz black	

CEC SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set input x custom cec <y>	Set input ports (x=0~4) CEC custom command <y> x=0: All outputs x=1~4: Output 1~4 y=CEC custom command (hex format)	set input 1 custom cec <87 01>	Input 1 CEC: 87 01	
set output x cec <y>	Set output ports (x=0~4) CEC command <y> x=0: All outputs x=1~4: Output 1~4 y=power on/power off y=active source/image view on/text view on y=volume up/volume down/mute	set output 1 cec <power off>	Output 1 CEC: power off	

Command Code	Function Description	Example	Feedback	Factory Default
set input x custom cec <y>	Set output ports (x=0~4) CEC command <y> x=0: All outputs x=1~4: Output 1~4 y=power on/power off y=active source/image view on/text view on y=volume up/volume down/mute	set output 1 cec <power off>	Output 1 CEC: power off	
set output x custom cec <y>	Set output ports (x=0~4) CEC custom command <y> x=0: All outputs x=1~4: Output 1~4 y=CEC custom command (hex format)	set output 1 custom cec <87 01>	Output 1 CEC: 87 01	

PRESET SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set preset x name y	Set preset (x=1~4) name to y (16 characters max) x=1~4: Preset 1 ~ Preset 4	set preset 1 name MeetingRoom1	Preset 1 name: MeetingRoom1	
get preset x name	Get preset (x=1~4) name x=1~4: Preset 1 ~ Preset 4	get preset 1 name	Preset 1 name: MeetingRoom1	
set preset save x	Save the current unit's matrix routing to the specified preset (x=1~4) x=1~4: Preset 1 ~ Preset 4	set preset save 1	Preset 1 save	
set preset recall x	Recall a specified preset matrix routing into unit (x=1~4) x=1~4: Preset 1 ~ Preset 4	set preset recall 1	Preset 1 recall	

NETWORK SETTING

Command Code	Function Description	Example	Feedback	Factory Default
get ipconfig	Get the current IP configuration	get ipconfig	IP Mode: DHCP IP address: 192.168.62.106	default static IP is

Command Code	Function Description	Example	Feedback	Factory Default
			Subnet mask: 255.255.255.0 Gateway: 192.168.62.1 TCP/IP port: 8000 Telnet port: 23 MAC address: 6C:DF:FB:0C:B3:8E (Static: 169.254.100.200 255.255.0.0 169.254.100.1)	192.168.1. 41/255.25 5.0.0/192. 168.1.1
get mac addr	Get network MAC address	get mac addr	MAC address: 6C:DF:FB:0C:B3:8E	
set ip mode x	Set network IP mode to static IP or DHCP (x=0~1) x=0: Static x=1: DHCP	set ip mode 0	IP mode: static (Please use "set net reboot" command to apply new con- fig!)	
get ip mode	Get network IP mode	get ip mode	IP mode: static	
set ip addr xxx.xxx.xxx. xxx	Set network IP address	set ip addr 192.168.1.100	IP address: 192.168.1.100 (Please use "set net reboot" command to apply new config!) DHCP on, device can't con- fig static address, set DHCP off first.	
get ip addr	Get network IP address	get ip addr	IP address: 192.168.1.100	
set subnet xxx.xxx.xxx. xxx	Set network subnet mask	set subnet 255.255.255.0	Subnet mask: 255.255.255.0 (Please use "set net reboot" command	

Command Code	Function Description	Example	Feedback	Factory Default
			to apply new config!) DHCP on, device can't config subnet mask, set DHCP off first.	
get subnet	Get network subnet mask	get subnet	Subnet mask: 255.255.255.0	
set gateway xxx.xxx.xxx. xxx	Set network gateway	set gateway 192.168.1.1	Gateway: 192.168.1.1 (Please use "set net reboot" command to apply new config!) DHCP on, device can't config gateway, set DHCP off first.	
get gateway	Get network gateway	get gateway	Gateway: 192.168.1.1	
set tcp/ip port x	Set network TCP/IP port (x=1~65535)	set tcp/ip port 8000	TCP/IP port: 8000	8000
get tcp/ip port	Get network TCP/IP port	get tcp/ip port	TCP/IP port: 8000	
set telnet port x	Set network telnet port (x=1~65535)	set telnet port 23	Telnet port: 23	23
get telnet port	Get network telnet port	get telnet port	Telnet port: 23	
set net reboot	Reboot network modules	set net reboot	Network reboot... Search for IP,Please wait ...! IP Mode: DHCP IP address: 192.168.62.106 Subnet mask: 255.255.255.0 Gateway: 192.168.62.1	

Command Code	Function Description	Example	Feedback	Factory Default
			TCP/IP port: 8000 Telnet port: 23 MAC address: 6C:DF:FB:0C:B3:8E (Static: 169.254.100.200 255.255.0.0 169.254.100.1)	
set net hostname xxxx	Set network hostname to xxxx (x=[32 characters max])	set net hostname mxav44	Hostname: mxav44	
get net hostname	Get network hostname	get net hostname	Hostname: mxav44	

PASSWORD SETTING

Command Code	Function Description	Example	Feedback	Factory Default
set admin password x	Set admin login password (x=[16 characters max])	set admin password ldsystems	Admin password: ld- systems	ldsys- tems
get admin password	Get admin login password	get admin password	Admin password: ld- systems	
set user password x	Set user login password (x=[16 characters max])	set user password ldsystems	User password: ld- systems	ldsys- tems
get user password	Get user login password	get user password	User password: ld- systems	

8.2.1 ABOUT SYSTEM STATUS OUTPUT

EXAMPLE OUTPUT RETURNED BY THE <GET STATUS> COMMAND:

```

Connecting to 192.168.1.100 ...
Connected to 192.168.1.100
NVT: FF FB 03
NVT: FF FC 01
NVT: FF FE 01
NVT: FF FE 00
*****Welcome *****
          FW Version :V1.00.06
*****

statusstatus
=====
Status Info MXAV44
MCU: V1.00.06  WEB: V1.04

Power   IR    Beep   Front_Panel_Lock   RS-232
On      On    Off    Off                115200

Input   Name          Cable          EDID              HDCP
1       HDMI In 1    Disconnected   01: HDMI 1080p@60Hz, Audio 2CH PCM  On
2       HDMI In 2    Disconnected   01: HDMI 1080p@60Hz, Audio 2CH PCM  On
3       HDMI In 3    Disconnected   01: HDMI 1080p@60Hz, Audio 2CH PCM  On
4       HDMI In 4    Disconnected   01: HDMI 1080p@60Hz, Audio 2CH PCM  On

Output  Name          Cable          Signal            HDCP
1       HDMI Out 1    Disconnected   None              Follow_sink
2       HDMI Out 2    Disconnected   None              Follow_sink
3       HDMI Out 3    Disconnected   None              Follow_sink
4       HDMI Out 4    Disconnected   None              Follow_sink

Output  FromIn        Scaler_Mode    Output_Mode      ARC
1       3           Bypass         On               Off
2       4           Bypass         On               Off
3       2           Bypass         On               Off
4       3           Bypass         On               Off

TCP/IP   Telnet   MAC
8000     0023     6C:DF:FB:0A:6E:F2

DHCP     IP          Gateway        SubnetMask
On       192.168.001.100 192.168.001.254 255.255.255.000
(Static: 192.168.001.044 192.168.001.001 255.255.255.000

```

9 MAINTENANCE

9.1

PRODUCT MAINTENANCE



CAUTION

Mains Voltage

Risk of electric shock

- a. Before you perform maintenance work on the device, disconnect the device from all poles.



NOTICE

Damage to the device and void of warranty

- a. Do not use cleaning agents, disinfectants, alcohol, or agents with abrasive effect for cleaning.

Carry out the maintenance measures listed below on a regular basis. The frequency of cleaning depends on the environment in which you use the product. Damp or dirty environments may cause increased soiling and wear.

VISUAL INSPECTION

Check the following points before operating the device.

- **⚠ WARNING! Risk of electric shock.** Check mains power cables for damage or material fatigue.
- Check all air inlets and outlets for damage, dust, or dirt deposits.
- Check all outside screws and covers for corrosion, damage or excessive wear.
- Check all connectors and rubber sealing caps for damage, dust, or dirt deposits.
- **⚠ WARNING! Risk of falling objects.** Check that all screws, fasteners, and rigging points are securely tightened.

CLEANING

- Clean the surface with a clean and damp lint-free cotton cloth. Wipe off all excess moisture.
- **🚫 NOTICE! Do not use compressed air.** Clean any air inlets and outlets of dust and dirt deposits with a clean and damp lint-free cotton cloth.
- Clean all plug contacts from dust and dirt with a dry lint-free cotton cloth.

10 DISPOSAL

10.1

PACKAGING DISPOSAL



1. You can feed the packaging into the reusable material cycle using the usual disposal methods.
2. Separate the packaging in accordance with the applicable disposal laws and recycling regulations in your country

10.2

DEVICE DISPOSAL



1. This device is subject to the European Directive on Waste Electrical and Electronic Equipment, as amended. WEEE Directive Waste Electrical and Electronic Equipment. Old appliances do not belong in the household waste. The old device must be disposed of via an approved disposal company or a municipal disposal facility. Observe the applicable regulations in your country.
2. Observe all disposal laws applicable in your country.
3. As a private customer, you can obtain information on environmentally friendly disposal options from the seller of the product or the appropriate regional authorities.
4. Retailers are often legally obliged to take back items free of charge.
5. Old appliances that contain harmful substances are labelled with the symbol of a crossed-out dustbin.
6. Current information on the collection rate can be found at the following website:
<https://environment.ec.europa.eu/>. Search for the following term: waste-electrical-and-electronic-equipment-weee.

