

MAIA-16

MATRIXES

HDMI® 4K 60Hz 16x16 Matrix



USER MANUAL



PRECAUTIONS
WARRANTY & ENVIRONMENT
PACKAGE CONTENTS
DESCRIPTION & FEATURES
PANELS & REMOTE CONTROL
INSTALL & CONNECT
START-UP & OPERATION
WebGUI
TECHNICAL DATA

TABLE OF CONTENTS

1. PRECAUTIONS	3
1.1 Important Notice	3
1.2 Key Safety Directions	4
1.3 Cleaning Directions	4
2. WARRANTY & ENVIRONMENT	5
3. PACKAGE CONTENTS	5
4. DESCRIPTION & FEATURES	6
4.1 Main Features	6
5. PANELS & REMOTE CONTROL FUNCTIONS	7
5.1 Front Panel	7
5.2 Rear Panel	7
5.3 Remote Control	8
6. INSTALL & CONNECT	9
7. START-UP & OPERATION	10
7.1 LCD Display control menu	10
7.2 Video Switching Control	11
7.3 Input Signal Control	12
7.3.1 EDID	12
7.4 Output Signal Control	13
7.4.1 Scaler	13
7.4.2 ARC	14
7.4.3 Video Out	14
7.5 Settings	15
7.5.1 Network (DHCP switch)	15
7.5.2 RS-232 (Baud rate)	15
7.5.3 Reboot	16
7.5.4 Reset	16
7.6 Remote Controlling	17
7.6.1 Series Port Setting	17
7.6.2 Command List	17
8. WebGUI	23
8.1 Change IP address of PC	23
8.2 Login by Browser	24
8.3 APP Bar	24
8.4 Inputs	25
8.5 Outputs	27
8.6 Matrix	27
8.7 Presets	28
8.8 Remote Control	29
8.9 Network	30
8.10 Settings	31
9. TECHNICAL DATA	32
9.1 Technical Specifications	32
9.2 Mechanical Diagram	33

	PRECAUTIONS
	WARRANTY & ENVIRONMENT
	PACKAGE CONTENTS
	DESCRIPTION & FEATURES
	PANELS & REMOTE CONTROL
	INSTALL & CONNECT
	START-UP & OPERATION
	WebGUI
	TECHNICAL DATA

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.



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



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

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 or bottom 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.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
&
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

2. WARRANTY & ENVIRONMENT

Thank you for choosing our Ecler MAIA-16!

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

- 1x MAIA-16.
- 1x 24V/3.75A DC power supply.
- 1x Remote control.
- 1x IR Ext RX Cable.
- 16x 6 pin Euroblock connector for audio extraction.
- 1x 3 pin Euroblock connector for RS-232.
- 1x First Steps Guide.
- 1x Warranty card.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

4. DESCRIPTION & FEATURES

MAIA-16 is a 16x16 HDMI® matrix designed for professional environments that requires flexible routing of 4K video and audio signals. Especially suited for installations with a high number of sources and local displays that require organized and efficient content distribution. It combines intuitive control and management to simplify day-to-day operation in complex AV systems. It provides a reliable solution for dynamic presentation and distribution needs.

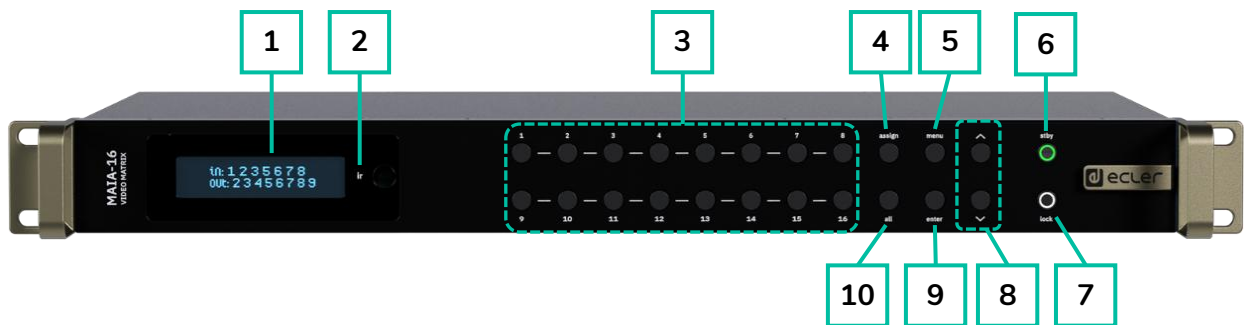
4.1 Main Features

- Matrix signal distribution with HDMI® inputs and outputs, supporting independent routing.
- Support for HDMI® video up to 4K 60Hz 4:4:4 as specified in HDMI 2.0b.
- Built-in downscaling for non-compliant 4K 60Hz 4:4:4 endpoints.
- Support for 16 user-defined presets.
- Stereo balanced analogue audio extraction via Euroblock connectors.
- Support for HDR10, HDR10+, Dolby Vision and HLG video signals.
- Support for ARC and audio formats including LPCM 2.0/5.1/7.1CH, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, and DTS:X.
- Control options include front panel with display, IR remote, RS-232, TCP/IP, and WebGUI.
- Advanced EDID management.
- HDCP 2.2 compliant.
- IR control extension.
- On desk and Rack mount installation options.

	PRECAUTIONS
	WARRANTY & ENVIRONMENT
	PACKAGE & CONTENTS
	DESCRIPTION & FEATURES
	PANELS & REMOTE CONTROL
	INSTALL & CONNECT
	START-UP & OPERATION
	WebGUI
	TECHNICAL DATA

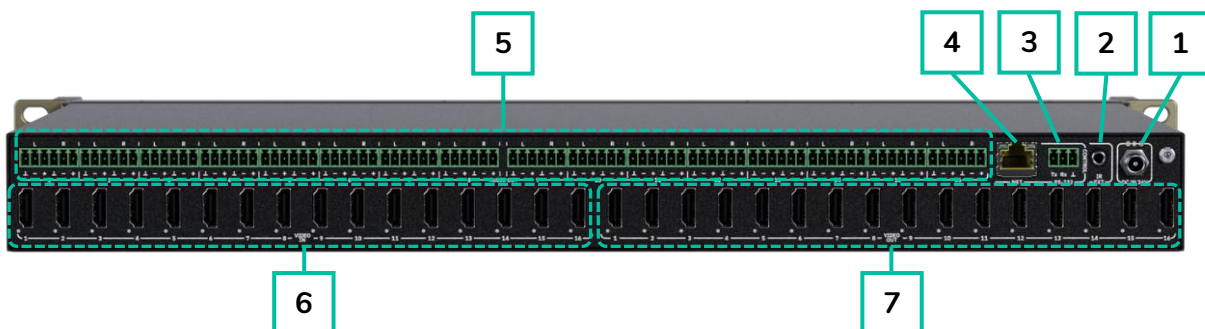
5. PANELS & REMOTE CONTROL FUNCTIONS

5.1 Front Panel



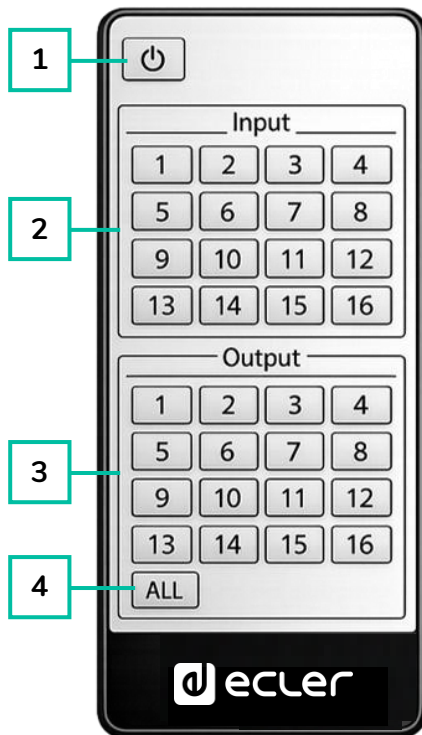
1. **LCD screen.**
2. **IR receiver window.**
3. **1-16 Ports:** short press to choose one input or output for routing.
4. **Assign:** Press to route an input source to an output port.
5. **Menu:** press to main menu interface or return to the previous menu interface.
6. **Stby:** press to enter standby mode.
7. **Lock:** long press to lock, long press again to unlock. When locked, all buttons are disabled except for the Lock button.
8. **^ / v:** short press to move up or down.
9. **Enter:** short press to confirm.
10. **All:** press to apply the action to all output ports.

5.2 Rear Panel



1. **DC 24V / 3.75A input.**
2. **IR-Ext.**
3. **RS-232 control.**
4. **Ethernet port.**
5. **Analogue audio out.**
6. **HDMI® input ports.**
7. **HDMI® output ports.**

5.3 Remote Control



1. Power on / Standby
2. Input 1-16
3. Output 1-16
4. ALL
 - Press INPUT-Y button (Y means 1 to 16 of the inputs).
 - Press ALL button.

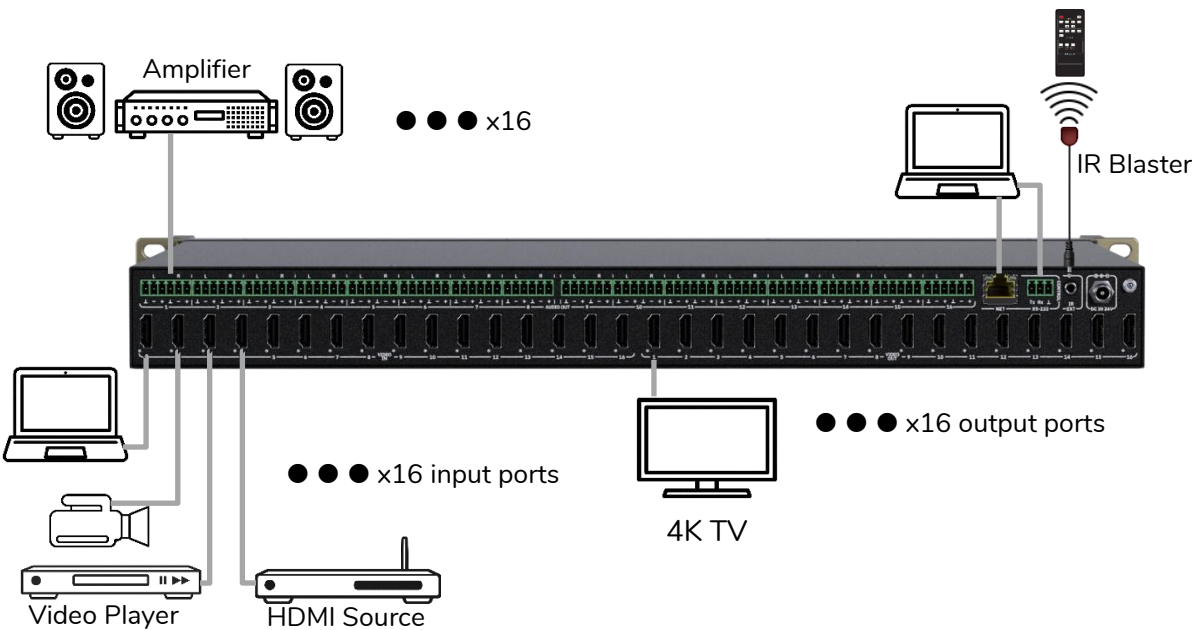
- **Power on/standby:**

- Short press the power button to enter standby mode. The LCD screen will display "System Shutdown", and the HDMI® output will be disconnected, resulting in no image on the TV.
- Short press the power button again to wake up the device. The HDMI® output will be restored to normal.

- **Video switch:**

- To switch the video signal from one input to a specific output, press the corresponding output button followed by the input button.
- For example, to switch the signal from input 2 to output 1, press output 1 button followed by input 2 button.

6. INSTALL & CONNECT

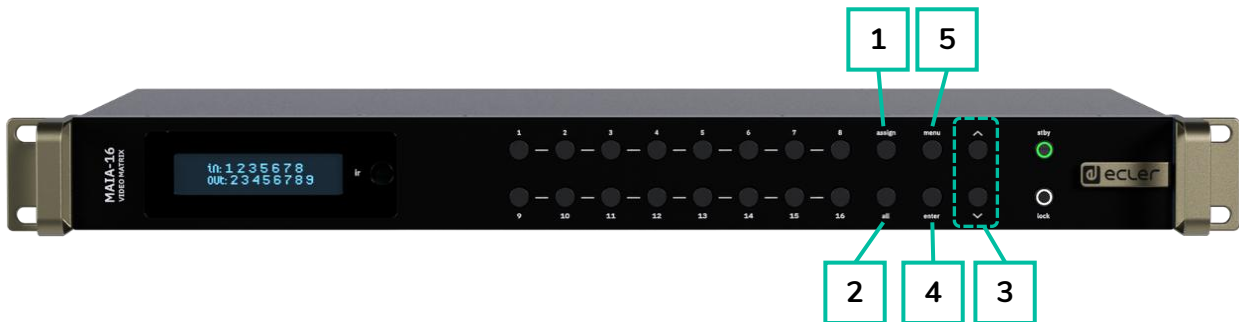


	PRECAUTIONS
	WARRANTY & ENVIRONMENT
	PACKAGE CONTENTS
	DESCRIPTION & FEATURES
	PANELS & REMOTE CONTROL
	INSTALL & CONNECT
	START-UP & OPERATION
	WebGUI
	TECHNICAL DATA

7. START-UP & OPERATION

The unit can be controlled and configured by following the steps indicated below. Alternatively, it can be configured via the WebGUI.

7.1 LCD Display control menu



To operate through the different menus, please use following front panel buttons:

1. **Assign:** press this button to route input sources to output ports.
2. **All:** represents all the output ports. Press this button to apply the action to all output ports.
3. **^ / v** : press these buttons (up / down) to select the item.
4. **Enter:** press this button to confirm the selected item.
5. **Menu:** press this button to access the configuration menu and navigate back to previous menus.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
&
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

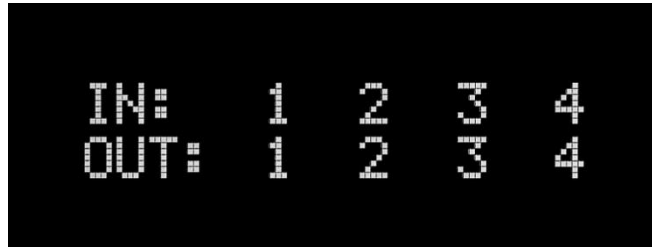
START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

7.2 Video Switching Control

The signal switch includes 16 free switching channels, which can be configured as input/output according to the requirements, forming a matrix of 1 x 16 ~ 16 x 1, which can switch any input signal to a single output or simultaneously to all outputs.



- **To switch input channel to the output**, select the "output channel" + "input channel", follow these steps:
 1. Press the desired input channel selection.
 2. Press the "assign" button.
 3. Press the desired output channel that you want to associate with the selected "input channel".
 4. Press the "Enter" button to complete switching.
- **To assign an input channel to all output channels**, follow these steps:
 1. Press the desired input channel selection.
 2. Press the "assign" button.
 3. Press the "all" button.
 4. Long press "all" button again or just press the "Enter" button to complete switching.



Examples:

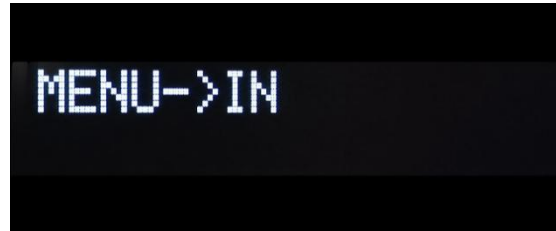
- Switch input 1 to output 4
Operation: press input 1, then the "assign" button, then the output 4, and finally press the "Enter" button to complete the switching.
- Switch input 4 to all outputs
Operation: press input 4, then the "assign" button, then the "all" button and finally press the "Enter" button to complete the switching.



If time between pressing exceeds 10s, it will be necessary to press output button again.

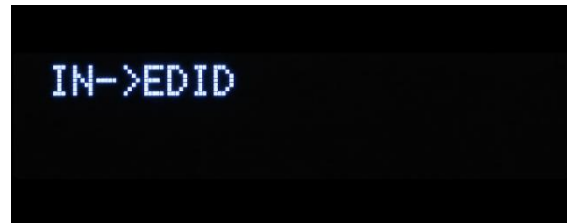
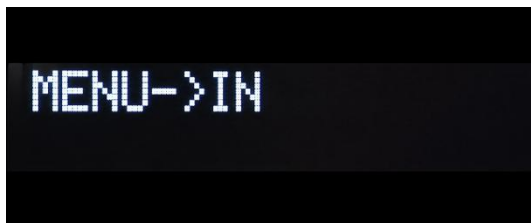
7.3 Input Signal Control

This section describes **how to control and configure the video settings for each of the 16 input signals.**



7.3.1 EDID

This parameter **allows the EDID settings to be configured.**



1. Press “Menu” to access the Input Parameters menu.
2. In the Inputs menu, the EDID settings for the inputs can be configured.
3. Press “Enter” to access the EDID settings.
4. Press “ $\wedge$ / $\vee$ ” to select Input 1–16 or “All” (All applies the setting to all inputs). Press “Enter” to confirm the selection.
5. Press “ $\wedge$ / $\vee$ ” to select the parameter to be adjusted.

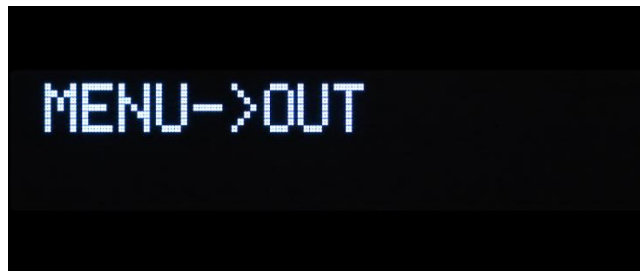


The default EDID is 1080P 2.0 CH



7.4 Output Signal Control

This section allows configuration and control of the video features for each of the 16 outputs.



7.4.1 Scaler

Scaler allows the output video signal to be scaled in one of the following modes: BYPASS, AUTO, or 4K → 1080p.



By default, all outputs are configured to AUTO.



To configure the Scaler setting:

1. Press “Menu”.
2. Use “ / ” to select “OUT”, then press “Enter”.
3. Use “ / ” to select “Scaler”, then press “Enter”.
4. Use “ / ” to select Output 1–16 or “All” (All applies the setting to all outputs), then press “Enter”.
5. Use “ / ” to select the desired scaling mode (BYPASS, AUTO, or 4K → 1080p), then press “Enter” to confirm the selection.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

7.4.2 ARC

This section allows the Audio Return Channel (ARC) feature to be enabled or disabled for each of the 16 output audio channels.



To change the ARC setting:

1. Press "Menu" button.
1. Press "⬆ / ⬇" button to select "OUT", press "Enter".
2. Press "⬆ / ⬇" button to select "ARC", press "Enter".
3. Press "⬆ / ⬇" button to select "output 1~16" or "All" ("All" applies the setting to all outputs), press "Enter".
4. Press "⬆ / ⬇" button to select "On" or "Off", and press "Enter" to confirm your choice.

7.4.3 Video Out

Video signal can be switched on and off on any output selected.



By default, the output video is set to "ON".



1. Press "Menu" button.
2. Press "⬆ / ⬇" button to select "OUT", press "Enter".
3. Press "⬆ / ⬇" button to select "VIDEO OUT", press "Enter".
4. Then use "⬆ / ⬇" button to select "output 1~16" or "All" ("All" applies the setting to all outputs), press "Enter".
5. Press "⬆ / ⬇" button to select "On" or "Off", and press "Enter" to confirm your choice.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebUI

TECHNICAL
DATA

7.5 Settings

This section **allows general settings to be configured.**

7.5.1 Network (DHCP switch)

This section **allows DHCP to be enabled for network configuration.**

- **DHCP On:** dynamic IP address (by default).
- **DHCP Off:** static IP address.



To change the DHCP setting:

1. Press the "Menu" button.
2. Press " $\wedge$ / $\vee$ " button to select "SETTINGS", press "Enter".
3. Press " $\wedge$ / $\vee$ " button to select "NETWORK".
4. Press "Enter" to enter the next sub-menu.
5. Press " $\wedge$ / $\vee$ " button to select "On".
6. Press "Enter" to open DHCP to allocate IP address automatically.

7.5.2 RS-232 (Baud rate)

This section **allows the serial baud rate to be configured.**



1. Press the "Menu" button.
2. Press " $\wedge$ / $\vee$ " button to select "SETTINGS", press "Enter".
3. Press " $\wedge$ / $\vee$ " button to choose "BAUDRATE".
4. Press "Enter" to enter the sub-menu.
5. Press " $\wedge$ / $\vee$ " button to select the desired baud rate, such as "115200".
6. Press "Enter" to confirm and complete the setting.

7.5.3 Reboot

Reboots the device.



1. Press the "Menu" button.
2. Press "⤴ / ⤵" button to select "SETTINGS", press "Enter".
3. Press "⤴ / ⤵" button to select "REBOOT"
4. Press "⤴ / ⤵" to select YES or NO.

7.5.4 Reset

Restores the unit to its factory default settings.



1. Press the "Menu" button.
2. Press "⤴ / ⤵" button to select "SETTINGS", press "Enter".
3. Press "⤴ / ⤵" button to select "RESET".
4. Press "⤴ / ⤵" to select YES or NO.

7.6 Remote Controlling

MAIA-16 can be remotely controlled over RS-232 or TCP communications protocol.

- For RS-232 serial communication: enter the selected parameters on **Series Port Setting** chapter.
- For TCP/ Telnet communication: enter the current MAIA-16 IP address and Port: 23 for Telenet connection or 8000 for TCP commands.

7.6.1 Series Port Setting

The **serial parameters for correct transmission** are:

Baud rate 115200 (by Default) | Data bits 8 | Stop bits 1 | Parity None | Flow control None

 For correct communication, both the host PC and MAIA-16 need to have the same baud rate amongst the available options.

7.6.2 Command List

 Command head, Parameter and target need to add one "SPACE".

Command Code	Description	Command return
Power		
s power z!	Power on/off the device. Parameters: z=0~1: 0=power off, 1=power on Example: s power 1!	System Initializing... Initialization Finished! FW version x.xx.xx Default: power on
r power!	Get current power state. Example: r power!	power on / power off
s reboot!	Reboot the device. Example: s reboot!	Reboot... System Initializing... Initialization Finished! FW version x.xx.xx
System Setup		
help!	List all commands. Example: help!	
r type!	Get device model. Example: r type!	MAIA-16
r status!	Get device current status. Example: r status!	Returns: power, beep, lock, in/out connection, video/audio crosspoint, EDID, scaler, network.
r fw version!	Get firmware version. Example: r fw version!	MCU BOOT: Vx.xx.xx MCU APP: Vx.xx.xx WEB GUI: Vx.xx



PRECAUTIONS

WARRANTY & ENVIRONMENT

PACKAGE CONTENTS

DESCRIPTION & FEATURES

PANELS & REMOTE CONTROL

INSTALL & CONNECT

START-UP & OPERATION

WebGUI

TECHNICAL DATA

r link in x!	Get connection status of input port x. Parameters: x=0~16: 0=all Example: r link in 1!	hdmi input 1: connect
r link out y!	Get connection status of output port y. Parameters: y=0~16: 0=all Example: r link out 1!	hdmi output 1: connect
s reset!	Reset to factory defaults. Example: s reset!	System Initializing... Initialization Finished! FW version x.xx.xx
s beep z!	Enable / disable buzzer. Parameters: z=0~1: 0=off, 1=on Example: s beep 1!	beep on / beep off Default: beep on
r beep!	Get buzzer state. Example: r beep!	beep on / beep off
s lock z!	Lock / unlock front-panel buttons. Parameters: z=0~1: 0=unlock, 1=lock Example: s lock 1!	panel button lock on / lock off Default: panel button lock off
r lock!	Get front-panel lock state. Example: r lock!	panel button lock on/off
s lcd on time z!	Set LCD backlight remain-on time. Parameters: z=0~4: 0=off, 1=always on, 2=15s, 3=30s, 4=60s Example: s lcd on time 1!	lcd on 15 seconds Default: lcd on 30 seconds
r lcd mode!	Get LCD backlight status. Example: r lcd mode!	lcd always on
s save preset z!	Save current routing to preset z. Parameters: z=1~16 Example: s save preset 1!	save to preset 1
s recall preset z!	Recall preset z. Parameters: z=1~16 Example: s recall preset 1!	recall from preset 1
s clear preset z!	Clear preset z. Parameters: z=1~16 Example: s clear preset 1!	clear preset 1
r preset z!	Get preset z routing information. Parameters: z=1~16 Example: r preset 1!	video/audio crosspoint
Output Setting		
s in x av out y!	Route input x to output y. Parameters: x=1~16 y=0~16: 0=all Example: s in 1 av out 2!	input 1 -> output 2 Default: PTP
r av out y!	Get routing status of output y. Parameters: y=0~16: 0=all Example: r av out 0!	input 1 -> output 1 input 2 -> output 2 ...

s hdmi y stream z!	Enable / disable HDMI output y stream. Parameters: y=0~16: 0=all z=0~1: 0=disable, 1=enable Example: s hdmi 1 stream 1!	Enable hdmi output 1 stream Disable hdmi output 1 stream Default: enable
r hdmi y stream!	Get stream status of HDMI output y. Parameters: y=0~16: 0=all Example: r hdmi 1 stream!	Enable hdmi output 1 stream
s hdmi y scaler z!	Set scaler mode for HDMI output y. Parameters: y=0~16: 0=all z=1~3: 1=bypass, 2=4K->1080p, 3=Auto Example: s hdmi 1 scaler 1!	hdmi output 1 set to bypass mode Default: bypass mode
r hdmi y scaler!	Get scaler mode of HDMI output y. Parameters: y=0~16: 0=all Example: r hdmi 1 scaler!	hdmi output 1 set to bypass mode
EDID Setting		
s edid in x from z!	Set EDID for input x from built-in library or copy from output. z=1-3: 1080p, z=4-6: 1080i, z=7-9: 3D, z=10-12: 4K30, z=13-15: 4K60_420, z=16-21: 4K60_444/HDR, z=22: USER1, z=23: USER2, z=24-39: copy HDMI out 1~16. Parameters: x=0~16: 0=all z=1~39 Example: s edid in 1 from 1!	input 1 EDID: 1080p, Stereo Audio 2.0 Default: 1080p, Stereo Audio 2.0
r edid in x!	Get EDID status of input x. Parameters: x=0~16: 0=all Example: r edid in 0!	input 1 EDID: 4K2K60_444, Stereo Audio 2.0 ...
r edid data hdmi y!	Get raw EDID data of HDMI output y. Parameters: y=1~16 Example: r edid data hdmi 1!	EDID: 00 FF FF FF FF FF FF 00 ...
Audio Setting		
s hdmi y arc z!	Enable / disable ARC on HDMI output y. Parameters: y=0~16: 0=all z=0~1: 0=off, 1=on Example: s hdmi 1 arc 1!	hdmi output 1 arc on / arc off
r hdmi y arc!	Get ARC state of HDMI output y. Parameters: y=0~16: 0=all Example: r hdmi 1 arc!	hdmi output 1 arc on Default: off
CEC Setting		
s cec in x on!	Set input x power ON via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 on!	input 1 power on
s cec in x off!	Set input x power OFF via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 off!	input 1 power off

s cec in x menu!	Open menu on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 menu!	input 1 open menu
s cec in x back!	Send Back on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 back!	input 1 back operation
s cec in x up!	Send Menu Up on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 up!	input 1 menu up operation
s cec in x down!	Send Menu Down on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 down!	input 1 menu down operation
s cec in x left!	Send Menu Left on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 left!	input 1 menu left operation
s cec in x right!	Send Menu Right on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 right!	input 1 menu right operation
s cec in x enter!	Send Enter on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 enter!	input 1 menu enter operation
s cec in x play!	Send Play on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 play!	input 1 play operation
s cec in x pause!	Send Pause on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 pause!	input 1 pause operation
s cec in x stop!	Send Stop on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 stop!	input 1 stop operation
s cec in x rew!	Send Rewind on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 rew!	input 1 rewind operation
s cec in x ff!	Send Fast Forward on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 ff!	input 1 fast forward
s cec in x previous!	Send Previous on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 previous!	input 1 previous operation
s cec in x next!	Send Next on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 next!	input 1 next operation
s cec in x mute!	Send Volume Mute on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 mute!	input 1 volume mute

	PRECAUTIONS
	WARRANTY & ENVIRONMENT
	PACKAGE & CONTENTS
	DESCRIPTION & FEATURES
	PANELS & REMOTE CONTROL
	INSTALL & CONNECT
	START-UP & OPERATION
	WebGUI
	TECHNICAL DATA

s cec in x vol-!	Send Volume Down on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 vol-!	input 1 volume down
s cec in x vol+!	Send Volume Up on input x via CEC. Parameters: x=0~16: 0=all Example: s cec in 1 vol+!	input 1 volume up
s cec hdmi out y on!	Set HDMI output y power ON via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 on!	hdmi output 1 power on
s cec hdmi out y off!	Set HDMI output y power OFF via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 off!	hdmi output 1 power off
s cec hdmi out y mute!	Set HDMI output y volume mute via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 mute!	hdmi output 1 volume mute
s cec hdmi out y vol-!	Set HDMI output y volume down via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 vol-!	hdmi output 1 volume down
s cec hdmi out y vol+!	Set HDMI output y volume up via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 vol+!	hdmi output 1 volume up
s cec hdmi out y active!	Set HDMI output y as active source via CEC. Parameters: y=0~16: 0=all Example: s cec hdmi out 1 active!	hdmi output 1 active source
Network Setting		
r ipconfig!	Get full IP configuration. Example: r ipconfig!	IP Mode: Static IP: 192.168.1.72 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 TCP/IP port=8000 Telnet port=10 MAC: 00:1C:91:03:80:01
r mac addr!	Get network MAC address. Example: r mac addr!	Mac address: 00:1C:91:03:80:01
s ip mode z!	Set IP mode. Apply with 's net reboot!' or power cycle. Parameters: z=0~1: 0=Static, 1=DHCP Example: s ip mode 0!	Set IP mode: Static
r ip mode!	Get current IP mode. Example: r ip mode!	IP Mode: Static
s ip addr xxx.xxx.xxx.xxx!	Set static IP address. Apply with 's net reboot!' or power cycle. Example: s ip addr 192.168.1.100!	Set IP address: 192.168.1.100
r ip addr!	Get current IP address. Example: r ip addr!	IP address: 192.168.1.100
s subnet xxx.xxx.xxx.xxx!	Set subnet mask. Apply with 's net reboot!' or power cycle. Example: s subnet 255.255.255.0!	Set subnet Mask: 255.255.255.0
r subnet!	Get current subnet mask. Example: r subnet!	Subnet Mask: 255.255.255.0

s gateway xxx.xxx.xxx.xxx!	Set network gateway. Apply with 's net reboot!' or power cycle. Example: s gateway 192.168.1.1!	Gateway: 192.168.1.1
r gateway!	Get current gateway. Example: r gateway!	Gateway: 192.168.1.1
s tcp/ip port x!	Set TCP/IP port. Parameters: x=1~65535 Example: s tcp/ip port 8000!	Set TCP/IP port: 8000 Default: 8000
r tcp/ip port!	Get current TCP/IP port. Example: r tcp/ip port!	TCP/IP port: 8000
s telnet port x!	Set Telnet port. Parameters: x=1~65535 Example: s telnet port 23!	Set Telnet port: 23
r telnet port!	Get current Telnet port. Example: r telnet port!	Telnet port: 23
s net reboot!	Reboot network module to apply pending IP changes. Example: s net reboot!	Network reboot.. IP Mode: Static IP: 192.168.1.72 ...

8. WebGUI

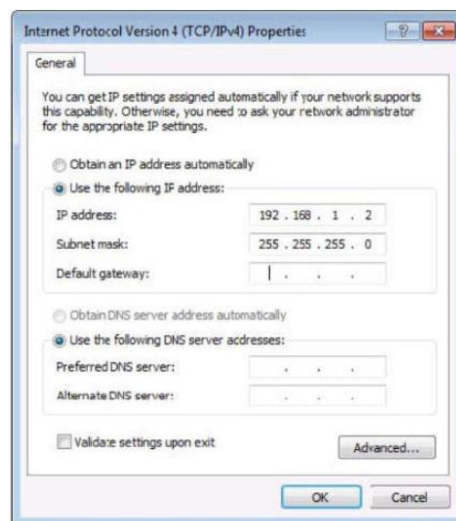
The unit can be **controlled and configured by its own built-in web interface** which can be accessed in either of the following ways:

- By entering the device hostname or IP address in your web browser's search tab.
- By using the mDNS address shown on the label on the rear panel (or on the additional label included in the packaging). Enter the address in the following format in your browser: <http://MAIA16-xxxx.local>. The last four digits (xxxx) match the last four digits of the device's MAC address.

8.1 Change IP address of PC

! Before configuring the device through the website, it is necessary to configure the IP address of your computer to be in the same network segment as the device.

1. Open the Network Control Center on your computer.
2. Find the network connection you are using (Ethernet or Wi-Fi).
3. Right-click on the network connection and select "Properties".
4. Look for "Internet Protocol Version 4 (TCP/IPv4)" or "IPv4" and select it.
5. Choose the option to manually set the IP address.
6. Enter an IP address that is in the same network segment as the device.
7. Set the subnet mask to match the device's network configuration.
8. Leave the default gateway field blank or enter the device's IP address.
9. Save the changes and close the network properties window.



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

8.2 Login by Browser

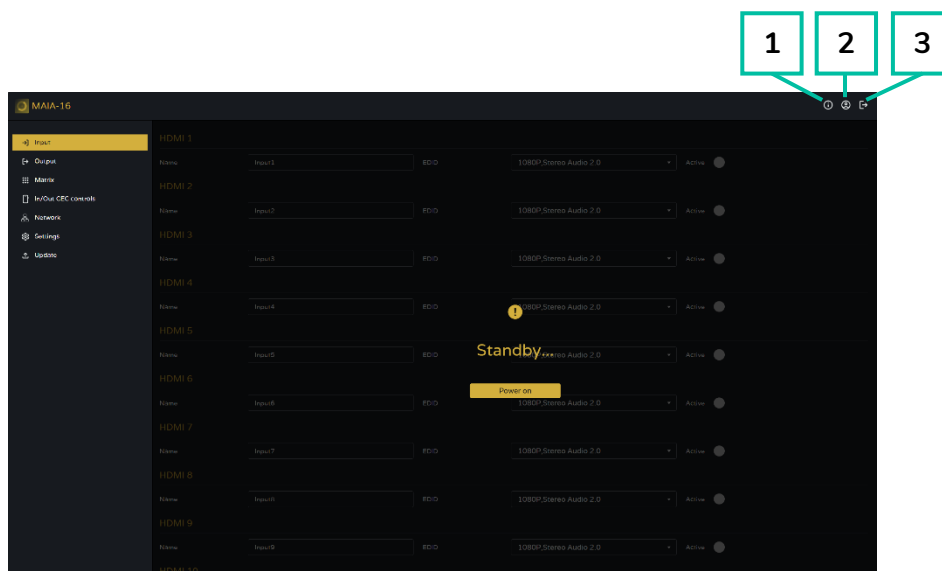
To access MAIA-16 WEB settings, type the base unit IP address in an internet browser.

- Web access: <http://MAIA16-xxxx.local>
- Default username: admin
- Default password: admin



8.3 APP Bar

This section contains important information and provides quick action buttons.

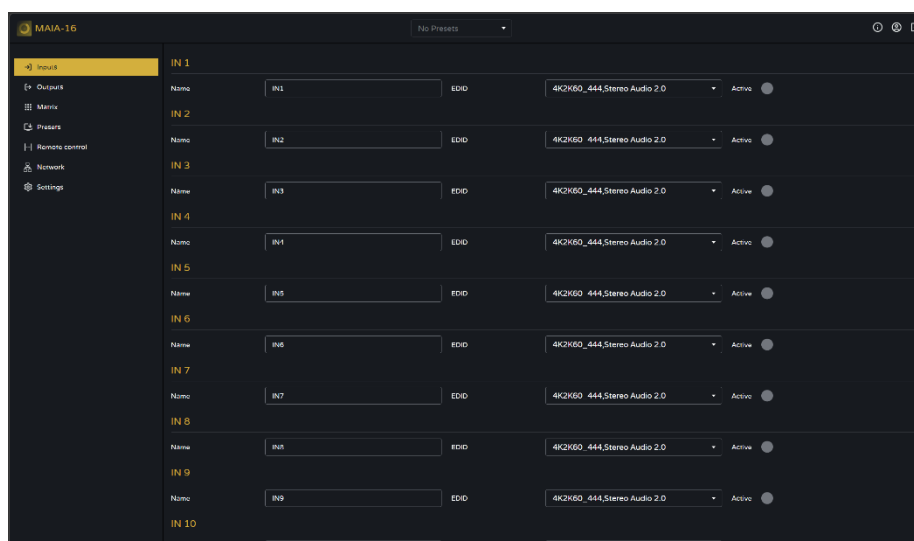


1. ⓘ : displays the following basic device information.
 - Model: Device model name.
 - Firmware version: Current firmware version.
 - Web access: Current URL for accessing the unit's web interface.
 - Network information: IP address, subnet mask, and gateway.
 - MAC address: Unit MAC address.
2. 👤 : Enter your username and password in the fields provided, then click **Apply**. The new credentials take effect on the next login. Usernames and passwords support 1–15 characters (letters, numbers, and underscores).
3. 🚪 : Click this button to logout and exit the configuration page.

8.4 Inputs

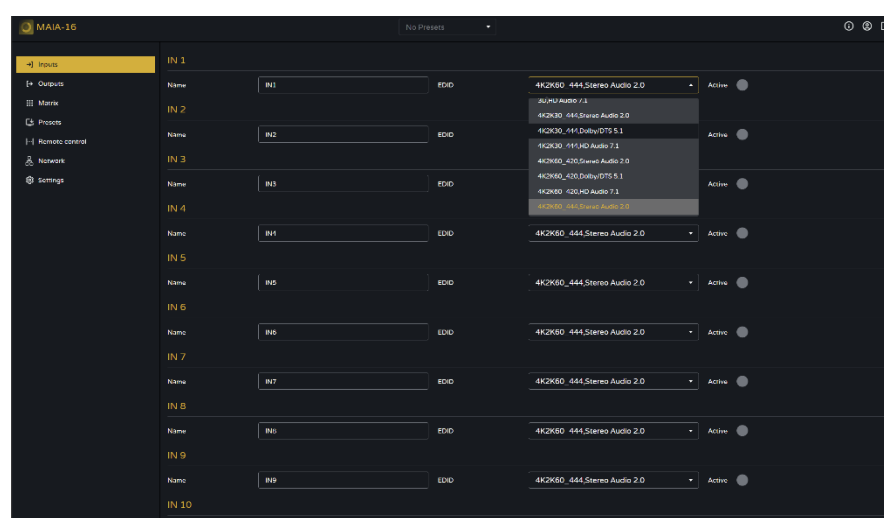
This section allows **renaming input ports**, **selecting input EDID**, **loading EDID**, and **displaying the port connection status**.

- **Rename:** Modify the current name of input port, support 1~15 characters (numbers, letters and underscores) which is synchronized with the screen.
- **Download EDID to your computer:** Copy the selected port EDID and display EDID information (HDR, audio channel, resolution, colour range) and save it to PC.
- **Load EDID to User memory:** Save default/copy EDID to User EDID and upgrade the BIN file to the User EDID.



To operate each item:

1. **Rename:** Click the left mouse button to enter the name editing to customize the name.
2. **Download EDID to your computer:** Use the mouse to click the white dropdown to select the required HDMI input port to be saved. Then click the save button to download it to PC.



3. Load EDID to User memory:

- Click on magnifying glass icon .
- Navigate to the required EDID file on your PC select it and click "Open".
- Click the "Load" button to load/import the EDID file correctly.
- Select the required destination from the dropdown list followed by the "Upload" button.

4. EDID Management

The device includes **4 EDID modes**: Default EDID, User EDID, Output EDID, control EDID by WEB and RS-232. Factory Default: Default1 4K60 444 2CH.

Refer to the EDID management commands in the table below.



Instructions are as follows:

Send instruction: "#edid_d input=1 mode=1 data=2". The input parameter "input" must be 0 or 1~8 (0 means all inputs), data =0~24 (corresponds to the following table).

EDID MODE	EDID Index	EDID
Default EDID	0	4096x2160/60-444 HLG 2CH (default)
	1	4096x2160/60-420 HLG 2CH
	2	4096x2160/30-444 HLG 2CH
	3	1920x1080P/120-444 HLG 2CH
User EDID	4-7	User EDID is set by user, with power-off memory function, new EDID will auto-cover old EDID.
Output EDID	8-15	Copy output 1-8 ports' EDID with storage function. without power-off memory
Temp1	24	Temporary EDID



4K resolution EDID configurations will automatically apply a downscaling when the target device does not support a resolution higher than 1080p



PRECAUTIONS

WARRANTY
&
ENVIRONMENT

PACKAGE
CONTENTS

DESCRIPTION
&
FEATURES

PANELS &
REMOTE CONTROL

INSTALL
&
CONNECT

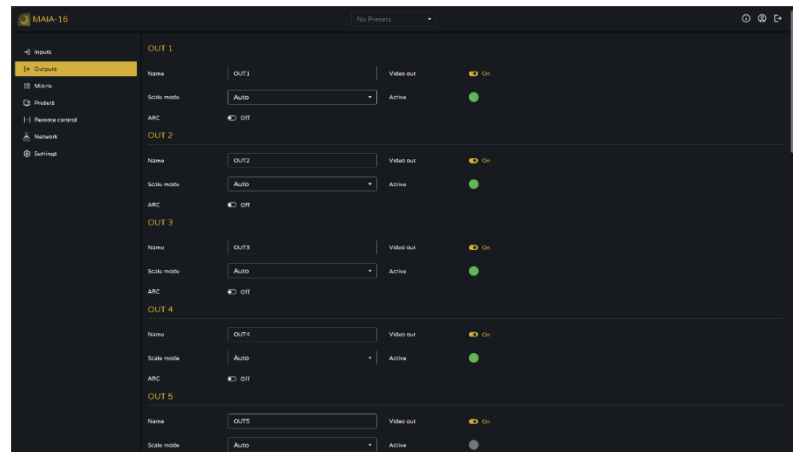
START-UP
&
OPERATION

WebGUI

TECHNICAL
DATA

8.5 Outputs

This section allows **renaming output ports**, **switching the output video on or off** (on by default), selecting the **scaler mode** (Pass through by default), enabling or disabling the **ARC function** (off by default), and **displaying the port connection status**.



- **Rename:** Modify the current name of output port, support 1~15 characters (numbers, letters and underscores).
- **Video:** Enable or disable the output video.
- **Scaler mode:** output port scaler configuration.
- **ARC:** Enable or disable audio return channel feature.
- **Signal Status:** shows the current signal status.

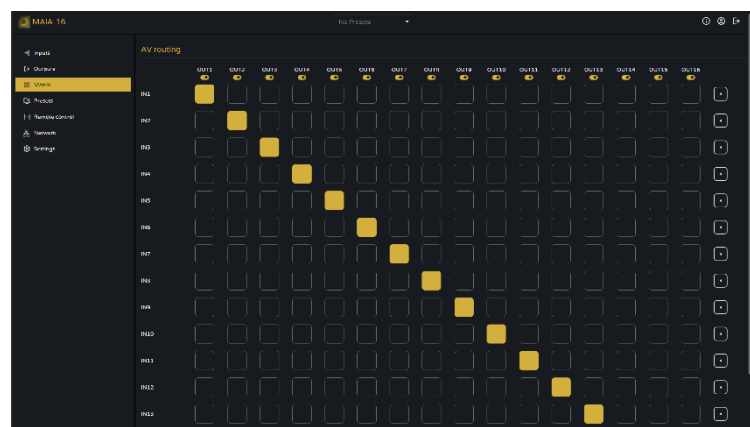


White indicates On; black indicates Off.

8.6 Matrix

This section allows you to **display the input source** corresponding to the current output port, **Switching the input to an output port and output the image**.

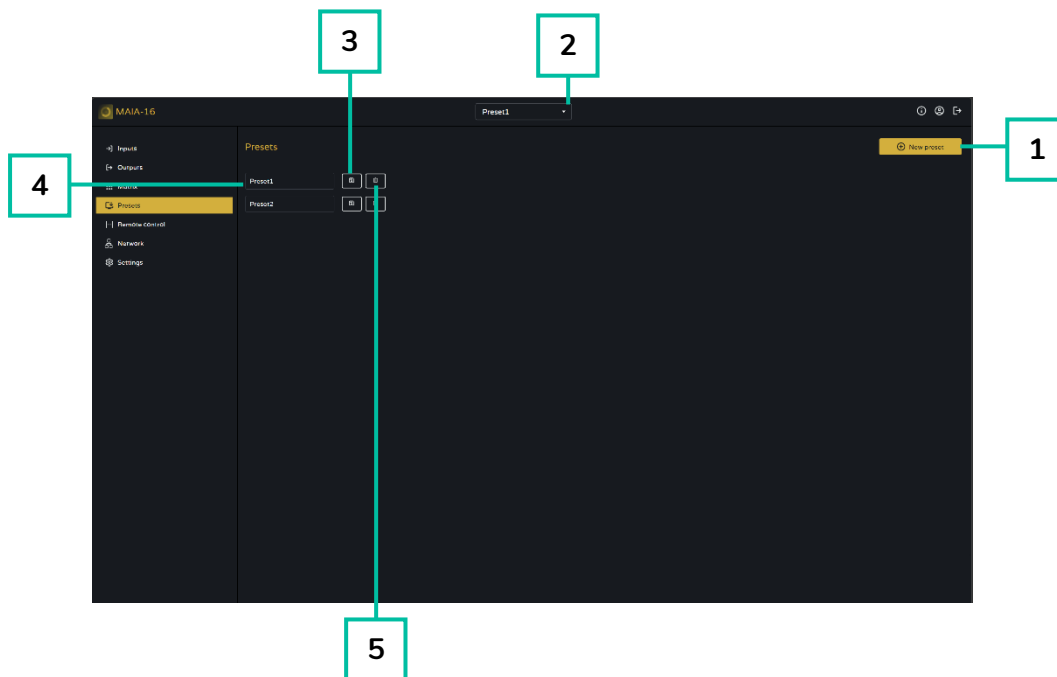
Click the input box to switch the corresponding output port.



The vertical axis indicates the selection of the input port, the horizontal axis indicates the selection of the output port, and "All" indicates the selection of all outputs.

8.7 Presets

Use this option to **create, rename, save, recall and clear** preset scenes.



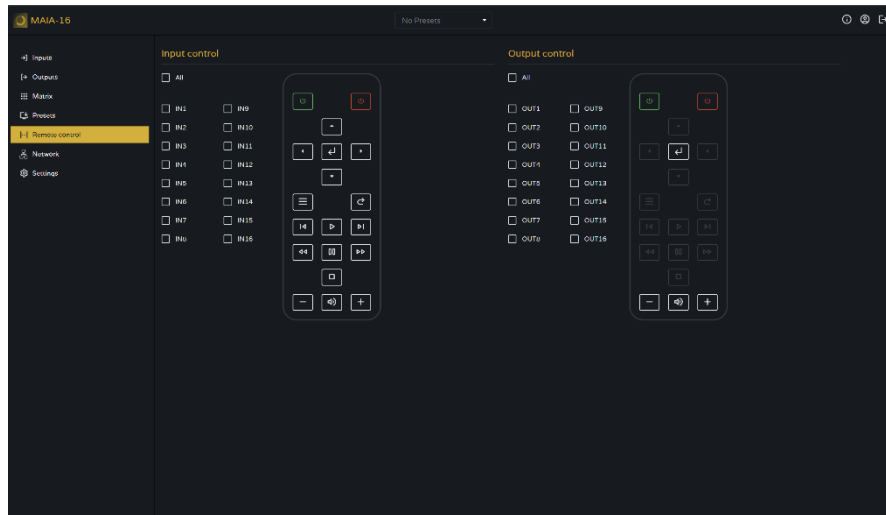
1. **New preset:** Click to enter a name for a new preset.
2. **Recall:** Use the scroll bar to select the preset to recall.
3. : After creating or editing a preset, select in the preset list the name that matches the one shown in the Recall section to save the current scene. Video, audio, and system settings can be saved, but network parameters cannot.
4. **Rename:** To rename a preset, click its name and type a new one.
5. : Click to clear the currently saved scene.



The device **can preset 16 scenes and support scene renaming.**

8.8 Remote Control

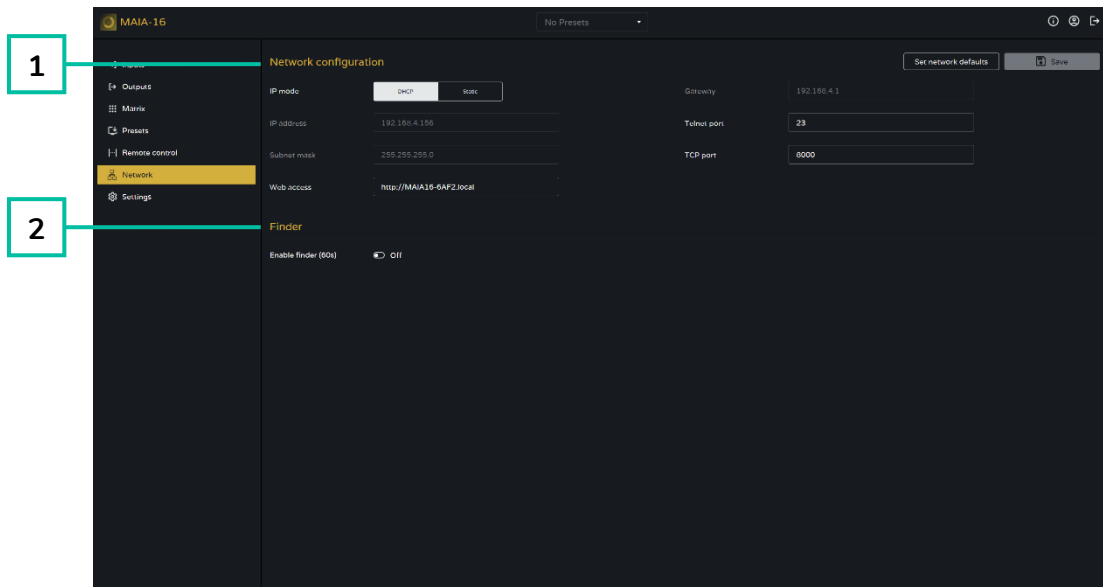
MAIA-16 features a complete section for input / output control via CEC management to ensure efficient operation and 3rd party control integration.



- **Input control:** allows individual or group control of the inputs. Available controls include:
 - Turn on /off.
 - Volume control.
 - Menu navigation.
 - Media player navigation.
- **Output control:** allows individual or group control of the outputs. Available controls include:
 - Turn on /off.
 - Volume control.
 - Option confirmation button.

8.9 Network

This section allows you to **configure and display network parameters**, as well as TCP and Telnet settings, the Web access URL, and the unit finder feature.



1. Network configuration

- **IP mode:**
 - **DHCP enabled:** the unit uses a dynamic IP address assigned automatically by the router and cannot be modified.
 - **STATIC enabled:** the unit uses a static IP address which can be modified.
- **IP address:** can only be modified when the IP mode is set to STATIC.
- **Subnet Mask** can only be modified when the IP mode is set to STATIC.
- **Web access:** configure the unit web access URL (`http://MAIA16-xxxx.local` by default, where `xxxx` refers to the last 4 digits of the unit MAC address).
- **Gateway:** can only be modified when the IP mode is set to STATIC.
- **Telnet Port:** Configure the port (23 by default) to access MAIA-16.
- **TCP port:** Configure port (8000 by default) to access MAIA-16.

2. Finder:

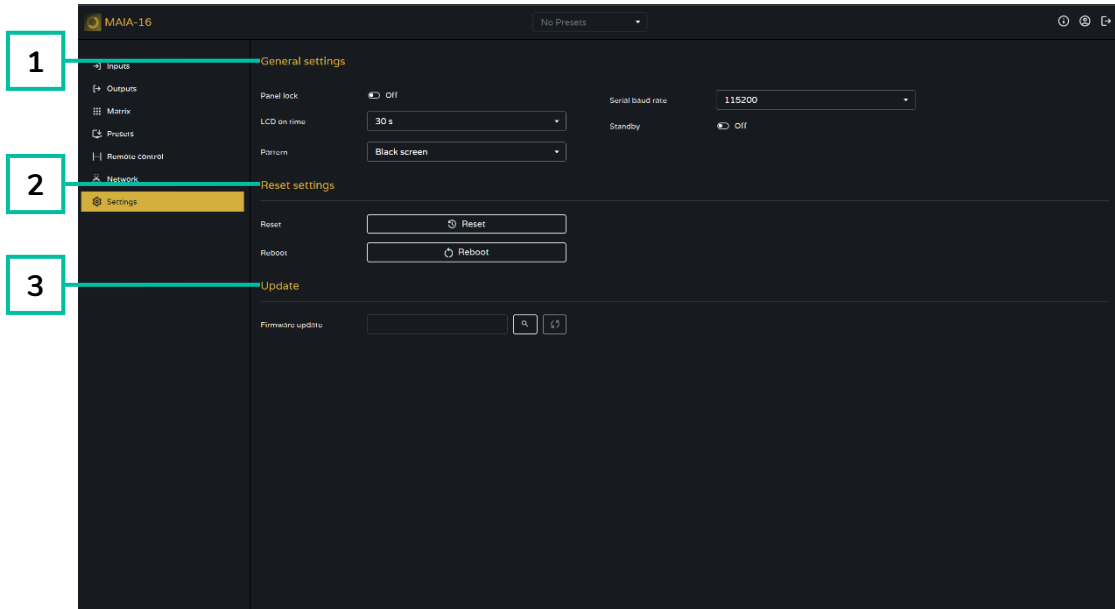
- **Enable finder (60s):** Activates the unit finder function to identify the unit physically by blinking the STBY and LOCK button LEDs for 60 seconds. Useful when multiple units are installed in the same system.



Click Save to apply the changes.

8.10 Settings

This section allows **configuration of panel lock, serial baud rate, LCD on time, unit standby, reset, reboot, and firmware update.**



1. General settings

- **Panel Lock:** Enables or disables control from the unit's physical buttons. Default setting: Off.
- **LCD on time:** Dropdown list to set how long the LCD remains on (Off, Always On, 15, 30, or 60 seconds).
- **Pattern:** Selects the output test pattern.
- **Reset:** Restores the selected settings to their default values.
- **Serial baud rate:** Dropdown list to select the baud rate for compatibility with third-party devices.
- **Standby:** Toggle button to set the unit to standby mode. Default setting: Off.

2. Reset settings

- **Reset:** Restores default settings.
- **Reboot:** Restarts the unit.

3. Update

- **Firmware update:**
 1. Click the magnifying glass icon  to load the Firmware file.
 2. Once the file has loaded, click the refresh icon  to start the update.



The update takes approximately 2–3 minutes. Wait until the unit reboots and the web page refreshes automatically.

9. TECHNICAL DATA

9.1 Technical Specifications

MAIA-16

Video Performances	
Video Input Connectors	16x HDMI® Type A Female, 2.0b, 18 Gbps
Video Output connectors	16x HDMI® Type A Female, 2.0b, 18 Gbps
Video Input Resolution	480i, 480p, 720i, 720p, 1080i, 1080p, 4K up to 60Hz
Video Output Resolution	480i, 480p, 720i, 720p, 1080i, 1080p, 4K up to 60Hz
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Colour Depth	8-bit (4K 60Hz 4:4:4), 10-bit / 12-bit (4K 30Hz 4:2:2 – 4:2:0)
Colour Space	RGB, YCbCr
HDCP	2.2
HDR	HDR10, HDR10+, Dolby Vision, HLG
Video Composing Capabilities	No
Seamless Switching	No
Scaling Features	Yes
HDMI Distance	Up to 4K/60Hz: 5m with IN/OUT HDMI® Cable Up to 4K/30Hz: 10m with IN/OUT HDMI® Cable Up to 1080P/60Hz: 15m with IN/OUT HDMI® Cable
Audio Performances	
Audio Input Connectors	No
Audio Output Connectors	16x 6-pin Euroblock connector (16x Stereo Balanced Out)
Audio Formats	LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio
Sample Rate	24KHz, 96KHz
Bit Depth	Up to 24-bit
Frequency Response	20Hz-20KHz (±3dB)
ARC/eARC	ARC: Yes
Audio De-Embedding	Yes
Audio Embedding	No
Device Control	
Control Connectors	1x RJ45, 1 x RS-232, 1 x 3-pin Euroblock, 1x Jack 3,5mm
Control Protocols	Web, TCP, Telnet, RS-232, IR, IR remote Control
Control Buttons	Stby, Lock, Settings, Input/Output Selection
EDID Management	Control Screen, Web GUI, Remote control commands
Status Indicators	Stby LED, Lock LED, LCD Display
Pass-Through Control	
Pass-through Connectors	HDMI®
Pass-through Protocols	CEC
Electrical	
Power Supply	External Power supply External: Input 100-240 VAC - 50/60Hz, Output: 24VDC-3.75A
AC Mains Connector	External PSU. Included 4 region power blades (UK,US,AU,EU)
DC Mains Connector	DC coaxial
Power Consumption	76.8W

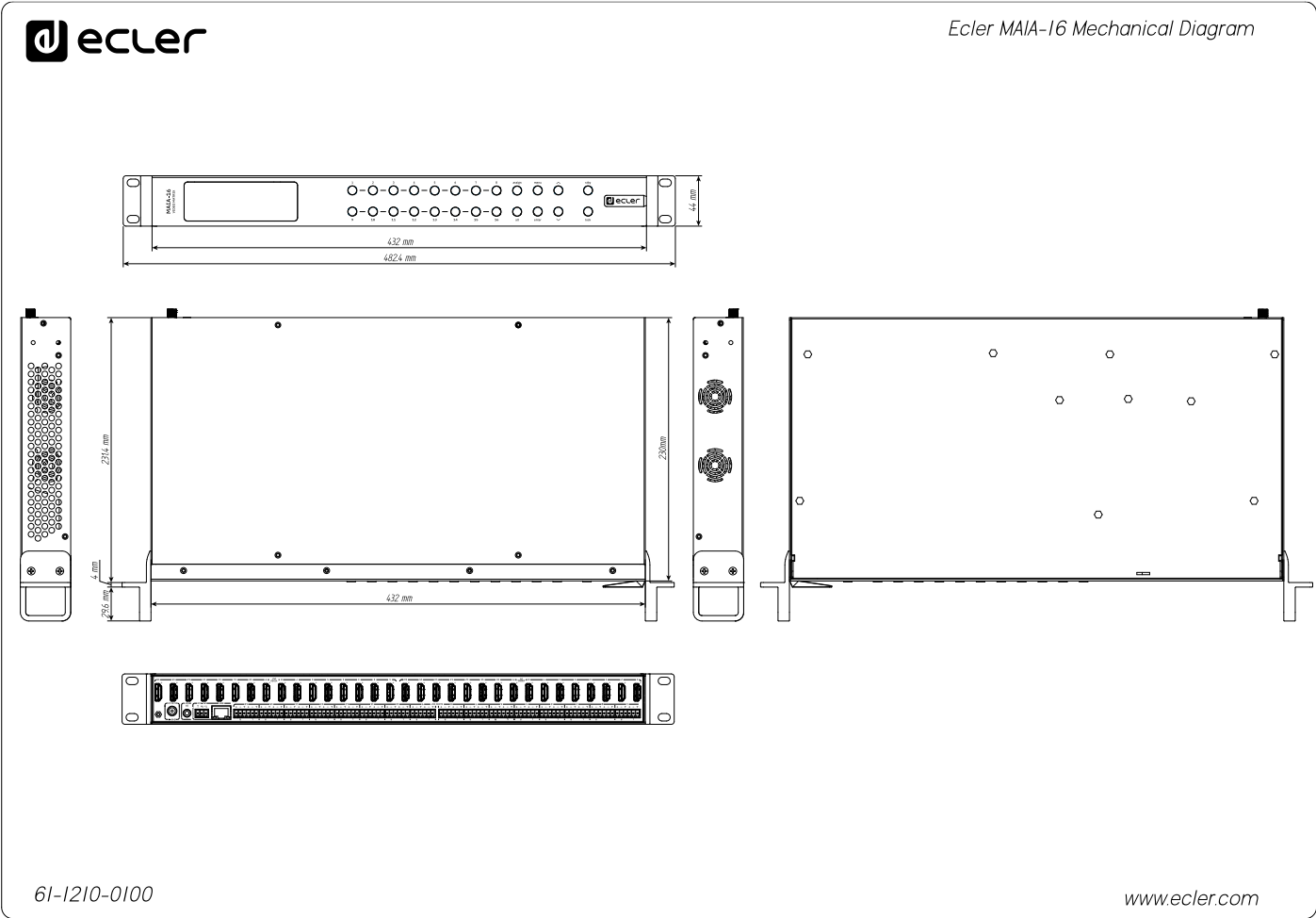
Physical

Operating Temperature	Min: -10°C / 14°F Max: 45°C / 113°F
Operating Humidity	20 - 90% RH, no-condensing
Storage temperature	Min: -20°C / -4°F Max: 60°C / 140°F
Installation Options	Desktop, 19" rack
Included Accessories	1x 24V/3.75A EU power Adapter, 1x IR Remote Control, 1x USB to RS-232 Serial Cable (1.5m, male to female)
Dimensions (WxHxD)	432 × 44 × 230 mm / 17.01 × 1.73 × 9.01 in.
Shipping Dimensions (WxHxD)	590 × 80 × 420 mm / 23.23 × 3.15 × 16.54 in.
Weight	3.1 Kg / 6.83 lb
Shipping Weight	5.5 Kg / 12.13 lb
Chassis Material	Metal
Finished Colour	Black


PRECAUTIONS
WARRANTY & ENVIRONMENT
PACKAGE CONTENTS
DESCRIPTION & FEATURES
PANELS & REMOTE CONTROL
INSTALL & CONNECT
START-UP & OPERATION
WebGUI
TECHNICAL DATA

9.2 Mechanical Diagram

All measurements are in mm.



All the measurements are in mm

	
PRECAUTIONS	
WARRANTY & ENVIRONMENT	
PACKAGE CONTENTS	
DESCRIPTION & FEATURES	
PANELS & REMOTE CONTROL	
INSTALL & CONNECT	
START-UP & OPERATION	
WebGUI	
TECHNICAL DATA	