ELAN®

EL-4KM-V44-18G

EL-4KM-V44-18G

User Manual

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Safety And Performance Notice

The transmission distances of HDMI over UTP cables are measured using TE CONNECTIVITY 1427071-6

EIA/TIA-568-B termination (T568B) of cables is recommended for optimal performance.

To minimize interference of the unshielded twisted pairs in the CAT5e/6 cable do not run the HDBaseT / Cat5e/6/6a cabling with or in close parallel proximity to mains power cables.

Do not substitute or use any other power supply other than the enclosed unit, or a ELAN approved replacement.

Do not disassemble either the Transmitter or Receiver units for any reason. Doing so will void the manufacturer's warranty.

Contents

Introduction

The ELAN® 4x4 HDBaseT matrix offers unprecedented performance and value for the custom installation market. The EL-4KM-V44-18G is a HDMI 2.0 4K 60Hz 4:4:4 HDCP 2.2 matrix utilizing CSC technology to deliver HDMI, bi-directional IR and PoC up to lengths of 70m over a single CAT cable. The matrix also provides advanced features including simultaneous HDBaseT / HDMI on output 1, video down conversion on HDBaseT outputs and a web browser interface module for control and configuration of the matrix.

Features:

- Advanced HDBaseT technology enables distribution of video and audio over a single CAT cable

- Advanced Color Space Conversion (CSC) supports HDMI 2.0 18Gbps specification including HDR

- The four (4) HDMI inputs can be independently routed to four (4) HDBaseT outputs with output 1 featuring simultaneous HDMI and HDBaseT output

- Video down-conversion on HDBaseT outputs allows a display only capable of supporting lower video resolutions (4K 60Hz 4:2:0 or 1080p) to receive 4K 60Hz 4:4:4 video content while still showing maximum original 4K UHD resolution on remaining video outputs

- Supports 4K 60Hz 4:4:4 UHD video up to 40m and 1080p video up to 70m

- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K and all known HDMI audio formats including Dolby TrueHD®, Dolby Atmos®, Dolby Digital Plus® and DTS-HD Master Audio® transmission

- Control via front panel, IR, RS-232 and TCP/IP

- Supports PoC (Power over Cable) to power compatible HDBaseT receivers

- Advanced EDID management and HDCP 2.2 compliant

Front Panel Description
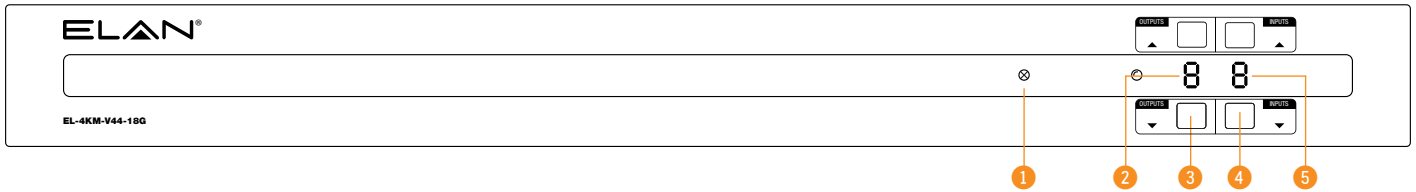
1 IR Receiver - Built in IR sensor for IR pass through

2 Output LCD - Shows the currently selected output

3 Output Up / Down Button - Press to adjust the selected output up or down

4 Input Up / Down Button - Press to adjust the selected input up or down / Press and hold Input Up to power the matrix on or off

5 Input LCD - Shows the currently selected input

Please note: Press and hold Output Up and Input Down for 10 seconds to factory reset the matrix.

Rear Panel Description
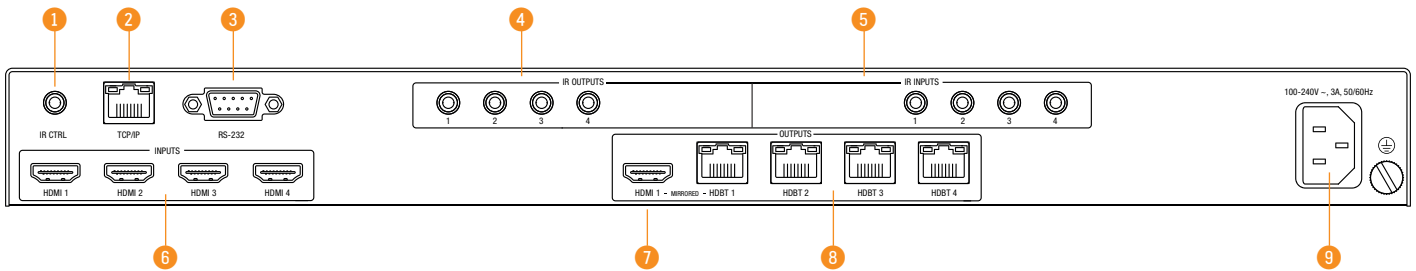
1 IR Control Input - 3.5mm stereo connector to connect to ELAN 5V 3.5mm IR receiver for IR control of the matrix

2 TCP/IP - RJ45 connector for TCP/IP and Web GUI control of the matrix

3 RS-232 - DB9 connector for RS-232 control of the matrix

4 IR Receiver Output - 3.5mm mono connector to connect to ELAN 5V 3.5mm IR emitter. Used for local Source control

5 IR Receiver Input - 3.5mm stereo connector to connect to ELAN 5V 3.5mm IR receiver or Control Processor. Used to extend IR from Matrix to HDBaseT Outputs 1-4

6 HDMI Inputs - Connect to source devices

7 HDMI Output - Connect to display device

8 HDBaseT Outputs - RJ45 HDBaseT port to connect to the HDBaseT input port of the compatible ELAN HDBaseT receiver

9 IEC Power Socket - Use supplied IEC power cable

CEC Control

The Matrix features CEC control of source devices and displays via the products Web GUI and RS-232. It is possible to send CEC commands such as power on / off, input selection as well as volume up or down.

Please see the RS-232 command list at the end of this document for a full list of CEC commands available.

Please Note: CEC is subject to the support of the sources, and displays connected to the Matrix.

EDID Management

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source. This data is used by the source to find out what audio and video resolutions are supported by the display. By pre-determining the video resolution and audio format of the source and display device you can reduce the time needed for EDID hand shaking thus making switching quicker and more reliable.

Configuration of the EDID settings for each input can be achieved using the following RS-232 commands to specify the required EDID:

EDIDxxDFzz

Where xx = Input: 00 refers to ALL inputs; 01-08 = specific input

zz = EDID as shown below

zz = 00 : HDMI 1080p@60Hz, Audio 2ch PCM (default)

01 : HDMI 1080p@60Hz, Audio 5.1ch DTS/DOLBY

02 : HDMI 1080p@60Hz, Audio 7.1ch DTS/DOLBY/HD

03 : HDMI 1080i@60Hz, Audio 2ch PCM

04 : HDMI 1080i@60Hz, Audio 5.1ch DTS/DOLBY

05 : HDMI 1080i@60Hz, Audio 7.1ch DTS/DOLBY/HD

06 : HDMI 1080p@60Hz/3D, Audio 2ch PCM

07 : HDMI 1080p@60Hz/3D, Audio 5.1ch DTS/DOLBY

08 : HDMI 1080p@60Hz/3D, Audio 7.1ch DTS/DOLBY/HD

09 : HDMI 4K@60Hz 4:2:0, Audio 2ch PCM

10 : HDMI 4K@60Hz 4:2:0, Audio 5.1ch DTS/DOLBY

11 : HDMI 4K@60Hz 4:2:0, Audio 7.1ch DTS/DOLBY/HD

12 : HDMI 4K@60Hz 4:4:4, Audio 2ch PCM

13 : HDMI 4K@60Hz 4:4:4, Audio 5.1ch DTS/DOLBY

14 : HDMI 4K@60Hz 4:4:4, Audio 7.1ch DTS/DOLBY/HD

15 : DVI 1280x1024@60Hz, Audio None

16 : DVI 1920x1080@60Hz, Audio None

17 : DVI 1920x1200@60Hz, Audio None

18 : HDMI 1920x1200@60Hz, Audio 2ch PCM/6ch PCM

19 : User EDID 1

20 : User EDID 2

Automatic Smart Scaling Functionality in CSC

This devices HDBaseT CSC (Color Space Conversion) outputs have an in-built automatic smart scaling feature allowing for a 4K video signal to be independently downscaled per individual HDBaseT output connection. The Matrix will read the EDID of the display attached to the EL-4KHDBT-RX-40-18G HDBaseT receiver output, downscaling the video resolution automatically where the display cannot accept the native resolution being sent from the source device. CSC will auto-downscale either video resolution, chroma sampling, or color bit depth, it is not able to amend frame rate, or HDR elements within a signal.

The simultaneous HDMI output (output 1) will continue to pass the native signal.

Native Source Signal	Smart Scaled Output Capability
4K xHz 4:4:4	4K xHz 4:2:0 (or) 1080p xHz 4:4:4
4K xHz 4:2:2	4K xHz 4:2:0 (or) 1080p xHz 4:4:4
4K xHz 4:2:0	1080p xHz 4:4:4

x = frame rate, will be equal from native to converted/scaled

Please Note: smart scaling is automatic based on the EDID of the display and cannot be controlled or adjusted by the user / integrator. To obtain resolutions lower than 1080p, a separate scaler device must be specified.

To obtain CSC pass-through the EL-4KM-V44-18G Matrix must be used with EL-4KHDBT-RX-40-18G HDBaseT Receivers. Using an alternative ELAN HDBaseT receiver may result in the CSC functionality not being available so the maximum output resolution will be 4K 60Hz 4:2:0 (10.2Gbps).

Front Panel Control

The front panel buttons are used to individually amend the input / output structure of the Matrix. Using the Output Up / Down buttons, first select the desired output, then using the Input Up / Down buttons, select the source device to switch to. Clicking the Input Up / Down buttons scrolls through the Input / Output numbers sequentially from 1 - 6 (or) 8 then back to 1. The Output Up / Down buttons scroll from 1 - 6 (or) 8 then 'A' for All, before returning to output 1. Selecting 'A' will switch all outputs to the selected Input.

The front panel buttons can be used for other control features:

> Input Up - press and hold for 3 seconds to power off the matrix (press to power on when in standby mode)
>
> Output Down - press and hold for 10 seconds to turn on/off front panel button lock
>
> Output Up - press and hold for 3 seconds to set PTP mode (output 1 = input 1, output 2 = input 2 etc.)

Infrared (IR) Control

The ELAN range of products include Matrix control via IR.

IMPORTANT: ELAN Infrared products are all 5V and NOT compatible with alternative manufacturers Infrared solutions. When using third party 12V IR control solutions please use the ELAN IRCAB cable for IR conversion.

IR Emitter

ELAN 5V IR emitter designed for discrete IR control of hardware.
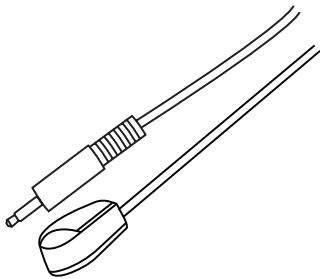
Infrared 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

Signal

Ground
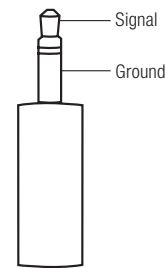
IR Receiver

ELAN 5V IR receiver to receive IR signal and distribute through ELAN products.
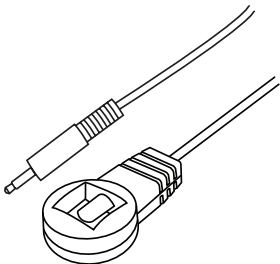
IR Receiver - Stereo 3.5mm

Signal
5V
Ground
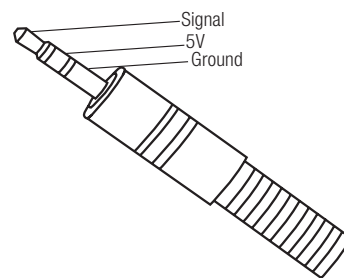
IR Control Cable

ELAN IR control cable 3.5mm stereo to 3.5mm mono for linking 12V third party control solutions to ELAN 5V products via IR.

Please Note: cable is directional as indicated.
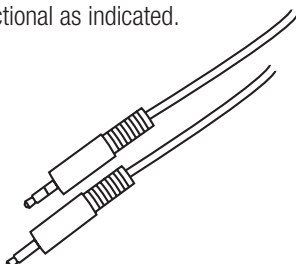
Please note: ELAN IR hardware do not include flashing diodes to indicate IR signals being emitted or received.

Terminating CAT Cable for use with HDBaseT

It is important that the interconnecting CAT cable between ELAN HDBaseT products is terminated using the correct RJ45 pin configuration. The link CAT cable MUST be a 'straight' (pin-to-pin) CAT cable, and it is advised that this is wired to the T568B wiring standard as this format is less prone to EMI (Electro-Magnetic Interference).

When installing CAT cables it is advised that you use the best possible CAT cable quality. HDMI distribution products will only work if used with CAT5e standard cable or above. ELAN recommends using a CAT6 cable (or better) for installations, especially when running longer distances, in areas of high EMI, or for 4K signal distribution. It is advised that using any method of patch panel, wall plate, or join within the CAT cable is avoided as these can add degradation to the signal. ELAN also recommend using RJ45 connectors that are recommended for use with the choice of CAT cable.

RJ45 Wiring - T568B
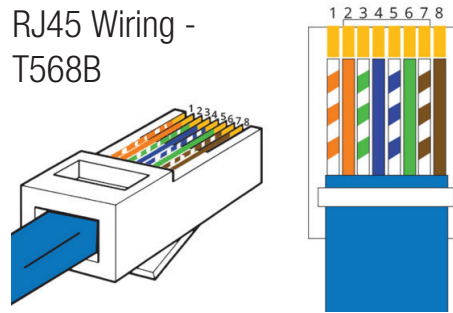
Understanding the HDBaseT Status LED's

The Matrix includes status LED indicators on the HDBaseT RJ45 ports to show all connections are active, and to help diagnose potential connectivity issues.

Understanding the Status Lights - Matrix:

The yellow HDBaseT status link light will be OFF when there is no HDBaseT link established with a ELAN HDBaseT receiver

The yellow HDBaseT status link light will be ON when there is a HDBaseT link established with a ELAN HDBaseT receiver

The green HDBaseT link light will be OFF when there is no video signal being transmitted between the matrix and ELAN HDBaseT receiver

The green HDBaseT link light will be ON when a there is a HDCP enabled video signal being transmitted between the matrix and ELAN HDBaseT receiver

The green HDBaseT link light will BLINK when there is a video signal with no HDCP being transmitted between the matrix and HDBaseT receiver

The link lights will only serve as an indication to the connectivity between Matrix and HDBaseT receiver unit.

The LED's will not indicate a termination, bandwidth, interference or cable length issues on a CAT cable run. ELAN always recommend qualifying / verifying / certifying a CAT cable run for suitability prior to the installation of HDBaseT equipment.

Web GUI Control

This following pages take you through the operation of this Matrix's Web GUI. You must connect the TCP/IP RJ45 socket to your local network in order to access the products Web GUI.

By default the matrix is set to DHCP, however if a DHCP server (eg: network router) is not installed the matrix IP address will revert to below details:

Default IP Address is: **192.168.0.200**   Default Username is: **ELAN**   Default Password is: **3526**

Please Note: this product will always ask you to set an admin password when you connect to the Web GUI for the first time.

The Web GUI supports multiple users along with multiple user permissions as follows:

Guest Account - This account does not require a user to login. The Guest account can only change sources for each zone. Guest access can be changed / removed completely by the Admin, limiting inputs or outputs as required.

User Accounts - up to 7 User accounts (on top of 1 Guest account) can be utilized, each with individual login details. User accounts can be assigned permissions to specific areas and functions. A User must first login to make use of these functions.

Admin Account - This account allows full access to all functions of the Matrix, as well as assigning users with permissions.

Guest Control Page

The Guest Control Page allows a guest user to change inputs for each zone (output) without needing to be logged into the Matrix. Simply select the square that corresponds with the input and zone you wish to change.

There is also a power button on the lower right corner to turn the Matrix on or off.

Login Page

The Login Page allows a user or admin to login and access additional functionality.
This page also shows you the current firmware version of both the Matrix and Web GUI.
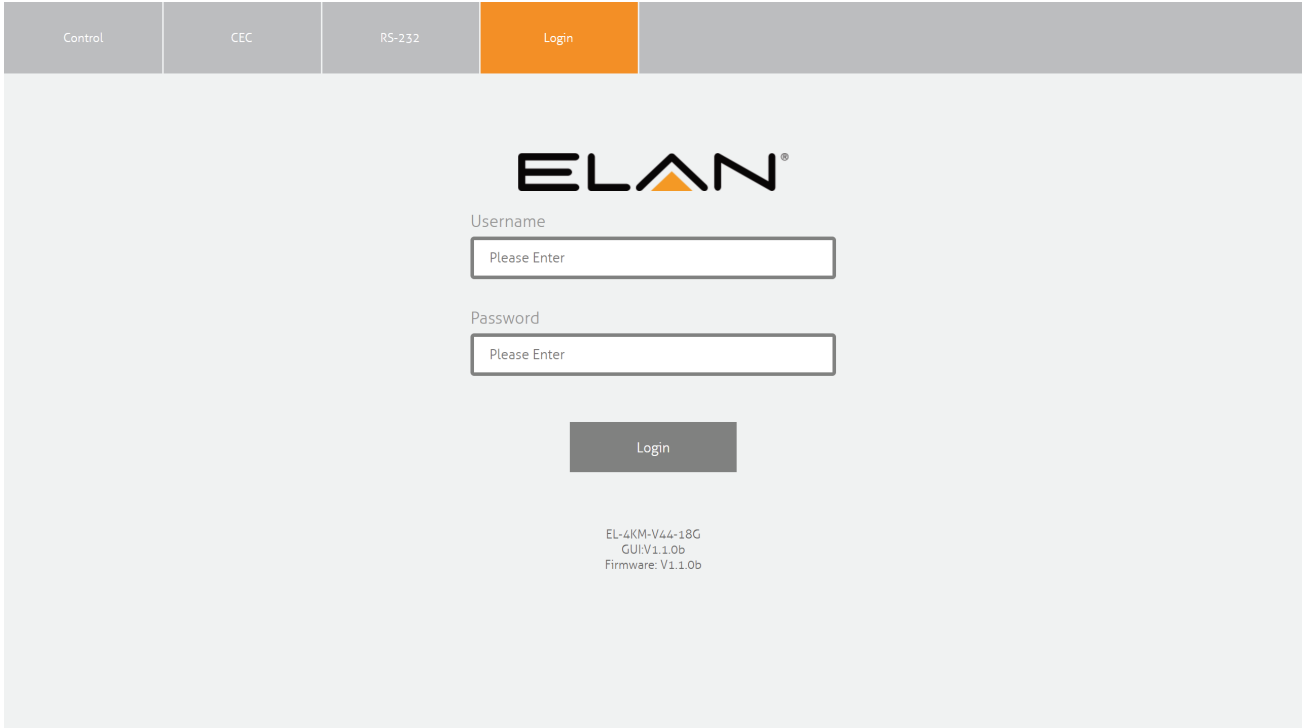
User Control Page

The Control Page allows a user to change inputs for each zone (output). Simply select the square that corresponds with the input and zone you wish to change.

A User or Admin also has the ability to Save or Recall pre-configured Presets. A Saved Preset will store the specified input to output configuration, and allow the configuration to be recalled as required.

There is also a power button on the lower right corner to turn the Matrix on or off.

Configuration Page - IR Select

The Configuration Page allows for configuration settings for both inputs and outputs of the Matrix.
Within the IR Select Page, you can specific fixed IR routing between IR inputs and HDBaseT outputs, as well as set the IR to follow video switching.
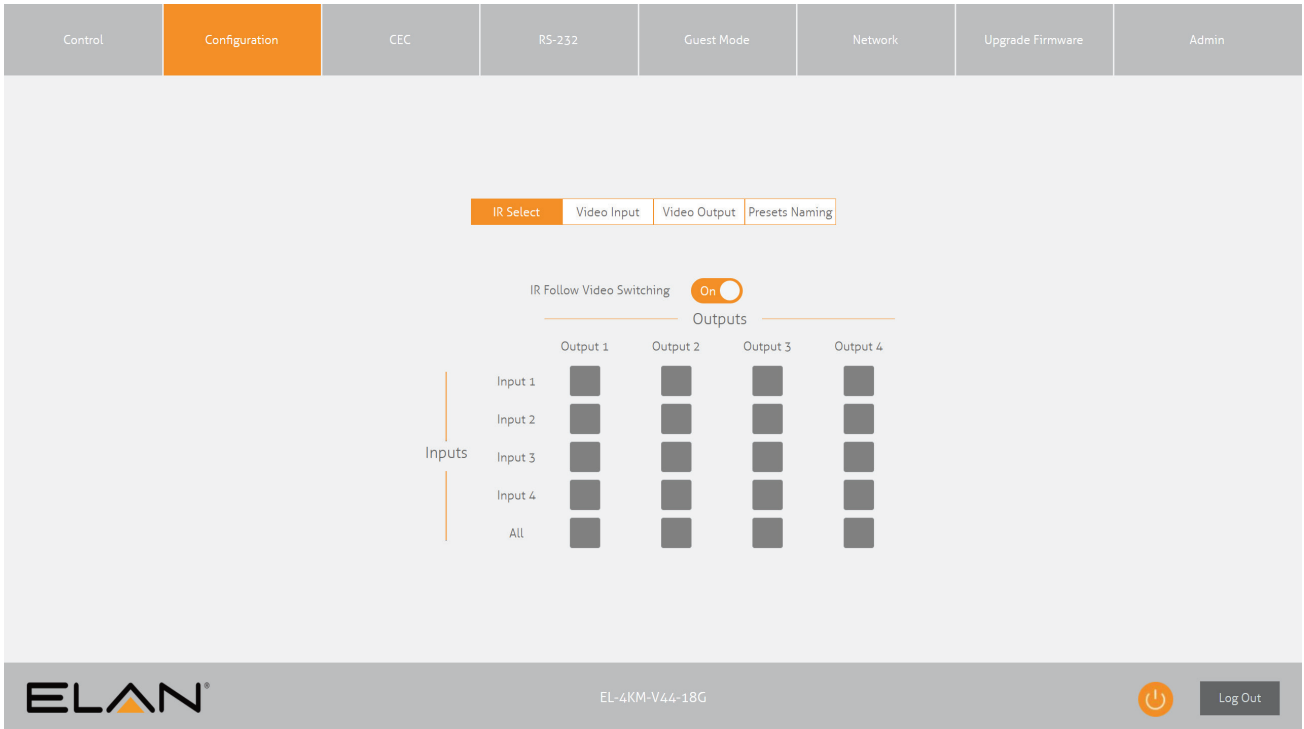
Configuration Page - Video Input

The configuration menu for either Input or Output is located at the top of the window.
Within the Input Page, enter a Name for each input as well as specify the required EDID from the drop down menu.
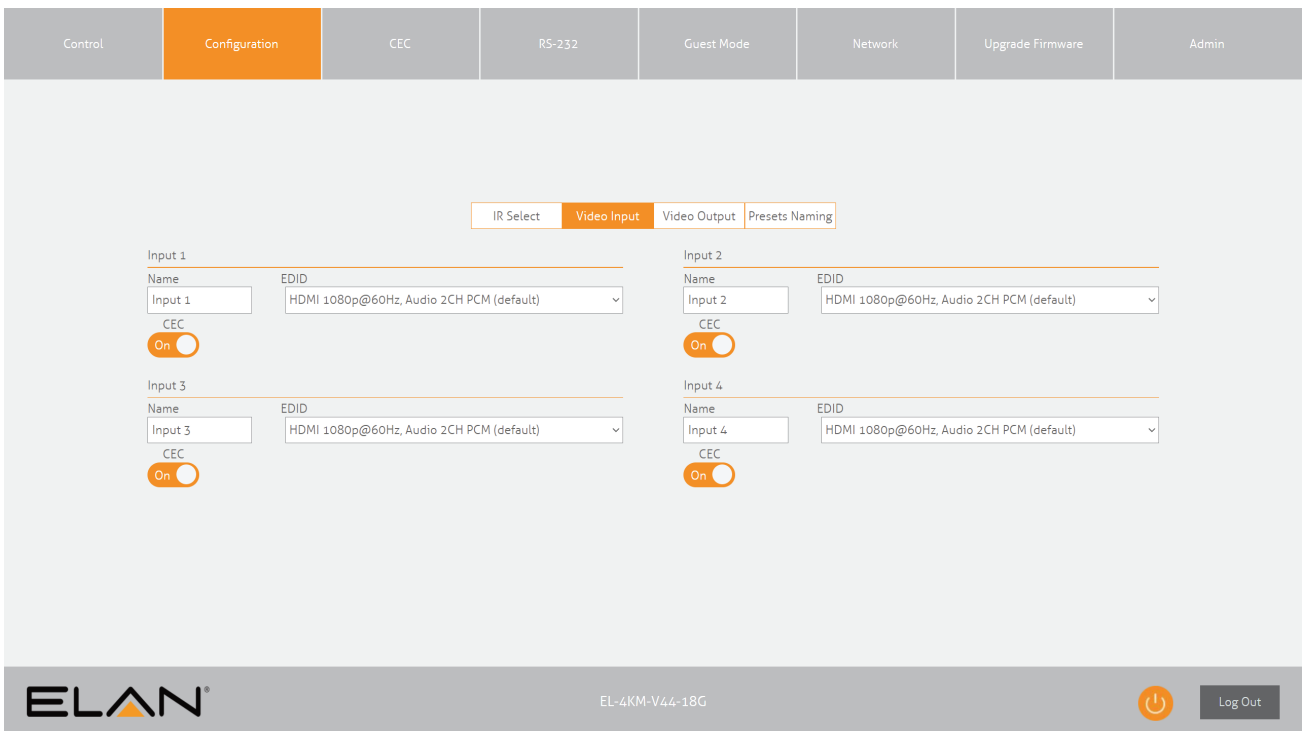
Configuration Page - Video Output

The Video Output Page allows settings specific to the outputs of the Matrix to be changed.
A Name can be specified as well as turn PoC (Power Over Cable) on or off for each output / receiver.

| Control | Configuration | CEC | RS-232 | Guest Mode | Network | Upgrade Firmware | Admin |

IR Select | Video Input | Video Output | Presets Naming

Output 1
Name — Output 1 — CEC On — Downscaler On — PoC On — Priority HDBT

Output 2
Name — Output 2 — CEC On — Downscaler On — PoC On

Output 3
Name — Output 3 — CEC On — Downscaler On — PoC On

Output 4
Name — Output 4 — CEC On — Downscaler On — PoC On

ELAN®   EL-4KM-V44-18G   Log Out
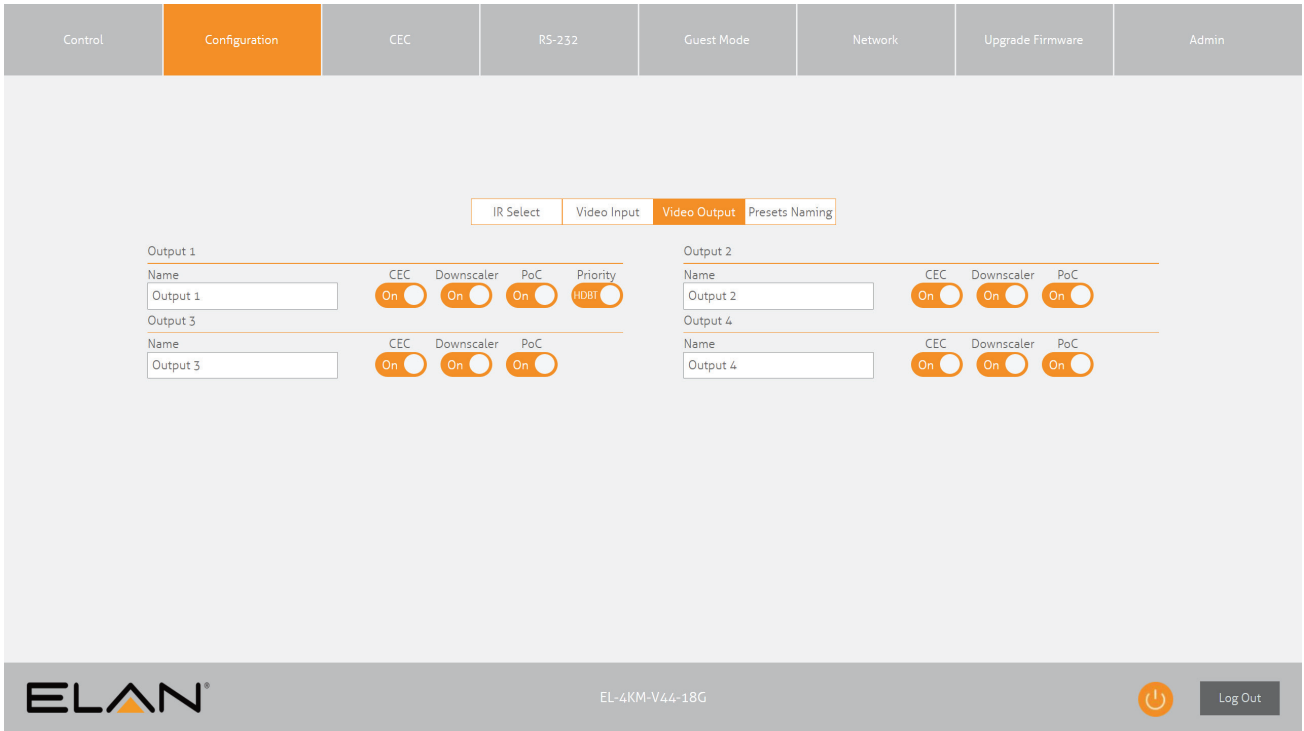
Configuration Page - Preset Naming

The Preset Naming page allows you to customize the naming for each of the Presets on the Control Page.

| Control | Configuration | CEC | RS-232 | Guest Mode | Network | Upgrade Firmware | Admin |

IR Select | Video Input | Video Output | Presets Naming

Preset 1 — Preset 1   Preset 2 — Preset 2
Preset 3 — Preset 3   Preset 4 — Preset 4
Preset 5 — Preset 5   Preset 6 — Preset 6
Preset 7 — Preset 7   Preset 8 — Preset 8

ELAN®   EL-4KM-V44-18G   Log Out
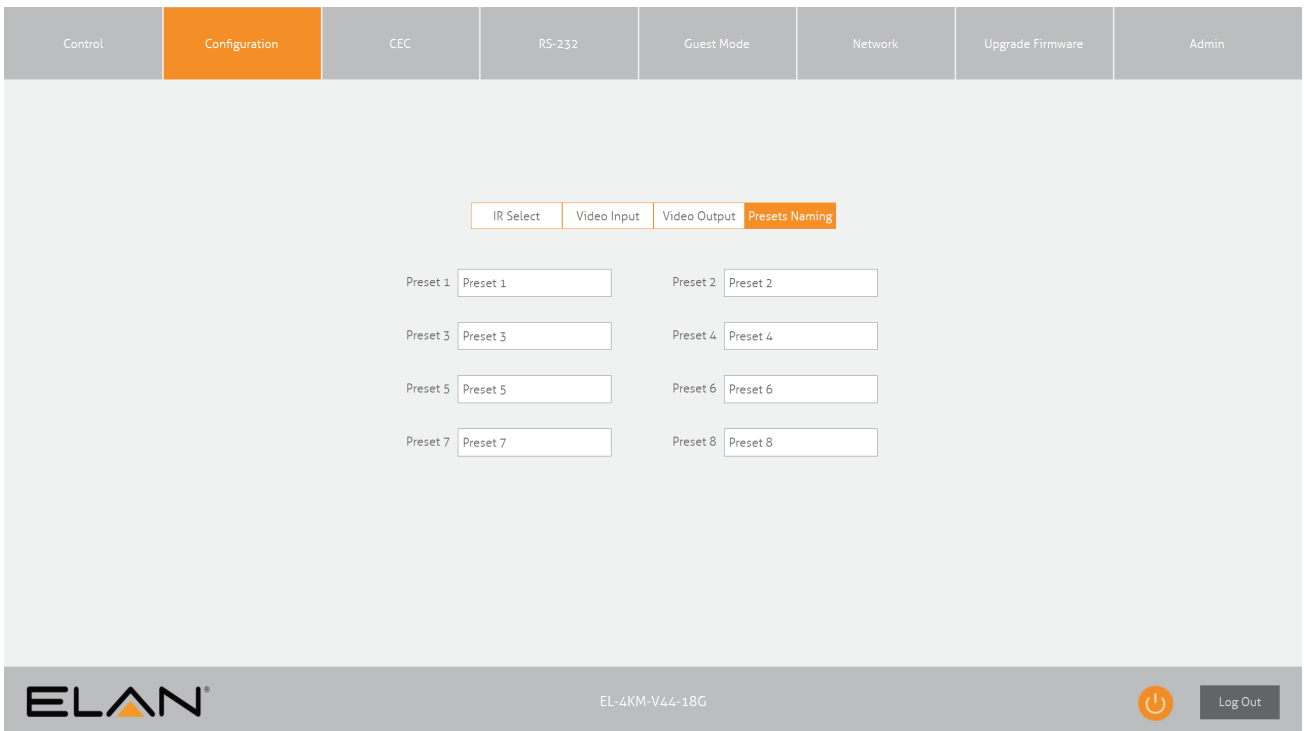
CEC Page - Input

The CEC Page allows for a pre-defined, or user-defined CEC command to be sent to any Input or Output connected to the Matrix.

Choose between Input, Output and User-defined sections at the top of the window.
On the CEC Input Page, you must specify a specific input to send the CEC command out of. Press the icon of the command you wish to send at it will be transmitted to the source device connected to the specified input.

Please Note: CEC is subject to the support of the sources and displays connected to the Matrix.
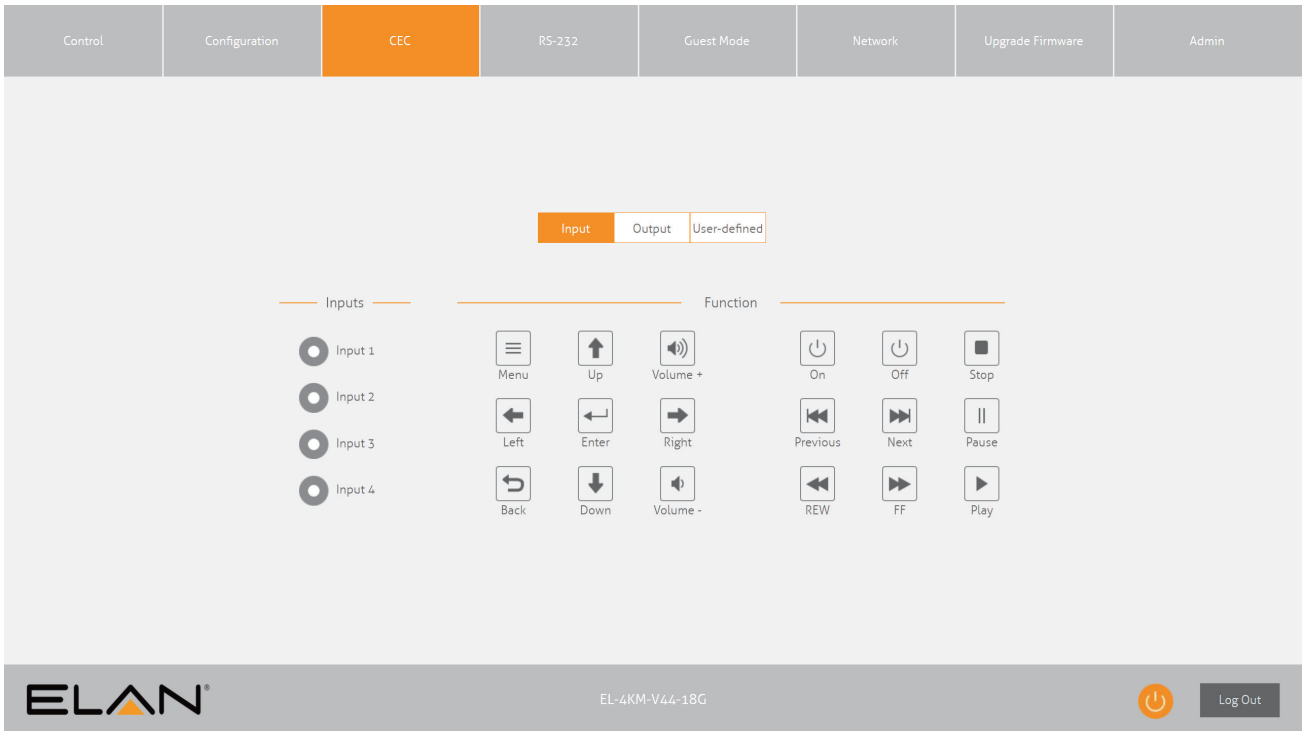
CEC Page - Output

On the CEC Output Page, you must specify a specific output to send the CEC command out of. Press the icon of the command you wish to send at it will be transmitted to the display device connected to the specified output.

Please Note: CEC is subject to the support of the sources and displays connected to the Matrix.
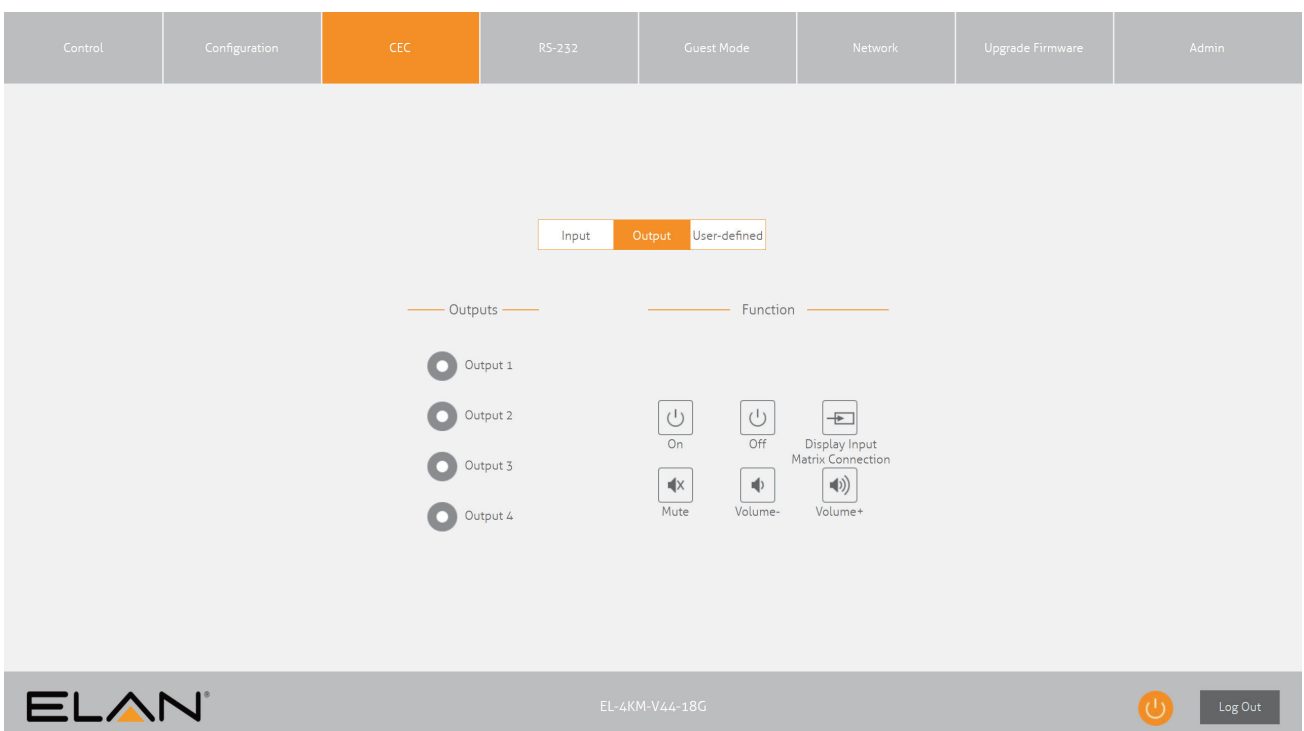
CEC Page - User-defined

On the CEC User-defined Page, you can enter custom CEC commands and have these transmitted out of either an input or output.

Please Note: CEC is subject to the support of the sources and displays connected to the Matrix.

Control	Configuration	CEC	RS-232	Guest Mode	Network	Upgrade Firmware	Admin

Input　Output　User-defined

Inputs
Command 1:
○ Input 1　　xx xx xx(like 40 44 41)
○ Input 2　　Send
Command 2:
○ Input 3　　xx xx xx(like 40 44 41)
○ Input 4　　Send

Outputs
Command 1:
○ Output 1　　xx xx xx(like 40 44 41)
○ Output 2　　Send
Command 2:
○ Output 3　　xx xx xx(like 40 44 41)
○ Output 4　　Send

EL-4KM-V44-18G　　　　Log Out

RS2-32 Page - Local

The RS-232 page allows you to send commands either out of the local RS-232 port on the Matrix itself, or via HDBT and out of a compatible HDBT Receiver connected to a display. If the Local radio box is selected, RS-232 commands will be sent out of the DB9 serial port at the rear of the Matrix. Baud rate and terminator command as well as Hex or ASCII can be selected.

Control	Configuration	CEC	RS-232	Guest Mode	Network	Upgrade Firmware	Admin

○ Local　　　○ HDBT

HEX　ASCII

Baud Rate: 57600

Command Ending: NULL

Command:

Send　　Cancel

ⓘ This page allows you to configure the RS-232 port on the matrix and send out commands to the connected device.

EL-4KM-V44-18G　　　　Log Out

RS-232 Page - HDBT

The RS-232 HDBT Page allows you to remotely control devices connected via DB9 serial to remote HDBT Receivers independently. It is also possible to automate the display on, input select and display off process via RS-232 for each HDBT output, when the Matrix is turned on.

If RS-232 On is enabled, the Display On, Display Input Select, User Commands 1, 2, and 3 are all sent out of the corresponding HDBT Receiver, when the Matrix is turned on.

If RS-232 Off is enabled, the User Off Command will be sent out of the corresponding HDBT Receiver with a delay of 3 secs between commands, when the Matrix is turned off.

You can also specify the Baud Rate and Command Ending (eg: new line, carriage return) for the match the RS-232 device connected to the HDBT Receiver.

Guest Mode Page

The Guest Mode Page allows you to send IR commands or RS-232 control strings directly from the Web GUI of the matrix out of the HDBT inputs/ outputs of the Matrix.
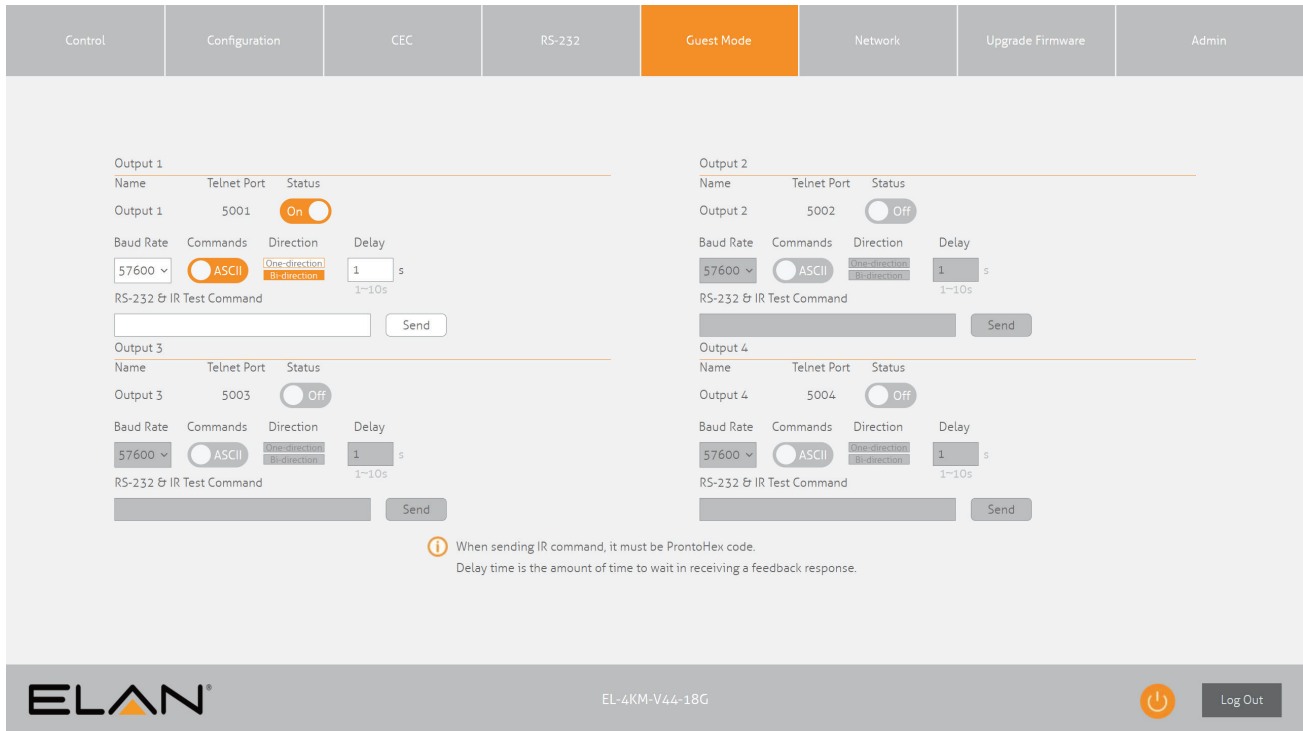
Guest mode provides several settings per input/output as follows:

Telnet Port - This is the Telnet port you will need to connect to in order to send commands and receive feedback from the remote device connected via RS-232

Status On/Off - This enables or disabled the guest mode port for this output

Baud Rate - Sets the communcation baudrate for the guest mode port

Commands ASCII/HEX - Sets the command format for RS-232 between ASCII text or HEX characters

Direction One-direction/Bi-direction - Sets whether the RS-232 guest mode is configured in One-direction mode where it sends commands and ignores any feedback, or in Bi-direction mode where it sends commands and waits for the delay period to receive feedback

Delay Time (s) - Sets the delay time in which the matrix waits for feedback from the RS-232 guest mode port after sending a Bidirectional command

RS-232 & IR Test Command - This is where you enter your RS-232 string or IR HEX command you wish to transmit. The matrix automatically identifies if it is an RS-232 string or an IR command based on the command structure. Please note that you can enter multiple lines in this box. It may be necessary to use a blank line as a carriage return as a termination character for some 3rd party devices

Send Button - Press this button to send out the command via the corresponding output port of the matrix

Sending RS-232 commands:
To send an RS-232 command simply enter your command in the RS-232 & IR Command box and press the Send button. If the command is sent successfully, it will return a success pop up message. If you receive a failed message from an RS-232 command please add a new line and try to send the command again. In Bi-direction mode, the matrix will wait for feedback from the connected device before it provides a pop up message. If the delay period times out and the matrix does not receive feedback, it will pop up with an error message advising it did not receive feedback. Check that your command string is correct and verify that the 3rd party device is connected correctly and try and send the command again.

Sending IR commands:
To send an IR command simply enter the IR command in Pronto HEX format into the RS-232 & IR Command box and press the Send button. If the command is sent successfully, it will return a success pop up message. If there is an issue with the IR command, the pop up will provide an error message.

Network Page

The Network Page allows you to specify the TCP/IP network port settings. You can choose from Static IP or DHCP, as well as specify a fixed IP Address, Subnet Mask, and Gateway. It is also possible to change or disable the Telnet port to suit the network and communication required for control.

| Control | Configuration | CEC | RS-232 | Guest Mode | Network | Upgrade Firmware | Admin |

MAC Address: F8-57-2E-06-1E-34

DHCP | Static IP

IP Address: 192.168.0.200

Subnet Mask: 255.255.255.0

Gateway:

Save

mDNS: On

Port 8000: On

Telnet Access: On

Telnet Port: 23

Device Name: V44_18G .local Save

EL-4KM-V44-18G

Log Out
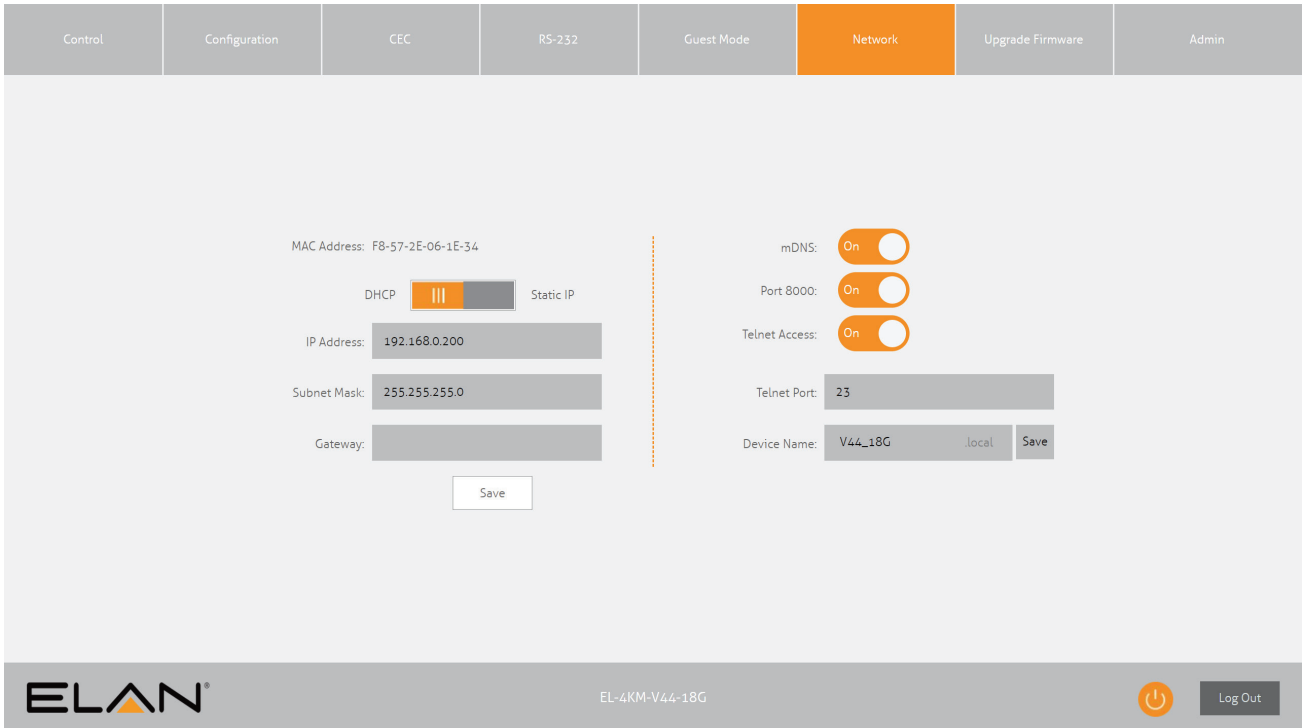
Upgrade Firmware Page

The Upgrade Firmware Page allows you to upgrade the MCU firmware of the Matrix via the Web GUI. Simply click Browse and select the appropriate firmware file from your computer (firmware available to download from the ELAN website). Clicking Submit will send the firmware file to the Matrix and begin the upgrade process. The upgrade process will take several minutes to complete and the Matrix will reboot once finished.

Warning: Please do not disconnect your computer or Matrix from the network, or power off the device until the firmware has been delivered successfully.

| Control | Configuration | CEC | RS-232 | Guest Mode | Network | Upgrade Firmware | Admin |

Device Information

EL-4KM-V44-18G
GUI:V1.1.0f
Firmware: V1.1.0f
CPLD: V1.0.5

Upgrade Firmware

Browse

Submit

EL-4KM-V44-18G

Log Out
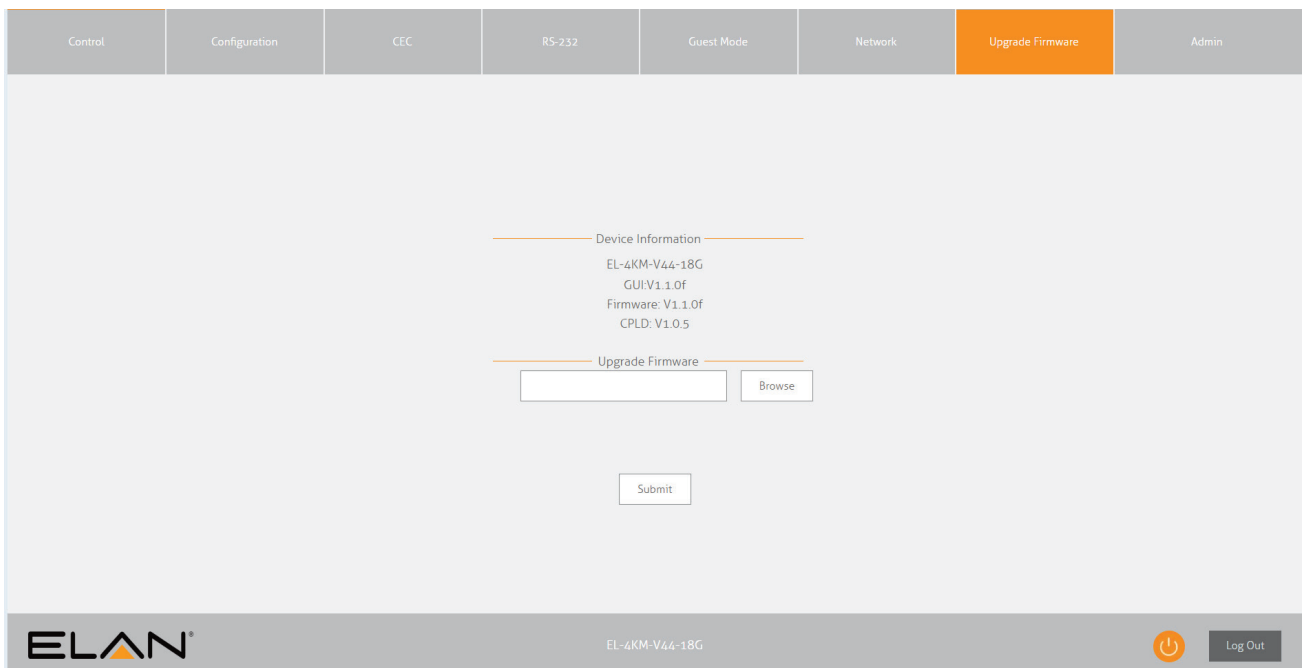
Admin Page

The Admin Page allows the administrator to configure up to 8 users including a guest user. Individual users can adjust their own credentials via this page.

The Admin, or Users who have been given Admin permissions, are able to allocate permissions to Users. These permissions include allowing or disabling access to pages contained within the Web GUI, as well as allowing or disabling access to each input or output of the Matrix.

The Admin Page also allows the Front Panel buttons of the Matrix to be locked or unlocked, enable or disable the Front Panel IR window, as well as Factory Reset the Matrix to default.

Remote Control Description

OUTPUT AND INPUT SELECTION

A   Select the zone Output you wish to change the source on (numbers 1-4 correspond to the zone outputs 1-4).

B   Select the source Input you wish to change the selected zone to (numbers 1-4 correspond to the source inputs 1-4)

Please Note: Press the PTP button to instantly mirror all inputs and outputs (example - input 1 to output 1, input 2 to output 2 etc).

IR Commands

NEC Customer Code = 1898
Advanced Matrix features are not available via IR commands

COMMAND	NEC	HEX
POWER	14	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT 1	09	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 003F 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT 2	1D	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT 3	1F	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT 4	0D	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT ALL	17	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 003F 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
OUTPUT PTP	12	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
INPUT 1	50	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 003F 0016 003F 0016 003F 0016 0689
INPUT 2	55	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 0016 0016 003F 0016 0689
INPUT 3	48	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 003F 0016 003F 0016 0016 0016 003F 0016 003F 0016 0689
INPUT 4	4A	0000 006D 0000 0022 0157 00AC 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 0016 0016 003F 0016 003F 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 0016 0016 003F 0016 0016 0016 003F 0016 0689
INPUT ALL	47	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0679
INPUT PREV	07	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0679
INPUT NEXT	40	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0679
EDID	53	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0679
CLEAR	52	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0041 0016 0016 0016 0041 0016 0016 0016 0041 0016 0679
ENTER	01	0000 006C 0000 0022 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0679

Specifications:

Video Input Connectors: 4 x HDMI Type A, 19-pin, female
Video Output Connectors: 1 x HDMI Type A, 19-pin, female, 4 x HDBaseT RJ45 connectors
RS-232 Serial Port: 1 x 3-pin Phoenix connector
IR Input Ports: 5 x 3.5mm stereo jack
IR Output Ports: 4 x 3.5mm mono jack
Rack Mountable: 1U rack height, rack ears included
Casing Dimensions (W x H x D): 437mm x 44mm x 377mm (without feet)
Dimensions (W x H x D): 437mm x 53mm x 384mm
Shipping Weight: 6.25kg
Operating Temperature: 23°F to 122°F (-5°C to +50°C)
Storage Temperature: -13°F to 158°F (-25°C to +70°C)
Power Supply: Internal 100-240V AC 3A
HDBT Power Output: 12V DC 0.8A Per Port

Package Contents:

- 1 x EL-4KM-V44-18G
- 1 x Rack mounting kit
- 4 x Mounting feet and screws
- 1 x Remote control
- 4 x IR emitters
- 5 x IR receivers
- 1 x RS-232 control cable
- 1 x IR control cable - 3.5mm-3.5mm cable
- 1 x Quick Reference Guide
- 4 x IEC Power cables (US, UK, EU & AU)

    Please note: Battery not included. CR2025 battery required for remote control.

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

RS-232 Configuration and Telnet Commands

The ELAN Matrix can be controlled via serial and TCP/IP.

The RS-232 port is used for configuration and control of the product, as well as pass through of RS-232 commands to a compatible ELAN HDBaseT receiver.

The default RS-232 communication settings are:

Baud Rate: 57600

Data Bit: 8

Stop Bit: 1

Parity Bit: none

The following pages list all available serial commands.

Commonly Used Serial Commands:

There are several commands that are commonly used for control and testing:

STATUS   Status will give feedback on matrix such as zones on, type of connection etc...

PON   Power on

POFF   Power off

OUTxxON   (xx is the zone number you wish to turn on)

     Example: OUT01ON (This would turn output one back on)

OUTxxFRyy   (xx is the zone out, yy is the input)

     Example: OUT01FR04 (This would switch output 1 to source input 4)

Common Mistakes:

- Carriage return – Some programs do not require the carriage return where as other will not work unless sent directly after the string. In the case of some Terminal software the token <CR> is used to execute a carriage return. Depending on the program you are using this token maybe different. Some other examples that other control systems deploy include \r or 0D (in hex)

- Spaces – ELAN commands do not require space between commands unless specified. There may be some programs that require spacing in order to work.
  - How the string should look is as follows OUT01ON
  - How the string may look if spaces are required: OUT{Space}01{Space}ON

- Baud rate or other serial protocol settings not correct

RS-232 Configuration and Telnet Commands

COMMAND	ACTION
?	Print help information
HELP	Print help information
STATUS	Print system status and port status
INSTA	Print All Inputs Status
OUTSTA	Print All Outputs Status
CTRLSTA	Print All Controls Status
PRESETSTATUS	Print All Preset Configurations
PON	Power On, system run on normal state
POFF	Power Off, system run on power save state
RESET	Reset System To Default Setting
KEY ON/OFF	Set system (front panel) KEY control On or Off
IR ON/OFF	Set System Front Panel IR Control On Or Off
LCD ON/OFF	Set LCD Always On Or Set LCD Off After No Operation 30 Seconds
NET IP xxx.xxx.xxx.xxx	Set IP Address
NET GW xxx.xxx.xxx.xxx	Set Gateway Address
NET SM xxx.xxx.xxx.xxx	Set Subnet Mask Address
NET RB	Set Network Reboot and Apply New Config
NET TN xxxx	Set Telnet Port
NET TN8000 ON/OFF	Set Telnet Port 8000 On Or Off
NET MDNS ON/OFF	Set mDNS On Or Off
NET DHCP ON/OFF	Set Auto IP(DHCP) ON Or OFF
RS232BAUD z	Set RS232 Baud Rate To z z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (default), 7 115200
RS232SEND xx:yy:z:a:b	Send b To RS232 Port xx And Wait yy Seconds For Feedback xx= 00 : Local RS232 Port xx= [01-04] : Output 1 - 4 yy= [00-10] : Wait For The Feedback yy Seconds z = a ASCII, h HEX a = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 b = RS232 command
RS232DLYOUT xx:tt	Set Send Output xx Interval Time In tt Seconds Between RS232 On And User Commands xx= 00: All Output Port xx= [01-04]: Output 1 - 4 tt= [0-180]: Delay tt Seconds
RS232OUT xx ON	Enable RS232 Remote-control Mode On HDBT Output xx
RS232OUT xx OFF	Disable RS232 Remote-control Mode On HDBT Output xx
RS232ONOUT xx y:z:a:b	Save y Type Of Command a Stored In Slot x Whose Baud Rate Is z On Output xx xx= 00: All Output Port xx= [01-04]: Output 1 - 4 y = 1 RS232 Display On y = 2 RS232 Display Input Select y = 3 RS232 User Command 1 y = 4 RS232 User Command 2 y = 5 RS232 User Command 3 z = a ASCII, h HEX a = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 b = RS232 Command

COMMAND	ACTION
RS232OFFOUT xx z:a:b	Save RS232 Off Command a Of y Type Whose Baud Rate Is z On Output xx z = a ASCII, h HEX a = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 b = RS232 Command
RS232ONOUT xx DISABLE	Disable Auto RS232 Commands When Detecting A Signal On Output xx
RS232OFFOUT xx DISABLE	Disable Auto RS232 Commands When Not Detecting A Signal On Output xx
MXIR xx FR yy	Local Matrix IR Out xx From Remote Rx yy IR In xx = [01-04] : Local IR Out 1 - 4 yy = [01-04] : Remote Rx IR In 1 - 4 yy = [00] : All Remote Rx IR In
IROUT xx ON	Enable IR Remote-control Mode On HDBT Output xx To Allow Matrix To Be Controlled From Receiver IR
IROUT xx OFF	Disable IR Remote-control Mode On HDBT Output xx To Allow Matrix To Be Controlled From Receiver IR
EDID SAVE yy TO zz	Save External EDID yy Into Slot zz yy = [01-04]: EDID Copy Output 1 - 4 yy = 00: EDID Via RS232 Send To Matrix zz = 00: All User EDID zz = 01 or 22: User EDID 1 zz = 02 or 23: User EDID 2
EDID xx DF zz	Set Input xx EDID To Default EDID zz xx = Input On Product (00 Refers To ALL Inputs, 02 = Input 2 Etc) zz = 00: HDMI 1080p@60Hz, Audio 2CH PCM (Default) 01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY 02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD 03: HDMI 1080i@60Hz, Audio 2CH PCM 04: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY 05: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD 06: HDMI 1080p@60Hz/3D, Audio 2CH PCM 07: HDMI 1080p@60Hz/3D, Audio 5.1CH DTS/DOLBY 08: HDMI 1080p@60Hz/3D, Audio 7.1CH DTS/DOLBY/HD 09: HDMI 4K@30Hz 4:4:4, Audio 2CH PCM 10: HDMI 4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY 11: HDMI 4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 12: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 2CH PCM 13: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY 14: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 15: HDMI 4K@60Hz 4:4:4, Audio 2CH PCM 16: HDMI 4K@60Hz 4:4:4, Audio 5.1CH DTS/DOLBY 17: HDMI 4K@60Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 18: DVI 1280x1024@60Hz, Audio None 19: DVI 1920x1080@60Hz, Audio None 20: DVI 1920x1200@60Hz, Audio None 21: HDMI 1920x1200@60Hz, Audio 2CH PCM/6CH PCM 22: User EDID 1 23: User EDID 2
EDID xx CP yy	Copy EDID From Output yy To Input xx xx = 00 : All Inputs xx = [01-04] Inputs 1 - 4 yy = [01-04] : Output 1 - 4
PRESET pp SAVE	Save Current Output Connections To Preset pp Config pp = [01-09] : Preset 1 - 9
PRESET pp SET	Set Preset pp Config
PRESET pp CLR	Delete Preset pp Config
PRESET pp APPLY	Apply Preset pp Config To Output Connection
POCOUT xx ON	Set PoC On on ouput xx

RS-232 Configuration and Telnet Commands

COMMAND	ACTION
POCOUT xx OFF	Set PoC Off on ouput xx
OUT xx FR yy	Set Output xx From Input:yy xx = 00 : All Outputs xx = [01-04] : Output 1 - 4 yy = [01-04] : Input 1 - 4
OUT xx ON	Set Output xx On xx = 00 : All Outputs xx = [01-04] : Output 1 - 4
OUT xx OFF	Set Output xx Off xx = 00 : All Outputs xx = [01-04] : Output 1 - 4
OUT xx EH/ET	Set Priority Output for EDID Copy and CEC = HDMI or HDBT xx=[00]: All OUTPUT port, [01...04]: OUTPUT port
OUT xx SCALING ON/OFF	Set Output xx Scaling ON/OFF xx = 00 : All Outputs xx = [01-04] : Output 1 - 4
GUESTMODExx ON/OFF	Set System Guest Mode xx On or Off (Please note, this will disconnect any active telnet connections to this matrix)
VIDEOMUTExx ON/OFF	Set Video Mute xx On or Off
IRFV ON/OFF	Local Matrix IR Out Follow Video Switching ON/OFF
IRHEXSEND xx:b	Send Pronto Hex Code To Remote End xx = 00 : All Outputs xx = [01-04] : Output 1 - 4 b = IR Value(Hex Format)
MXIR xx FR yy	Local Matrix IR Out xx From Remote Rx yy IR In xx = [01-04] : Local IR Out 1 - 4 yy = [01-04] : Remote Rx IR In 1 - 4 yy = [00] : All Remote Rx IR In
IN xx CECOK	Confirm operation (Enter) on input xx
IN xx CECUP	Up on input xx
IN xx CECDOWN	Down on input xx
IN xx CECLEFT	Left on input xx
IN xx CECRIGHT	Right on input xx
IN xx CECRETURN	Back to submenu on input xx
IN xx CECEXIT	Exit on input xx
IN xx CECVOLUP	Volume up on input xx
IN xx CECVOLDOWN	Volume down on input xx
IN xx CECPLAY	Play on input xx
IN xx CECSTOP	Stop on input xx
IN xx CECPAUSE	Pause on input xx
IN xx CECRECORD	Record on input xx
IN xx CECREWIND	Rewind on input xx
IN xx CECFF	Fast forward on input xx
IN xx CECFWD	Forward on input xx
IN xx CECBWD	Backward on input xx
IN xx CECPOFF	Power off on input xx
IN xx CECPON	Power on on input xx

COMMAND	ACTION
OUT xx CECVOLUP	Volume up on output xx
OUT xx CECVOLDOWN	Volume down on output xx
OUT xx CECMUTE	Mute toggle on output xx
OUT xx CECPOFF	Power off on output xx
OUT xx CECPON	Power on on output xx
OUT xx CECOK	Confirm operation (Enter) on input xx
OUT xx CECUP	Up on input xx
OUT xx CECDOWN	Down on input xx
OUT xx CECLEFT	Left on input xx
OUT xx CECRIGHT	Right on input xx
OUT xx CECRETURN	Back to submenu on input xx
OUT xx CECEXIT	Exit on input xx
OUT xx CECPLAY	Play on input xx
OUT xx CECSTOP	Stop on input xx
OUT xx CECPAUSE	Pause on input xx
OUT xx CECRECORD	Record on input xx
OUT xx CECINPUT yy	CEC Input channel yy selection on output xx xx=00: Select All Output Port xx=[01...04]: Output 1-4 yy=[01…04]: Select One HDMI In Port 1-4
CECUSERCMD <u8De-vID u8Addr u8Opcode pu8Operand[MAX]>	u8DevID: 00 Select All CEC Input Port u8DevID: [01-04] Input 1 - 4 u8DevID: F0 Select All CEC Output Port u8DevID: [F1-F4] Output 1 - 4 pu8Operand[MAX] : MAX 0 - 14 Eg:CECUSERCMD <F0 40 44 41 > (ALL OUT CEC VOLUP) Eg:CECUSERCMD <F0 40 44 42 > (ALL OUT CEC VOLDOWN)

Web GUI Firmware Update

The Web GUI of the EL-4KM-V44-18G Matrix is used to configure and control the product through a web portal. The EL-4KM-V44-18G can be accessed on any internet connected device including: tablets, smart phones and laptops that are sat on the same network as the Matrix.

As the Web GUI is used to update the main Matrix firmware, it is important to ensure that the Web GUI firmware is the latest version before updating the main Matrix firmware. Please check the reported firmware versions against the versions available to download from the ELAN website.

To update the Web GUI firmware:

1) Login to the Web GUI update menu:

Default IP Address is: **192.168.0.200:100**

Default Username is: **ELAN**   Default Password is: **3526**

Please Note: the username/password follows the Admin username/password as per the Web GUI, which would be changed upon first entering the Web GUI.

The IP Address may differ if network settings have been updated. If this is the case, please replace the following with the products current IP address: xxx.xxx.xxx.xxx:100.

2) Once the Web GUI menu interface has been accessed, expand the 'Administration' file in the menu tree by clicking the small '+' icon next to the file.

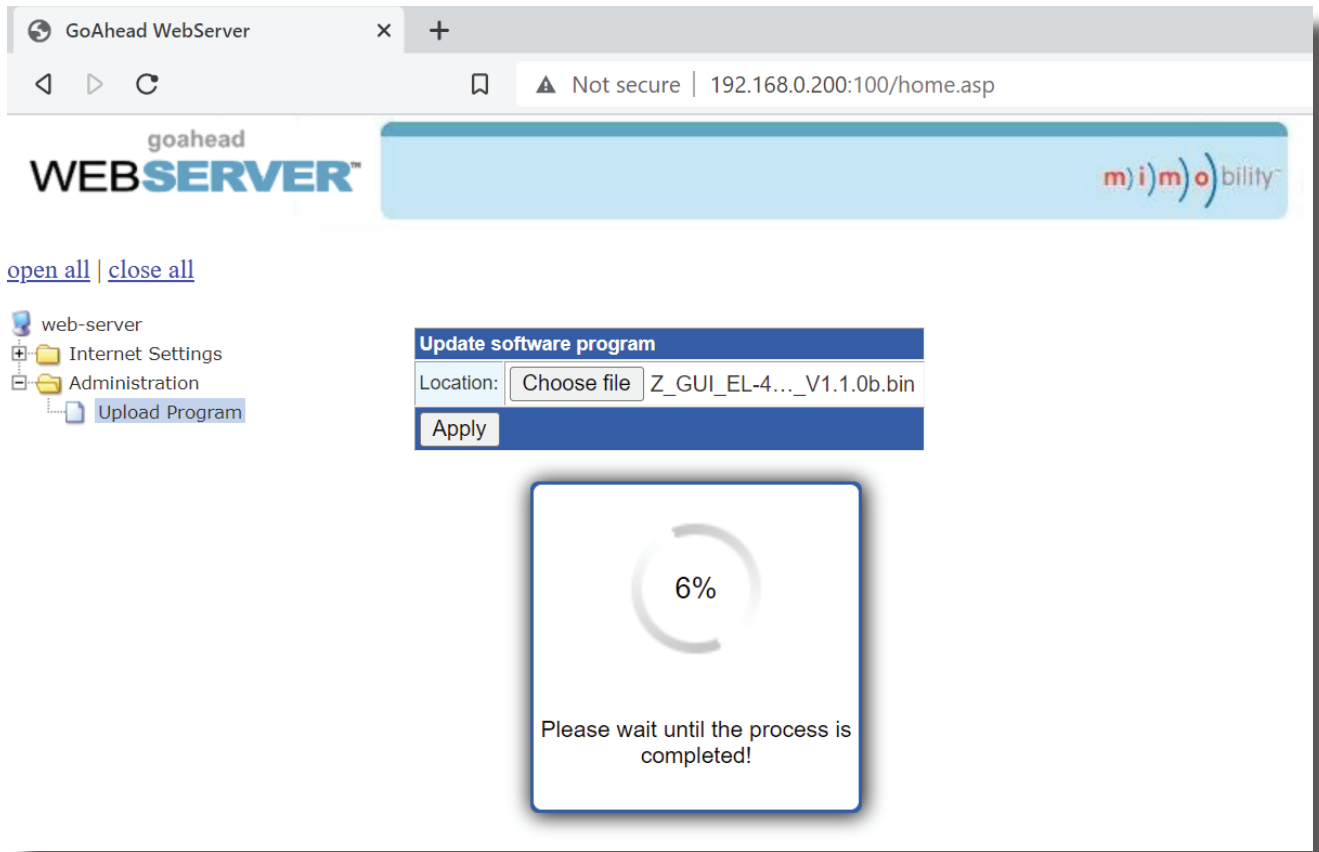3) Select 'Upload Firmware':
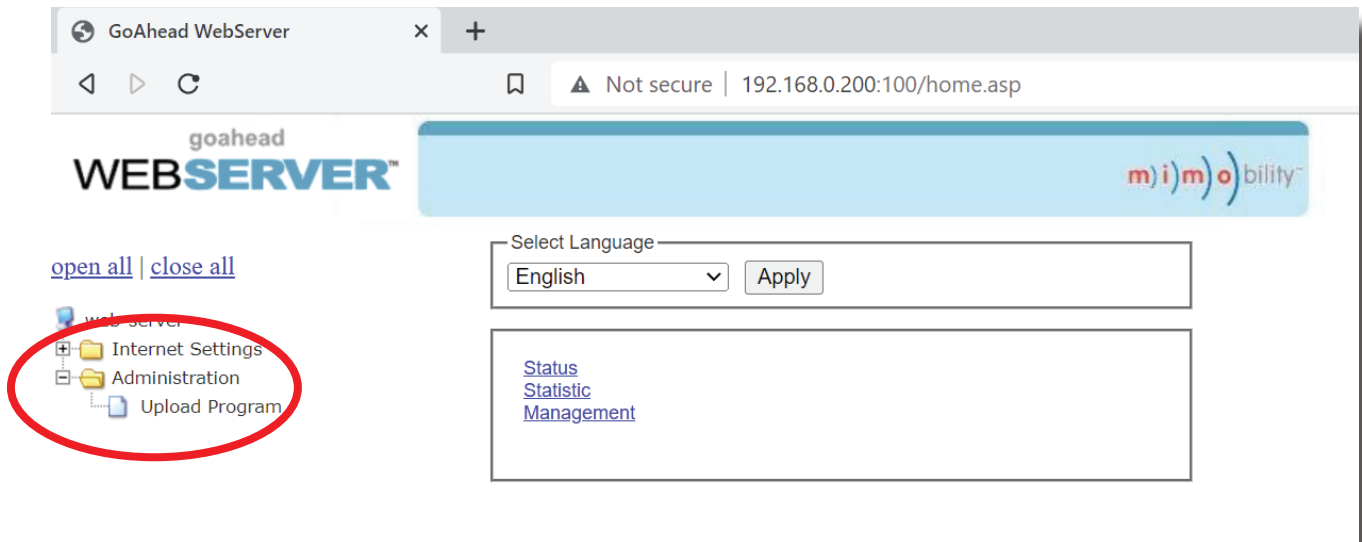
4) Click 'Choose File' and select the Web GUI (RALink) firmware file downloaded from the ELAN website. This will be a .bin type file:
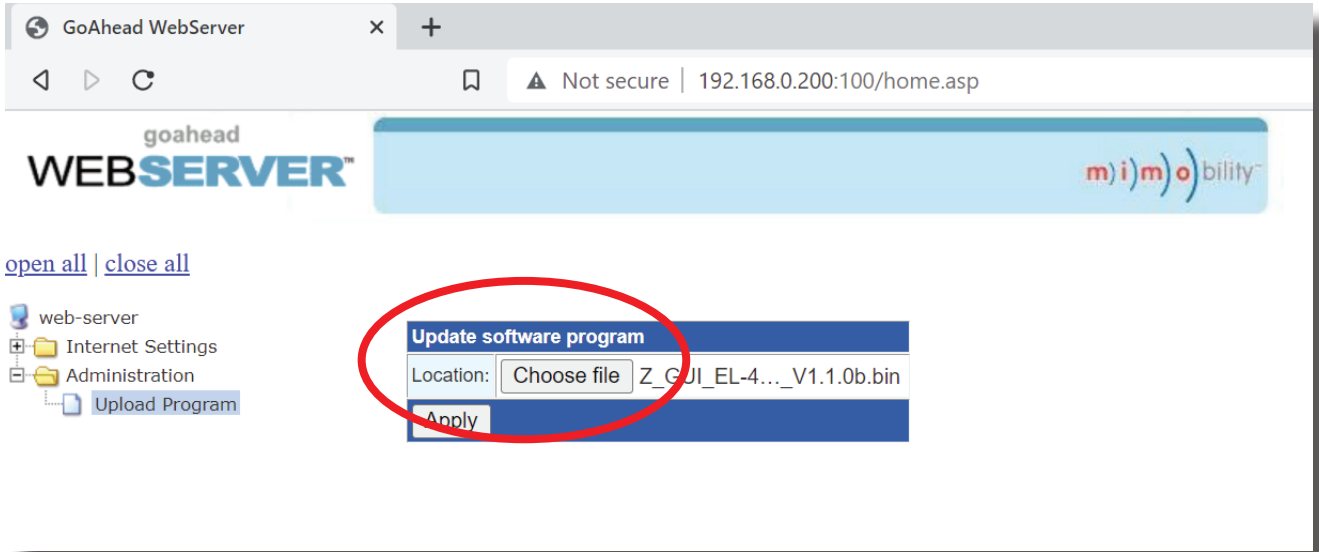
5) Press 'Apply' to begin the firmware update process.

The update process will take several minutes to complete. Do not refresh or navigate away from this page until the update process has completed.

Matrix Main (MCU) Firmware Update

The Matrix main (MCU) firmware update is completed from within the Matrix Web GUI. It is important that the Web GUI firmware is applied PRIOR to updating the main MCU firmware for the Matrix.

To update the main (MCU) firmware:

1) Login to the matrix Web GUI:

Default IP Address is: **192.168.0.200**

Default Username is: **ELAN**   Default Password is: **3526**

Please Note: the username/password follows the Admin username/password as per the Web GUI, which would be changed upon first entering the Web GUI.

The IP Address may differ if network settings have been updated. If this is the case, please replace the following with the products current IP address: xxx.xxx.xxx.xxx:100.
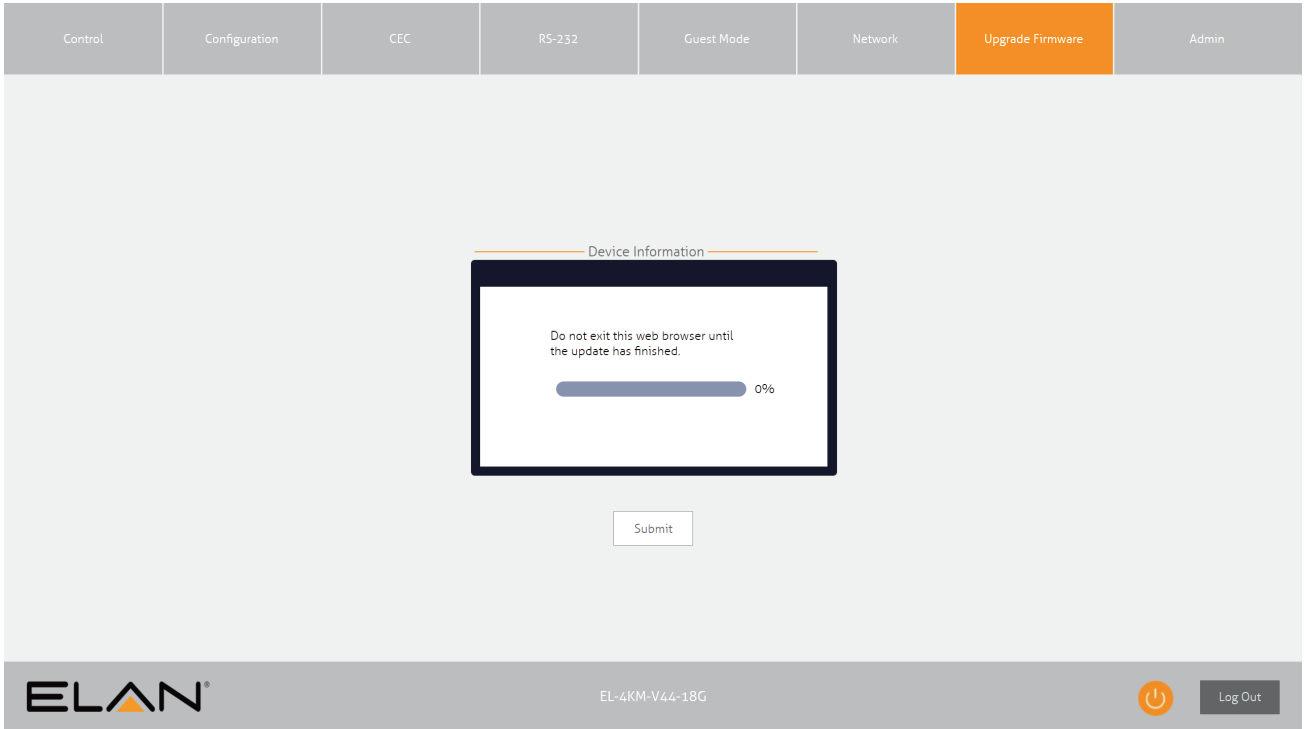
2) Once the main product Web GUI has been accessed, click on the tab at the top of the page marked 'Upgrade Firmware':
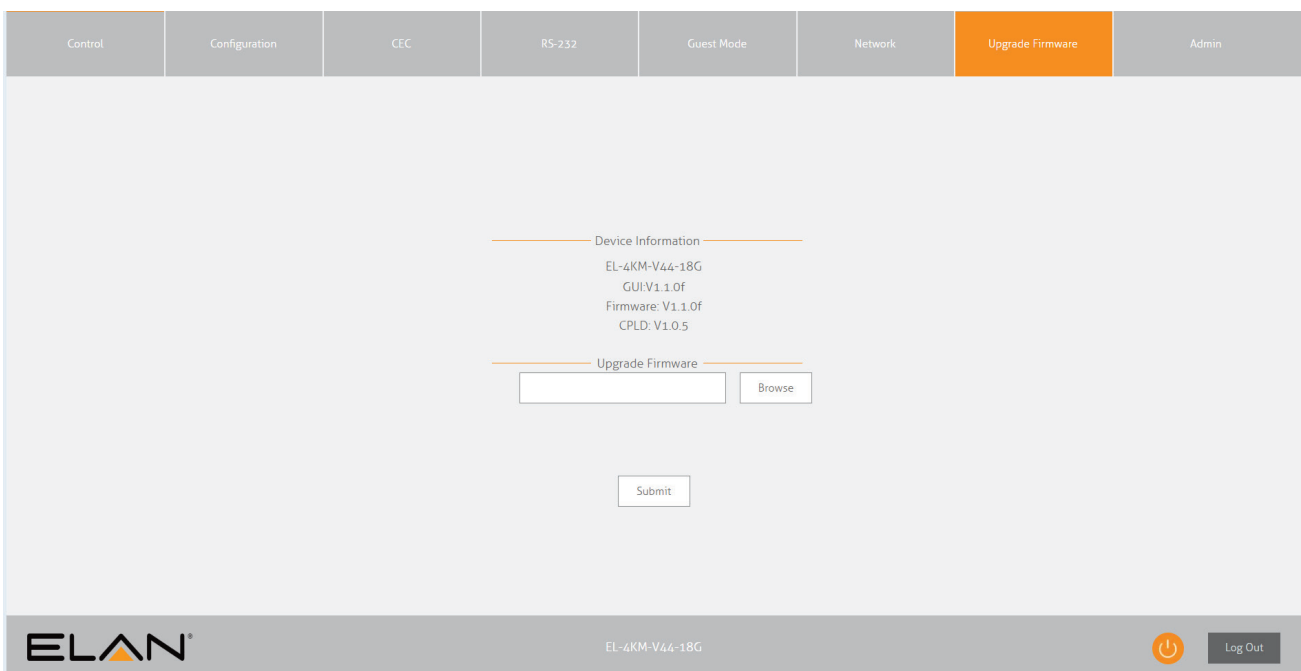
3) Select 'Browse'

4) Press 'Choose File' and select the main (MCU) firmware file downloaded from the ELAN website. This will be a .app type file.

5) Press 'Submit' to begin the firmware update process:

| Control | Configuration | CEC | RS-232 | Guest Mode | Network | Upgrade Firmware | Admin |

Device Information

Do not exit this web browser until
the update has finished.

0%

Submit

ELAN®   EL-4KM-V44-18G

Log Out

The update process will take several minutes and once complete the message 'Success' will be shown.
Warning: Do not refresh or navigate away from this page until the update process has completed.

6) The Matrix will reboot once the update has finished.

7) Once the Matrix has rebooted, login to the product and confirm both firmware levels have updated to the latest versions:
Please Note: you may have to refresh your browser for the updated firmware versions to show.

Device Information

EL-4KM-V44-18G
GUI:V1.1.0f
Firmware: V1.1.0f
CPLD: V1.0.5

Upgrade Firmware

Certifications

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

CAUTION - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADA, INDUSTRY CANADA (IC) NOTICES

This Class B digital apparatus complies with Canadian ICES-003.
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CORRECT DISPOSAL OF THIS PRODUCT

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

Information

A. Read these instructions – All the safety and operating instructions should be read before this product is operated.
B. The apparatus should be connected to a mains socket outlet with a protective earthing connection.
C. The socket-outlet shall be installed near the equipment and shall be easily accessible.
D. Do not ingest battery, Chemical Burn Hazard
E. This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
F. Keep new and used batteries away from children.
G. If the battery compartment does not close securely, stop using the product and keep it away from children.
H. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
I. WARNING: Please refer the information on exterior bottom enclosure for electrical and safety information before installing or operating the apparatus.

A. Lisez ces instructions - Toutes les instructions de sécurité et d'utilisation doivent être lues avant d'utiliser ce produit.
B. L'appareil doit être raccordé à une prise de courant avec une mise à la terre de protection.
C. La prise de courant doit être installée à proximité de l'appareil et doit être facilement accessible.
D. Ne pas ingérer la batterie, risque de brûlure chimique
E. Ce produit contient une pile bouton. Si la pile bouton est avalée, elle peut provoquer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
F. Conservez les piles neuves et usagées hors de portée des enfants.
G. Si le compartiment à piles ne ferme pas correctement, cessez d'utiliser le produit et tenez-le hors de portée des enfants.
H. Si vous pensez que des piles ont pu être avalées ou placées à l'intérieur d'une partie du corps, consultez immédiatement un médecin.
I. AVERTISSEMENT : Avant d'installer ou d'utiliser l'appareil, veuillez vous référer aux informations figurant sur le boîtier inférieur extérieur pour les informations relatives à l'électricité et à la sécurité.
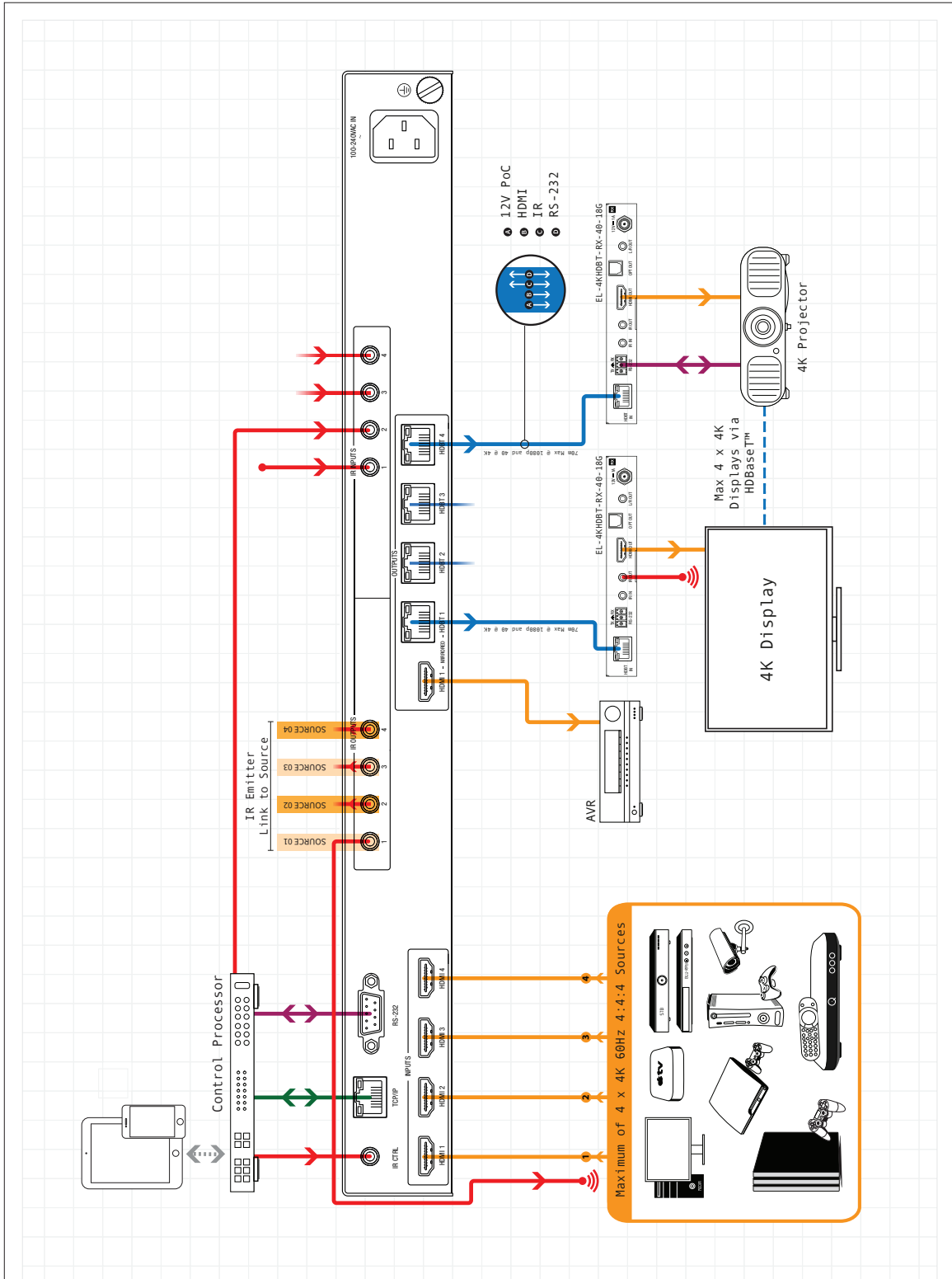
Example Schematic
EL-4KM-V44-18G

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