AeroAudio
WWW.AEROAUDIO.EU

MOS LED IP MKII
MANUAL

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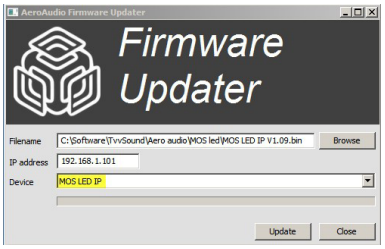

Firmware Update Instructions for MOS LED IP MKII

A software update is available for the MOS LED IP MKII.

To perform this update, we have developed our own tool:
the AeroAudio Firmware Updater.

Important:
- The updater is only compatible with Windows operating systems.
- The AeroAudio Updater is a standalone executable – no installation is required.
- Both the updater tool and the required firmware file can be downloaded from our website:

  https://www.aeroaudio.eu/downloads

> Firmware updates using the AeroAudio Firmware Updater are only supported from version V1.09 or higher.
> Devices running an earlier version must first be updated manually by AeroAudio service personnel.
> After this initial update to V1.09 or higher, future updates can be performed by the user using the Firmware Updater.

How to update your device

1. Download the Firmware Updater Tool. Unzip the file.

2. Download the latest firmware file for your device. Unzip the file.

3. Connect your device to power and Ethernet.

4. Open the Updater, select the correct firmware file and enter the device's IP address.

5. Choose your device (LED IP) and click "Update".

6. Once the update is complete, restart your device by disconnecting and reconnecting the power.

The AeroAudio Firmware Updater only works on Windows operating systems.
The tool is a standalone executable, so no installation is required.

Tips & Warnings:
Ensure the device is powered on and connected to your network via Ethernet.
Do not interrupt the update process by turning off the device or removing the network connection.
Only use the official firmware files provided on our website.

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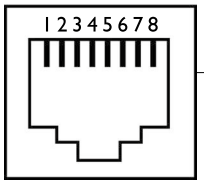
ETHERNET

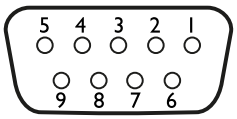
USB

RJ45 GPI contacts.



Pin	Function	Signal
1	GPI-1A	+ 5 to + 15 volts
2	GPI-1A GND	Ground
3	GPI-1B	Contact to pin 7 / 9
4	GPI-1B/2B GND	Ground GPI-1B / GPI-2B
5	GPI-2A	+ 5 to + 15 volts
6	GPI-2A GND	Ground GPI-2A
7	GPI-2B	Contact to pin 7 / 9
8	GPI-1B/2B GND	Ground GPI-1B / GPI-2B

SUB-D 9 GPI contacts. In parallel to the RJ45



Pin	Function	Signal
1	GPI-1A	+ 5 to + 15 volts
2	GPI-1B	Contact to pin 7 / 9
3	GPI-2A	+ 5 to + 15 volts
4	GPI-2B	Contact to pin 7 / 9
5	Alarm	Contact to pin 7 / 9
6	GPI-1A GND	Ground
7	GPI-1B/2B GND	Ground GPI-1B / GPI-2B
8	GPI-2A GND	Ground GPI-2A
9	GPI-1B/2B GND	Ground GPI-1B / GPI-2B

SUB-D 9 MALE is included

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Supply voltage: 12 to 24 volts DC. Polarity is unimportant
Power consumption of the MOS-LED-IP is 0.7 watt in standby.

Signal indicators: Red - Green - Blue - White

The controller switches to ground and uses a fixed + output.
This is standard for most RGB-W LED strips. Maximum power rating for each colour is 2 Amp with a total maximum power consumption of 4 Amp for all 4 colours.

LED connections:

Pin	Functie
1	+12 / +24V
2	Red
3	Green
4	Blue
5	White

The power supply.

The maximum power of the power supply depends on the amount of leds that are connected

The power supply can be 12 volt or 24 volt. If you want to calculate what power you need we have the following example:

You can say that 1 meter RGBW led strip consumes 12 watt. The efficiency is about 60 percent. So 5 meters is 60 watt excluding the device itself. The device itself consumes 5 watt. In totally it is about 65 watt.

We advise You to use a power supply and ledstrips from 24 volt if the power consumption is more than 40 watt. That is to decrease the current in te system. Actually, 24 volts can always be used but 12 volt only in low current systems so below 40 watt.

Netwerk access

You can set the MOS LED IP using a web page. To open this webpage You can use a webbrowser on your pc like Chrome or edge. On the top line of the web browser you can type the ip address. Once the web page is open you can change the various settings as needed. After these changes You always heave to press the button "Save settings and reboot" to save these changes.

The connection with the different devices are made by a lan connection. The commands itself are so called udp or tcp commands.

For tcp there is a fixed connection between the MOS LED IP and a device like f.i. a mixing console. For these connections the different ports might not be blocked in your switch our router and then a connection would fail.

On the web page is a box with the ip address with the device you want to connect to. Behind this box You can see if a tcp connection is successful. (connected or not connected)

To ensure that a port is not blocked we give you the port numbers for the different sessions.

The ports for the different devices are:

For Ember+ tcp port:	9000
For Axia IQX/QOR tcp port:	4010
For Axia Xnode tcp port:	93
For DHD global logics udp port:	2009

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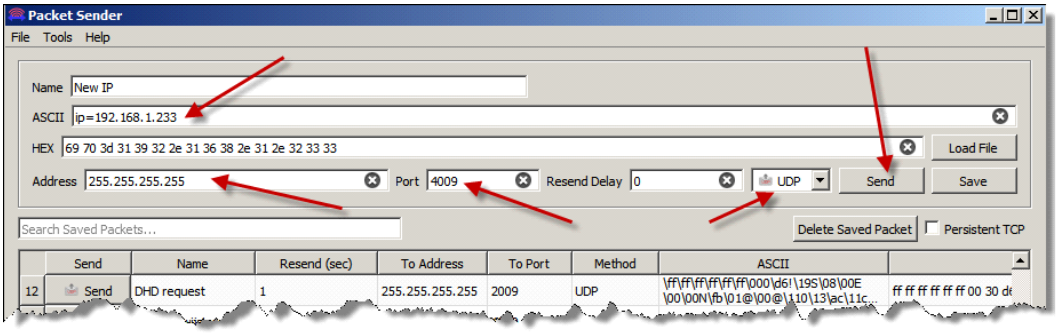
The MOS Led IP does not support the dhcp protocol for ip settings. In stead You can use a freeware tool called Packetsender. You can download this at www.packetsender.com/download

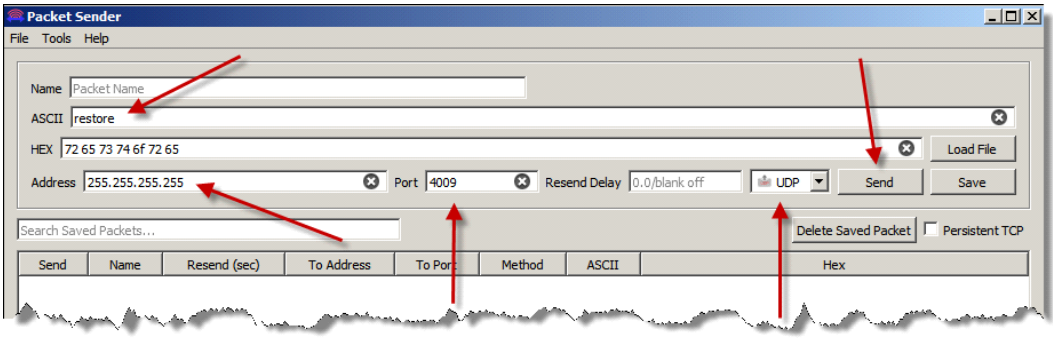
With this tool You are able to set the MOS led directly to a correct IP address for Your own network. You can sent a so called broadcast to the MOS LED on a specific port to arrange this.



To do this type at the ASCII line the text: ip=192.168.1.20 All together and lowercase; so no spaces. You can use any IP address as long as it starts with ip= and don't forget the dots!

At the address you type 255.255.255.255 to broadcast it on the network. A broadcast is sent to every device at your network. Next You have to select the port number. This has to be 4009 and at last select the protocol. This has to be UDP. Then finally press sent.
As soon as this broadcast is accepted by the MOS led the green led will lit for 2 seconds.
Now You can load the webpage with a browser by typing this IP address in the serarch line of the browser.

Port 4009 will be closed as soon as the webpage is loaded at your browser. The reason for that is that ports that are not used anymore, has to be closed. Just to be sure that there is no unnecessary traffic.
To activate (and open) port 4009 again You have switch of the power for a couple of seconds.



There is also a command to restore the default IP address 192.168.0.101

This is the command restore All in lower case. If you sent this command the default IP address settings are restored

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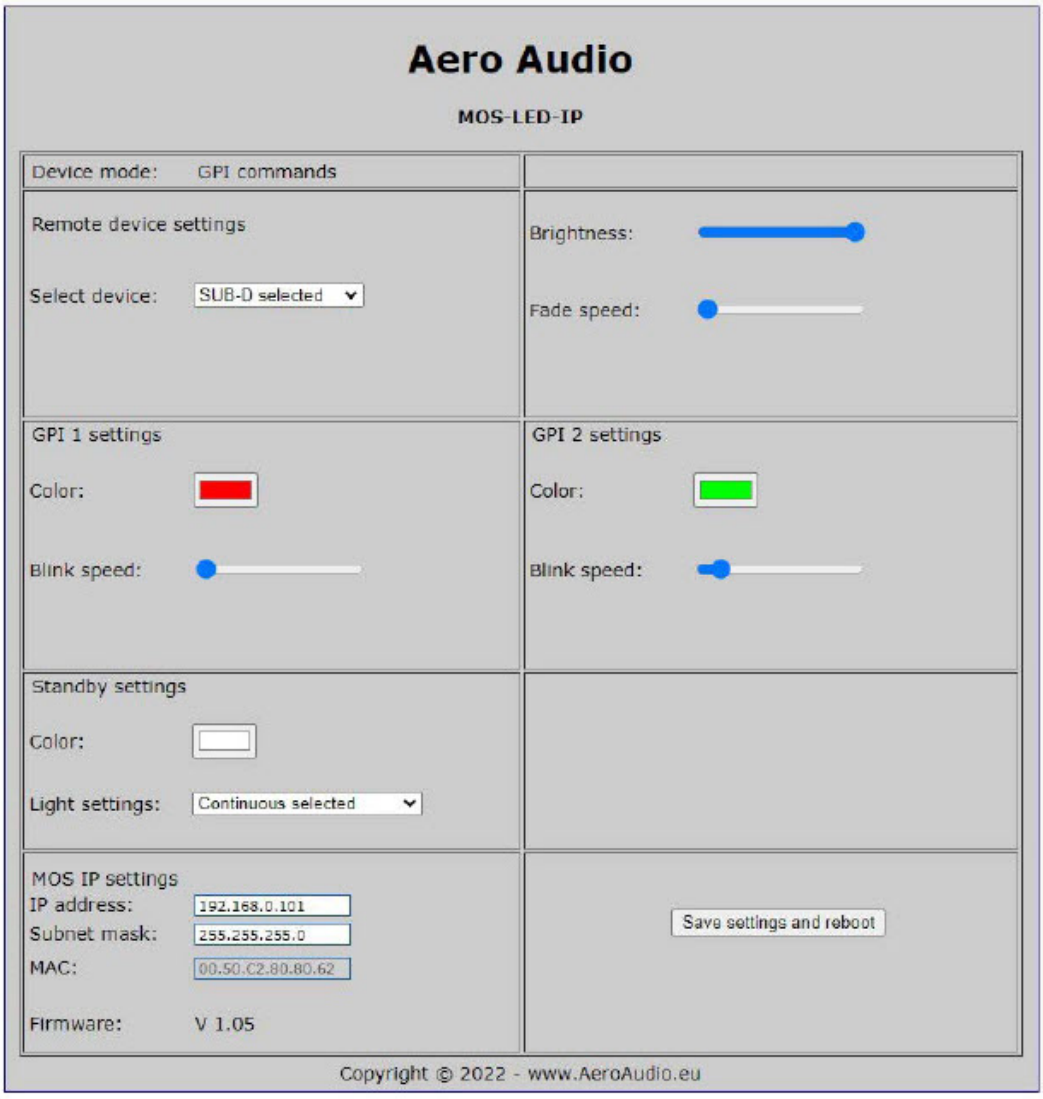
The MOS LED IP MKII settings can be adjusted using a standard webbrowser.

The factory default settings:
IP 192.168.0.101
Subnetmask: 255.255.255.0

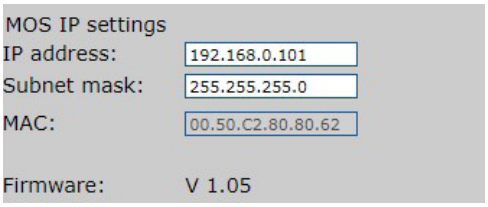
It may take up to 30 seconds for the device to be active on the network after connecting the device to your computer or network.

Enter the IP address in your browser and the MOS LED IP MKII will display the following settings page:

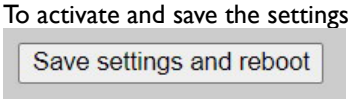


MOS LED IP MKII settings

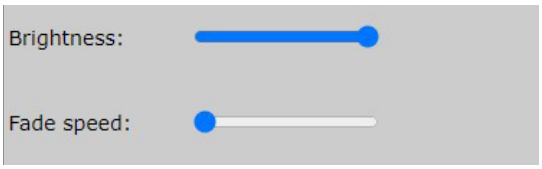
Here the IP address with the corresponding subnet mask can be set. The MAC address is unique for each device and can not be changed. The firmware shows the currently running firmware version of the device.



To activate and save the settings press "Save settings and reboot."



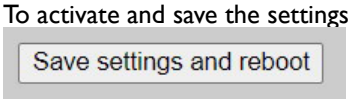
Brightness and Fade speed



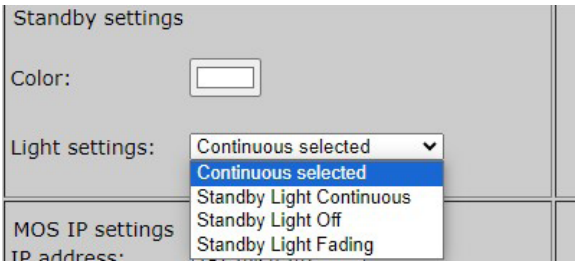
Brightness: Here you can adjust the intencity of the led-strip.

Fade speed: Here you can adjust the fade speed of the led-strip.

To activate and save the settings press "Save settings and reboot."



Standby settings

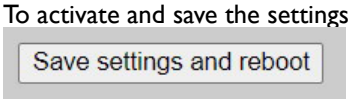


Standby light Coninuous: When no triggers are active (GPI 1 - GPI 2) this color will be active.

Standby light Off: When no triggers are active (GPI 1 - GPI 2) there will be NO color.

Standby light Fading: When no triggers are active (GPI 1 - GPI 2) this color will be fading up and down.

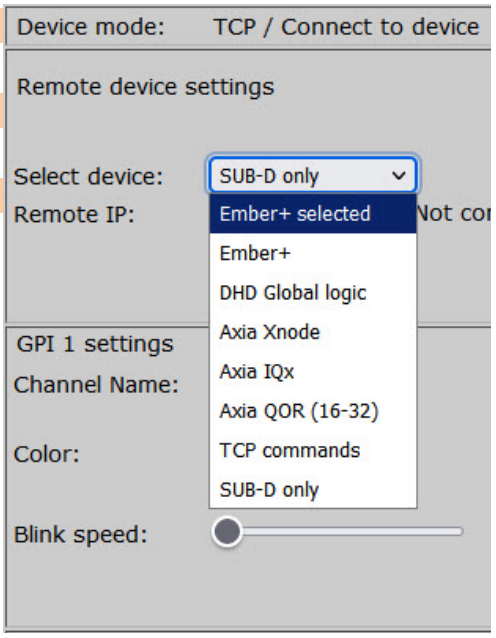
To activate and save the settings press "Save settings and reboot."



Select a device / protocol

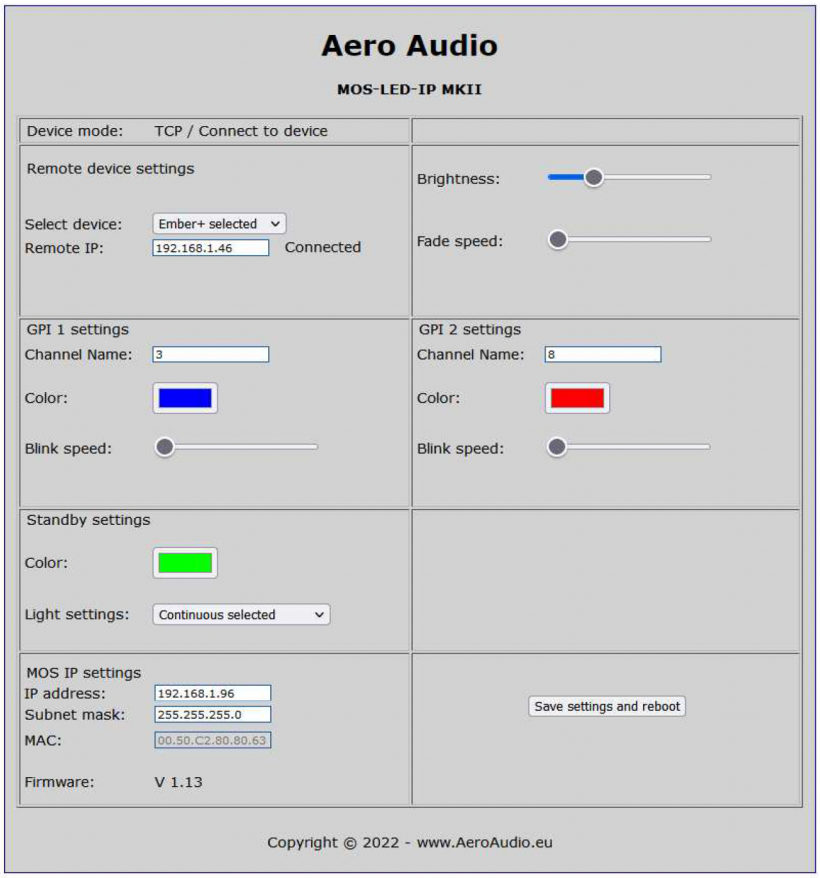
At this moment the MOS LED IP MKII supports 6 protocols / devices:

- 1: EMBER+
- 2: DHD GLOBAL LOGIC
- 3: TELOS AXIA X-NODE / LIVEWIRE DRIVER
- 4: TELOS AXIA QOR/IQX
- 5: TCP COMMANDS
- 6: SUB-D ONLY
  (SUB-D 9 GPI CONTACTS OR RJ45 GPI CONTACTS)



1: EMBER +

The MOS Led IP can be connected to the mixing console for control via the Ember+ protocol. We use the TCP protocol for this purpose. To establish the TCP connection, you can enter the IP address of the relevant mixing console into the 'Remote IP' field on the MOS Led's web page.



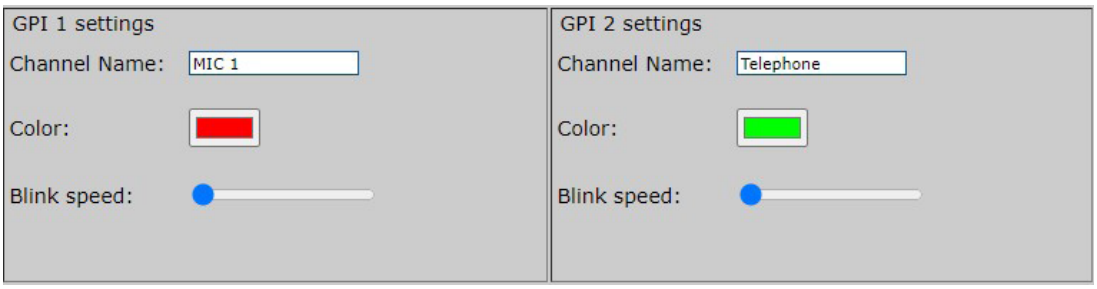
Then, click the "save settings and reboot" button. Once a connection to the mixing console has been established, the word "connected" will appear next to the IP address; as long as there is no connection, it says 'not connected'. Try to reconnect by clicking the 'Save settings and reboot' button and see if it is fixed. The MOS Led IP can then translate the mixing console's GPO commands into the desired lighting output. The MOS Led IP utilizes the Ember+ configuration within the mixing console, specifically the GPO settings. You can specify the GPO channels in the MOS Led IP under the "GPI settings" menu, Channel Name; in this example, these are GPO 3 and 8. Any commands within the mixing console that are linked to GPO 3 and 8 via the Ember+ settings will be accepted by the MOS Led IP.

GPI 1 (same for GPI 2)

Channel Name: Enter the source name that you like use (the console source profile name).

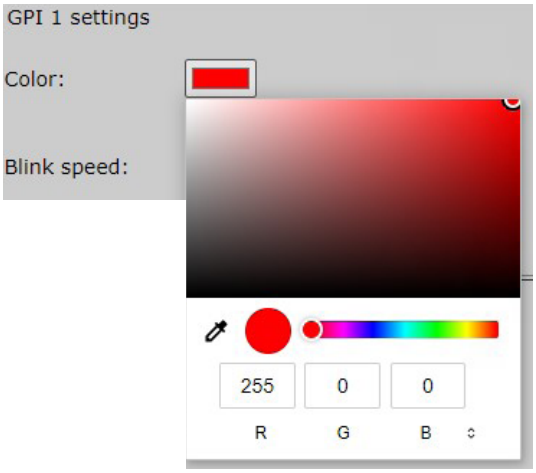
In this example "MIC 1" for GPI 1. The name must be identical to the name on the display of your mixing console.

(including the spaces)

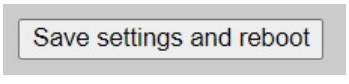


Color: color selection

Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency)

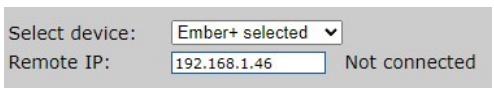


To activate and save the settings press "Save settings and reboot."



Reload the settings of your studio console when you start up for the first time.

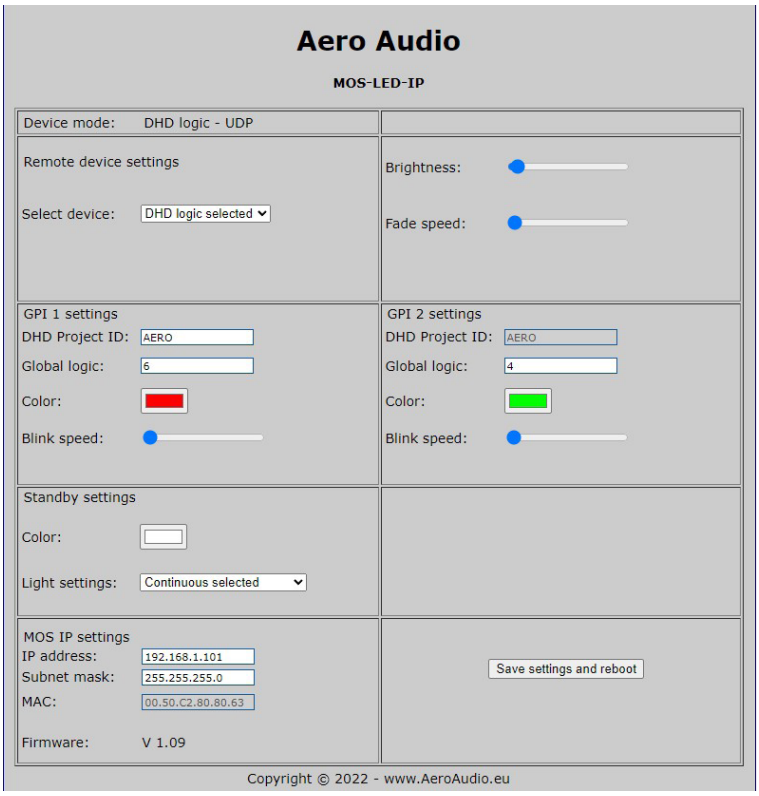
If not it will show "not connected"



Please check if your device is correctley connected and the IP address is set correct.

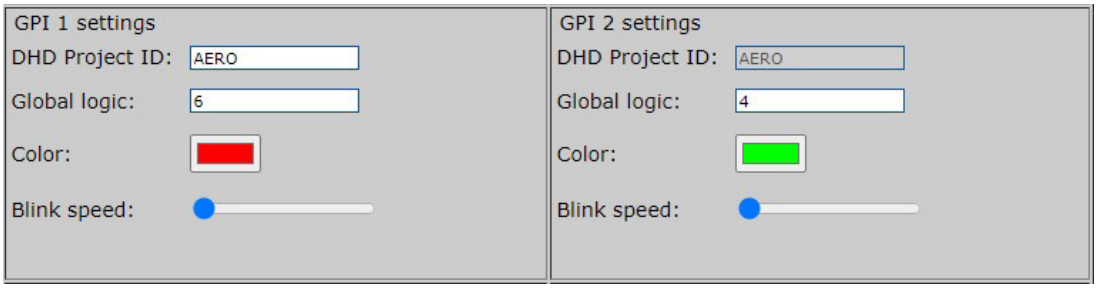
2: DHD LOGIC

Remote device settings: select "DHD logic"

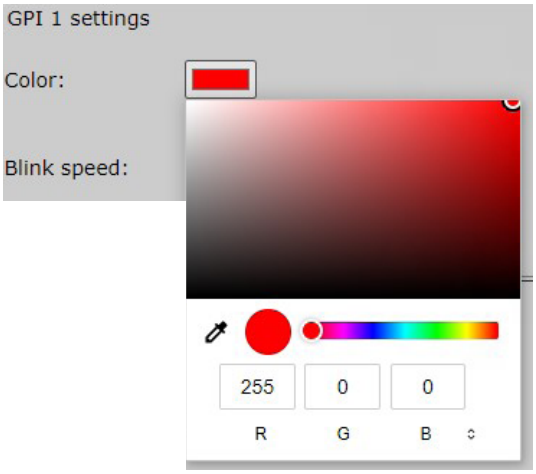


GPI 1 (same for GPI 2)

DHD Project ID: enter your DHD Project ID, in this example "AERO"
Global logic: enter your Global logic, in this example "6" for GPI 1



Color: color selection



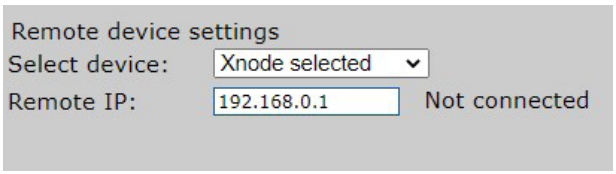
Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency)

To activate and save the settings press "Save settings and reboot."

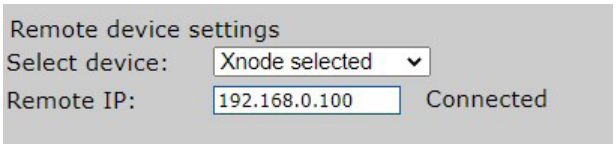


3: TELOS AXIA X-NODE / LIVEWIRE DRIVER

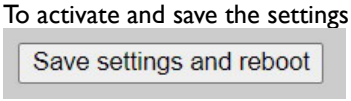
Remote device settings: select "Axia X-node"



Remote IP: enter the IP address of the X-node/livewire
In this example 192.168.0.100 - Make sure that devices are in the same IP-range.

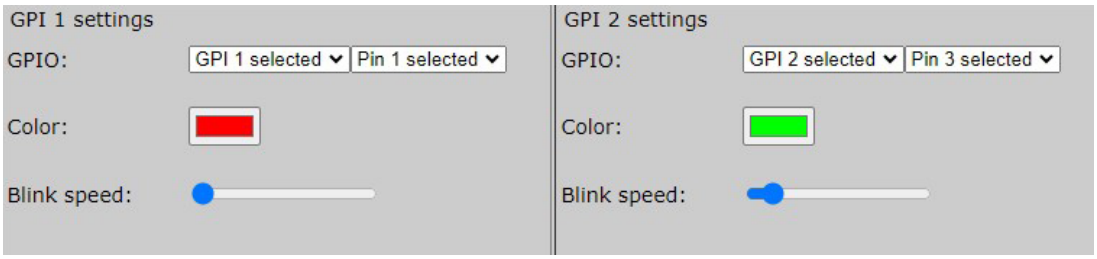


To activate and save the settings press "Save settings and reboot."

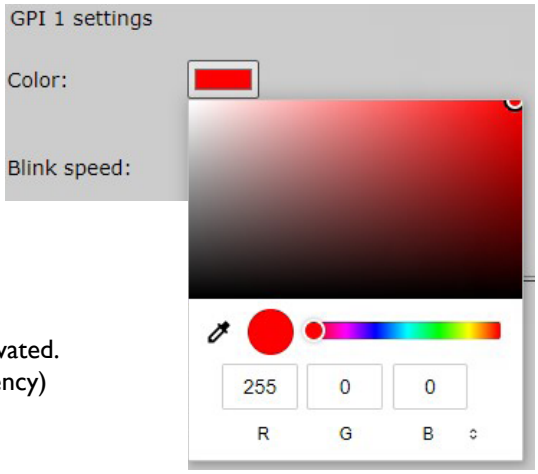


GPI 1 (same for GPI 2)

GPIO: Select your GPIO contact and designated PIN
In this example "GPI1" and "PIN 1"

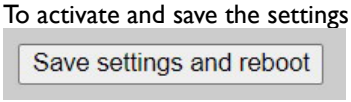


Color: color selection

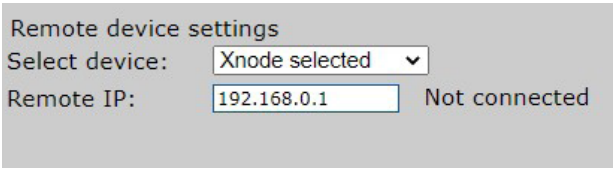


Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency)

To activate and save the settings press “Save settings and reboot.”



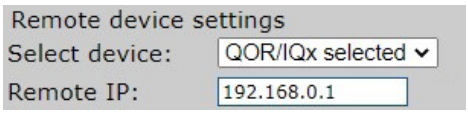
After save settings and reboot, if the device is found it wil show “connected”



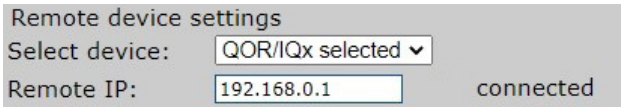
If not it will show “not connected”
Please check if your device is correct-ley connected and the IP address is set correct.

4: TELOS AXIA QOR/IQ/IQX

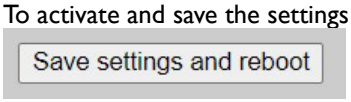
Remote device settings: select "Axia QOR/IQx"



Remote IP: enter the IP address of the QOR/IQx
In this example 192.168.0.1 - Make sure that devices are in the same IP-range.

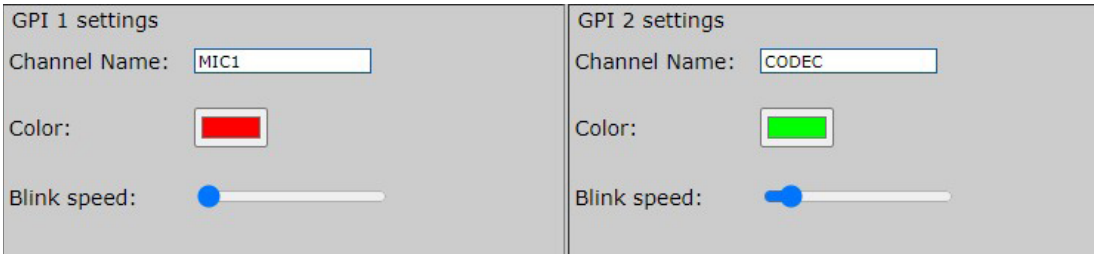


To activate and save the settings press "Save settings and reboot."

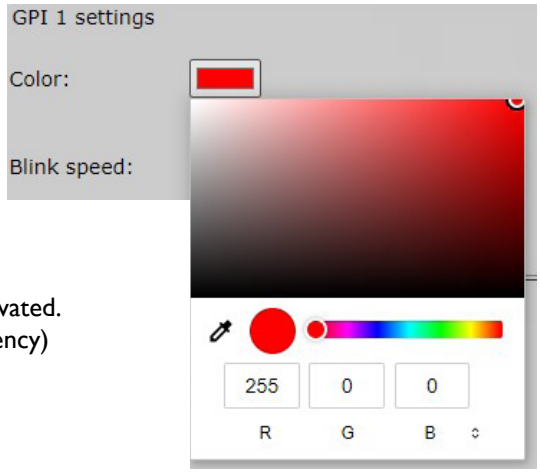


GPI 1 (same for GPI 2)

Channel Name: Enter the source name that you like use (the QOR/IQx source profile name).
In this example "MIC1" for GPI 1.

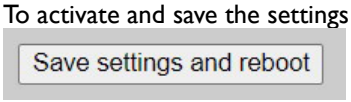


Color: color selection

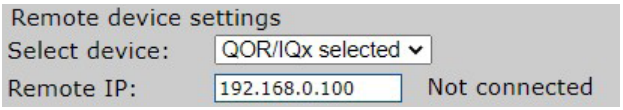


Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency)

To activate and save the settings press "Save settings and reboot."



Make sure for the first use to reload the show profile of your studio console.

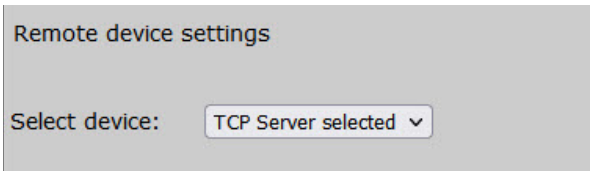


If not it will show "not connected" Please check if your device is correctley connected and the IP address is set correct.

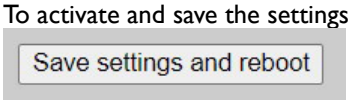
If for any reason the MOS LED IP MKII doesn't react on the commands of the QOR/IQx (this can be caused by power reboot of the QOR/IQx or too fast loading of the show profiles) then please try to reload the show profile on the QOR/IQx.

5: TCP COMMANDS/ STRINGS

Remote device settings: select "TCP commands"



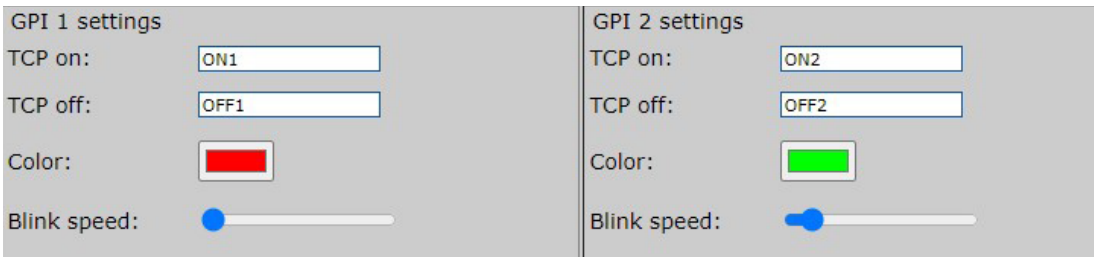
To activate and save the settings press "Save settings and reboot."



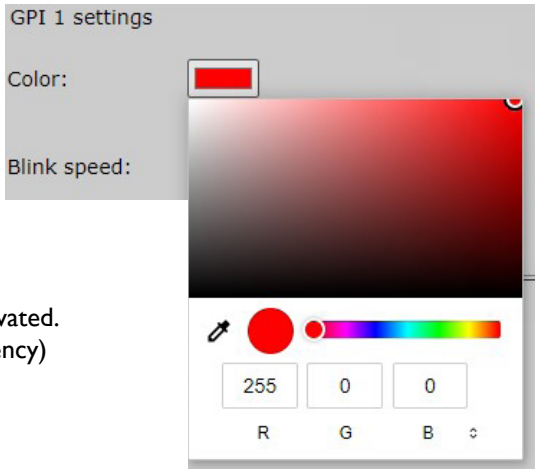
GPI 1 (same for GPI 2)

You can activate this command by sending the specific string to the IP address of the MOS LED IP MKII and port 93. In this example 192.168.0.101 port 93

TCP ON: string to activate GPI in this example "ON1" for GPI 1
TCP OFF: string to deactivate GPI in this example "OFF1" for GPI 1



Color: color selection

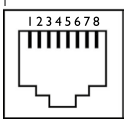


Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency)

6: SUB-D ONLY (SUB-D 9 GPI CONTACTS OR RJ45 GPI CONTACTS)

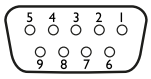


RJ45 GPI contacts.



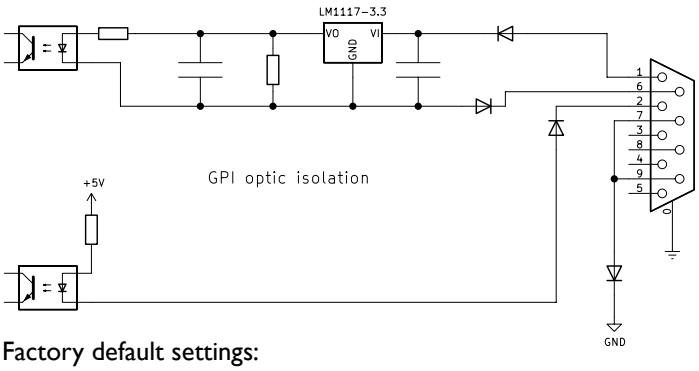
Pin	Function	Signal
1	GPI-1A	+ 5 to + 15 volts
2	GPI-1A GND	Ground
3	GPI-1B	Contact to pin 7 / 9
4	GPI-1B/2B GND	Ground GPI-1B / GPI-2B
5	GPI-2A	+ 5 to + 15 volts
6	GPI-2A GND	Ground GPI-2A
7	GPI-2B	Contact to pin 7 / 9
8	GPI-1B/2B GND	Ground GPI-1B / GPI-2B

SUB-D 9 GPI contacts. In parallel to the RJ45



Pin	Function	Signal
1	GPI-1A	+ 5 to + 15 volts
2	GPI-1B	Contact to pin 7 / 9
3	GPI-2A	+ 5 to + 15 volts
4	GPI-2B	Contact to pin 7 / 9
5	Alarm	Contact to pin 7 / 9
6	GPI-1A GND	Ground
7	GPI-1B/2B GND	Ground GPI-1B / GPI-2B
8	GPI-2A GND	Ground GPI-2A
9	GPI-1B/2B GND	Ground GPI-1B / GPI-2B

The voltage control of GPI1 and GPI2 are isolated from each other and from the MOS-LED.
Voltage control is possible between +5 and +15 volts DC.

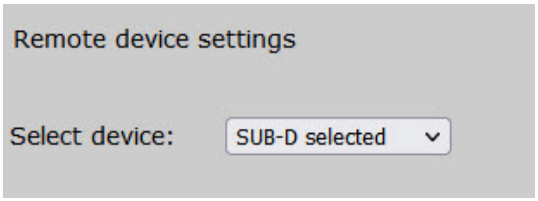


Factory default settings:

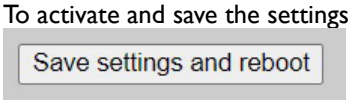
GPI1 = Red (Full on)
GPI2 = Green (fully on, flashing)
No GPI active = White.

If GPI1 is on and GPI2 joins it (or vice versa) then the LED control will alternate between Red and Green.

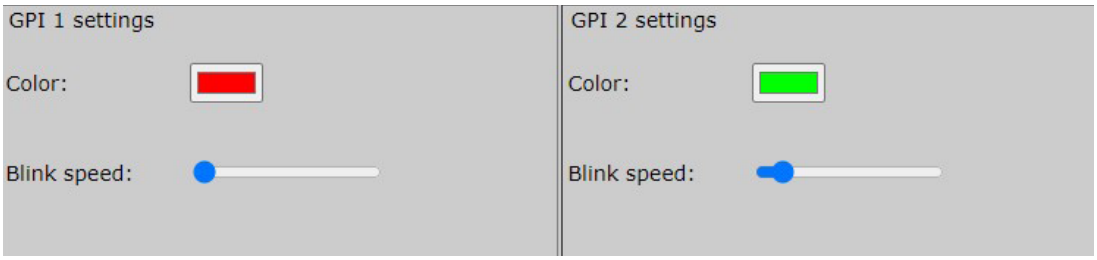
Remote device settings: select "SUB-D"



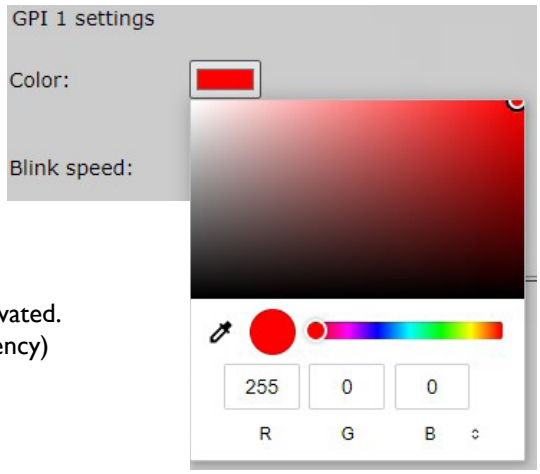
To activate and save the settings press "Save settings and reboot."



GPI 1 (same for GPI 2)



Color: color selection

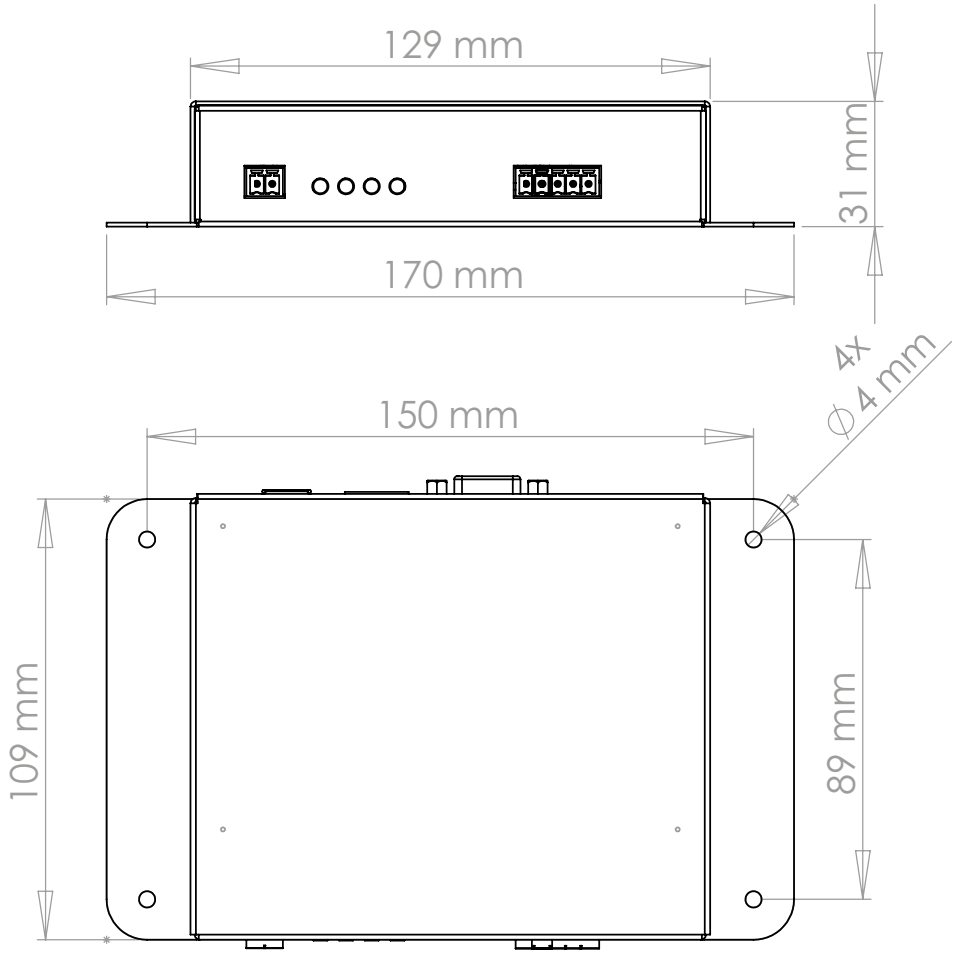


Blink speed: If set to left, the color will not be blinking when activated.
If turned more to the right side, the color will be blinking when activated.
To adjust the blinking speed (frequency) move the slider as desired (the more to the right, the faster).

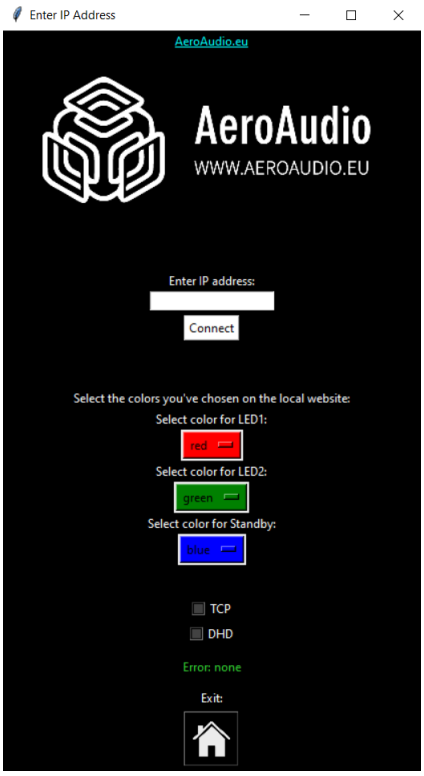
MOS LED IP MKII
MANUAL

Dimensions

Dimensions: 170*109*31mm
Weight: 0.25 Kg



MOS LED IP MKII
MANUAL



Test application download

There are 2 options to run The Test_Application_MOS_LED_IP.py file:

1. In Command prompt
   To do this, you need to go to the location where the file is located by typing: cd "location of file"
   Next you type this: python Test_Application_MOS_LED_IP.py
   When you press enter, the program will start immediately.

2. In any software that can run python (for example Thonny)
   When the file is opened you can press F5 and the program will start immediately.

In the first application you'll need to type in the IP address.
You can reach the local website of the MOS LED IP by typing the IP address of the device in a web browser. If you can't reach the local website, then you probably need to change the IP address of the ethernet port of your computer to the same range as the IP of the MOS Quatro IP.
Next you can chose which protocol you want to use to send the commands.



You have 2 options: TCP or DHD.

1. TCP

If you choose "TCP", than you need to select on the local website of the device "TCP commands". Now press "Save settings and reboot". This will allow you to send TCP commands to the device.
After this you need to set the "TCP ON" and "TCP OFF" for GPI 1 setting to "On1" and "Off1". You need to do the same for GPI 2 settings, but in stead of "On1" and "Off1" you need to type in "On2" and "Off2".
After this you need to press the "Save settings and reboot" button on the local website.
When you've typed in the correct IP address in the application, you can press "Connect" and a new window will open (this may take 2 seconds). If there is any error, than this will be displayed in an error above the exit button.
In this window you can change the state of the leds by sending TCP commands if you've pressed a button. You can also press "Automatic", then the leds will switch between the 2 colors you've chosen. To stop automatic, simply press "Stop automatic".
If there are any errors this will be displayed next to the home button at the bottom of the application.
When everything seems to work you can close the application by pressing the cross at the top right of the application or by pressing the home button at the bottom of the application.

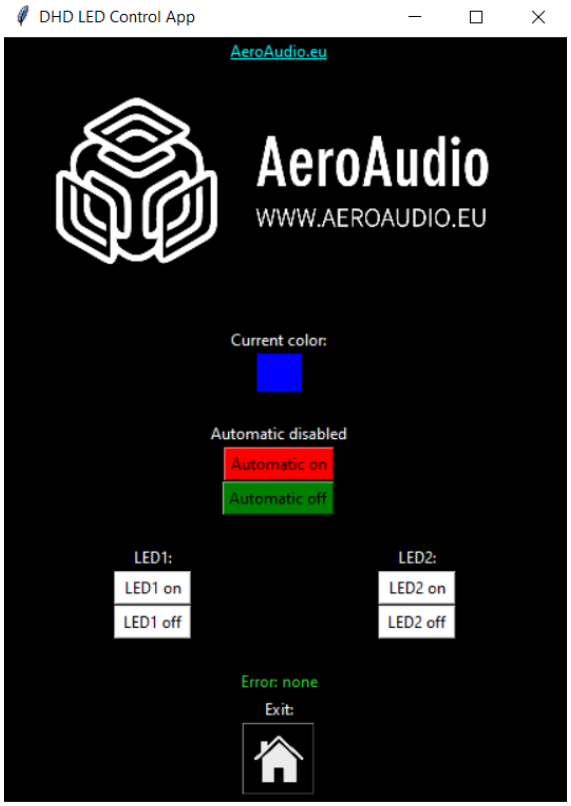
2. DHD

If you choose "DHD", than you need to select on the local website of the device "DHD global logics". Now press "Save settings and reboot".
This will allow you to send DHD commands in UDP packets to the device. After this you need to set "DHD Project ID" of GPI 1 settings to "AERO".
Now you need to set "Glabal logic" of GPI 1 settings to "1" and for GPI 2 settings to "2". After this you need to press "Save settings and reboot".
Now when you've typed in the correct IP address in the application, you can press "Connect" and a new window will open.
If there is any error, than this will be displayed in an error above the exit button.

In the window you can change the state of the leds by sending UDP packets if you've pressed a button.
You can also press "Automatic", then the leds will switch between the 2 colors you've chosen.

To stop automatic, simply press "Stop automatic".

If there are any errors this will be displayed next to the home button at the bottom of the application. When everything seems to work you can close the application by pressing the cross at the top right of the application or by pressing the home button at the bottom of the application.



Safety First!

- Caution: hot and sharp surfaces ! This professional device should only be installed by qualified personnel.
- Check the cardboard box for any damage upon receipt of the goods. In case of a damaged box, please contact your distributor contact your distributor before opening the box.
- Read all documentation before using the unit.
- Keep all documentation for future use.
- Keep the box and packing materials even if the equipment has arrived in good condition.
- Should you ever need to ship the equipment, use only the original factory packaging.
- Do not spill water or other liquids in or on the unit.
- Always use the power supply provided.
- Make sure the outlets match the power requirements listed on the back of the power supply.
- Do not use the unit if the power cord is frayed or broken.
- Turn off and disconnect the devices from the power supply before making any connections.
- Do not use the unit near heaters, heating vents, radiators, or other devices that produce heat.
- Do not use the unit on a surface or in an environment that may interfere with the normal flow of air around the unit. If the unit is used in an extremely dusty or smoky environment, the unit should be "dusted" periodically.
- Do not remove the cover. Removing the cover will expose you to potentially dangerous volt voltages.
- In case of malfunction, this unit should only be serviced by qualified service personnel.
- Always follow the instructions of the supplier and manufacturer - Use only manufacturer specified accessories, spare and replacement parts.
- Use the device only for the application the manufacturer intended.