LS-WING

V1.0

LS-Wing series user manual

By WorkPro

Equipson S.A.

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This equipment complies with EMC Directive 2004/108/EC and LVD 2006/95/EC.

This product is approved by the following safety standards: EN 60950~1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013

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NOTE: 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.

For further details please contact: Equipson SA, AV El Saler nº14, Silla, Valencia, Spain. Telephone: +34 961 216 301 E-mail: support@equipson.es

Section 1: Overview

1.1 About LS-Wing

LS-Wing is an innovative hardware offering several products in one: a Wing for LS-1 / LS-Core, an OSC/UDP hardware controller and a MIDI controller.

LS-Wing can send/receive OSC commands over ethernet from any software or hardware supporting this protocol. In addition, it can send/receive UDP messages, making it compatible with any AV device or software on the market*.

LS-Wing offers exceptional versatility to the lighting control market, as it can be configured to be compatible with other lighting systems. Developed as a 3-in-1 product, LS-Wing can be a simple fader wing, an OSC hardware controller or a standalone MIDI console for any device that accepts MIDI control via USB. A total of four USB ports are provided, including a USB-B port, making it easy to connect to MIDI compatible devices and to charge smart phones and tablets.

In addition, the LS-Wing has a built-in ArtNet-RDM/sACN to DMX node that offers two direct DMX universes. Existing LightShark products - the LS-1 and LS-Core - already offer two Direct DMX universes via an XLR connector, so by adding the LS-Wing it is very easy to double the number of Direct DMX universes available on each console. Its 3-in-1 design makes it easily the most versatile and functional controller on the market. In addition, lighting professionals working in theaters and live shows can have complete control of more than one device at a time, just by using different pages in the same unit.

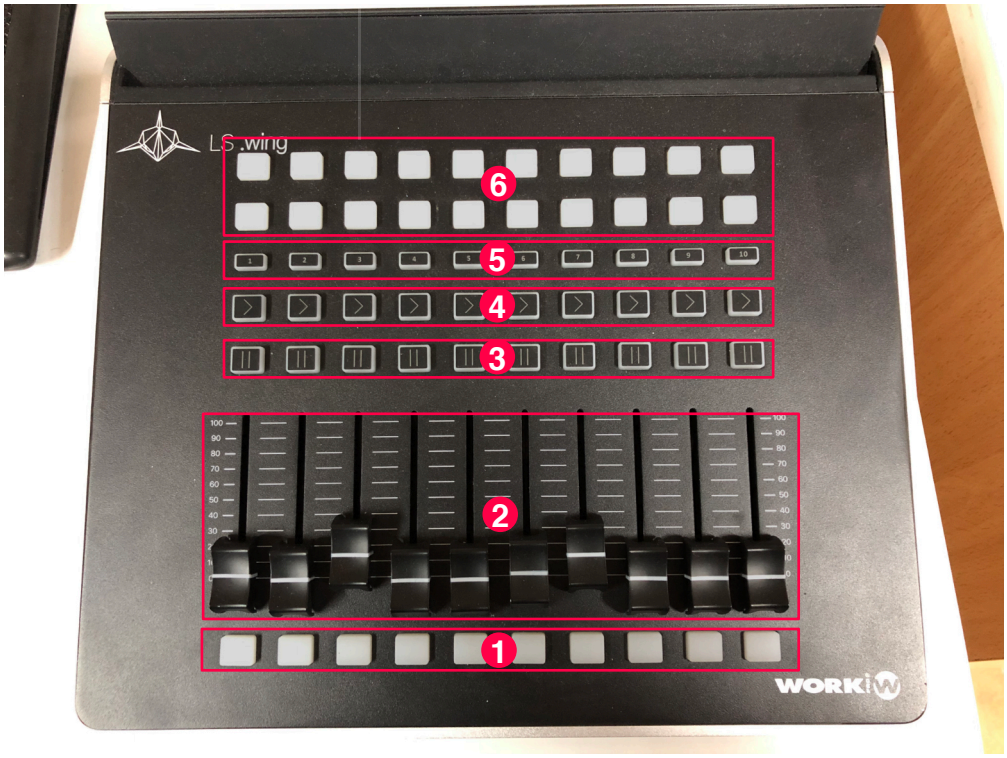
1.2 Overview of the LS-Wing

The LS-Wing control surface offers the user a control system with 10 Faders and a set of 60 RGB buttons.

Thanks to its small size, it can be transported as hand luggage. On the back, there is a holder to hold devices such as tablets. In addition, it includes different USB ports, an ethernet switch and 2 DMX outputs located on the back panel:

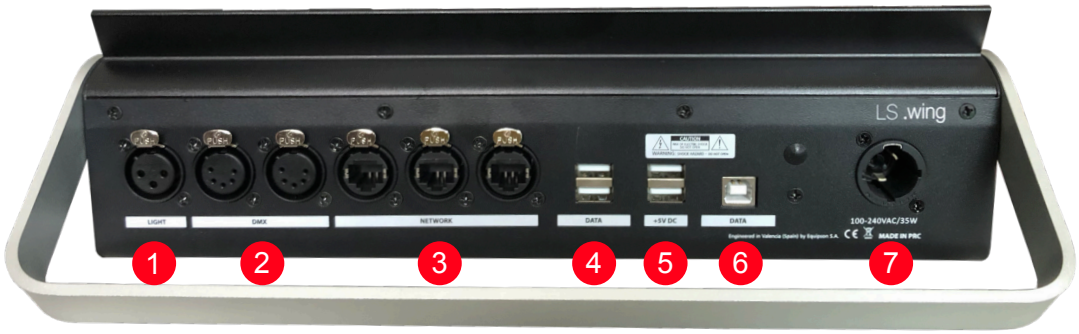
Layout

1 Flash buttons
2 Playback Faders
3 Pause buttons
4 Go Buttons
5 Playback selection buttons
6 Executor buttons



Rear Panel

1 Connection port for 5v LLC-1 lamp (XLR-3)
2 DMX outputs 1 and 2 (XLR-5)
3 Ethernet switch
4 2x USB type A ports for Data
5 2x USB type A ports for +5V DC
6 1x USB 2.0 type B port
7 Power connection (PowerCON TRUE 1)



Dimensions (WxHxD): 325X100X330 mm
Weight: 2,7Kg

Section 2: First Steps

2.1 Selecting the mode of use of the LS-Wing

It is possible to select the operation mode of the LS-Wing during system startup. Once the power is turned on, the lower buttons will flash for 30s , during that time the user can select the operating mode by pressing one of the buttons 1 to 5 in the PlayBack selection area:

Key 1: LightShark Wing mode to control PlayBack 1 to 10.

Key 2: LightShark Wing mode to control PlayBack 11 to 20.

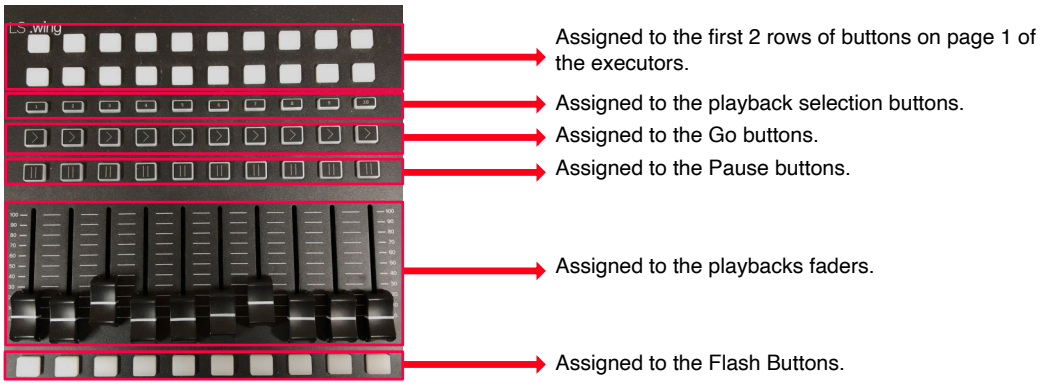
Key 3: LightShark Wing mode to control PlayBack 21 to 30.

Key 4: MIDI control surface mode.

Key 5: OSC/UDP control surface mode.

2.2 LightShark Wing Mode

In this mode the LS-Wing will work as a playback extender, both in the LS-1 and in the LS_Core. The configuration of the Faders ands buttons in the Wing is the following:



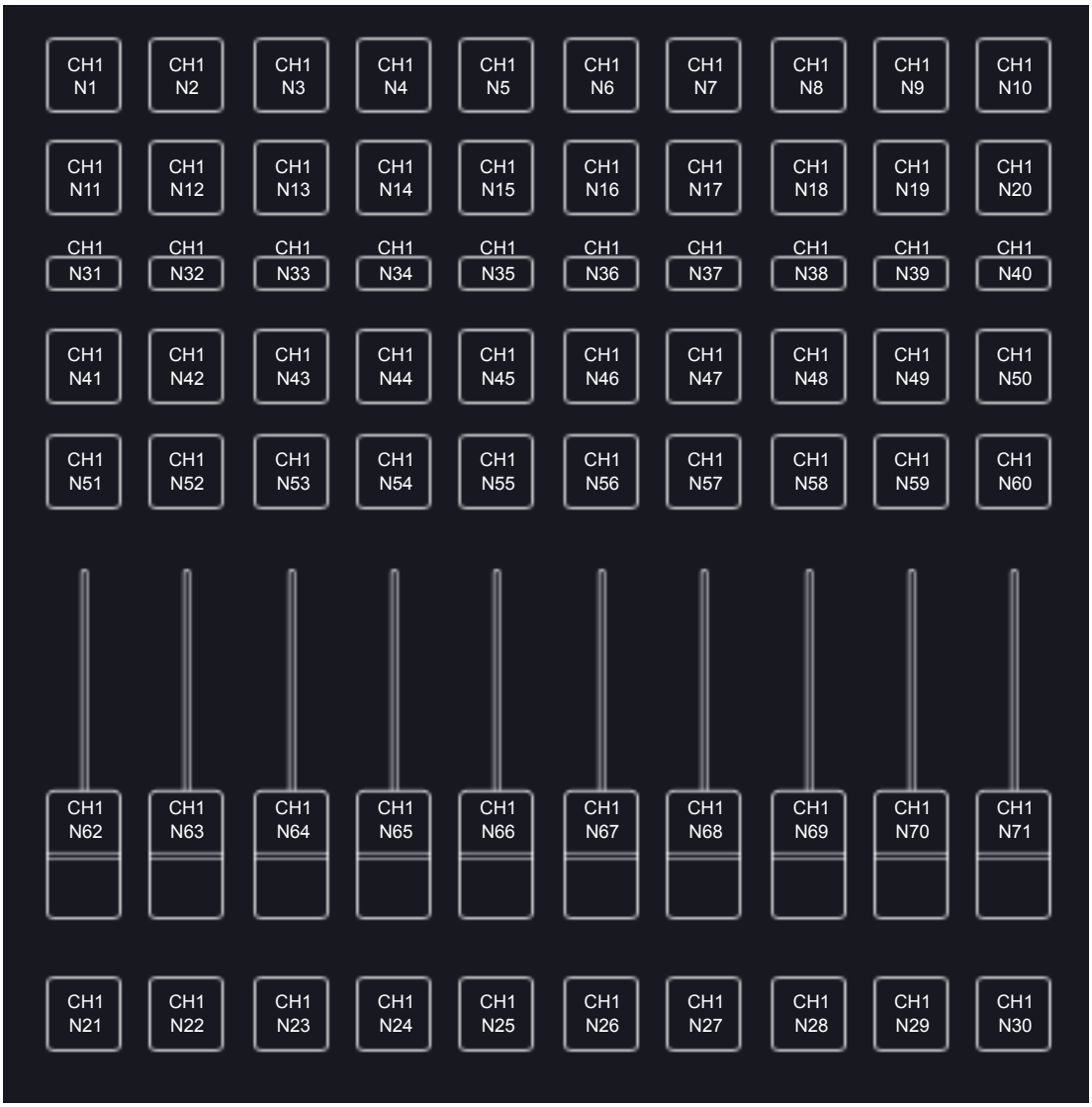
The connection between the LS-1 and the LS-Wing is made via USB, by connecting the LS-Wing to the "USB-Data" port of the LS-1.

The connection between the LS-Core and the LS-Wing is made via USB by connecting the LS-Wing to the front "USB Host" port of the LS-Core.

2.3 MIDI controller mode

In this mode, the LS-Wing will function as a MIDI control surface and can be used with any program or device that supports this protocol.

The note assignment is as follows:



2.4 MIDI notes

Element	Channel	Type	Note	Value
Executor Button 1-1	1	Note	1	OFF(64) / ON (127)
Executor Button 1-2	1	Note	2	OFF(64) / ON (127)
Executor Button 1-3	1	Note	3	OFF(64) / ON (127)
Executor Button 1-4	1	Note	4	OFF(64) / ON (127)
Executor Button 1-5	1	Note	5	OFF(64) / ON (127)
Executor Button 1-6	1	Note	6	OFF(64) / ON (127)
Executor Button 1-7	1	Note	7	OFF(64) / ON (127)
Executor Button 1-8	1	Note	8	OFF(64) / ON (127)
Executor Button 1-9	1	Note	9	OFF(64) / ON (127)
Executor Button 1-10	1	Note	10	OFF(64) / ON (127)
Executor Button 2-1	1	Note	11	OFF(64) / ON (127)
Executor Button 2-2	1	Note	12	OFF(64) / ON (127)
Executor Button 2-3	1	Note	13	OFF(64) / ON (127)
Executor Button 2-4	1	Note	14	OFF(64) / ON (127)
Executor Button 2-5	1	Note	15	OFF(64) / ON (127)
Executor Button 2-6	1	Note	16	OFF(64) / ON (127)
Executor Button 2-7	1	Note	17	OFF(64) / ON (127)
Executor Button 2-8	1	Note	18	OFF(64) / ON (127)
Executor Button 2-9	1	Note	19	OFF(64) / ON (127)
Executor Button 2-10	1	Note	20	OFF(64) / ON (127)
Flash Button 1	1	Note	21	OFF(64) / ON (127)
Flash Button 2	1	Note	22	OFF(64) / ON (127)
Flash Button 3	1	Note	23	OFF(64) / ON (127)
Flash Button 4	1	Note	24	OFF(64) / ON (127)
Flash Button 5	1	Note	25	OFF(64) / ON (127)
Flash Button 6	1	Note	26	OFF(64) / ON (127)
Flash Button 7	1	Note	27	OFF(64) / ON (127)
Flash Button 8	1	Note	28	OFF(64) / ON (127)
Flash Button 9	1	Note	29	OFF(64) / ON (127)
Flash Button 10	1	Note	30	OFF(64) / ON (127)
Playback Select Button 1	1	CC	31	0-127
Playback Select Button 2	1	CC	32	0-127
Playback Select Button 3	1	CC	33	0-127
Playback Select Button 4	1	CC	34	0-127
Playback Select Button 5	1	CC	35	0-127
Playback Select Button 6	1	CC	36	0-127
Playback Select Button 7	1	CC	37	0-127
Playback Select Button 8	1	CC	38	0-127
Playback Select Button 9	1	CC	39	0-127
Playback Select Button 10	1	CC	40	0-127
Go Button 1	1	CC	41	0-127
Go Button 2	1	CC	42	0-127
Go Button 3	1	CC	43	0-127
Go Button 4	1	CC	44	0-127
Go Button 5	1	CC	45	0-127
Go Button 6	1	CC	46	0-127
Go Button 7	1	CC	47	0-127

Element	Channel	Type	Note	Value
Go Button 8	1	CC	48	0-127
Go Button 9	1	CC	49	0-127
Go Button 10	1	CC	50	0-127
Pause Button 1	1	CC	51	0-127
Pause Button 2	1	CC	52	0-127
Pause Button 3	1	CC	53	0-127
Pause Button 4	1	CC	54	0-127
Pause Button 5	1	CC	55	0-127
Pause Button 6	1	CC	56	0-127
Pause Button 7	1	CC	57	0-127
Pause Button 8	1	CC	58	0-127
Pause Button 9	1	CC	59	0-127
Pause Button 1	1	CC	60	0-127

2.5 OSC/UDP controller mode

In this mode, the LS-Wing will function as a control surface to send OSC and UDP commands, and can be used with any program or device that supports these protocols.

In this mode, the user has 2 pages and each of the buttons or faders can be configured to send one or more commands to one or more targets simultaneously.

Section 5 details its operation.

Section 3: Access via web server

3.1 Connection options

The LS-Wing uses an integrated Web Server to provide all its functions to computers, tablets and smartphones that have a web browser. You only need to connect through the Ethernet port of your computer.

Due to the technology used by lightShark, the use of the following web browsers is recommended:

FireFox v67 onwards: https://www.mozilla.org

Chrome v75 onwards: https://www.google.com/chrome

Safari v11 onwards: https://www.apple.com/safari

LS-Wing has 2 IP addresses, one to connect to the LAN and another to receive ArtNet / sACN.

By default, the network interface to access the web server through the LAN, has the following configuration :

IP: 192.168.1.10

Subnet mask: 255.255.255.0

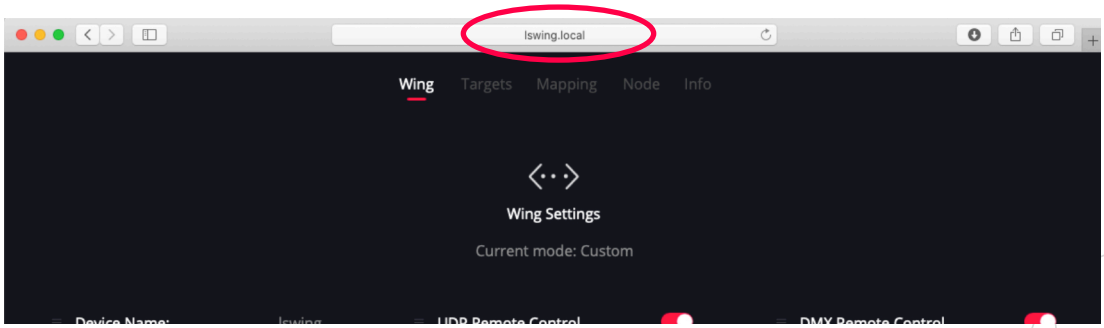
Gateway: 192.168.1.1

By default, the network interface for accessing the web server through an ArtNet/sACN network has the following configuration:

IP: 2.0.0.11

Subnet Mask: 255.0.0.0

It is also possible to connect through the **lswing.local** address :



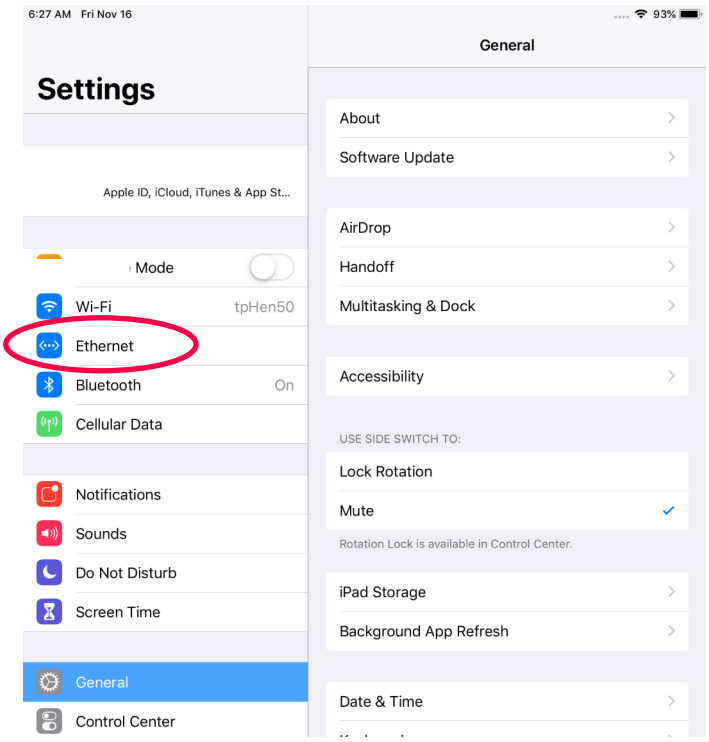
It is possible to connect over ethernet from a tablet using a lightning-ethernet adapter (for iOS devices) or an OTG-ethernet adapter (for Android devices).

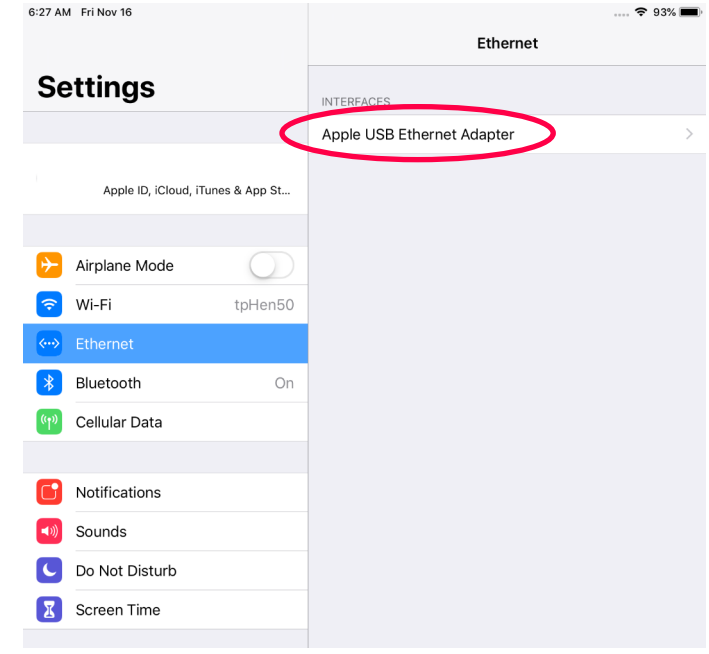
3.2 Connecting from a mobile device

To connect to LightShark devices, over the wired network using a tablet device, the steps are as follows:

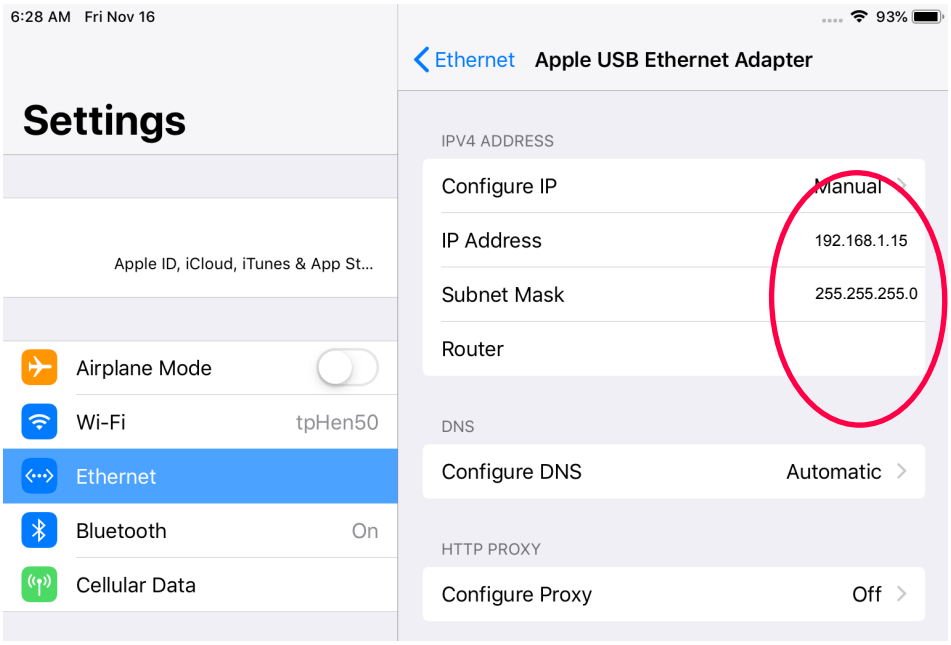
1 Ensure that the ethernet adapter is properly connected to the tablet. Then connect an ethernet cable between the adapter and the lightShark device.

2 Go to the preferences, and in the sidebar you will find the new Ethernet interface.



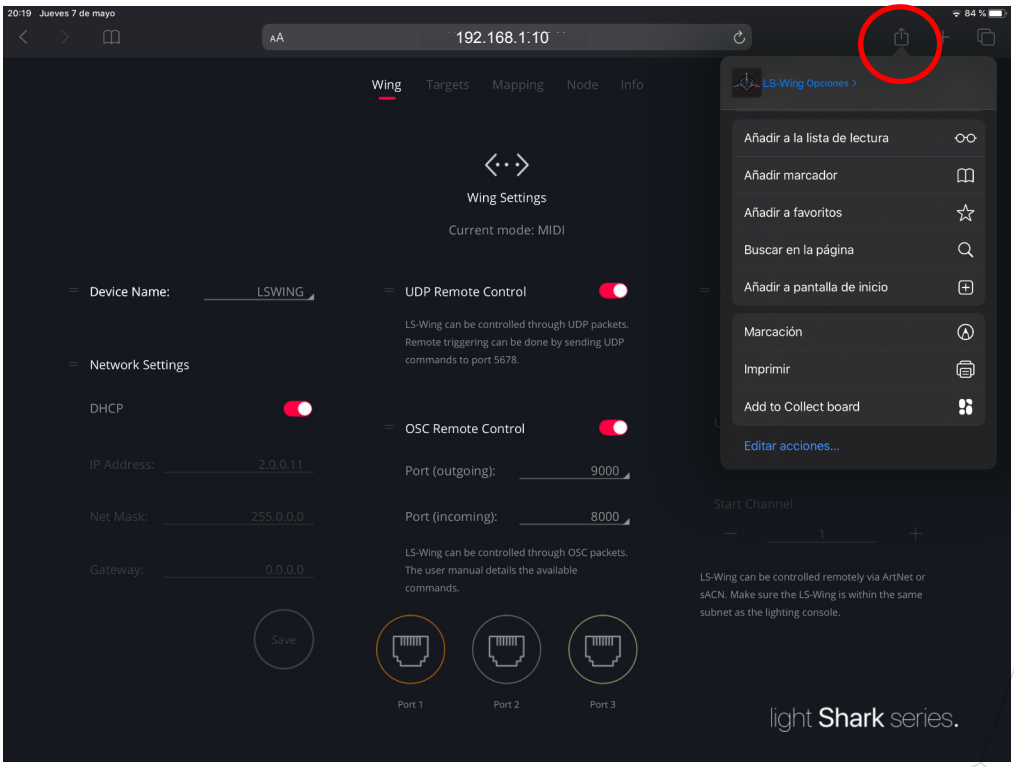


3 Then set the interface to "Manual" and set the IP address and Subnet mask as in the following example:

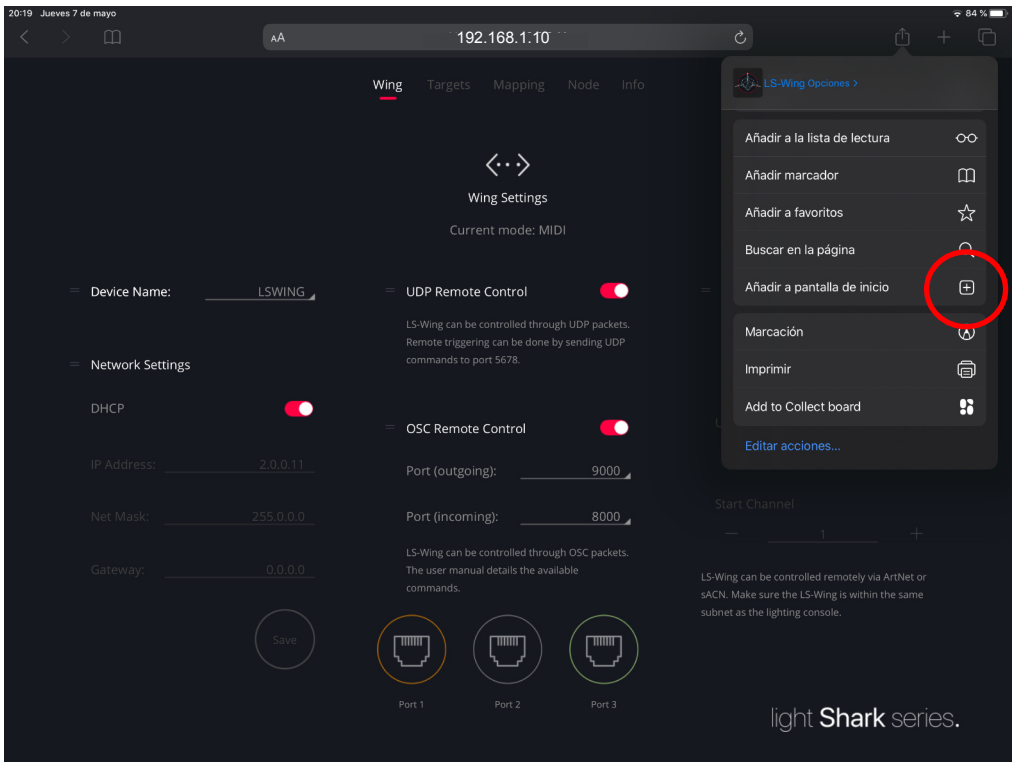


It is possible to add the lightShark website to the iOS or Android home screen. This will create an icon and will automatically access LS-Wing in full screen mode without having to open the web browser.

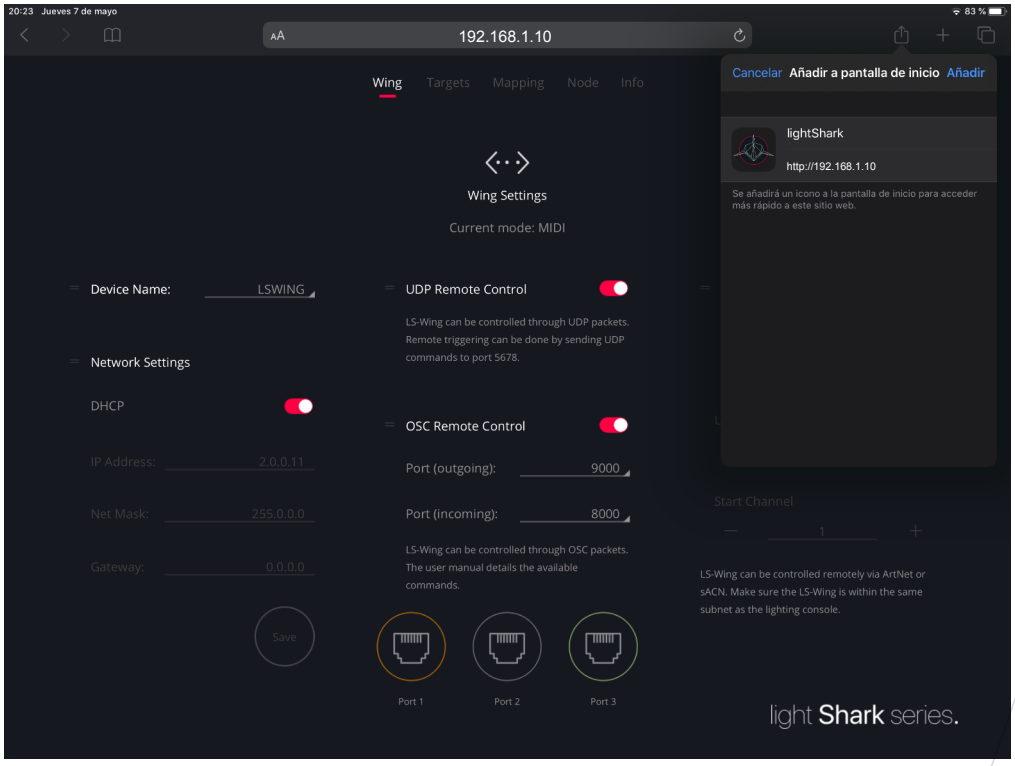
1 Launch Safari (or Chrome in Android) and select the share option:

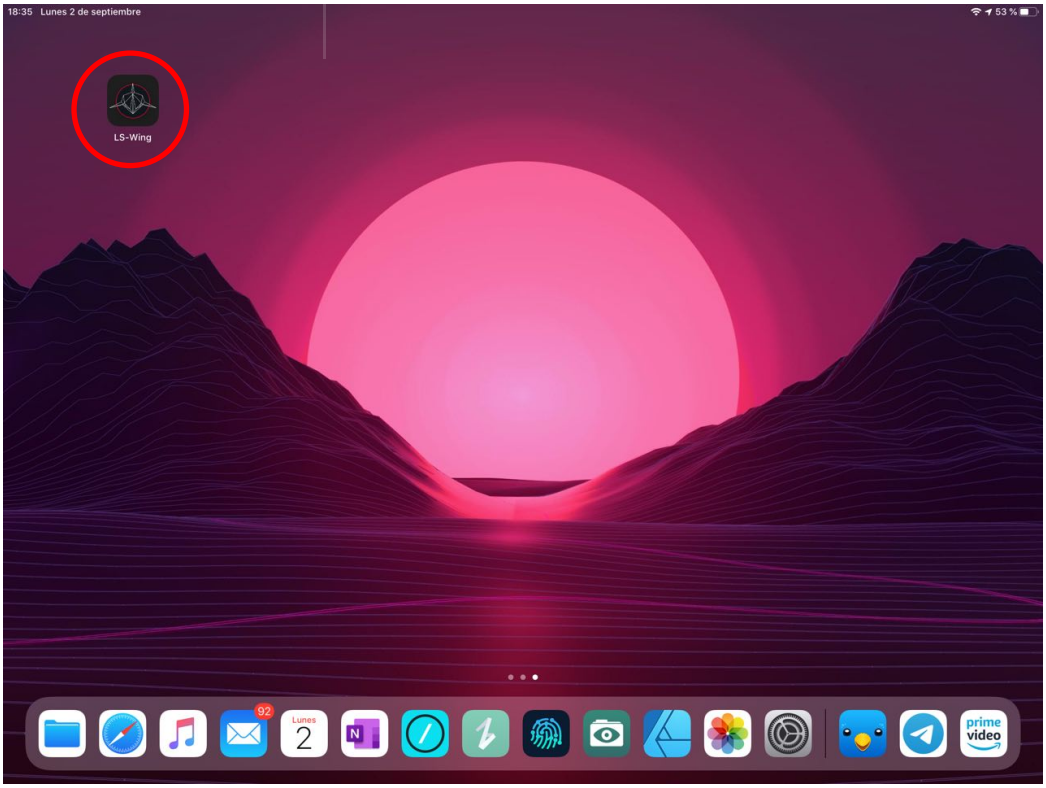


2 Then select the "Add to Home Screen" option. You may have to scroll over on the icons to access this.



3 Press “Add”:



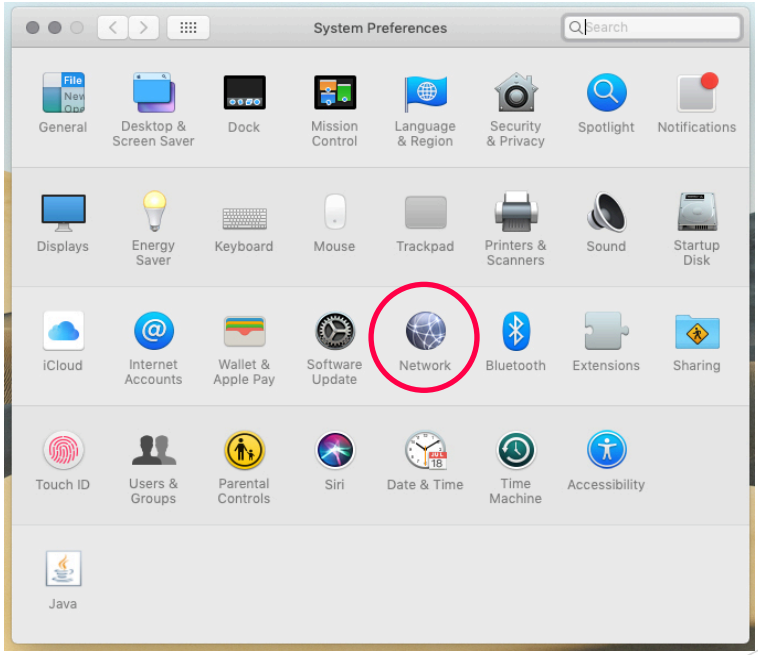


3.3 Connection from a PC

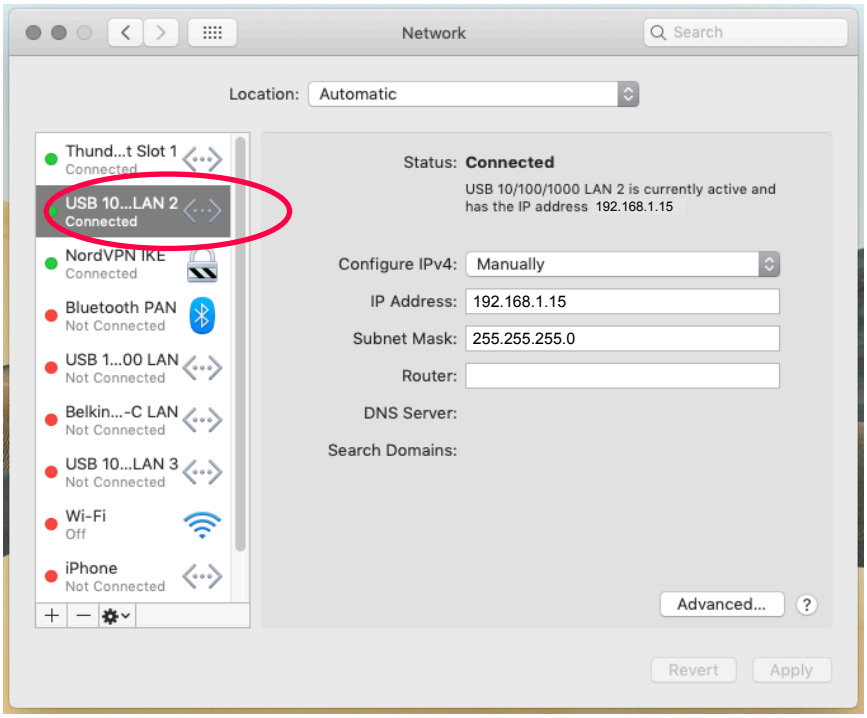
-The following steps detail the process of connecting via a computer using the wired network interface instead of the wireless network.

Network configuration in macOS

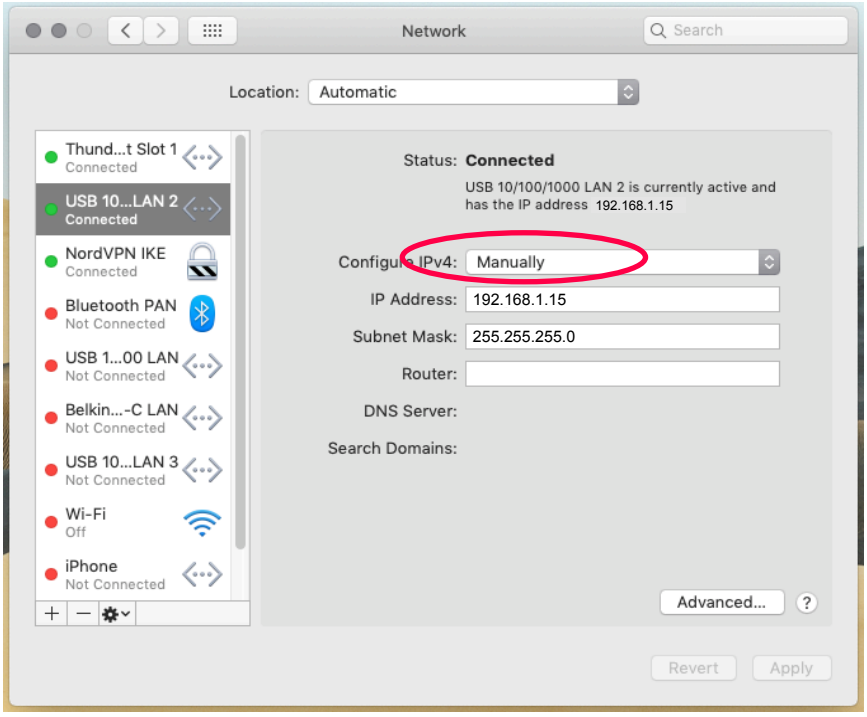
1 Access the System Preferences and then select "Network".



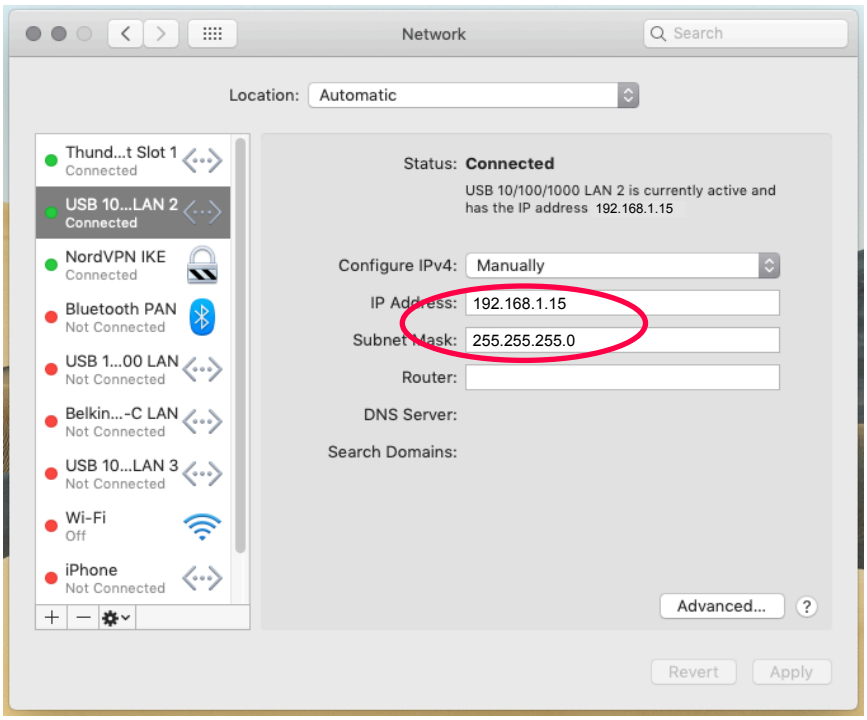
2 From the left side menu select the network interface to which the lightShark device is connected.



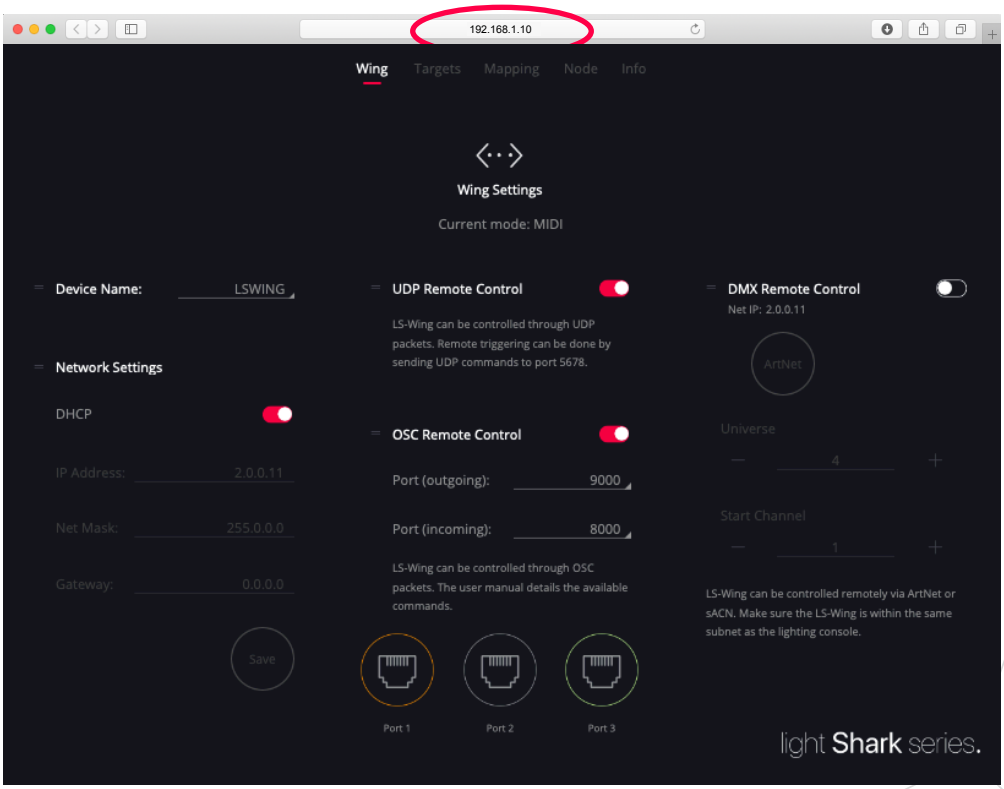
3 Then set the interface to "**Manually**".



4 Then set the IP address and Subnet Mask as in the following example:

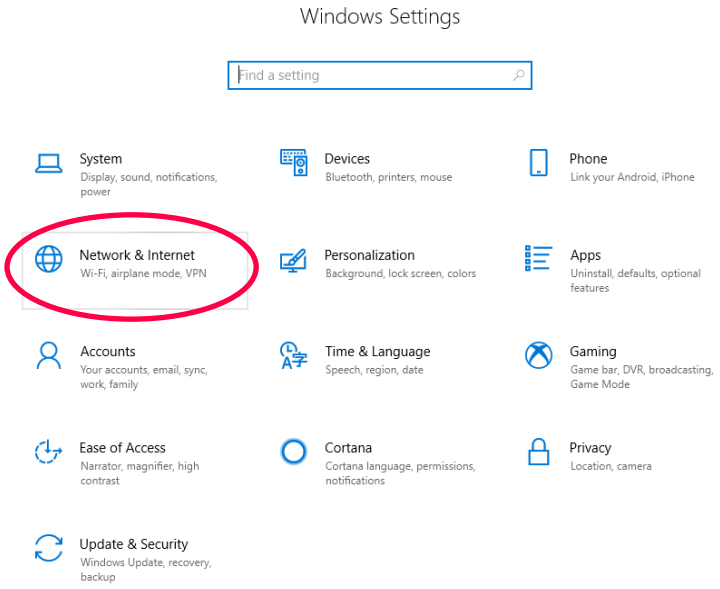


5 Start Safari and enter the address : 192.168.1.10

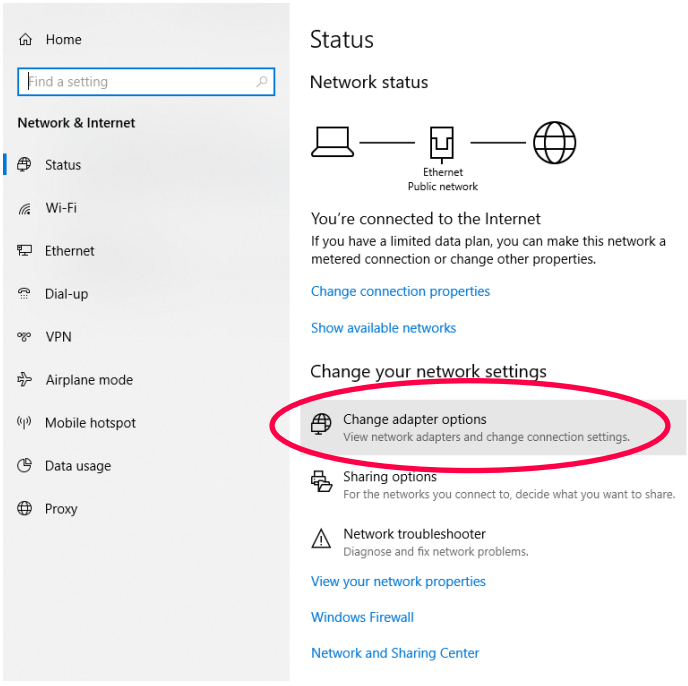


Network configuration in Windows10

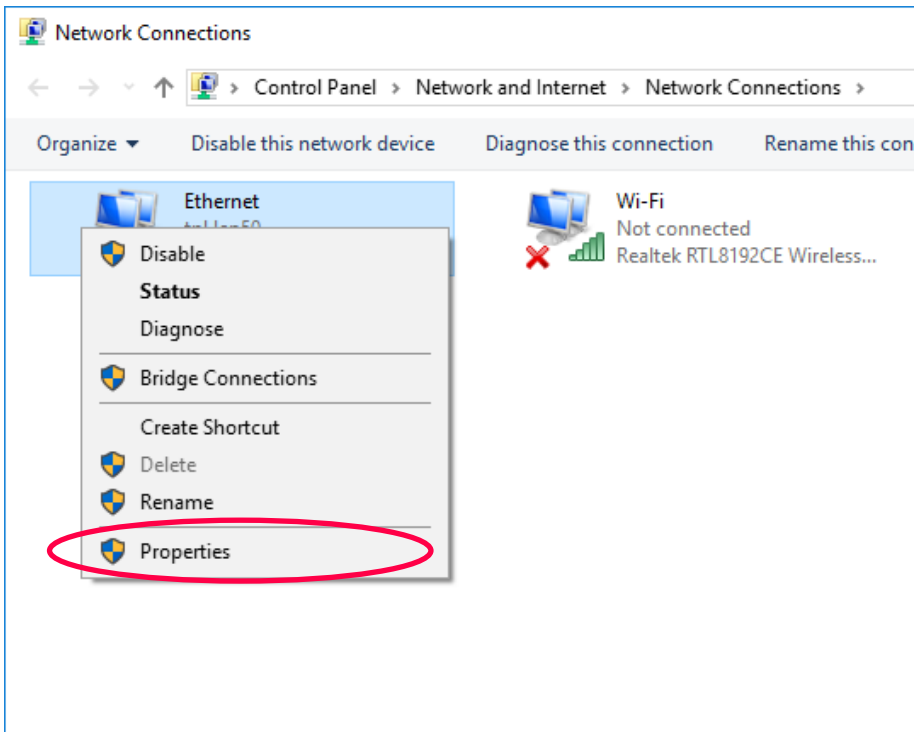
1 Access the Windows Settings and then select "Network and Internet".



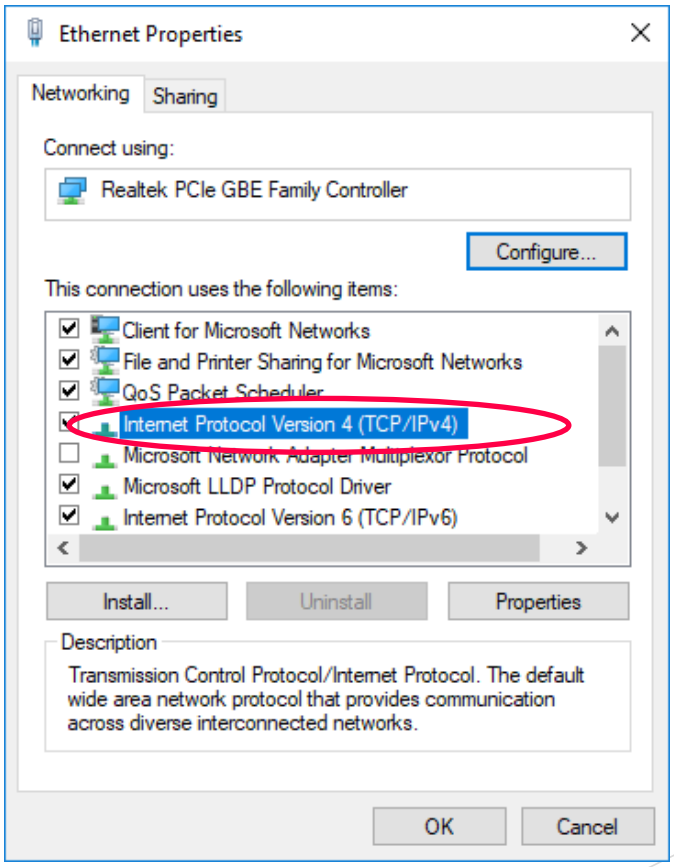
2 Select the "Change Adapter Options" option.



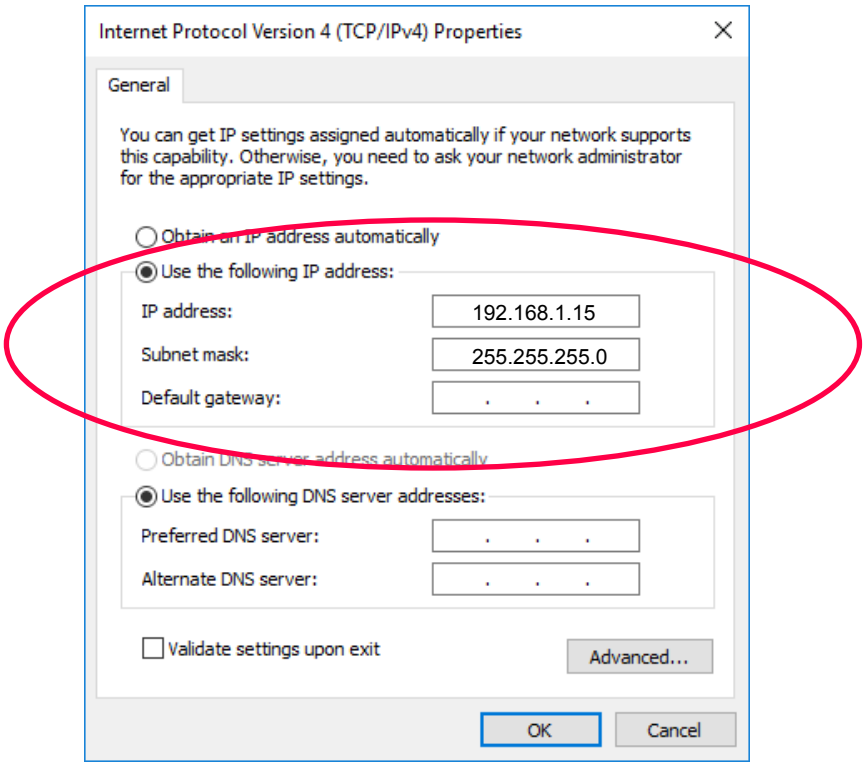
3 Right click on the network interface to which lightShark is connected, then select "Properties".



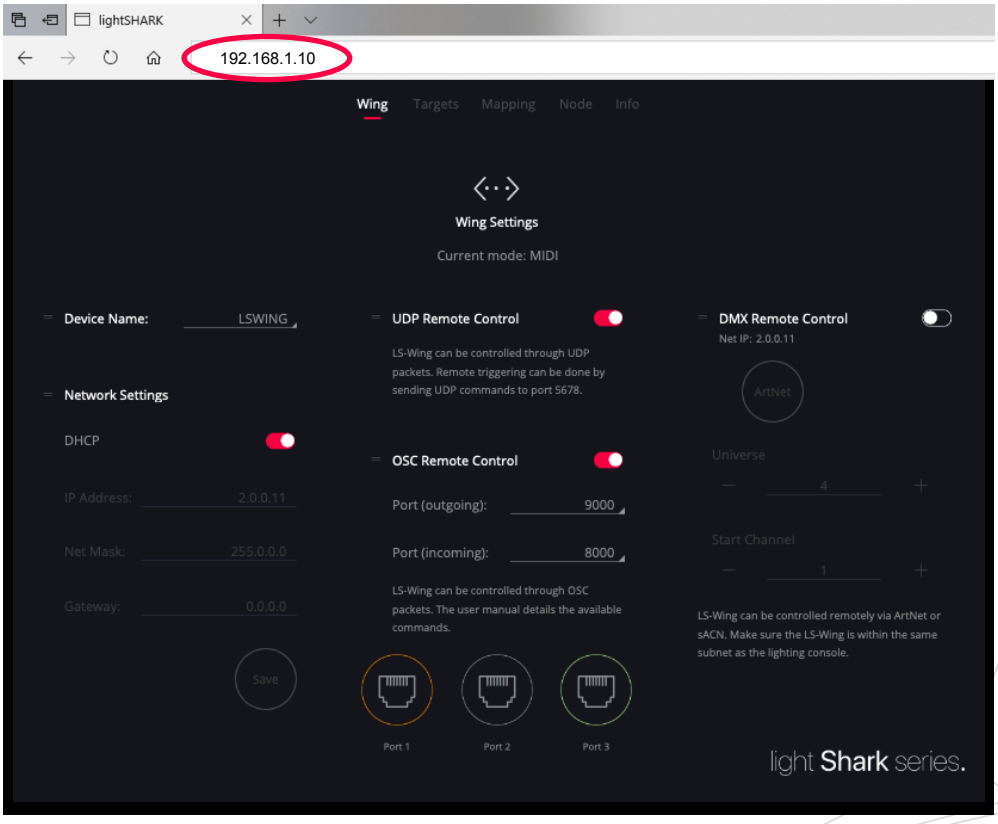
4 Then "Double click" on "Internet Protocol version 4 (TCP/IPv4)".



5 Enter the network configuration as shown in the following example and accept the changes:



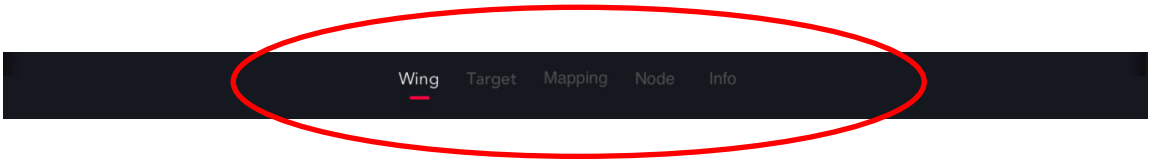
6 Start your web browser and enter the address "192.168.1.10" as shown below:



Section 4: Settings

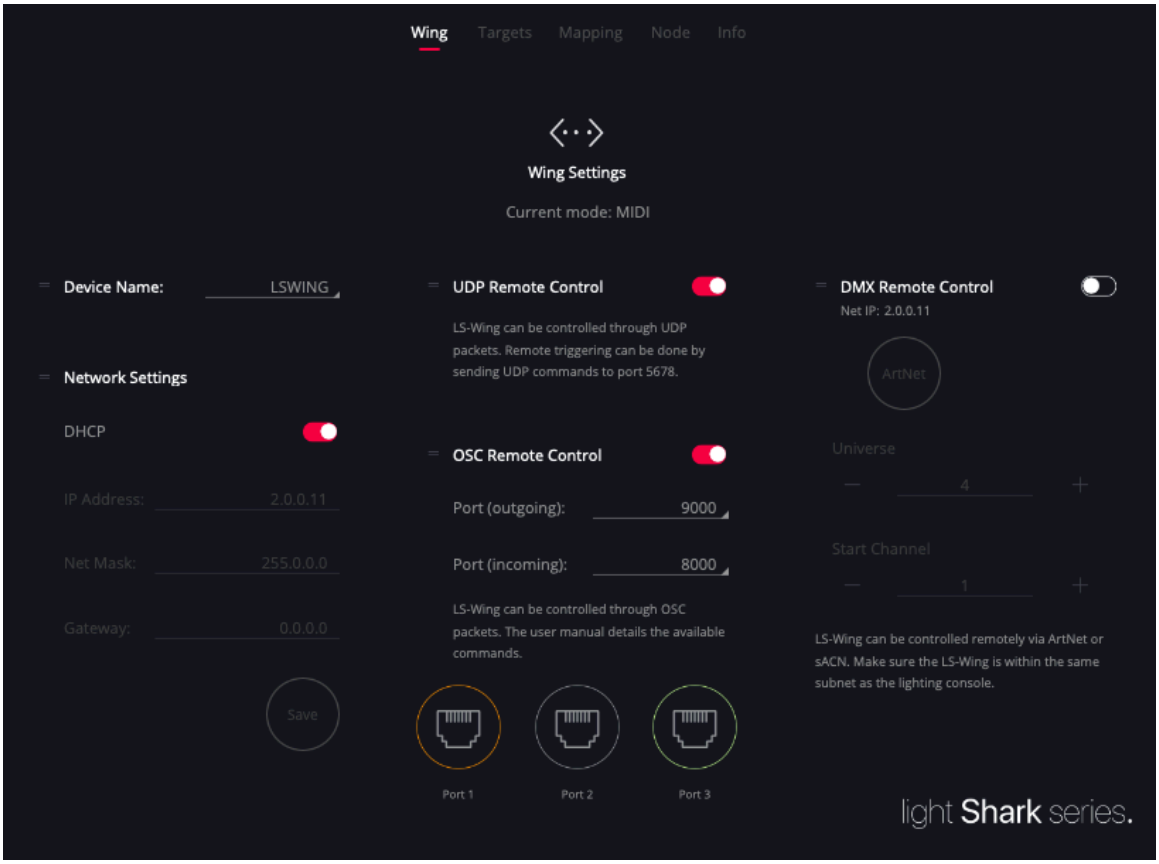
4.1 Device settings

The LS-Wing has a simple but comprehensive user interface. From it the user can make the necessary adjustments and configurations. The interface is organized in 5 different views:



WING Settings

From this window the user can make the necessary connectivity settings.



Device Name, the user will be able to set a host name to the wing to differentiate it in case of connecting several units to the same network. It also allows access to the web server of the wing using this name ending in **.local**. For example: **lswing.local**

When changing the device name it is necessary to restart the LS-Wing to apply the changes.

TCP/UDP Remote, it is possible to control each of the buttons or faders of the device remotely. For this purpose, a series of fixed commands are defined later on. The communication port will be 5678.

In the section Remote Control Settings the list of commands is detailed.

OSC Remote, it is possible to control each of the device's buttons or faders remotely via OSC. The commands are defined in section 6.1.

The default ports are:

Outgoing Port 9000

Incoming Port 8000

The list of commands is detailed in the Remote Control Settings section.

Network Settings, the ethernet port has 2 different IP addresses, so it is possible to connect LS-Wing devices to multiple networks using the same physical connection. From this window, you can configure the address of the miniPc that includes the Wing:

Ethernet: Allow you to connect to the local area network shared with other devices. It can be configured both in manual and automatic mode. By default, it is configured with a fixed IP.

The default address of this connection will be 192.168.1.10 and the subnet mask 255.255.255.0.

This allows you to control lightShark from the same network where other devices are located (sound boards, control software...) and at the same time, receive ArtNet / sACN from a console that requires a specific network configuration according to the protocol used.

To connect to lightShark through ethernet, you must set the IP address of your device in the same subnet.

Remote Control, it is possible to control each of the device's buttons or faders remotely. In the Remote Control Settings section, the list of commands is detailed.

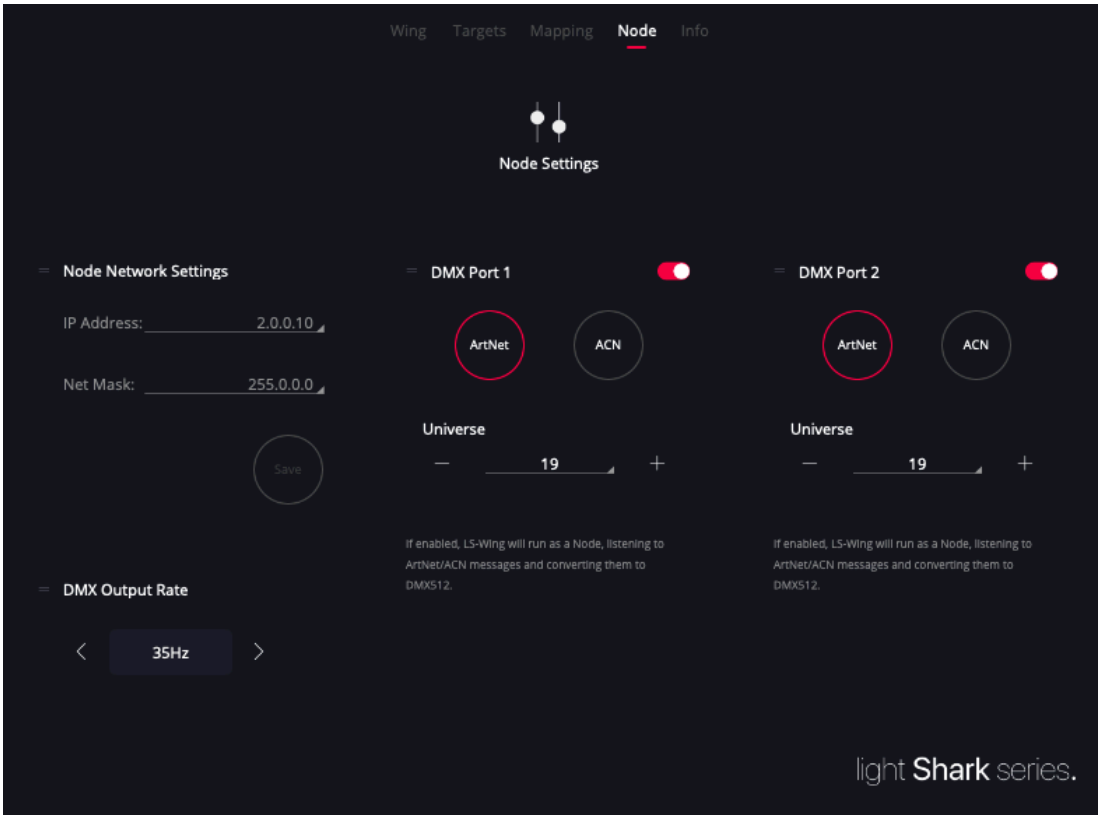
The control of the device via DMX will be done through the ArtNet/sACN protocols, the user must choose the protocol manually and define the universe.

At the bottom of the window, there are three icons representing each of the ethernet ports. Each of the icons will have a different color depending on its status:

Gray: Inactive Port
Green: 1000
Orange: 10/100

4.2 Node Settings

From this window, the user can make all the settings related to the configuration of the input/output universes of the LS-Wing .



DMX Port, LS-Wing includes a 2 universe node that can be completely configured independently. Each of the universes can have a different protocol or universe configured.

Each of the output ports can be activated or deactivated independently.

Supported protocols: sACN / ArtNet-RDM.

The universe is defined from 0 to n , no need to enter subnet and universe in case of ArtNet.

Frame Rate: Configurable between 40-10 Hz

Node Network Settings, The ethernet port has 2 different IP addresses, so it is possible to connect LS-Wing devices to multiple networks using the same physical connection. From this window you can configure the IP address and subnet mask of the integrated node within the LS-Wing.

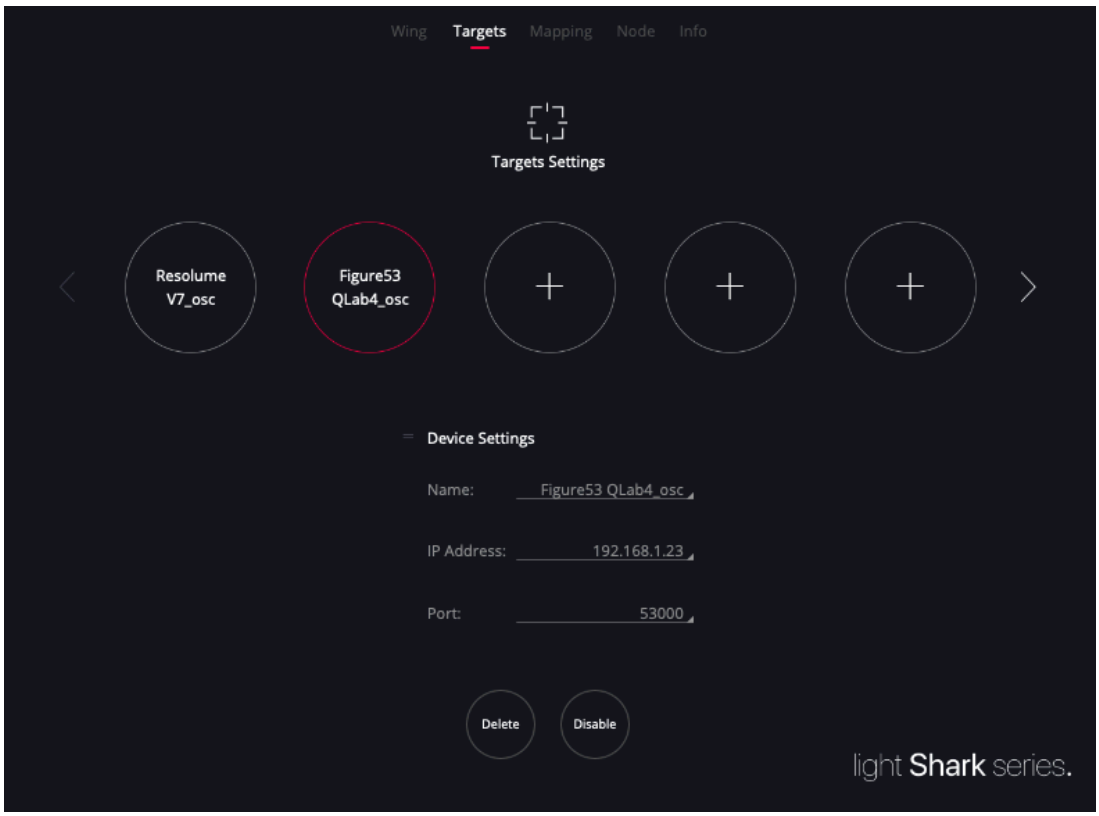
The default address of this connection is **2.0.0.10** and the subnet mask is **255.0.0.0**.

Section 5: Configuration in OSC/UDP Mode

5.1 Target Adjustments

The targets are the software or target devices to be controlled from the LS-Wing.

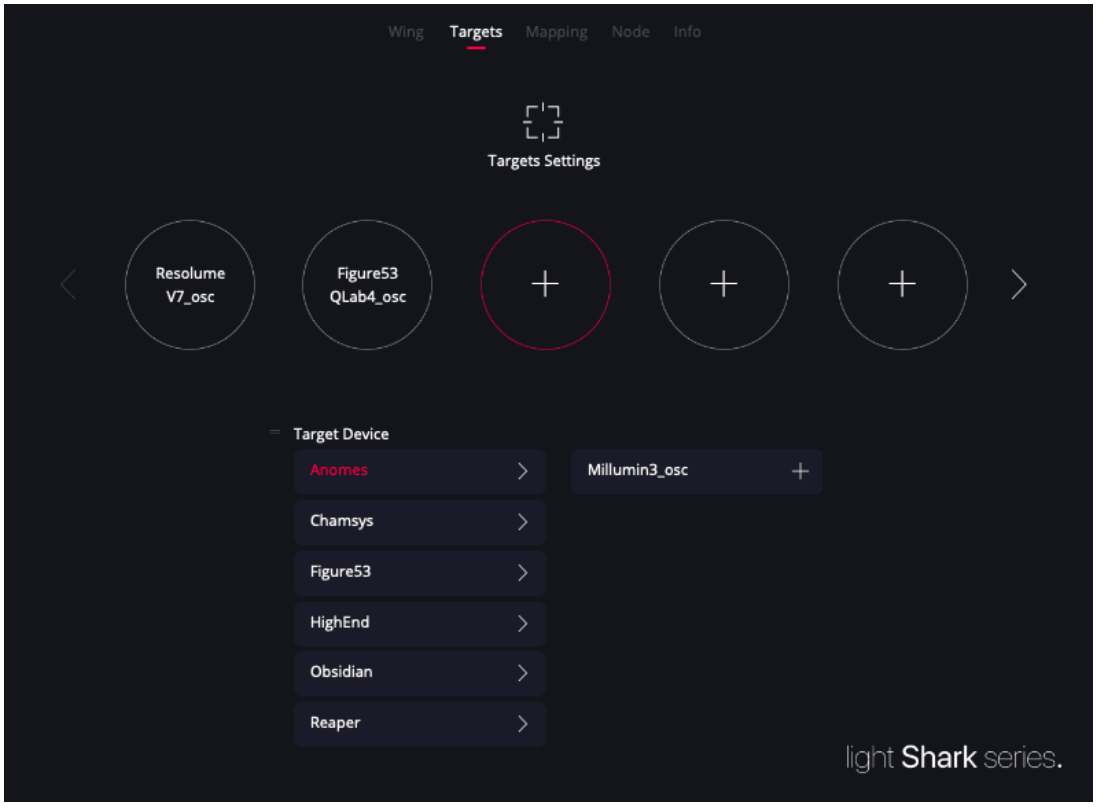
LS-Wing includes an internal library of devices so that the user can make the necessary configurations without having to write any command or code.



Targets, Through the circular buttons, the user can select the targets to make the necessary configuration:

Circular button with a + : The "slot" is empty , the user can click on this button to add a new target.

Circle button with a label : The "slot" is busy, the user can click on this button to see the target configuration, edit it , delete it or deactivate it temporarily.



To add a new target, the steps are the following:

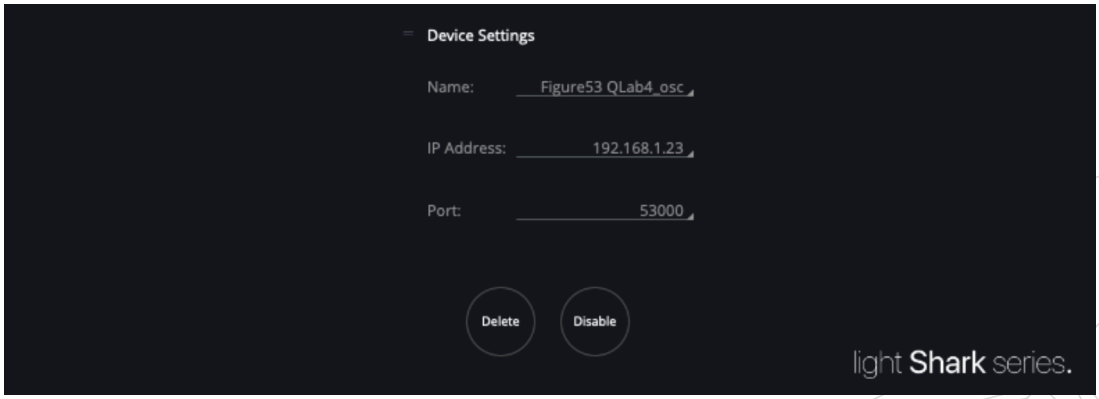
1º-Click on a circle containing a +

2º-Click on the circle at the bottom of the window, a column will be displayed with the different devices added in the libraries, ordered by manufacturer name.

3º-Clicking on the arrow displays a new column on the right showing all the devices of the selected manufacturer.

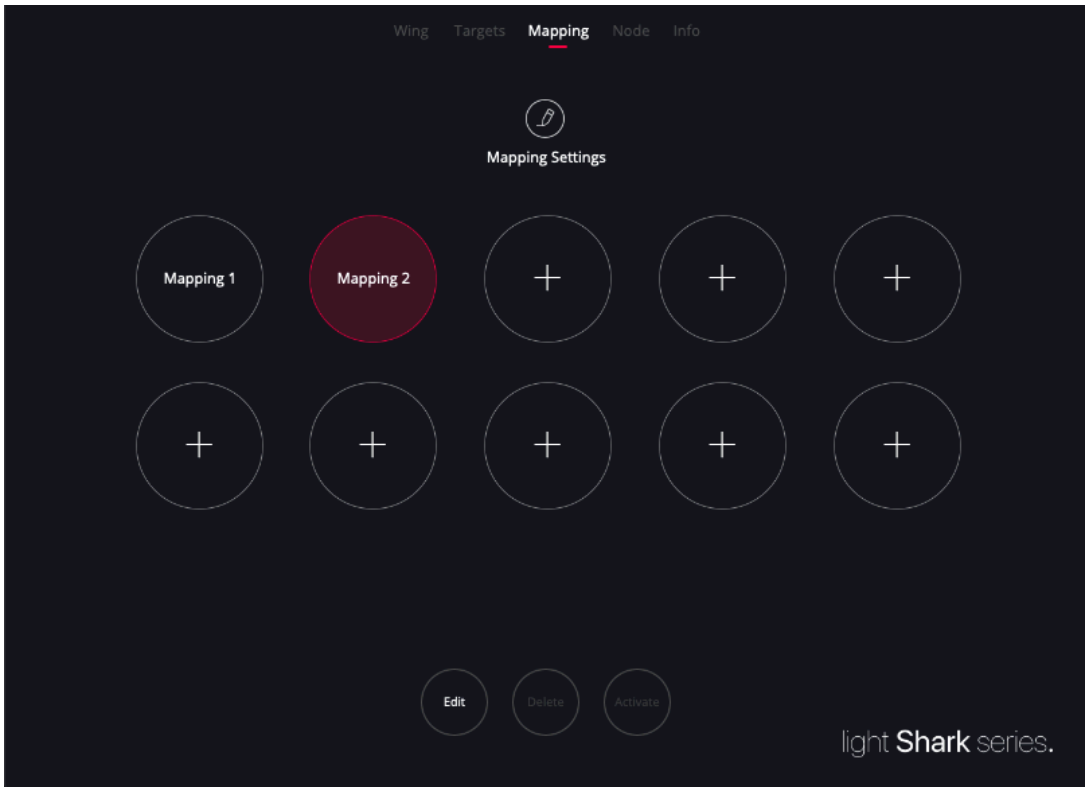
4º-To add one of the devices you must press the + icon on the right of each device.

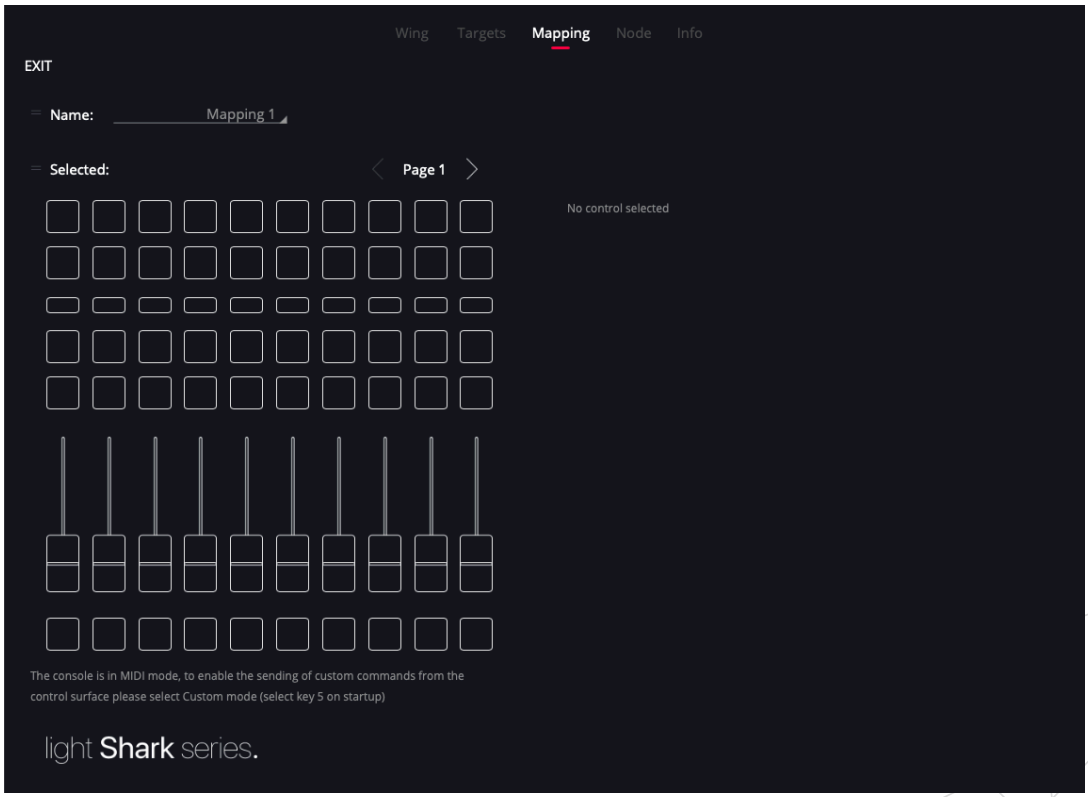
5º-Once the device is added, the selected circle will be filled in with the name of the device and the basic information of the device will be shown.



5.2 Create a Custom Mapping

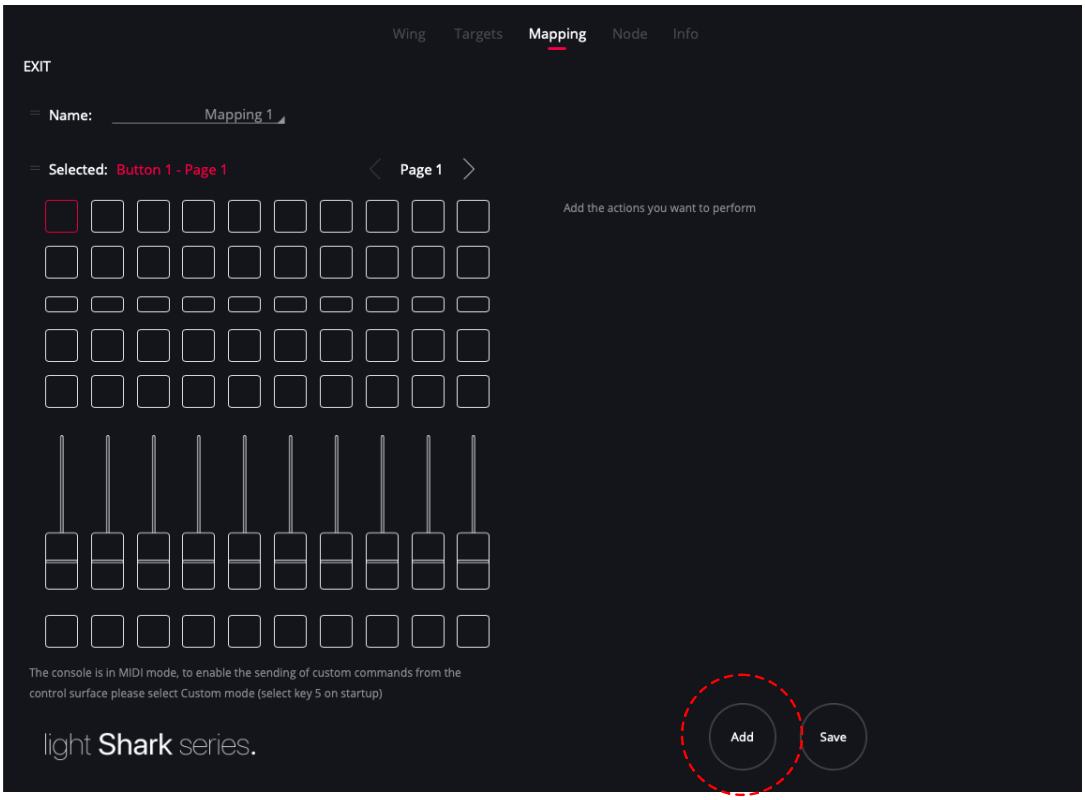
By clicking on one of the circles that shows the + icon, we access the configuration menu that will allow us to create a new Custom Mapping.



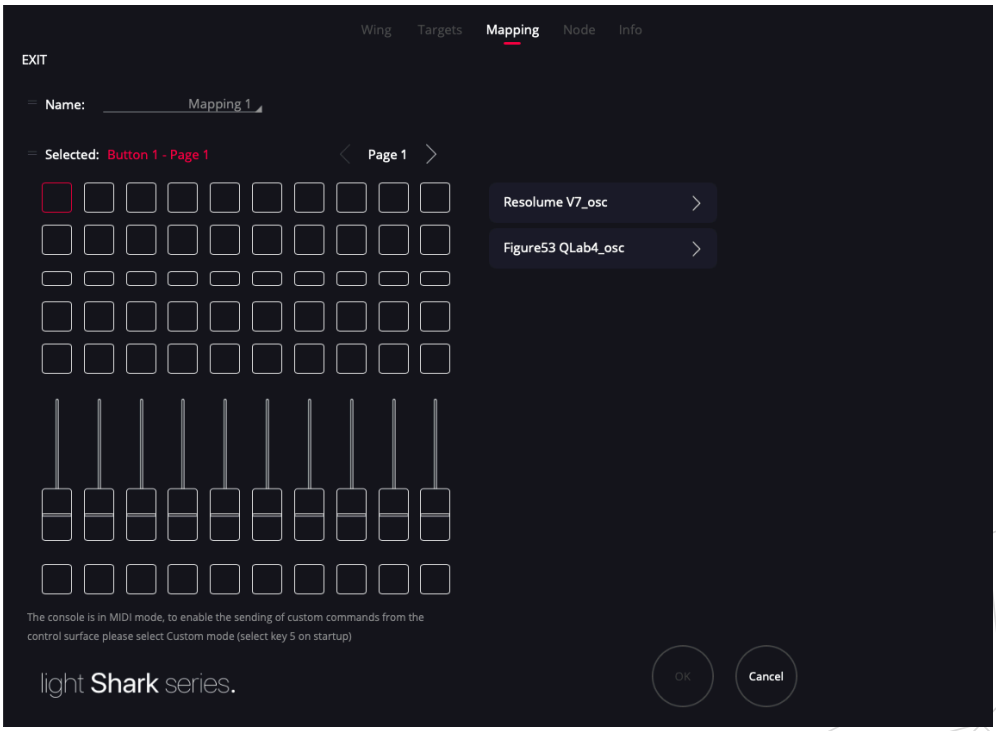


ASSIGN A FUNCTION TO A FADER/BUTTON

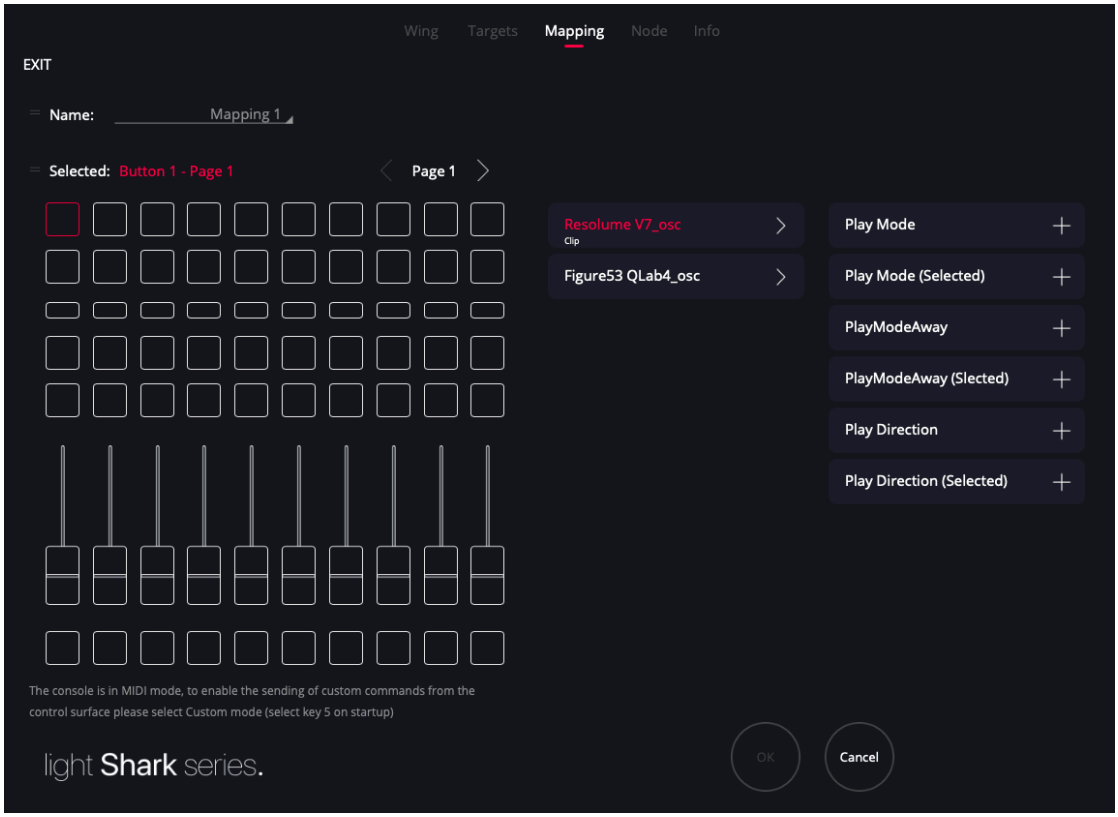
To assign a function to a button or slider, a button or slider must first be selected in the image on the left. When the object is selected, it will light up in red and we can add a command through the "Add" button



By clicking on the "Add" button, a column will appear showing the previously added targets.



Clicking on the arrow icon of the taget displays a column to the right, showing the different groups of commands created in the library.

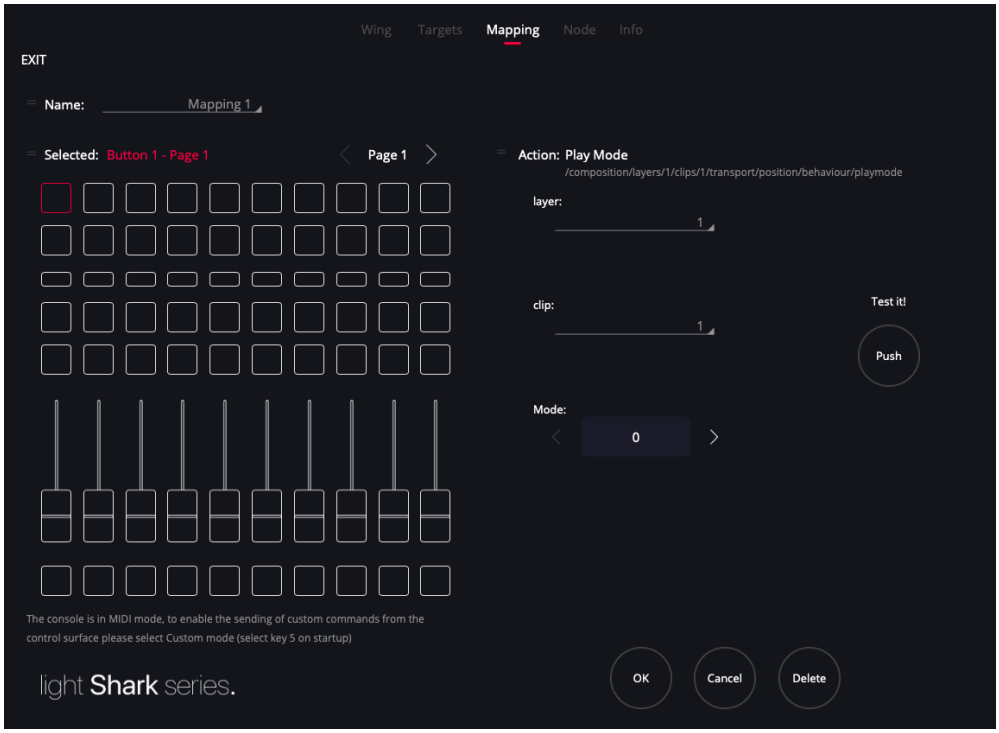


By clicking on the arrow icon of a group of commands, it is possible to access all the commands contained in that group. To assign one of the commands to the button, the user should press on the + icon.

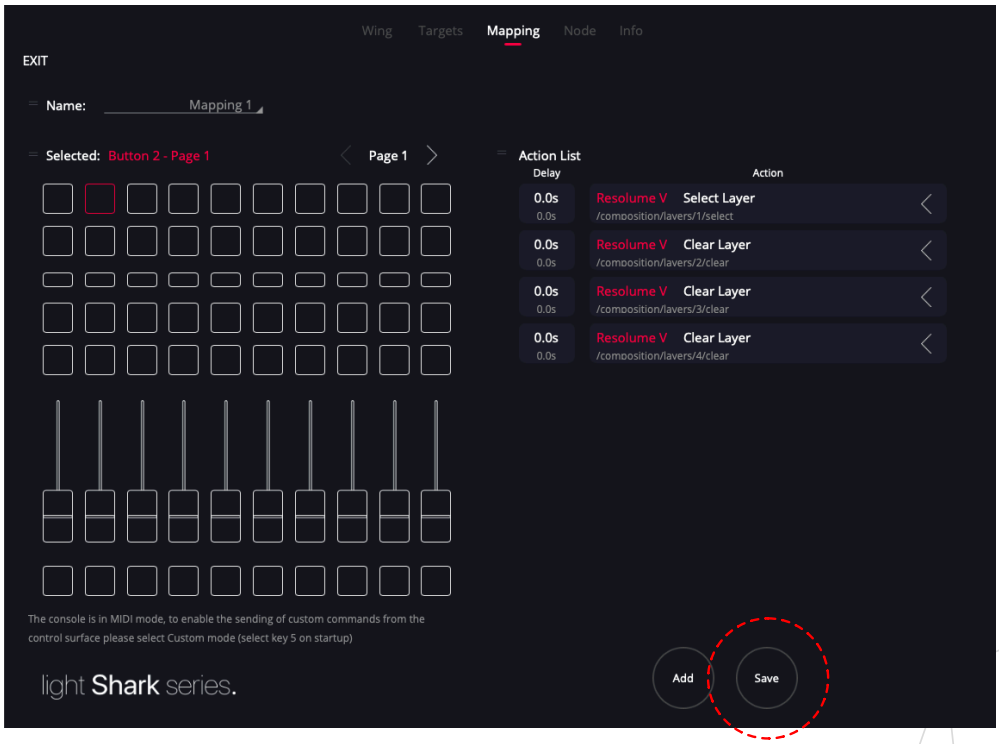
LS-Wing will display the properties of the selected command as defined in the device library.

From this window, the user can also test if the configuration of the command he has made works correctly through the example widget.

Once the necessary configuration is done, the user should press "Apply" to apply the changes. Pressing the "Apply" button also returns to the assignment window.



Once you have added all the commands and assigned the times, you must press "Save" to save the changes.



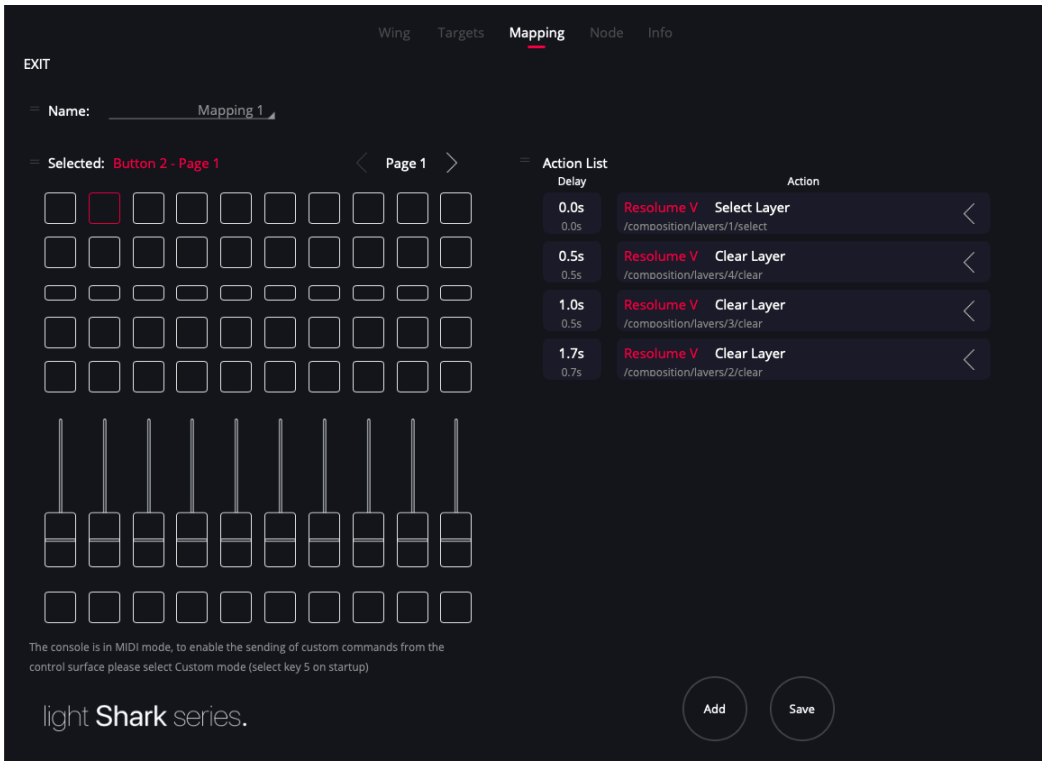
COMMAND AND DELAY ORDER

Each action can be delayed so that it runs a certain number of milliseconds after the button is activated. Delays can be configured to be either Absolute (default) or Relative.

Absolute: All actions are executed in a certain number of milliseconds from the start of the button (or fader) press.

Relative: Each action is executed a certain number of milliseconds after the previous action started.

When the delay is absolute, the LS-Wing will automatically order the commands according to their delay time. When the delay is relative, the commands will be ordered according to their order of inclusion.



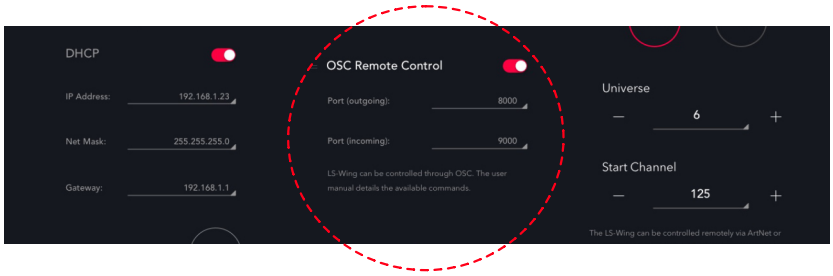
Section 6: Remote Control Settings

It is possible to control the LS-Wing remotely, simulating the pressing of buttons or the adjustment of fader levels, through OSC, UDP or DMX.

This functionality is very useful in case you have programmed different actions or commands in the LS-Wing and you want to trigger them from an external device.

6.1 Remote control via OSC

To control the LS-Wing via OSC you must enable the reception of commands from the settings window.



Control	Cmd	Element	Parameter	Example
Toggle Button	/LSW/ToggleButton/[x]/[y]	[x]= Page Number From=1 To=2 [y]= Button Number From=1 To=60		
Focus Button	/LSW/FocusButton/[x]	[x]= Button Number From=1 To=60	0 = Released 1 = Pressed	To select the Playback number 9: /LSW/FocusButton/9
Page Button	/LSW/Button/[x]/[y]	[x]= Page Number From=1 To=2 [y]= Button Number From=1 To=60	0 = Released 1 = Pressed	To select the Playback number 9 on page 2: /LSW/Button/2/9
Focus Fader	/LSW/FocusFader/[x]	[x]= Fader Number From=1 To=10	0-255	To adjust the Playback number 9: /LSW/FocusFader/9
Page Fader	/LSW/Fader/[x]/[y]	[x]= Page Number From=1 To=2 [y]= Fader Number From=1 To=10	0-255	To adjust the Playback number 9 on page 2: /LSW/Fader/2/9
Sync All	/LSW/Sync	-	0 = Released 1 = Pressed	-
Sync Only Faders	/LSW/Sync/Faders	-	0 = Released 1 = Pressed	-
Sync Only Buttons	/LSW/Sync/Buttons	-	0 = Released 1 = Pressed	-
Set All Faders	/LSW/PB/Level	-	0-255	-
All to Zero	/LSW/Buttons/Reset	-	0 = Released 1 = Pressed	-
Reboot	/LSW/Reboot	-	0 = Released 1 = Pressed	-

6.2 Remote control via DMX

To control the LS-Wing via DMX, ArtNet or sACN reception must be enabled from the settings window as explained on section 4.1.

Channel	Parameter	Range	Value
CH-1	Executor Button 1-1	000-127	Release
		128-255	Press
CH-2	Executor Button 1-2	000-127	Release
		128-255	Press
CH-3	Executor Button 1-3	000-127	Release
		128-255	Press
CH-4	Executor Button 1-4	000-127	Release
		128-255	Press
CH-5	Executor Button 1-5	000-127	Release
		128-255	Press
CH-6	Executor Button 1-6	000-127	Release
		128-255	Press
CH-7	Executor Button 1-7	000-127	Release
		128-255	Press
CH-8	Executor Button 1-8	000-127	Release
		128-255	Press
CH-9	Executor Button 1-9	000-127	Release
		128-255	Press
CH-10	Executor Button 1-10	000-127	Release
		128-255	Press
CH-11	Executor Button 2-1	000-127	Release
		128-255	Press
CH-12	Executor Button 2-2	000-127	Release
		128-255	Press
CH-13	Executor Button 2-3	000-127	Release
		128-255	Press
CH-14	Executor Button 2-4	000-127	Release
		128-255	Press
CH-15	Executor Button 2-5	000-127	Release
		128-255	Press
CH-16	Executor Button 2-6	000-127	Release
		128-255	Press
CH-17	Executor Button 2-7	000-127	Release
		128-255	Press
CH-18	Executor Button 2-8	000-127	Release
		128-255	Press
CH-19	Executor Button 2-9	000-127	Release
		128-255	Press
CH-20	Executor Button 2-10	000-127	Release
		128-255	Press

Channel	Parameter	Range	Value
CH-21	Flash Button 1	000-127	Release
		128-255	Press
CH-22	Flash Button 2	000-127	Release
		128-255	Press
CH-23	Flash Button 3	000-127	Release
		128-255	Press
CH-24	Flash Button 4	000-127	Release
		128-255	Press
CH-25	Flash Button 5	000-127	Release
		128-255	Press
CH-26	Flash Button 6	000-127	Release
		128-255	Press
CH-27	Flash Button 7	000-127	Release
		128-255	Press
CH-28	Flash Button 8	000-127	Release
		128-255	Press
CH-29	Flash Button 9	000-127	Release
		128-255	Press
CH-30	Flash Button 10	000-127	Release
		128-255	Press
CH-31	PlayBack Select 1	000-127	Release
		128-255	Press
CH-32	PlayBack Select 2	000-127	Release
		128-255	Press
CH-33	PlayBack Select 3	000-127	Release
		128-255	Press
CH-34	PlayBack Select 4	000-127	Release
		128-255	Press
CH-35	PlayBack Select 5	000-127	Release
		128-255	Press
CH-36	PlayBack Select 6	000-127	Release
		128-255	Press
CH-37	PlayBack Select 7	000-127	Release
		128-255	Press
CH-38	PlayBack Select 8	000-127	Release
		128-255	Press
CH-39	PlayBack Select 9	000-127	Release
		128-255	Press
CH-40	PlayBack Select 10	000-127	Release
		128-255	Press

Channel	Parameter	Range	Value
CH-41	Go Button 1	000-127	Release
		128-255	Press
CH-42	Go Button 2	000-127	Release
		128-255	Press
CH-43	Go Button 3	000-127	Release
		128-255	Press
CH-44	Go Button 4	000-127	Release
		128-255	Press
CH-45	Go Button 5	000-127	Release
		128-255	Press
CH-46	Go Button 6	000-127	Release
		128-255	Press
CH-47	Go Button 7	000-127	Release
		128-255	Press
CH-48	Go Button 8	000-127	Release
		128-255	Press
CH-49	Go Button 9	000-127	Release
		128-255	Press
CH-50	Go Button 10	000-127	Release
		128-255	Press
CH-51	Pause Button 1	000-127	Release
		128-255	Press
CH-52	Pause Button 2	000-127	Release
		128-255	Press
CH-53	Pause Button 3	000-127	Release
		128-255	Press
CH-54	Pause Button 4	000-127	Release
		128-255	Press
CH-55	Pause Button 5	000-127	Release
		128-255	Press
CH-56	Pause Button 6	000-127	Release
		128-255	Press
CH-57	Pause Button 7	000-127	Release
		128-255	Press
CH-58	Pause Button 8	000-127	Release
		128-255	Press
CH-59	Pause Button 9	000-127	Release
		128-255	Press
CH-60	Pause Button 10	000-127	Release
		128-255	Press

Channel	Parameter	Range	Value
CH-61	Fader 1 Level	000-127	Release
		128-255	Press
CH-62	Fader 2 Level	000-127	Release
		128-255	Press
CH-63	Fader 3 Level	000-127	Release
		128-255	Press
CH-64	Fader 4 Level	000-127	Release
		128-255	Press
CH-65	Fader 5 Level	000-127	Release
		128-255	Press
CH-66	Fader 6 Level	000-127	Release
		128-255	Press
CH-67	Fader 7 Level	000-127	Release
		128-255	Press
CH-68	Fader 8 Level	000-127	Release
		128-255	Press
CH-69	Fader 9 Level	000-127	Release
		128-255	Press
CH-70	Fader 10 Level	000-127	Release
		128-255	Press
CH-71	Control	000-99	No Function
		100-124	Release Exec Row 1
		125-149	Release Exec Row 2
		150-174	Release All Exec
		175-199	Set Faders @ 0
		200-224	All to Zero
		225-249	Reboot
		250-255	No Function

6.3 Assigning LS-Wing functions

In the target library it is possible to select "LS-Wing". This function allows the user to assign LS-Wing actions to a button. Actions:

-Switch to Page 1

-Switch to Page 2

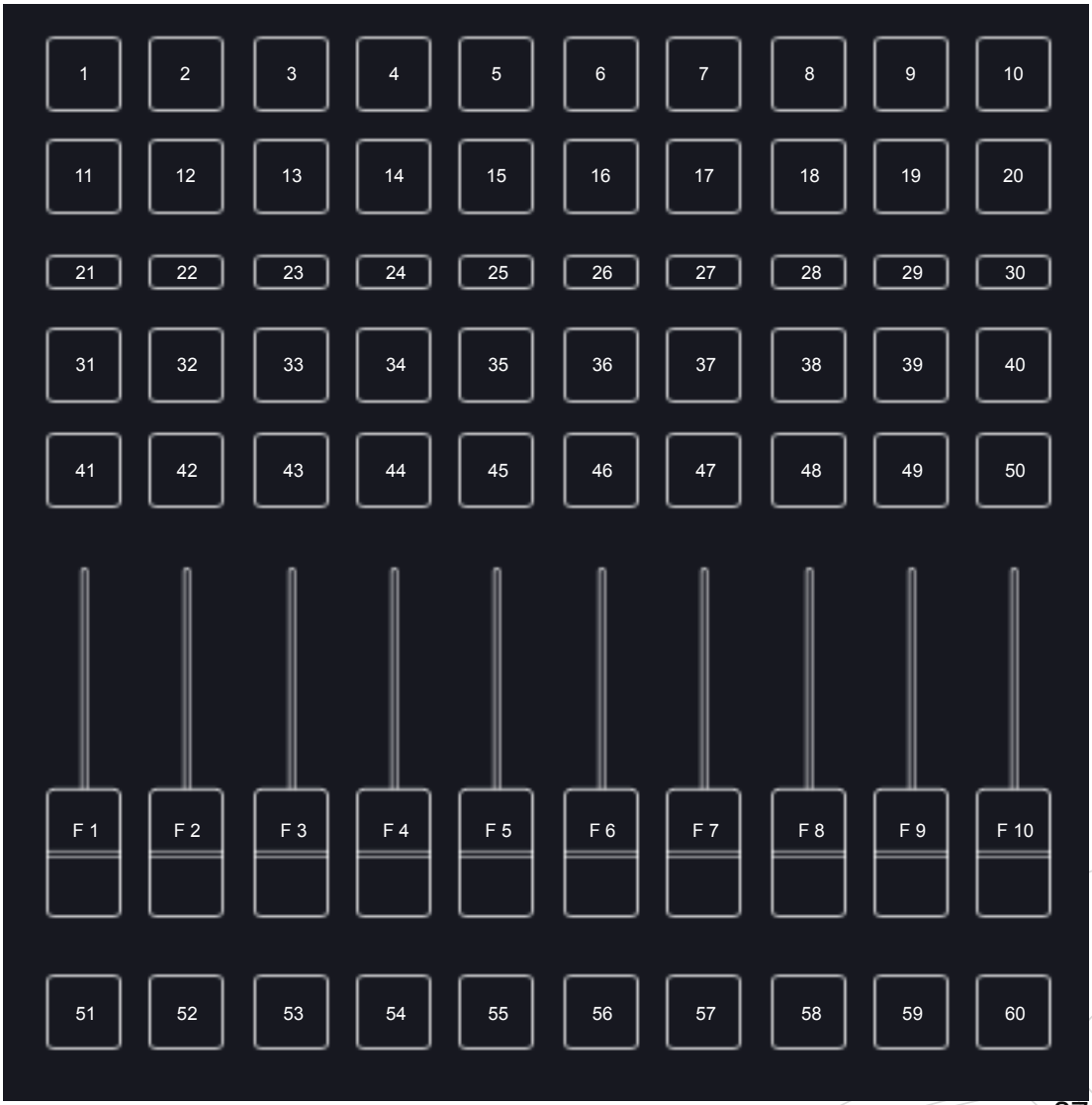
-Turn off the Leds of all buttons

-Lock physical access to the console

-Lock access to the web server

6.4 Numerical correspondence

The correspondence of each button or fader of the LS-Wing is detailed below:



Section 7: Software and library updates

7.1 Updating libraries

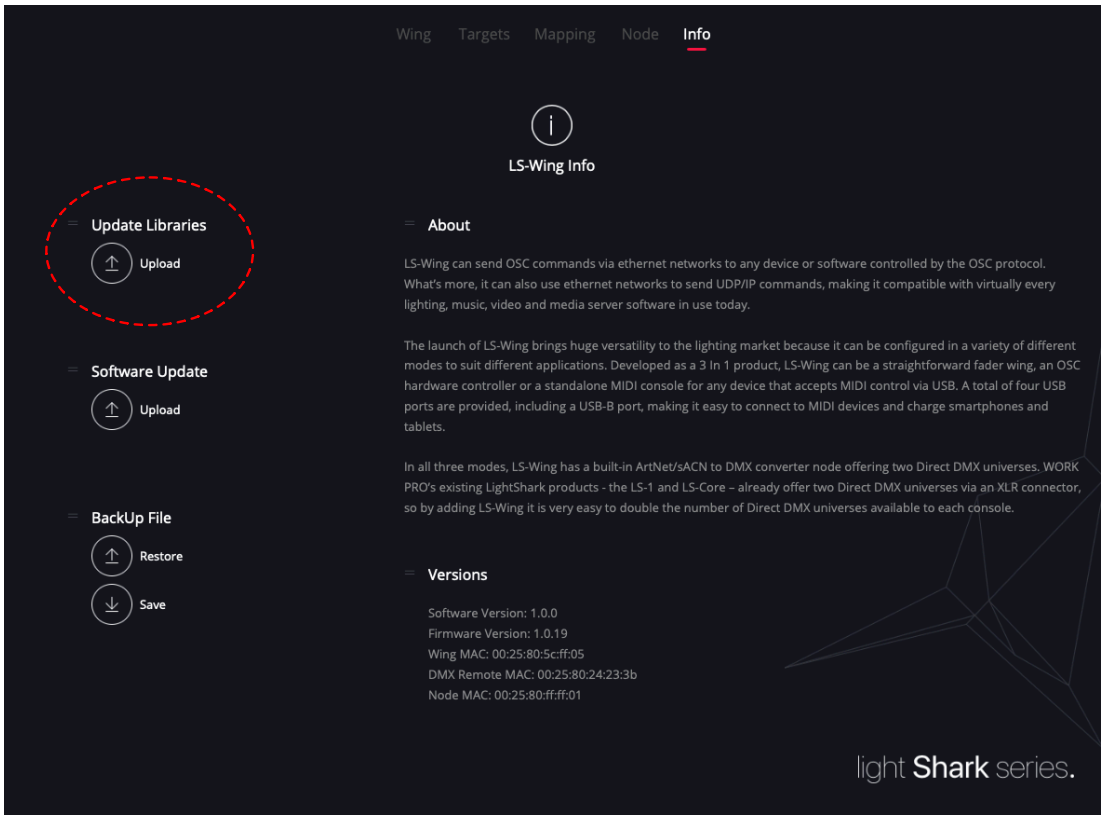
Through the download area of the Lightshar / LS-Wing website, it is possible to download the latest library packages.

Update procedure:

1º- Download the library package, it is a file with the extension .devpkg

2º- Open the web browser and connect to LS-Wing

3º- In the "Info" tab click on "Upload" in the Update Libraries section



4º- When you click on "Upload", a window of the file explorer will open, where it is possible to select the downloaded library file.

Once the file is uploaded, the web page will be reloaded.

7.2 Software Update

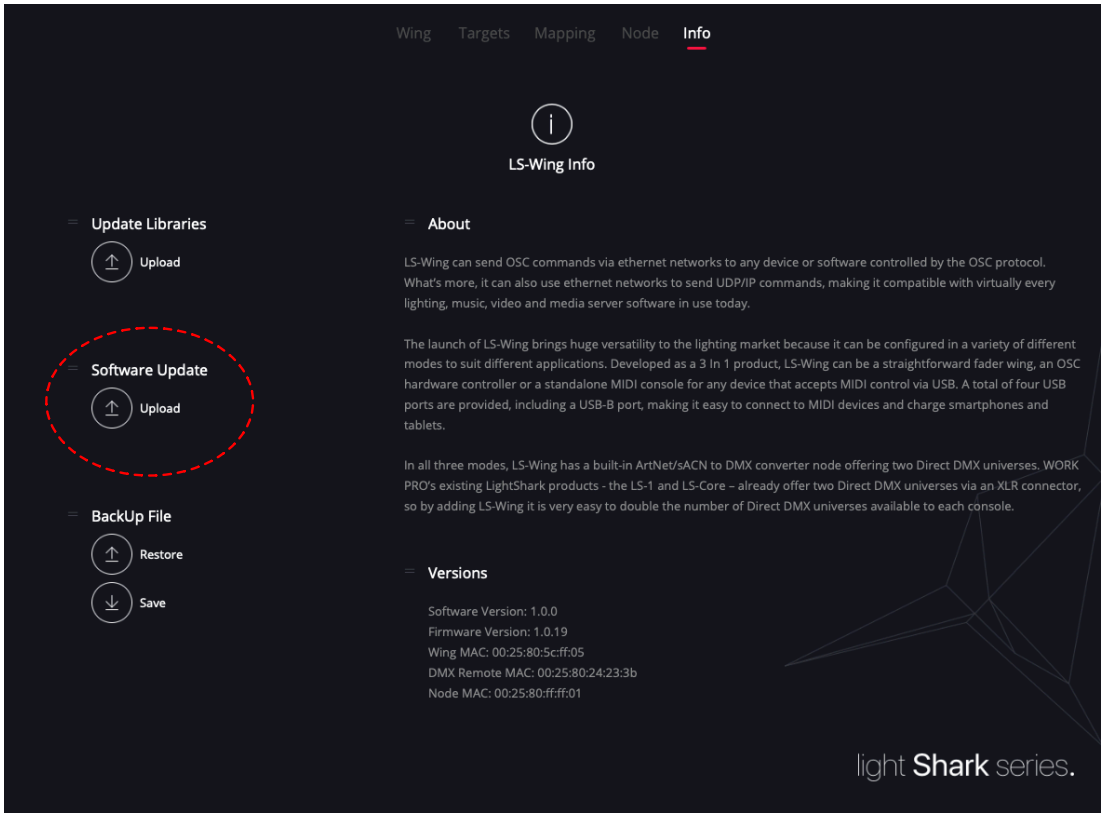
Through the download area of the Lightshar / LS-Wing website, it is possible to download the latest software version.

Update procedure:

1º- Download the software from the LS-Wing website, it is a file with the extension .lswupdt

2º- Open the web browser and connect to the LS-Wing

3º- In the "Info" tab click on "Upload" in the Software Update section



4º- When you click on "Upload" a file explorer window will open, where you can select the downloaded software file.

During the update process do not turn off the console, it may take up to 3 minutes. Once the LS-Wing has been updated, the website will be reloaded automatically.

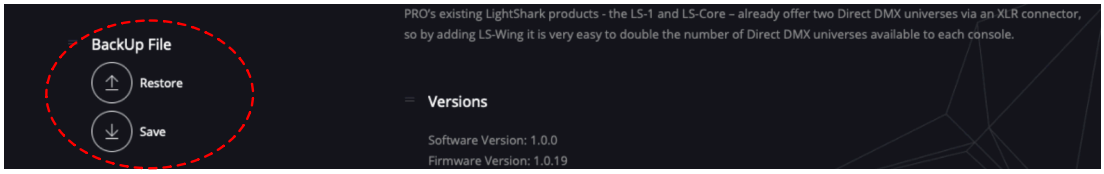
7.3 Backup

It is possible to back up the current status of the LS-Wing.

Generate a Backup File :

1º- Open the web browser and connect to the LS-Wing

2º- In the "Info" tab click on "Save" in the BackUp File section



3º- When you click on "Save" LS-Wing will generate a backup file, once the file is ready it will be downloaded to the Downloads folder of your computer / tablet.

Restoring a Backup File :

1º- Open the web browser and connect to the LS-Wing

2º- In the "Info" tab click on "Restore" in the BackUp File section.

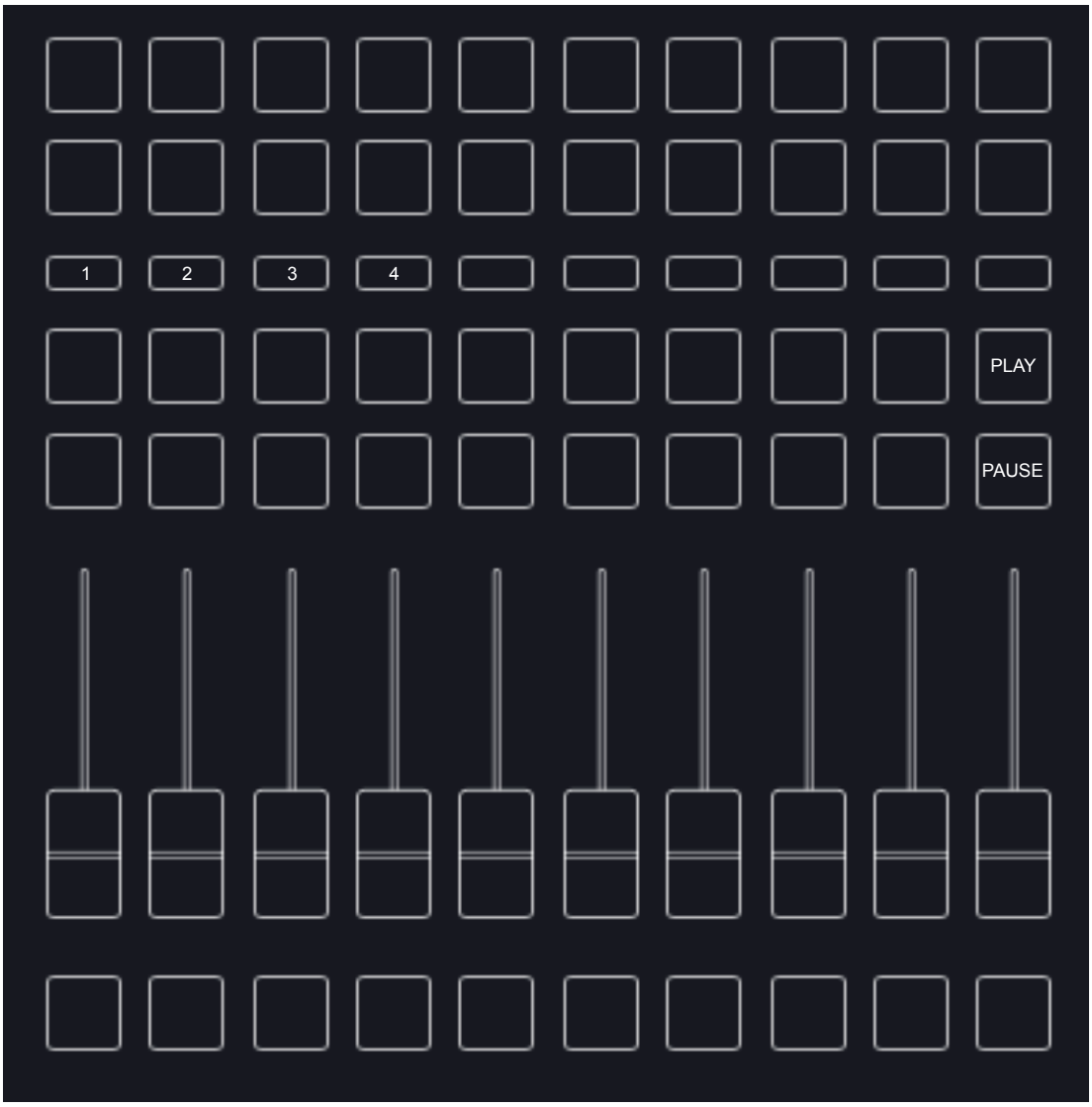
3º- When you click on "Restore", a window of the file explorer will open, where it is possible to select the previously generated Backup file.

4º-During the restoration process do not turn off the console, it can take up to 4 minutes. Once the restoration is completed, the website will be reloaded automatically.

Section 8: Factory Reset

8.1 Reset modes

Different types of reset are possible, depending on the key combination used:



Network+Software+Settings Reset:	PLAY+PAUSE+1
Newtwork Reset:	PLAY+PAUSE+2
Settings Reset:	PLAY+PAUSE+3
Delete the Mappings:	PLAY+PAUSE+4

Section 9: Datasheet

Buttons	20 executor, 10 selection, 20 Playback, 10 Flash, fully configurable
Faders	10 faders fully configurable
I/O ports	1xLamp port (XLR-3 5V) 2xDMX (XLR-5) 3xLAN (EtherCon®) 2xUSB-A (Data) + 1xUSB-A(only power 5V) 1xUSB-B 1xTrueOne® mains
Configuration interface	Via Built-in Webserver. Accesible through LAN connection
DMX Outputs	Built-in LAN to DMX ArtNET, sACN node with 2 universe outputs
Lamp connector DC Voltage	5V
USB POWER connector max. current	2A
USB Data connectors max Current	500mA each
Dimmensions	325 x 100 x 330 mm
Weight	2,7 kg
Power supply	90-230V 50/60Hz TrueOne® connector