Modulo Player user manual

1 — Last update: Aug 30, 2020

MODULO PI

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Introduction

Modulo Player, more than a media player

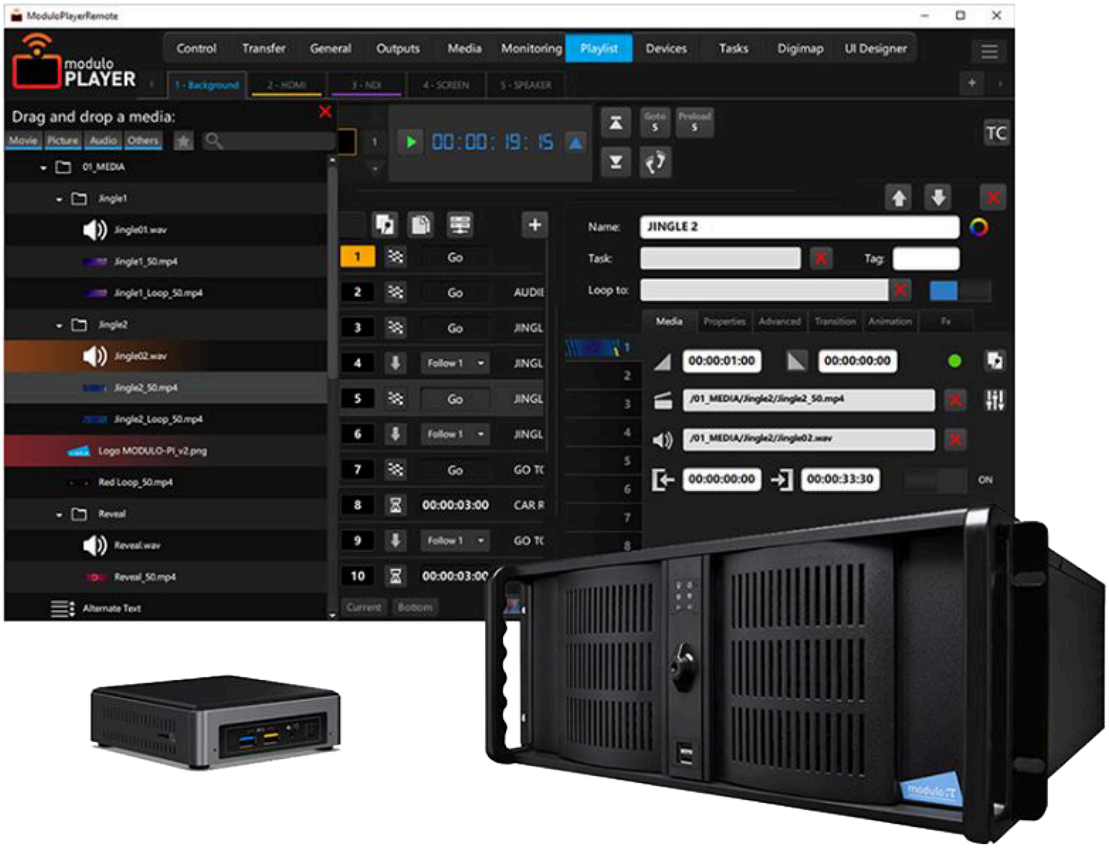
Modulo Player is a cost-effective media server ideal for your everyday projects.
Easy to learn, set-up, and operate, Modulo Player combines the extensive capabilities of a media server, and a live mixer.
Seamlessly process media, encode, and play your show through its super intuitive user interface.
Simple-to-use workflow and playlist enable fast show set-up, and last-minute changes.

This user manual contains detailed information about Modulo Player and its software. Through the different sections, you will find out more about Modulo Player's extensive capabilities, and how to make the best out of the device.

Feel free to contact the support team at: support@modulo-pi.com.

USEFUL LINKS:

- Starter Guide
- How-to
- Application Notes
- Training tutorials (English | Français)
- Webinars (English | Français)
- Troubleshooting guide



Media server overview

Several customizable hardware configurations

Modulo Player is a hardware + software media server available in 4 different hardware configurations to fit your needs and budget: **Nano, Standard, Pro, and Ultra.**
The different hardware configurations can all be customized: Add a timecode card, a live capture card, additional storage capacity, etc.
To get an overview of the different hardware configurations and options, please donwload the **Modulo Player brochure** or visit our **website** Specifications tab).

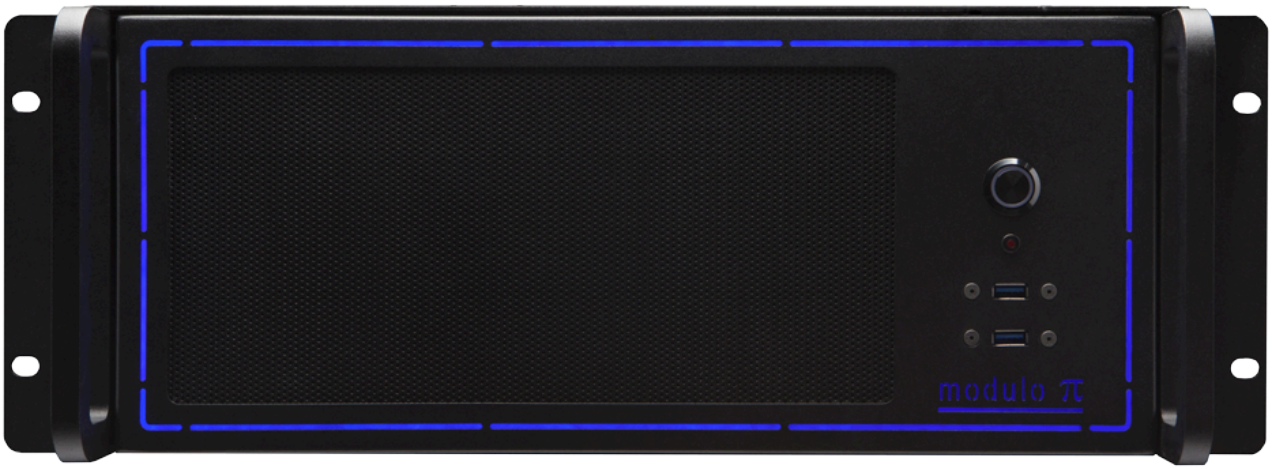
For more information, visit the technical datasheets below:

- **Modulo Player Nano**
- **Modulo Player Standard**
- **Modulo Player Pro**
- **Modulo Player Ultra**

Rugged suspended chassis

A new ruggedized suspended chassis is now available as an option.
Its reinforced framework and professional connectivity ensures optimal reliability and higher durability under all conditions.
For more information, visit the technical datasheets below:

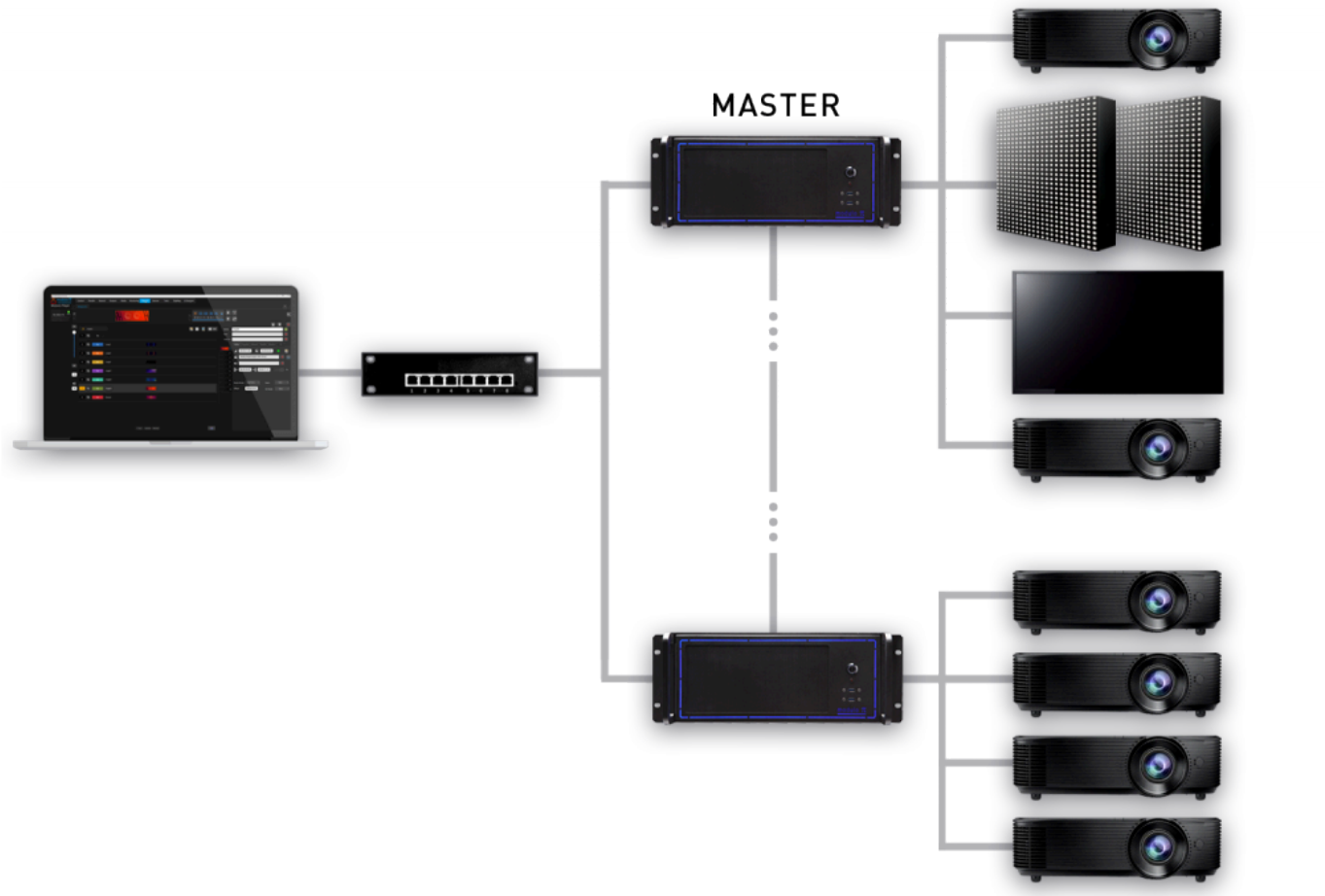
- **Modulo Player Pro Ruggedized**
- **Modulo Player Ultra Ruggedized**



Software overview

Super Intuitive Software

Modulo Player comes with a dedicated Remote Control Software designed to optimize setup, workflow management, and show control.
No matter the number of media servers, one remote control software is needed to work on the server(s) settings, as well as the overall setup, media encoding, transferring and show playback.



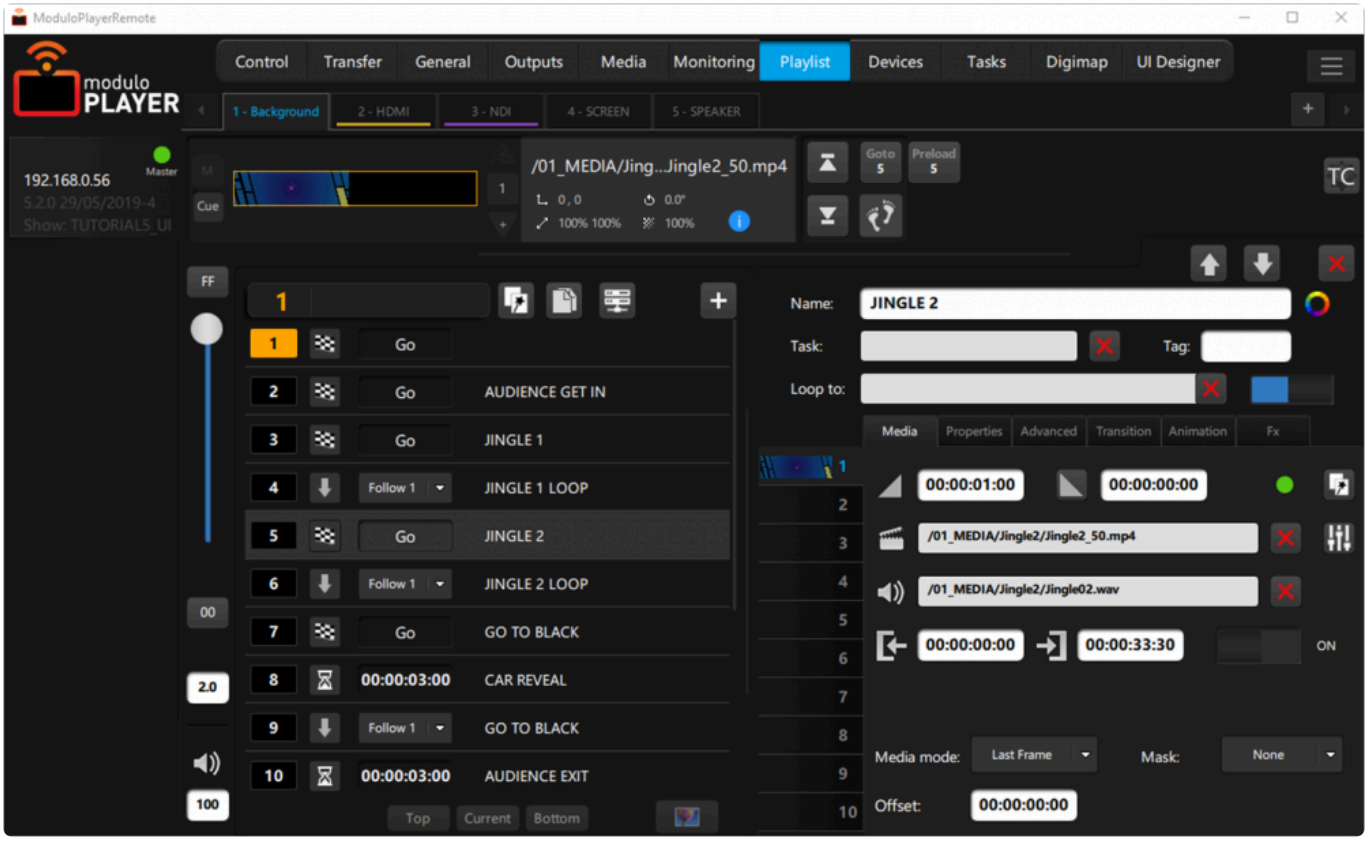
State-of-the-Art Media Processing

Modulo Player is designed to process media seamlessly and provide the best image quality, while running on a streamlined hardware configuration.
It handles a wide variety of media:

- Apple ProRes
- HAP up to 8K+
- H.264 and MPEG2
- Uncompressed still sequences including TGA & 10-bit DPX
- GoPro Cineform
- Interactive Shader Format (ISF)
- Multi-channel ASIO audio
- 3D 120Hz stereo (option)

Flexible Playlist Management

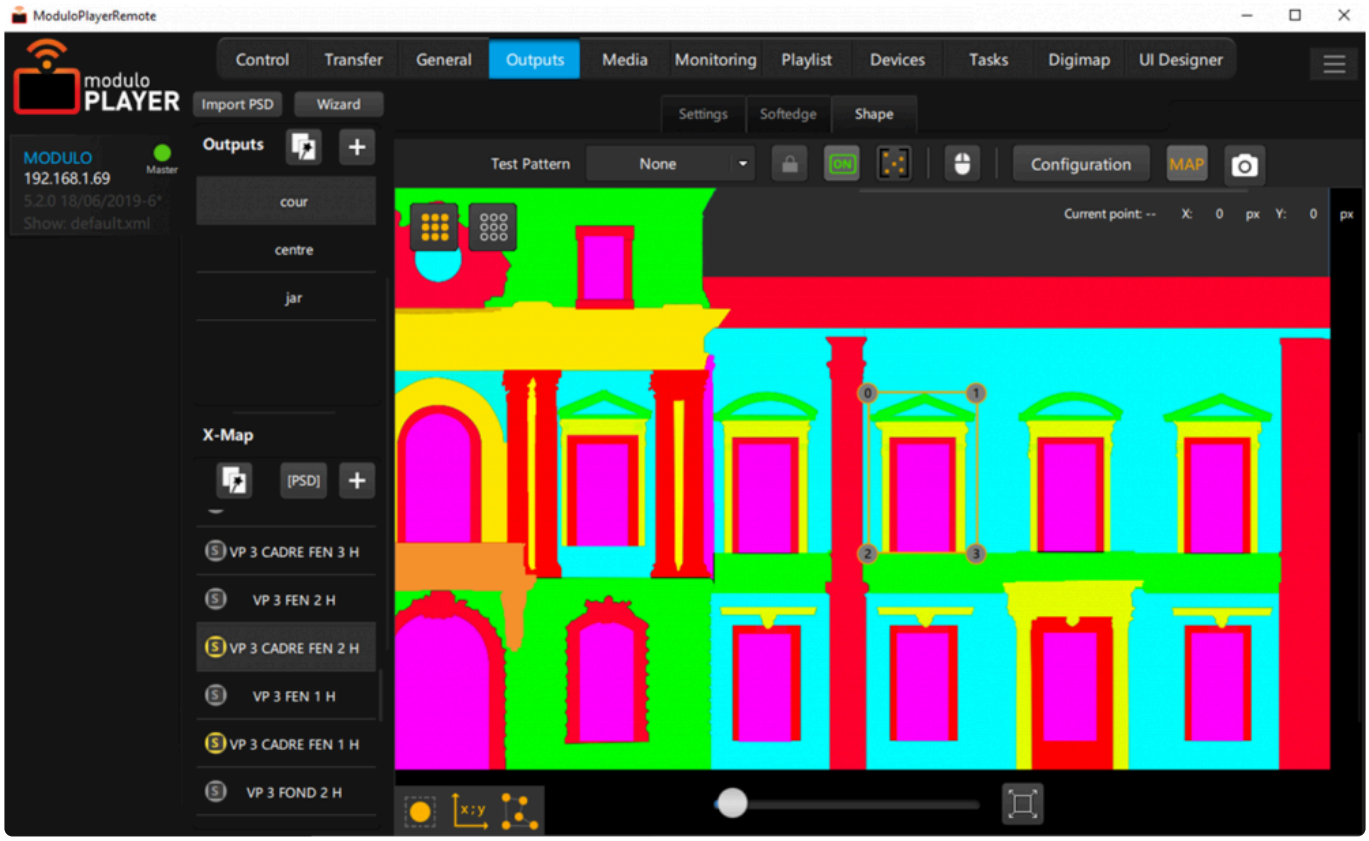
An advanced playlist system allows creating unlimited number of playlist and cues.
All cues can be triggered manually or automatically, and synchronized with a timecode.
The playlist system ensures fast and safe last-minute chances within any show.



[↗ Playlist – More info]

Powerful Warping Tools for Projection Mapping

Create stunning projection mapping experiences with unrivaled ease-of-use.
For the most complex shapes, our exclusive X-Map function will help you save time and money.
No need for an expensive 3D workflow: Simply import a Photoshop file, extract its layers, and warp them independently.



↗ **X-Map function – More info**

DMX & Art-Net Compatibility

Easily playback video content as DMX to control LED stripe and lighting fixtures.
Modulo Player offers a video to Art-Net converter which uses the GPU to deliver pixel accurate DMX over Ethernet in real time.

| NEW | Embedded Low-Latency Live Mixer

As a world's first, Modulo Player now embeds a low-latency live mixer with all main functionalities of a mixer: Live program, preview, and confidence screens, presets management, transition effects,…

Modulo Player is a multi-user device: Several operators can work simultaneously on the media server and mixer interfaces. All contents and operations are perfectly synchronized.
↗ **Live mixer – More info**

Live Input Boards

Modulo Player integrates live input cards, including FLEX video I/O technology by Deltacast:

- Up to 8 x SD/HD/3G-SDI inputs
- Up to 4 x HDMI 2.0 inputs

It supports NewTek's NDI technology, and allows to stream multiple high quality live video sources

across an Ethernet network, and use them as inputs.
Visualize all your live sources on your custom designed monitoring output and/or stream them over NDI.

Ready for Interactivity

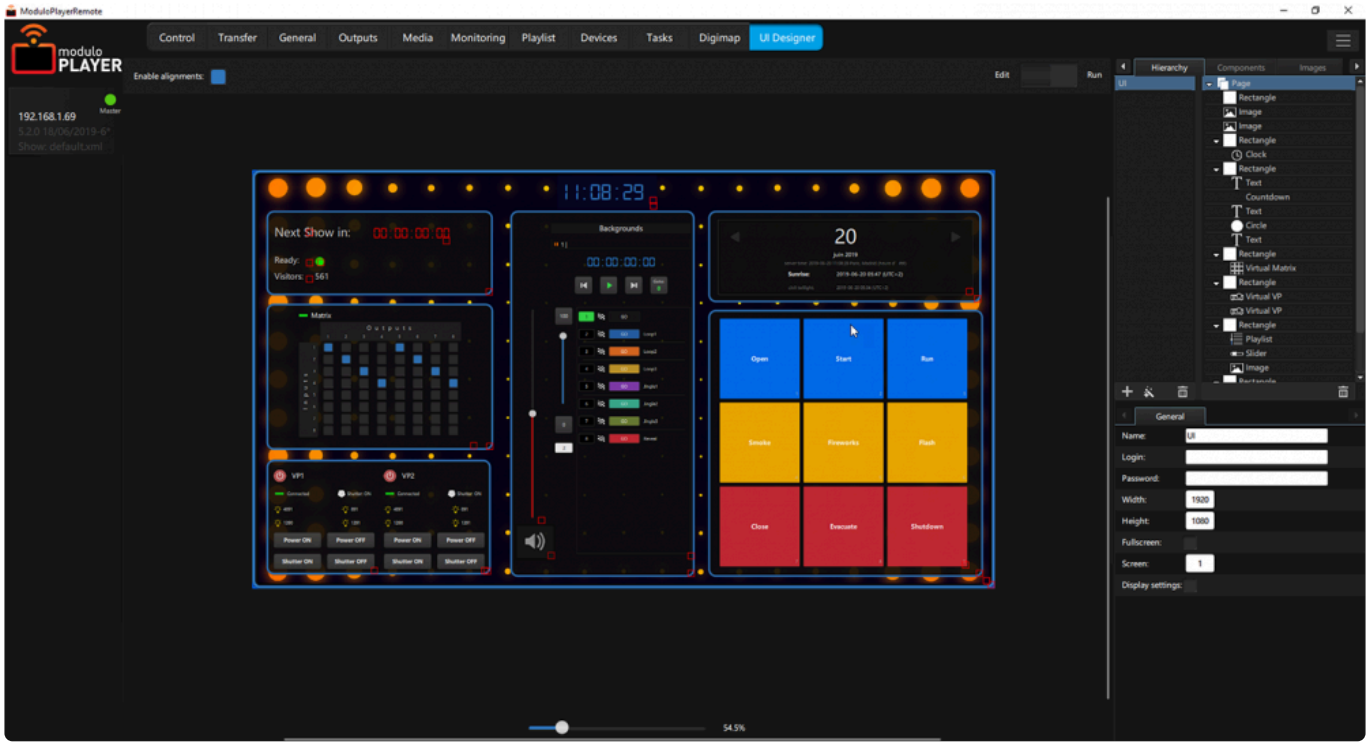
Add interactivity and simple tracking to your shows thanks to Modulo Player's Digimap function.
Easily control the parameters of your media – including position, rotation, opacity, color,… – using external devices (OSC, Art-Net, MIDI, TCP/IP rotary encoder).

Modulo Player's wizard allows easy and quick calibration of the incoming data, so that you can link it to your media parameters.
↗ **Digimap function – More info**

Easy, yet Powerful Show Control

Create, control, and play automated tasks for a wide number of preloaded external devices including video-projectors, matrix switchers, video processors. The device main parameters are available in our extensive library to ensure fast and easy control through Modulo Player.

Trigger tasks from specific devices such as Calendar, MIDI, OSC, GPIO, Art-Net and DMX.



↗ **Show control – More info**

User Interface Designer to create your own UI

Easily create different user panels: Drag & drop tasks, add buttons, texts, images, web pages, etc.
User panels are compatible with PC, Mac, iOS, and Android devices.

↗ **UI Designer – More info**

Changelog

Version 5.3

v5.3.0

New:
- Autocalibration for flat/curved screens and domes, see this topic for details
- NDI 4.1

Bug fix:
- Ephemeris device

Version 5.2

Global:

Integration of Stream Deck to recall Tasks
Updated icons and cleanup
Auto-backup options
Possibility to directly set default IP and media server name from remote
Right click on color editor for cues, tasks,…: Open a color dialog box
Media ID: new dialog box
Project folder: New folder selected when a new folder is created

Outputs:

Add: Mode fill&key
Rename test pattern to grid
Rename test pattern small to grid fine
LED Mapping: Rename “custom” to “basic”

Media:

Bugfix: .MOV decoding issue
No more list internal NDI streams
Support for NDI stream with alpha channel
Add: Test Pattern media

Playlist:

Add: Tag system to trigger cues from DMX device

Devices:

Device add panel: Tree with search engine
Add: NDI PTZ control device
Add: Log device to log information in a file
Add: Terabee range device
Add: Phidgets device: more than 40 new devices!
Add command: BARCO PGWU: Power lamp control
DMX: Rename auto-patch Digimap
MIDI: Bug fixes: Refresh last value works
Rename device “Modulo” to “Modulo Player”
Rename device “Modulo remote” to “Modulo Player external control”
Modulo Player device: Add command to recall live mixer preset to program

Digimap:

Add filtering option to smooth the incoming datas and predict values
Bug fixes: Opacity X-Map with Digimap

Live Mixer:

Integration of Stream Deck
Bug fixes

User Panel:

Add device Barco UDX/F, NDI PTZ, Visca PTZ
New property for rectangle to change the background opacity
Lock option to avoid moving an item with mouse
Possibility to add a comment and a color in the action list
Control parameters (position, scale, rotation, opacity, brightness/contrast/saturation, speed video) directly from User Interface
Bug fixes

Starter guide

Here is the Modulo Player starter guide.

- Get started with Modulo Player Lite (license for practicing and offline programming)
- Get started with Modulo Player (hardware + software)
- Get started with the Modulo Pi Learning kit

Modulo Player media server

You are starting to use our Modulo Player media server.

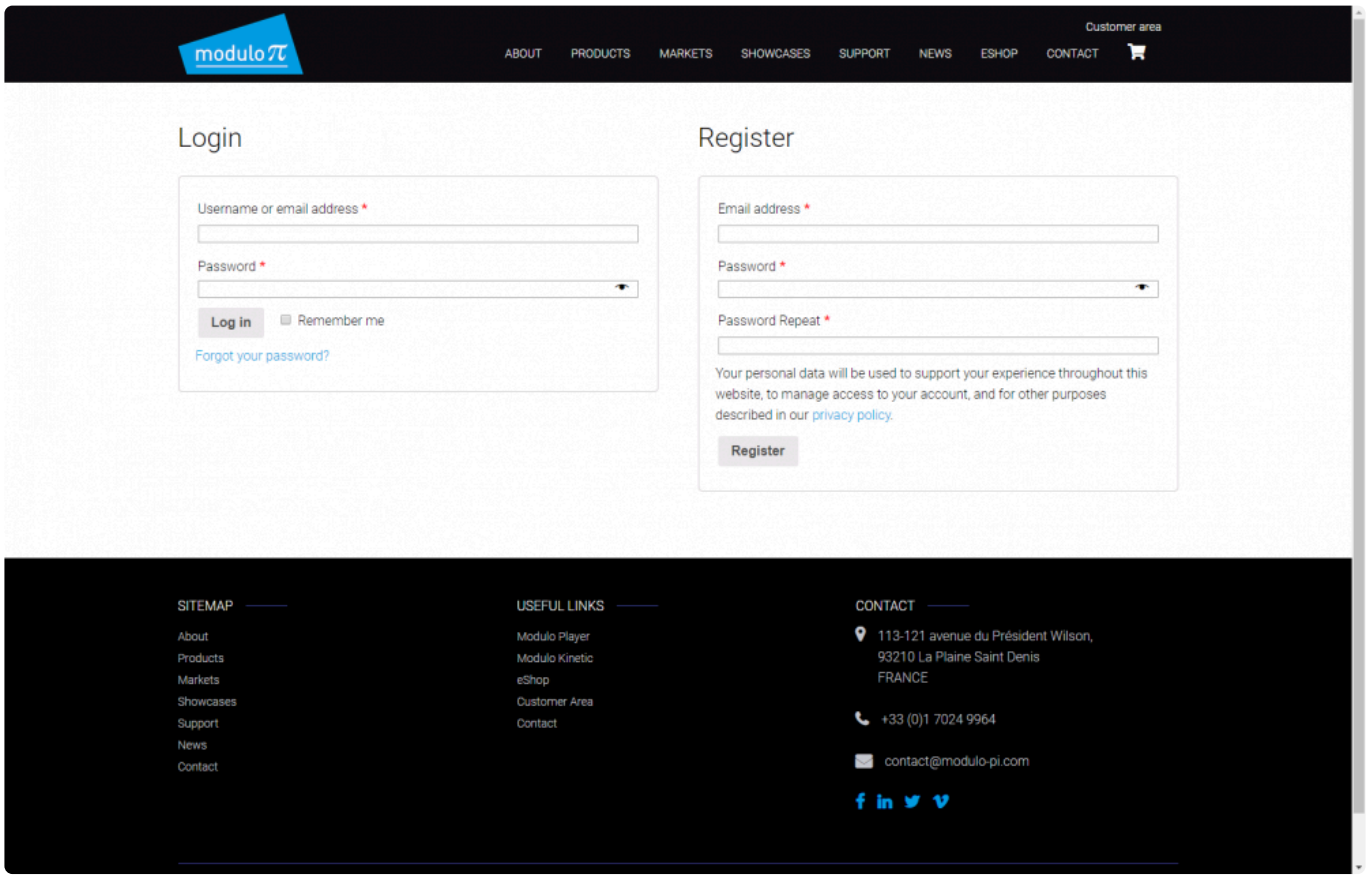
On the next pages, you will be guided through some steps to set up your Modulo Player media server.

Remote installation

Customer Area:

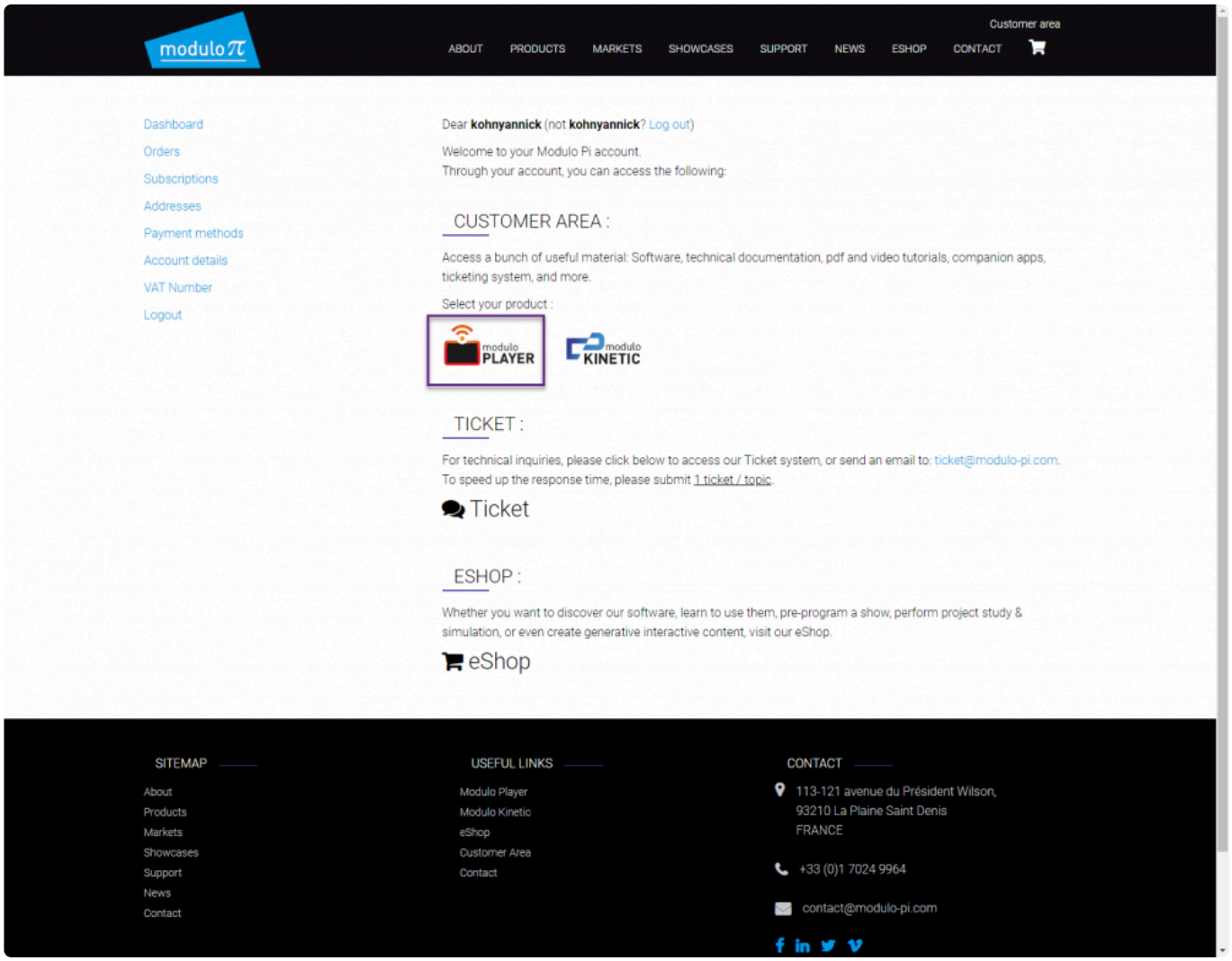
Go to the customer portal to create an account and donwload the software.

Create an account:

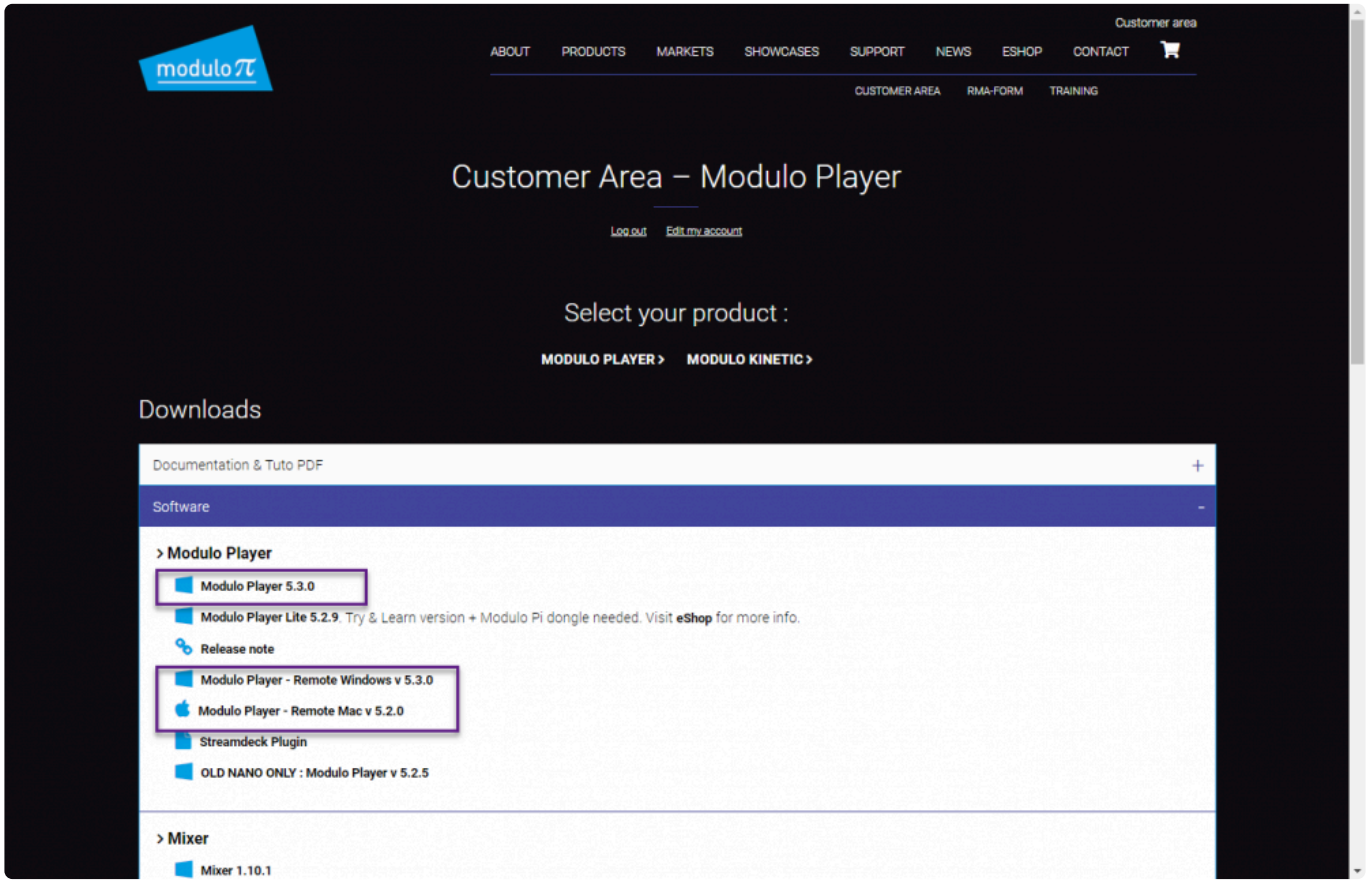


Login to your account or create a new account if you don’t have one.

Go to the Modulo Player page:



Download Modulo Player and Modulo Player Remote:



You can download the Modulo Player Remote for MAC or PC.
Download the regular Modulo Player edition if you need to update your Modulo Player server.

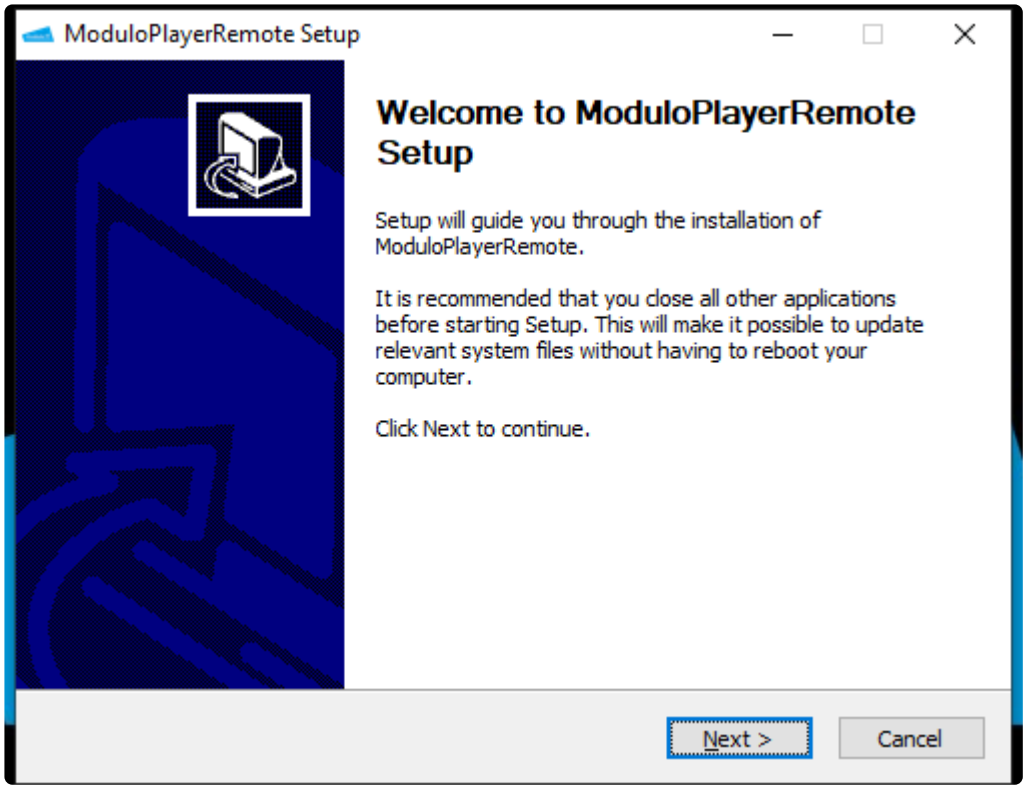
Modulo Player Remote install:

PC:

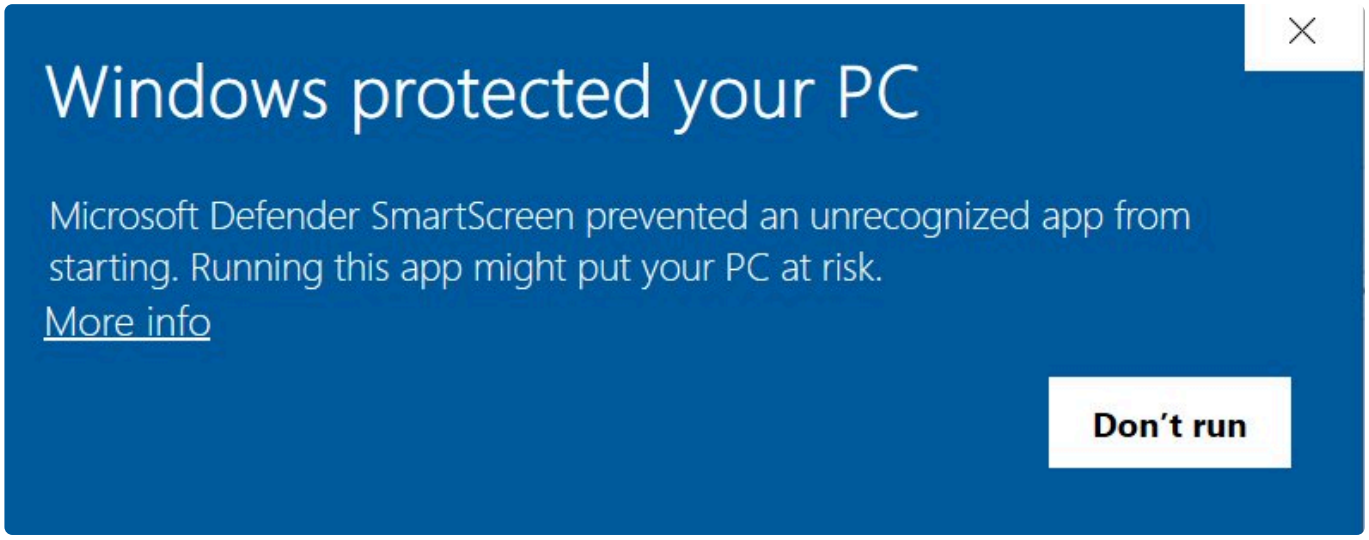
Minimum configuration:
Windows 7 64 bits or Windows 10 64 bits (Virtual computer are unsupported (VMWARE/ PARALLEL DESKTOP,…)).
CPU: Core i3 minimum (No need for a high-end configuration), 8 Gb RAM.
Screen resolution:

- Minimum: 1280 × 800
- Preferred: 1920 × 1080

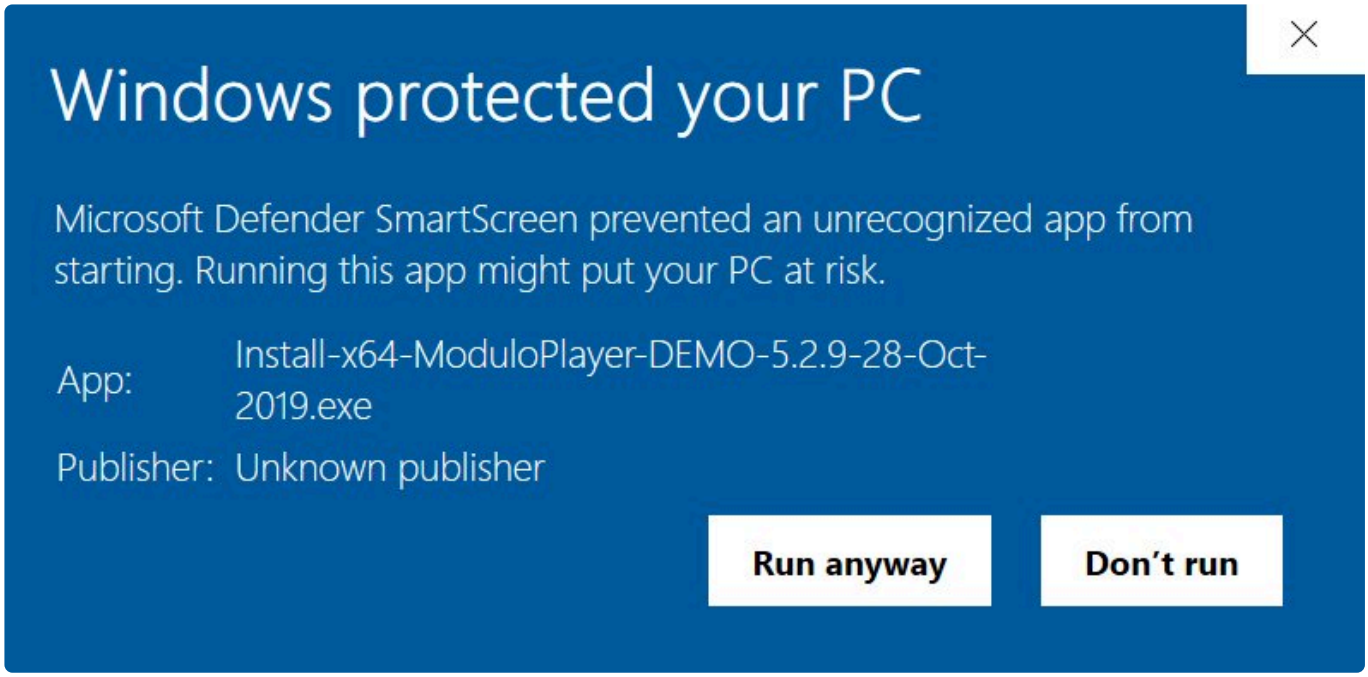
Double click on the installer and follow the steps.



! SmartScreen might popup when you try to install a new version:



You need to click on “More info”.



Then click on “Run anyway”.

In addition, your antivirus or a firewall might prevent the network traffic between Modulo Player Remote and Modulo Player server.
Please check this issue does not occur.

MAC:

Minimum configuration:
Mac OS 10.12, 10.13, 10.14
CPU: Core i3 minimum (No need for a high-end configuration), 8 Gb RAM.
Screen resolution:

- Minimum: 1280 × 800
- Preferred: 1920 × 1080

Unzip the archive, then copy the Modulo Player Remote application to the Application folder in your Mac.
Check that Firewall does not lock the network port.

> Don’t connect directly a Mac Remote to a Modulo Player server with a RJ45 without an Ethernet switch in between: This could create some issues.

Network setup

You need to check that you are on the same network as your Modulo Player media server.

When you received your Modulo Player unit, the box included a sheet with the IP address of your media

server.

If you do not know how to setup an IP:

- Go on this page for a PC
- Go on this page for a MAC

Start the Modulo Player Remote

You can now launch the Modulo Player Remote application on your MAC or PC.

Then, follow the Start Project tutorial available in English and French.

You should now see your Modulo Player when you launch the Modulo Player Remote application.

Your antivirus or a firewall might prevent the network traffic between Modulo Player Remote and Modulo Player.
Please check that this issue does not happen.

If you have any issue, visit the complete troubleshooting overview page.
If it is still not working, contact our support team.

Modulo Player Lite

Modulo Player Lite is the license available on Modulo Pi's eShop.
This license allows you to practice the software, self-train, and pre-program your projects offline.

Go on this page to have more information about the Modulo Player Lite version.

On the next pages, you will be guided through some steps to set up your Modulo Player Lite application.

Minimum hardware and software configurations

Use your Modulo Pi key and your license on a computer with Windows 7 64 bits or above.
Your computer needs to have a dedicated GPU with OpenGL 4.1 min.
To check if your computer has the good OpenGL version, go to this page.

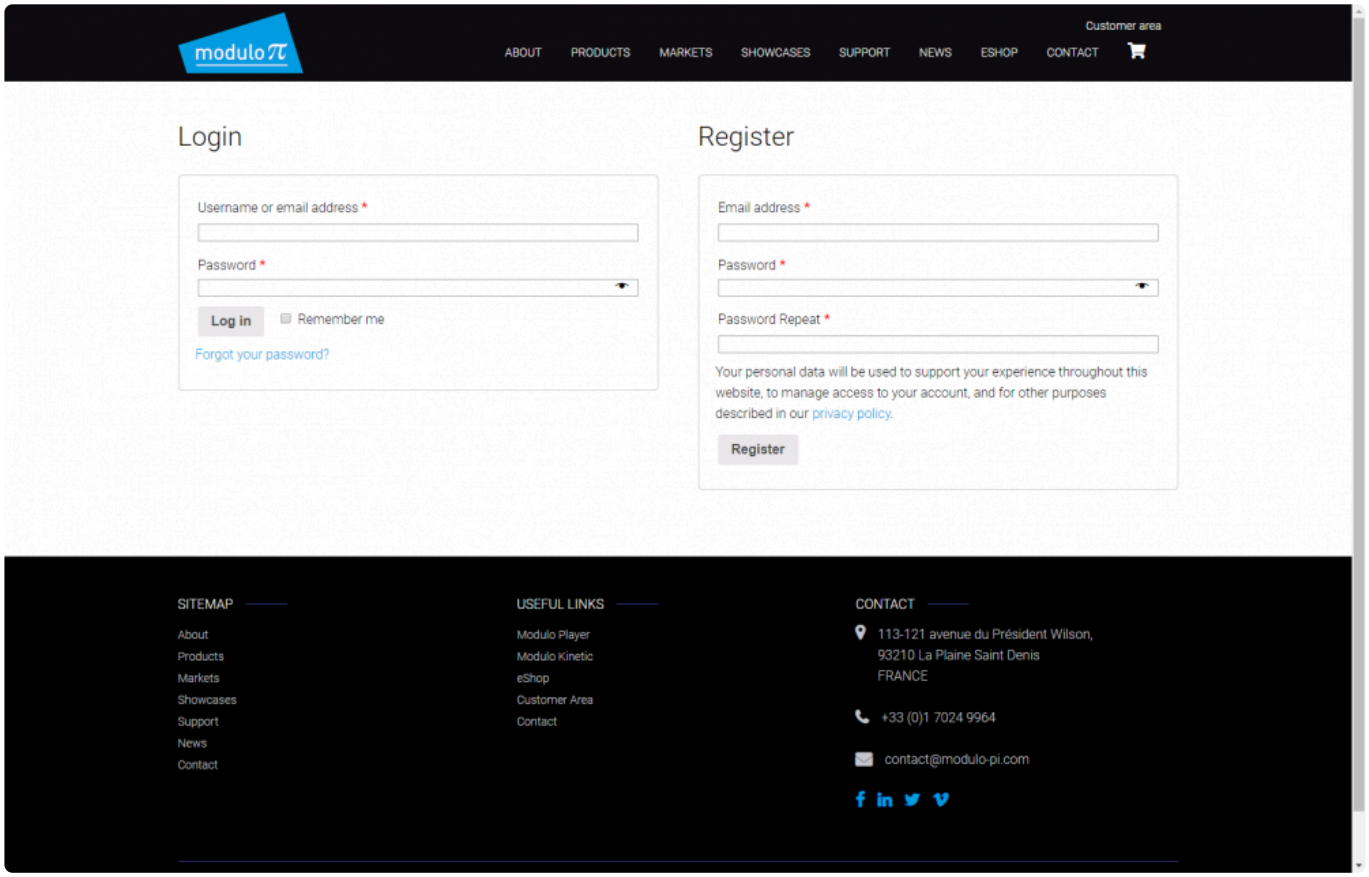
> ! The Modulo Player Lite application works on Windows only.
> If you want to install the software on an Apple Mac, you need to install a Boot Camp Windows version.
> It is NOT possible to install our software using Parallels Desktop or VMware Fusion.

Modulo Player Lite installation

Customer Area:

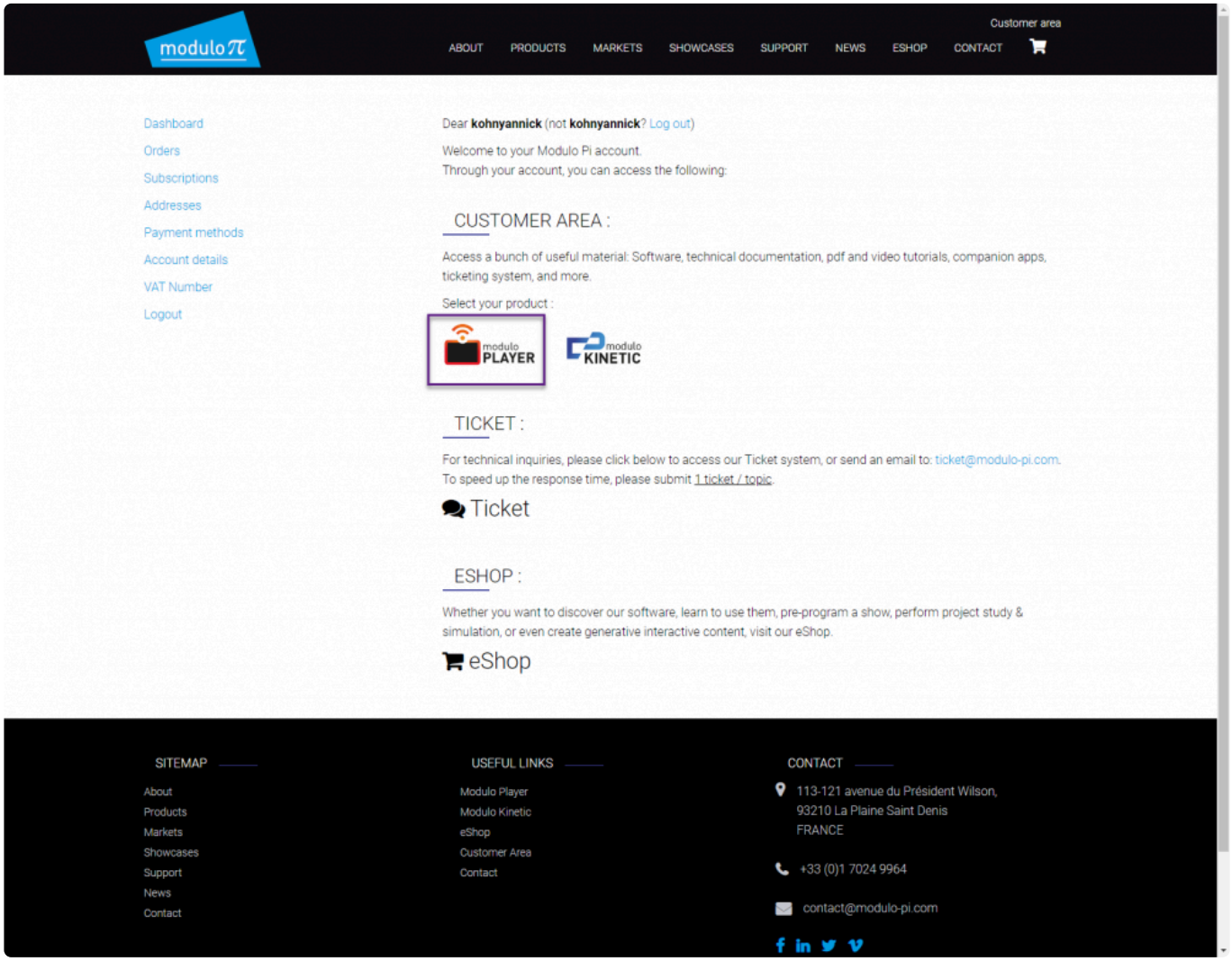
Go to the customer portal to create an account and donwload the software.

Create an account:

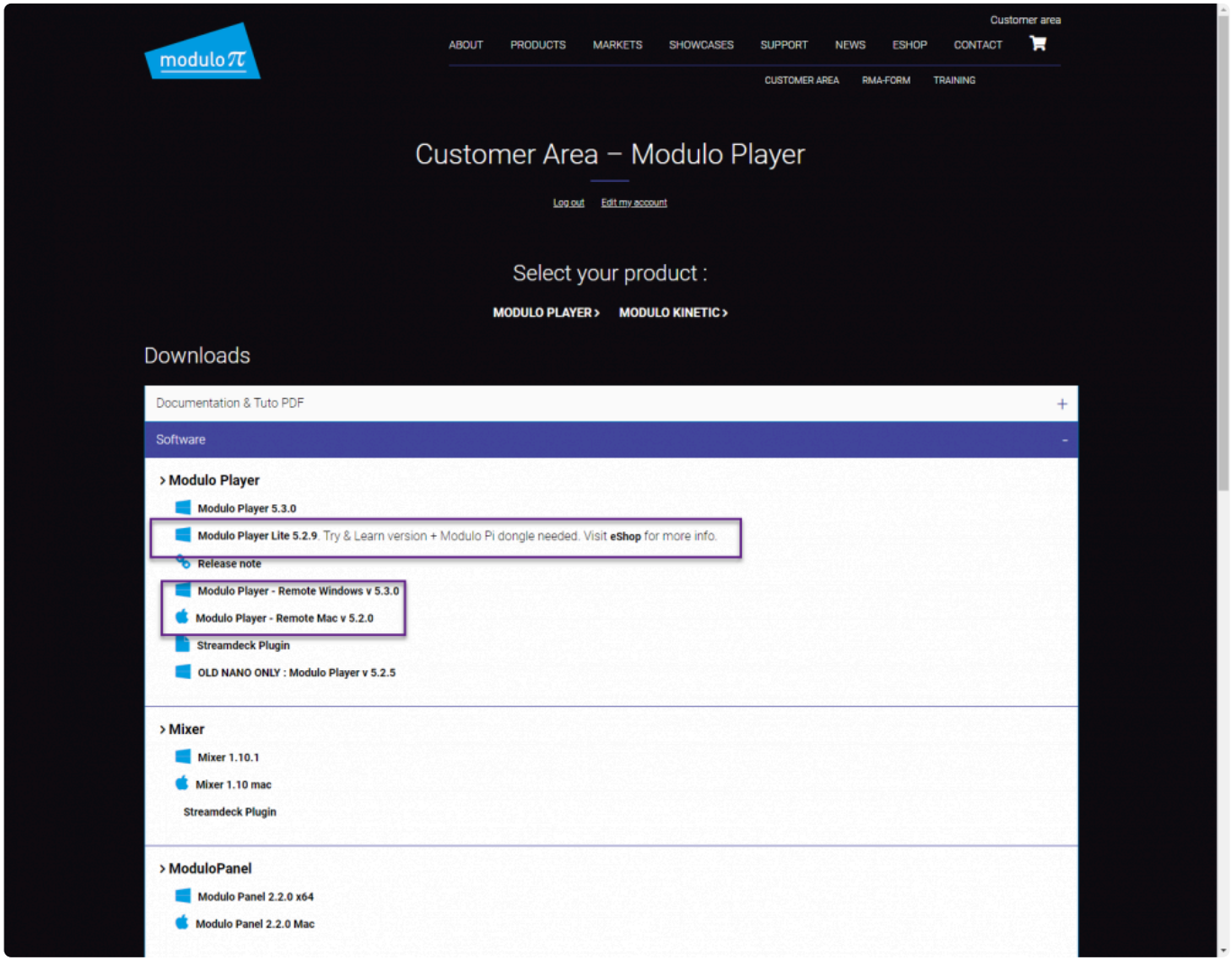


Login to your account or create a new account if you don’t have one.

Go to the Modulo Player page:



Download Modulo Player Lite and Modulo Player Remote:



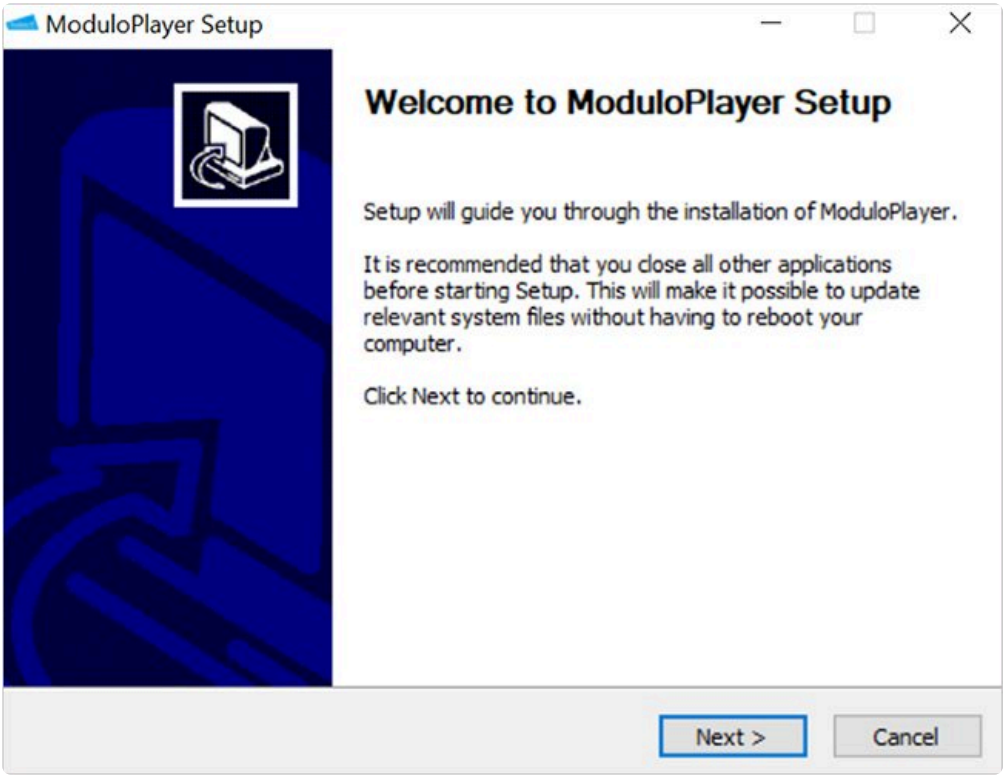
Download the Modulo Player Lite edition, and the Modulo Player Remote for MAC or PC.

> ! Do not download the Modulo Player regular version.
> The regular version is for the Modulo Player media server (hardware included).

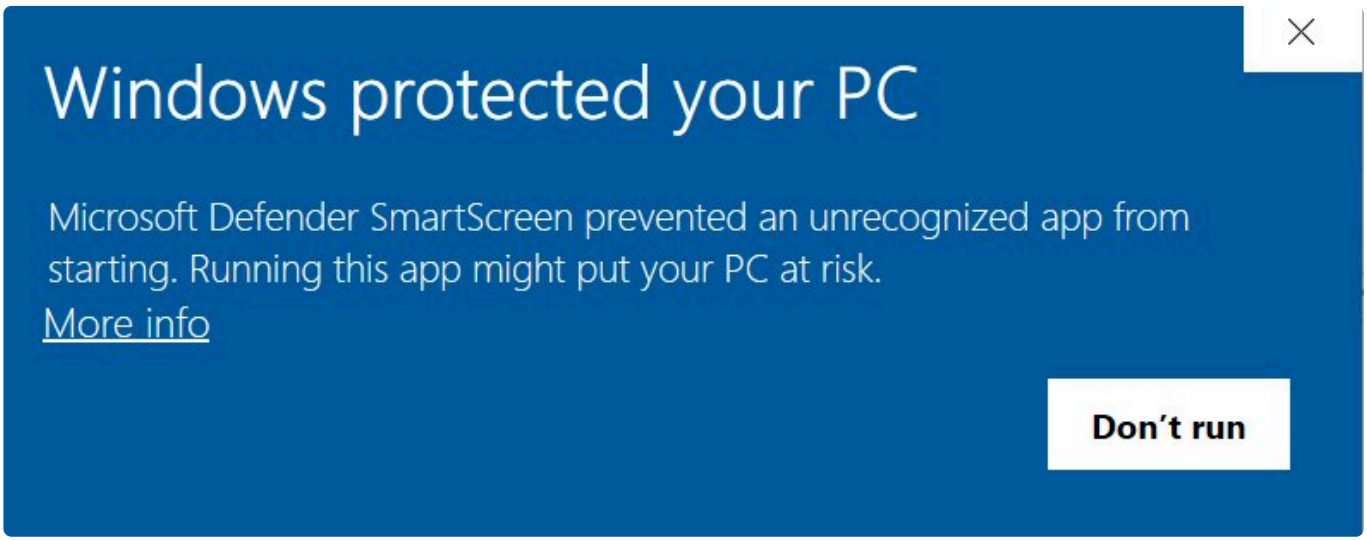
Modulo Player Lite installation:

> ! Your computer might reboot at the end of the installation.
> Save any job before launching the installer.

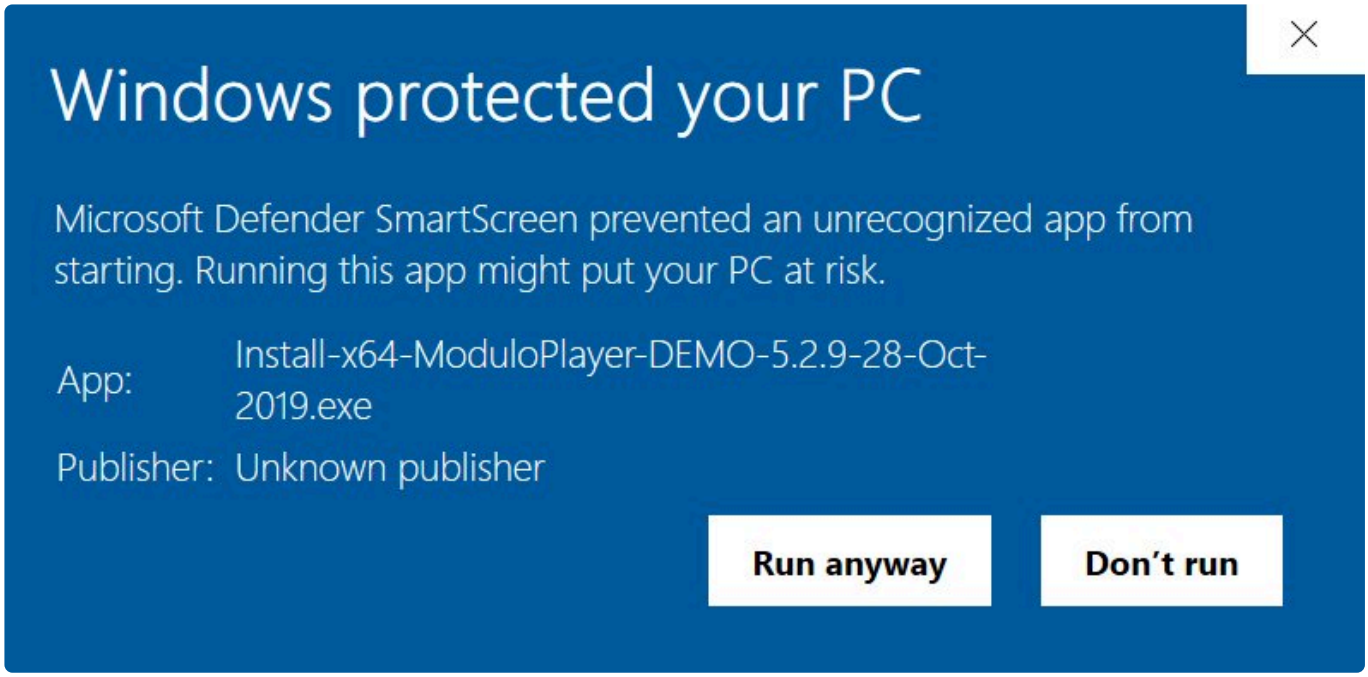
Double click on the installer and follow the steps.



! SmartScreen might popup when you try to install a new version:



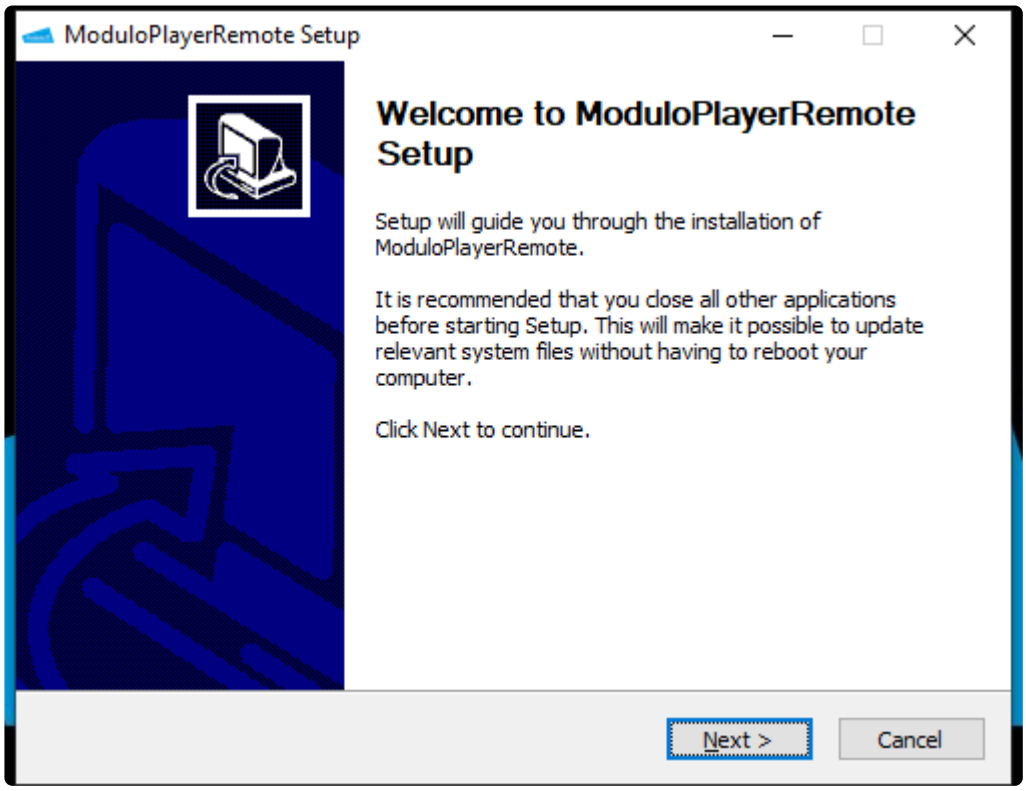
You need to click on “More info”.



Then click on “Run anyway”.

Modulo Player Remote installation:

Double click on the installer and follow the steps.



PC:

Minimum configuration:
Windows 7 64 bits or Windows 10 64 bits (Virtual computer are unsupported (VMWARE/ PARALLEL

DESKTOP,…)).
CPU: Core i3 minimum (No need for a high-end configuration), 8 Gb RAM.
Screen resolution:

- Minimum: 1280 × 800
- Preferred: 1920 × 1080

Double click on the installer and follow the steps.

MAC:

Minimum configuration:
Mac OS 10.12, 10.13, 10.14
CPU: Core i3 minimum (No need for a high-end configuration), 8 Gb RAM.
Screen resolution:

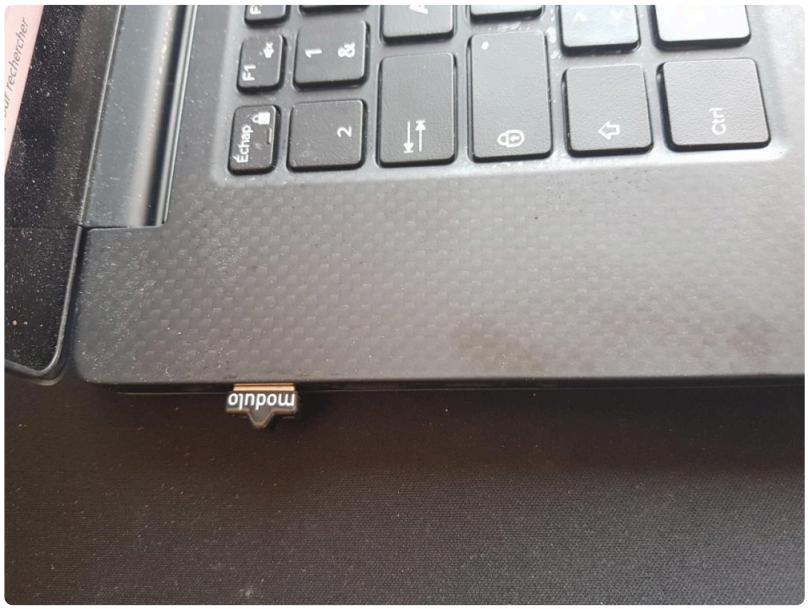
- Minimum: 1280 × 800
- Preferred: 1920 × 1080

Unzip the archive, then copy the Modulo Player Remote application to the Application folder in your Mac.
Check that Firewall does not lock the network port.

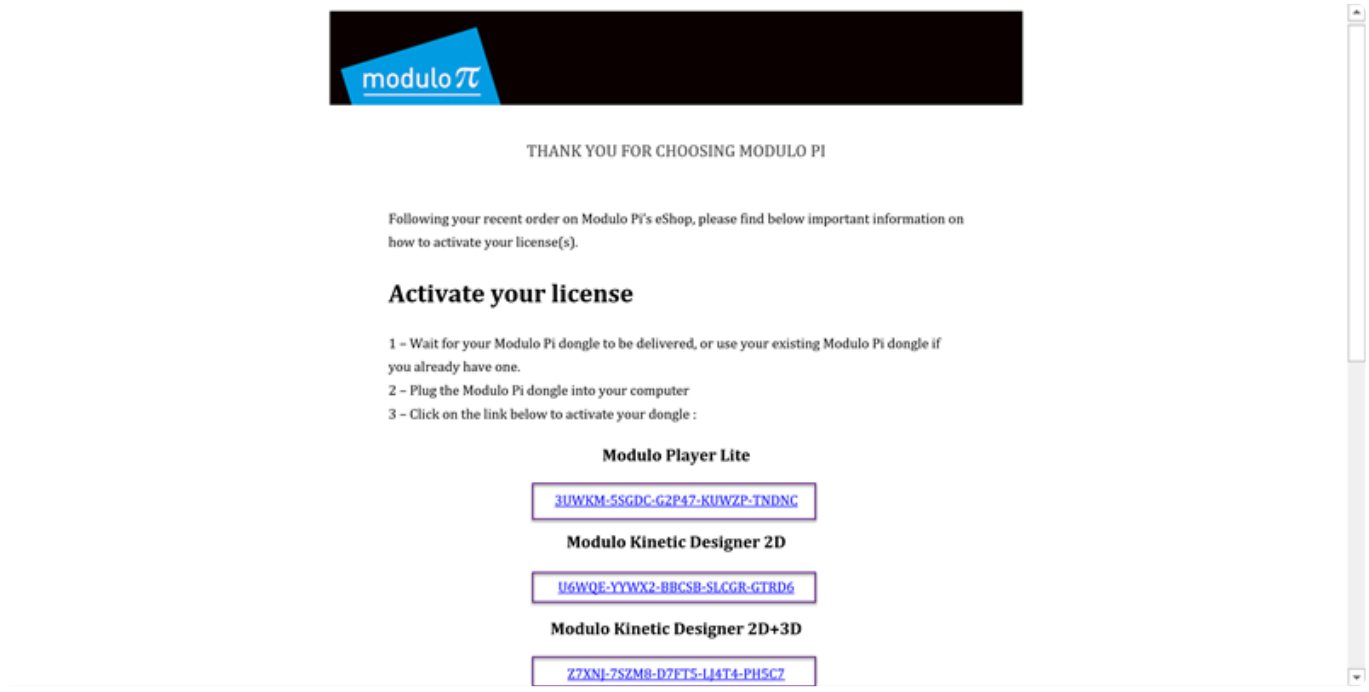
> Don’t connect directly a Mac remote to a Modulo Player server with a RJ45 without an Ethernet switch in between: This could create some issues.

Modulo Pi key activation

Plug your Modulo Pi key on your computer:



Go to the email with activation links:



modulo π

THANK YOU FOR CHOOSING MODULO PI

Following your recent order on Modulo Pi's eShop, please find below important information on how to activate your license(s).

Activate your license

1 – Wait for your Modulo Pi dongle to be delivered, or use your existing Modulo Pi dongle if you already have one.
2 – Plug the Modulo Pi dongle into your computer
3 – Click on the link below to activate your dongle :

Modulo Player Lite

3UWKM-5SGDC-G2P47-KUWZP-TNDNC

Modulo Kinetic Designer 2D

U6WQE-YYWX2-BBCSB-SLCGR-GTRD6

Modulo Kinetic Designer 2D+3D

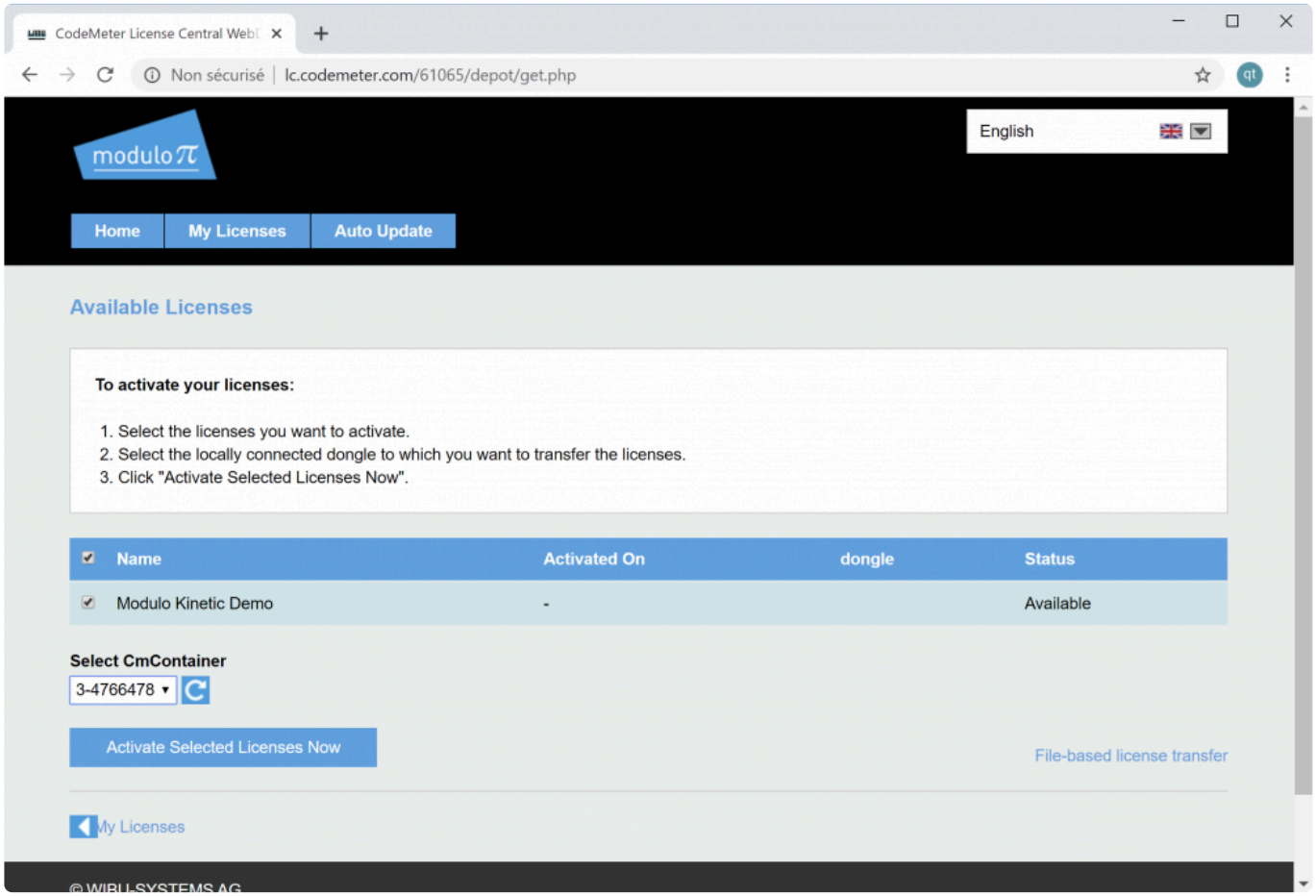
Z7XNJ-7SZM8-D7ET5-LJ4T4-PH5C7

Repeat the following process for each link to activate all licenses.

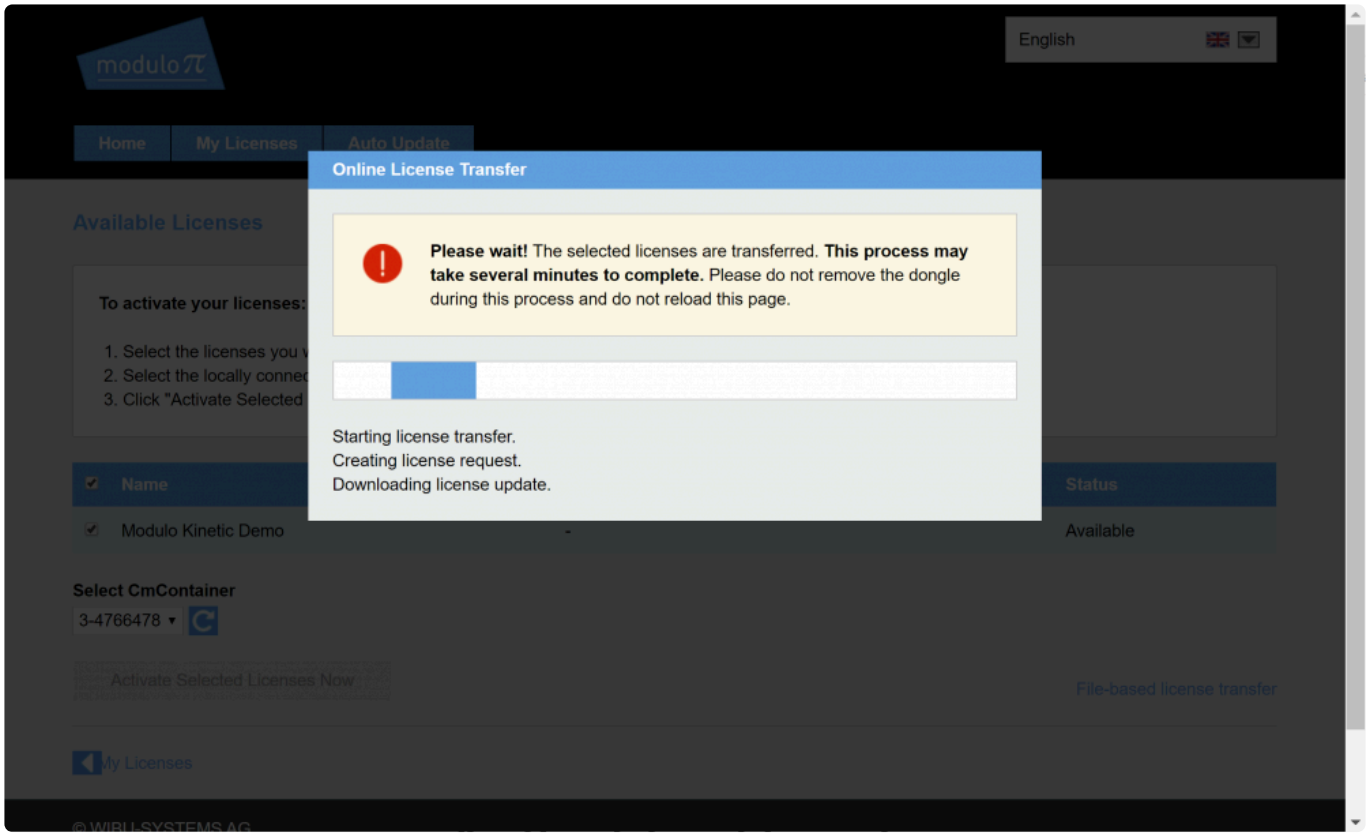
> ! In case you purchased a license several times for separate Modulo Pi keys, make sure to activate a given license on a given key only once!

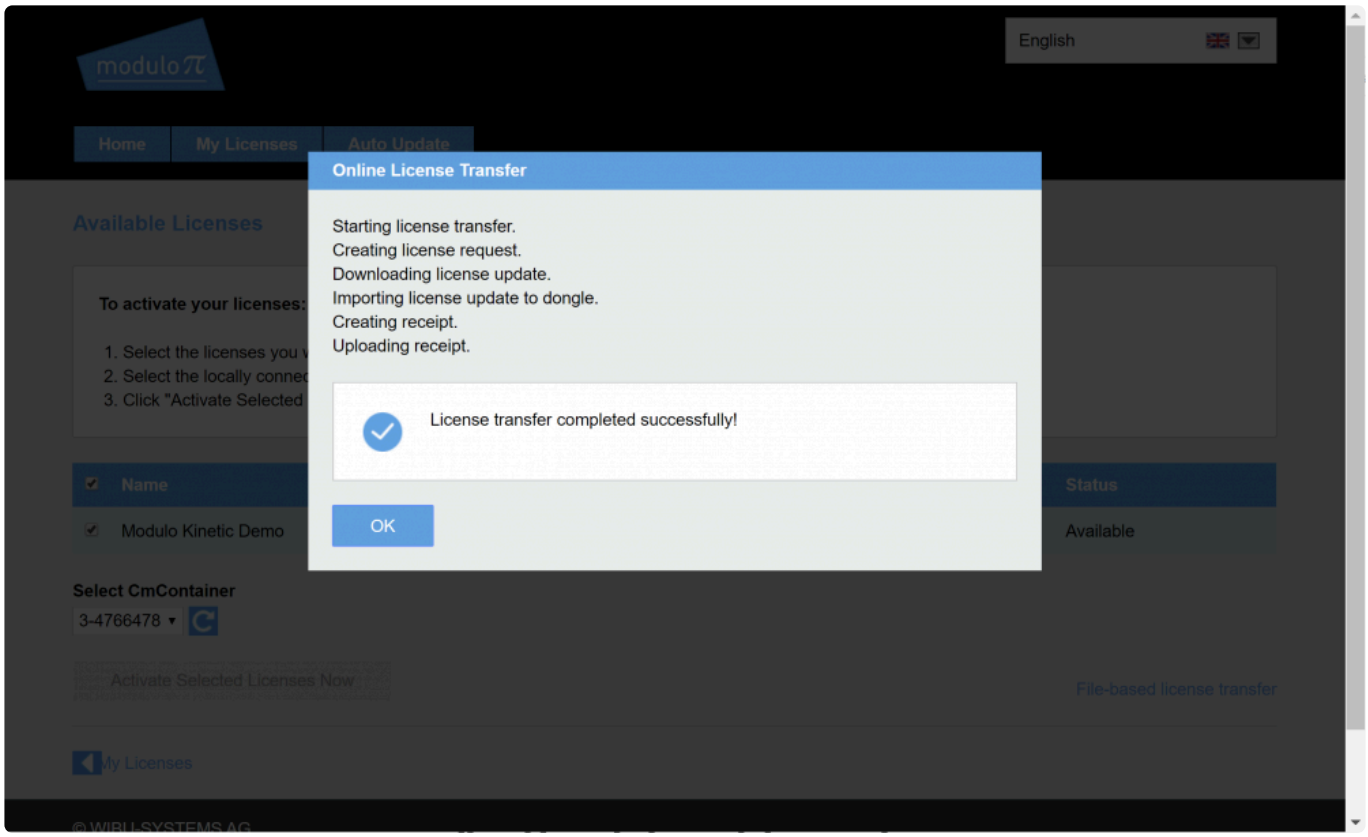
Activation of one application:

Click on the link you want to activate.
It will open your favorite internet browser with the following page.

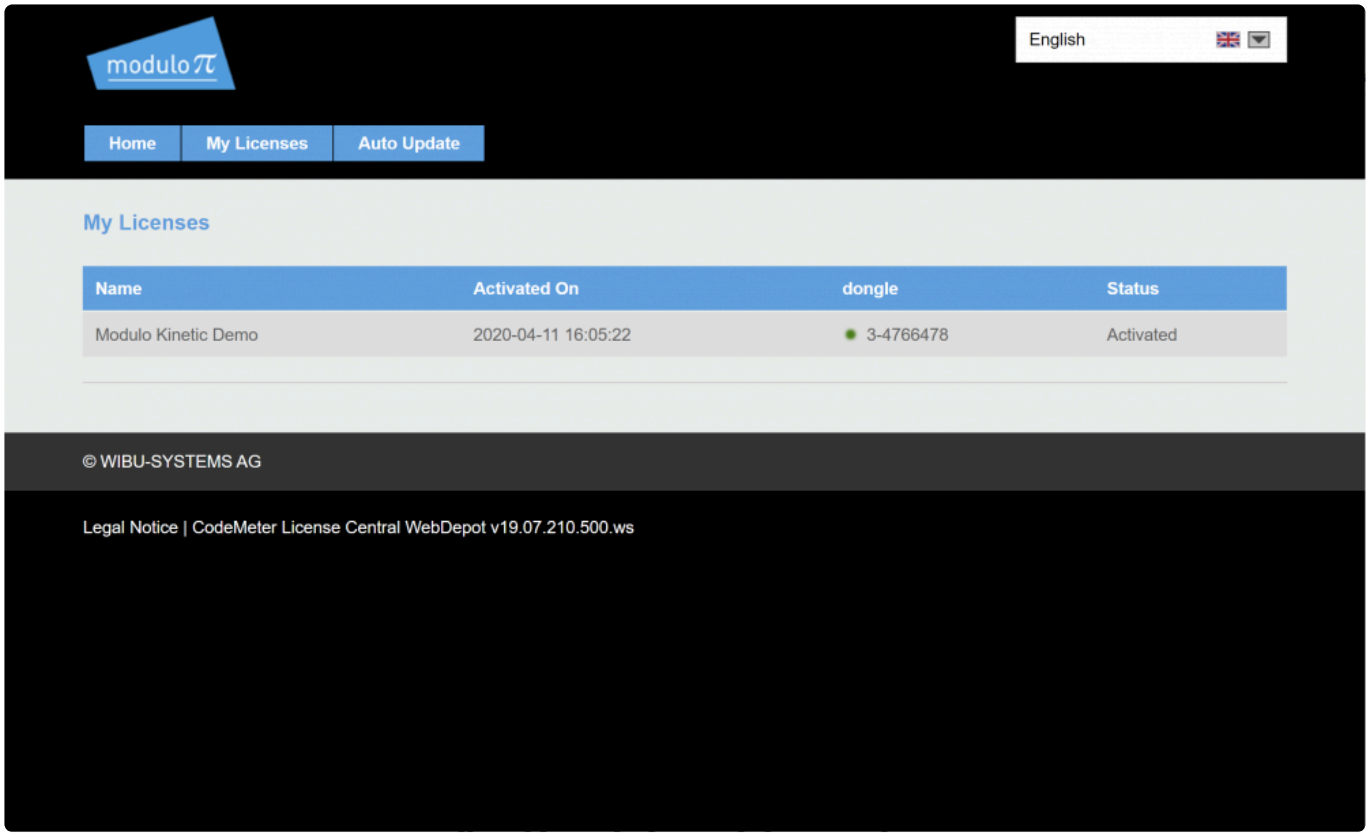


Then choose your Codemeter dongle in the list, and click on “Actived selected licenses now”. Then wait.





Your license is normally installed on the Modulo Pi key.
You can now use this USB dongle on any computer. It is not locked to a specific computer.



Repeat these steps for the other license(s) to activate.

Basic setup and start of Modulo Player Lite

Your Modulo Pi key is activated, your Modulo Player Lite and Modulo Player Remote are installed. Now, it's time to play!

Firewall and antivirus:

First, check that your antivirus will not prevent the applications to launch or to communicate.
Usually, an exception is added automatically on the firewall of your computer to allow the use of Modulo Player and Modulo Player Remote.
If you have any issue, try to disable the firewall.

Possibilities and limitations of the Modulo Player Lite edition:

Modulo Player Lite gives access to the Modulo Player intuitive software and powerful capabilities: Easy 2D mapping, playlists, tasks, user panels and show control,…
After purchasing this license, it's yours for life.

The license gives access to 1 blinking output, audio playback with regular fade in and out, and temporary access to external devices.
For full show playback and show control, Modulo Player hardware is required.

Working with the Modulo Player Lite license, you can:

- Self-train on the software with the help of our kit and video tutorials
- Pre-program projects on your PC and save them for later use: Media import and validation, pre-warping, pre-encoding with the live Mixer, playlist pre-encoding,…

This user manual includes training tutorials available in English and French.
To follow the tutorials, you will need our dedicated Modulo Pi Learning kit.

Hardware limitation of your computer using the Modulo Player Lite version:

A regular Modulo Player media server includes a specific Pro AMD graphics card allowing to force EDID, do a Eyefinity with multiple screens.
These settings are available in Control/Hardware/EDID and Eyefinity.
These settings will not be available on a non PRO AMD graphics card. However, this is not a problem to do most of the tutorials as they can be done on a single screen.

You won't have access to a Deltacast live capture cards, so all settings regarding Deltacast, add live inputs cards will not work on your notebook.
However, you can add several NDI live input sources in your Modulo Player Lite. This will allow you to use the Live Mixer application for example.

On a regular Modulo Player media server, you can lock the OS.
This feature is not available on the Modulo Player Lite edition.

Start of Modulo Player Lite:

The best is to have a video-projector or at least an external screen connected to your notebook.
Then, you can open the Modulo Player Remote on your main notebook screen, and the Modulo Player Lite application on your video-projector or your external screen.

Then, follow the Start Project tutorial available in English and French.

> ! If you have any issue to start the application, go to this page.

Troubleshooting

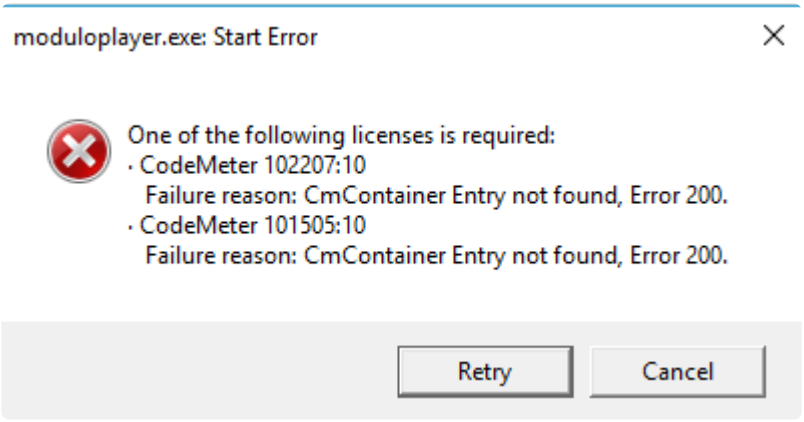
If you have any issue with Modulo Player Lite, read carefully this page:

Application doesn’t start and there is no message:

First, check on this page that your hardware and software configurations meet the minimum configuration required.
Double check that you have the minimum OpenGL version required by visiting this page.

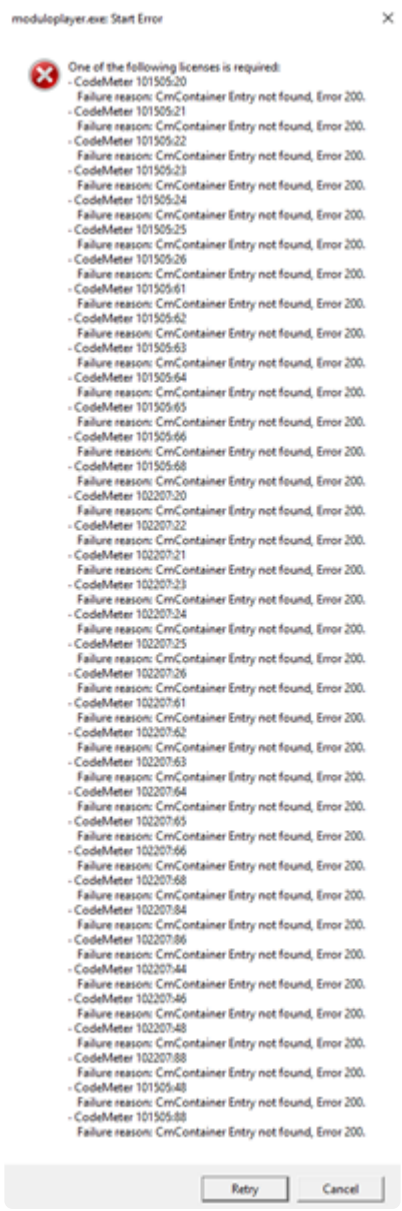
Codemeter application error message:

If you have the following popup, it means you have an issue with the activation of Modulo Player Lite on your Modulo Pi key:



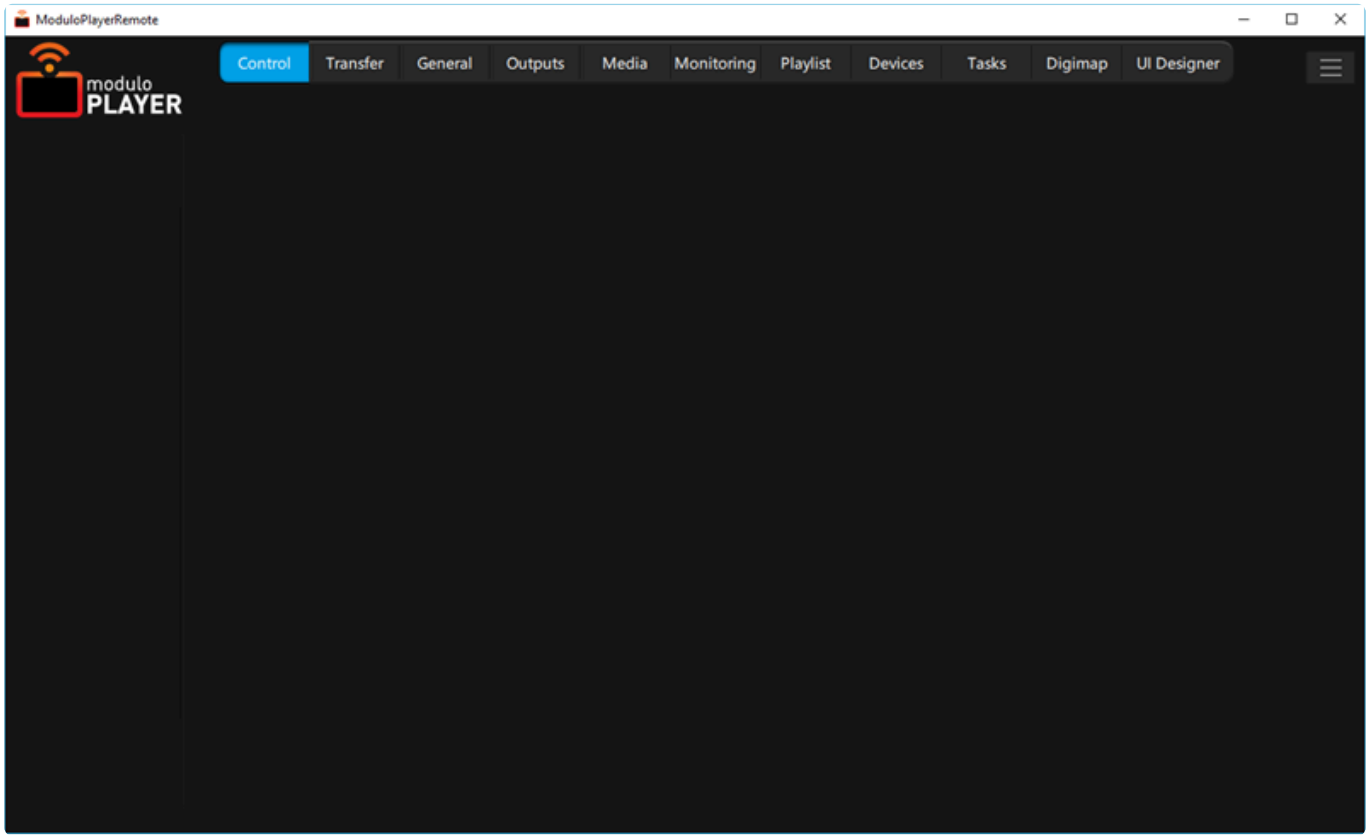
It might be an issue with the USB dongle. Check on this page that you have followed all necessary steps.

If you have the following popup, it means that you installed the wrong version of Modulo Player.
You need to install the Modulo Player Lite version.
Go on this page for more information.

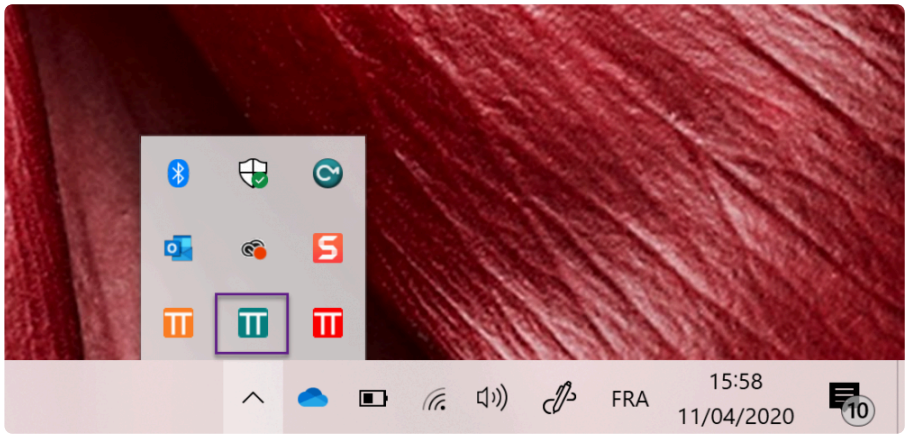


If you did not succeed, go to the Codemeter troubleshooting dongle page.

There is no Modulo Player detected on the left side of the Modulo Player Remote:



First, check that Modulo Player is correctly installed. You need to have the green spydog in the taskbar like this.



- If you do not find this icon, check that the application is correctly installed. Go on this page for more information.
- If you still don't see the icon, maybe it is because your antivirus has blacklisted the application. You need to disable this feature in your antivirus and reinstall the Modulo Player Lite application.
- If you find this icon: It means you have a firewall or antivirus issue or a network issue:
  - You need to have an active ethernet connection to see the Modulo Player Lite application (even if you work on the same computer). You need an active wired or wifi connection.

- Your antivirus or a firewall might prevent the network traffic between Modulo Player Remote and Modulo Player Lite. Please check that it is not the issue.

It is impossible to do anything on the Remote (no possibility to create outputs, to create cues…):

Your antivirus or a firewall might prevent the network traffic between Modulo Player Remote and Modulo Player Lite. Please check that it is not the issue.

Go on the Transfer page on your Modulo Player Remote and check that the right part of the window is not empty.
If it is empty, go to this page to solve the issue.

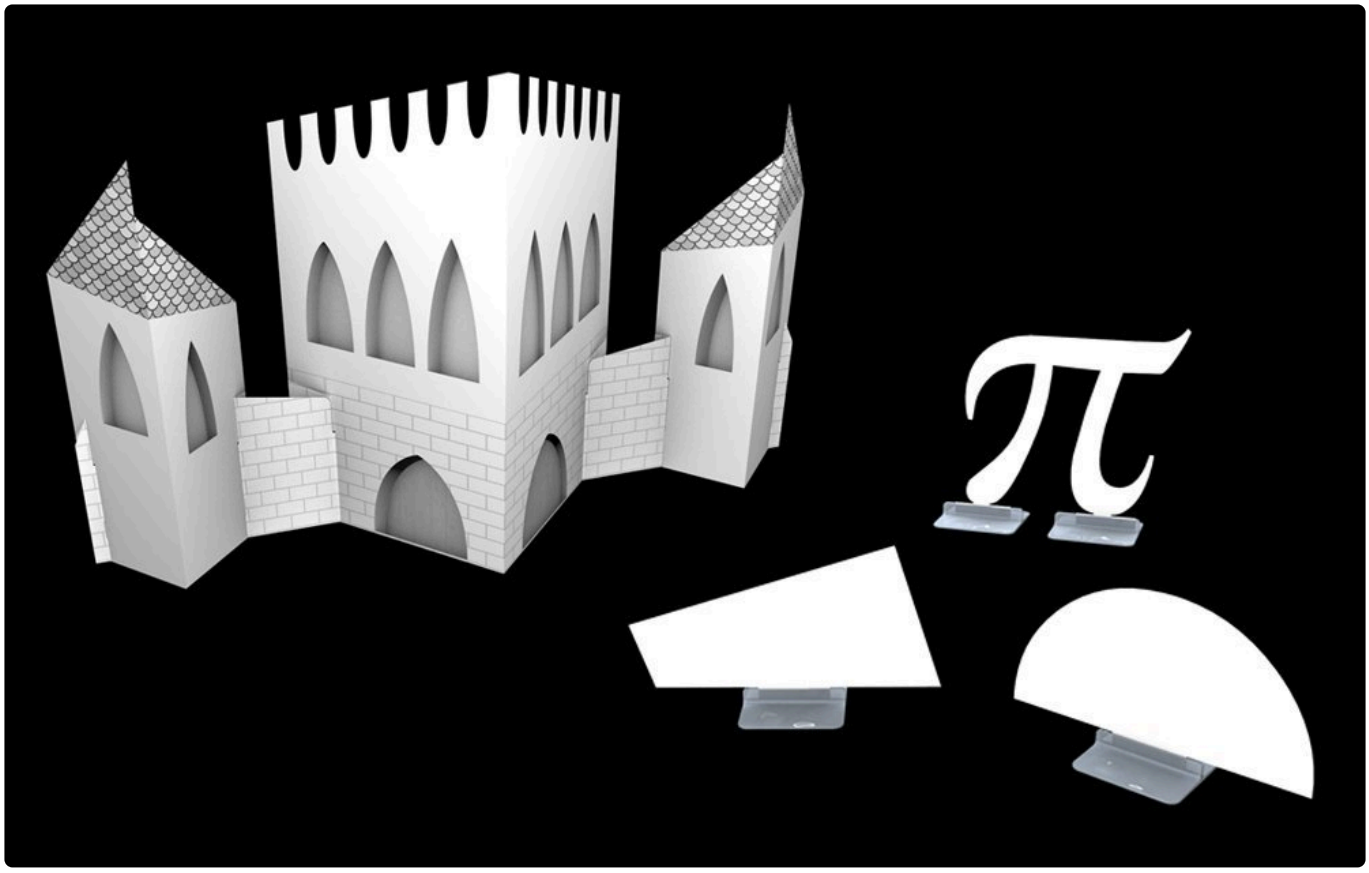
Other issues:

Go on the complete troubleshooting overview page and check if there is something related to your issue.
If it is still not working, contact our support team.

Modulo Pi Learning Kit

The Modulo Pi Learning kit is available on our eShop.

The kit was designed to help you discover and practice Modulo Player and Modulo Kinetic.
A full series of tutorials is based on this kit and will show you how to use our media server solutions.
Thanks to the tutorials and learning kit, you will create projects from scratch, and be guided to discover Modulo Player and Modulo Kinetic's capabilities every step of the way: Playlist or timeline management, 2D and 3D mapping, live mixer, show control, and more.



The Learning kit includes the following:

- 3 corporate shapes: Half circle, π sign, quadrilateral
- 4 plastic holders for the corporate shapes
- 1 self-assembly castle
- A full media kit

The Modulo Player tutorials are available in English and French.
The tutorials also include projection on a cube.
The cube is not provided in the kit, but you can use a cube of any size.

You will need something similar to a dark box in order to place your shapes and project on them.

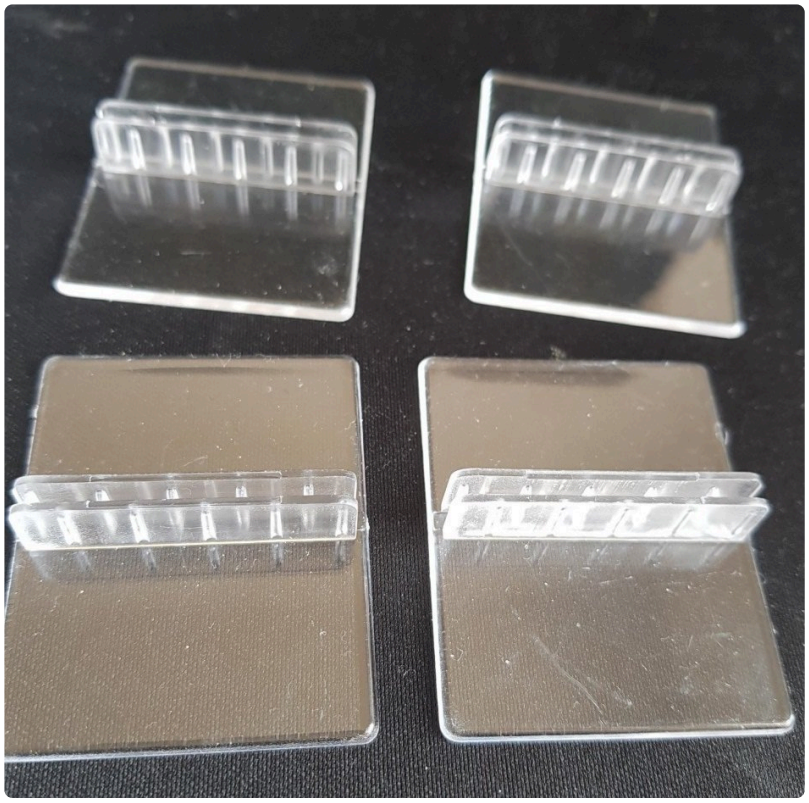
During our classes, we use some white/grey storage boxes that you can find in any furniture store.
Here is an example of reference.

You will also need one pico video-projector equipped with 1 x HDMI input supporting HD, and offering a minimum resolution of 854×480.
Here are two examples of references: Ref 1, Ref 2.

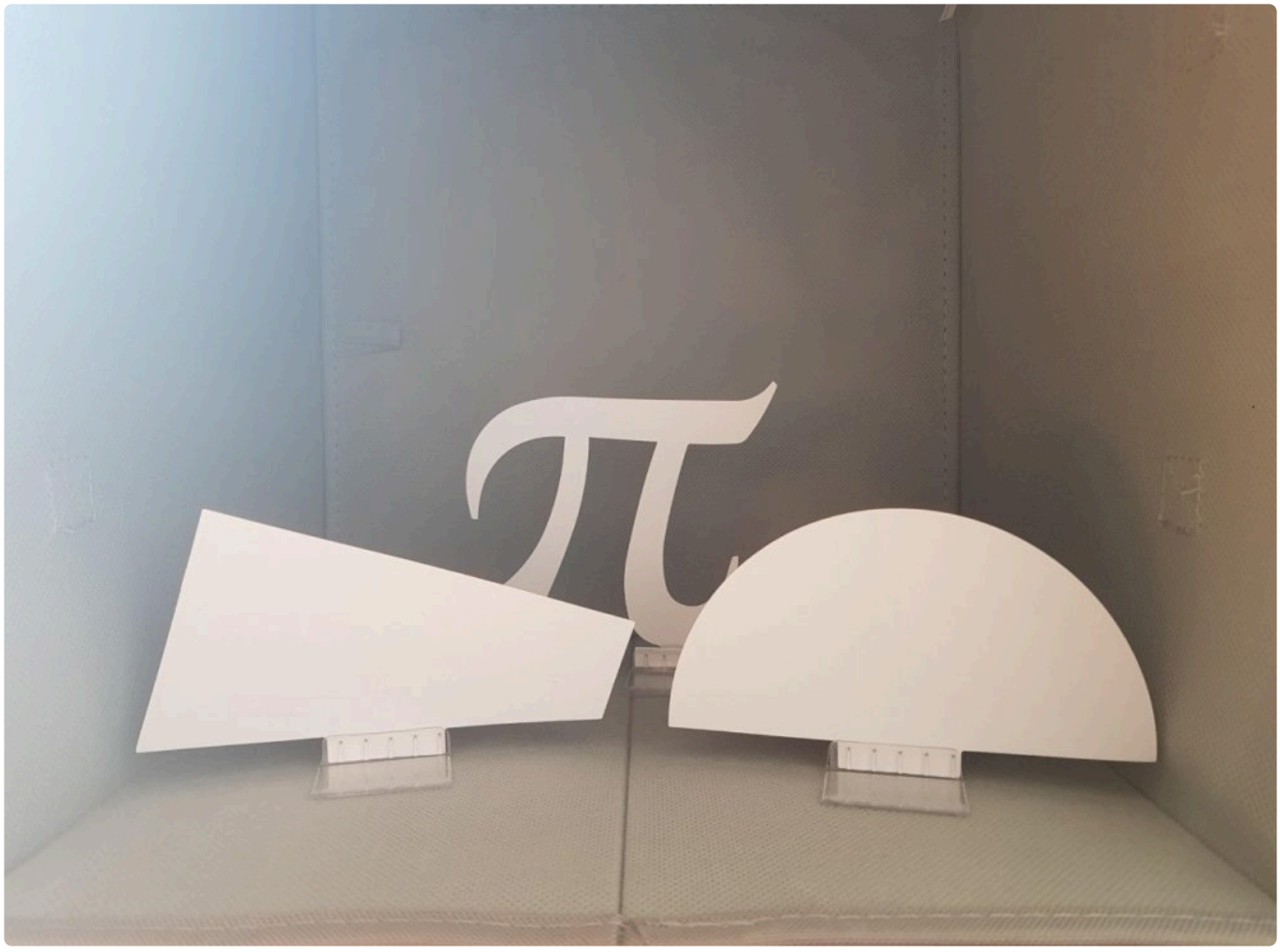
Corporate shapes:

Extract the shapes from the page.

Use the plastic holders for all shapes.



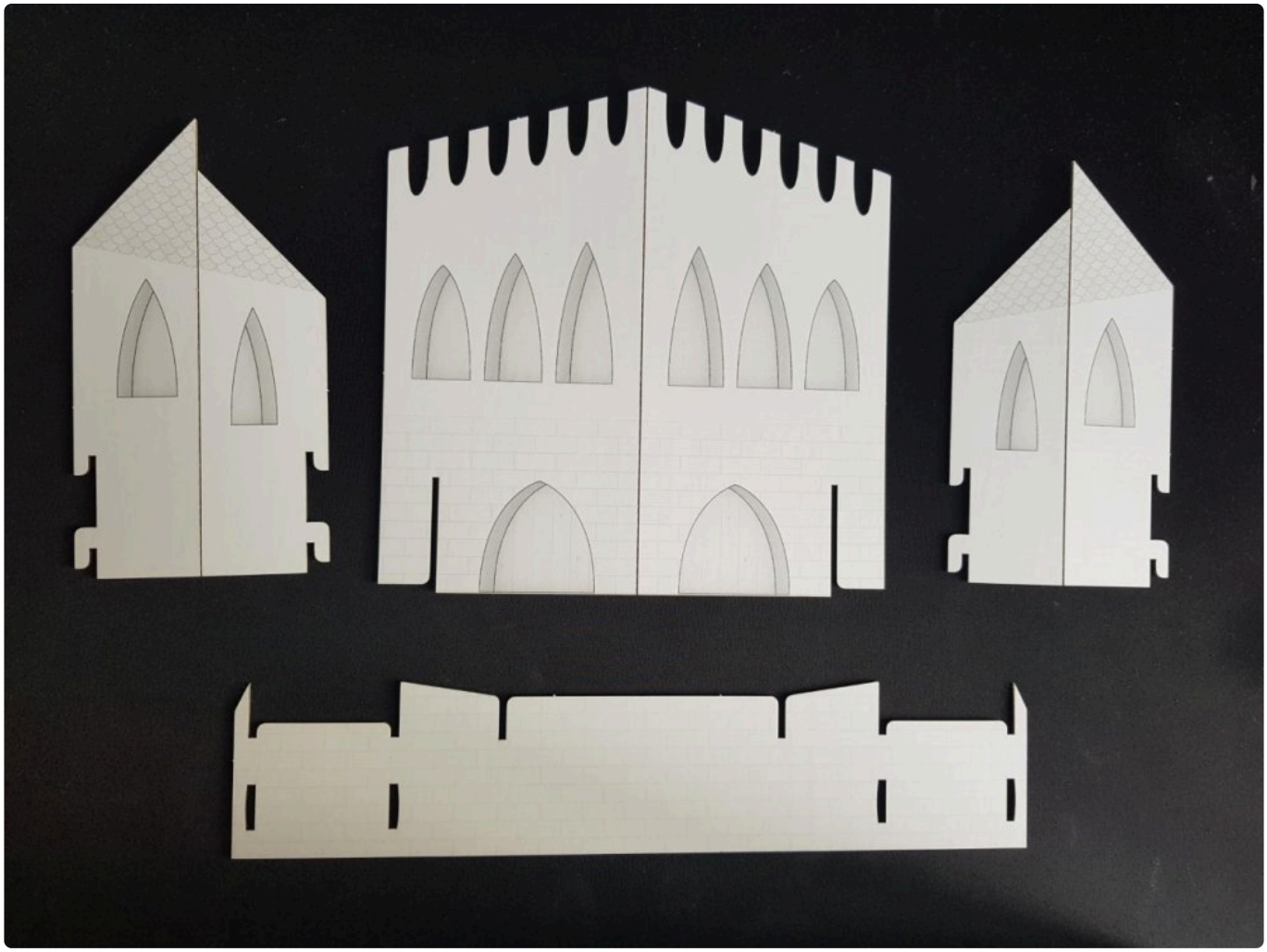
Place your corporate shapes in a mapping box.



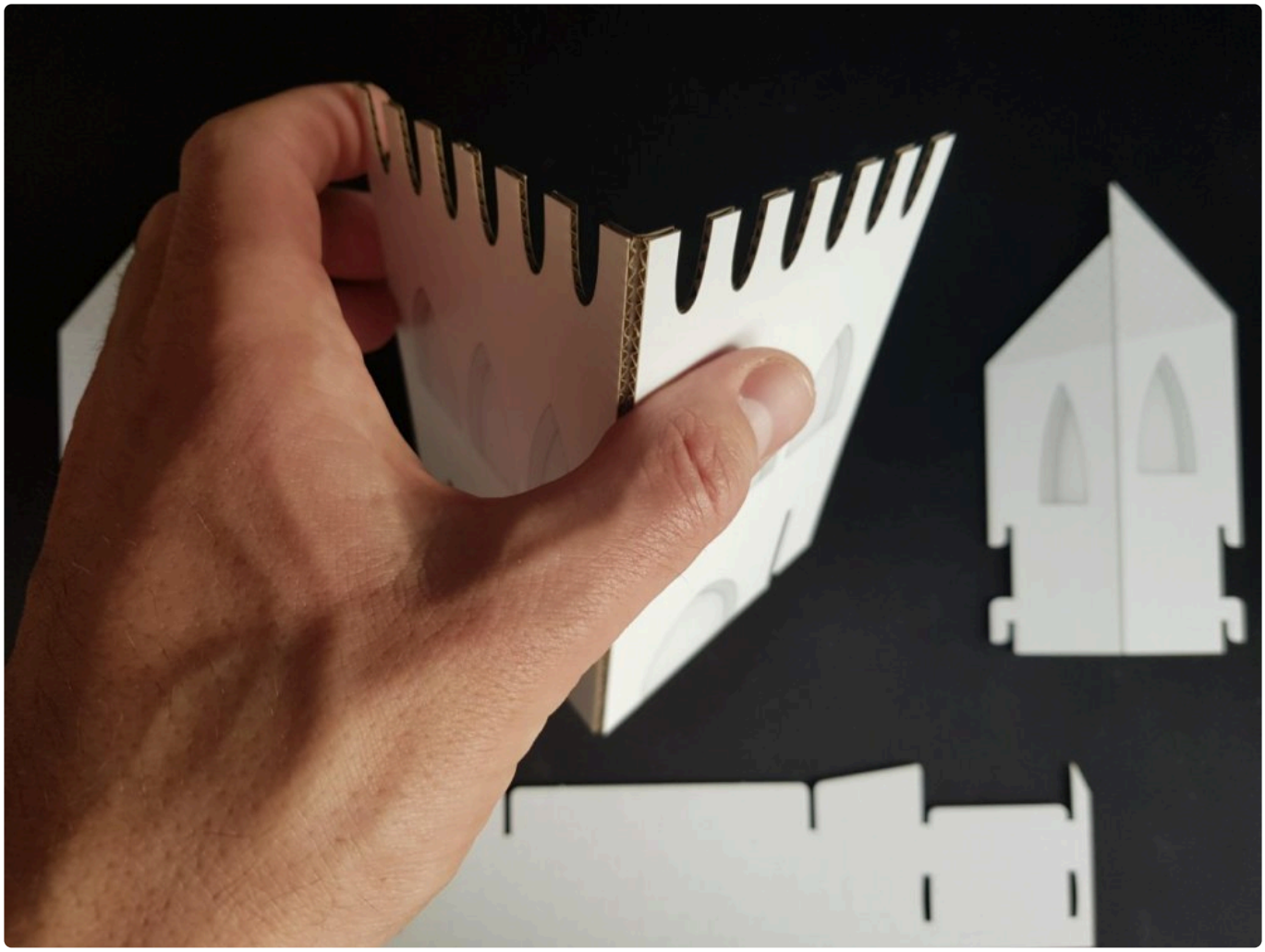
Install your video-projector to project on all shapes.
You can now follow the dedicated tutorial available in English and French.

Cardboard castle:

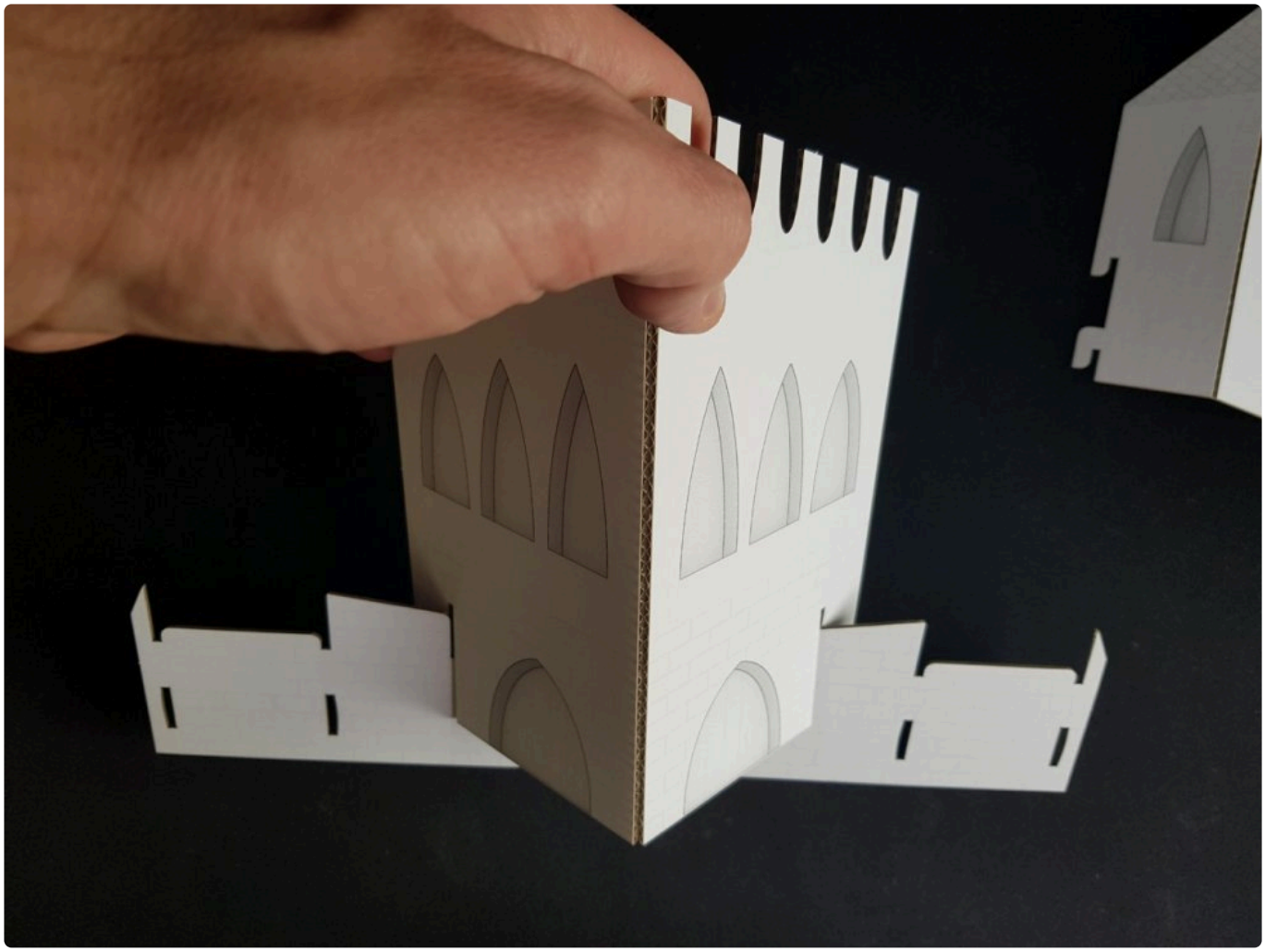
The castle consists in four pieces.
To determine where the left and right towers are, look at their roof!



Bend the central tower.

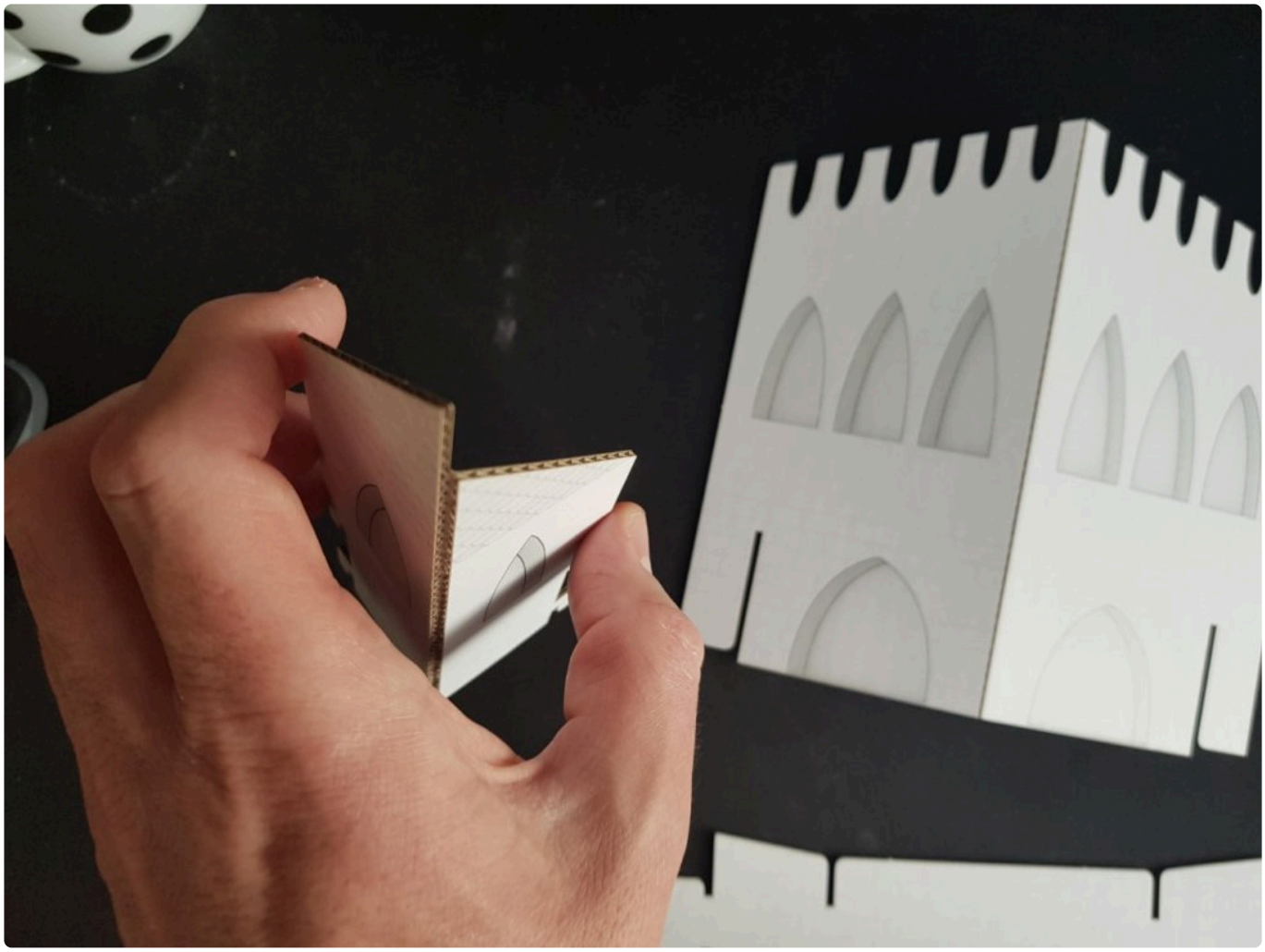


Then insert the central tower into the main shape.

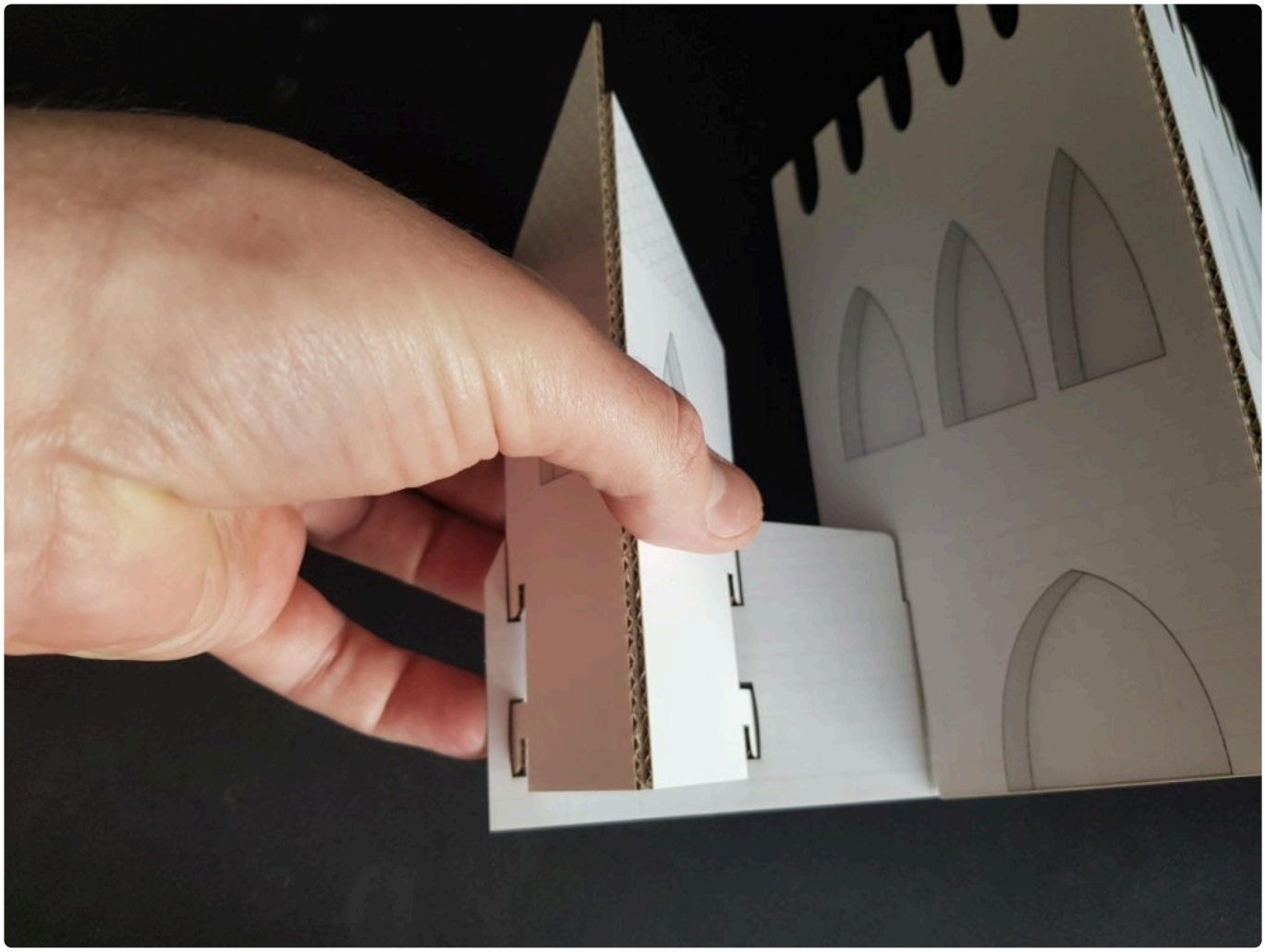


Prepare the left tower, and insert it into the main shape.

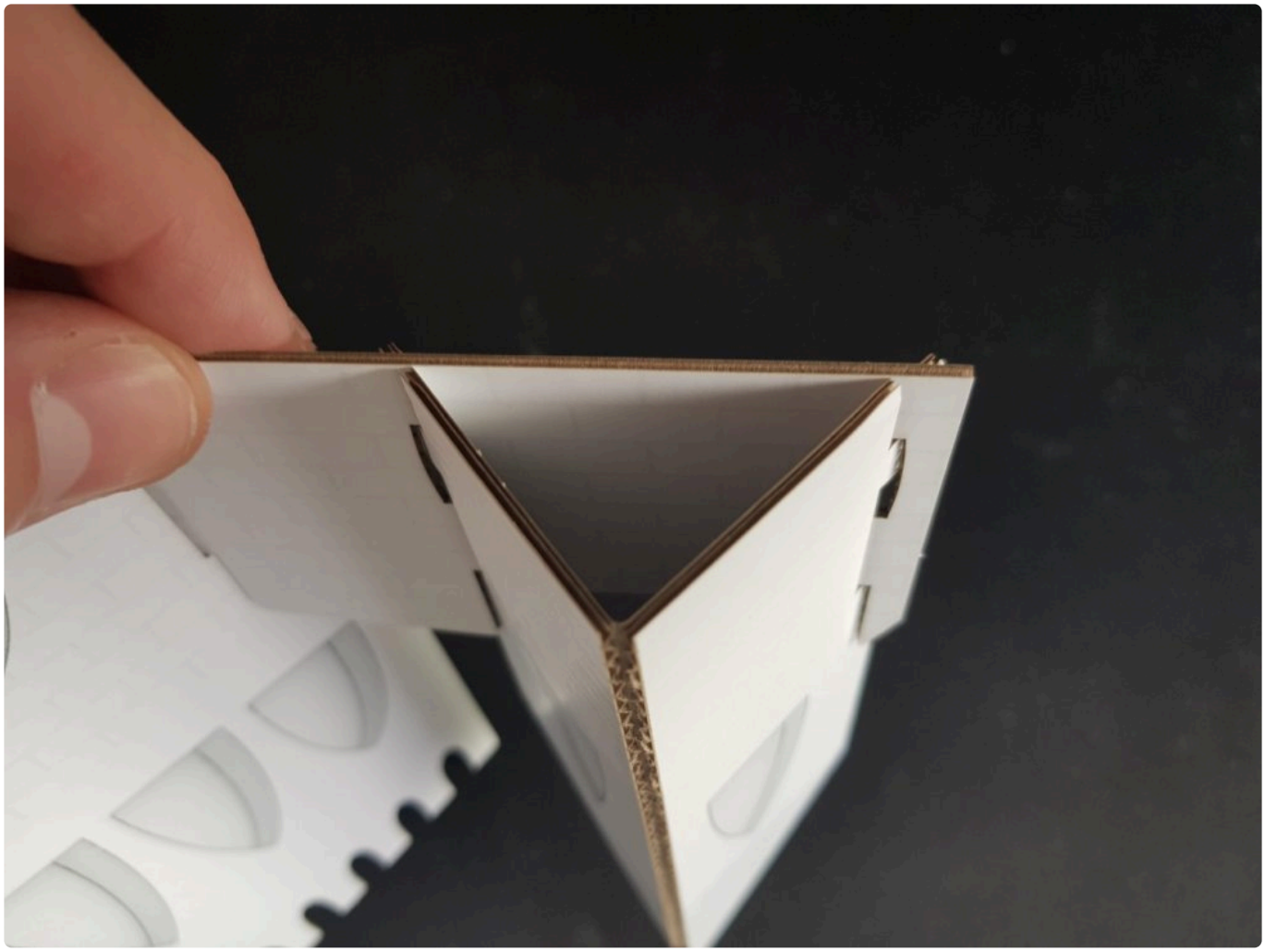
Adjust carefully so that the tower is aligned with the main shape.



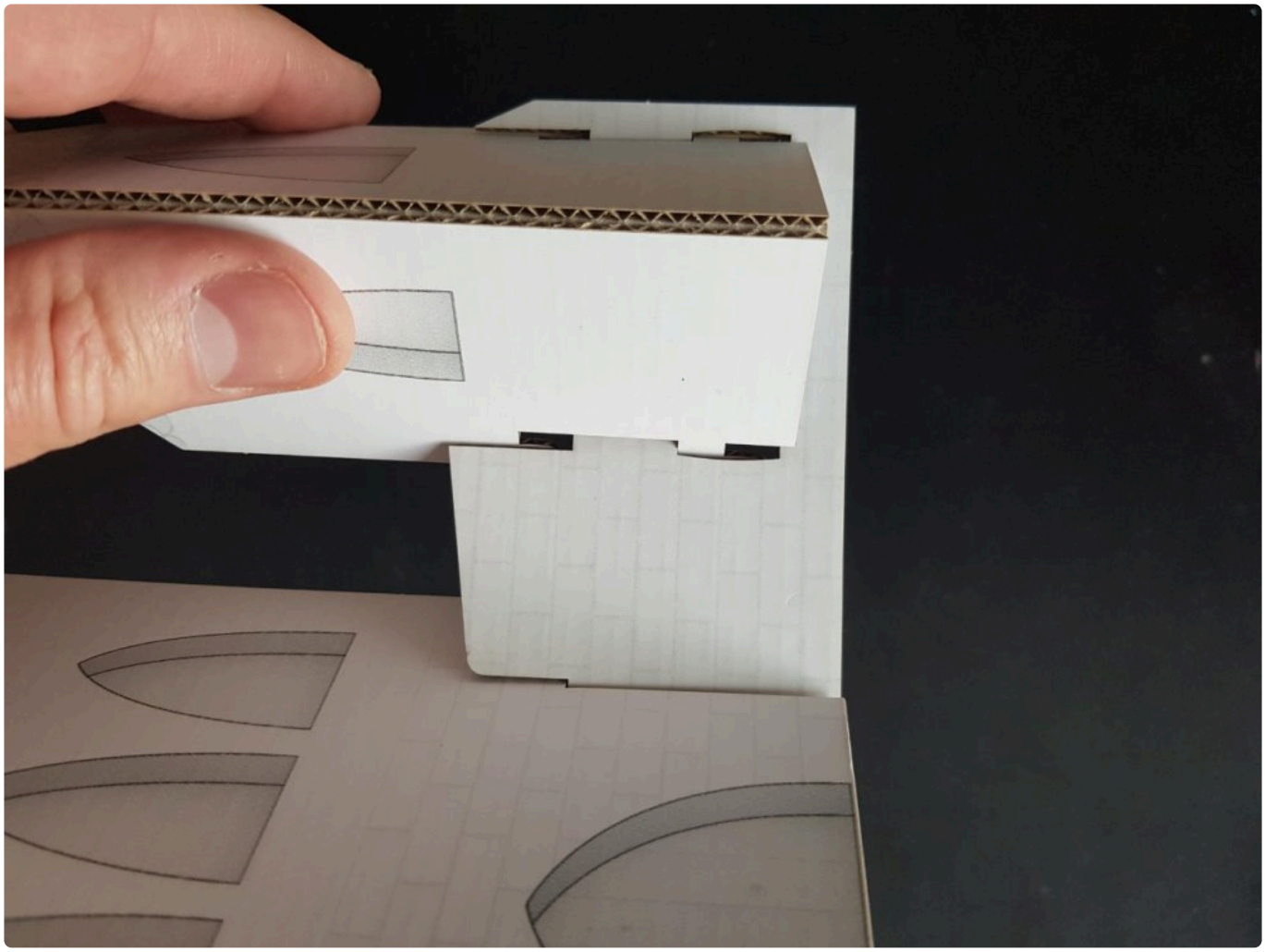
Prepare the left tower.



Adjust carefully to have an aligned tower on the main shape.

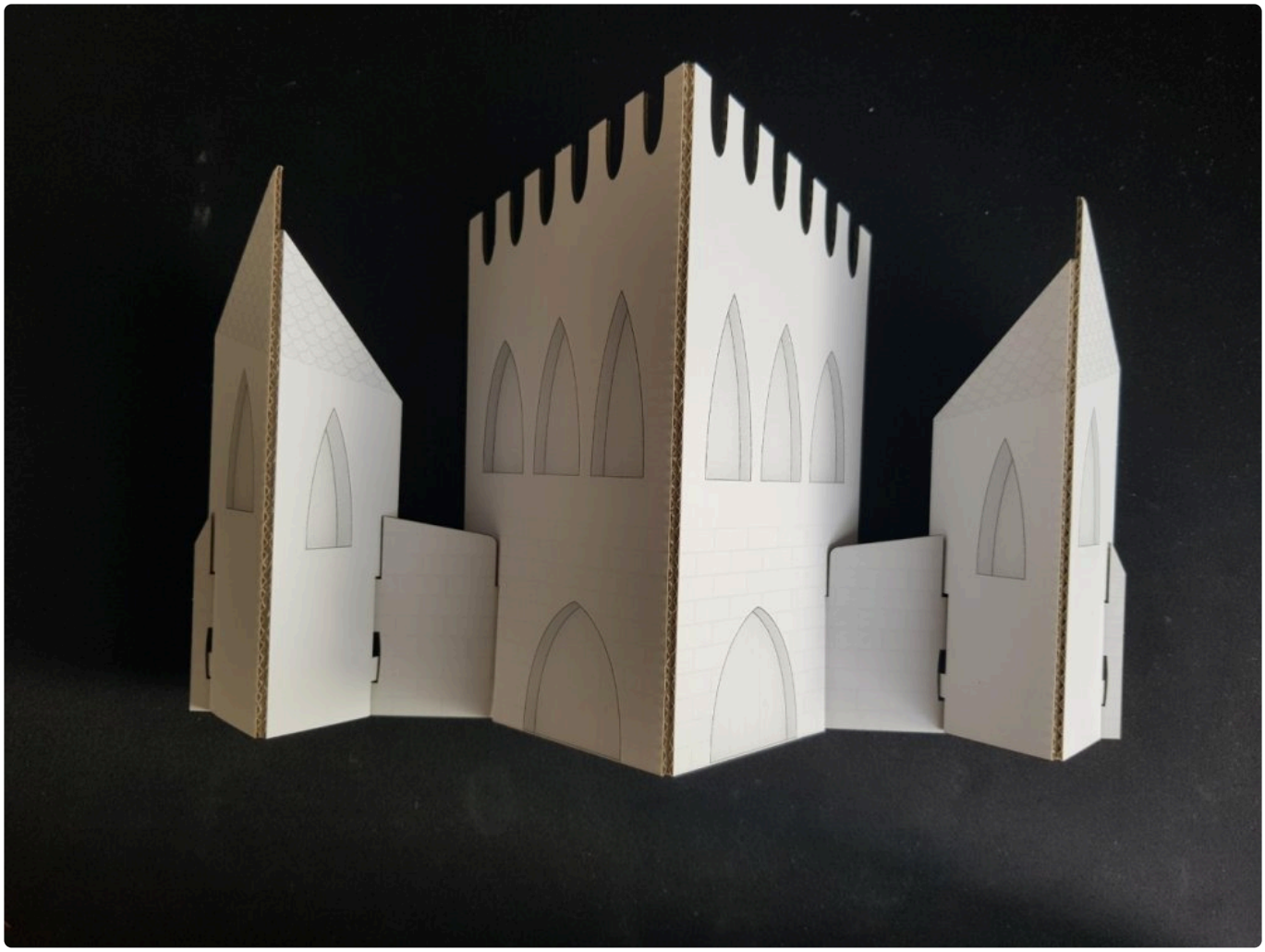


Prepare the right tower.

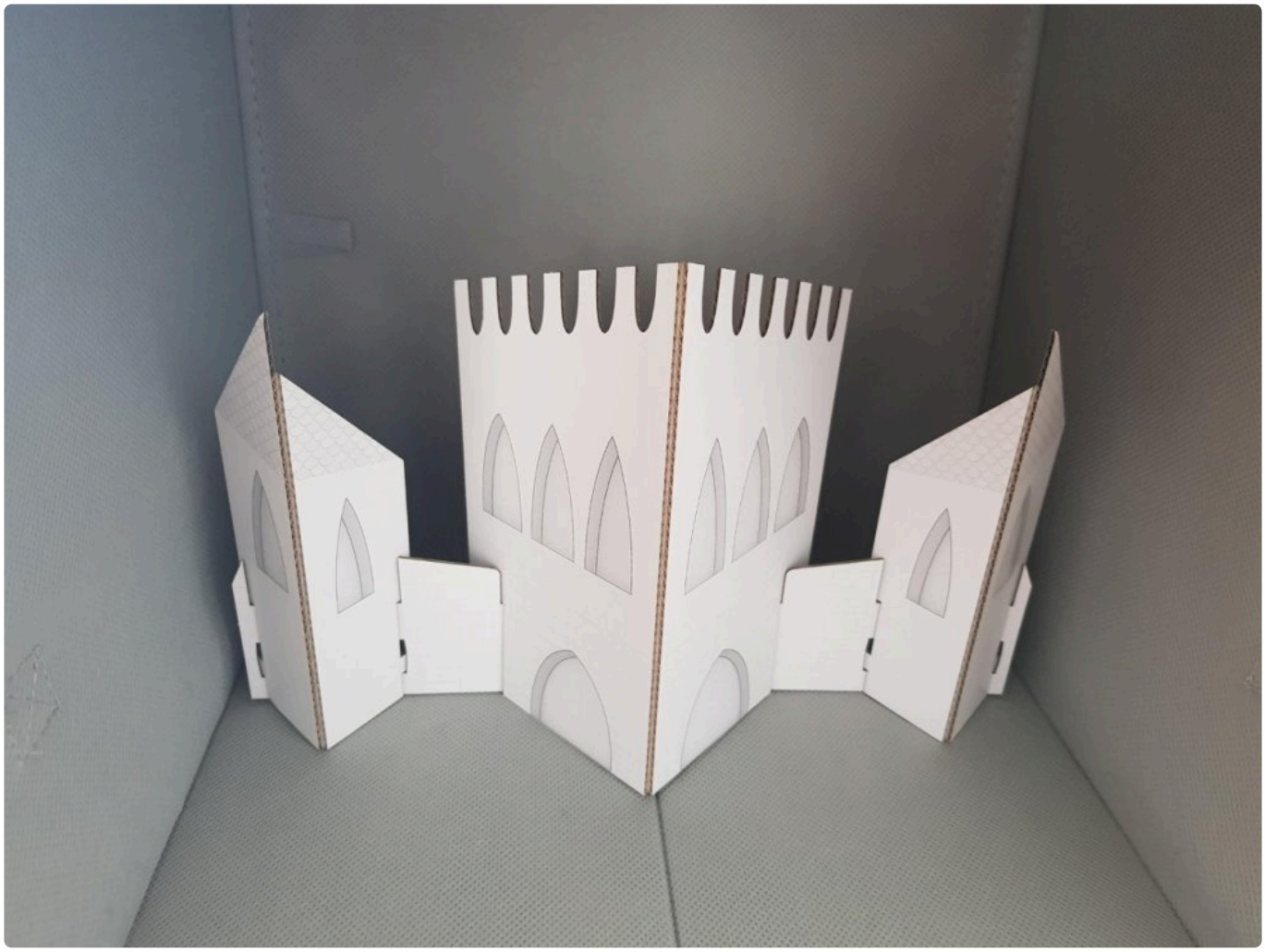


Adjust carefully to have an aligned tower on the main shape.

Your castle is ready!

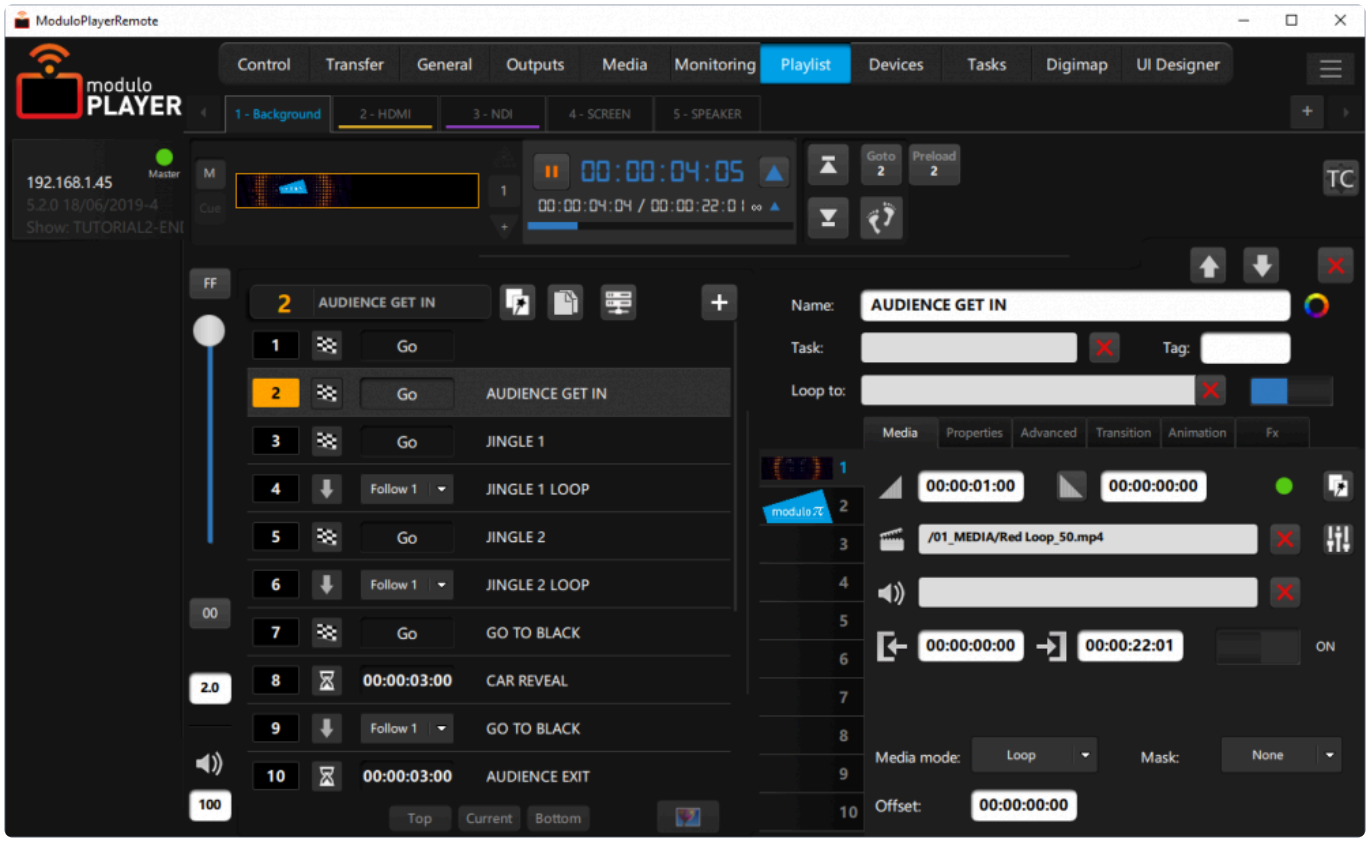


Put the castle inside the mapping box.



Install your video-projector to project on the castle, and follow the architectural mapping tutorial available in English and French.

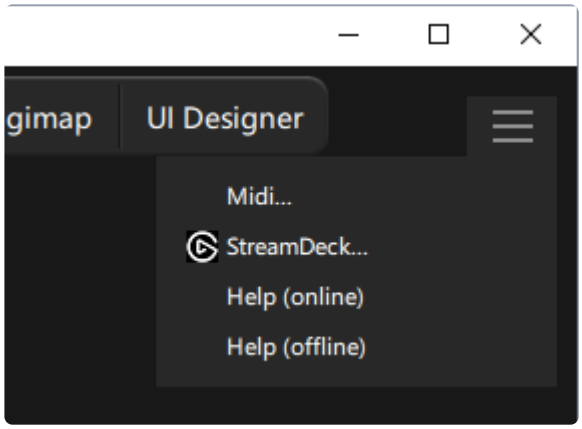
Modulo Player Remote



The Remote (control) software is easy to install on your notebook (Mac/PC).
The interface is made of several pages to help you manage your project easily, even if you are an occasional user.

The Remote software is “empty”, that is to say it does not contain any of your shows. All media and information related to a show are stored on the media server. This means you can disconnect/link the remote software at any time.
Once the remote software is installed, it allows you to set up/manage any Modulo Player server as long as it is/they are on the same network. The remote software grants you access to the server(s) settings, media, warping and blending tools, playlists, etc. and is necessary to encode your show.
Once the servers are all configured, you can make them work autonomously (for a daily outdoor «son et lumière» show).
The remote software will not be necessary anymore then. However, you can link the remote software to your network to handle the show at any time. The remote software is not protected by a dongle so you can set it up on several servers.

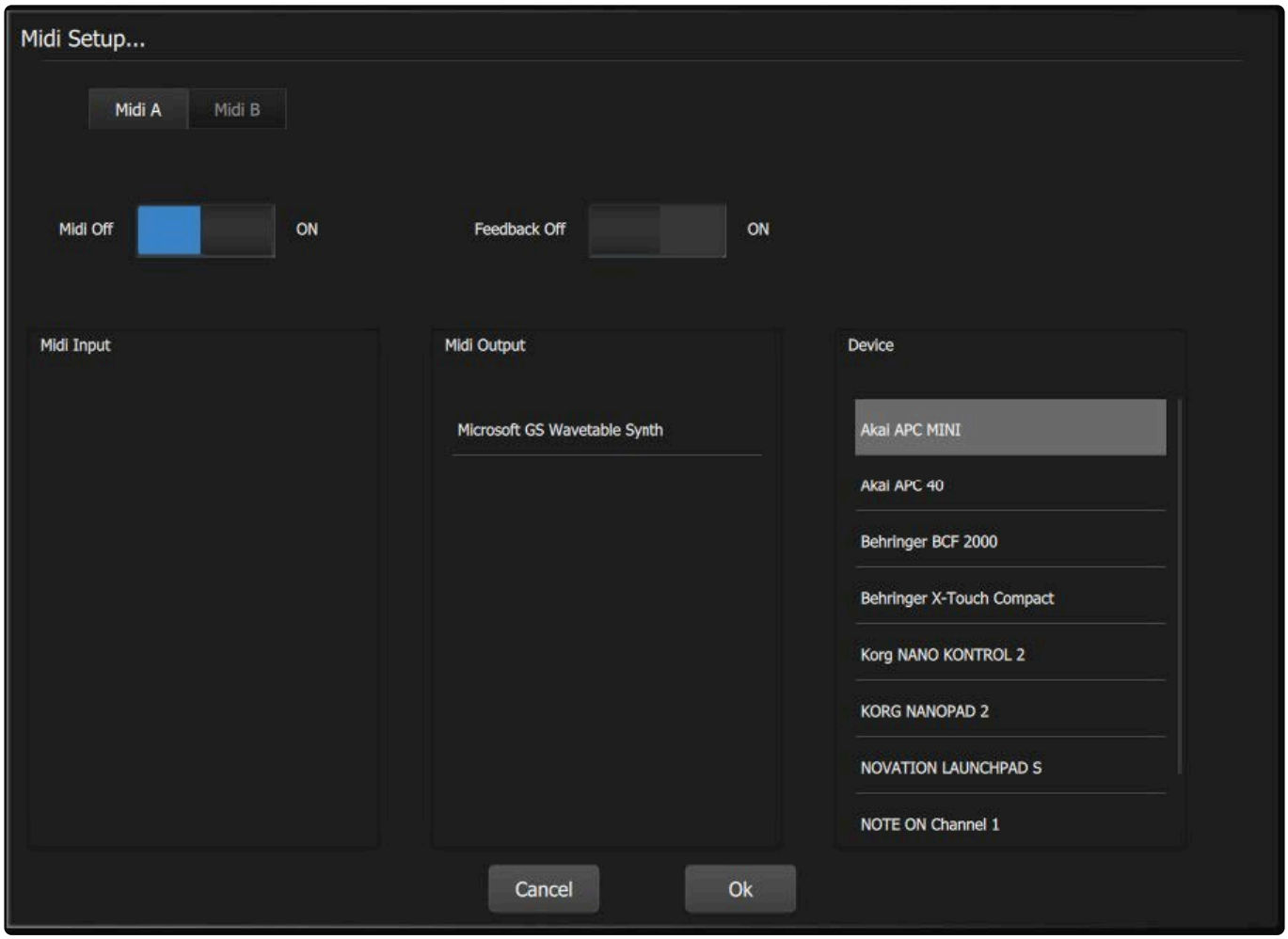
Top menu



You can click on the menu on the top right of the remote to have access to the following actions:

- Setup the MIDI controller on your Remote
- Setup the StreamDeck on your Remote
- Open the online manual (more friendly help than offline)
- Open the offline manual when you have no Internet connection

MIDI controller



The «MIDI» button allows you to connect midi devices to the Remote computer.
Via these devices you can trigger tasks to control your show or have access to Playlist control.

Select from the list of available devices such as:

Akai APC MINI:
Akai APC 40:
Behringer BCF 2000: Playlist access (Go cue prev/next/ Grand Master with feedback)
Behringer X-Touch Compact: Playlist access (Go cue prev/next/ Grand Master with feedback)
Korg NANO KONTROL 2: Playlist access (Go cue prev/next/ Grand Master NO feedback)
Korg NANOPAD 2: Launch Task
NOVATION LAUNCHPAD S: Launch Task
NOTE ON Channel 1: (generic for unidentified midi) Launch Task
CONTROL CHANGE Channel 1: (generic for unidentified midi) Launch Task

We recommend to u!se the Behringer BCF 2000 or X-Touch Compact to control Playlist that come with the feedback on Grand Master.
To Launch Task, we recommend to use a StreamDeck instead of a Midi shotbox because it's more flexible and with LCD Button.

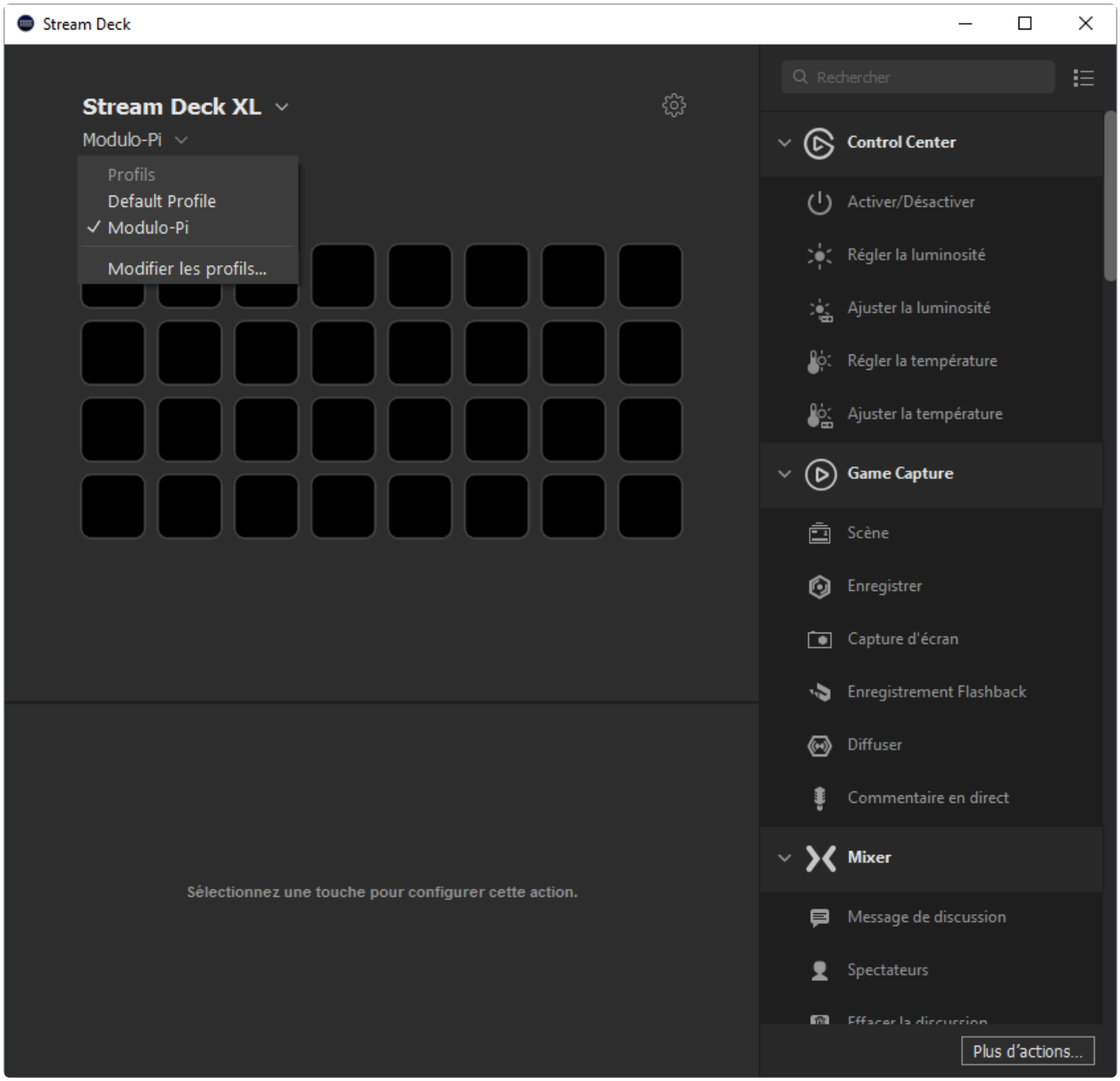
Once you disconnect/re-connect a Midi from the remote you will have to re-select it from the list.

Stream Deck

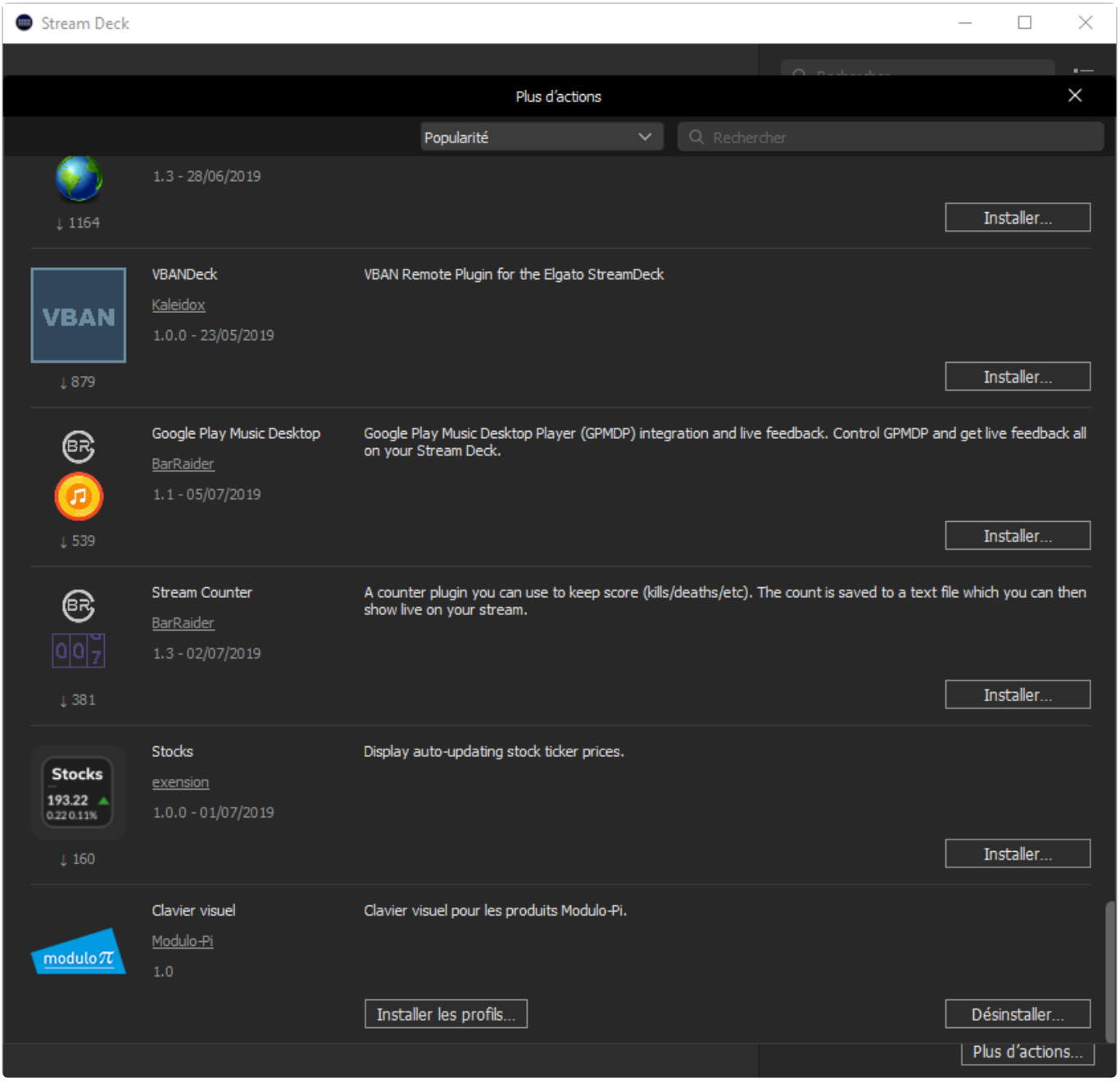
Stream Deck installation:

Go on the Elgato website to download the Stream Deck application.
Download and double click on the Modulo Stream Deck plugin (one unified plugin for all Modulo Pi applications supporting Stream Deck, compatible MAC and PC).
At the end of the installation, you will be prompted to install the profile: Choose Yes to install the profile.

Then, you can select the Modulo Pi profile and use it.



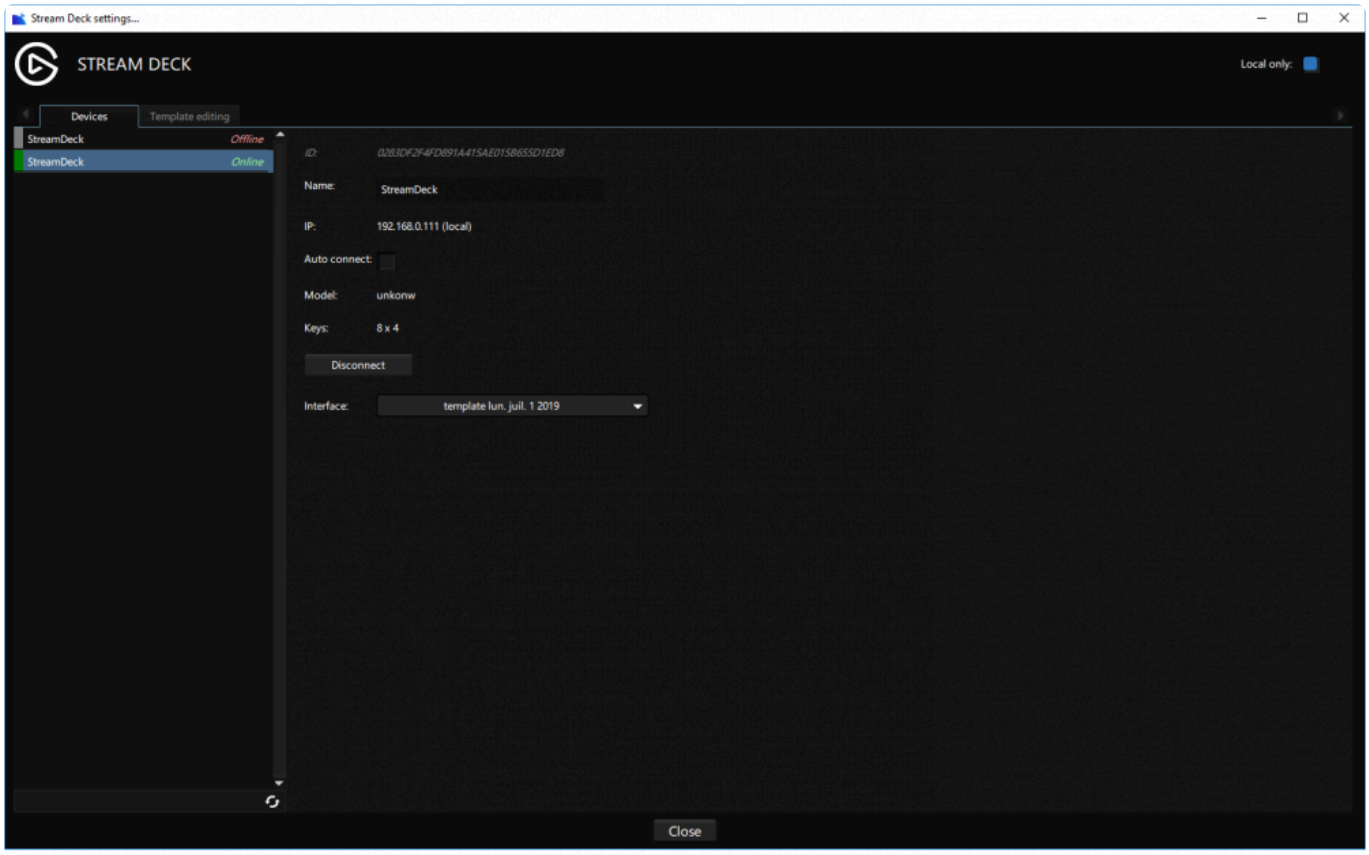
If the profile is not installed, go to “More action”, scroll to find the Modulo Pi Stream Deck plugin and re-install the profile.



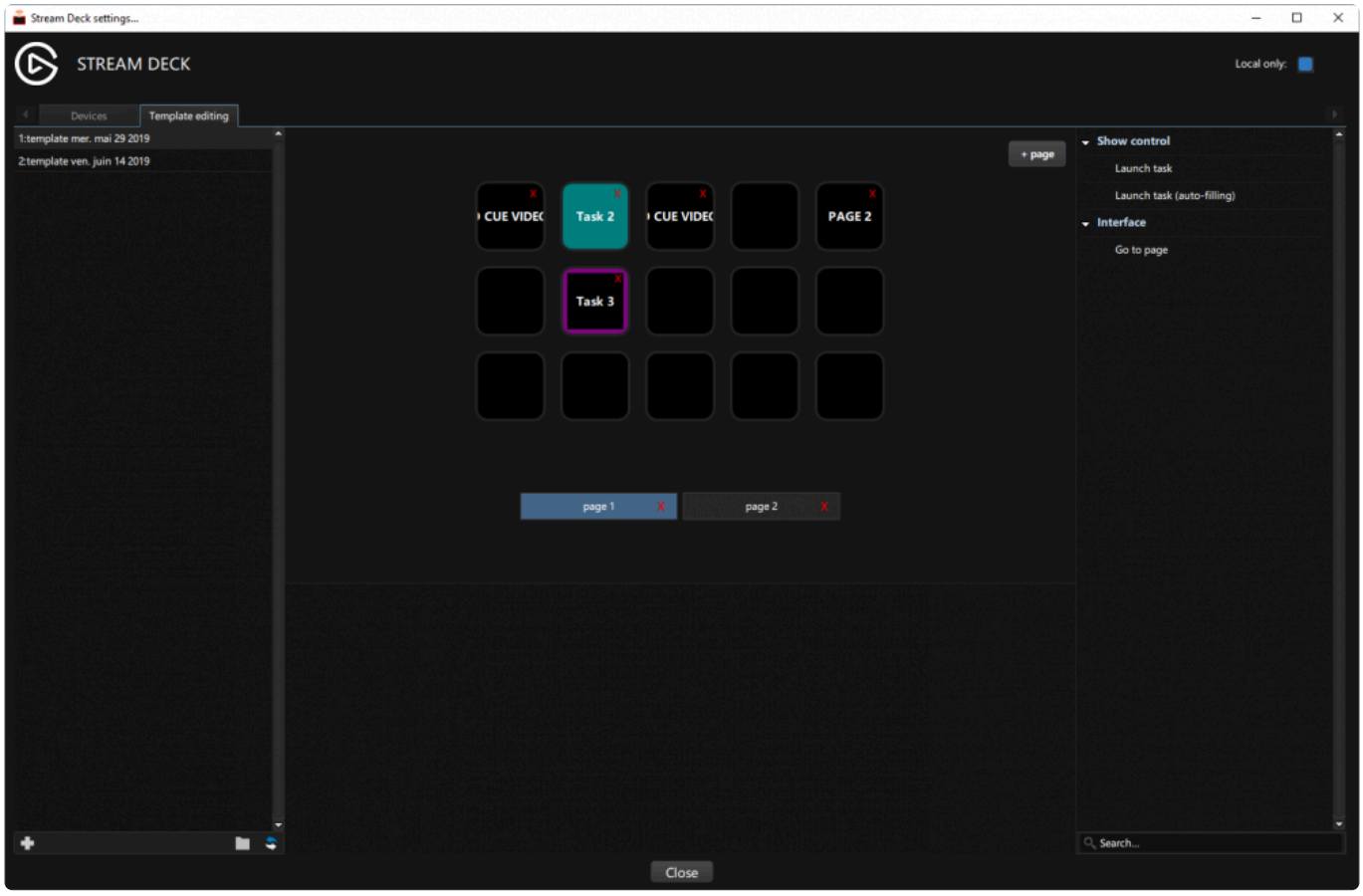
Modulo Player remote:
Open the Modulo Player remote and go the menu list, choose Stream Deck.

Modulo Player Remote:

select the menu and choose “Stream Deck”. A window will popup:



On the first tab, you can list all available Stream Deck pads on your computer or a computer available in the network.



On the second tab, you can create your user interface template (You don’t need to have a physical Stream Deck connected to prepare a template).
It’s possible to re-use theses templates on project or share theses templates.

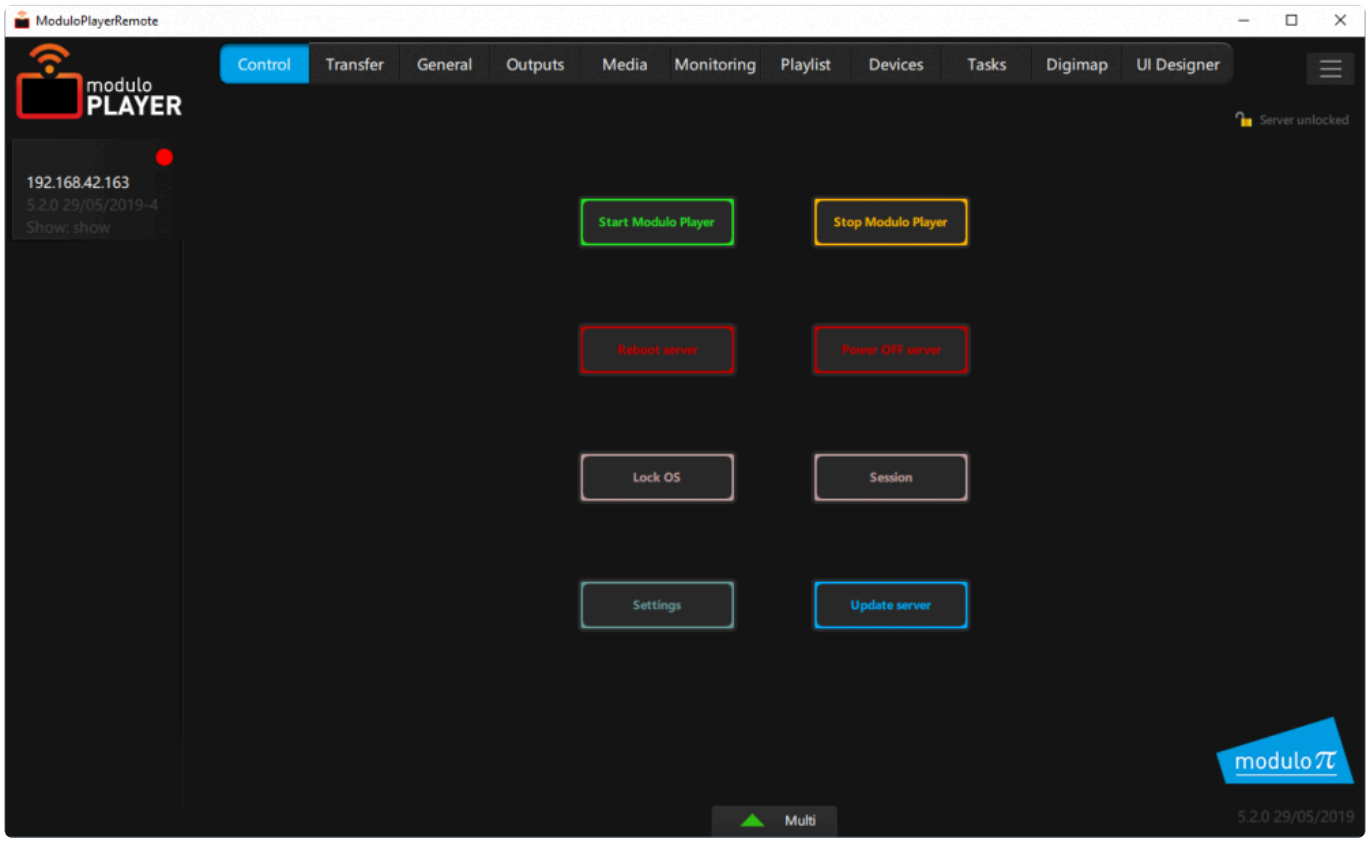
Click on the **+** button to create a new template. Choose the name of the template and number of columns and rows you have on your Stream Deck.
Select this template and drag&drop an action from the list in one button.

You have the following actions that you can drag:
Launch task
Launch Task (auto-filling)

Go to page

If you select an action with auto-filling, it allows you to add a lot of actions in one click. A window will popup:
Choose the Method: the first icon indicate that when the auto fill reach a new lign, it will start from the first column.
the second icon indicate that when the auto fill reach a new lign, it will start on the same column that your initial button.
You can enter the start index: For example if you use this for Launch Task and enter a start index of 10, it means the first button will launch Task 10, the next one Task 11, …

Control

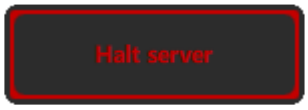


The Control tab is made of the following buttons:

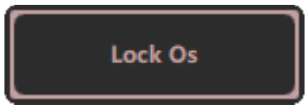
: Start the Modulo Player application on the media server. If the application is already running, this will relaunch the application

: Stop the Modulo Player application on the media server

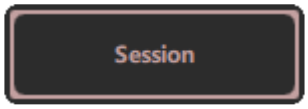
: Restart the media server



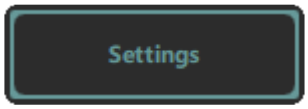
: Shutdown the media server



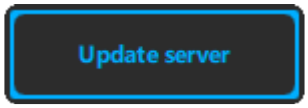
: Lock/unlock the operating system. The media server will reboot. This feature is only available on Windows embedded servers. (NB: The padlock on the top right hand corner of the interface will tell you if the server OS is locked or not.)



: Quickly recall a show and its associated folder project



: Global media server setup

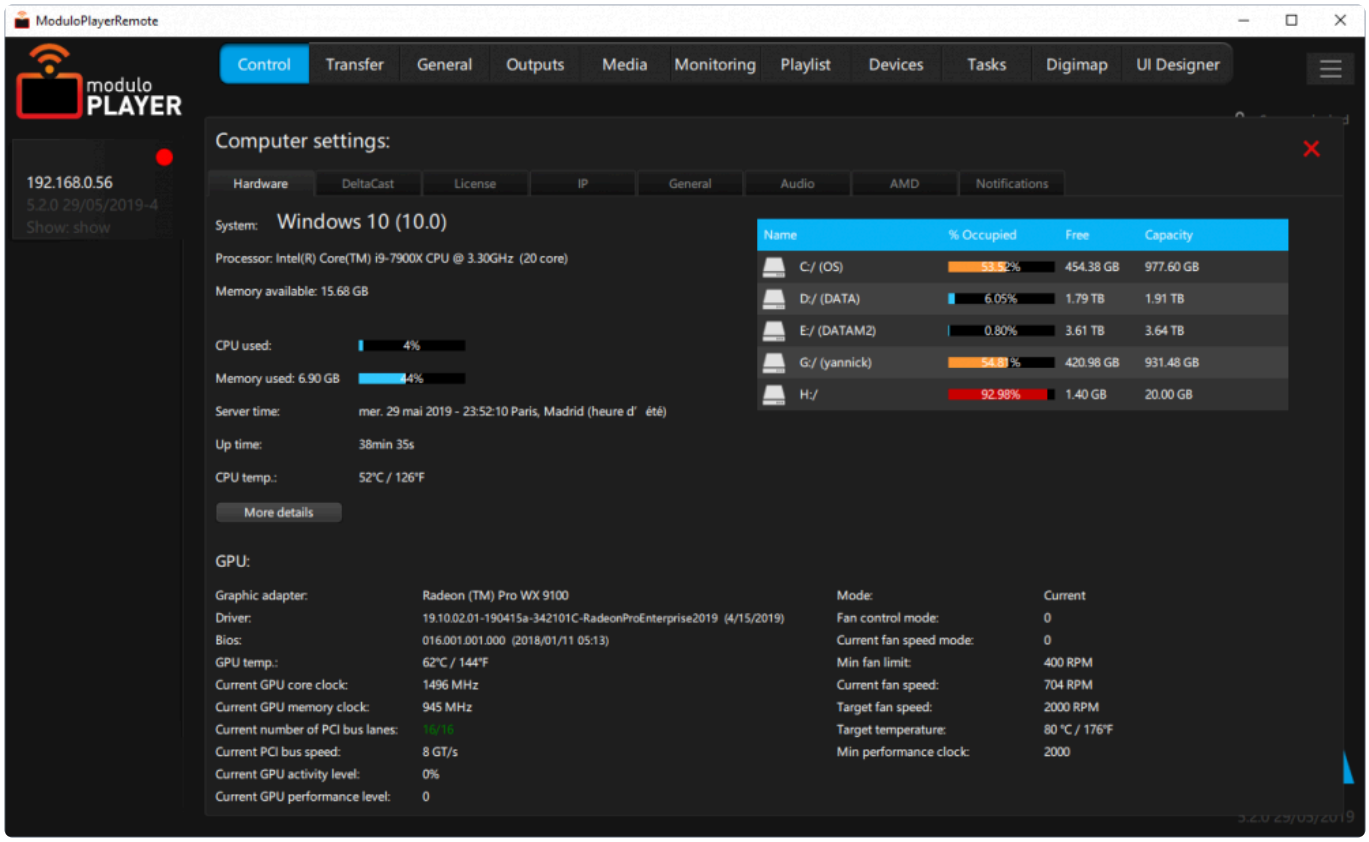


: Remotely update the Modulo Player application. Select the correct installer in the Windows explorer panel

Settings panel:

When you click on “settings”, it will open a settings panel with several tabs. Most of these settings need to be set before starting the Modulo Player application.

Hardware



In the “Hardware” tab, you can find information about the server’s system:

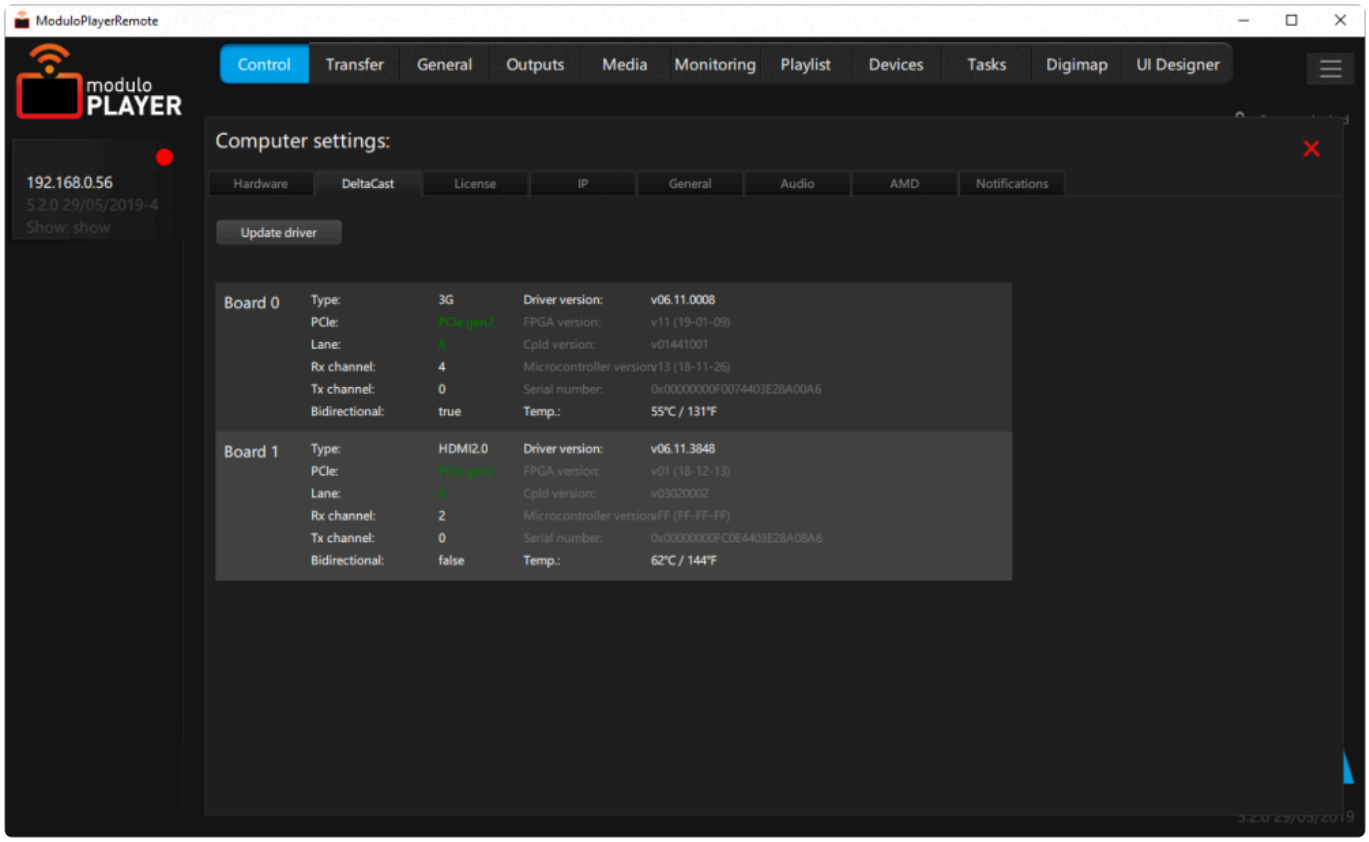
- Information about the operating system, processor, CPU, memory used, up time (time since last shut down)
- Information about the GPU such as temperature, current GPU core clock frequency, number of PCI bus lanes, PCI bus speed, GPU activity level, GPU performance level

Click on “More Details” to open a more detailed list of the Server’s hardware state.
On the right, you have the list of hard drives with their respective capacity and their free disk space.

You can use this panel to check that your hardware is properly installed and safe.
You can check the following:
- RAM memory is fully available
- Hard drive is not full
- Temperature is not high
- Graphic card is installed on the correct Pcie slot: You can quickly verify that the “current number of pcie lane” appears in green.
> Also use this panel to find the bottleneck when having performance issue during playback.

NB: You can access the Hardware panel while the Modulo Player application is still running.

Deltacast list



This panel lists the available Deltacast live capture cards when they are properly installed on your system.
You can validate that your cards are installed on the right slot with appropriate settings in BIOS.
To have good performance, check that the value for field PCI and lane are in green. If you have any issue, please contact the support team.
Check that the temperature is not too high.

You can use this panel to install or update the Deltacast driver.

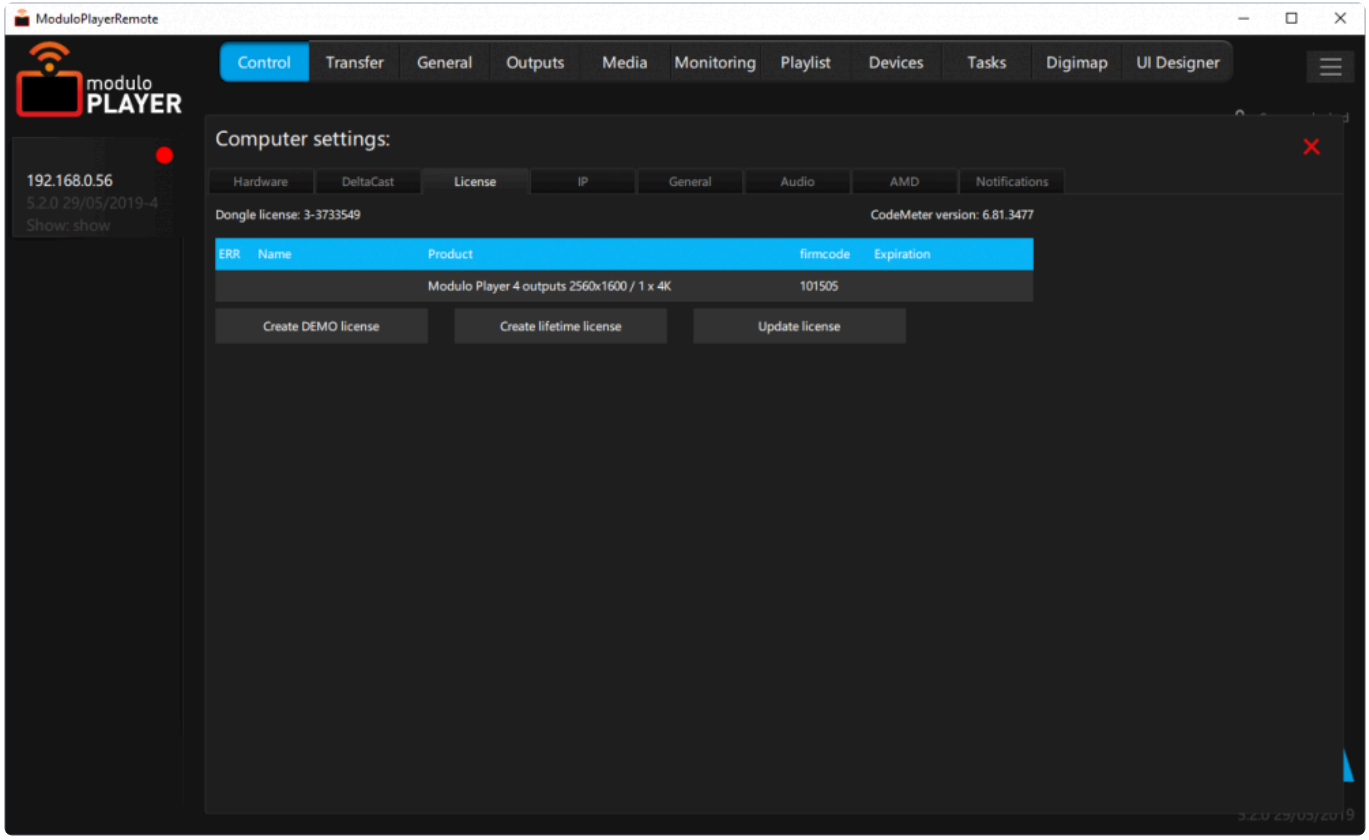
If you see a warning with “Driver/DLL mismatch”, just update the Deltacast driver with the button “update driver”.

✻ Updating the Deltacast driver: click on the button “update driver”.
A Windows popup asking to allow a non-certified driver may appear on screen (make sure to check all screens when on multiscreen setup!).
Please wait until the installation is finished (do not reboot before it is over). Sometimes, the driver updates the fimrware of the capture card and you need to wait before rebooting.

! Always use the driver integrated in Modulo Player application.
NEVER install a driver directly from the Deltacast website.

Both the driver and application version need to match to work properly.

License



You can check the software's license version and as well as the license's expiry date.

In this tab, you also have three buttons:

- Create a Demo (temporary) license
- Create a lifetime (permanent) license
- Update the already existing license

These actions will prompt you to a Windows browser where you can select a directory and a name for the license request file:

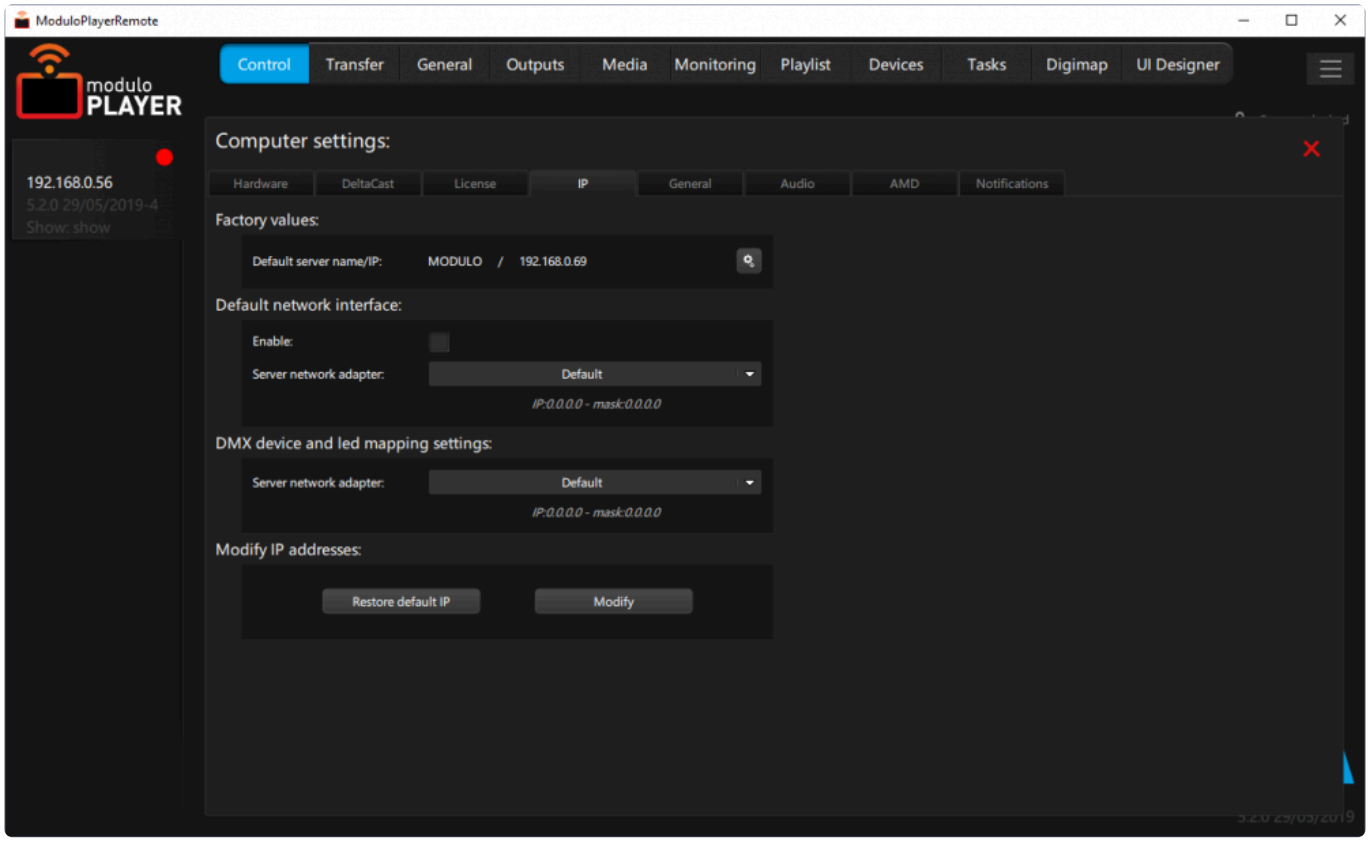
- Click on Save, to close the Browser, then
- Send us the request file at support@modulo-pi.com

Your query will be processed by our support team and you will receive the updated file as soon as possible.
Once you receive the updated file:

- Download and copy it to the remote computer
- To install the update, go to Control > Settings > License, and click on Update license

A Windows browser will pop-up: Select the updated license file, click on open.
Once the dongle is updated, a notification will appear instantly on Computer Settings indicating the procedure was successful.

IP

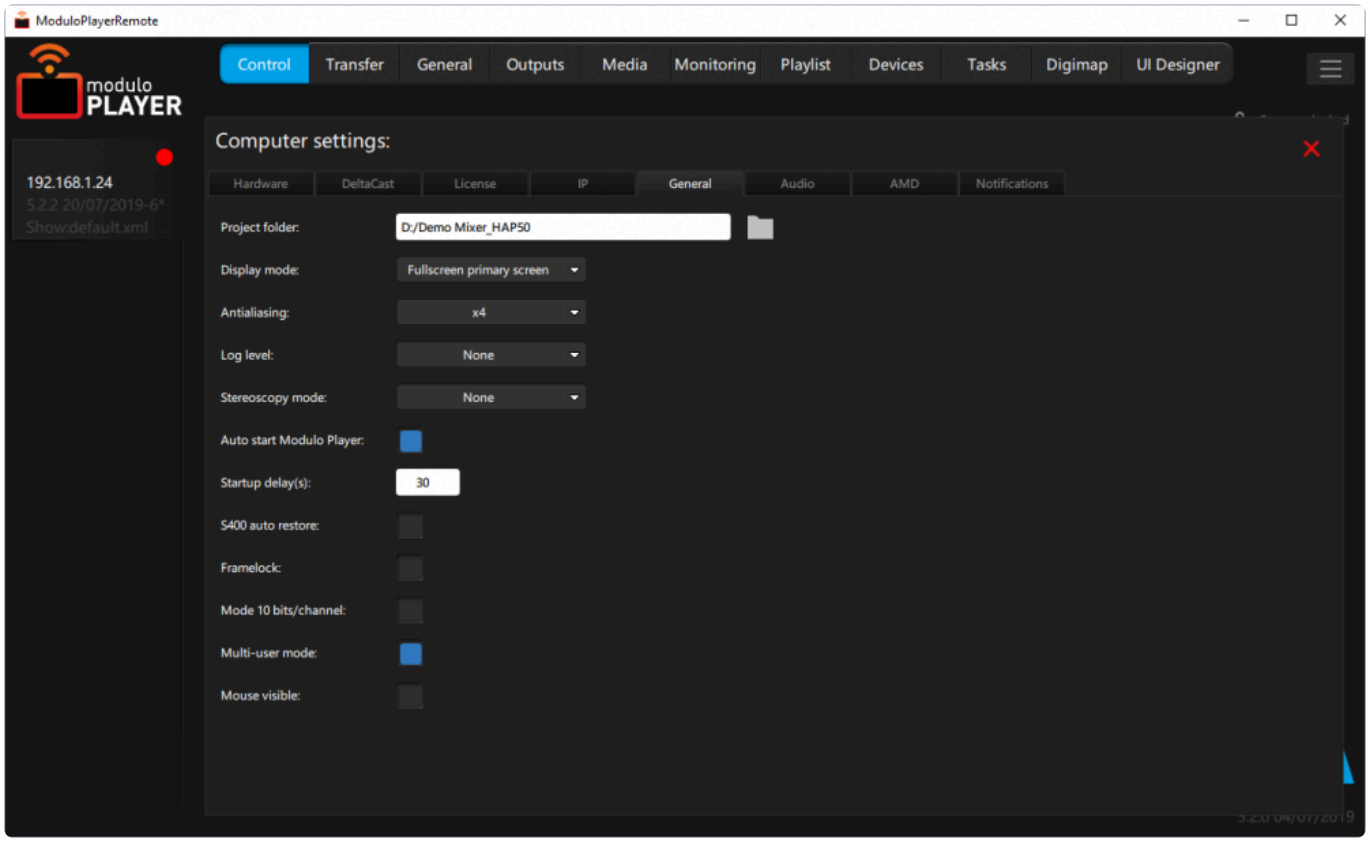


You can display the name of the media server.

When you have several active ethernet adapters on your media server, don't forget to specify the default network interface for control and synchronization of (all) your Modulo Player(s).
You can also specify a dedicated network adapter for the DMX devices and LED mapping outputs.

It's possible to remotely change the IP address of the media server.
You can restore the default IP or click on the button "modify" to assign a new IP address to your network adapter.

General



This tab is for general settings.

Project folder: Remotely select the project folder on your media server.
The project folder is always created and hosted in the Data hard drive of the media server (D:), never in the remote. The D: drive contains all media files, shows, backup files, etc.
You can create several media folders within the same project folder.
When launching a new show for the first time, the application will automatically create several sub-folders (backup, dmx, isf, maj, show, temp, thumb, userinterface) for internal use.
Don't place any media in these folders: they won't be accessible via the Media tab.

***Backup folder*:** Contains backup files

***Show folder*:** Contains all show .xml files
Note that you can copy & paste a complete folder in an external disk and save it for later use (clone computer, backup, recovery, etc.).
We highly recommend creating a specific folder for each new project.

Display mode:
Select the way Modulo Player outputs images: by default, the display mode is full-screen and the application is launched in the primary (Windows) screen.
Select "windowed" only if you want to set up a device (ex: set up a sound card).
Choose "Fullscreen second screen" when you use the demo version and want to use the primary screen to launch the Modulo Player Remote and the Modulo Player Demo application on your second screen

(like the external monitor on your notebook for instance).

Antialiasing:
Antialiasing option allows to smooth the edge and avoid jagged or stair-stepped lines on edges. Default value is x4.

Log level :
Default value is “none”. Only change this settings if the Modulo Pi support team asks you to.

Auto start Player:
Select Auto Start Player at Startup to automatically launch the display application when starting the server.
A few seconds delay is set between Windows start and the launch of the display to provide a reliable start of the application. It is selected by default.

Startup delay(s):
When “auto start player” is selected, you can then adjust the startup delay (if you have some extra device to load on your computer before launching the application, and to avoid the dongle not being properly detected).

S400 auto restore:
The setup of the AMD synchronization S400 is not persistant after a reboot or any other change (if you loose the synchronisation signal for instance).
If you have previoulsy saved the S400 setup on the server, you can activate this option to allow Modulo Player to restore the correct setting automatically.
See S400 setup page for more information.

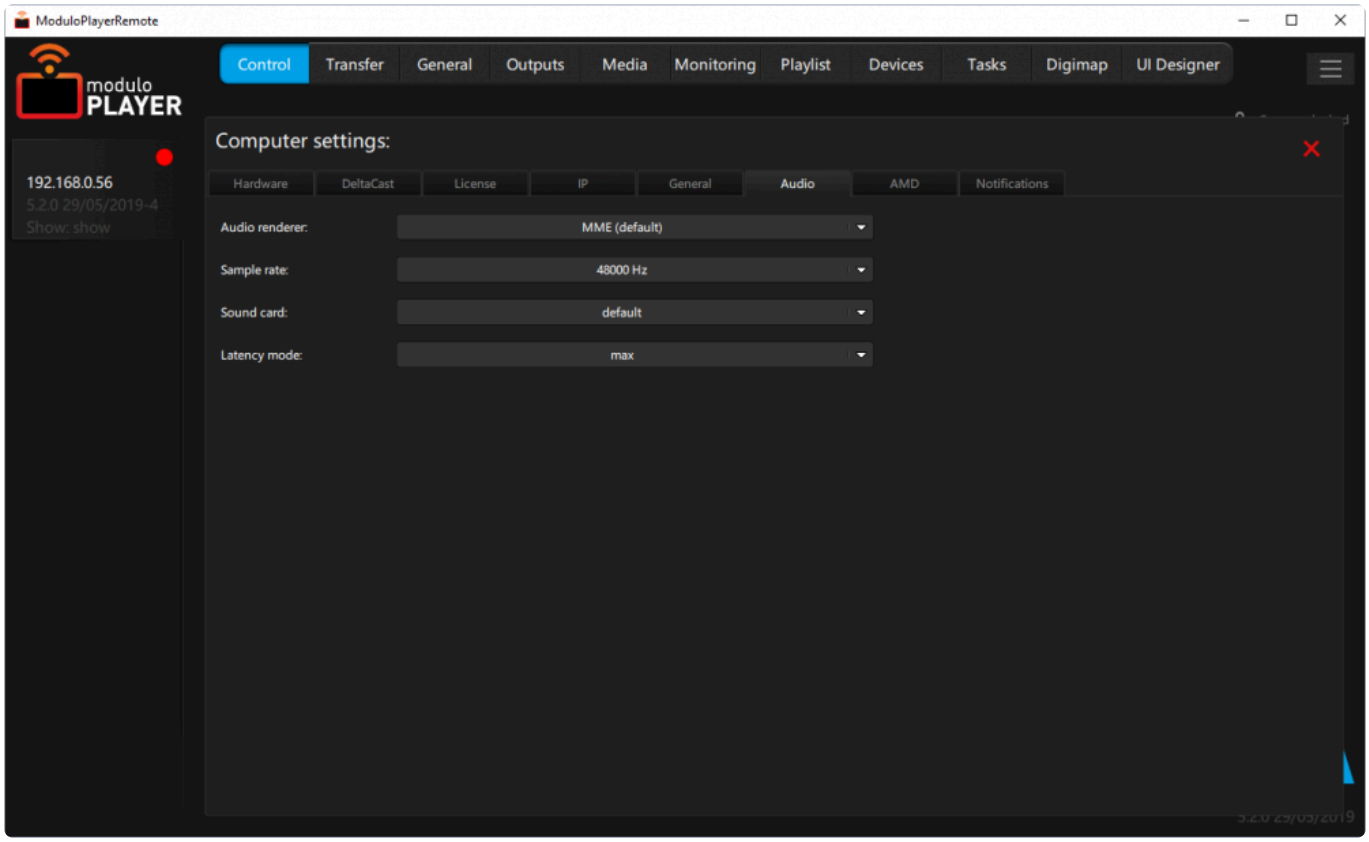
Framelock:
When using a S400 card after a proper setup, use the framelock feature to allow a more accurate synchronisation between servers.
See S400 setup page for more information.

Mode 10 bits/Channel:
Enables a 10 bit workflow. You need to activate 10 bit support in advanced settings AMD when using a Windows 7 OS.
If 10 bits mode is activated, Apple ProRes mov file will be decoded using 10 bits/channel. This setting is also usefull when using an extra Modulo Player playing Quicktime uncompressed YUV10Bits or DPX with 12 or 16 bits per channels.

Multi user mode:
Allows several Modulo Player remotes to simultaneoulsy connect on the server (activated by default).

Mouse visible:
Mouse still visible when fullscreen if activated (disabled by default).

Audio



You can choose the renderer mode and the soundcard to playback sound.

MME: You can set up the audio rendering engine. By default, Modulo Player uses the Windows audio mixer (MME) to play 44.1kHz or 48kHz stereo audio files (up to 7.1 depending on your sound card).

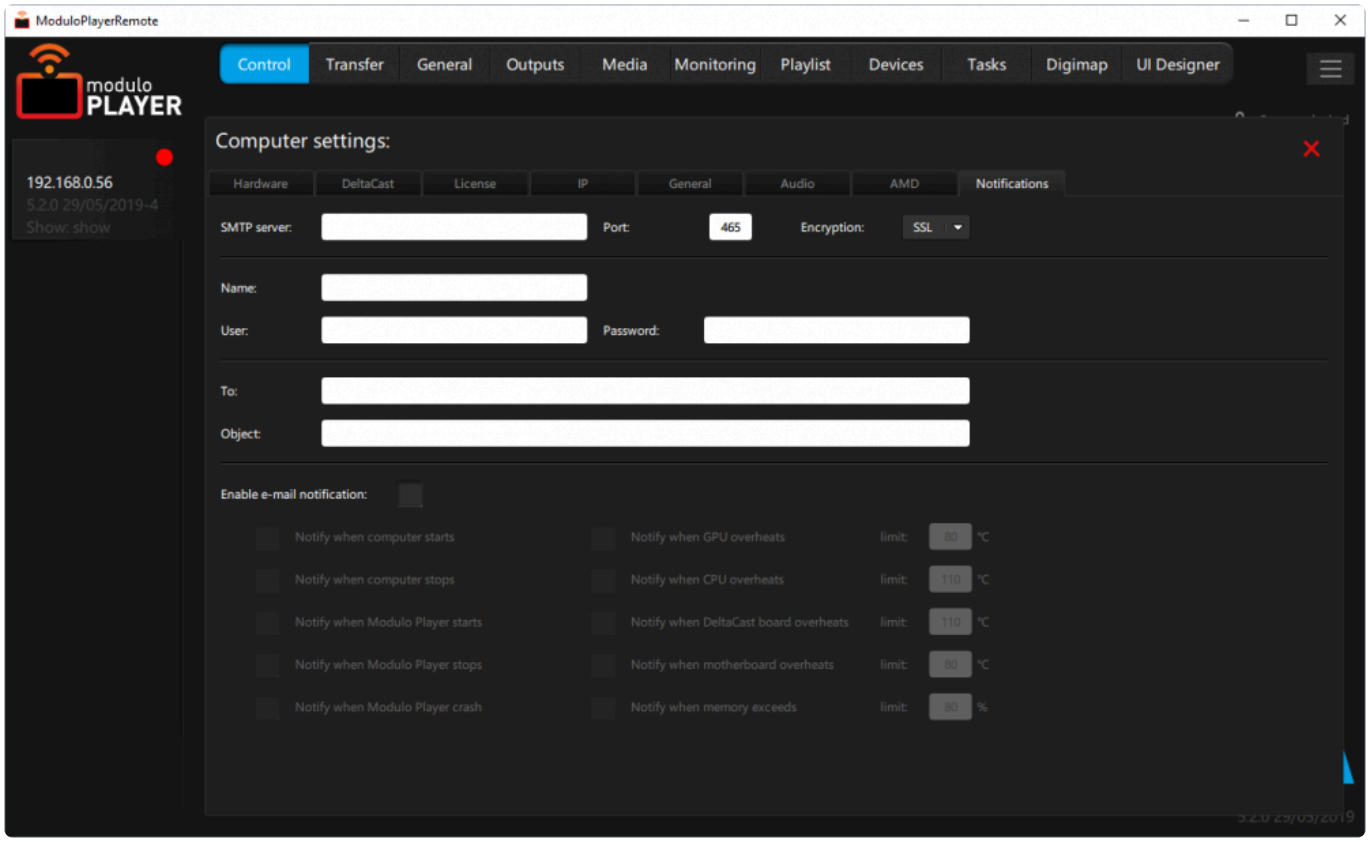
***ASIO*:** If your sound card can handle the ASIO audio rendering engine, use this to have a lower latency or a higher number of outputs (Audio Pro card only). In this mode, you have to select the sample rate in the setup beforehand (44.1kHz or 48kHz) and only play audio files that match this sample rate.

***Latency mode*:** You must use the “max” latency. Even with this settings, the latency will be very small. Please note that to avoid clicks, it’s better to have the maximum latency.

> ! USB 2.0 sound-cards should always be plugged in a USB 2.0 port.
> The sound card should always be on “Power On” and plugged in the server before launching Modulo Player.
> If the card is accidentally unplugged during the show, you should restart the Modulo Player application only after re-plugging it in.

> ! Virtual Audio Soundcard: We strongly recommend you use a hardware Pcie or USB soundcard instead of a virtual sound card (for example for Dante).

Notifications



You can setup the email notifications in this panel.
You need to create an email account that you will use to send emails to.

***SMTP server*:** Enter the SMTP server address provided by your email provider.
Choose the correct port and the encryption method following the instructions of your provider.
***Name*:** The name you use when sending emails
***User-Password*:** The login and password you use to connect to your email server to send the email
***To*:** List the recipients email addresses. Make sure you separate them with " ; ". The recipients are the people who will receive the email notifications
***Object*:** Title of the email notification (for example the location of your installation)

Check "enable email notification" to enable the automatic sending of email notifications.
If you check "Notify when computer starts", each time the server starts, an email indicating your media server has started will be sent to the recipients listed in the "TO" field.

For some notification, you can adjust a value.
For instance, you can set up a temperature limit for the "Notify when GPU overheats" mode.
When the GPU reaches the set limit, an email notification indicating that your GPU is overheating is sent to the recipients list.

You can send emails with the "Modulo Player" device.
The same email account and settings will be used to send this email.
For instance, you can use it to launch a task at each loop of the show to check that the show is playing,

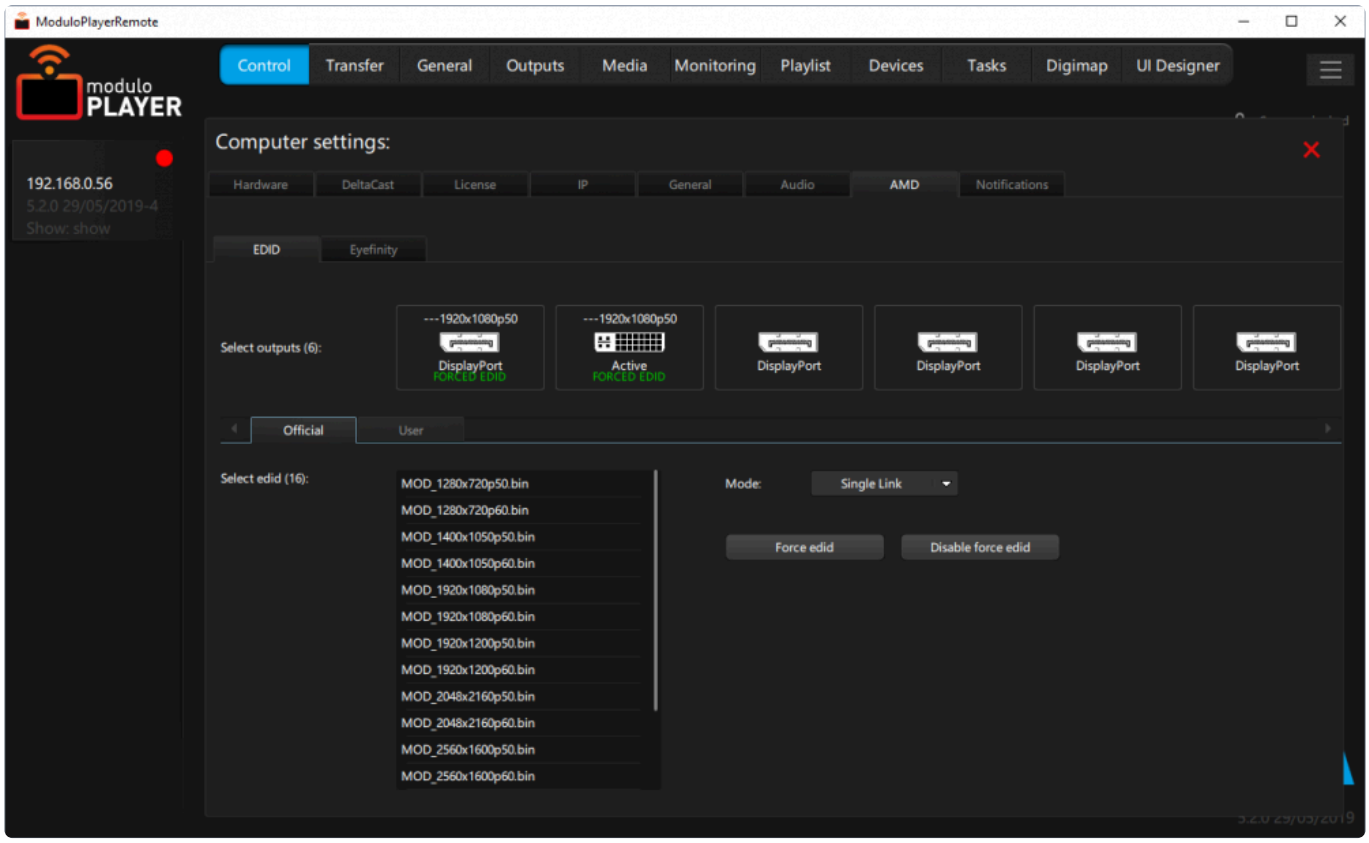
sending an email to your customer.

AMD

This panel is divided in two tabs: EDID and Eyefinity tabs.

> ! If you use the try&learn version on your notebook, some features won't be available (hardware dependant). It's not possible to use the EDID, Eyefinity.

EDID:



This tab allows you to remotely force the EDID of the output directly in the graphics card. It works with AMD FirePro/RadeonPro graphics cards only.
EDID forcing allows you to force a resolution and frequency for the output, and to start your computer in the correct resolution when nothing is plugged or not powered (a video projector in standby for example). Forcing EDID is one of the first step before starting a new project.

You will see the list of all outputs with the name of the EDID if there is something connected.
If the EDID is forced, "FORCED EDID" will be displayed in green next to the output connector.

You can then select the outputs you want to force with an EDID.
Choose an EDID among the list of validated official EDID.
Then choose the correct Mode before applying the EDID:

Single Link: If your resolution is up to 1920×1200@60fps
Dual link: If your resolution is more than 1920×1200@60fps but less than 4K@50fps
4K50-60P: Choose this option when you want to do 4K on a single output (DP or HDMI 2.0).
Once you have chosen, click Force EDID.

Disable Force EDID: This removes forced EDID.
First, select the outputs where you want to deactivate EDID.

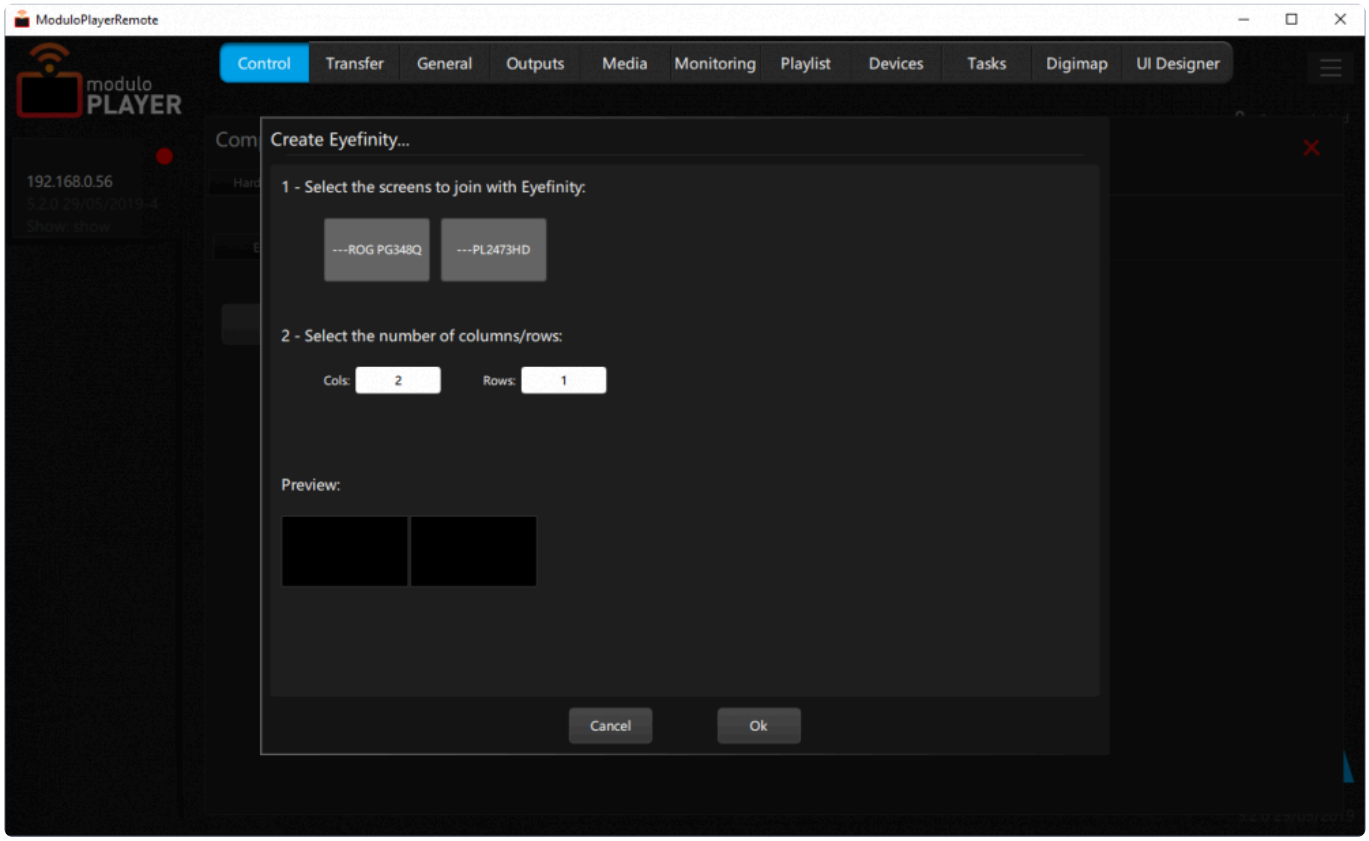
It's possible to save and recall custom EDID.
Go to the user subtab for that.
To save an EDID: Plug a monitor or projector or mixer with the EDID you want%(marker-orange) to grab,% select the output plugged, and click on "save current EDID".
You will be prompted to enter a name. The EDID is saved in the media server in the folder Documents/Modulo Player/EDID.
Once it is saved, you can use this EDID like an official EDID.

The EDID is forced directly in the graphics card. It has nothing to do with the type of adapter you will be using (a DP to DVI active adaptor for instance).

Active or not active Adaptor cables:
The term "active" means that there are electronic components hidden in your adaptor.
To power them, there are special pins conducting the power on the Displayport plug.
Active adaptor is mandatory when you want to convert from DisplayPort to HDMI or DVI when you want to use Eyefinity with AMD graphics card.
It's mandatory to use the exact same active adaptor on each outputs of the server to avoid any tearing on some outputs.
If you need to connect to a DisplayPort device: you just need a simple passive DisplayPort cable.

Create custom EDID: To create a custom EDID, the best is to use dedicated tools.
You can use CRU to EDID or create a new EDID from scratch.
You can also try this tool advantiv-edid-editor or this Extron tool EDID Manager

Eyefinity:

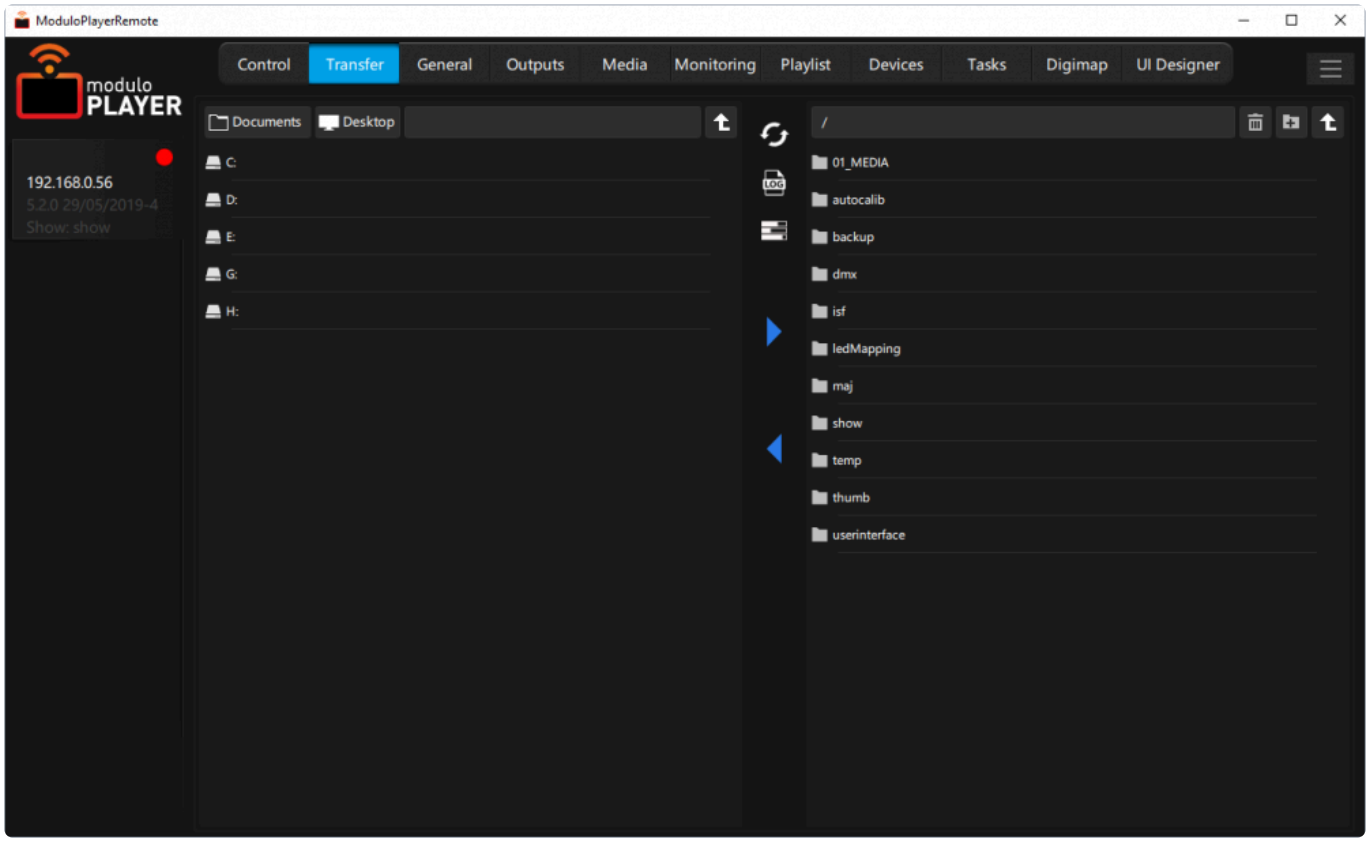


Eyefinity allows you to create an extended desktop in the AMD graphics card.
Click on “create Eyefinity” to configure extended display.
Select the Outputs, then specify the number of outputs in rows and columns. Click OK.

To verify Eyfinity on the Server via Windows: Go to Windows desktop on the Windows «screen resolution» panel (right click on the Windows desktop).
The displayed resolution has to be an addition of the outputs. If not, repeat the process.

To verify Eyfinity via the remote application: You can check the resolution using the General tab on the main menu of the remote software.
Once AMD is configured, exit Settings and start the Modulo Player application.

Transfer tab



This tab allows you to upload media on the server.
You can forward files using this interface when the playback application is either ‘on’ or pending (in standby).
However, we strongly advise against uploading files when you are performing the show.

Transfer tab is divided in 2 panels:
• The left panel allows you to browse the hard disks of the remote computer. There is a shortcut to go directly to “My Documents” folder or Desktop folder.
• On the right panel you can browse files and folders starting from the server’s project folder. From there you can create sub-folders.

Select files you need to copy from your remote computer (Left) to the server (Right).
Use the blue arrows to copy the media.

The following folders are automatically created by the application and shouldn’t be deleted:
• Show: Contains show files
• Backup: Contains archives files
• LED mapping: Contains the fixture files of LED mapping
• DMX, temp, maj, thumb: Internal use
• User interface: You can store image files to use in the user interface
• ISF: You can use interactive shader format to retrieve as Fx

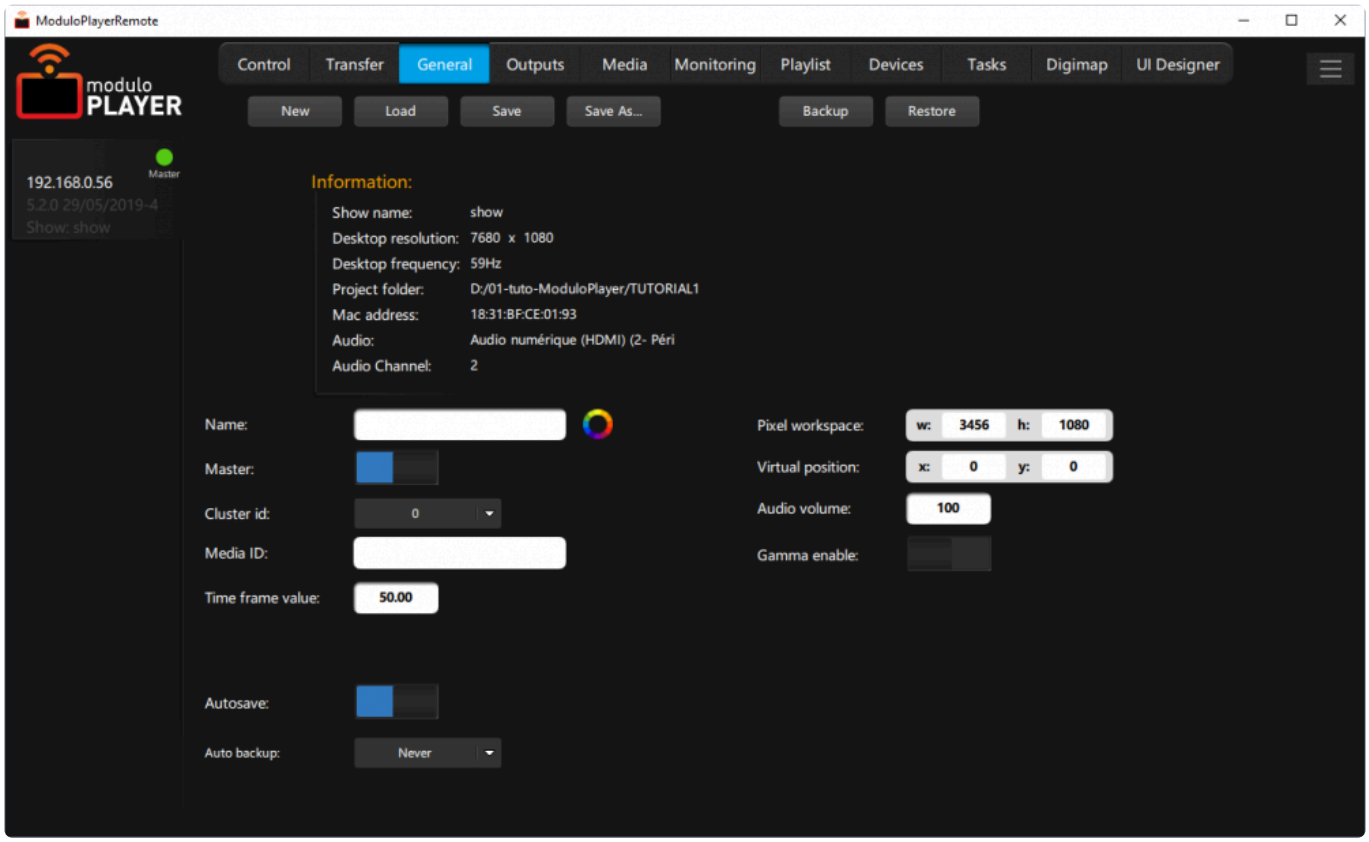
Other ways to load media in your project folder:

• Manually transfer files by copying them from an external USB hard drive to the project folder on the media server
• Use the Modulo Sync application to load media to media servers connected to a network

> ✻ Once files are successfully uploaded, go to the Media tab and refresh the media list: only then will the new media be available

> ✻ OPTION: Uncompressed Server [Modulo Player Ultra version only]:
> To play an uncompressed file sequence, you have to create a folder with the .tga extension (at the end of the folder name).
> Copy the sequence of numbered images in the folder.
> TGA pictures are quite heavy, so we highly recommend to copy them directly on the server using a fast external hard drive (USB3, eSATA, …).

General tab



This tab is accessible only if the media server application is currently running (green icon).
The General tab is divided in 3 parts: Top menu, information, and media server's global settings.

Top Menu:

The top menu allows you to Create, Load, Save, Save As, Back up and Restore a show.
Show .xml files are saved in the media server under the sub-folder 'show' of the project base folder (the

one you defined beforehand on Settings).
• ***New:*** Create a new show, type a name for the show then click on OK
• ***Load:*** Load an existing show from the list of available shows in your project folder. Select it and click OK
• ***Save:*** Save the current show
• ***Save As…:*** Save the current show under a new name
• ***Backup:*** Create a back-up copy of the current show. This function automatically adds the date and hour to the backup copy
• ***Restore:*** Select the backup file to load from the list of backup shows displayed

> ! The show file is not stored in the remote computer but in the media server.
> Do not forget to save your shows on each media server.
> Make sure to create a full backup copy (by manually copying the project folder on an external hard disk).

Information:

The Information area located under the buttons gives you the following information:
• ***Show name:*** The name you typed when you saved the show. If you haven't created a new show or renamed a previous one, the default show name is…"default.xml"
• ***Desktop resolution and frequency:*** This is the server's effective resolution, the total pixels you setup the AMD graphics card for. Check that it fits your needs, as the server and your video files frequency have to be set at the same or multiple value. e.g. If your files are in 25P or 50P, the server has to be in 50Hz. If your files are in 30P or 60P, the server has to be in 60Hz. Here you can check if the multi-screen mode is enabled. For instance, a server set up in 1920×1080 multi-screen mode (Eyefinity) and displaying a 1920×1080 resolution instead of a 3840×1080, means the multi-screen mode is currently not active.
• ***Project folder:*** Specify the project folder path on the media server using the remote. You can define it directly from the Settings menu from the Control tab
• ***Mac Address:*** Physical address of the media server's network card
• ***Audio:*** gives information about the configuration of the sound card and the number of available outputs

Server Global Settings:

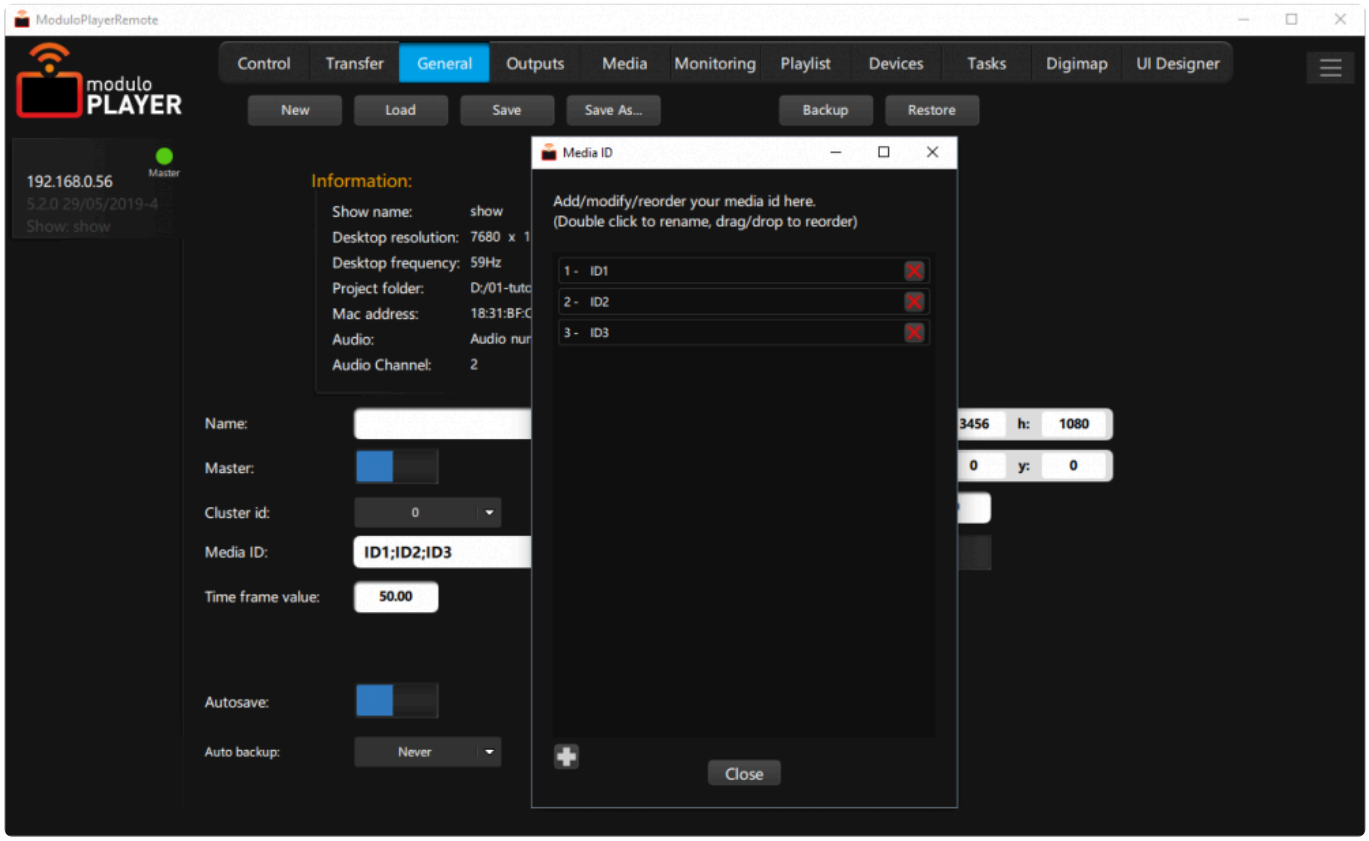
• ***Name:*** You can name the media server in order to find it easily when browsing the media server list. In addition, you can select a color for your media server by clicking on the color palette and choosing one of the colors.
• ***Master (enabled):*** The main Modulo Player in a network needs to be in Master mode. Deactivate this on each Modulo Player that you want to synchronize to the master Modulo Player
• ***Cluster ID:*** Allows you to have several Master/Slave systems on the same network. Each group needs to have a unique cluster Id (and only one master per group)
• ***AutoSave:*** If enabled, the show is automatically saved whenever a change occurs. The best is to activate it when encoding the show, and to disable it during playback. An autosave triggers a short freeze when saving. Consequently it is not recommended to use it during playback.

• ***AutoBackup:*** You can choose to trigger automatically a backup of the show. The best is to activate it when encoding the show, and to disable it during playback. An autosave triggers a short freeze when saving. Consequently it is not recommended to use it during playback.
• ***Media ID:*** By default, the master/slaves copy mode for playlists requires identical media names in the Playlist.Click on this to change this setting
• ***Time frame value:*** Set the framerate used in the timecode editor. This does not affect playback

> ! In a synchronous multi-server installation, you have to define a server as a Master and all the others as Slave servers.
> When the Master computer changes cue on the playlist, it automatically passes the information to all «Slave» servers at once.
> Make sure you don’t have several Masters on the same cluster.

Pixel Workspace: Define a pixel surface. Then, extract pixel zones to assign Outputs and attribute media composition displayed in the Playlists. Give the Pixel Workspace dimensions for each server.
Virtual Position: (for multi-server configuration) Specify a position offset when you are working under Virtual mode for the position of your media in a playlist. That way you can make media position relevant to several servers’ pixel workspace at the same time.
Audio Volume: You can set up the overall sound level of the Modulo Player. You can also edit it with a task using the Modulo device. For instance, it allows you to adjust the sound level depending on the time of the day if you are designing a permanent outdoor installation.
Gamma Enable: By activating the function you can set up the Gain and Value of the media opacity, playlist master and layers’ fade curve.

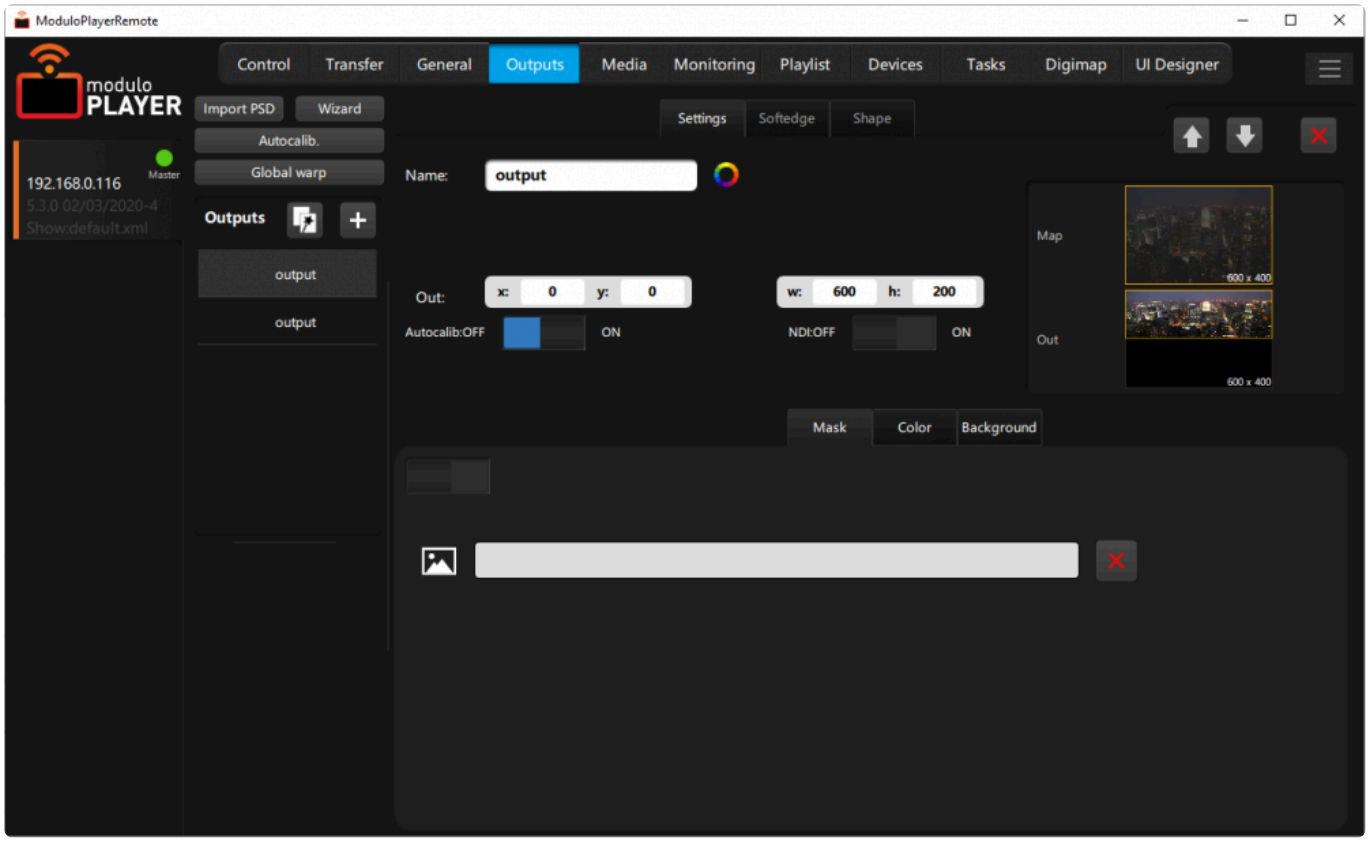
Media ID Dialog Box:



This Dialog box allows you to enter the identifier pattern for each media.
You can add several media pattern, change the order.
When you will copy one playlist from the master Modulo Player to the slaves Modulo Player, the following process is done:

If the media is available with the same name on the Slave Modulo Player, the layer will have the same media than in the Master Modulo Player.
If not it will try to match the MEDIA ID pattern to the corresponding MEDIA ID on the slave.
For example if you have the following MEDIA ID on the Master: cat1,cat2,cat3 and on the Slave 1: dog1,dog2,dog3: when you do the copy on the slave the media on the Master “thereisacat1.png” will be replaced by “thereisadog1.png” on the slave Modulo Player if this media exits,…

Outputs tab



This tab allows you to set up the media server's outputs.
This tab is only accessible when the media server application is already running (green indication).

Two different types of outputs can be created:

- A video output: To use on a screen, LED wall, or a video-projector
- A LED mapping output: You can convert video to an Art-Net stream

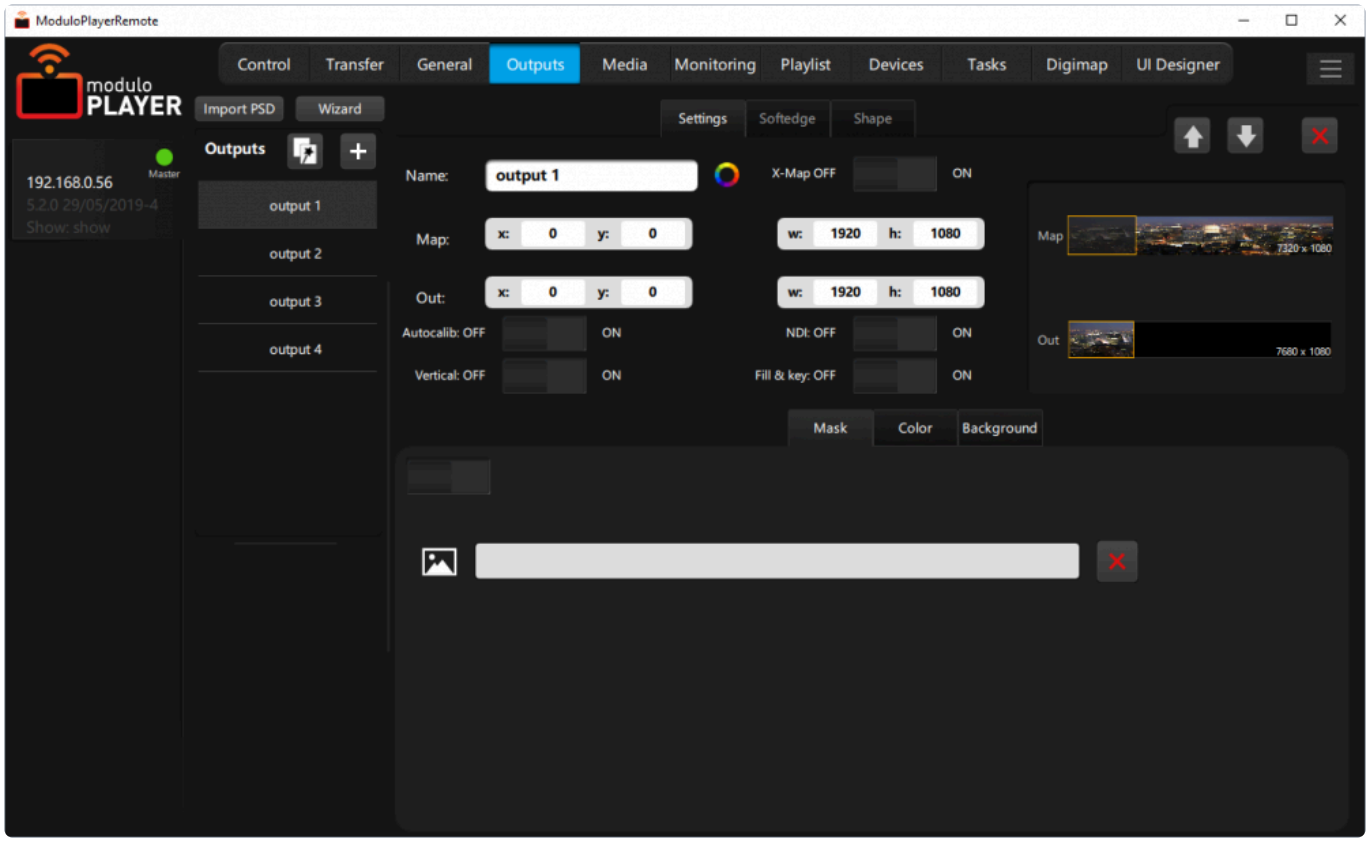
There are several ways to create an output:

1. Manually
2. Using the wizard
3. Using a Photoshop PSD template to use the X-Map exclusive feature

Autocalib. button allows performing autocalibration of outputs, see Autocalibration
Global warp button opens the wizard used to apply a warp to the autocalibrated pixel workspace, see Global warp

> ! Before creating the outputs, we advise you to configure the graphics card first:
> - Adjust the pixel workspace size
> - Force the EDID of the outputs and create an extended desktop with Eyefinity tool

Output settings



To manually create an output, click on the button.

You can edit the name of your output.

Then, adjust the part of the pixel workspace you want to display in this output, as well as the position and resolution of your output in your desktop.
Map: Adjust the top-left position and the size of the extracted area in your pixel workspace
Out: Adjust the top-left position and the size of your output in your Windows desktop

NDI Off/On button: Stream your output using NDI protocol. Please note that you cannot stream a warped output or an output with the X-Map feature

X-Map Off/On button: Activates the X-Map feature manually

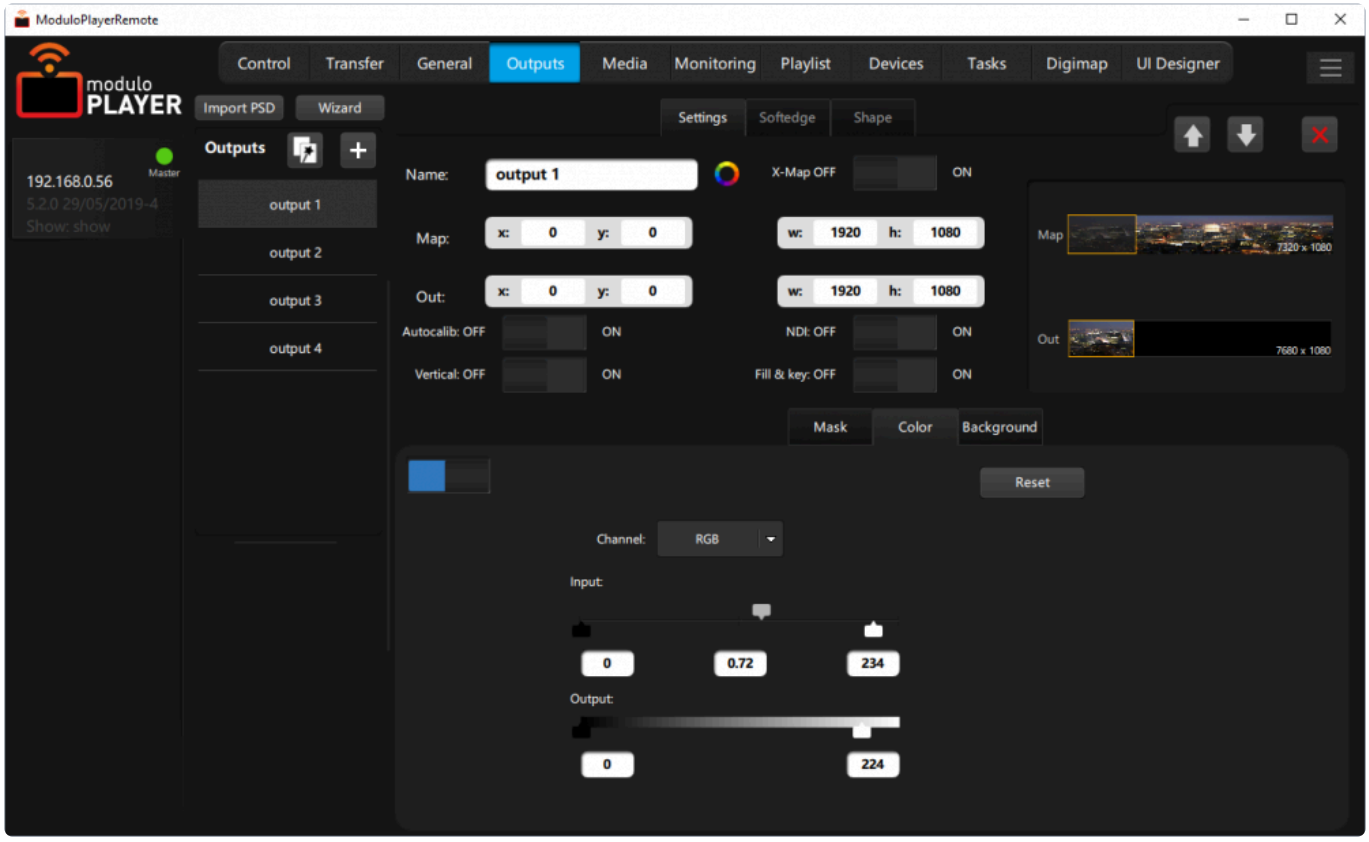
Vertical Off/On button: Activate the Portrait mode if your video-projector is in Portrait mode for instance. When activated, Map width needs to be smaller than Map height (Portrait mode) but the Out width needs to be larger than your Out height (matching with the physical output of your graphics card).

Fill/Key Off/On button: Displays the Fill on an output and the Key (alpha level of the output converted to gray level) on the consecutive output. If, for example, you have one output with the top-left position at 0,0 and a resolution of 1920×1080 with this option activated, Modulo Player will automatically display the Key in gray level on the output with the top-left position 1920,0 and the resolution 1920×1080.

Mask sub-tab:

You can use a PNG still image as a mask on your output. It will use the alpha channel of your PNG as mask.

Color sub-tab:

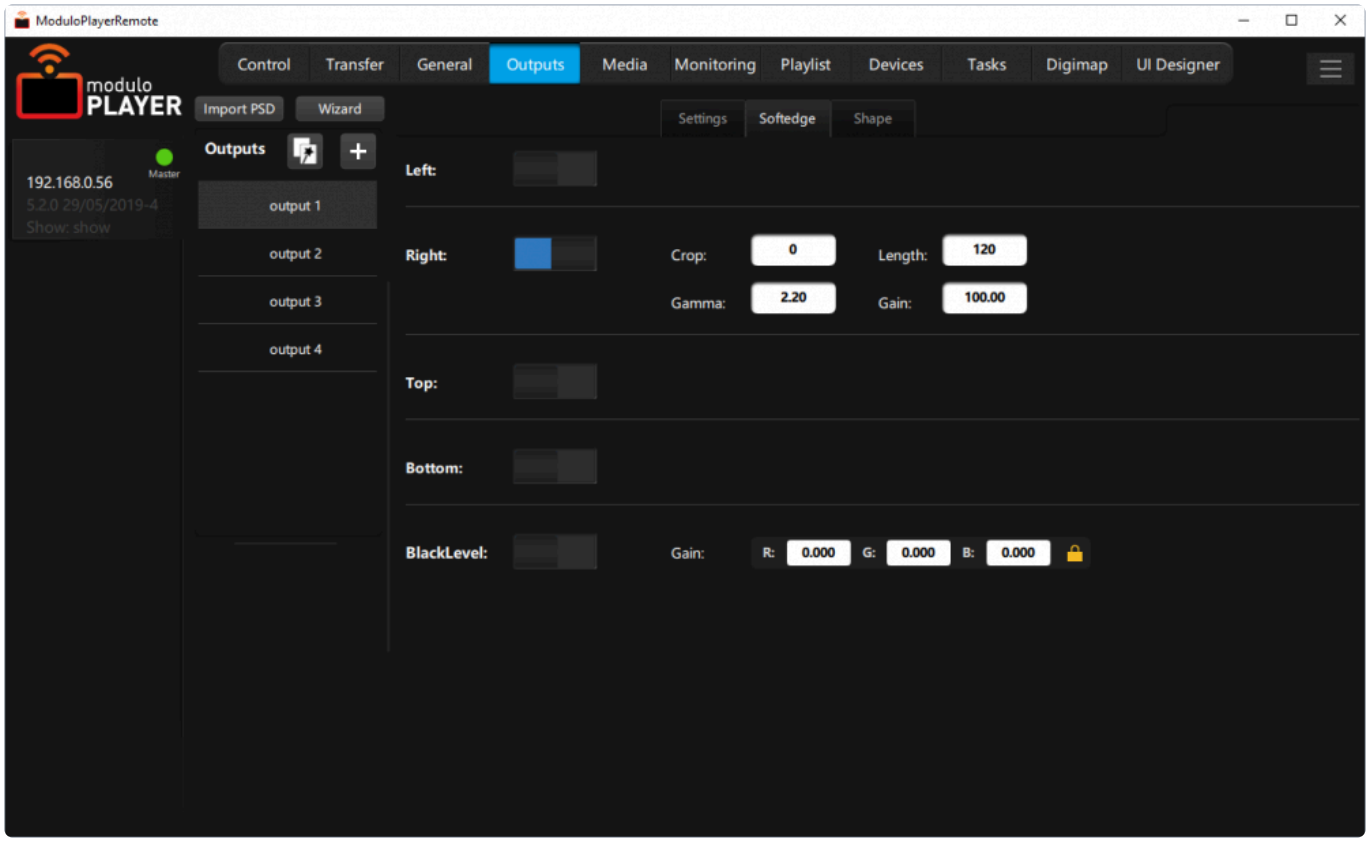


Use this tab to adjust the color of each output. You can adjust the RGB gamma and level globally and/or by color channel.
Use the Reset button to quickly go back to neutral state.

Background sub-tab:

A background image can be displayed on each output to pre-warp prior to the installation. You can use a theoritical warping point of view as a background.

Soft edge tab:



You can adjust the soft edge on each side:

• *Start:* The start point in pixels to set up a crop

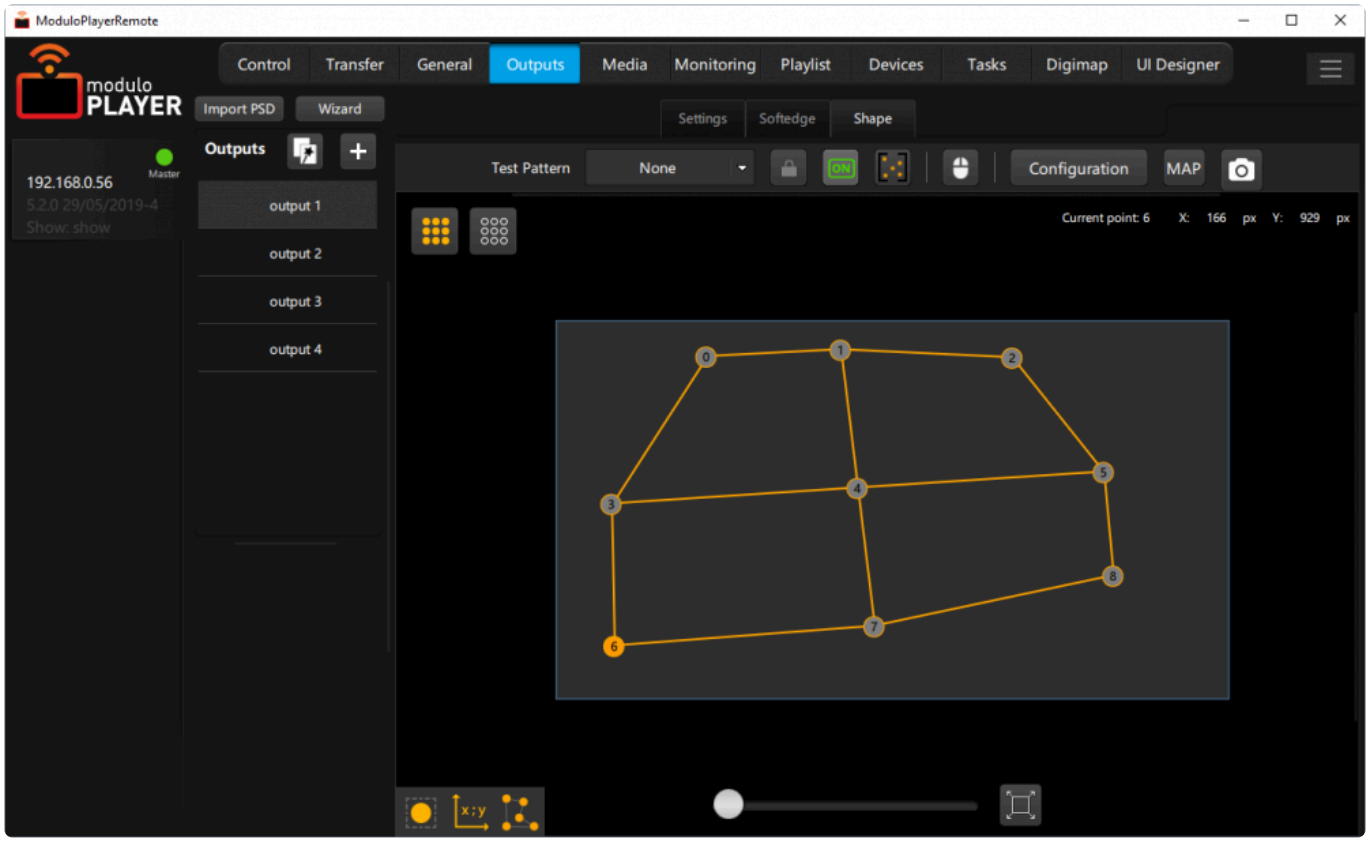
• *Length:* Soft edge length – starting from the start pixel

• *Gamma & Gain:* Adjust the transition curve

• *BlackLevel:* You can adjust the grayscale outside of the soft edge. It can help reduce the double video black on the soft edges.

Shape tab:

Use this tab to warp your output.



Top button bar

The Top button bar gives access to the following tools :

- Test Pattern: To display a test pattern on your output, use the drop down menu 1 and choose from:
  None: Disabled
  Grid: Generated grid with the name of the output, soft edge adjust help lines, ratio helper
  Fine Grid: Grid with smaller steps and soft edge helper
  Grayscale: horizontal and vertical bars
  Checkboard
  SMPTE: color pattern
  Colors

- Lock 2 : Lock the warping to prevent any unintentional manipulation

- Toggle Visibility 3 : Enable/Disable the output

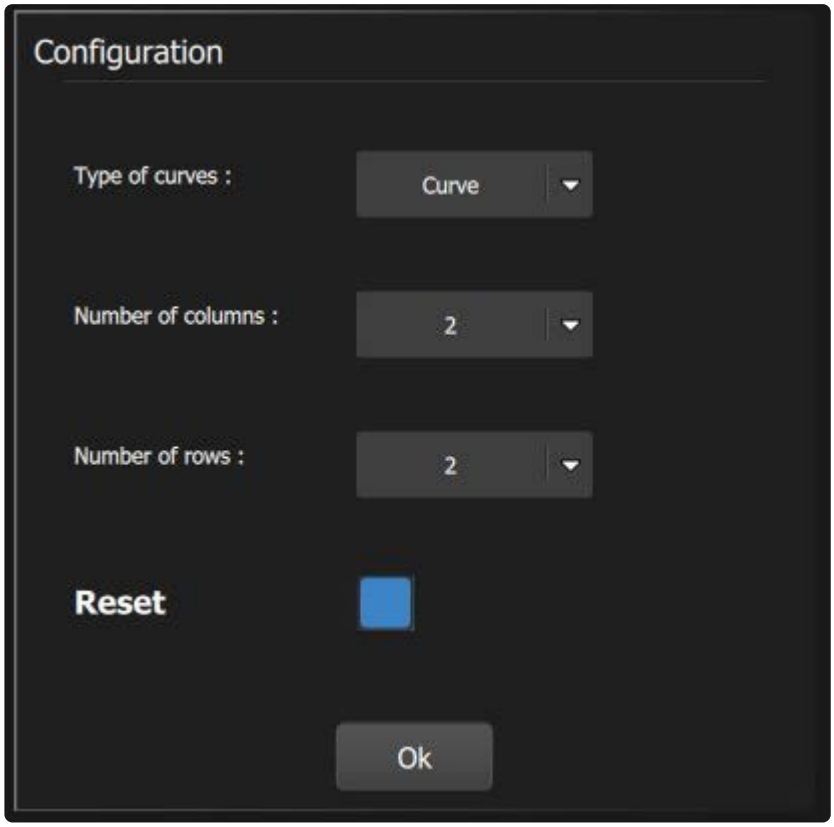
- Toggle Control Points 4 : Enable/Disable the display of control points on the server

- Toggle Mouse accessibility 5 : Enable/Disable the use of the mouse to move control points.

When disabled, use the mouse to select a control point then use the keyboard arrows to move it

- Map 7 : Toggle between output warping and extraction warping
- 8 : Extract a photo of the media currently displayed on the active Cue of the Playlist tab

Configuration: 6



In the top button bar (see picture “Top button bar “ above) , click on the configuration button 6 to edit the warp mode and the number of control points per row and column.

Choose the warp grid mode: Keystone or Curve mode.
Curve Mode allows you to change the number of control points by selecting a number of rows and columns.

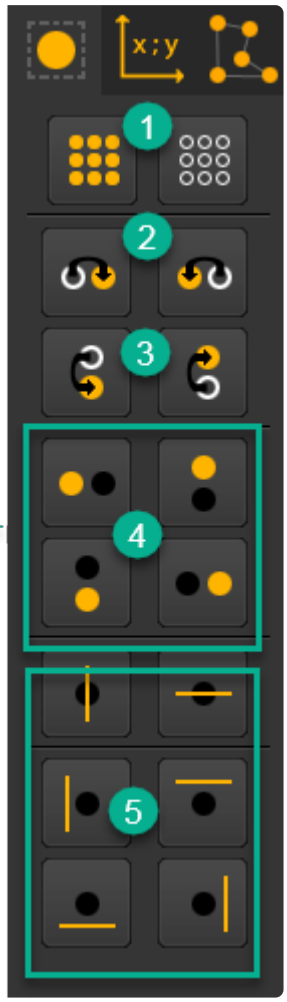
> Curve Mode: We advise you to start with a small number of control points. If you need more flexibility, increasing the number of control points will not impact the warp result. However, **decreasing the number of rows or columns will reset your warping entirely.**

Tools:

Access to the toolbar is at the bottom left of the warping Area. Clicking on one of the following buttons to open their respective popup tool menu.

Selection tools:

Click on to access the following tools :



1 Select/unselect all control points

2 Select the control point on the right/on the left of the current selection

3 Select the bottom control point/ the top control point of the current selection

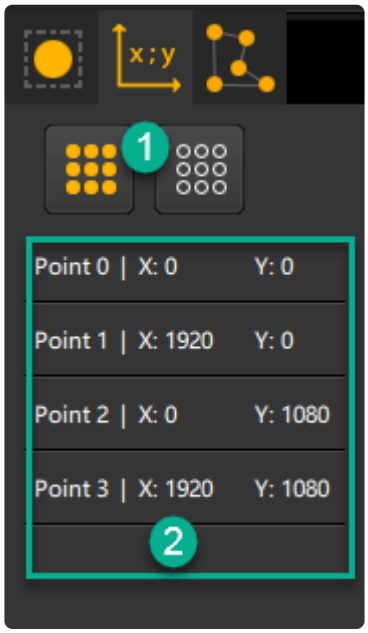
4 Select (add) the left / the top / the bottom / the right control point

5 Select the whole vertical/horizontal line of points

NB: All these tools can also be accessed using keyboard shortcuts. For more information, please refer to the Shortcut section of this document.

List of Control Points:

Click on to display the control points with their respective pixel coordinates.

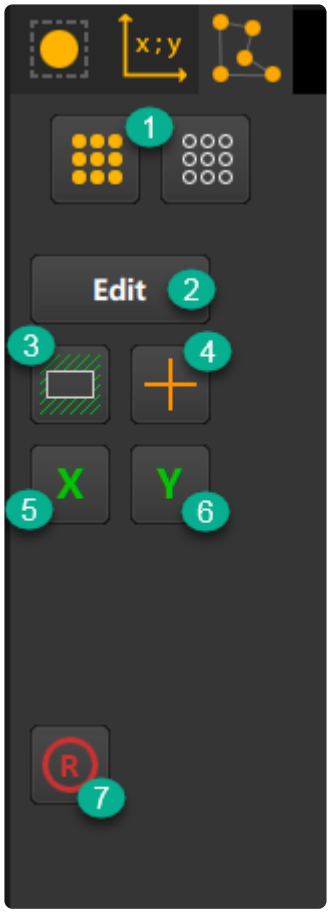


1 Select/unselect all control points

2 directly select/unselect the control points in this list

Advanced Control Points Edition:

Click on to access the following tools :

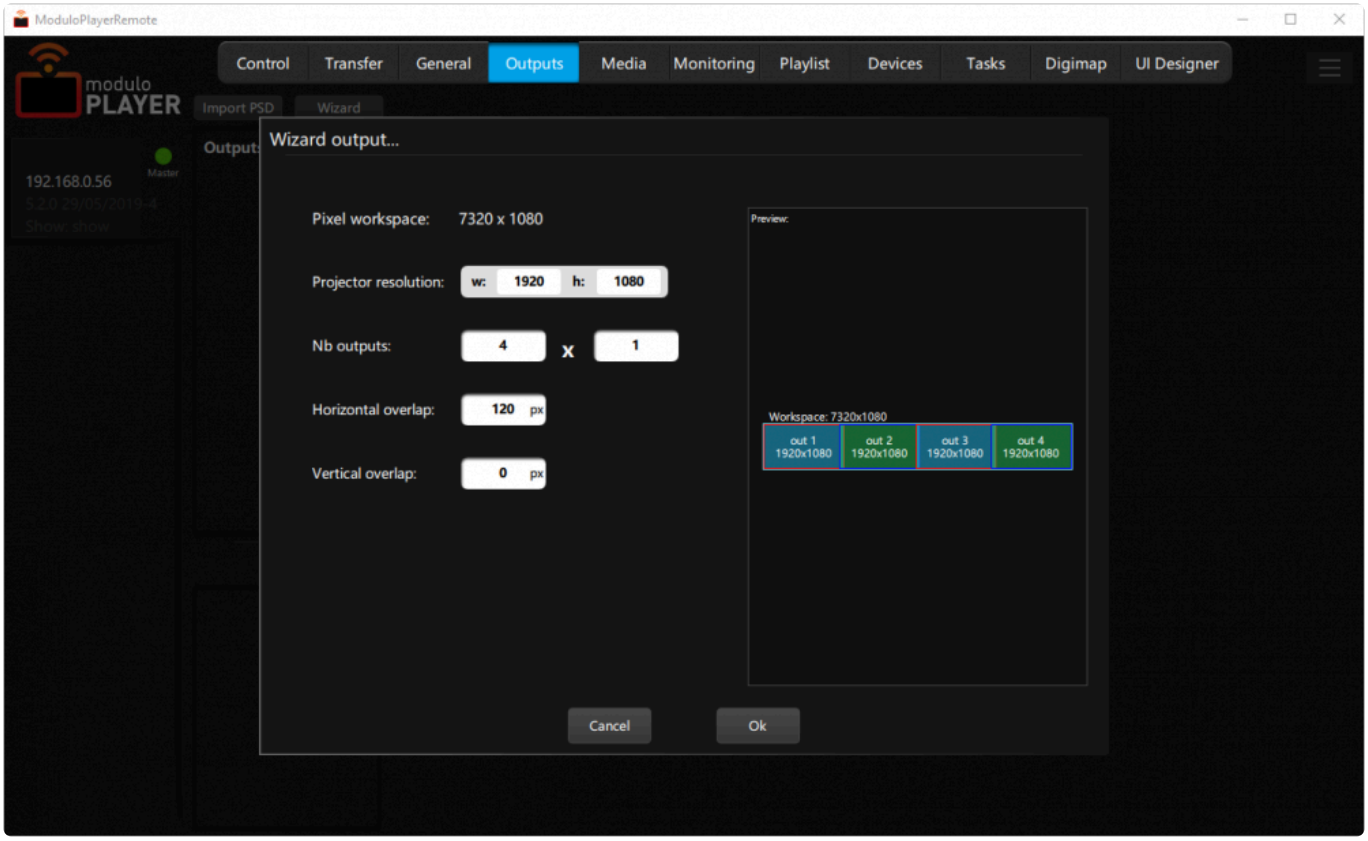


- 1 : Select/deselect all control points
- 2 Edit button : the popup panel allows you to offset, scale and rotate a selection of control points (with a minimum of 3 control points). You can also apply a symmetry.
- 3 Constrain points in the screen area
- 4 View crosses instead of circle points
- 5 Constrain the X axis
- 6 Constrain the Y axis
- 7 Reset all selected points to their original values

Wizard

This Wizard allows you to quickly create outputs when you have a basic setup.

Click on the Wizard button to open the dialog box.

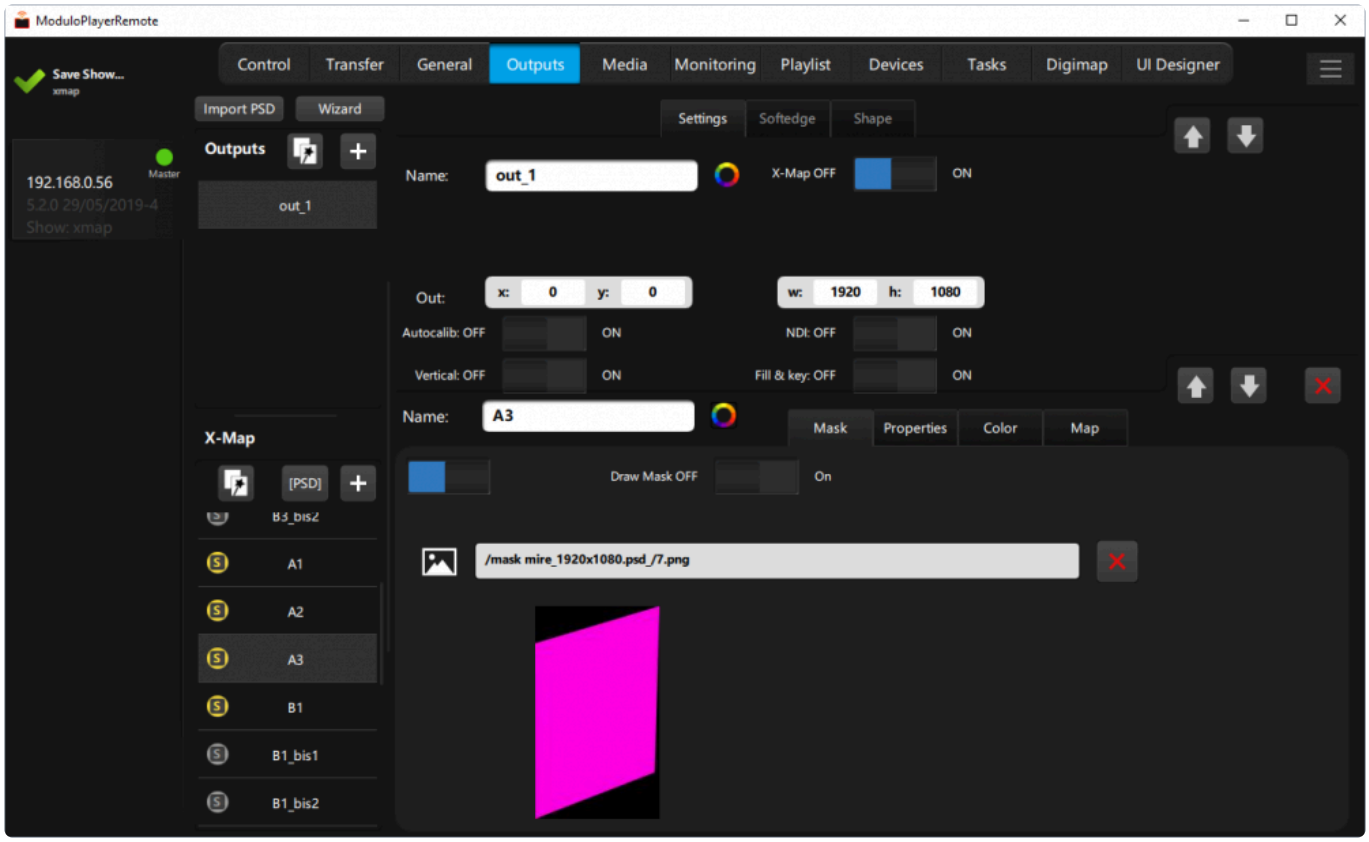


First adjust the pixel workspace in the general tab.

Enter the following informations:
• Width and height (Edid resolution) for each projector
• Number of rows and columns of projectors array
• Overlap value (Horizontal or Vertical)

Use the preview to visualize the results of the wizard.
Once you click on the OK button, Modulo Player automatically creates all the outputs.

X-Map



For the most complex shapes, our exclusive X-Map function will help you save time and money. Most of the mappings on our showcase are done with this smart and easy to use unique feature.

When having different levels of depth on your projection surface or a complex shape, basic warping is not enough. One option is to do a 3D calibration but it's a complex and expensive workflow (NB : this feature is available in Modulo Kinetic).. Modulo Player has an easy and cost effective alternative solution, our unique X-Map feature: simply import a Photoshop file as a template, extract its layers, and warp them independently.

- X-Map makes use of 2D software rather than a 3D method, in order to keep the process simple to carry out.
- X-Map also allows you to have a margin of error in measurement, on projectors position, or have a non-perfect model (a model that in reality is different than the 3D model it represents), etc

X-Map PSD creation:

Photoshop file nomenclature

The Pixel workspace should correspond to the test pattern resolution and ratio. The same pattern should be used to produce media files.
It is very important to respect the ratio.
• In Photoshop, create a new .psd with the image size equaling the pixel workspace.This file need to be

in RGB/8 Bit mode.

• Create a layer folder called «OUTPUT» and another one called «MAP».
• Add solid layer in the «OUTPUT» folder. They must fit the size (or ratio) of the projectors set in the shot areas.
• Then add all layers referring to each zone on the «MAP» layers group. We recommend not having a Map bigger than a projector size.
For instance, you need to create an area per projector in case an area overlap several projectors.
• Import your Photoshop file. Outputs are automatically created and named after the ones in the Photoshop file. Modulo Player workspace size is adjusted to match the workspace of the Photoshop file. In general it also fits the Media size you will display on the playlist.
• Once each output is created, it contains a global warping Shape, and a list made of all the X-Maps in it. Click on the Solo button to enable them as the warping process moves forward.

XMap specifications :

- First create the test pattern: you can use a photo in case of an existing building or a 3D model.
  NB: The photo could be taken from the projector point of view or from a public point of view.
- Then, divide your test pattern into several parts using Photoshop: e.g. each side of a cube you want to map, each area of a building façade, each element of an object: the wheels, the door, etc. Make sure layers are per Output.
- If you conserve a specific nomenclature you can import directly a Photoshop file into Modulo Player. This way you can manage a list of independent warping areas called X-MAP. Each one has its own mask.
- Once all shapes/ layers are set, create all media using this template.

CAUTION:
It is very important to respect the folder names: MAP and OUTPUT in Photoshop.
It is very important to name your layers properly in order to work easily.
Layer names are imported in Modulo Player.
To start calibration: Place a .png copy of the psd template to a Layer in the playlist.
Playback the media Layer.

Import Psd file:

Click on “Import PSD” button and select the psd file. File should be in the root project folder. Output(s) will be created automatically after the importation of your file.
NB: Notice that the xMap button is activated automatically once the Photoshop template has been imported.
Export also png files having the size of the workspace which contains the test pattern. These files will be used for the calibration process.
On the playlist; add to the current Cue the png test pattern file. Only then can the warping process begin.

You can also activate XMap manually:
For standard outputs: Activate the X Map button in order to add a deformation zone.

The X Map function allows you to calibrate separately each shape. By enabling this function, a new list is enabled : the list of x-Map Shapes.

- To add supplementary photoshop layers (with their masks) in your existing X-Map output, click on PSD
  This layer corresponding to the output in the PSD file has to have the same Output name with the file you Imported , and should include only the new layers, with a unique name for each layer.
  You need to have a different name for the PSD file than the previous one.

- Add a new shape by clicking on **+** , Indicate the Map and Out pixel zones.
- Select a Shape; Click on the magic wand to copy/ paste the Shape or one of its parameters, to another Output or Shape

CAUTION:
- In order to add supplementary Photoshop layers, you need to have different name for each .psd for every time you import a .psd file.
This is to avoid any mask collapse between .psd files.
- For more information on xMap template, please refer to the xMap video tutorial as well as calibration pattern documents all available at www.modulo-pi.com > support >Customer Area.

Output attributes :

- Click on Main to access Mask, Color, and Background settings that are assigned to the Global Output.

xMap attributes :

- Click on the shape to access to its parameters: Mask, Properties, Color, Map.
  These Properties are assigned to each Shape (X-Map Layer) independently.

Warping process:

Configuration:

• Set the type of warping you want to perform and the number of warping points you want to use in rows and columns.

- Keystone mode: Suited for keystone (2×2 mode) with a spacing automatic compensation.
- Curve mode: Set a grid with several rows and columns.

CAUTION:

Curve Mode: We advise you to start with a small number of control points.
If you need more flexibility, increasing the number of control points will not impact the warp result.
However, **decreasing the number of rows or columns will reset your warping entirely**.

X-Map Layer Features

Mask

When in X-Map mode, you can assign a mask per output and/or per Layer :

- Select the X-Map layer and activate/ deactivate mask or mask content.
- Draw mask button, when activated permits you to visualize with a solid color the layer mask.

Properties

When in X-Map mode, to access parameters such as Opacity and RGB values by Shape :

- Enable the properties for each shape in order to color correct your X-Maps and change the opacity values.
- You can control these parameters using Digimap.

Color

When in X-Map mode, you can modify RGB levels per output and/ or per shape (Photoshop layer).

- Select shape, then, enable Color on a shape :this will modify RGB input and output levels of your X-Map shapes.

NB: You can manage RGB levels or levels for Red, Green and Blue channels independently.

- Click on Reset to reset modifications

Readjusting media in a Shape:

- In X-Map mode, use the camera icon and take a photo of the test pattern png file -currently displayed on the active Cue.
- Now toggle the MAP button.
- Go to the X-Map list and activate a Shape by toggling the Solo button.
- Move the slider in the bottom to zoom in and out.

- The zoom in is centred in the current view. Click the button near to the slider to set the position and zoom to their optimal values.
- To return back to the calibration process; Toggle the button and move the points.
- Use the tools on the left to calibrate.

Map

On X-Map mode, you can extract media from an area to patch to a specific zone.
From Map: configure the media zone from the Pixel workspace.
From Out: configure in which position of the Global output the shape will display.

Softedge / Black Level / Shape

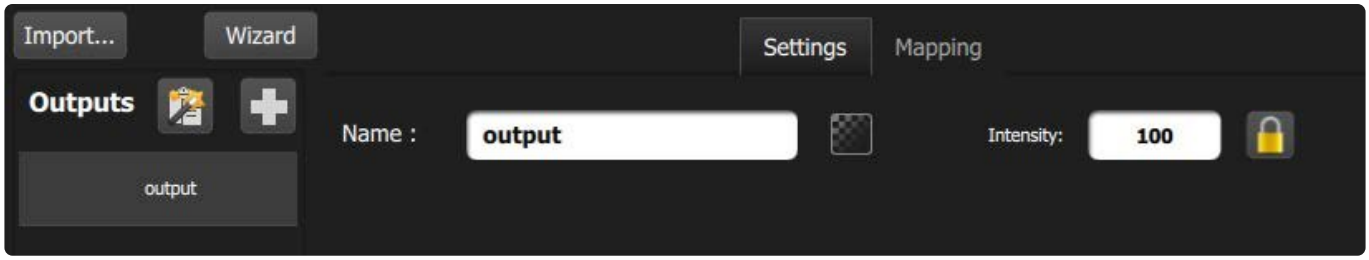
For more information on softedge, black level, or shape, please refer to the chapter Output settings of this manual.

LED Mapping

Use the LED mapping feature to convert a video to several Art-Net universe using the fast GPU in real-time.

To add a LED Mapping, click on the button and choose LED mapping on the popup menu. A new LED Mapping output is then created.

> A LED mapping output counts like a video output. You can add any numbers of fixture inside.



From this tab you can:

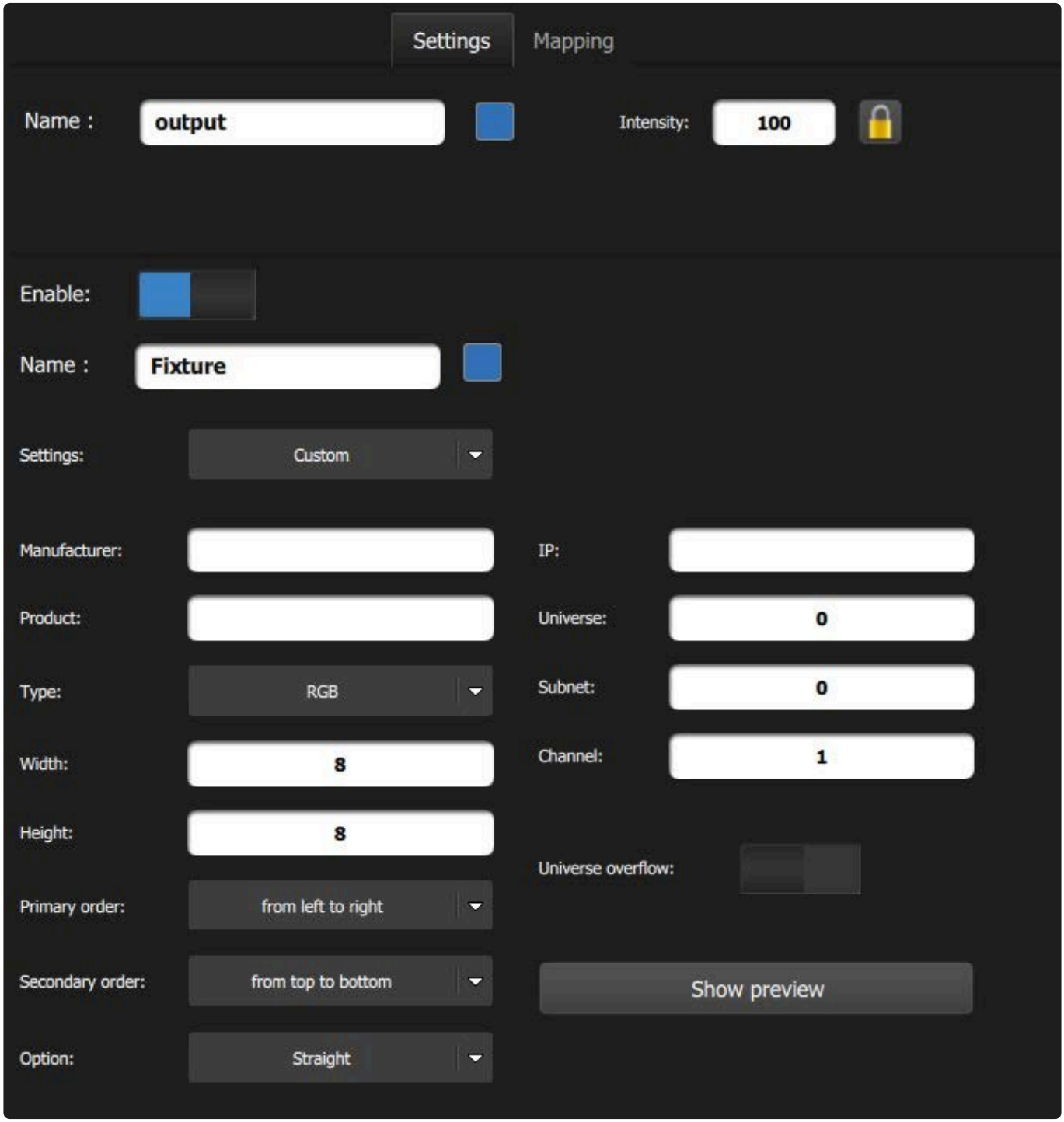
• Rename the new LED mapping output
• Assign a color to the new ouptut using the color palette. This color will then appear as a contour in Monitoring
• Set and Lock/Unlock the master opacity (intensity)

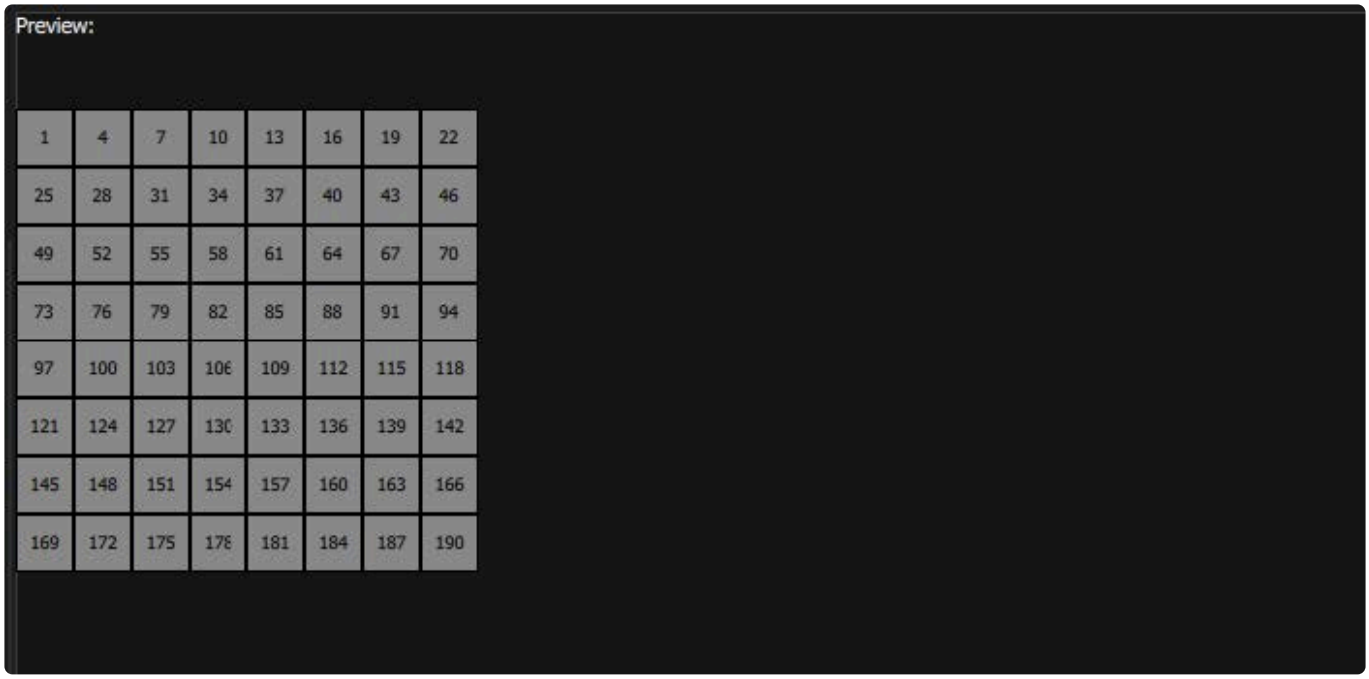
There are two ways to create a fixture:
• By creating a basic Fixture

• By loading a fixture file in the LED Mapping sub-folder

Basic fixture:

From here, you can create a new basic fixture.

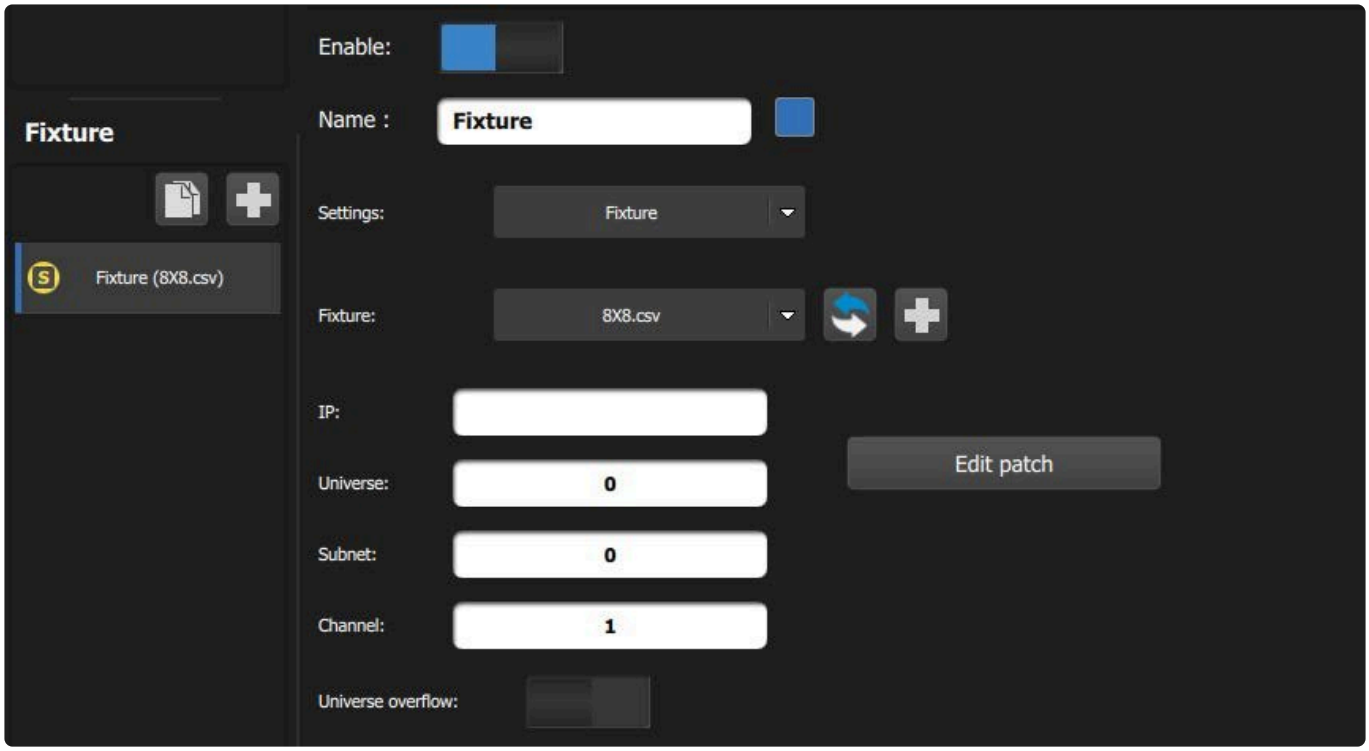


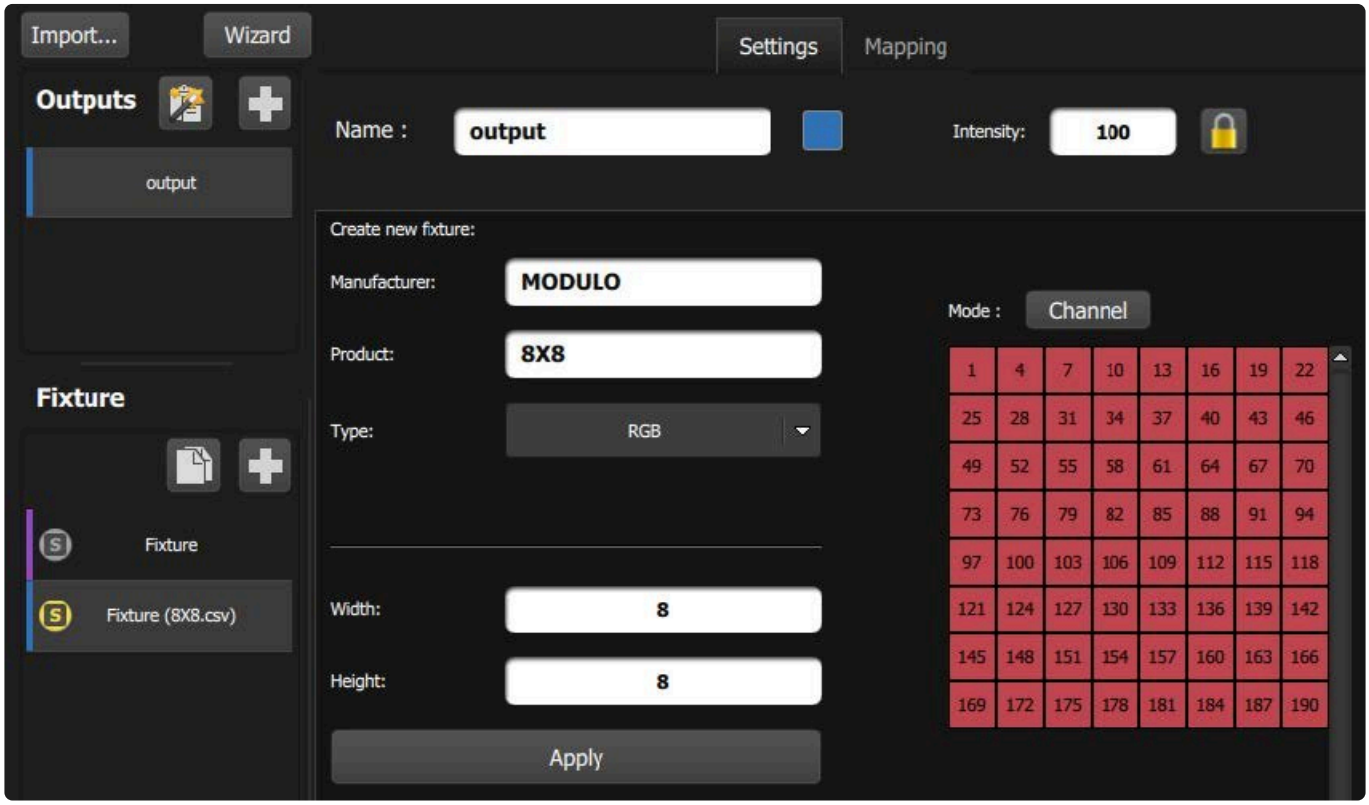


• Enter the basic info for the fixture you are using. This way, you can save it as a preset and use it in the future in another show.
• Name the fixture and Enable visibility.
NB: You can add some basic product info such as, Manufacturer's name, Product reference, etc.
• Select the Fixture Type from the dropdown list. This will define a protocol, and the number of channels
• Width: Number of pixels in the Horizontal line of the fixture
• Height: Number of pixels in the Vertical column of the fixture
• Primary Order: Select the direction in which the LED will animate
• Secondary Order: Select the pixel order on the array (which is the first and the last pixel)
• Option: Select Straight if you want all lines/columns to follow the same Primary order
• Select Zigzag if you want upcoming line/columns to start in opposite direction of the previous line/column
• IP: For a Broadcast fixture, leave this field blank
• For a Unicast fixture, type the IP address in order to stream Art-Net only at the assigned IP
• Click on Show Preview to get a preview of the Patch. This will display the fixture patch in channels
• Universe: A single DMX512 frame of 512 channels is referred to as a Universe
• Subnet: A subnet is a group of 16 Universes
• Channel: Assign the index number of the first Channel of this Fixture
• Universe Overflow: Activate this option when the LED controller manages more than 512 channels

Fixture:

• Via the dropdown menu select the fixture file (contained in the project's LED Mapping subfolder)
• Refresh the list of fixture files, or
• Add a new one. The new Fixture will be saved directly in the LED Mapping subfolder

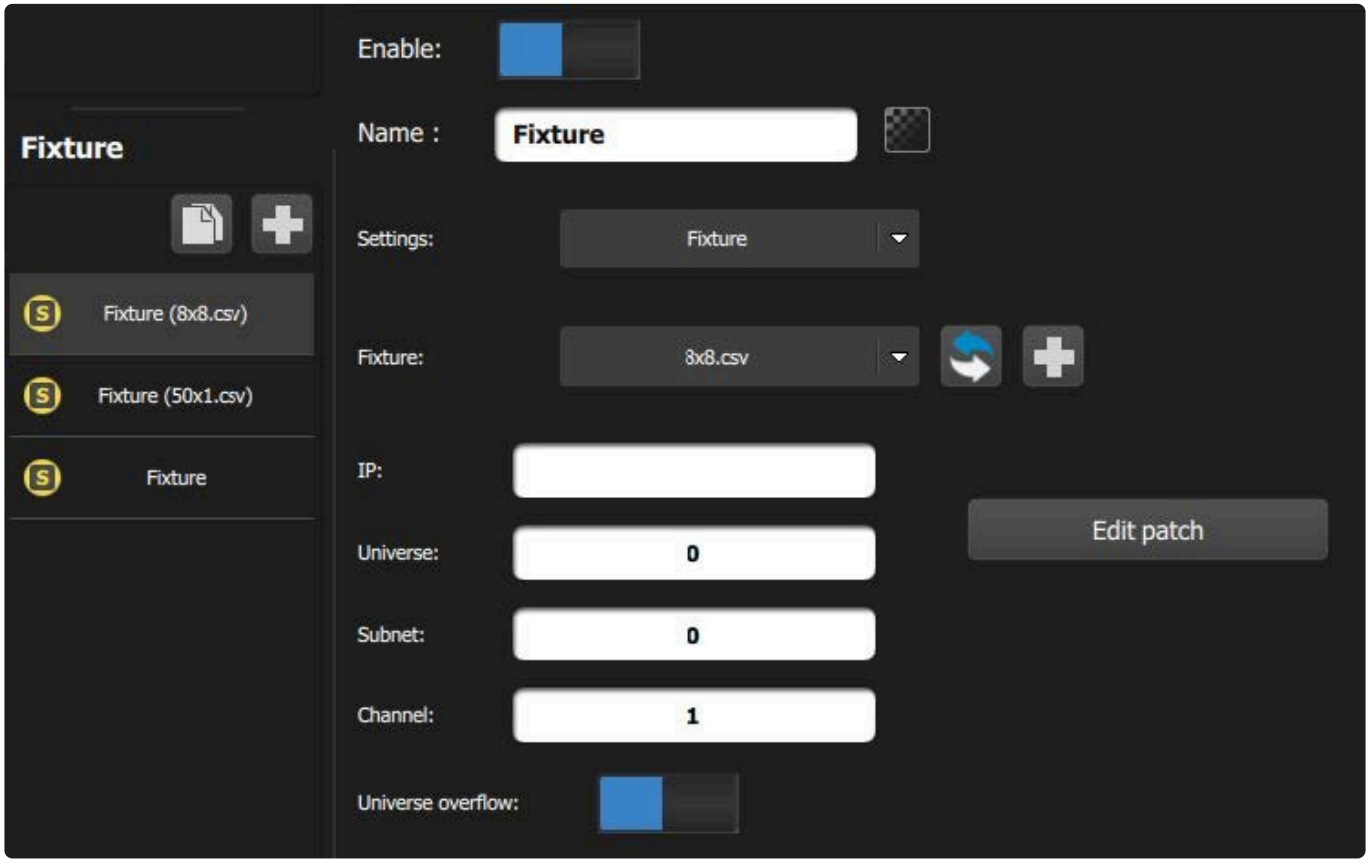


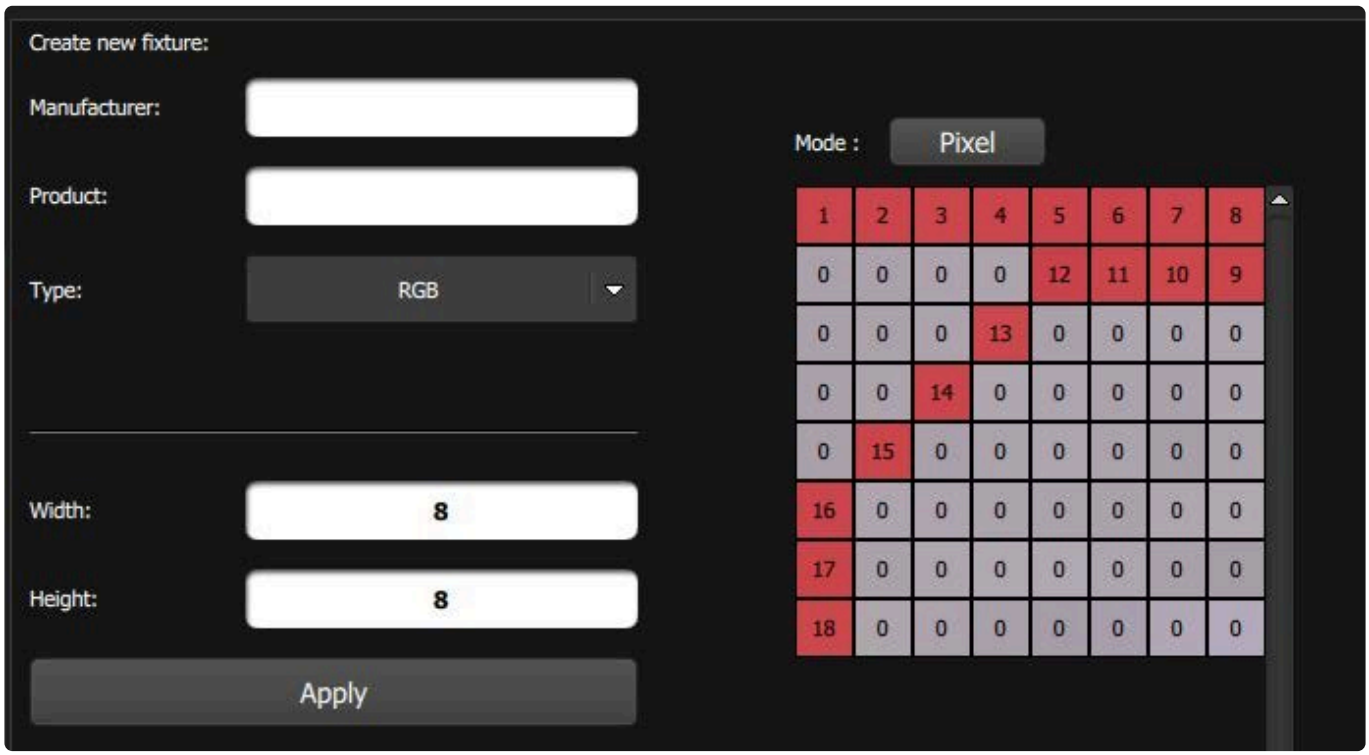


Once the preset fixture is loaded, click on Edit patch to open the Patch editor.
From there you can re-edit the Type, Width, and Height of the fixture.

- Click on Apply to refresh the new settings
- Pass from Pixel to Channel mode, to see the array with the art-net Channels. Once the fixture is updated, click on Save

Patching fixtures





After selecting an existing Fixture, you can click on Edit Patch to edit.

• In the panel that opens, you can enter basic info such as Manufacturer and Product

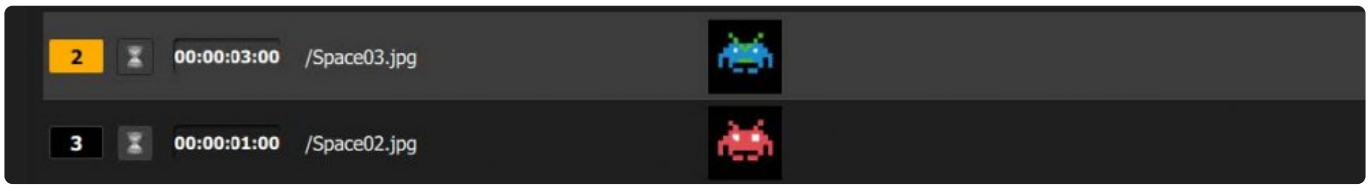
• You can also re-define the type of fixture (RGB, RGB + intensity , etc.)

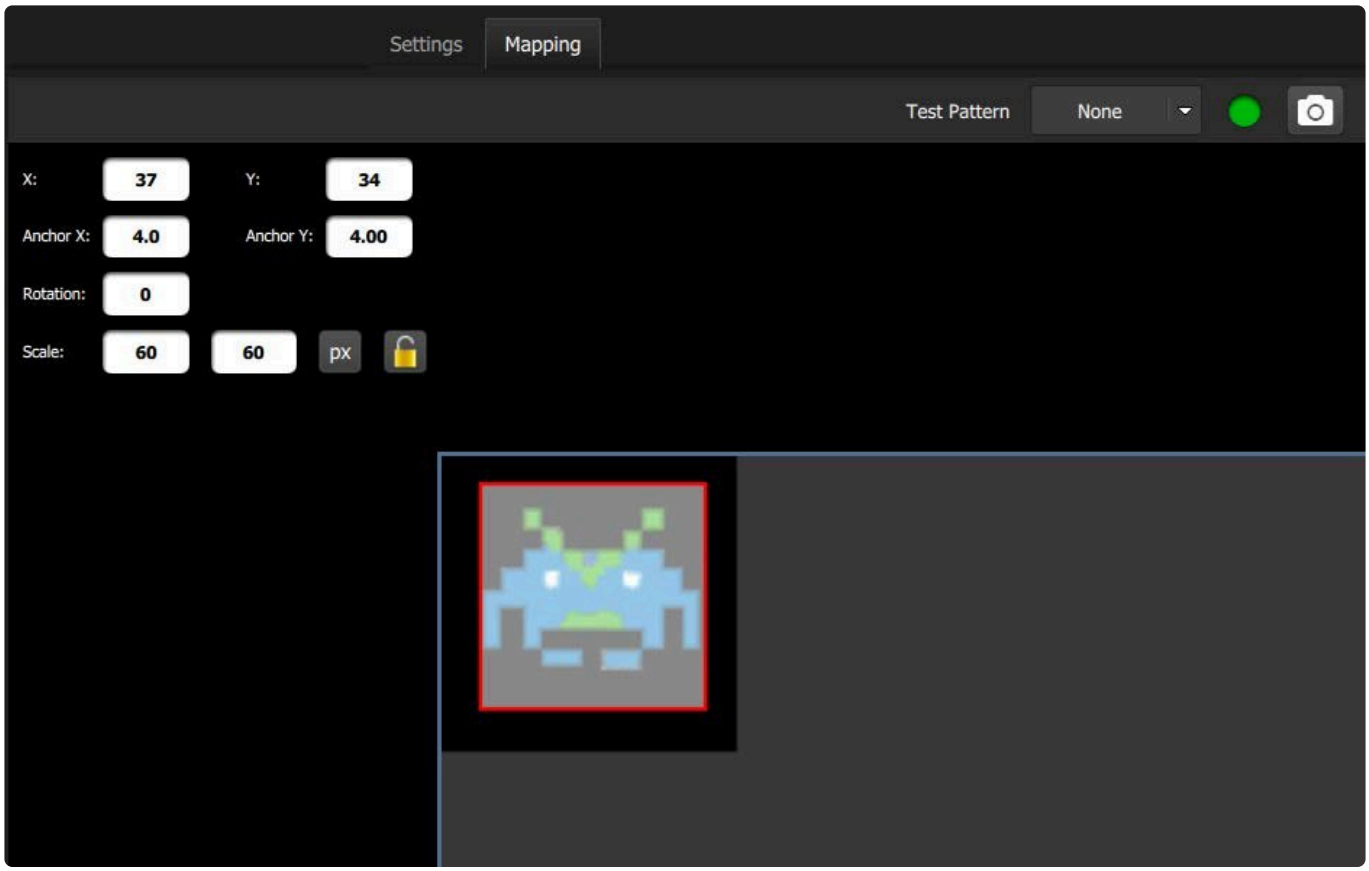
• Parametrize the array of pixels (Width, Height) according to the LED type you are using. Once you set

all fixture parameters, click on Apply to save the new configuration
• Click on a pixel to start patching. As you will notice, every time you click on a Pixel block, the index number increments. One click adds a pixel patch
• Change the mode from to , to see the patch by Channel

Keyboard shortcuts:
• To erase a patch from a pixel, re-click on it
NB: You can only delete the last clicked pixel.
• To select a straight line to patch: Click on the first pixel, hold down Shift and click on the last one
More complicated Patching:
You can jump pixels (leave pixels without a patch). To do so, click on CTRL and then on a block. Do it again. As you will notice, this keyboard shortcut increments one index every time you click.
Once the Patching process is over, click on Save.
You are now ready to test your device.

Mapping

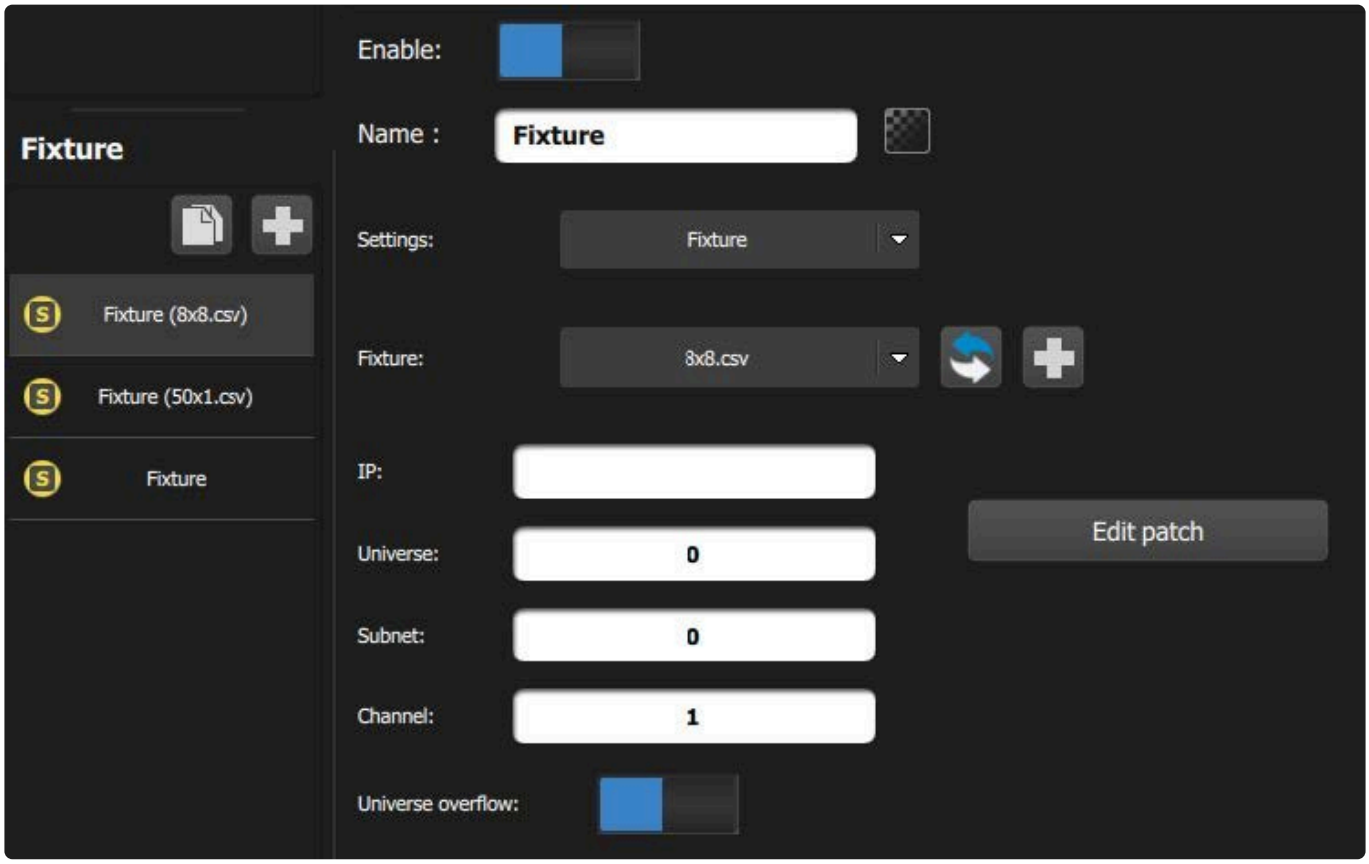




Once the Patch of the Fixture is done, go to the Mapping tab.
In order to display a media to the LEDOutput(s) go to the Playlist tab and add the media file. Go to the Cue that contains this media.

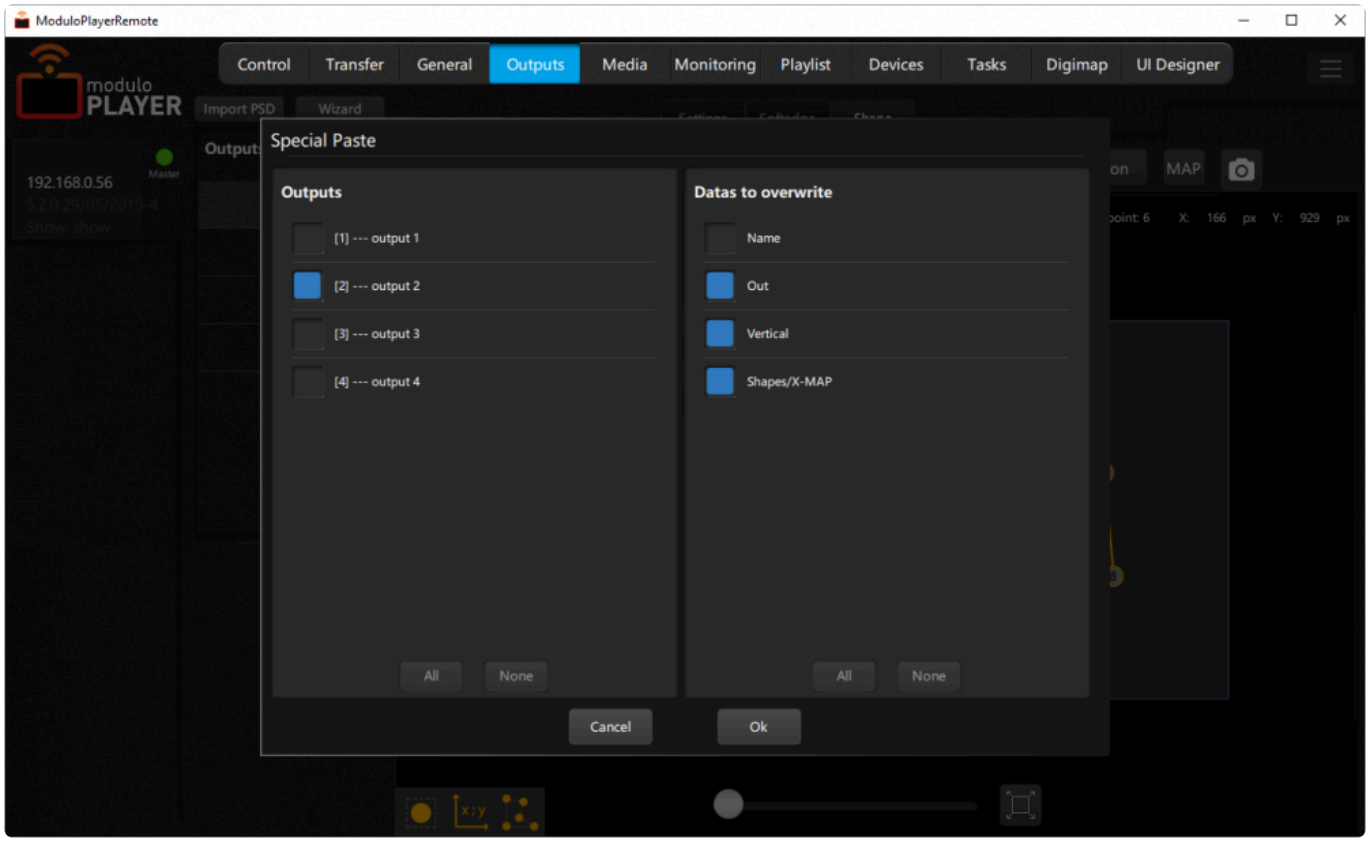
Back to the LEDOutput > Mapping subtab:
Take an image of what is currently playing.
Activate/deactivate the in order to toggle visibility
Enter the starting point of the capture
Assign the Anchor point of the media
You can also change the scale (in pixels or percentage) by preserving the ratio or not.

CAUTION:
In order for your media to match perfectly with the LED Output and avoid any unwanted anti-aliasing, you should map media files that are pixel perfect to the Fixture.



Copy/Paste

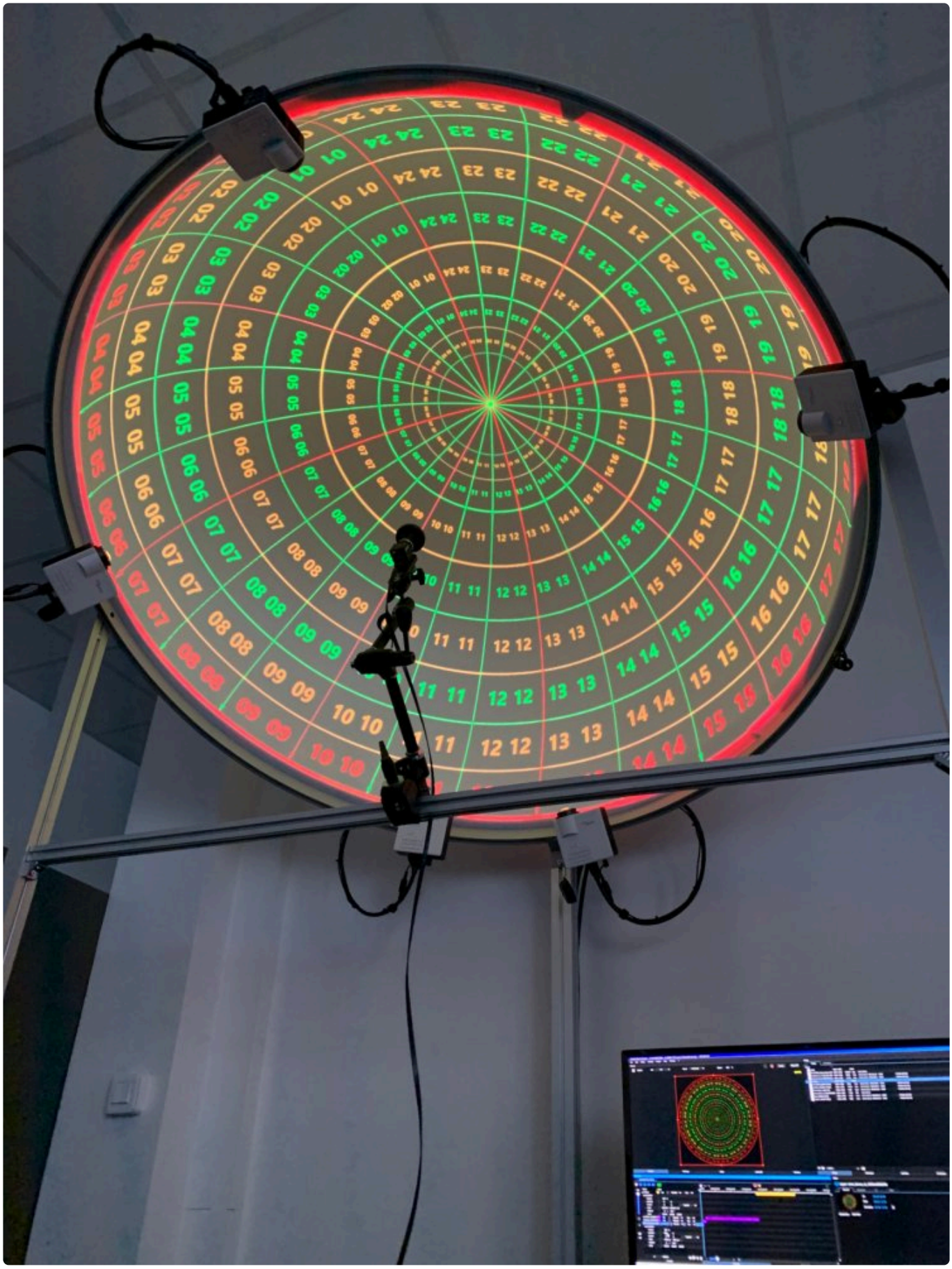
Use the copy/paste button to copy the settings of one output or X-Map to another.



First select the reference output, then click on the special copy&paste button.
You can select the target outputs and the properties you want to copy.

Auto-calibration

The goal of auto-calibration consists in obtaining one seamless display composed of multiple outputs like presented on the image below:



Setup

To perform auto-calibration, you will need the following equipment:

- Your Modulo Player or Modulo Kinetic media server equipped with the auto-calibration option
- PoE switch
- Camera:
  - For FLIR camera setup, see this topic
  - For IDS camera setup, see this topic

Auto-calibration steps

Step 1/10 – Instructions

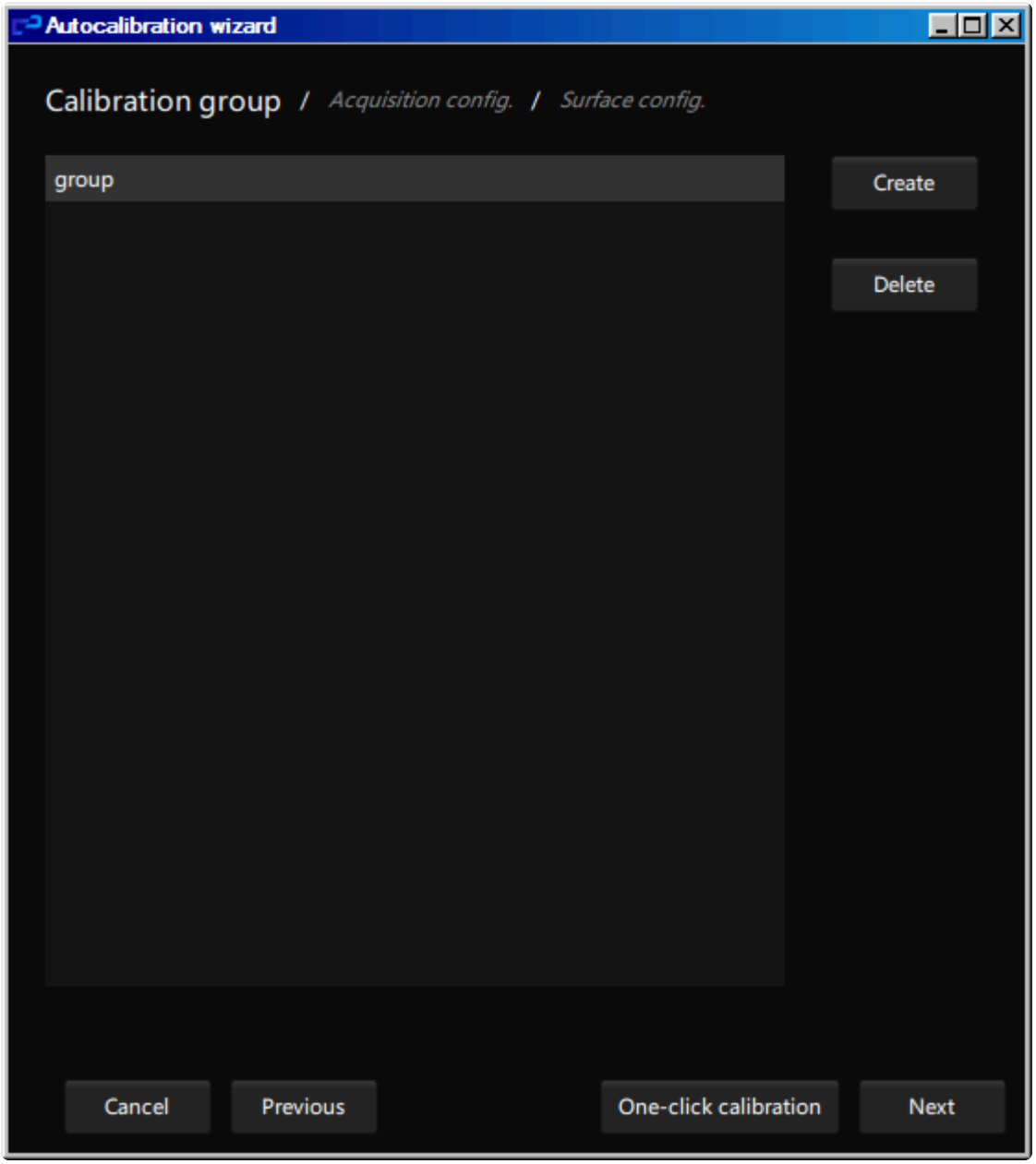
In order to achieve a better auto-calibration, prepare your environment:
1. For each projector, be sure the following build-in settings apply:
On the projector:
- Automatic **keystone** set to **OFF**
- **Overscan** set to **OFF**
- **Noise reduction** set to **OFF**

2. For better image contrast, consider minimizing the influence from the external light sources (turn the lights off).

Step 2/10 – Defining groups

This page allows defining auto-calibration group(s). Each group contains a set of outputs that need to be calibrated and a dedicated camera.
In addition, this window allows to choose the auto-calibration mode:
- **Default**: It should be used for the first auto-calibration. You proceed through all the steps, i.e. full control on calibration parameters.
- **One-click calibration**: Brings you directly to step 10, image acquisition. In this mode, the new image capture is made using the parameters defined during the last Default calibration. This mode is useful in case one of the projectors has moved, so you need to update auto-calibration and keep the same masks and warp. If it was the camera that has moved, the display mask and the warp may not be valid anymore (consider to run the auto-calibration in Default mode).

By clicking Next, you continue the auto-calibration in Default mode.



Step 3/10 – Selecting outputs

To add an output to auto-calibration, select the corresponding V-Node server, then drag & drop the output you want to add.
Blend group should be used only for multiple layer configurations (such as dual projector configuration). In this case, the blending will be performed only between the outputs of the same group.

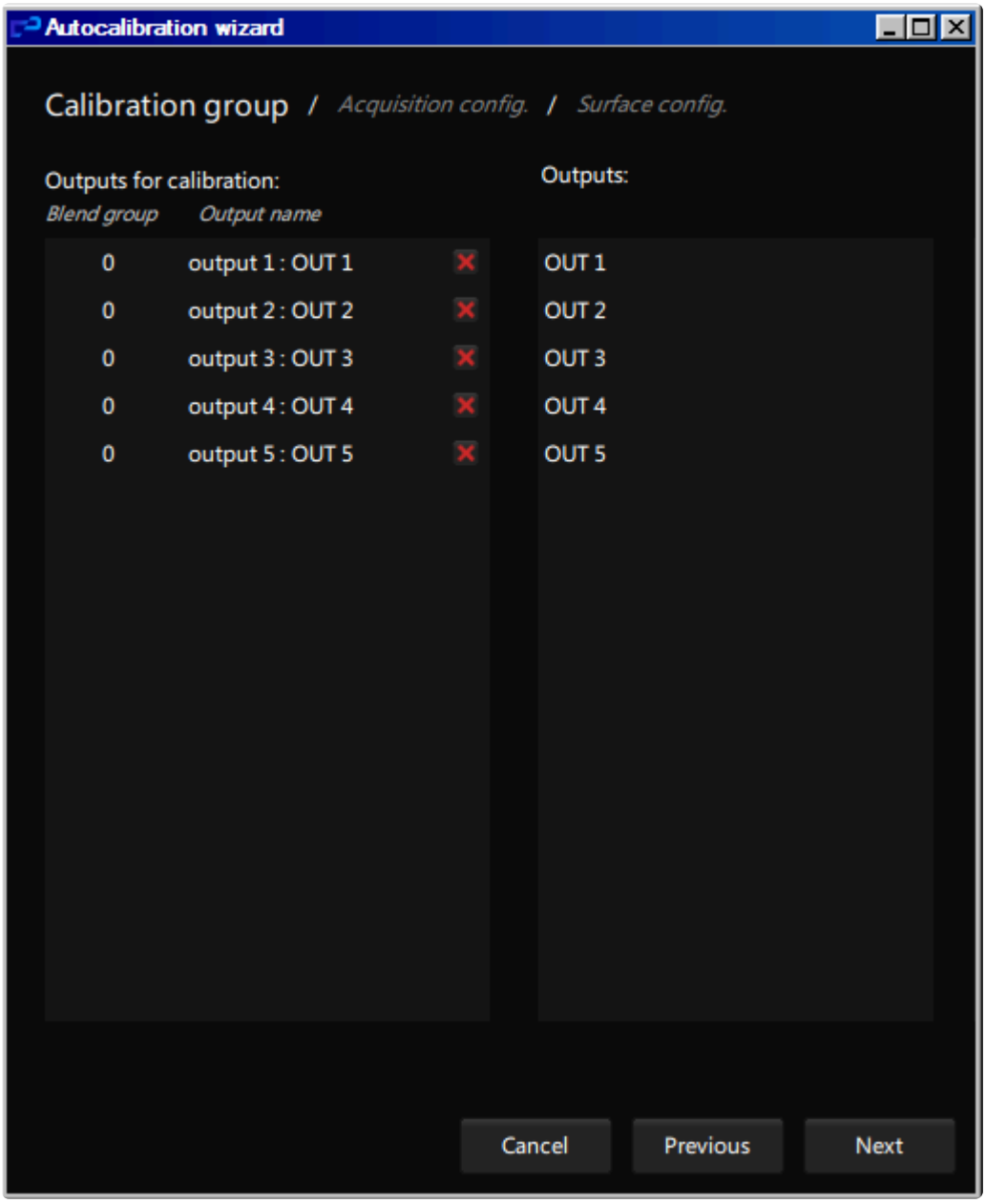
Some examples:

- Flat screen. 2 projectors side by side

Blend group	Output
0	outputLeft
0	outputRight

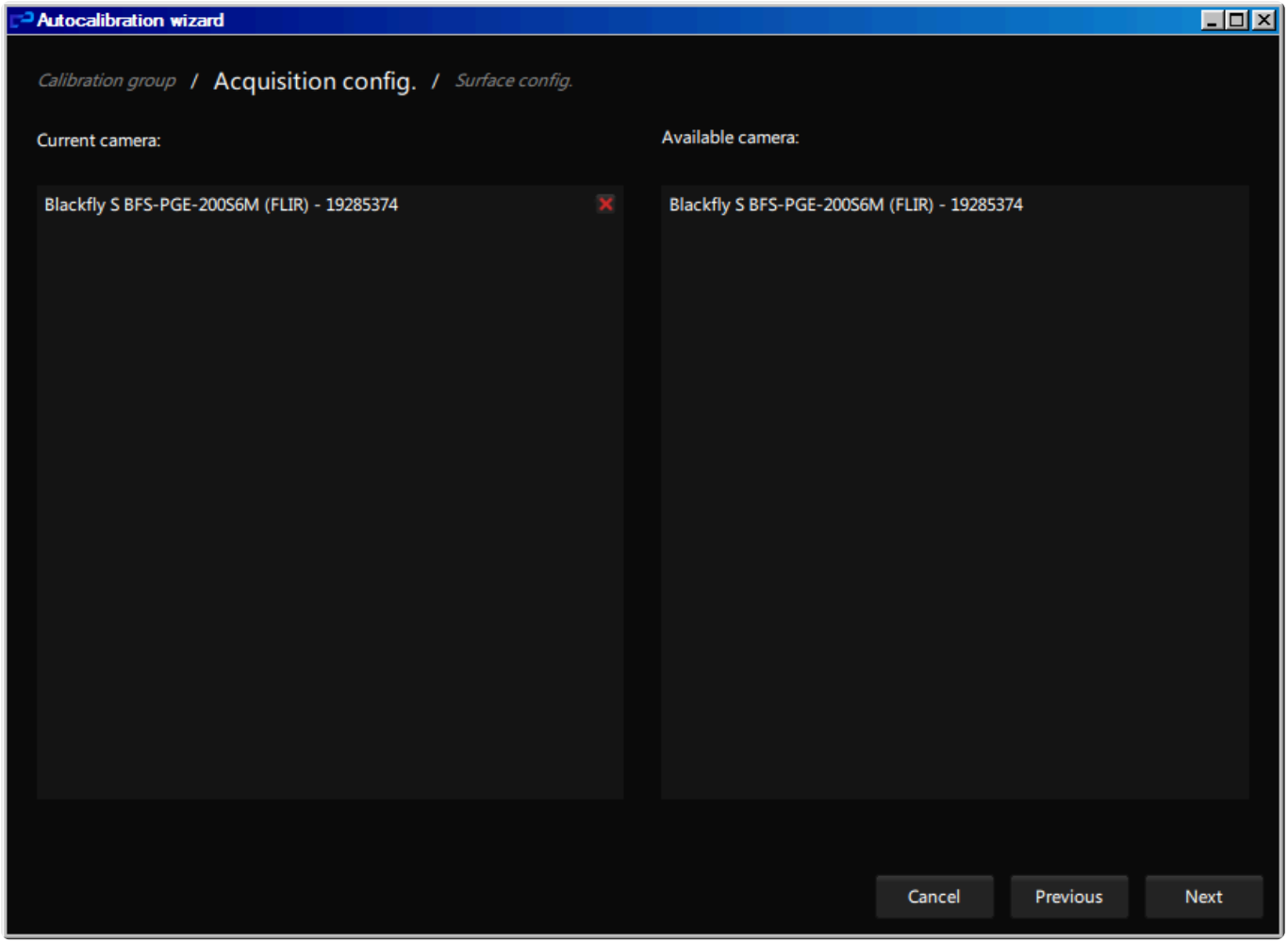
- Curved screen. 4 projectors, 2 duals side by side

Blend group	Output
0	outputLeft1
1	outputLeft2
0	outputRight1
1	outputRight2



Step 4/10 – Selecting camera

On this page, select the camera that will be used for auto-calibration. The right panel displays the list of all available cameras.

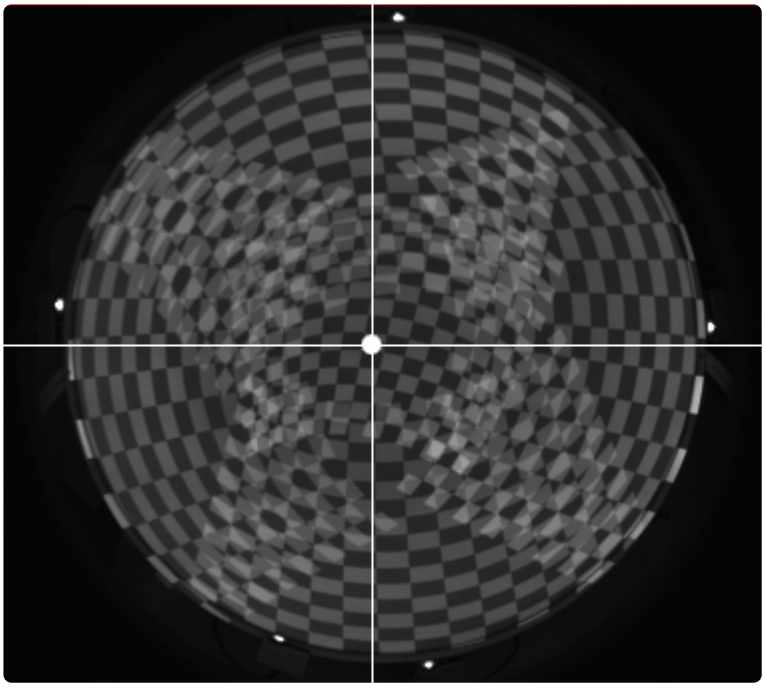


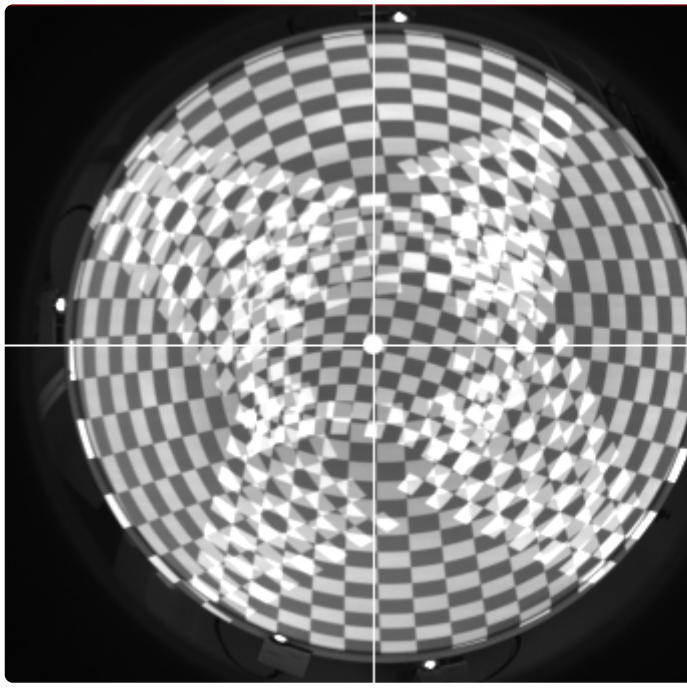
Step 5/10 – Setting camera parameters

The main parameter in this section is camera exposure. You need to ensure good contrast between projector black and white (see example below).
For gain, the minimal value should apply. The only reason to increase gain is when the exposure is at its maximum but the contrast is too low.

> Consider adapting camera aperture first (using the ring on the optics) before changing exposure and gain.

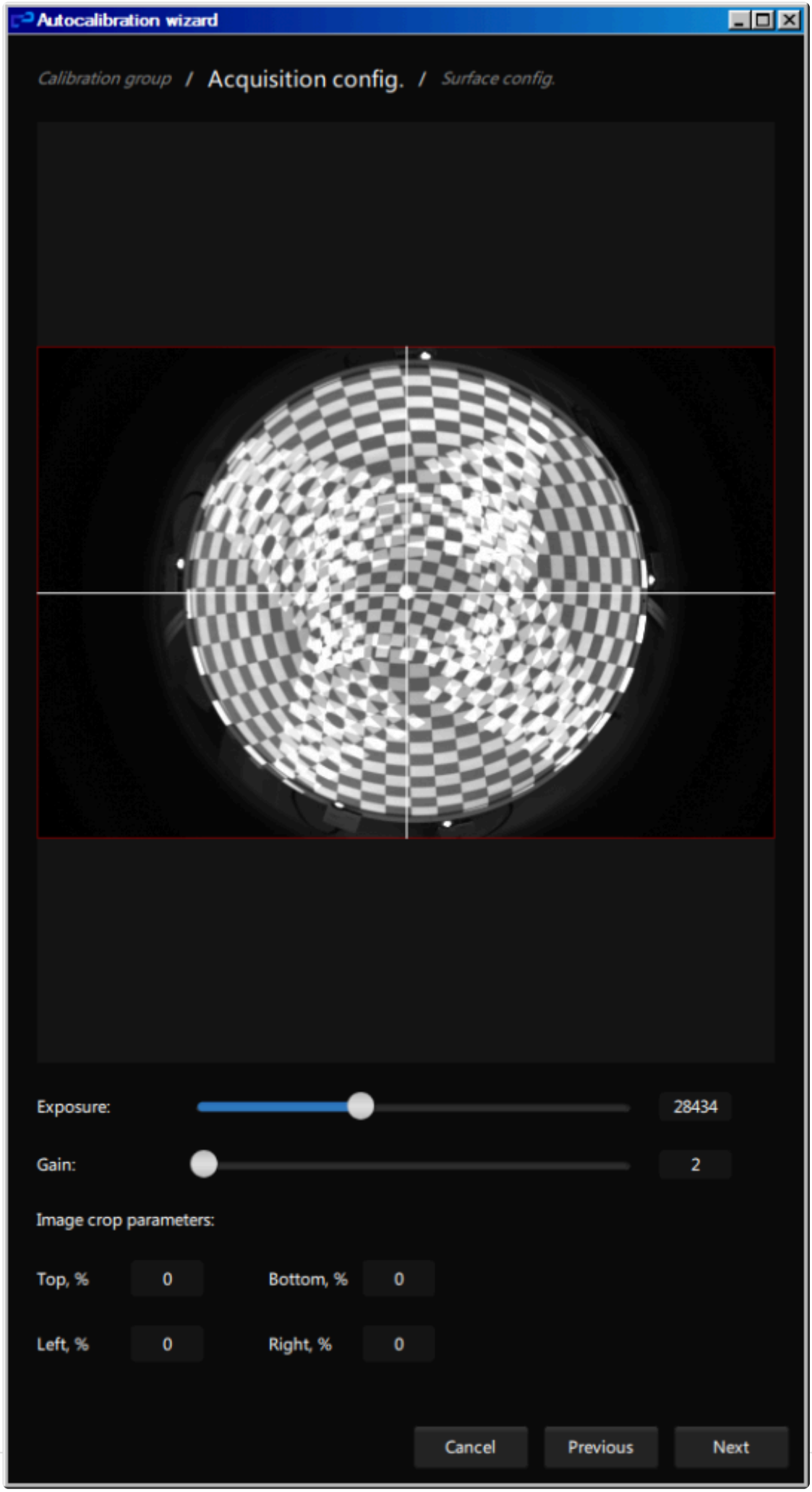
Exposure too low	Exposure OK





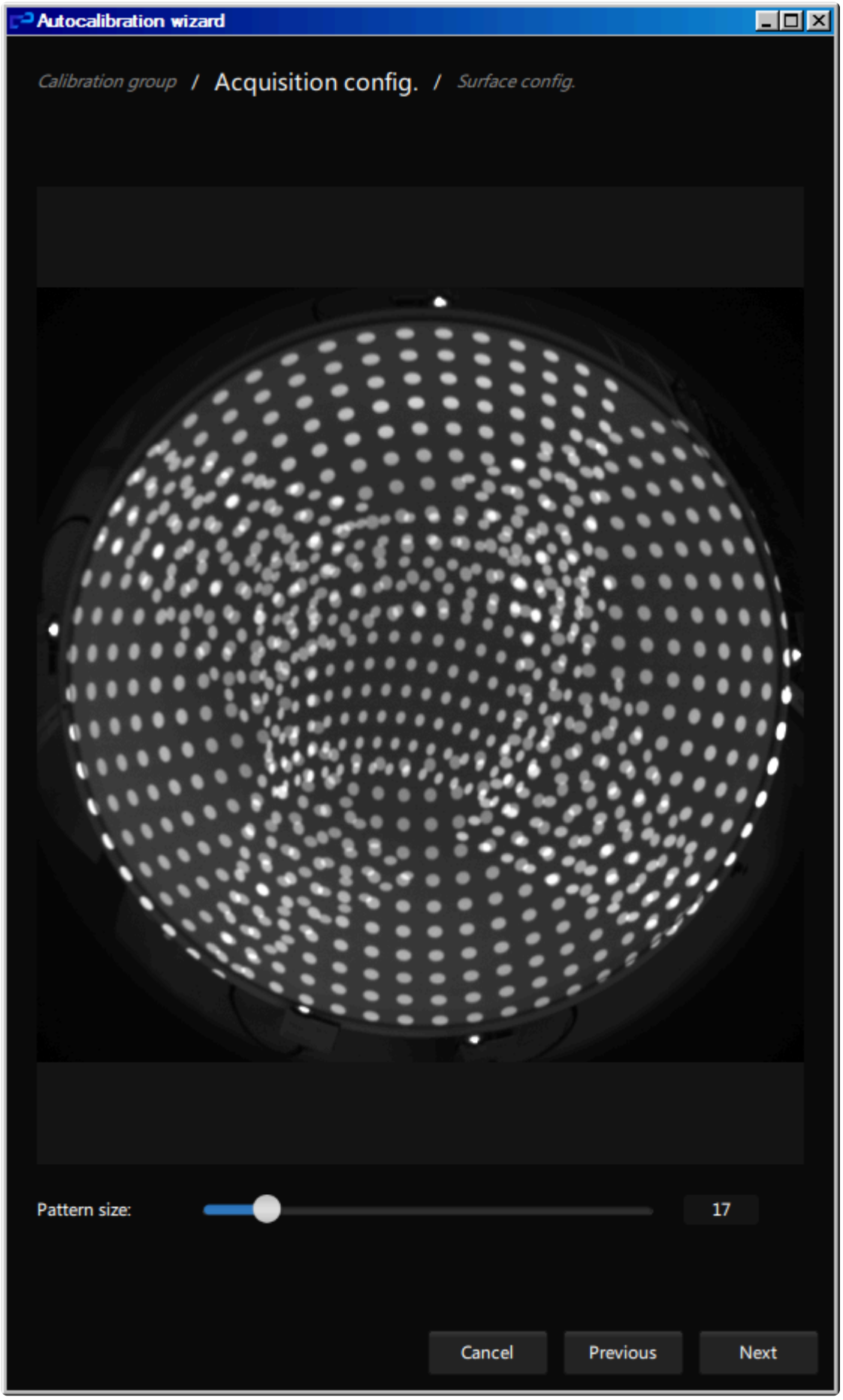
The second group of parameters is for image crop. While it does not have a direct impact on the results of auto-calibration, image crop offers some advantages: It increases the speed of image(s) acquisition, and the acquired image(s) take less space on the hard drive.

No crop	Crop

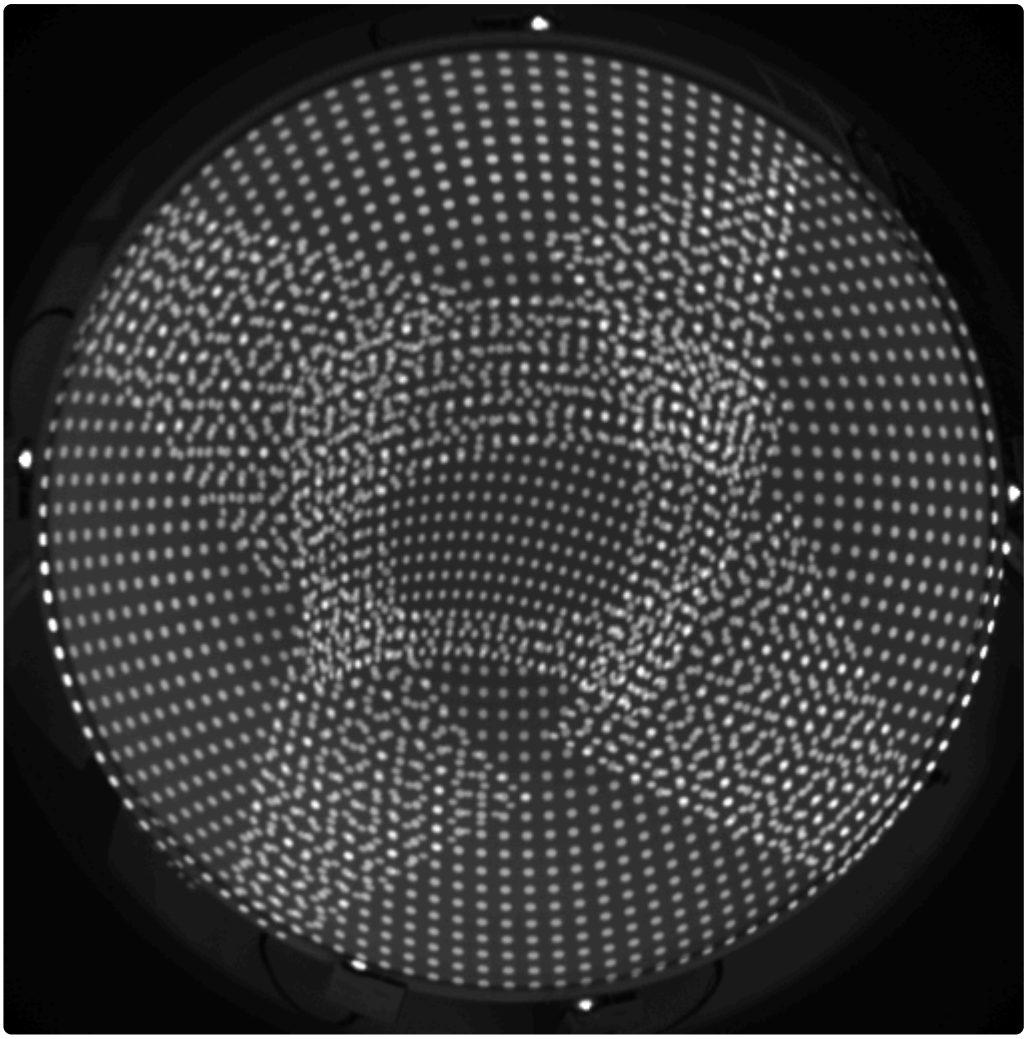
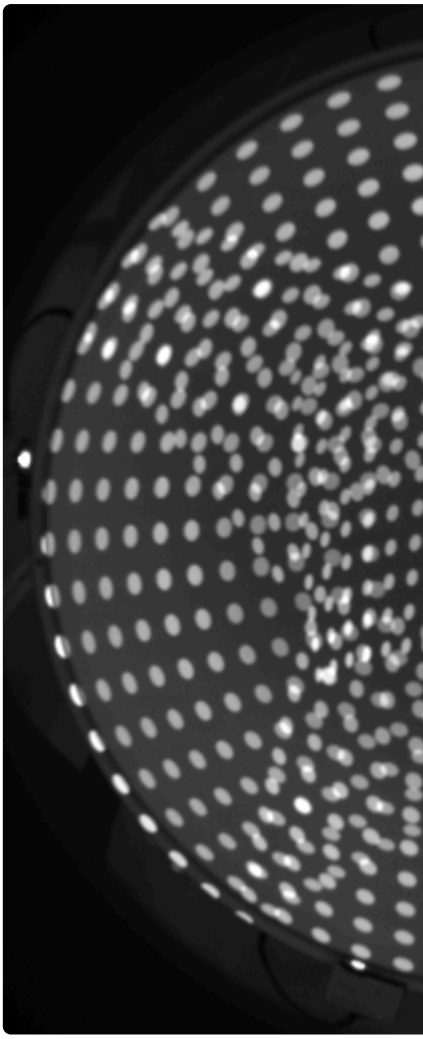

Autocalibration wizard
Calibration group / Acquisition config. / Surface config.
Exposure:
28434
Gain:
2
Image crop parameters:
Top, %
0
Bottom, %
0
Left, %
0
Right, %
0
Cancel
Previous
Next
Autocalibration wizard
Calibration group / Ac
Exposure:
Gain:
Image crop parameters:
Top, %
0
Left, %
18

Step 6/10 – Pattern settings

Pattern size slider allows defining the size of the projected pattern. This parameter has a huge impact on the results of calibration.
The most appropriate value may be very different from one setup to another, and can only be determined experimentally. The good rule of thumb is to choose such pattern size so you have approximately 20 circles along the output width.



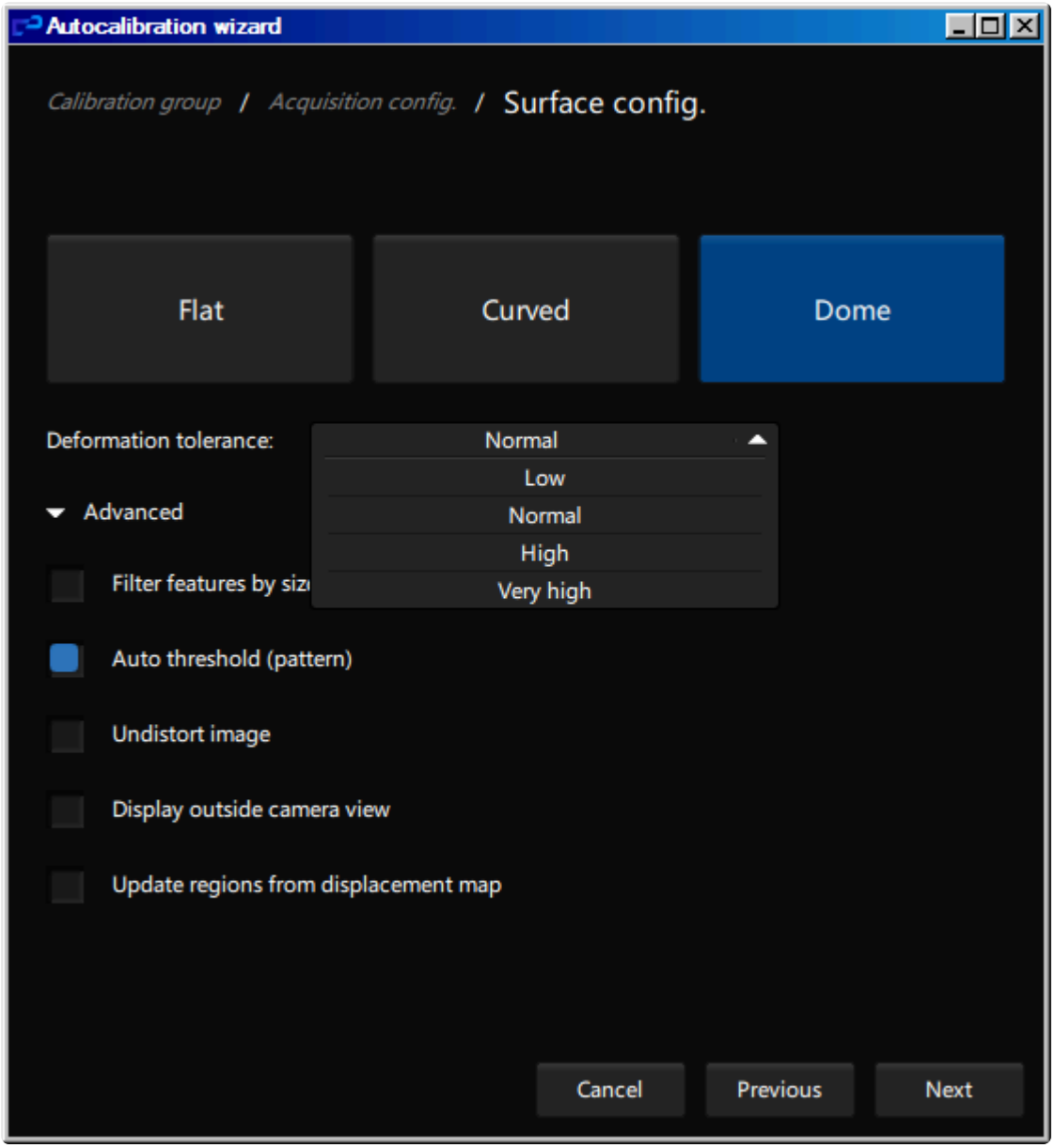
Avoid pattern sizes that are too small or too big.

Too small	Ok
	

Step 7/10 – Configuration

At this step, the user is asked to choose the type of display that is actually calibrated. Clicking on the corresponding button load the preset for the parameters in the advanced tab.

Deformation tolerance parameters take four possible values: *Low, Normal, High, Very high*. It defines the rigidity of the transformation that the algorithm is allowed to apply to the output image. You should take a higher tolerance to compensate the imperfection of the screen surface.

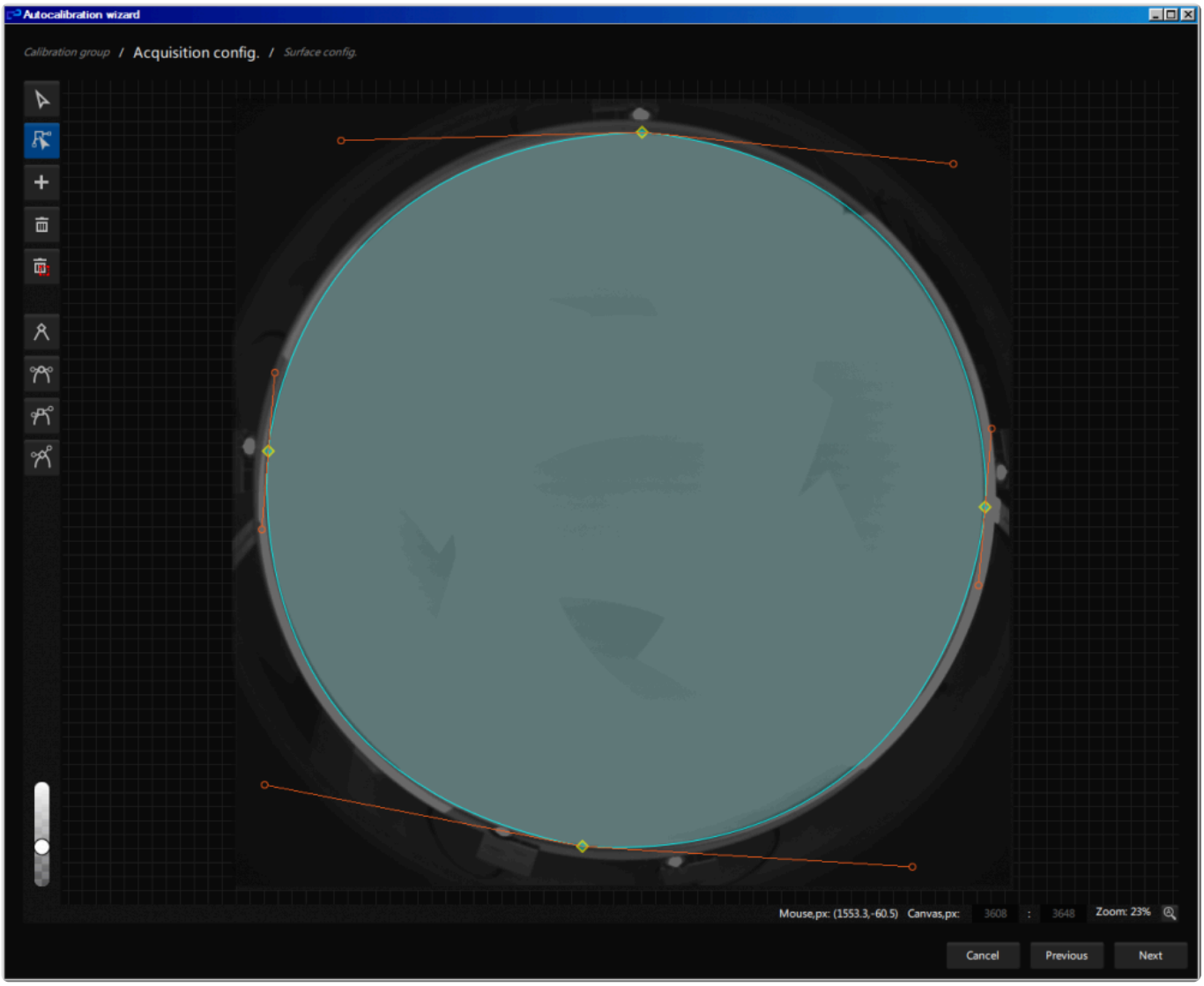


Advanced parameters:
- ***Filter features by size***: This option allows to discard features (blobs) that are too different from an average size of all detected blobs. It should be active only for flat or almost flat screens.
- ***Auto threshold***: Allows choosing whether pattern binarization is performed automatically or using the threshold defined in Step 9.
- ***Undistort image***: Undistort image during calibration
- ***Display outside camera view***: Tells the algorithm whether the camera sees the whole display or not. By setting this parameter to On, the algorithm will consider the zones invisible by the camera as zones without blending (full projection). Otherwise, it will set blending to zero (no image emitted).
- ***Update regions from displacement map***: Should be used only for flat screens, in case the camera does not see the whole screen.

Step 8/10 – Global mask definition

In this window, you can control the mask that is applied to the whole screen. In the following example, there will not be any projection outside the blue area. In order to start drawing the mask, click on the “+” button (add path).

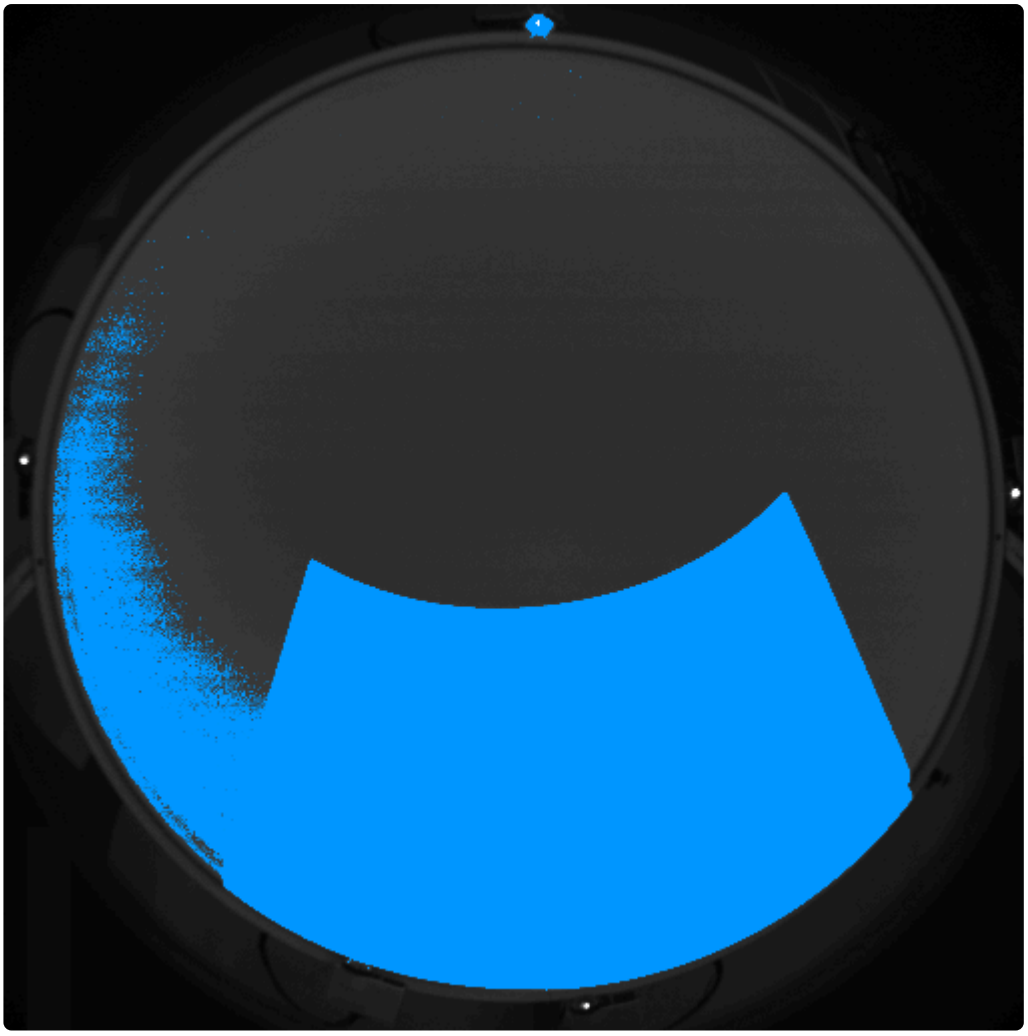
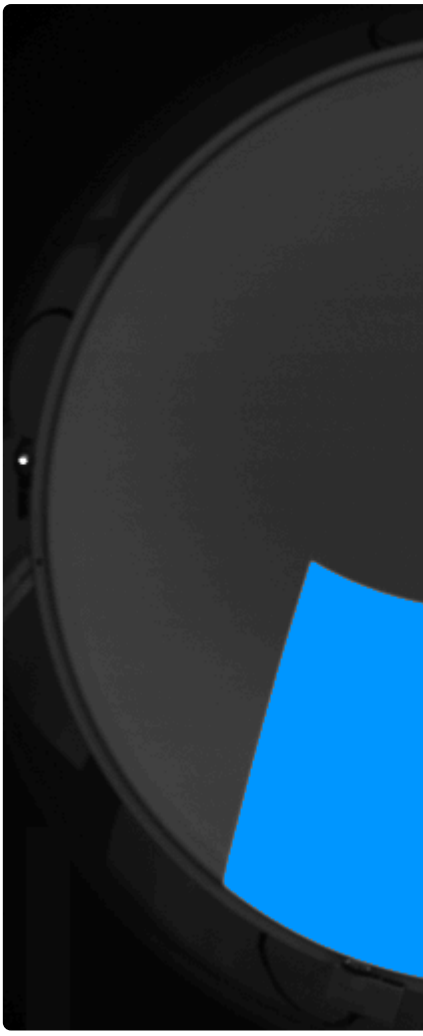
See MaskEditor for more details (under development).
Specifying no mask is equivalent to drawing a mask covering the whole screen.



Step 9/10 – Mask per output

Each auto-calibration output has a mask. The mask corresponds to the area of the display that is covered by the given output (projector). The parameter **binarization threshold** allows to adjust it. The blue area on the image corresponds to the zone that will then be used for the blending of the output.

The value of the threshold is right when the blue area on the image corresponds best to the area covered by the output.

Too low	Ok
	

Step 10/10 – Acquiring images

Displays the progress of image acquisition.

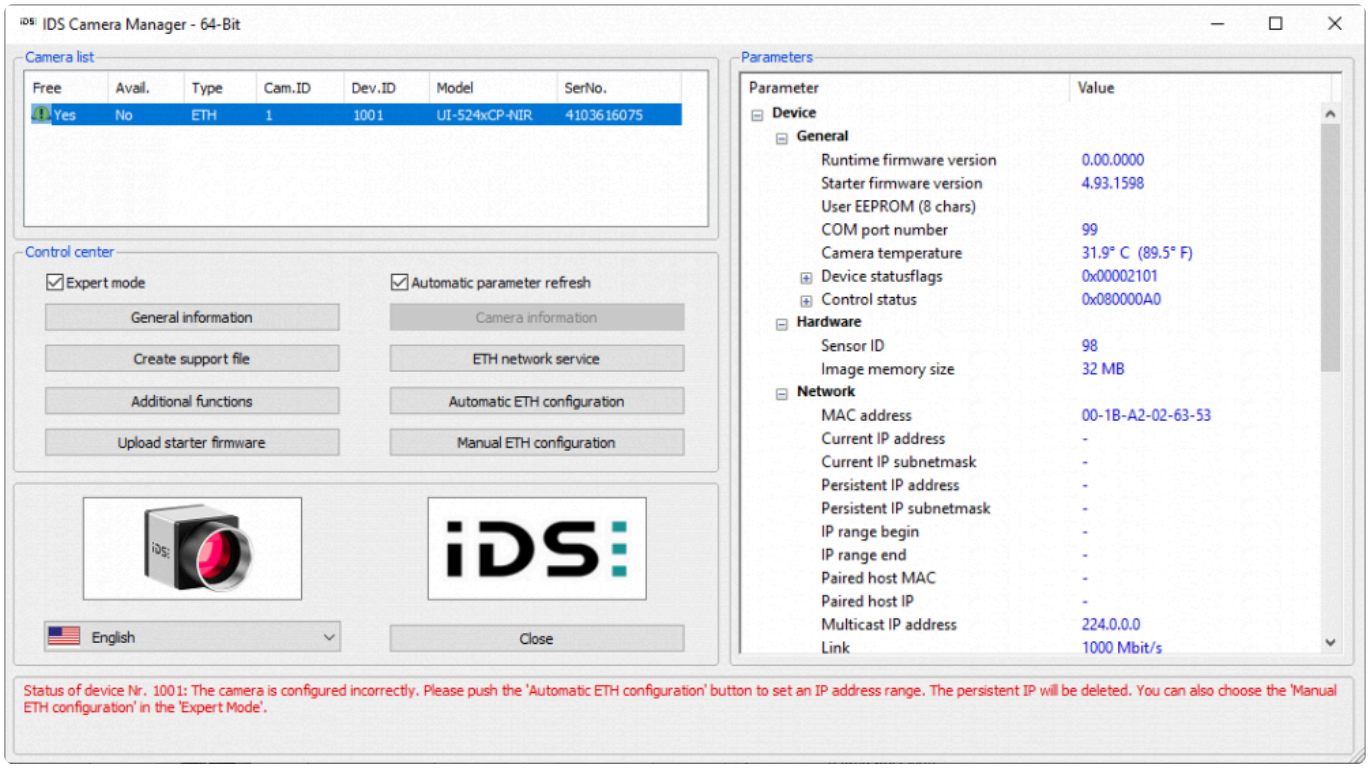
Camera setup: IDS

Setup of IDS camera for auto-calibration

1. Install the camera driver: uEye64_49300_WHQL.exe.

> ! The driver must be installed on both the Modulo Player server and Modulo Player Remote computer!

2. Start IDS Camera Manager
3. In a case the camera has a network configuration problem, click on “Automatic ETH configuration”



4. Double-click on the corresponding camera in the “Camera list” and make sure that the image acquisition is OK.

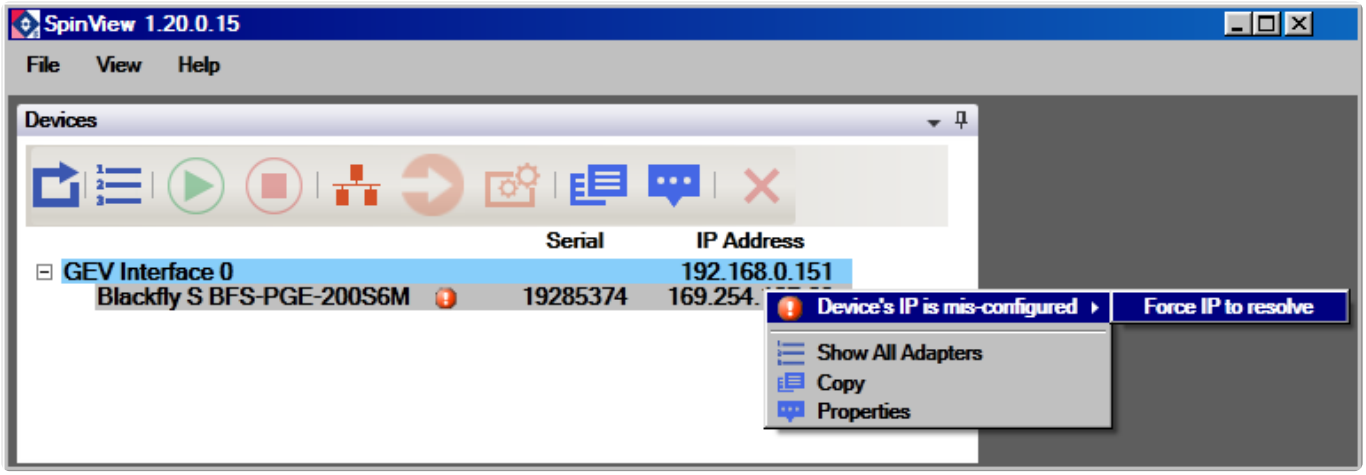
Camera setup: PtGrey

Setup of FLIR-PtGrey camera for auto-calibration

1. Install the camera driver: SpinnakerSDK_FULL_1.20.0.15_x64.exe.

> ! The driver must be installed on both the Modulo Player server and Modulo Player Remote computer!

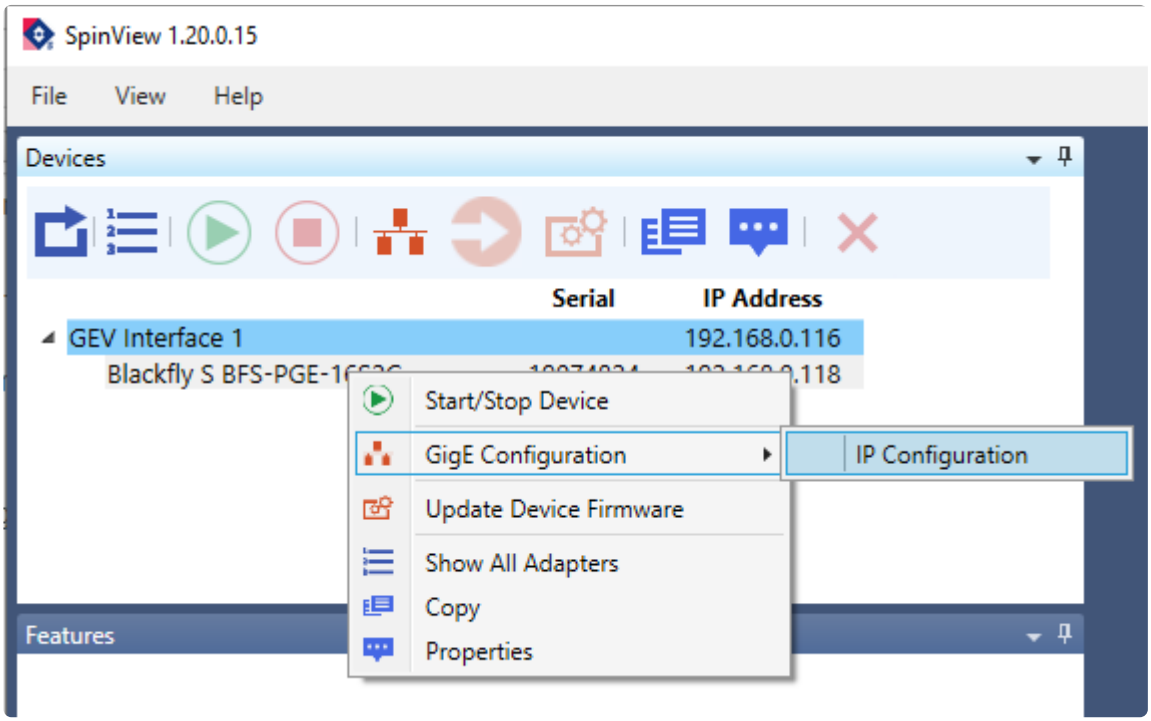
2. Start “SpinView” program (from Start menu)
3. In a case the camera has a network configuration problem, right-click on the camera name and click on “Force IP to resolve”

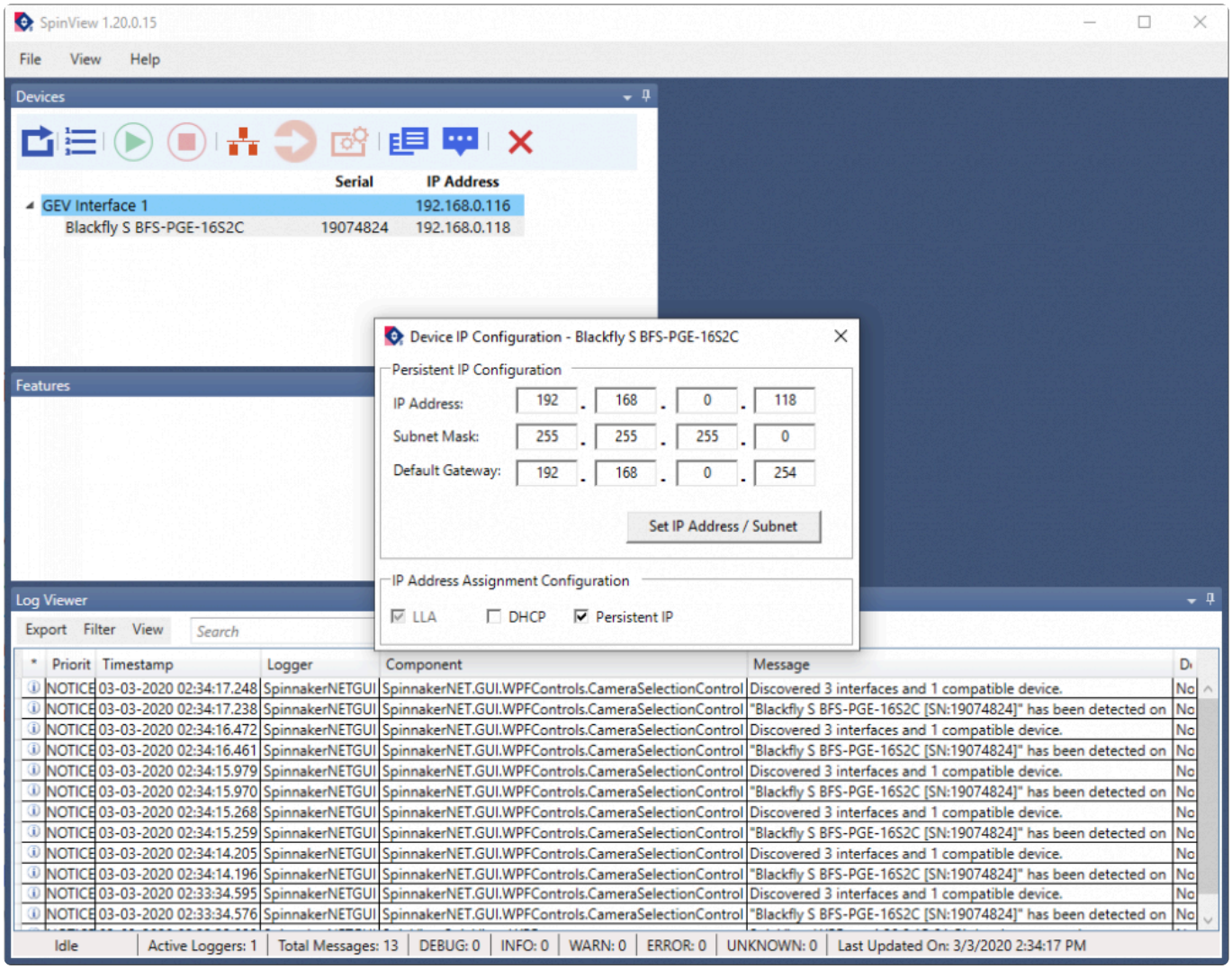


4. Double-click on the corresponding camera in the “Camera list” and make sure that the image acquisition is OK.

Save IP configuration

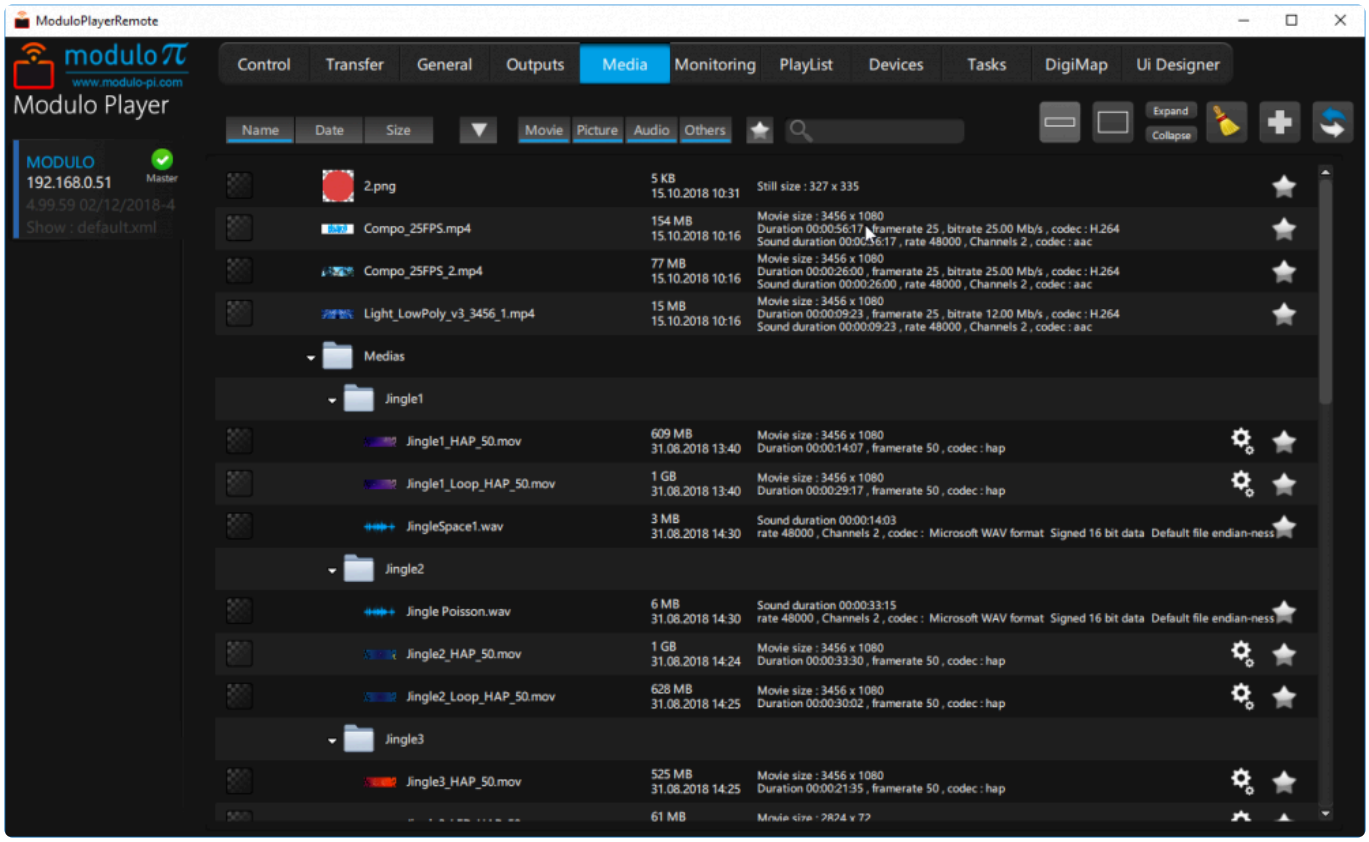
By default, PtGrey cameras reset their IP to the factory value on each power-up. However, il you want the camera to save the IP address:




SpinView 1.20.0.15
File View Help
Devices
Serial IP Address
GEV Interface 1 192.168.0.116
Blackfly S BFS-PGE-16S2C 19074824 192.168.0.118
Features
Device IP Configuration - Blackfly S BFS-PGE-16S2C
Persistent IP Configuration
IP Address: 192 . 168 . 0 . 118
Subnet Mask: 255 . 255 . 255 . 0
Default Gateway: 192 . 168 . 0 . 254
Set IP Address / Subnet
IP Address Assignment Configuration
LLA DHCP Persistent IP
Log Viewer
Export Filter View Search
Priorit Timestamp Logger Component Message
NOTICE 03-03-2020 02:34:17.248 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:34:17.238 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
NOTICE 03-03-2020 02:34:16.472 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:34:16.461 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
NOTICE 03-03-2020 02:34:15.979 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:34:15.970 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
NOTICE 03-03-2020 02:34:15.268 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:34:15.259 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
NOTICE 03-03-2020 02:34:14.205 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:34:14.196 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
NOTICE 03-03-2020 02:33:34.595 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl Discovered 3 interfaces and 1 compatible device.
NOTICE 03-03-2020 02:33:34.576 SpinnakerNETGUI SpinnakerNET.GUI.WPFControls.CameraSelectionControl "Blackfly S BFS-PGE-16S2C [SN:19074824]" has been detected on
Idle Active Loggers: 1 Total Messages: 13 DEBUG: 0 INFO: 0 WARN: 0 ERROR: 0 UNKNOWN: 0 Last Updated On: 3/3/2020 2:34:17 PM

Global warp

Media tab



The Media tab lists all media available on the project folder and subfolders.

NB: Refer to the Media Creation page for codec and format specifications.

- Media can be either in sub-folders or in the base folder of your project.
- The non-compressed server versions can handle uncompressed TGA and DPX still images sequence:
  The TGA numbered image sequence should be in a folder with the .tga extension. You can setup the framerate using the option button in the relevant line.
  The DPX numbered image sequence should be in a folder with the .dpxextension. You can setup the framerate using the option button in the relevant line.

Supported file formats:
Video: MPEG2, H264 (.mov container), HAP, HAP Alpha, HAP Q, Apple ProRes, GoPro Cineform
Image: PNG, JPEG, TIFF
Audio: WAV, AIFF, sound multiplexed with MPEG2 or H264

For more information about size and performance of H264 vs Apple ProRes vs HAP, visit this page.
Relevant information is displayed for each medium: Size, date, resolution, framerate, bitrate, etc.

- You can sort/filter media by name, date, and size, using the toolbar.
  You can also search for a specific medium by using filters like type (movies, picture, audio, live), extension format or a piece of the file's name.

Click on the star to bookmark Media in a list of Favorites. Then you can select the star on the filtering tool to refine the search to favorite media only.
You can add a color to your media to locate them easily in the list.

After operating a media transfer, click on “Refresh” to update the media list.

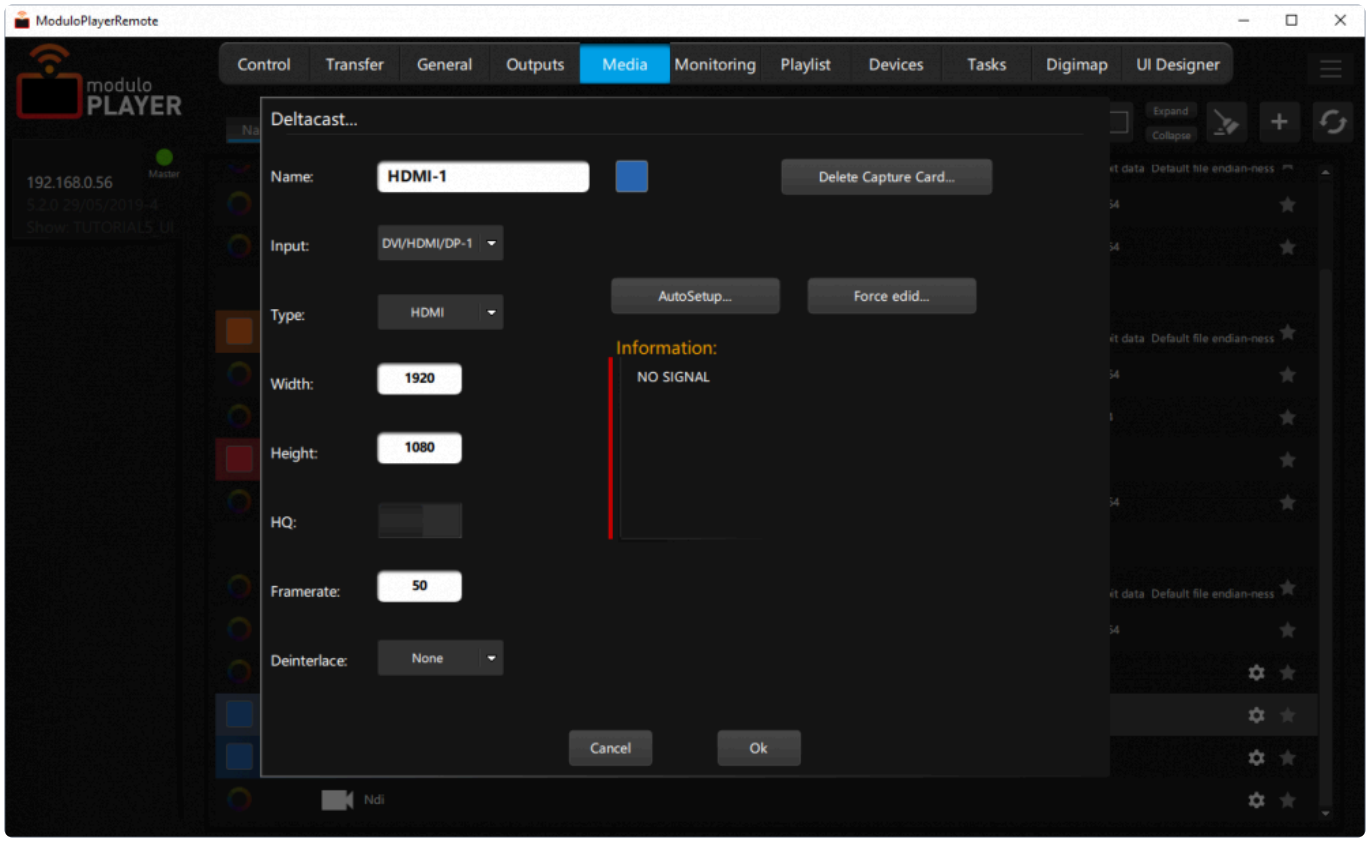
Version 5 new important feature:
The refresh of the media is now done in the background and won’t lock the playback anymore.
If a medium is not available on the disk anymore, it will stay but in red color.
If you copy the missing medium on the right folder, you can then click Refresh and the medium will be back. You will not loose the link in layers.
If you decide to remove media and want to remove them from the list, click on the Sweep button to remove missing media from the list.

With this button on the top right corner, add other media such as:
• Deltacast capture card (Automatic detection and configuration)
• Counters e.g. used for onstage monitoring
• Playlist TC: Allows you to display the timecode of a playlist for rehearsal
• Text: Still, scrolling, alternate
• Solid: Add a solid color rectangle as medium by entering the RGB value
• Test Pattern: Generate a custom test pattern for setup
• NDI source
• Ten bits Gradient: For ten bits workflow
• Desktop, Spout: Output applications running on the server in real-time
• Web page: Displays a url. Use light web pages, otherwise it may have a negative impact on the other media playback displayed at the same time as the web page
• Decklink capture card

Auto discover Deltacast Inputs:

This new feature helps you detect and automatically add all input cards detected in Modulo Player, even if there is no media streaming.
Click on Auto discover Deltacast inputs to add a listing of your input sources.
Once your sources are added, you can configure EDID (if needed).

Deltacast



You can use a Deltacast capture card in order to capture a HDMI or HD-SDI, on SDI, DVI video stream. You can handle it as a media.

For HD-SDI input board type:
Configure settings in order to display media from the acquisition cards.
Name: Assign a name in order to find it easily on the media list
Input: Choose your SDI source
Width: Stream width
Height: Stream height
Framerate: Number of images per second
Deinterlace: Select between Top or Bottom Field to deinterlace the signal
Click on Autosetup to automatically configure your sources. Once the signal is set, the indication becomes from red to green.
Via this function, the source's width/ height, framerate and deinterlacement is set.

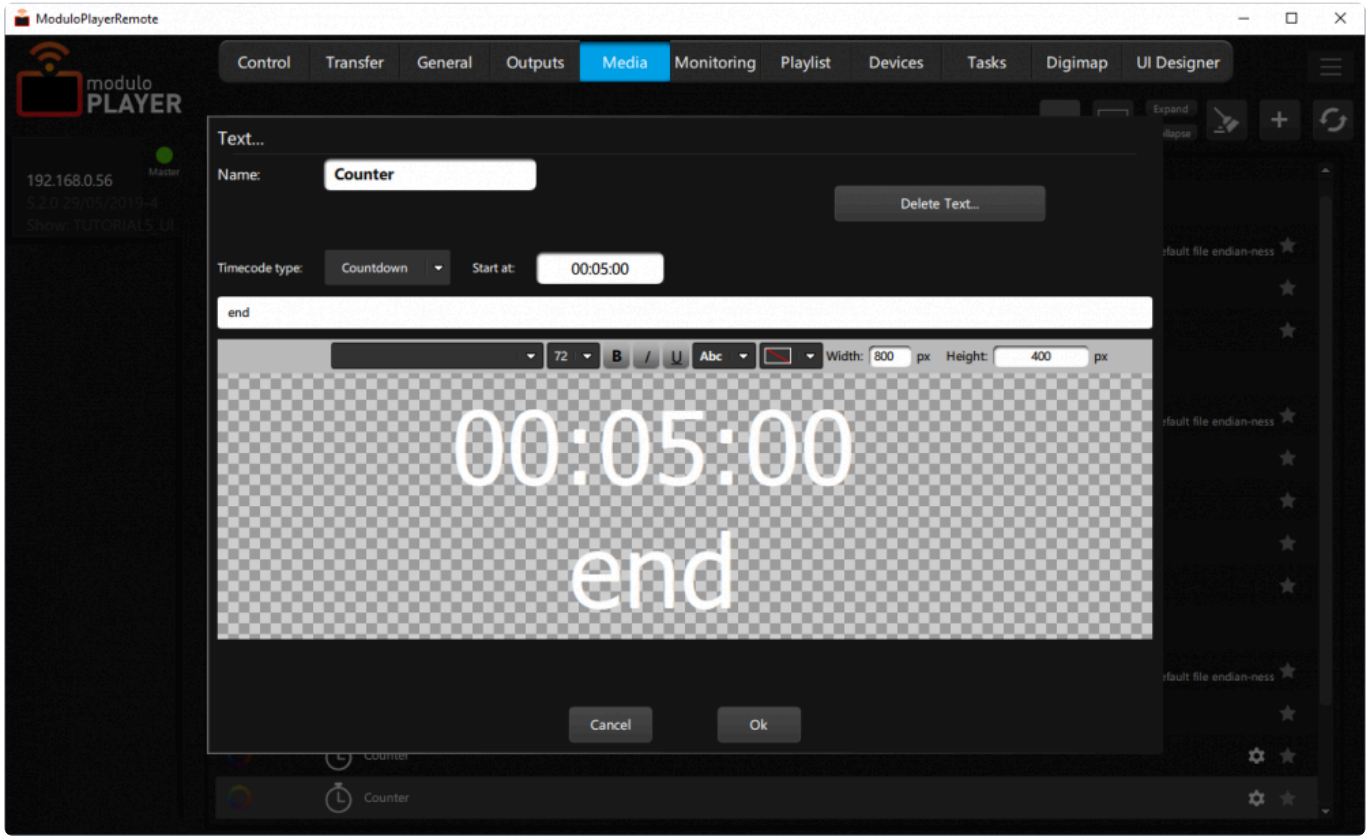
For HDMI input board type:
Name: Assign a name to the media to find it easily on the media list
Input: Choose your output DVI/HDMI source
You can force the EDID of the HDMI input source directly in Modulo Player. To do so, click on the force EDID button and select the appropriate EDID for the incoming signal.
Once you click Apply, the computer (input source) will flash briefly. Once the EDID forced, a green notice will appear for some seconds confirming that the EDID was loaded with success. Click on Back to return to the deltacast window, and click on Autosetup.

Click on Autosetup to automatically configure your sources. Once the signal is set, the indication becomes from red to green.
NB: This function will autoset input type, width and height, HQ option, framerate and deinterlacement.
Type: Choose the input type (depending on source connected)
Width: Stream width in pixels
Height: Stream height in pixels
H.Q: Allows to switch the DVI capture card from YUV quality mode to RGB quality mode.
Framerate: Number of images per second
Deinterlace: Signal deinterlacement

USER EDID :If the EDID is not already in the list you can copy it manually to the Server's Documents > Modulo Player > deltacast_edid folder and use them in the user tab.

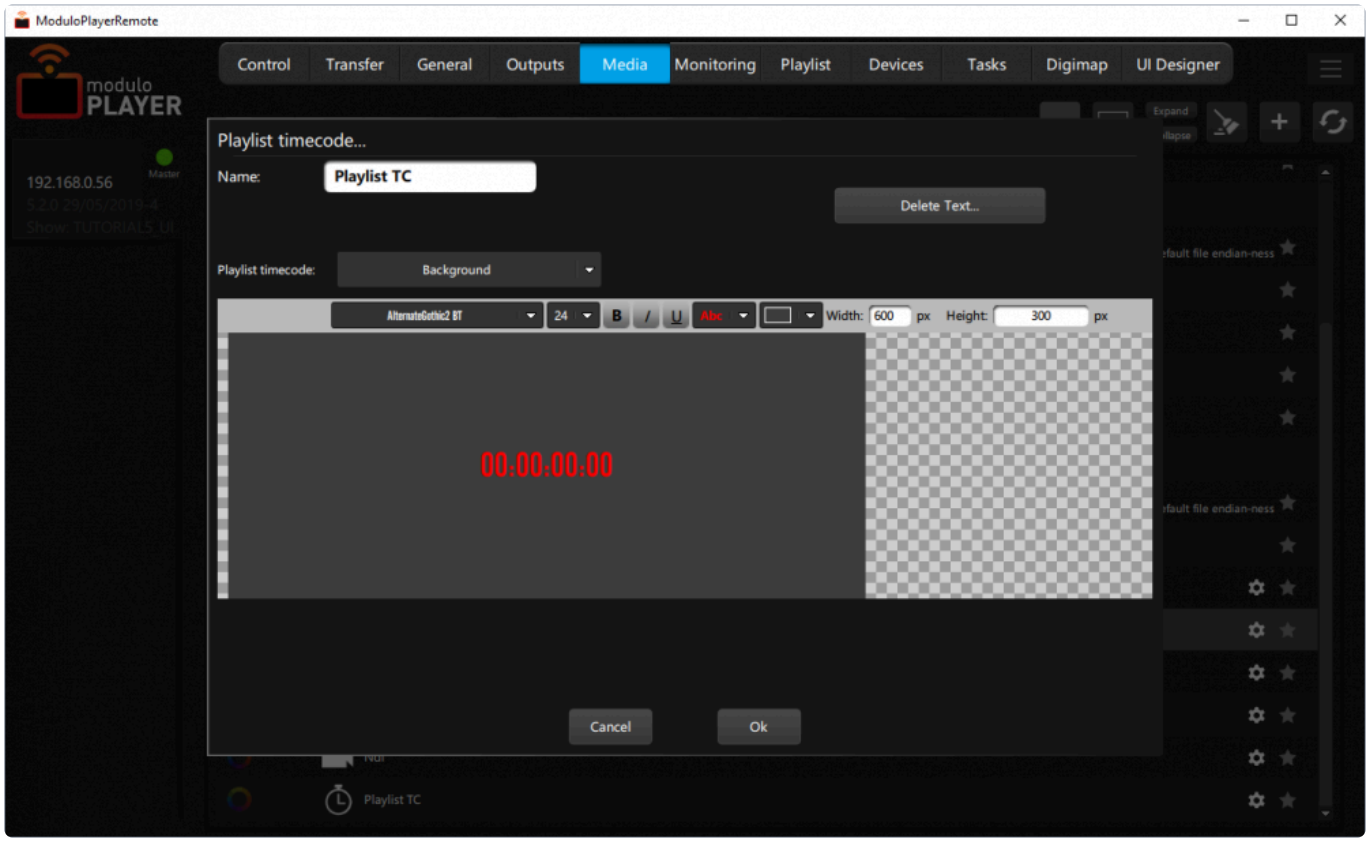
Click on «delete capture card» button if you want to remove it from the Media list.

Counter



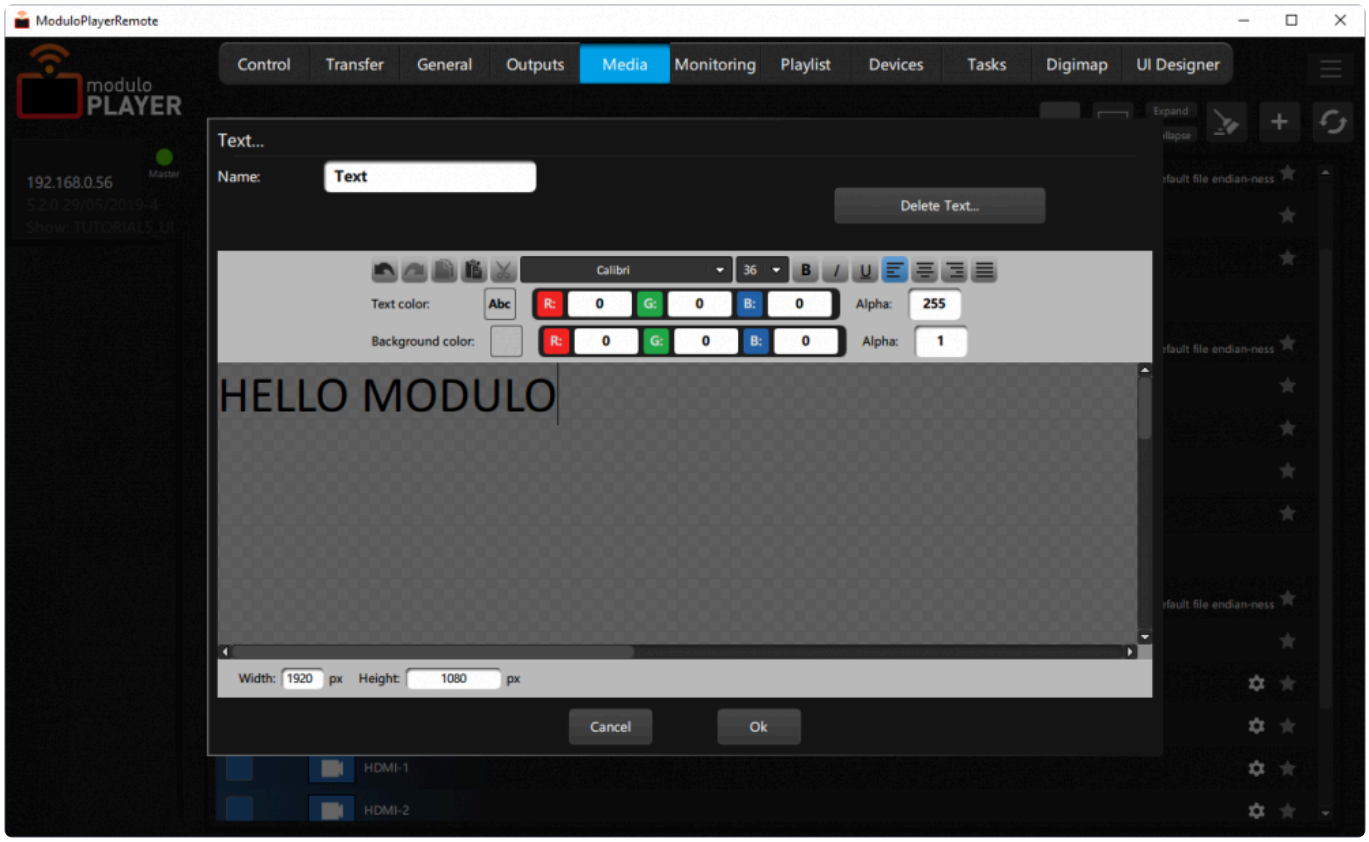
You can generate counters or clock directly on the server in order to display them on onstage monitors.
• Timecode type: up/down counter, clock
• Text: Text you can display at the same time as the counter
• Size: Please remember to choose the media size finely to ensure the best quality. (for example please avoid to zoom on the Media when browsing the playlist)

Playlist TC



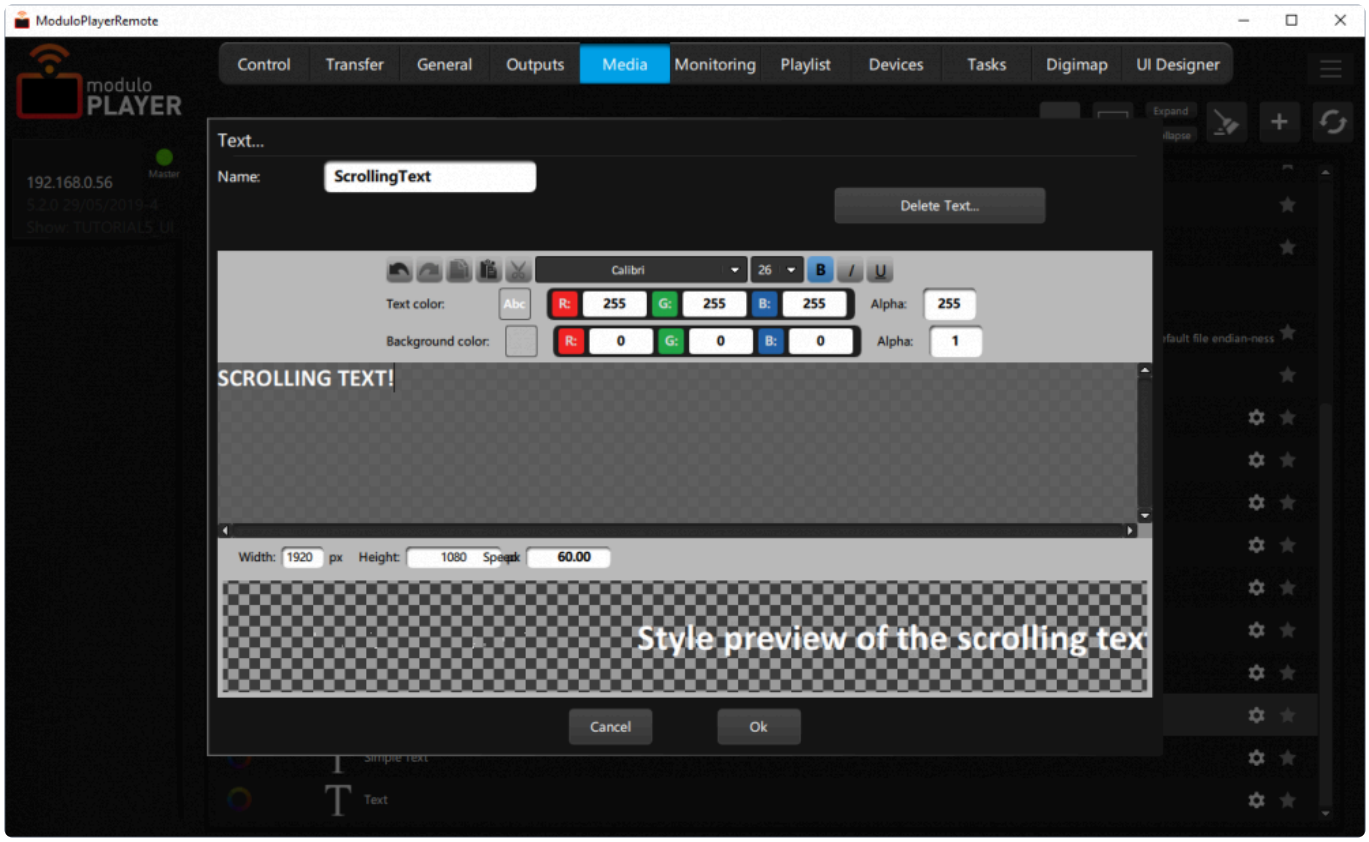
This media generate a timecode synchronized with the timecode of the playlist.
It’s an helper media to encode a show.

Text



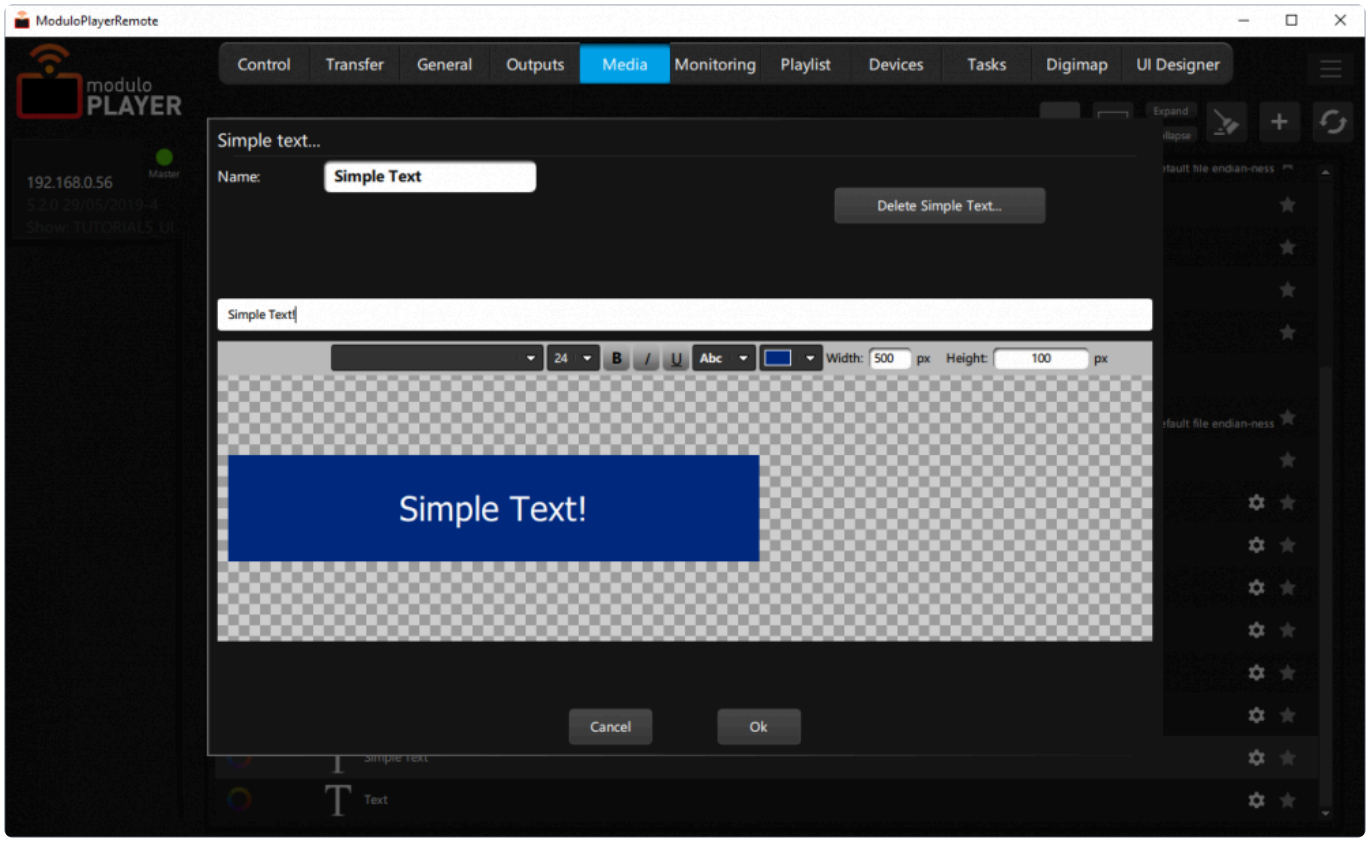
The text editor allows you to generate text directly on the Modulo Player server.
Please remember to select the media size to ensure the best quality.
Click the «delete text» button if you want to remove it from the Media list.
Use available buttons to copy, cut, paste, align.

Scrolling Text



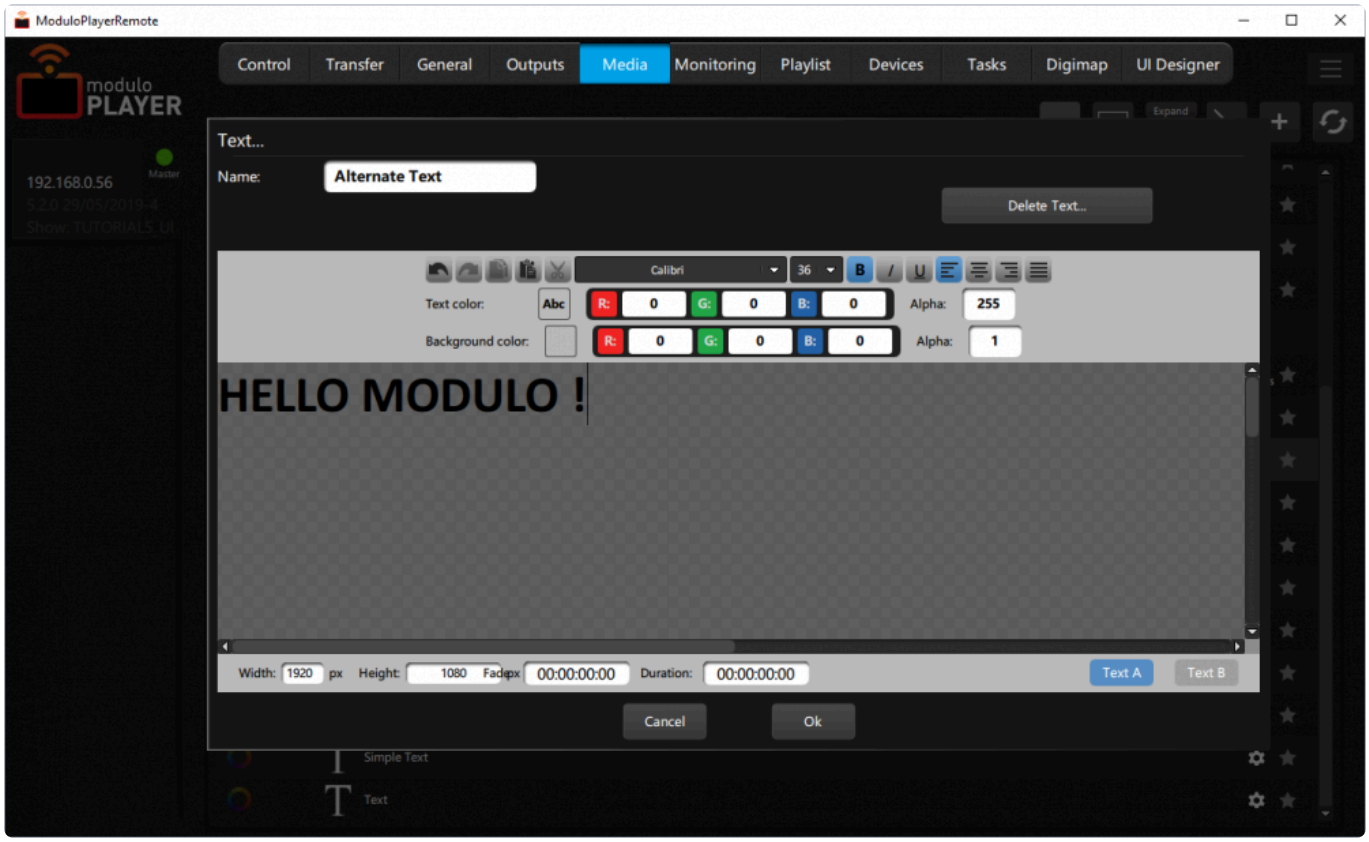
The Scrolling text editor allows you create a scrolling text.
Change Speed, to make text appear slower or faster.
You can delete text to remove media from media list.

Simple Text



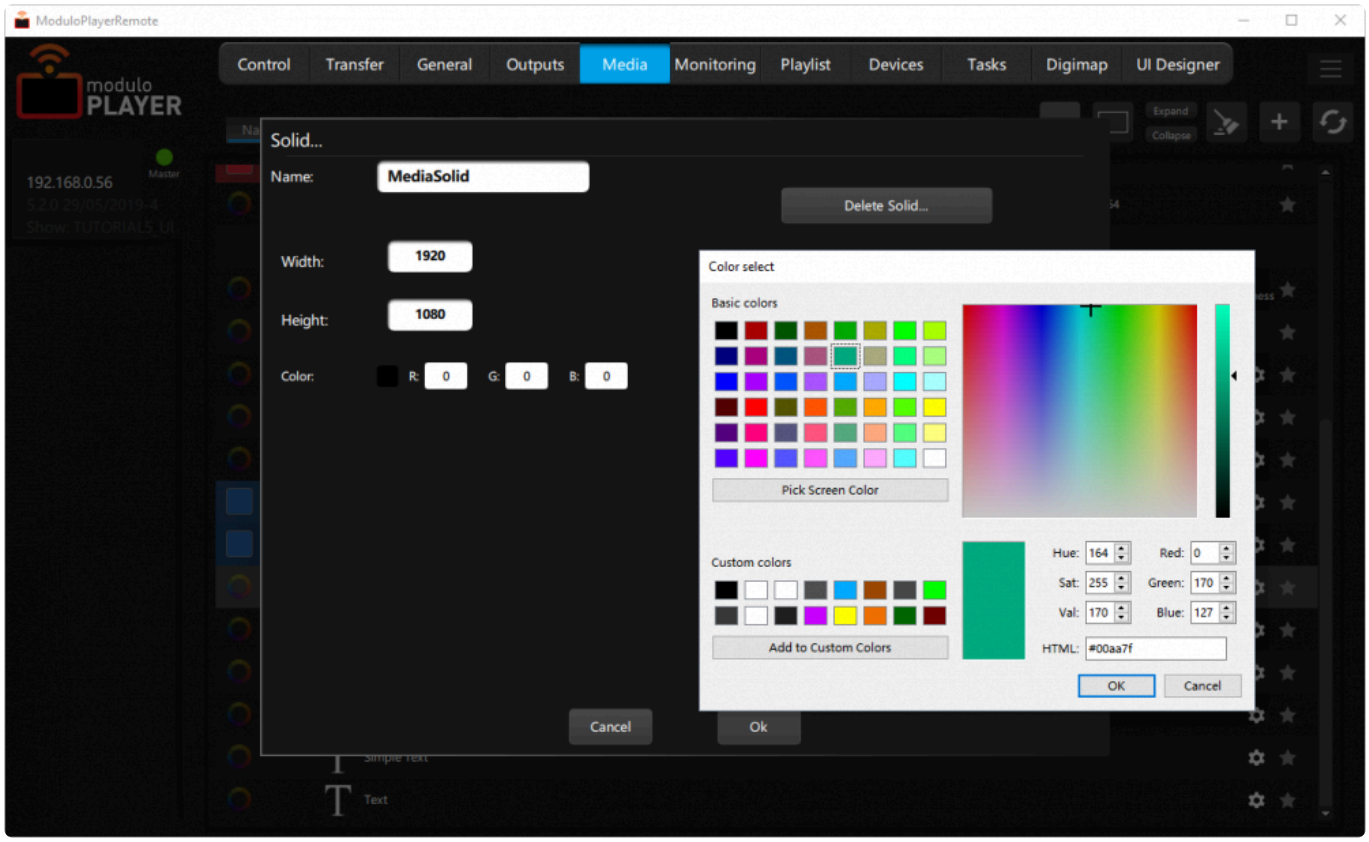
The simple text editor allows you to generate text directly on the Modulo Player server.
Please remember to choose the media size finely to ensure the best quality.
Click the «delete text» button if you want to remove it from the Media list.

Alternate Text



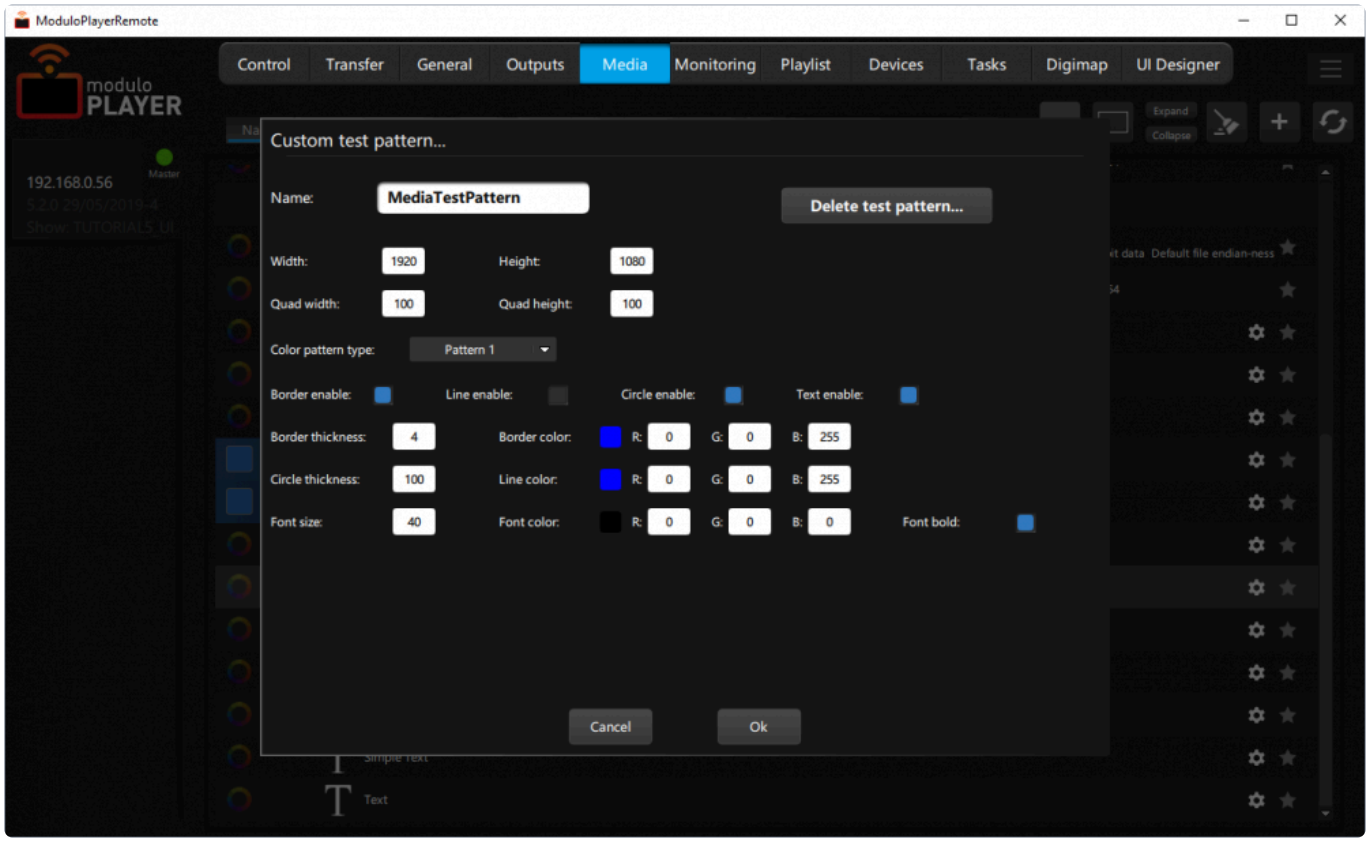
The Alternate text editor allows you to operate a cross fade transition from text A to text B.
Assign the cross fade duration and the total duration of the text transition.

Solid



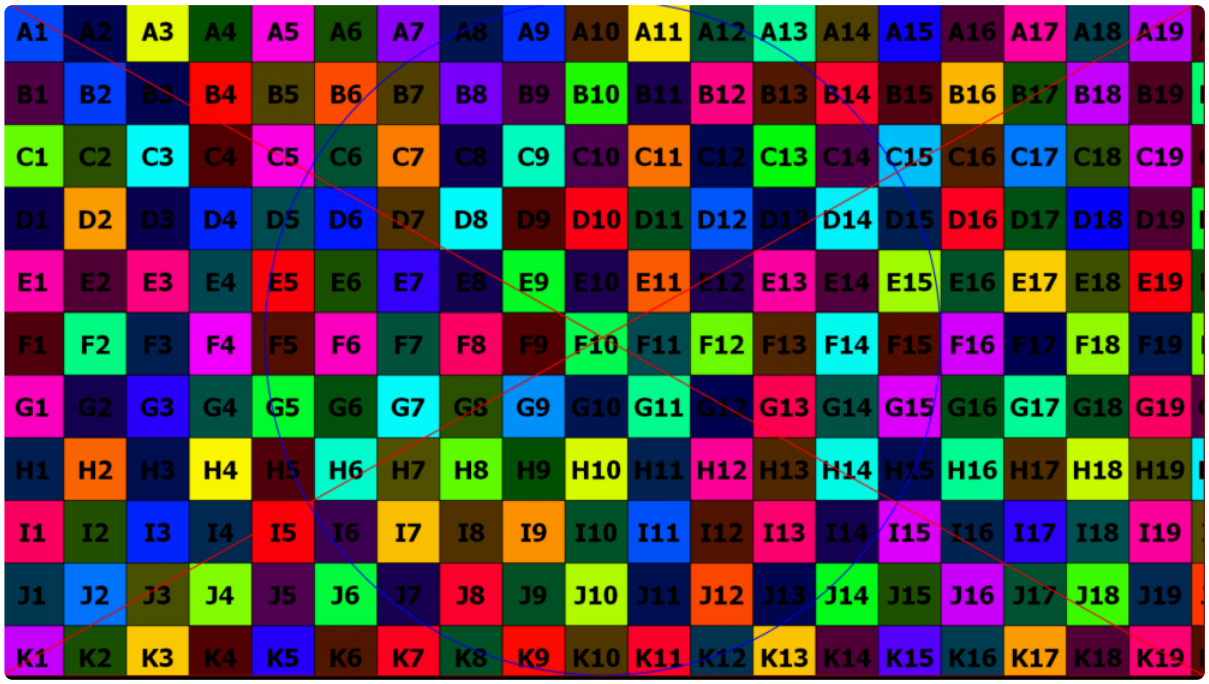
You can create a solid rectangle.
You can select a color by typing RGB values.
You can select the size in pixels.
ClicK OK to close media configuration.
Click Delete Solid to erase solid from media list.

Test Pattern



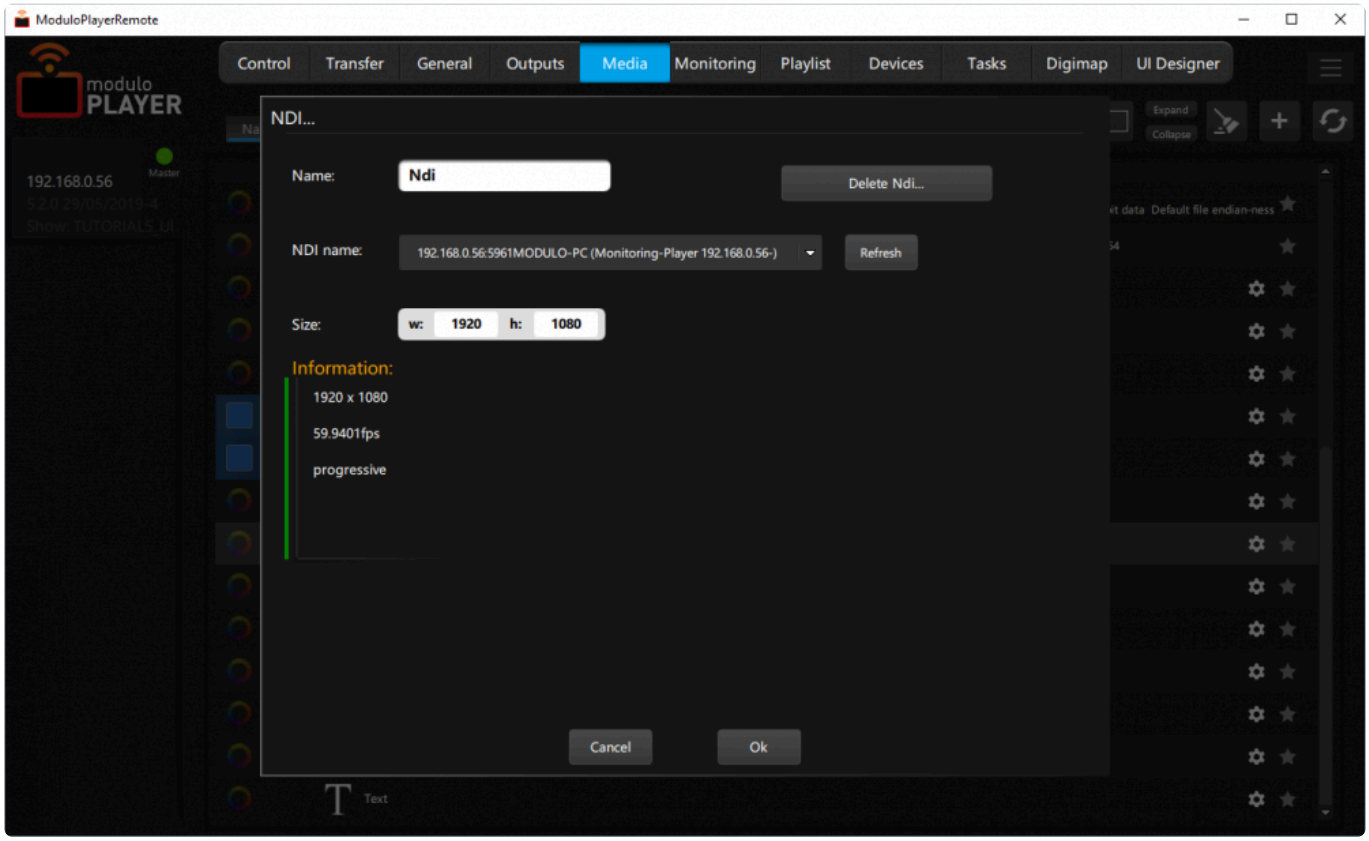
This media generates a test pattern. You can adjust many parameters:

Width & height: Resolution of your pattern
Quad width & height: Size of each quad
Color pattern type: Two different color themes



It’s possible to enable a border, adjust the thickness and choose the color.
It’s possible to enable lines, adjust the thickness and choose the color.
It’s possible to enable a circle to check ratio, adjust the thickness and choose the color.
It’s possible to enable a text in each cell, adjust the thickness and choose the color.

NDI source



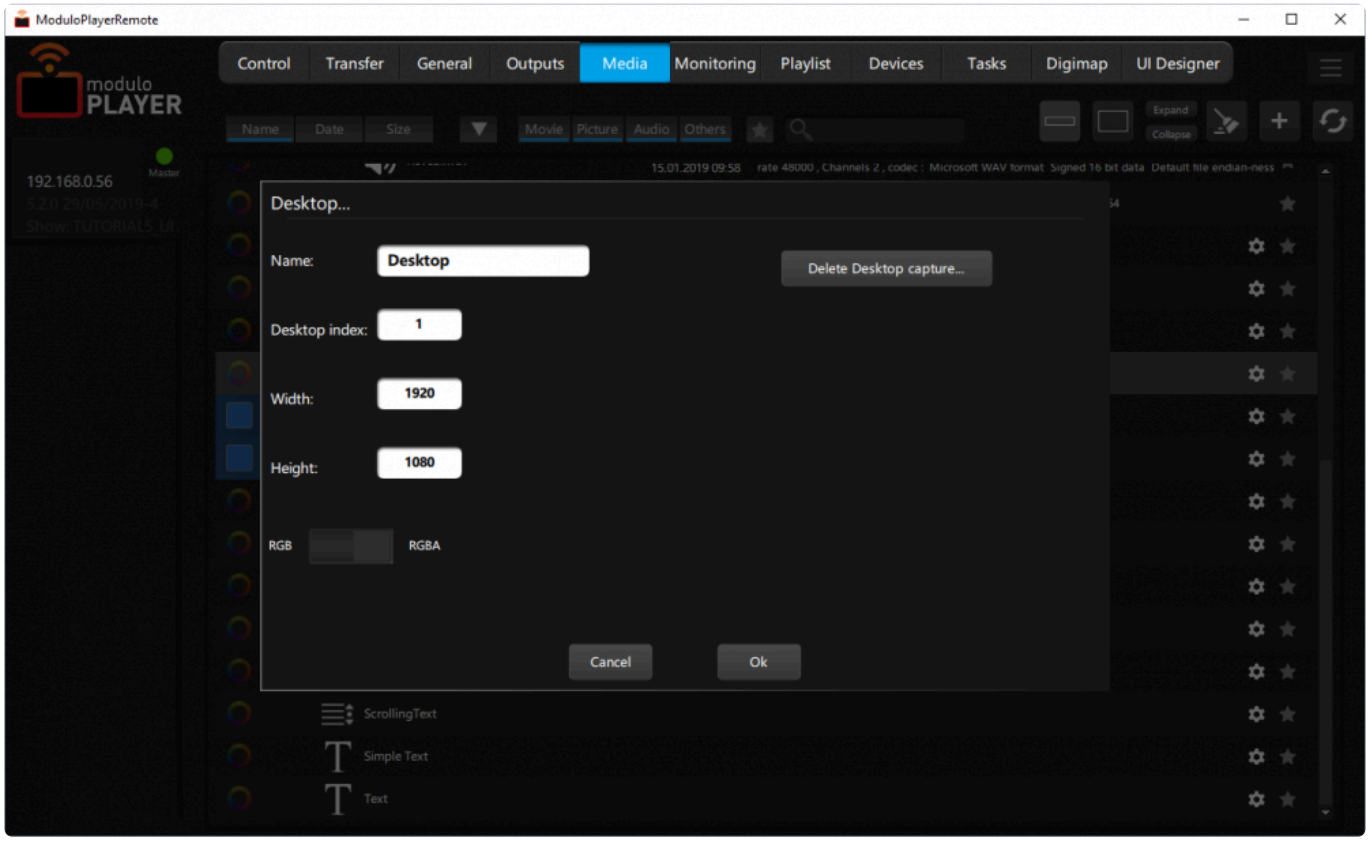
You can now add a NDI source.

This allows you to stream sources using the NewTek protocol over IP.

Modulo Player detects automatically all NDI sources in the same network.
You can download serveral NDI applications.
For more information please visit official NDI page
Download NDI tools here to test NDI streaming, download NDI test Patterns Generator..
NDI for Adobe Cloud: allows you to output After Effects CC, Photoshop CC, Premiere CC,etc. and capture as NDI media in Modulo Player.
From here can download this application if you want to stream a camera from ipad or android.

> Audio source is not managed via NDI streaming protocol in the Modulo Player application.

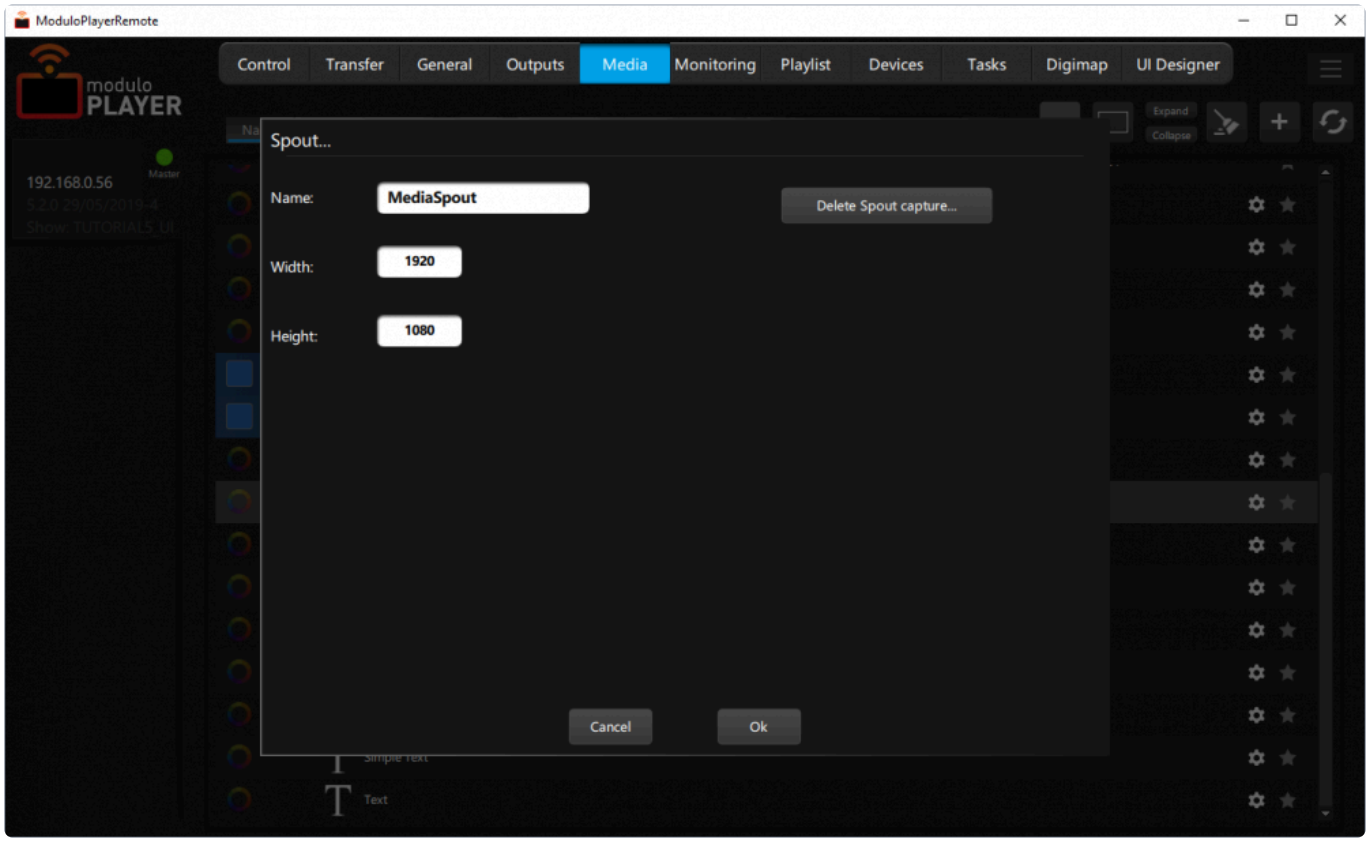
Desktop



This function allows you to capture a part of your server's Desktop in real time and use it in Modulo Player as a media.
Configure the Desktop index to choose which Desktop screen you want to capture.
Enter the width and height values of the Desktop's pixel zone that you are extracting.
You can enable RGBA in order to keep alpha transparency of this media.

NB: This function is combined with second screen in Remote Computer Settings / General : You can force the Modulo Player application to start on a second screen in order to launch another application running on the Server.

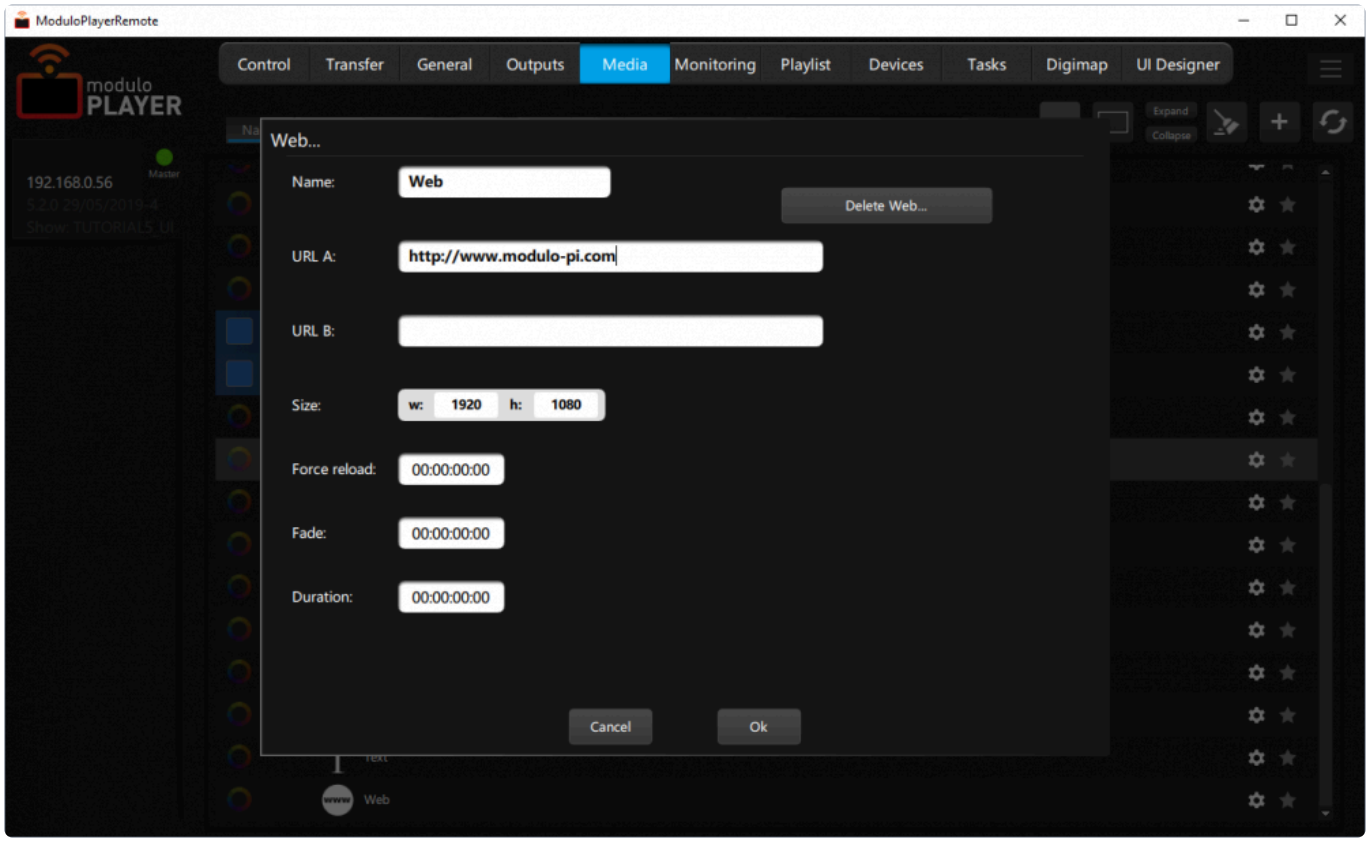
Spout



Spout is a client/server plug-in technology that allows to share frames (full frame rate video or stills) between Windows applications in real time.

In order to connect via Spout, the running application should include the Spout client protocol, while Modulo Player contains the Spout server protocol.
Download spout plug-in here

Web



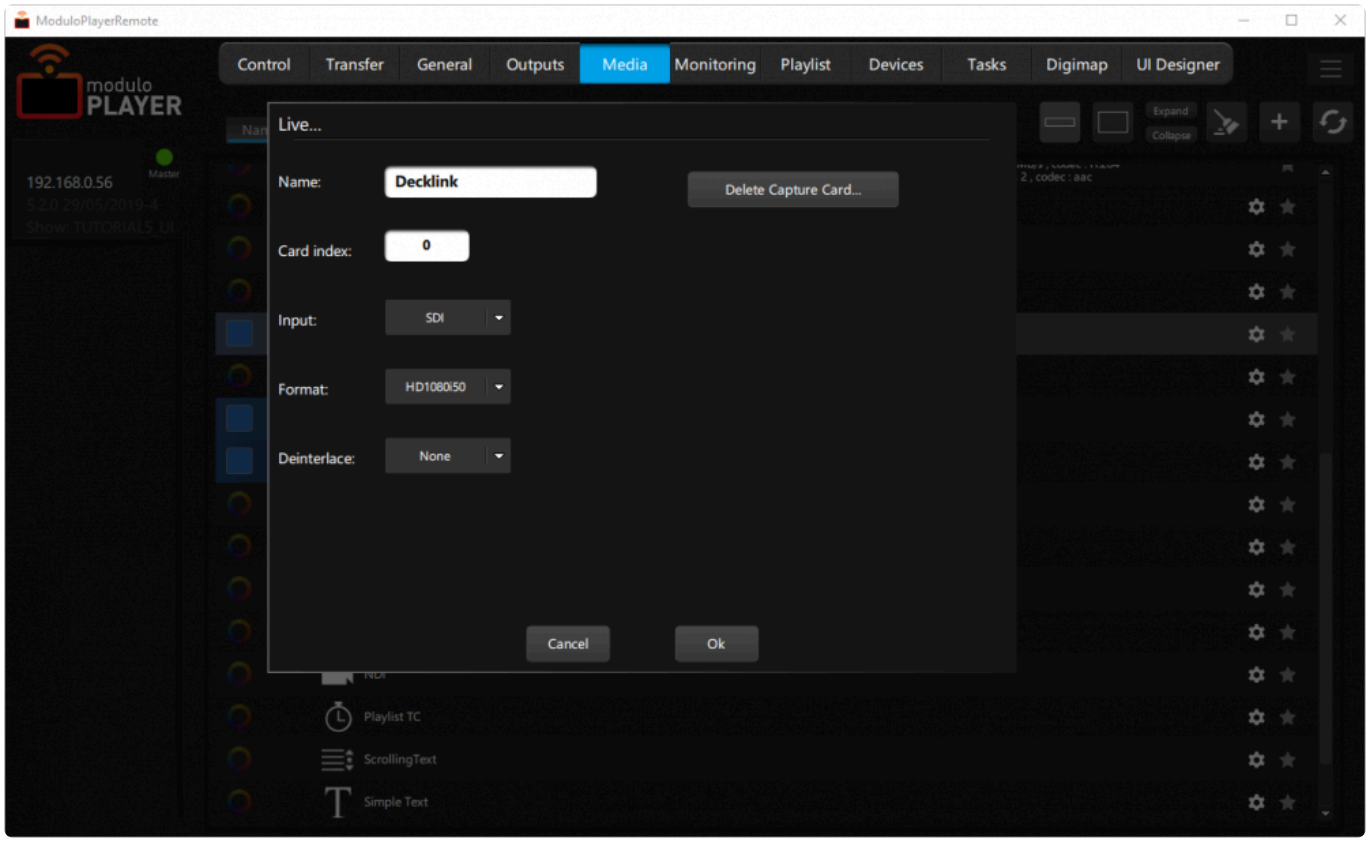
You can integrate a web page as a media. It enables you to integrate updated media dynamically from an external source (for instance you can use it for digital signage/dynamic display).

> Do not use sophisticated or heavy web pages (as flash ones).
> It may have a negative impact on the other media playback displaying at the same time as your web page.

URL A: Complete page/website address (starting with http://www.)
URL B: Complete alternative page/website address (starting with http:// www.). This is useful if you to switch between two web pages.
Size: Media size. Choose it with utmost precision using the real media size as a reference.
Force Reload: Force the web page reload every x time
Fade: If filled, fade-in time for the second web page/ website
Duration: Second web page/website viewing duration
For instance, the switch between two web pages allows you to display the same content in two different languages.

Click the «delete Web» button if you want to remove it from the Media list.

Decklink

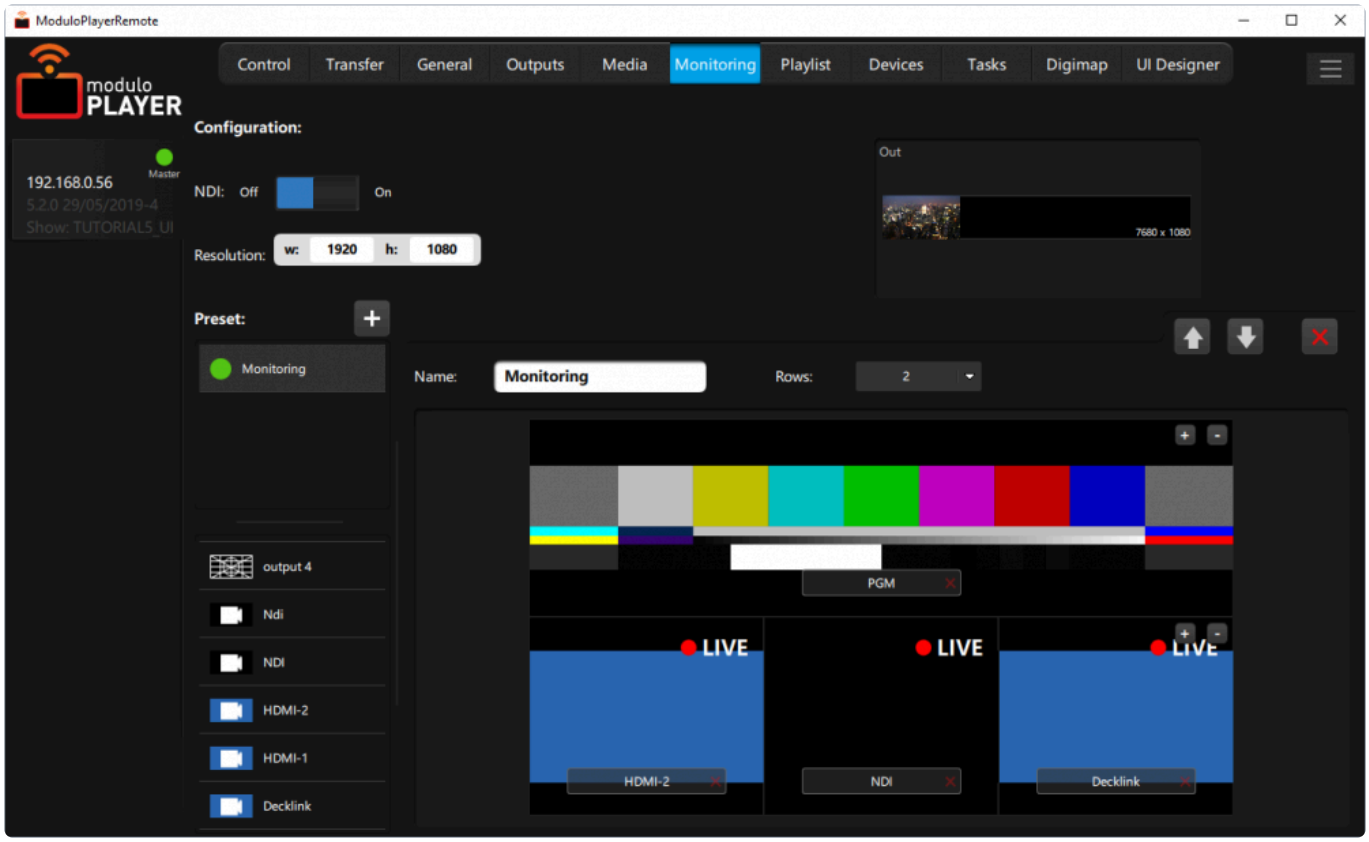


You can use a Decklink capture card in order to add a HD-SDI, SDI or HDMI video stream.

Name: Give a name to the media in order to find it easily on the media list
Card Index: Choose the input id: first input is 0, second input is 1, etc.
Input: Choose the input type (depending on what is available on the capture card)
Format: Choose the exact format in the list corresponding to the input signal
Deinterlace: Choose if you want to deinterlace the signal or not

Click the «delete capture card» button if you want to remove it from the Media list.

Monitoring tab



The Monitoring tab is where you can setup a confidence screen to monitor live inputs, outputs and Program in a mosaic view.
You can use one of the media server physical outputs to display the monitoring, or you can stream your confidence screen in NDI.
If you display the monitoring in one output, you need to adjust the position and resolution of your monitoring output.
If you stream the monitoring using NDI, you need to adjust the resolution of your NDI stream.

You can create any number of presets but they are only visible one at a time.
Click on the green/gray button to select the active preset.

A list of available live inputs, outputs and program is visible at the bottom left corner.

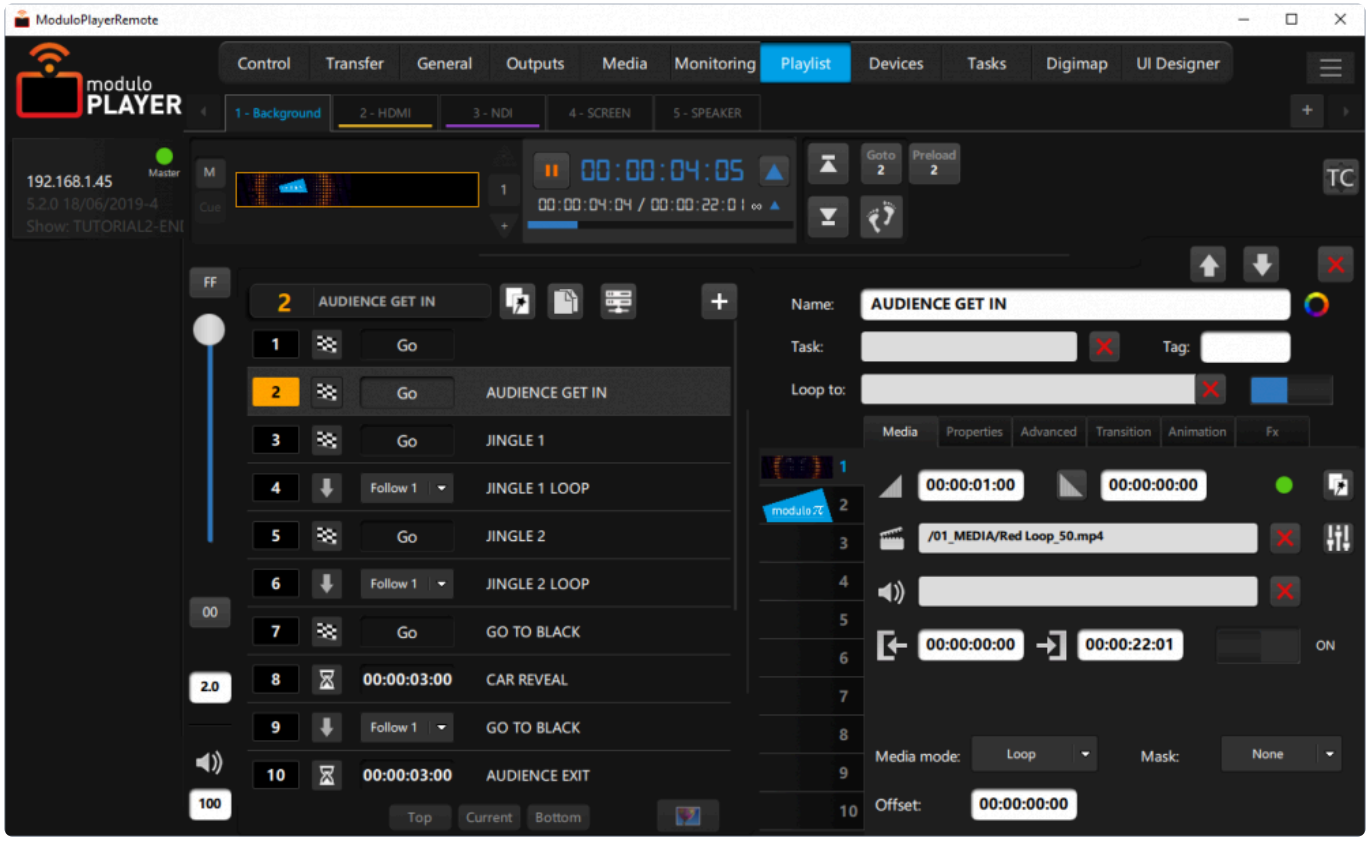
Preset Creation:

- Click on the **+** button to add a monitoring preset
- Choose the name of the preset
- Adjust the number of rows in the dropdown menu
- Adjust the number of columns in each row using the **+/-** button the right of each row
- Drag and drop an item from the left list in a cell to display it

Streaming the monitoring using NDI allows you to save one physical output. Install Newtek NDI tools on any computer and launch NDI Studio Monitor to display the stream.

Playlist tab

The Playlist tab allows you to playback your medias.

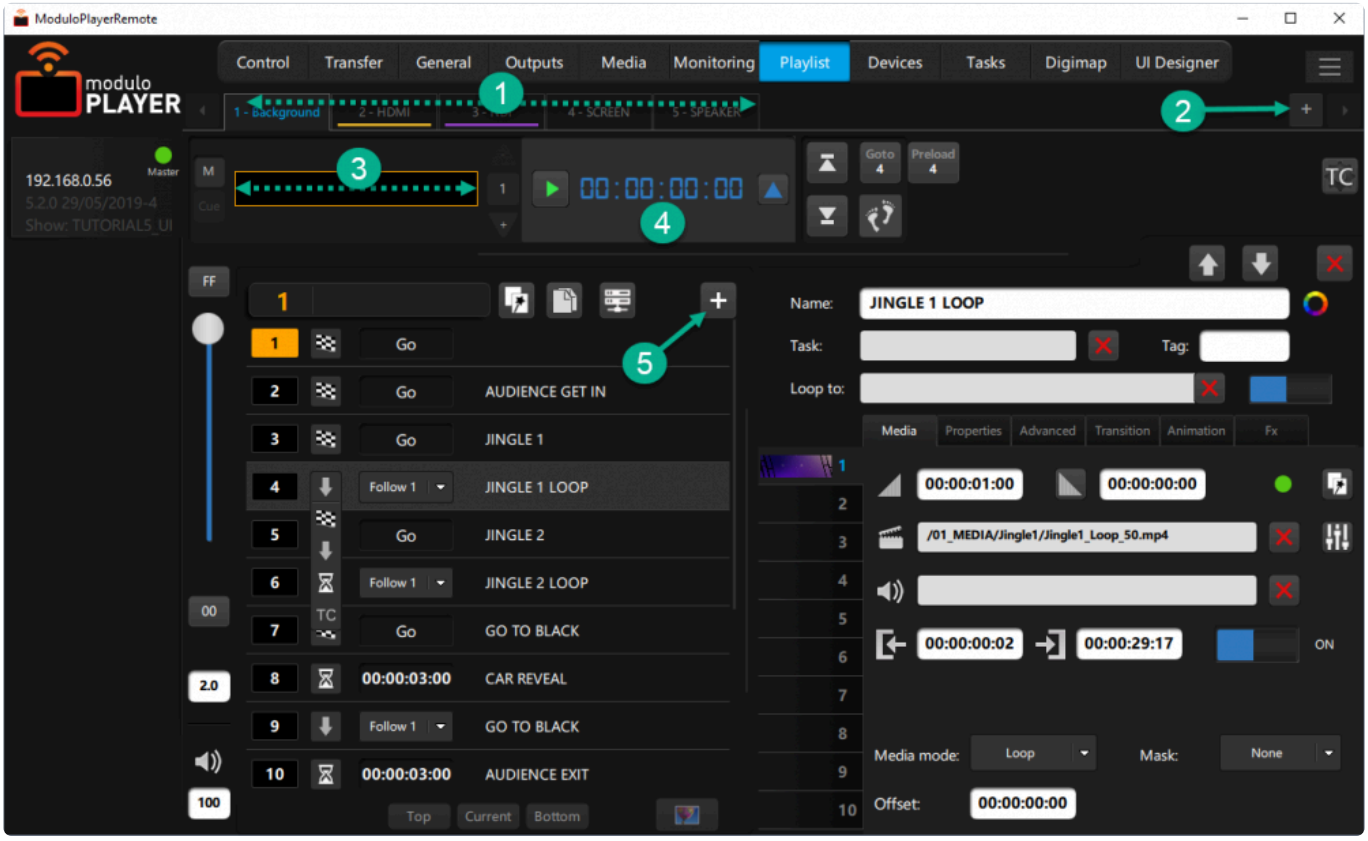


You can create any number of Playlists.
Each Playlist plays independently.
In each Playlist, you can have any number of cues.
A cue is a playback state: Each cue can have up to 10 layers of media playing simultaneously.
Layers are stacked on top of each other: Layer 1 is on the top of layer 2 which is on on the top of layer 3, etc.

When fading from one cue to another, time fade and blending operate layer by layer. So, layer 1 of cue 1 is blended with layer 1 of cue 2 (and so on for each layers).

Playlist Overview

Global Overview:



At the top of the page, underneath the general menu bar, choose the playlist you want to edit (tabs) (cf 1).

You can create a new playlist clicking on the button + (cf 2) .
If you want to delete a playlist, shuffle playlists order, or rename a playlist, just click and hold on the playlist name in the tab, until a setup popup window appears.

Underneath the playlist tab is a preview panel (cf 3).
• Move with your mouse over the splitter to resize the preview area

• On the right of the preview is a timecode (cf 4) that corresponds to the selected Cue, including playback information
• On the center of the Playlist tab is the Cue list

Click + to add a new cue (cf 5) . A new cue is added after the selected cue.

Click on the arrow if you want to change cue order. Click on the red cross to delete a cue.

Click on a cue to select it and edit it at any time. You can edit any cue at any time.
The selected cue is hilighted in light grey while the active cue (the Cue currently on stage) is displayed with its number hilighted in yellow.
After creating and selecting a Cue, you can find the Layer list on the right.
You can add up to 10 Layers par Cue.

On the left of the Cue list is a grand master playlist fader. Enter the value in seconds for a full linear fade Out or a full fade In.

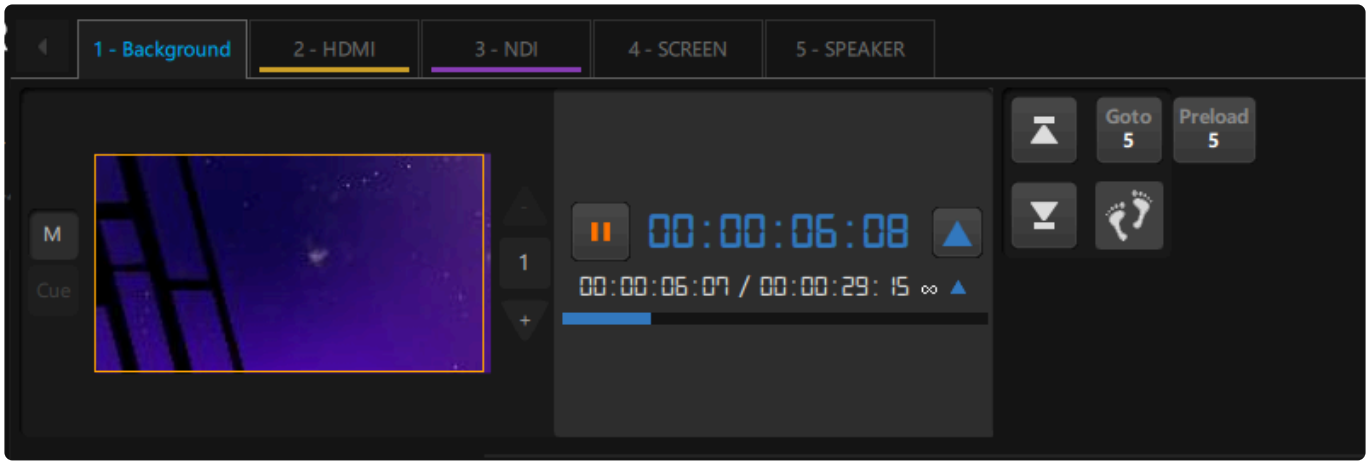
Below the opacity fader can be found the Audio fader of the playlist, where 100% is the maximum volume of the Playlist and 0 is mute.

Cue Trigger:

You can choose a trigger for each cue:

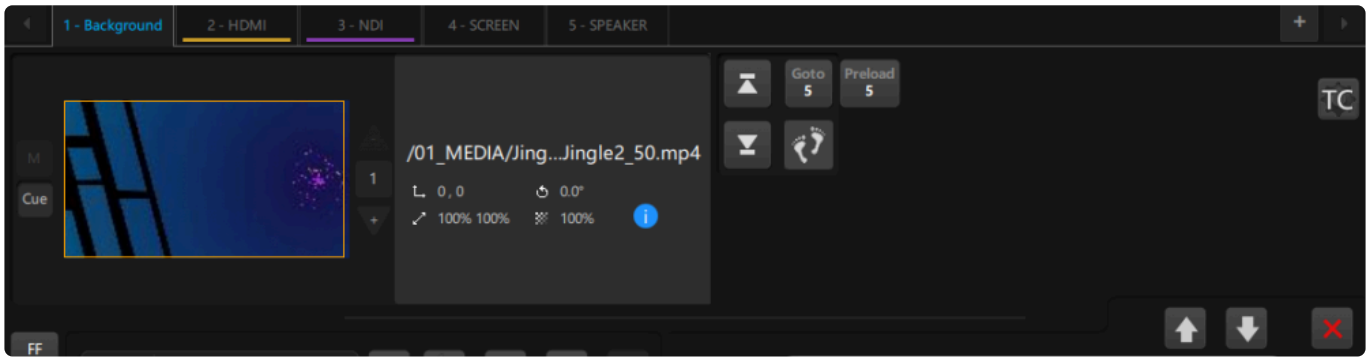
Go: wait for a manual order
Follow: wait for the end of media in the selected layer
Wait: Wait x seconds after the launch of the preceding cue before launching the cue
Timecode: Wait for a specific timecode to trigger this cue

On the top panel you have a preview of the Cue contents.



By default, this preview displays information about the active cue, but you can visualize a non-active cue by clicking on the button Cue on the left of the Preview.
The number displayed between **+** and **–** indicates the currently selected layer. To switch from one layer to another, just click **+** or **–**.

You can preview the media layer's properties on the playlist (position, scale, rotation, opacity, animation).
The blue Information button allows access to the Media tab to obtain information on this specific media.
The blue time frame value on the Preview vignette indicates the duration of the media of the selected Cue.
If the media is in loop mode there is a ∞ indication.
Click on the blue arrow to switch from chronometer mode to countdown.



Click the button M for «main» to switch back on the active cue.

Transport bar:

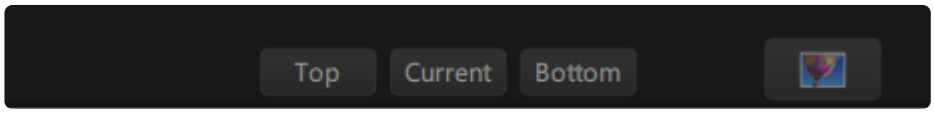
Press the Go to button

in order to launch the selected Cue or you can use the Keyboard shortcut: ctrl + spacebar.

The Buttom mode allows you to temporarily suspend triggers, it's the *step by step mode*.

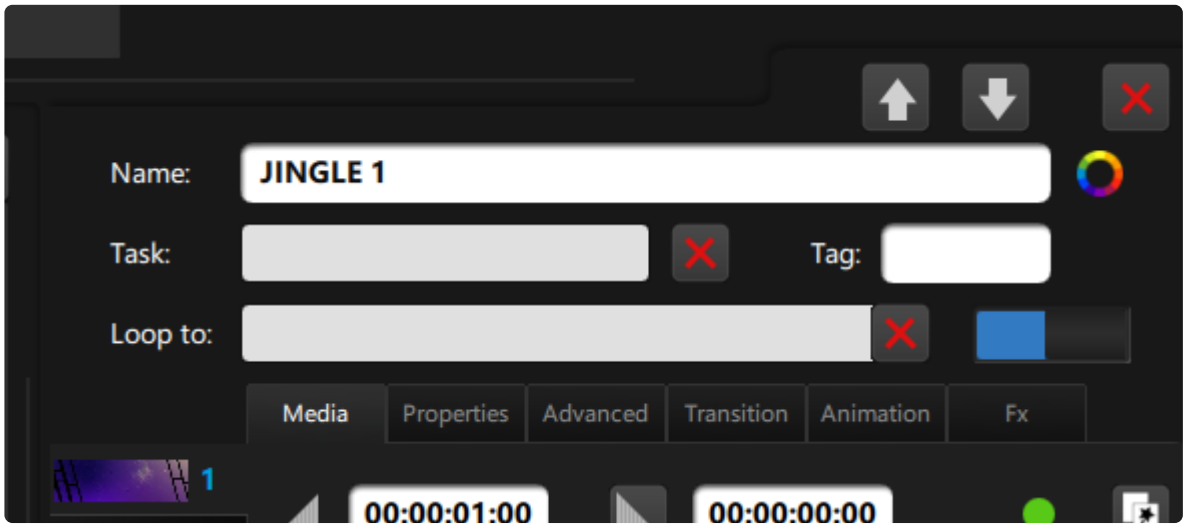
You can change the active cue by clicking arrows: Click on this button to go to the previous cue, click on this button to go to the next cue.
You can use the keyboard shortcuts «Page Up» and «Page Down» (classic shortcuts) to launch a new cue.
You can use the keyboard shortcut Control+Space bar to directly launch the selected cue.
You can use the keyboard shortcut Shift+Space bar to preload the selected cue.
Press the space bar to access the next cue.

At the bottom of the cue list you will find four buttons:



• Scroll view to the top of the playlist
• Scroll view to the active cue in the playlist
• Scroll view to the end of the playlist
• Enable/disable thumbnails in the playlist

General Cue settings:



The Cue Editor on the right of the Cue List allows you to:

- Define a name and a color for each Cue. If the name is empty, it will take the media name from the

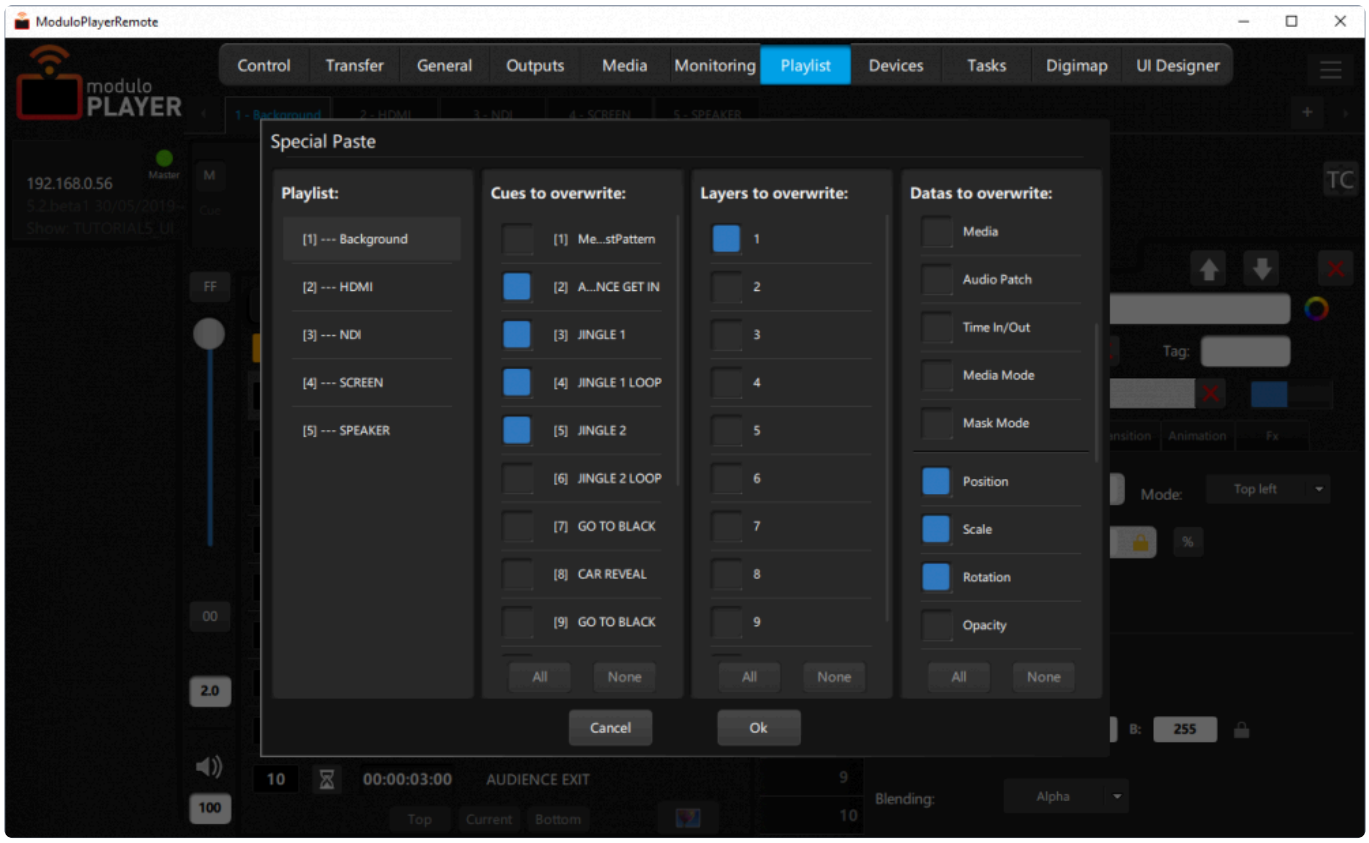
first layer.

- Tag: Enter a value between 1 and 512 to be able to trigger this cue from a lightdesk. Refer to DMX device section to have more information about this feature.
- Trigger a Task at the lauch of this Cue
- Loop To: Allows you to jump seamlessly to another Cue instead of playing this one. It's possible to deactivate the "Loop To" manually or from a Task.

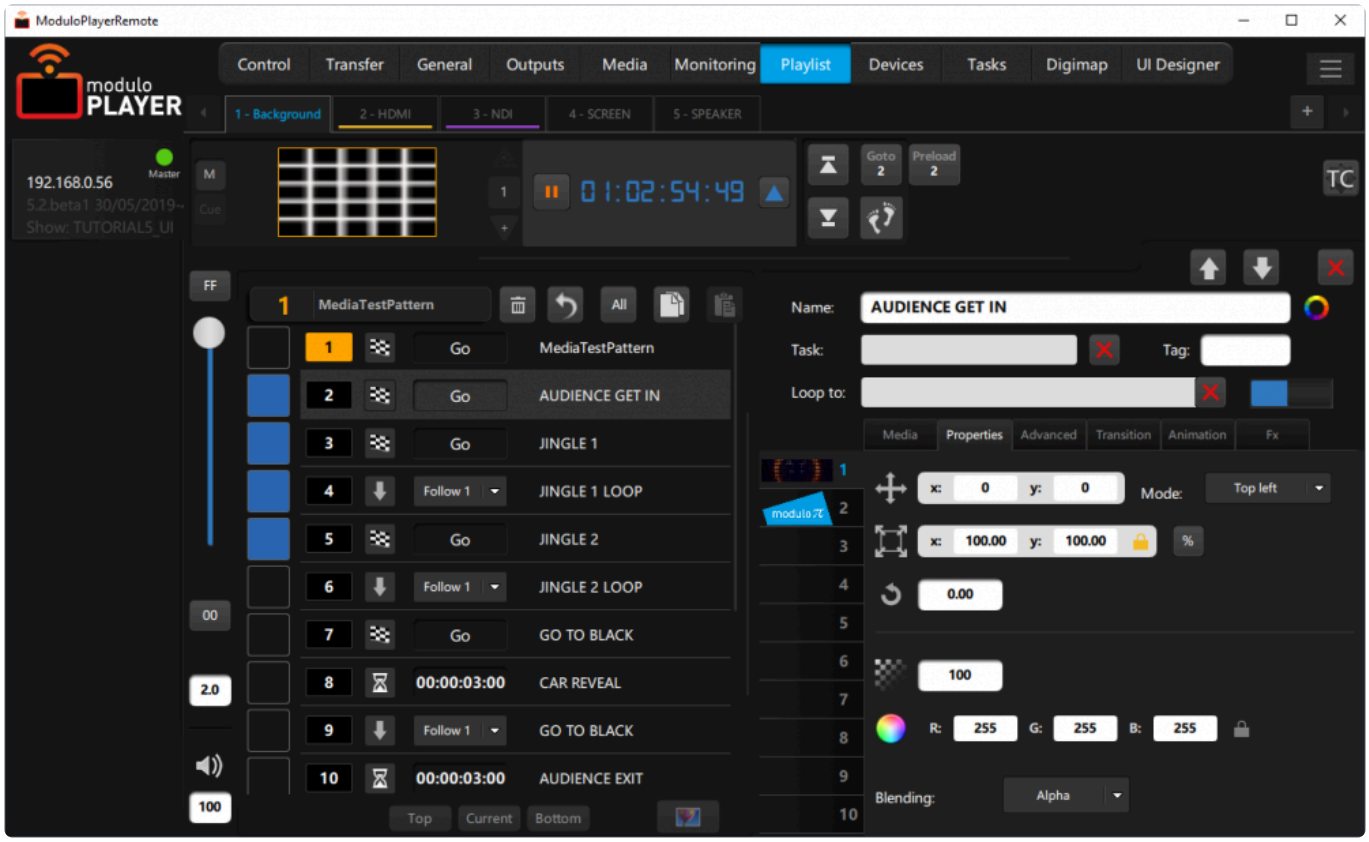
Special Paste Cues

Use the copy/paste button to copy settings from one cue to another.

First, select the reference cue, then click on the copy paste special button .
You can then select target cues and the properties you want to copy.



Copy / Paste Cues



Click on the copy button . This will reveal other available buttons.

Select the cue(s) you want to copy by enabling the blue button on the left of each cue.

Click on the copy button .

Then click on the paste button : this will copy the cue(s) after the selected cue (hilighted in light grey).

Click on the delete button to delete the selection.

Click on the exit button to exit this function.

Master-Slave Copy

When you have several Modulo Player in your network, one in Master, the others in Slave mode in the same cluster, you can copy one playlist from your master computer to all slave Modulo Players.
This will replicate the playlist on all slave Modulo Players. This helps save a lot of encoding time when

you have a symmetrical setup.

To use this feature, click on the button on the Master Modulo Player with all slave Modulo Players connected and online on the network.

> ! All the cues of the playlist will be replaced in every slave Modulo Players by a copy of the playlist from the Master Modulo Player: you will loose all previous setup.

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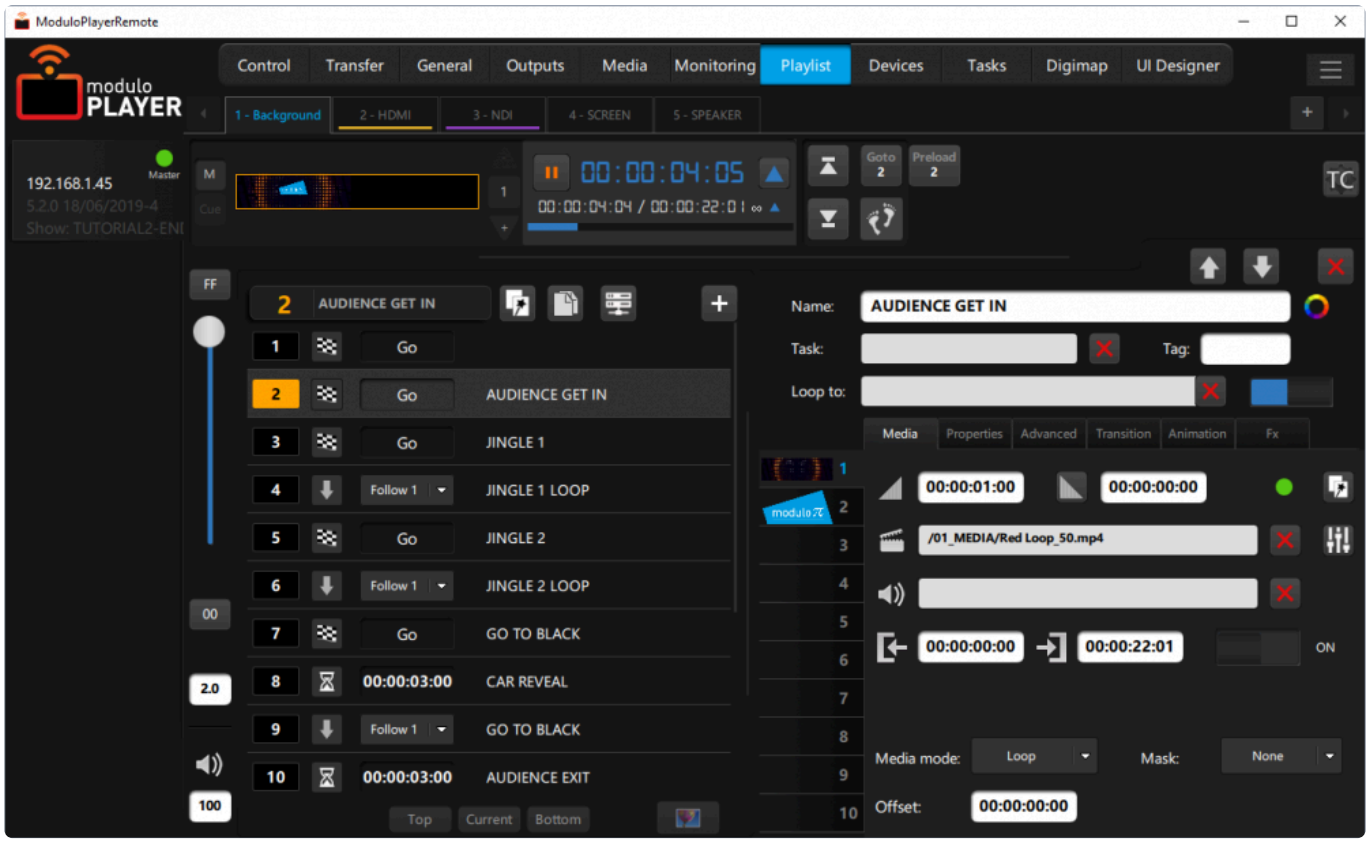
Layer settings

You can adjust the parameters for each layer independently.

Media



Fade in:

This value is the opacity transition duration at the launch of the Cue.

Fade out:

This value is the fade to black duration when there is no media on the same layer in the next cue.
If you click on the fade out icon (marker-orange) this will change the transitionning mode and keep your

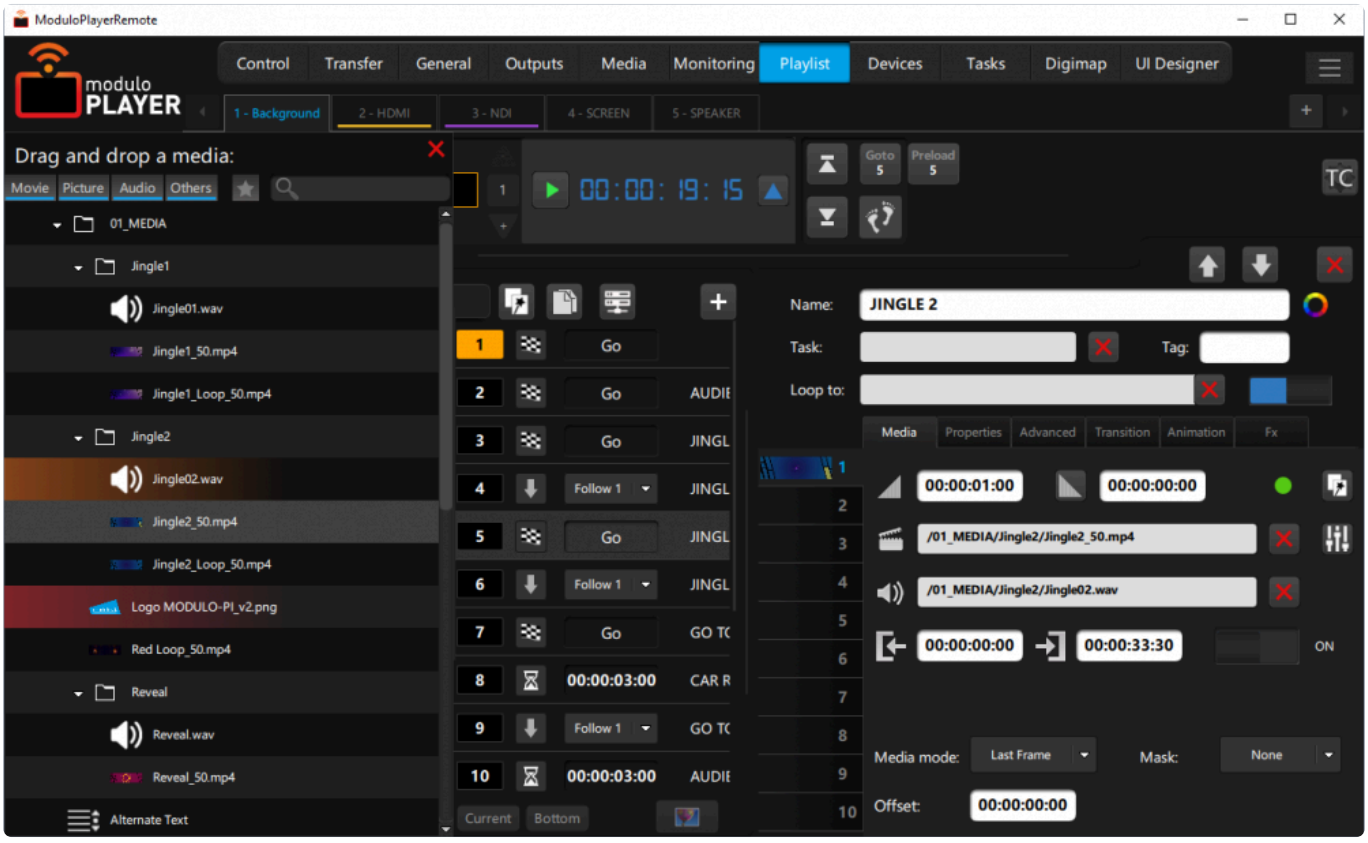
media on with the same opacity during the set time. This icon will be displayed instead of the fade out.

> If you plan to crossfade from one media to another, we advise to not use the fade out on the first media to have a good crossfade. Only use fade out when you want to fade to black.

: If you want to keep the layer of the previous cue, turn off the layer by clicking the green led. This allows you to have a video playing in the background. This is mostly used to add another media as a PIP.

Copy/paste button: Copy data from the current Layer and paste it on other one(s) within all Playlists.

Click on this Icon to open the media list. Drag & drop media on this layer.



Audio Mixer: To route the channels of the audio file and adjust the volume of each channel independently.

Audio file: Use this field to select an audio file to be played at the same time of your movie.

Trim media duration:

If you enable the trim, you can set a new in and out for the media to trim it. If loop mode is activated, the media will loop bewteen in and out time.

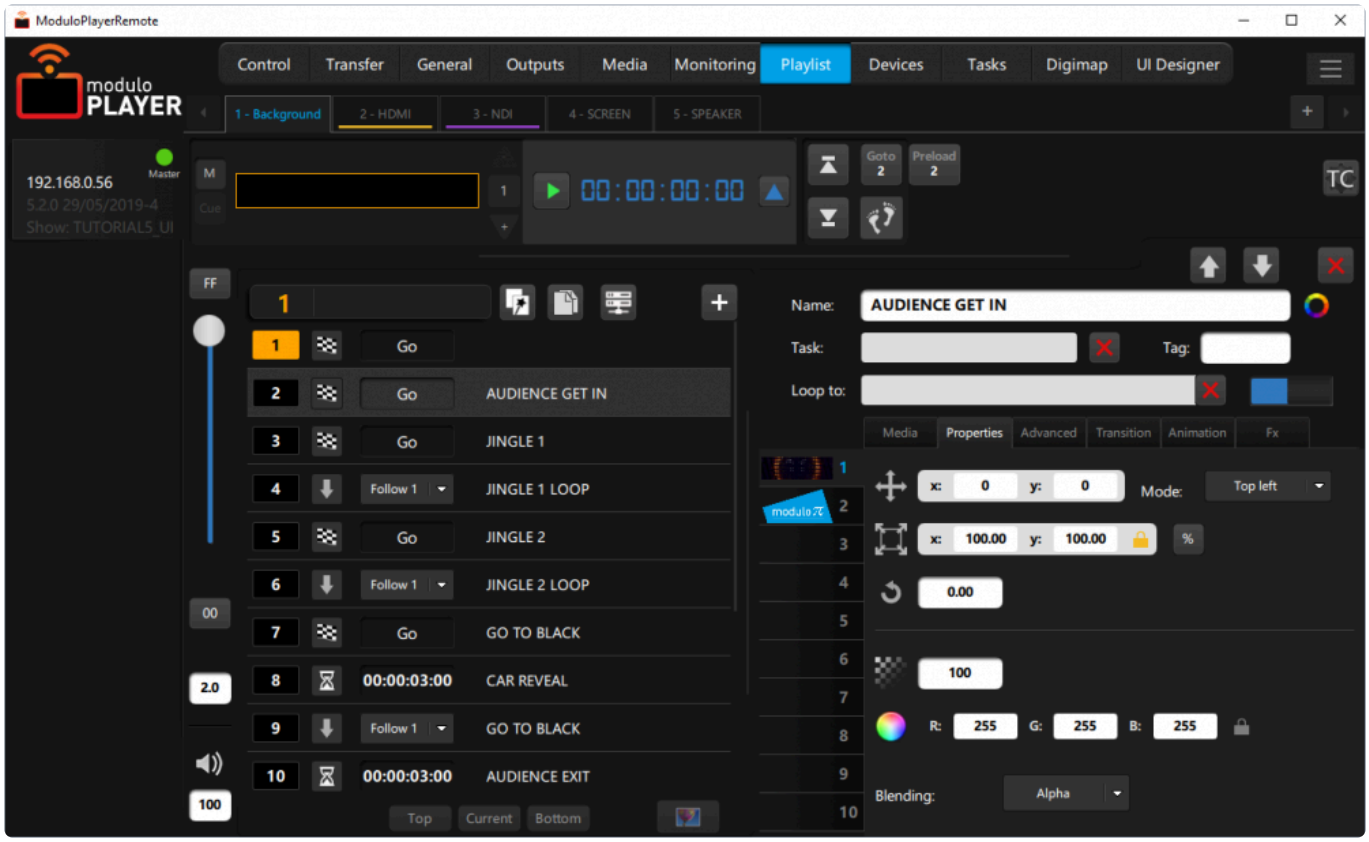
Media Mode:
Behavior of the media when it reaches the end: loop, stay on last frame, or play only once.

Layer mask Mode:
Specify the mask mode: None, Alpha, Grey
If activated this layer will be a mask layer for the next layers.
You can choose to use the alpha channel or grey level as a mask.
If you activate this on layer 1 for example, the mask will be applied on the content of layer 2.

Offset:
Allows to offset the startup of the movie. Offset works only on movies (doesn’t work on audio files).

3D Mode:
This option is only available on Modulo Player Ultra version.
To playback a 3D Stereo movie, the following options are available:
• Left Right: File contains the left and right media side by side
• Top Down: File contains the left media on top and right media on the bottom
• Stereo A-B: A second media field handles the file for the right eye. When selecting this option before selecting the left media, if the left media has “left” in its name and the right media has “right” in its name, then the latter will be added automatically.

Properties



From here you can setup the geometry of your media:
• *Position*: Enter the position of your media
• *Anchor mode:* Choose the anchor mode:
Type the start position in pixels, or configure it in relation to the pixel Worskpace.

1. Center the center of the media on the center of the pixel workspace (usefull only for very basic setup).
2. On top left corner (default option)
3. “Virtual” mode: For multi-server setup: allows you to move one media according to a global pixel workspace.
   The anchor has an incidence on the scale and the rotation.

• *Scale*: Adjust the scale of the media in pourcentage or in pixels. Click on the %/px toggle button to choose the units.
You can lock the ratio by clicking on the lock icon.

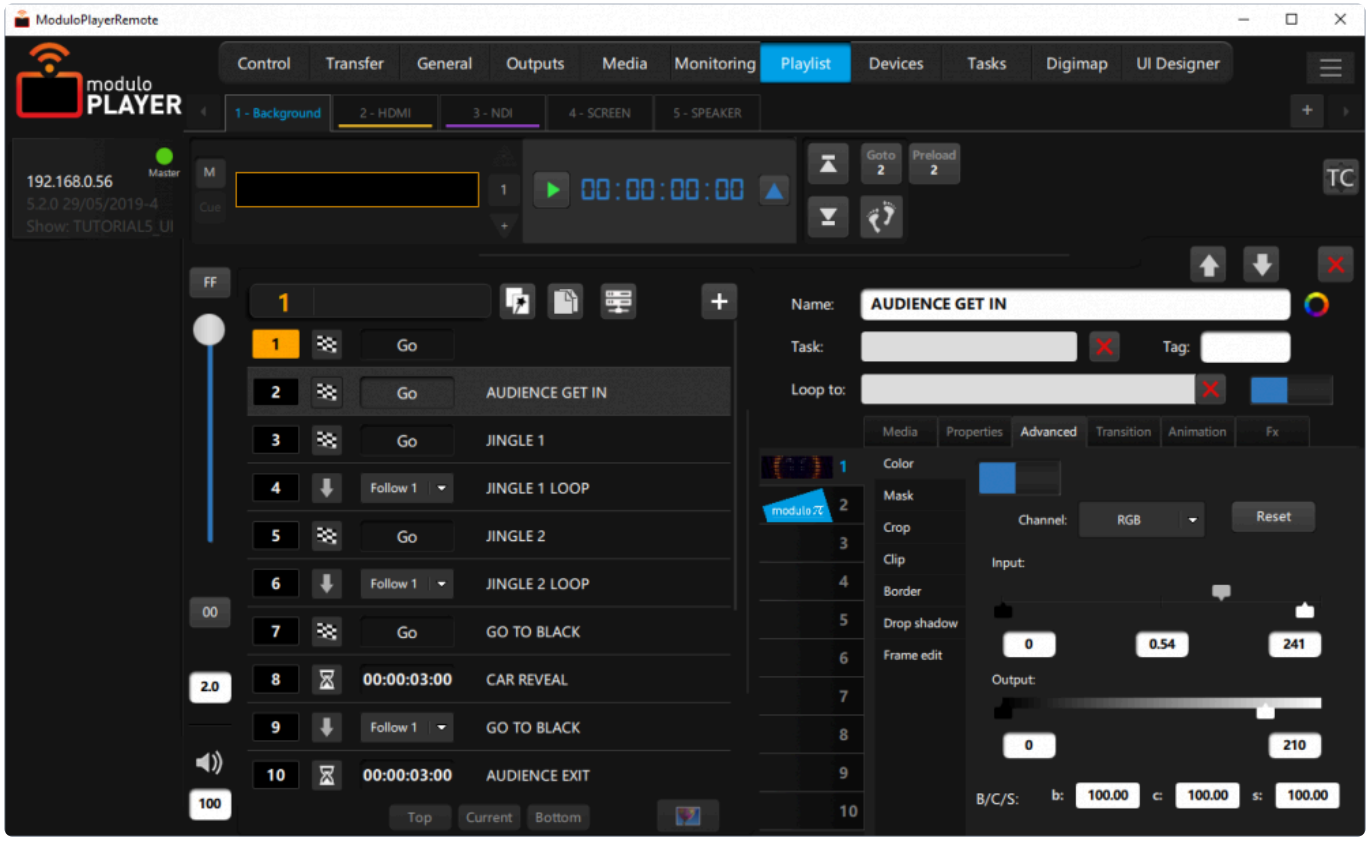
• *Rotation*: Choose the orientation of your media in degrees
• *Opacity*: 100% for a full opaque layer and 0 for rull transparency
• *Color*: Change the global color of your media. Unlock to assign a different value on each channel.
• *Blending*: Select a Mode to blend this layer with the layer underneath.
Available blending modes are: Alpha, Additive, Multiply, Multiply x2, and Screen.

Advanced

In this tab, enable advanced features for the selected layer.

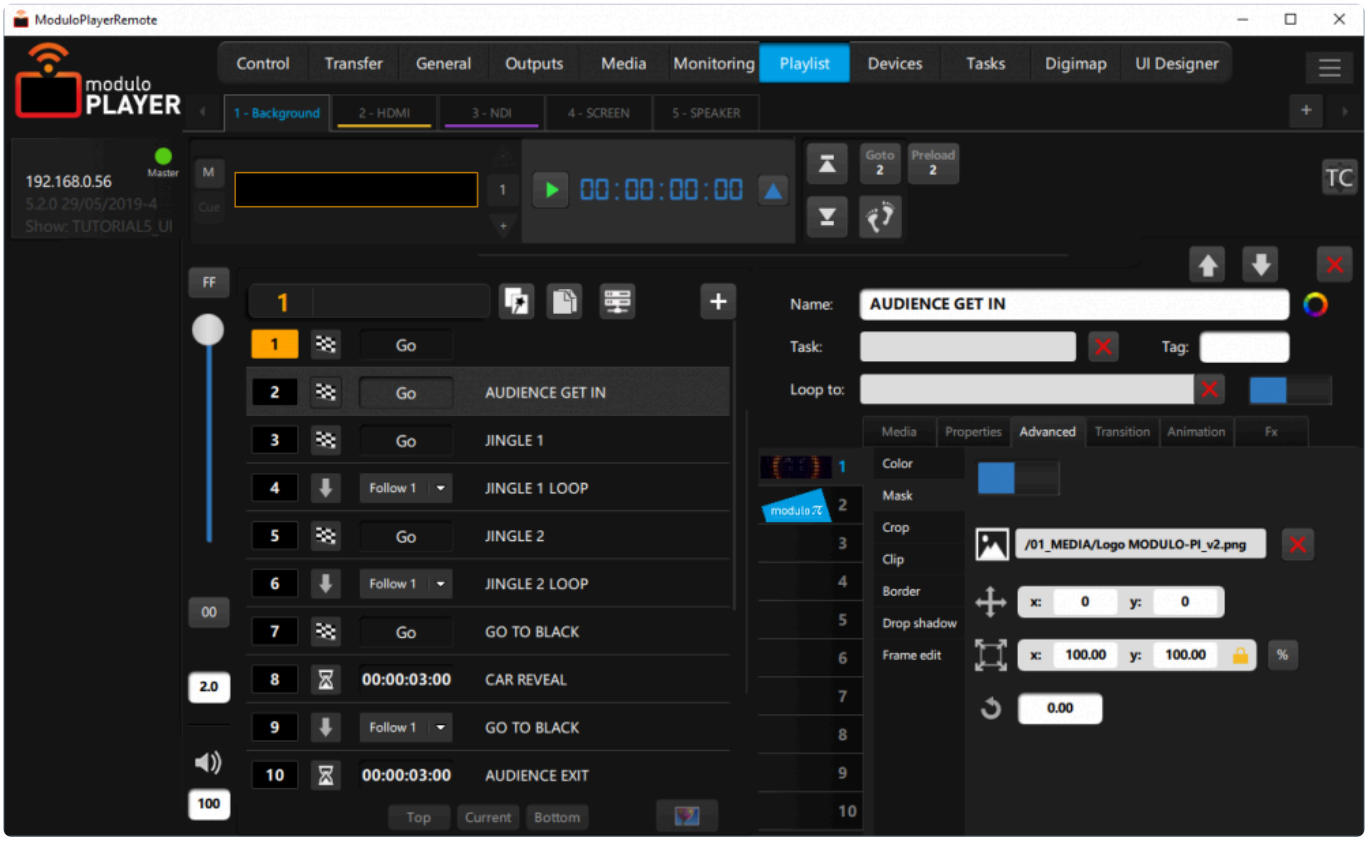
Enable the features by clicking on the blue checkbox button.
Advanced features are: Color, Mask, Crop, Clip, Border, Drop Shadow, Frame Edit.

Color:



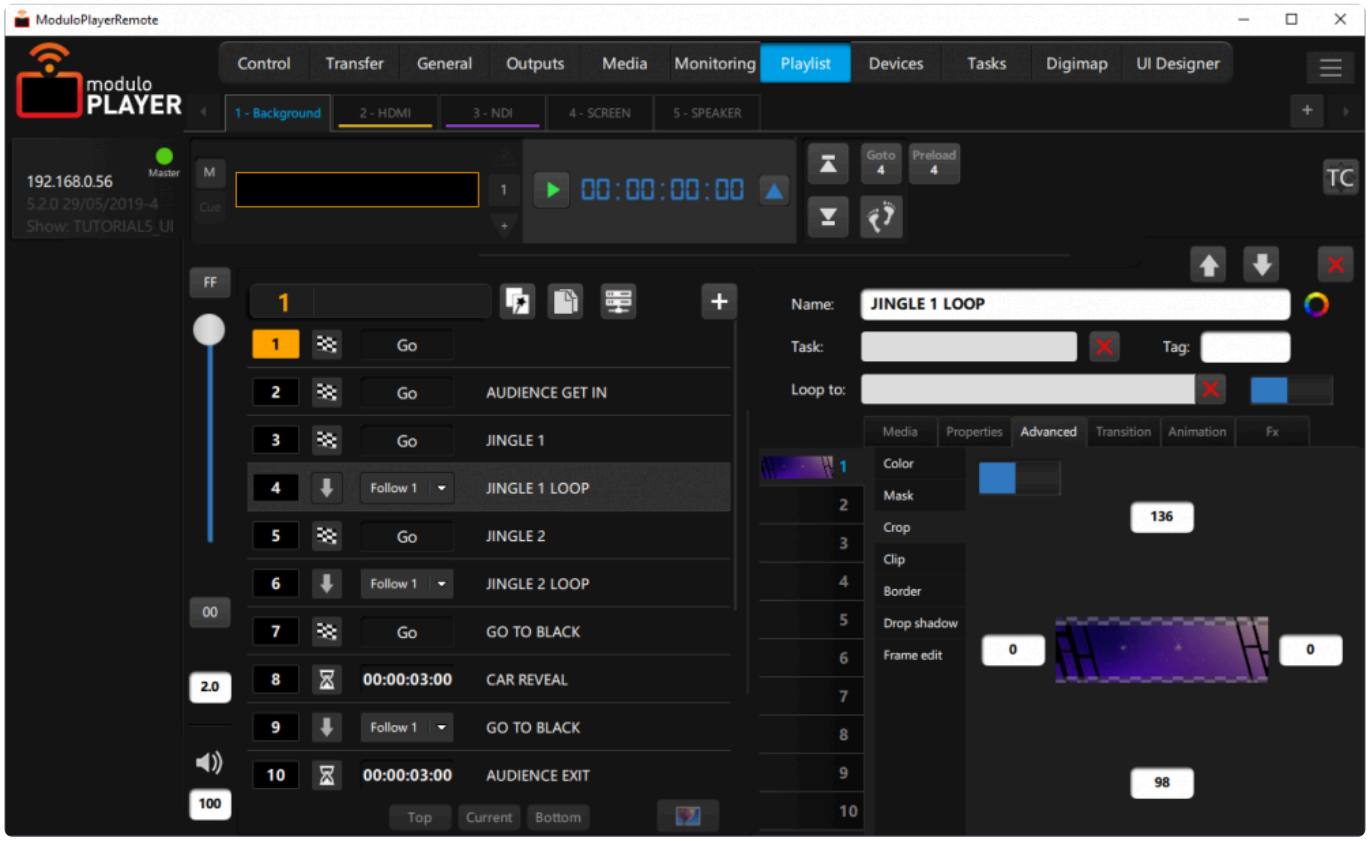
Adjust the color levels for the selected layer. You can adjust the global level as well as per channel. You can also configure brightness, contrast and saturation. You can animate these values with the animation tab (this wil only work if the color feature is enabled)

Mask:



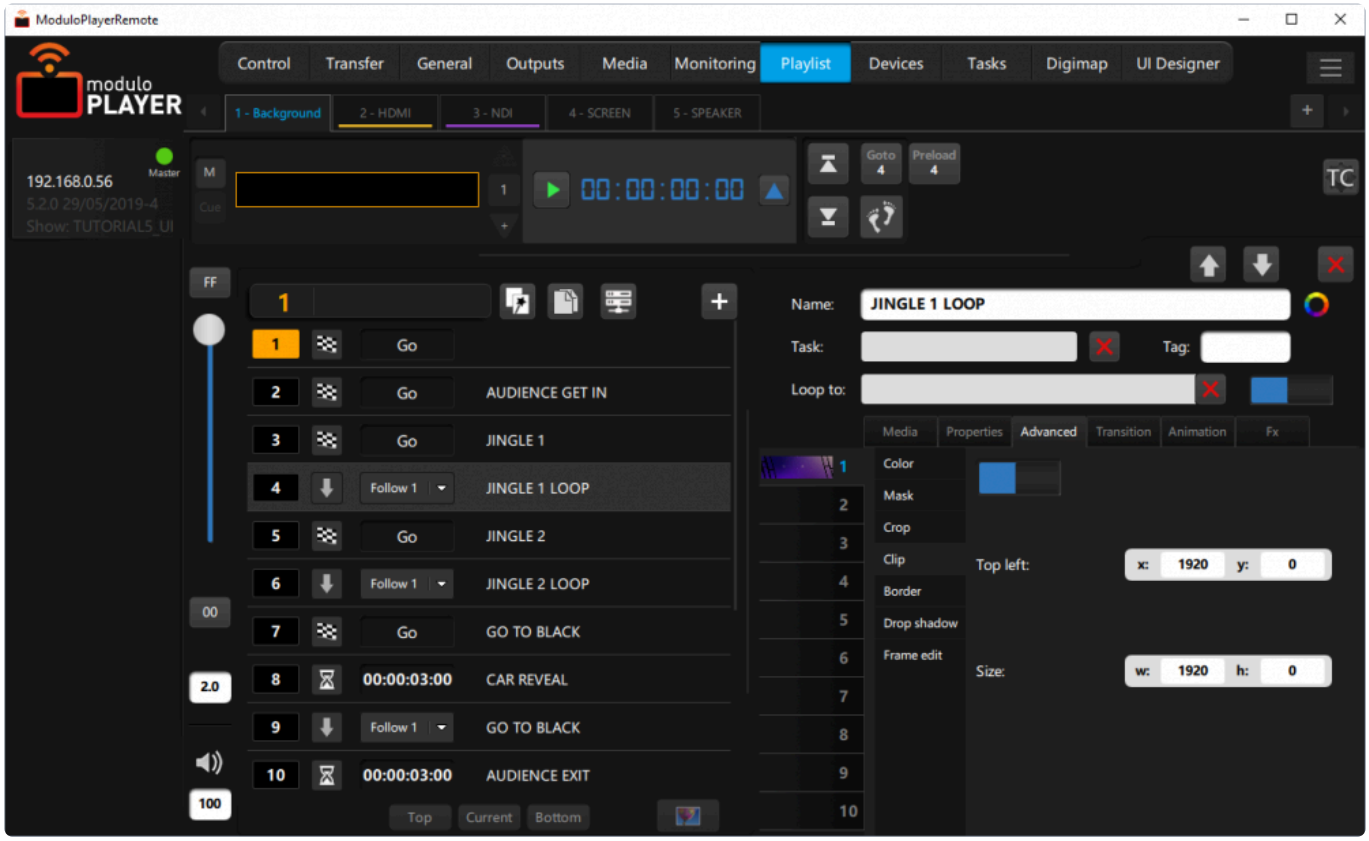
You can add a mask using a still png picture. Then the alpha will be used as a mask:
The transparent parts of the mask will hide the media where the filled ones will reveal it (regardless of the color).
By default the mask position is relative to the media. You can change its position, its scale (in pixels or percentage) and its rotation.

Crop:



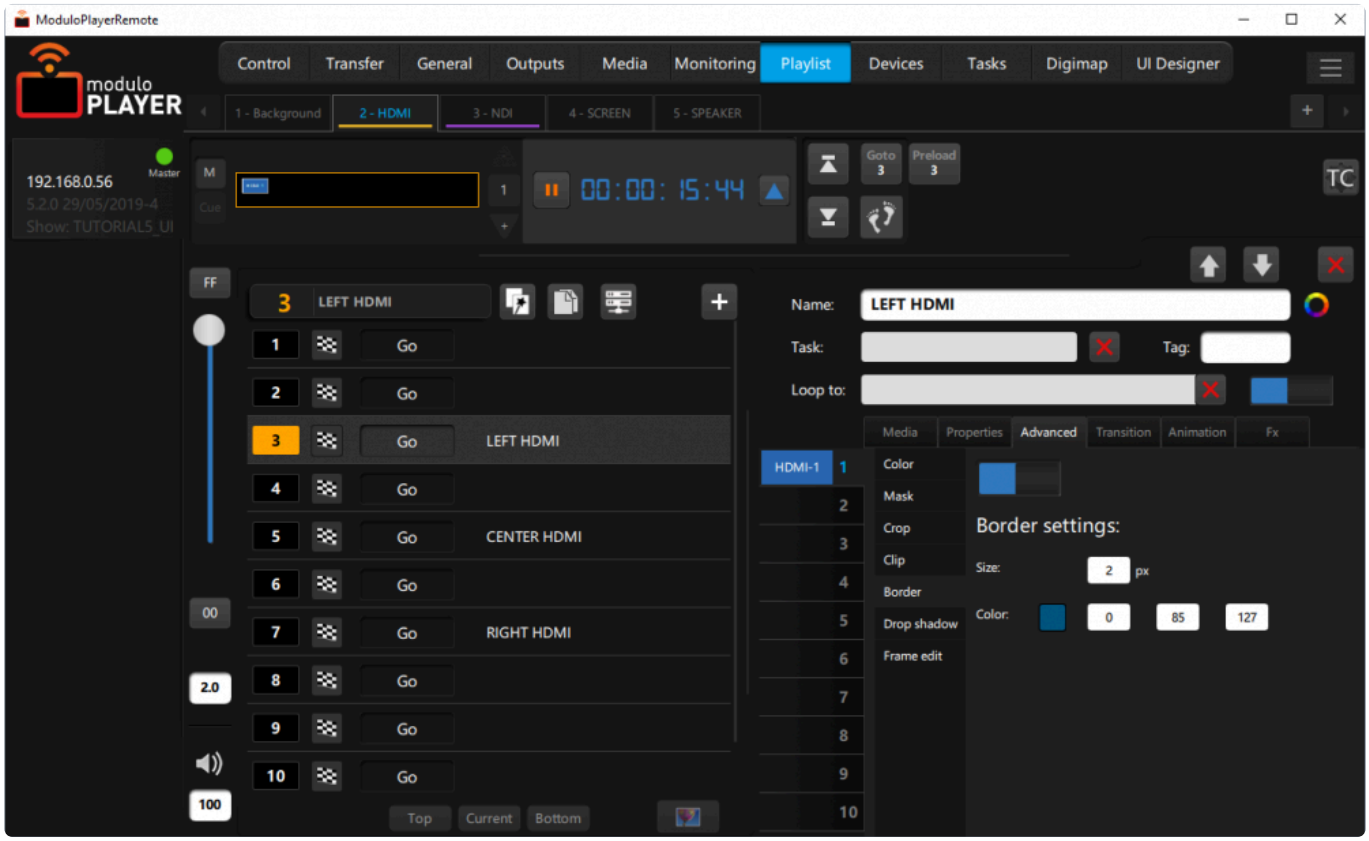
Enables the crop function in order to apply a crop on each side of the media.

Clip:



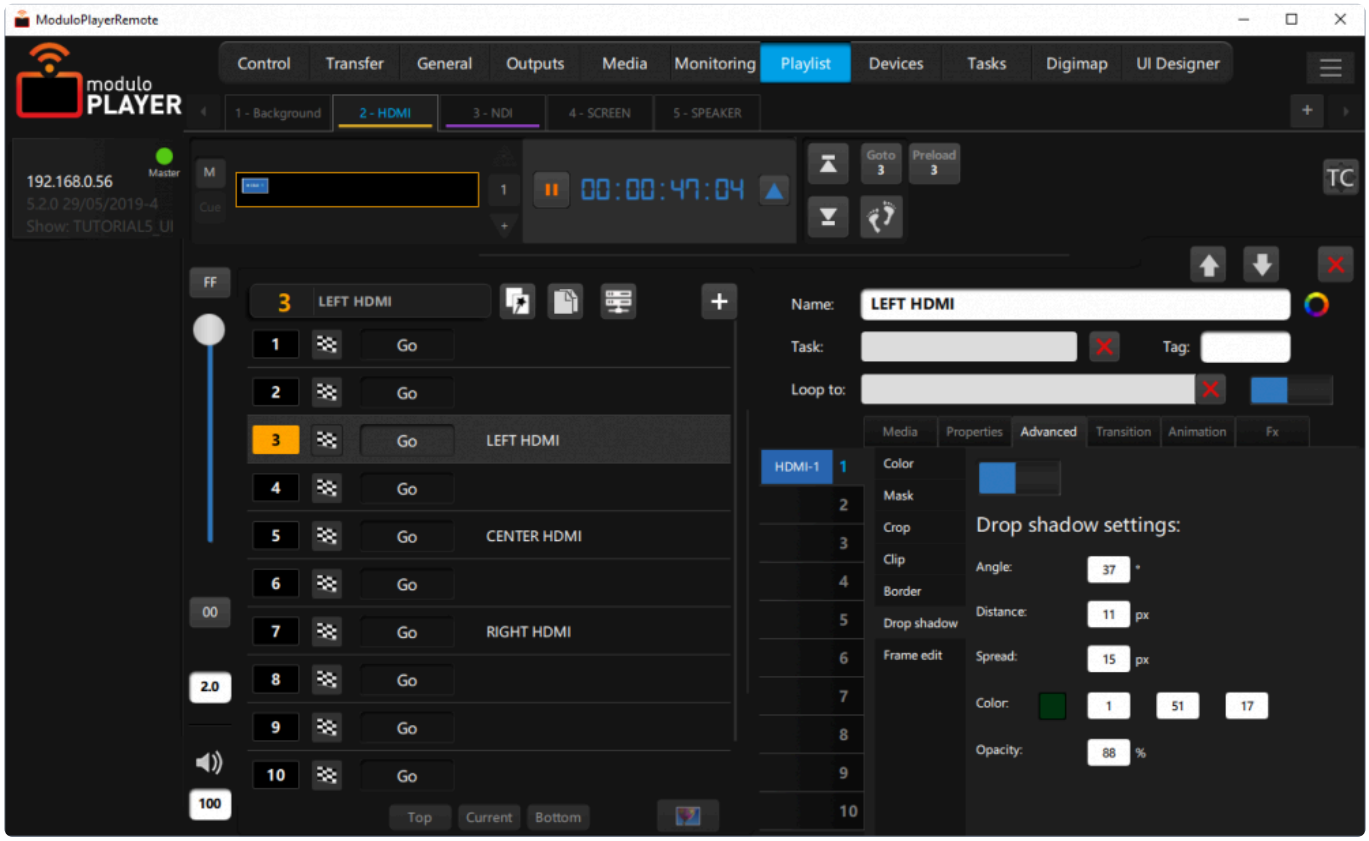
Allows to see the media only in a subpart of the pixel workspace.
To do this:
• Enable the function
• Set the starting pixel of the Clipping
• and the size of the clipping area

Border:



You can add a border to the media.
To do this:
• Enable the function
• Select the size of the border in pixels
• Choose a color for the border

Drop Shadow:

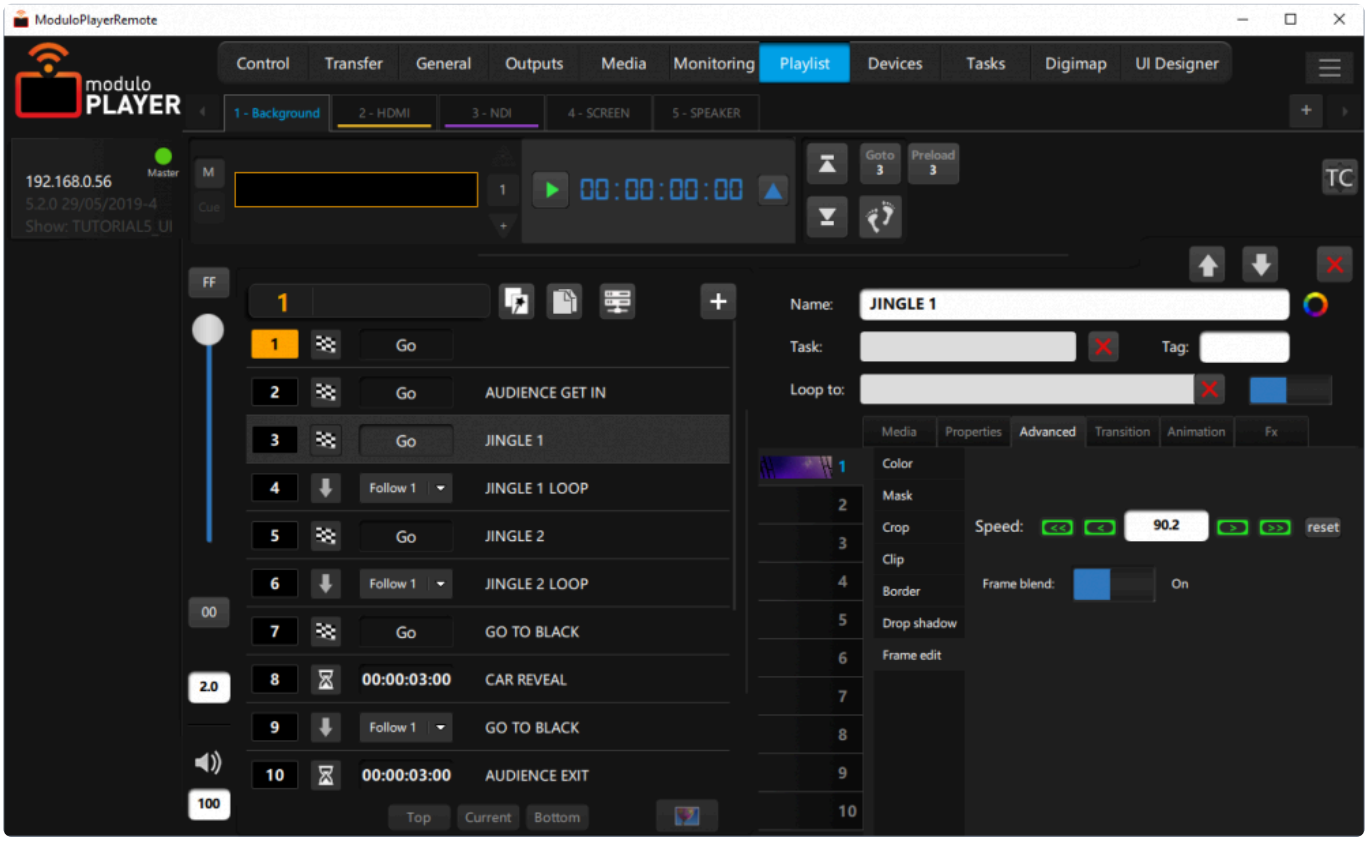


You can create a shadow effect on the selected layer.

To do this:

- Enable the function
- Set the angle of the shadow
- Set the distance from the media in pixels
- Set the spread in pixels
- Set the color in RGB values
- Set the opacity of the shadow

Frame edit:

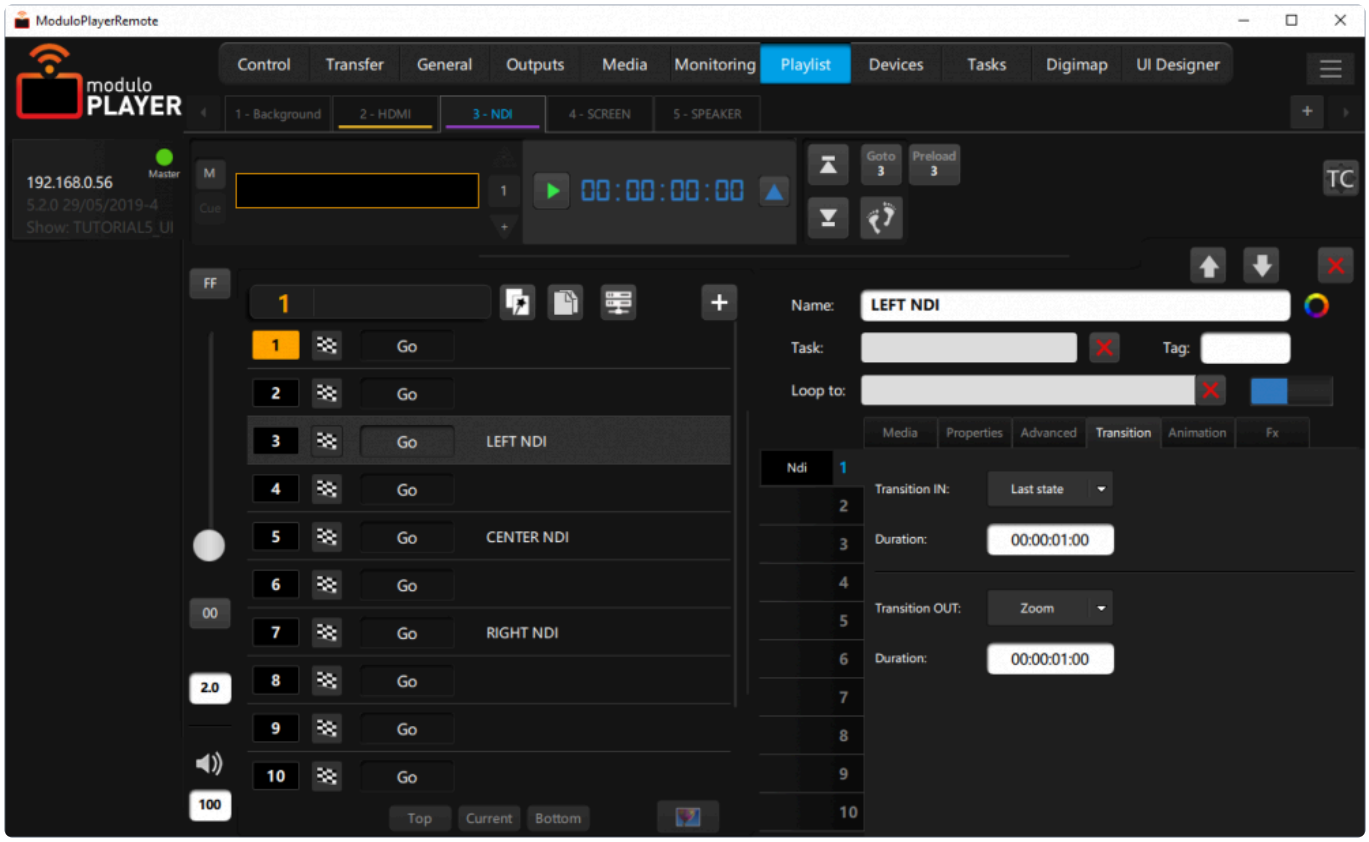


You can change the speed of a movie media on the selected layer.

- Use **<** or **>** to speed Down or Up 0.1%.
- Use **<<** or **>>** to speed Down or Up 1%.
- Click on Reset to return to normal speed

You can activate the frame blend option to allow a smoother playback when you change the speed of your movie or to improve the playback when your video framerate doesn't match with the graphics card framerate.

Transition

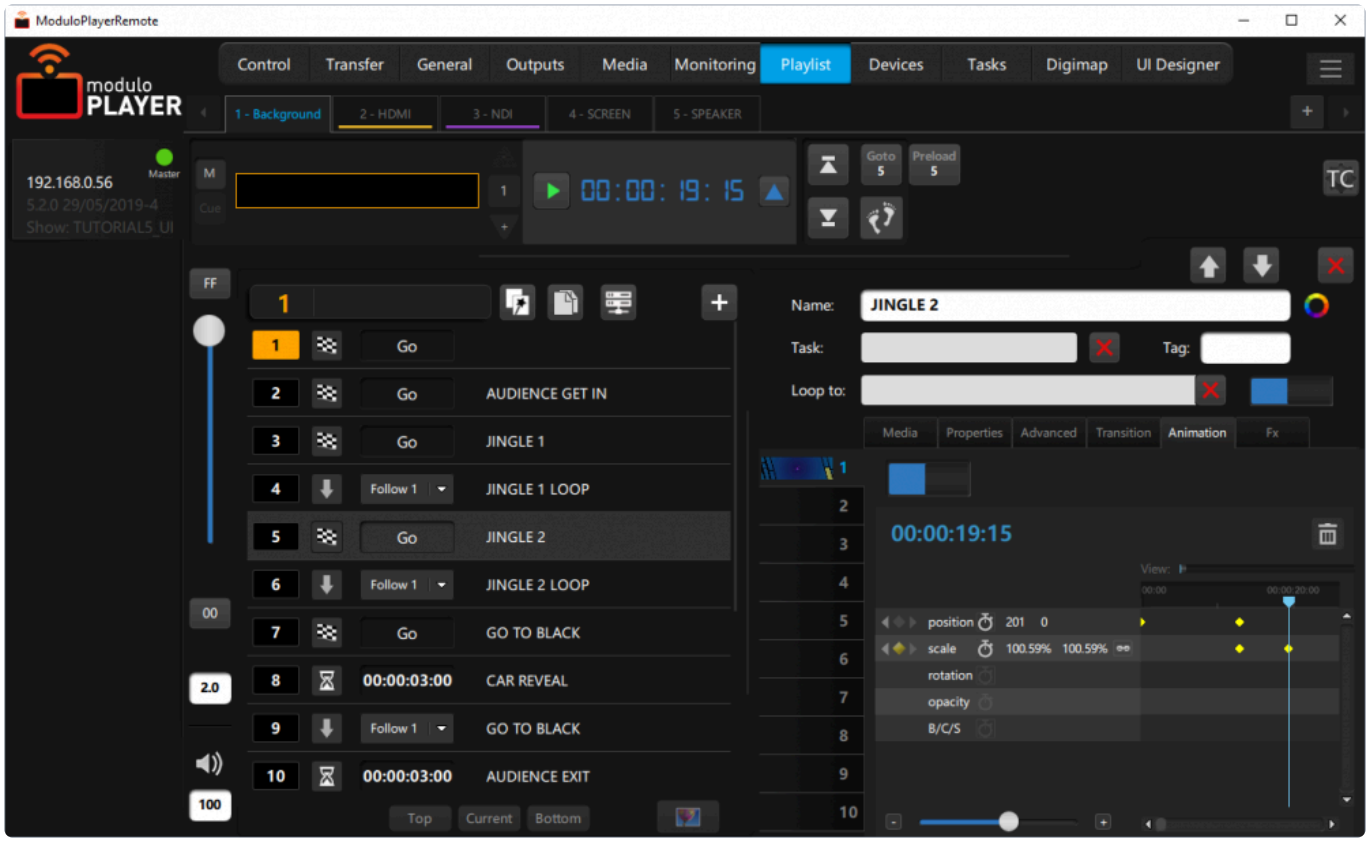


In this tab, you can apply basic transitions for live media.
For more complex setup, we advise you to use the new Live Mixer user interface instead.

• Choose from a list of transition effects:
- Last State: Transition from one point to the other starting from the previous position and Scale(‘last state’) of the layer; position, scale, etc.
- Zoom: Zoom in to the maximum scale you set on the Properties tab for the Out transition: Zoom out from the scale you set
- Wipe Left: Appear/disappear with an animation from left to right
- Wipe Right: Appear/disappear with an animation from right to left
- Wipe Bottom: Appear/disappear with an animation from bottom to top
- Wipe top: Appear/disappear with an animation from top to bottom

• Select the duration of the transition in HH:min:sec:ff

Animation

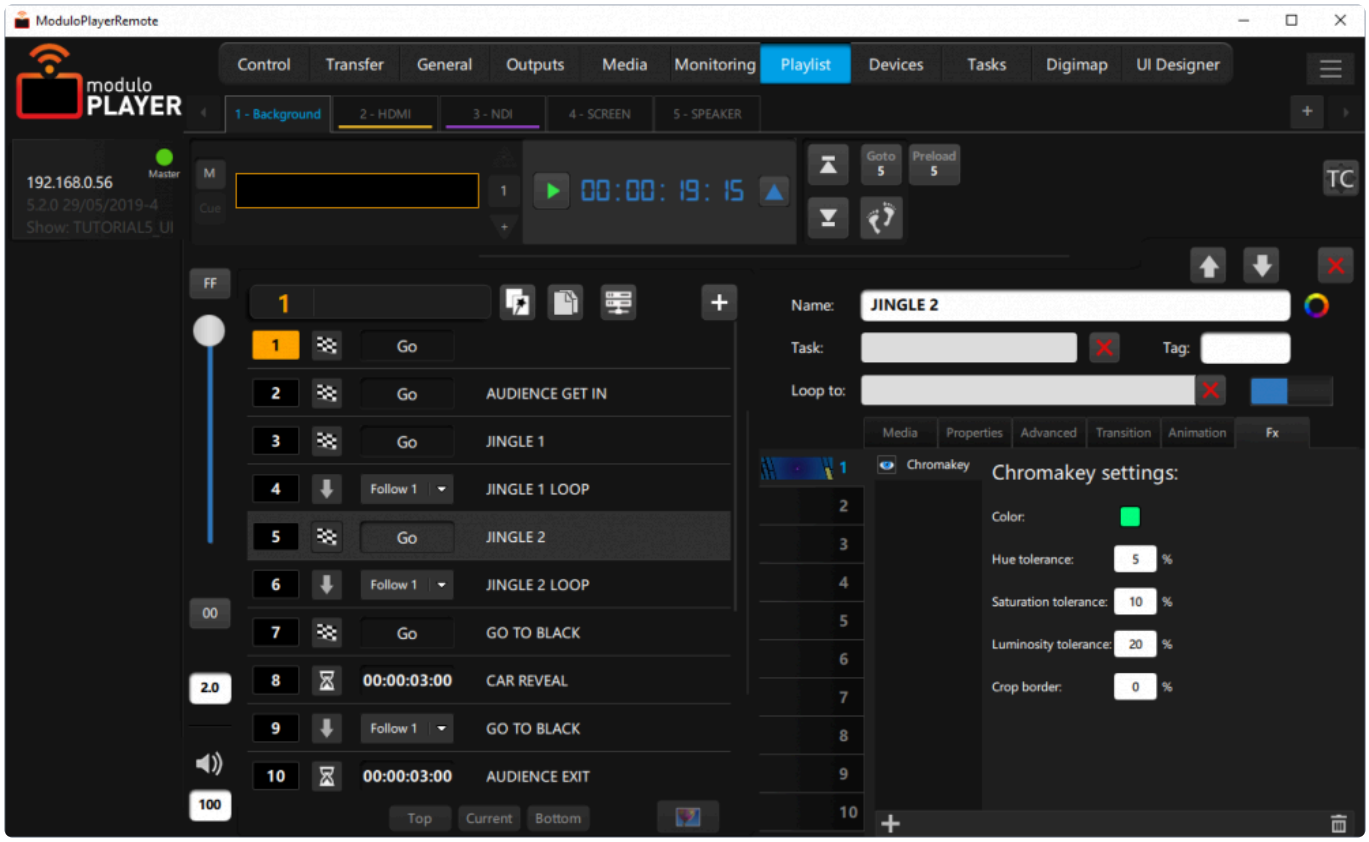


When the animation option is enabled, you can animate some properties of the layer with keyframes.

• You can animate specific properties: position, scale, rotation, opacity, B/C/S
• Activate the stopwatch for each property you want to animate
NB: Once activated, a key will appear.
• A new keyframe will appear for any modification you perform in each specific property throughout the timelines. You can jump from one key to another using the arrows and create one manually by clicking the Keyframe icon between arrows.
• You can select a key (key will turn blue) and you can configure acceleration and deceleration on approach. When you have specified the acceleration, you can see a line in linked to your key. Conversely for a deceleration, you can see a line out linked to your key.

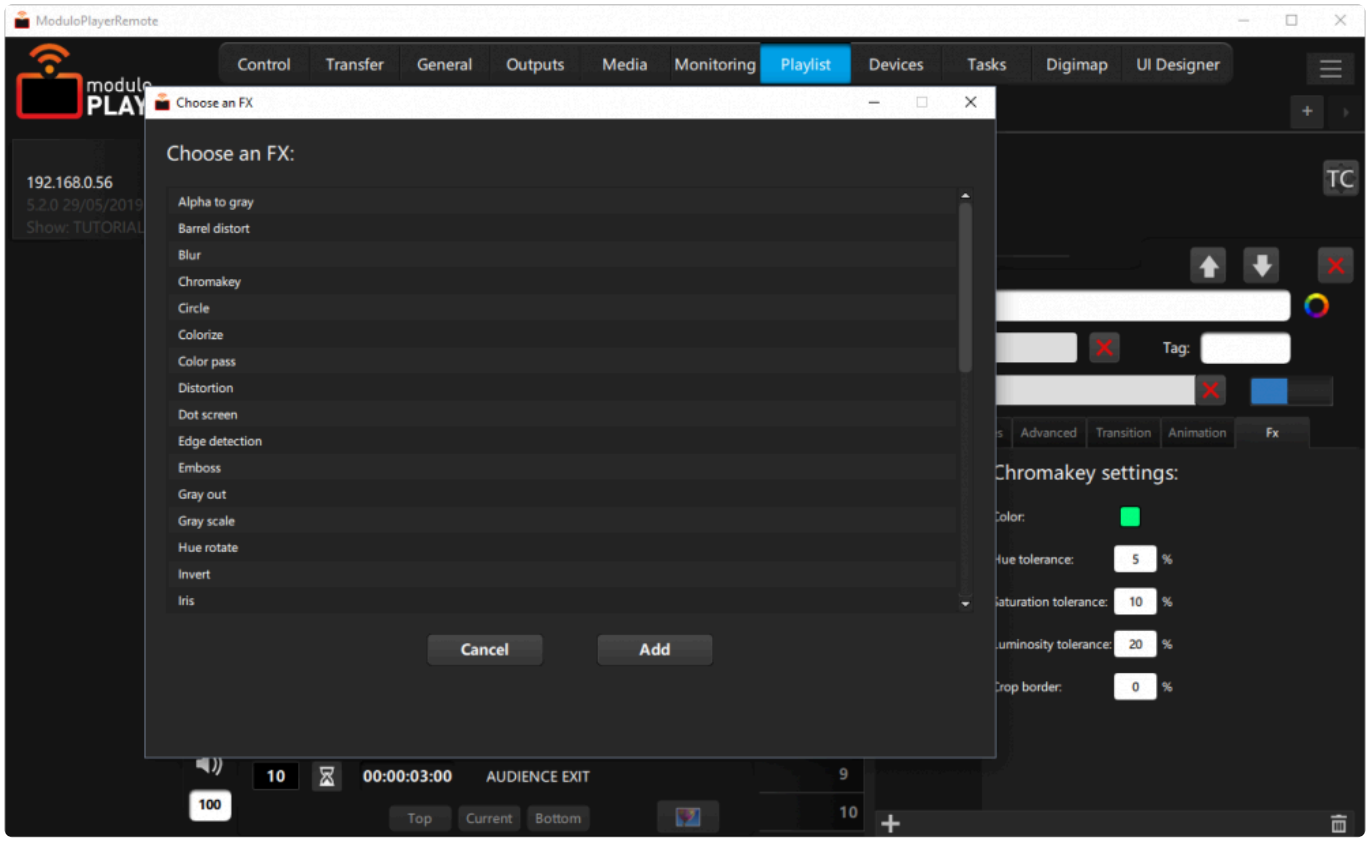
CAUTION:
When activated, you can only modify the parameter in the timeline.
For color animation (B/C/S), you need to activate the color parameter found in the Advanced tab.

Fx



You can add effects to a media.

• Click on the + to open the effects list.



• Select the effect you want, and click on OK
• Modify its parameters and toggle the activation with the blind icon
• To completely delete an effect, select it and click on the trash button

Interactive Shader Format

You can add Interactive Shader Format effects to a media.
Use ISF to apply a GLSL effect on a media.

To do so you need to load the Shader in the Show folder beforehand:
Shaders location is in the ISF sub-folder in the root project folder.
By default this folder is empty.

A free library of ISF is available on this website.

On the Fx tab:

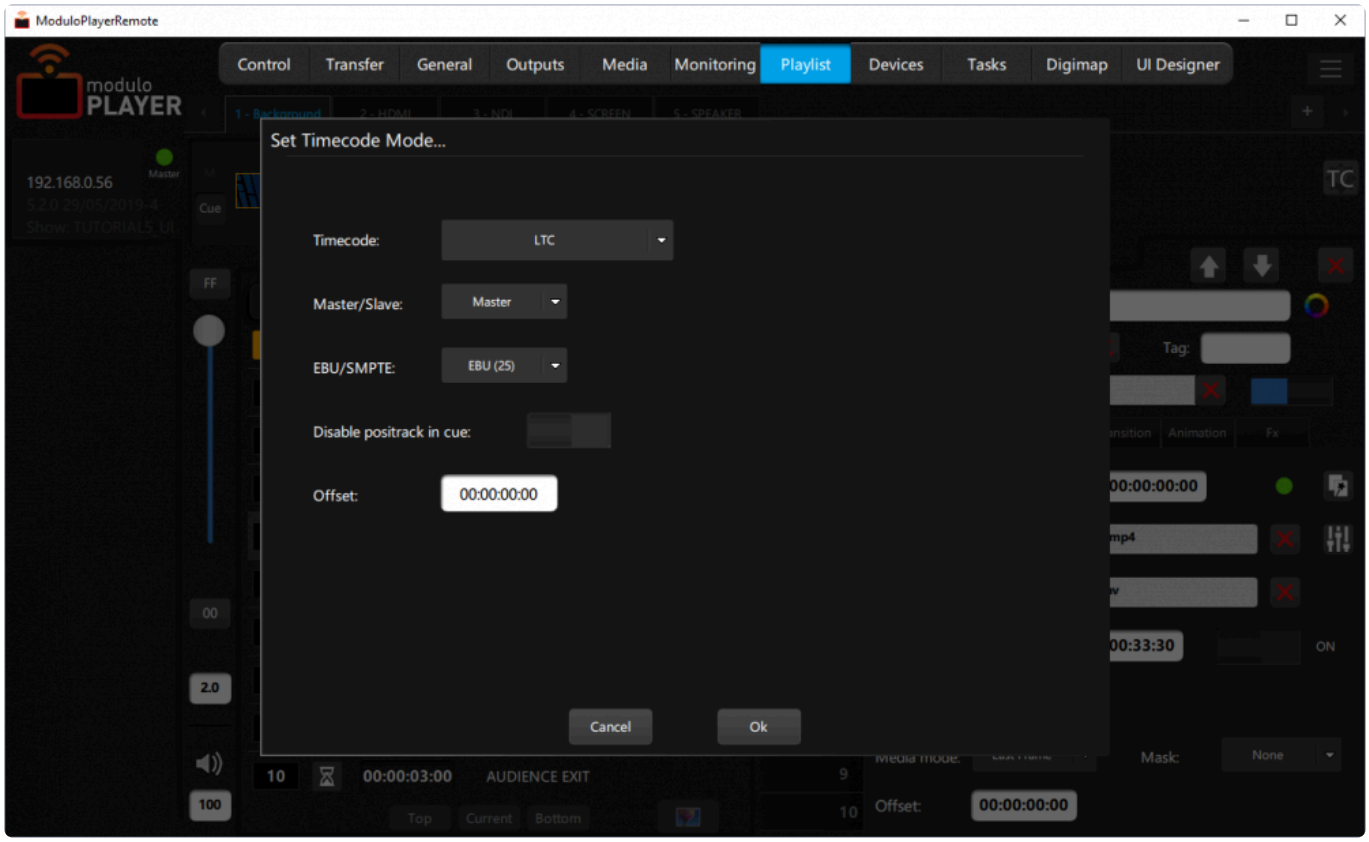
• Click on the to open the effects list
• Select ISF
• Select shader from the list, then click OK
• You can modify its parameters and toggle visibility
• You can combine ISF with other Fx. However, the result can be different depending on the Fx order.
• To completely delete an effect, select it and click on the

To use ISF, you need to create and copy your shaders to the ISF sub-folder located on the Project folder.

Shaders should be on **Version 2.0** (ISFVSN: 2.0)

Timecode

Click on the button on top right corner to enable the timecode.



Then you can select:
• None: No timecode (default mode)
• LTC: The timecode is read from an Adrienne timecode card in LTC slave or Master (depending on the optional hardware). Depending on our timecode, specify the EBU or SMPTE mode. The timecode card is only necessary on the Master Modulo Player. Then the Master sends the synchronization to all the slaves of the same cluster.
• MTC: MIDI timecode reading (slave mode only)
• Art-Net: Timecode thru the Art-Net protocol (Generator or reader)
• Internal: A Master mode timecode simulated by the computer
• Clock: Use the server's clock

Master/Slave:
If you generate the timecode (available for LTC, Art-Net, internal): choose master
If you want to be synchronized to an external timecode, choose slave
If you have one playlist that is working with a LTC Generator (Master), you can choose "Read Master TC" to synchronize another playlist to the LTC Generator (but in slave mode)

EBU/SMPTE: Choose the matching rate to your timecode

Disable positrack in cue: If activated, when there is a small jump (don't implies a jump to another cue) or a stop of the incoming timecode, the playback will continue
Offset: Add an Offset to the incoming Timecode (positive or negative)

• Triggers synchronization using timecode:
• Click on the lock icon to synchronize your playlist triggers on the timecode
You have to specify timecode triggers beforehand to use it. Timecode trigger value needs to increase for

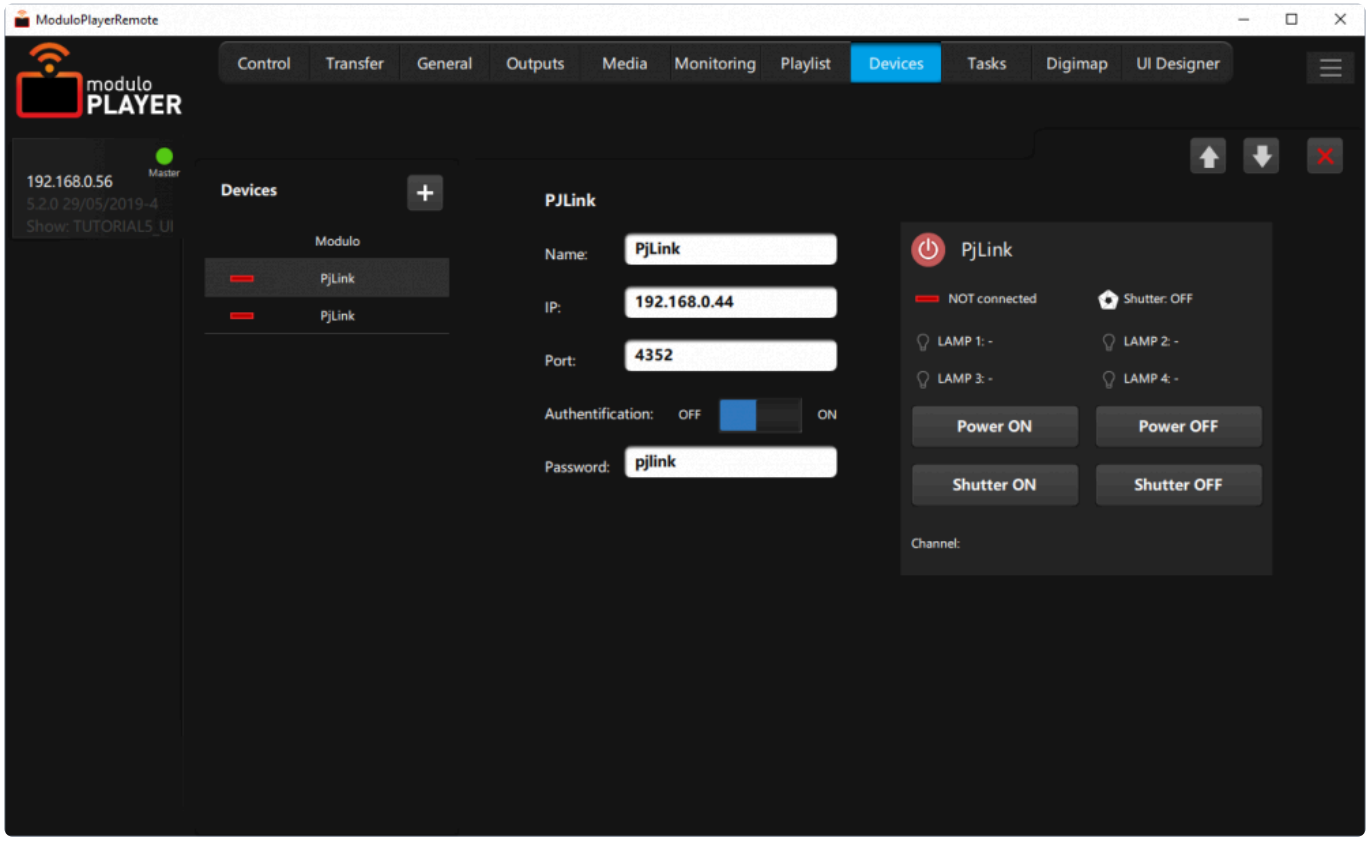
each cue. It will not works correctly for example if the timecode trigger on the Cue 2 is superior than the timecode trigger on Cue 3.

Mode Free-run

• Click on the F button to enable the Free-run mode on the slave server. You can do this action at any time. Then a second timecode appears. The top timecode is the real timecode. The bottom timecode is the Free-run timecode used to synchronize your playlist.

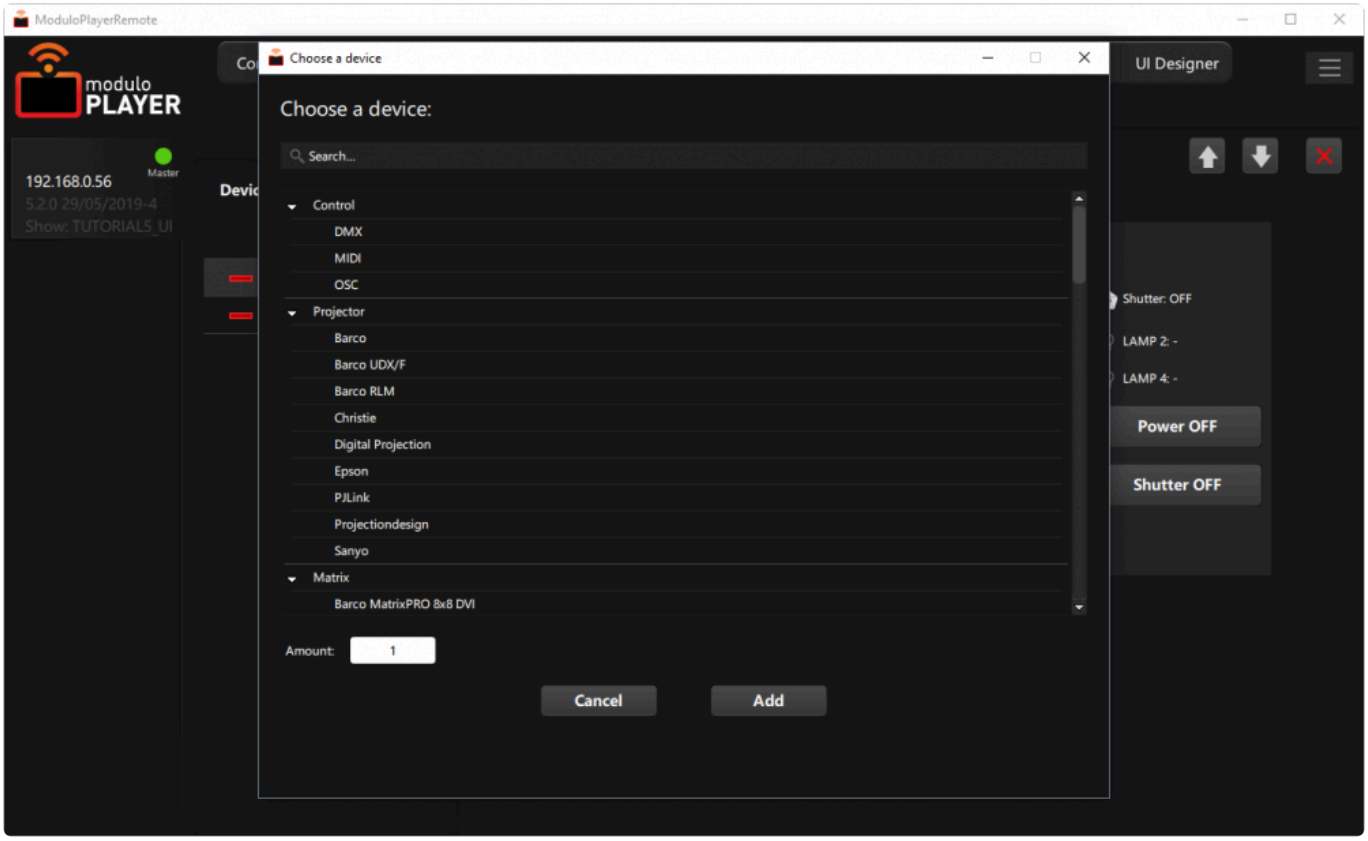
• Click again on the F button to disable the Free-run mode on the slave server to switch on the real timecode. You can perform this action at any time.

Devices tab



This tab allow you to add devices and do the setup.

Click on the **+** to add a new device.



Control

DMX

This device allows you to receive or send MIDI event and receive MTC MIDI Timecode.
You need to add a USB external MIDI interface to use this device.

Settings:

Name: User-friendly name
Input Enable: Enable or disable Input
Input universe and subnet: Choose the input universe and subnet
Output Enable: Enable or disable output
Output universe and subnet: Choose the output universe and subnet

Patch:
You can create a basic patch to use with the Mini-Desk feature of this device.
You can add basic fixture, choose the corresponding channel, choose the number of bits (8 or 16 or 24 or 32) and choose a name and color.

AutoDigimap:
The auto Digimap feature allows you to quickly control Modulo Player from a light desk.
You can choose between 3 different fixtures with different levels of detail.
You can download the fixture patch here.

To control the Modulo Player from the grandMA2, you can download fixtures on this page.

Channel: Choose the start channel of your fixture.

Playlist index: Enter here in the corresponding order the playlist you want to control. For example if you choose 1,2,4, you need to have 3 fixtures that follows for playlist 1, playlist 2 and playlist 4.

Use tag: Normally when you recall a cue using autodigimap, the value 1 correspond to cue 1, the value 2 to cue 2, the value 100 to cue 100,… In case you want to change order of cues without changing anything in your light desk or add extra cues in between, then it's easier to use the tag mode.
In each cue of the playlist, you can enter a numerical tag. It will correspond to the value to trigger this cue in DMX. Using the tag more is far more flexible.

Mini-Desk:
You can create a very basic light desk:
You can enable active fixture you will want to save in a preset, choose a value for each fixture, a transition time and wait per fixture. If you click on the **+** in the preset tab, you will create a preset that snaphot the current state (only active fixture).
If you select a preset and click on save button, you will overwrite the preset with the current state.
If you select a preset and click on play button, you will recall a preset on "prepa" or in "stage" depending if prep or stage is selectionned.
Click on Take when you want to recall the state in "prepa" to "stage".
You can recall theses presets using a task.

Spy In&Out:
You can watch the values of the input and output.

Task action:

Record/playback:
Modulo Player a DMX Art-Net recorder/playback.
All recorded files go in /dmx subfolder of your project. Each record file contains a file independant from the show.
Use start record follow by a stop record when you have finished the record. replace start record by start playback and stop record by stop playback to playback your dmx file.

Set channel: Allows you to do a transition in fade on a channel from the current value to the target value

Take preset: Recalls a preset create in the setup of your device

Task trigger:

You can choose the Channel and value (8 bits or 16 bits) that need to be received to trigger a task.

Digimap trigger:

You can choose the Channel and if the value is 8 or 16 bits that you want to patch to this digimap.

User interface:

N/A

Device information:

See here information about Art-Net protocol

credit: “Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd”

GrandMA2 fixture

Here is the fixture link

The 3 fixtures are made to control quickly Playlists and Layers, you can use the fixtures with instances for advanced uses.

To control a **Playlist** and more, you need to add a **Fixture**, 1 Playlist = 1 fixture
And add the **Device DMX** from **Modulo Player Remote**.

GrandMA 2 side

Minimal Mode

Control Playlists – 2 parameters (footprint : 3 ch)
• Launch Cue (2 ch)
• Playlist opacity (1ch)

Basic Mode

Control 10 Layers – 4 parameters (footprint : 4 ch per **Layer**)
• Layer Opacity (1 ch)
• Red (1 ch)
• Green (1 ch)
• Blue (1 ch)

Extended Mode

Control 10 Layers – 9 parameters (footprint: 14 ch per **Layer**)
• Layer Opacity (1 ch)
• Red (1 ch)
• Green (1 ch)
• Blue (1 ch)
• Position X (2 ch)
• Position Y (2 ch)
• Scale X (2 ch)
• Scale Y (2 ch)
• Rotation (2 ch)

Fixtures with Instances:

Basic and Extended mode are available with instances, that means you can have access to the layers' parameters directly :
To select on the Fixture X the layer Y :
« FIXTURE X.Y »

Thanks to instances you can easily copy/paste a layer to another one, select multiple parameters to work with etc.

Basic Mode (with instances)

Control Playlists on instance 11 – 2 parameters (3 ch)
• Launch Cue (2 ch)
• Playlist opacity (1ch)

Control 10 Layers from instance 1 (for Layer 1) to instance 10 (Layer 10)
4 parameters (4 ch) per instance
• Layer Opacity (1 ch)
• Red (1 ch)
• Green (1 ch)
• Blue (1 ch)

Extended Mode (with instances)

Control Playlists on instance 11 – 2 parameters (footprint : 3 ch)
• Launch Cue (2 ch)
• Playlist opacity (1ch)

Control 10 Layers from instance 1 (for Layer 1) to instance 10 (Layer 10)
9 parameters (14 ch) per Instance
• Layer Opacity (1 ch)
• Red (1 ch)
• Green (1 ch)
• Blue (1 ch)
• Position X (2 ch)
• Position Y (2 ch)
• Scale X (2 ch)
• Scale Y (2 ch)
• Rotation (2 ch)

CREDIT: Thank you to Baptiste JAZE for this fixture.

Chamsys fixture

Chamsys fixture

Here is the fixture for Chamsys light desk: **Download fixture**

THE PATCH:
The “Minimal” mode can be patched in this folder: ModuloPi > ModuloPlayer > Minimal (3).
This file is common to the “Basic” and “Extended” modes.

The “Basic” and “Extended” modes can be patched in this folder: Media server > ModuloPi Player > “Basic mode” or “Extended mode”.
Patching these two modes from the “media server” folder allows the automatic creation of the 10 layers in the console’s patch.

MINIMAL MODE:
- The Intensity window (INT) allows adjustment of the “*Playlist *Opacity”.

- The BEAM window, Encoder “A”, allows choosing the cue number of the “Launch cue”.
For example: SHIFT + Encoder “A” to progress cue by cue (1>2>3>4 …. 65535), or Encoderr “A” to increment by 255 cues (256> 512>768 …. 65535).

- A palette of 50 cues has been created for direct access.

- The LOCATE function sets Opacity to 100%.

BASIC MODE:
Compared to the Minimal mode, the Basic mode adds some “Opacity layer” parameters: “Red”, “Green” and “Blue” for the 10 layers of a cue.

During the patch, this mode is seen as 2 groups: one group includes the parameters of the “Minimal” mode, and another group includes the layers’ parameters.

CAUTION: When selecting the layers’ parameters group, then the 10 layers will be changed simultaneously.
In order to modify each layer independently, go to the “View heads” sub-group to select the layer(s) of your choice.

- The Intensity window (INT) allows adjustment of the “*Layer *Opacity” of layers 1 to 10 (In this mode and this window, you will find the parameter “Playlist Opacity”).

In the group of layers:
- Colour window:
> Encoder “A” allows adjusting the Red
> Encoder “B” allows adjusting the Green
> Encoder “C” allows adjusting the Blue

- The LOCATE function sets:
> Opacity to 100%
> RGB colour to 100%

EXTENDED MODE:
This mode includes the parameters of the “Basic mode” and adds the parameters “Position X”, “Position Y”, “Scale X”, “Scale Y” and “Rotation” for each of the 10 layers.
All these parameters are set in 16 bits.
You can use SHIFT + Encoder for fine-tuning.

In this group:
- The BEAM window Encoder “A” allows adjustment of the rotation

- The POSITION window:
> Encoder “A” allows adjusting the X scale
> Encoder “B” allows adjusting the Y scale
> Encoder “X” allows adjusting the X position
> Encoder “Y” allows adjusting the Y position

- The LOCATE function sets:
> Opacity to 100%
> RGB colour to 100%
> XY position to 0 (centered)
> XY scale to 100%
> Rotation to 0°

CREDIT: Thank you to Frédéric SABY for this fixture.

MIDI

This device allows you to receive or send MIDI event and receive MTC MIDI Timecode. You need to add a USB external MIDI interface to use this device.

Settings:

Name: User-friendly name
Input Enable: Enable or disable input
Input Port: Choose Input port from list
Output Enable: Enable or disable output
Output Port: Choose output port from list
Timecode Type: Choose from list

Task action:

Note On/Off: Channel value (range 1-16), Note (range 1-128), Velocity (1-128)
Control Change: Channel value (range 1-16), Control (range 1-128), Value (1-128)
Program change: Channel value (range 1-16), Program(range 1-128)
MMC Stop/Play: Device Id value (range 0:127)
MMC Deferred Play: Device Id value (range 0:127)
MMC Fast Forward: Device Id value (range 0:127)
MMC Rewind: Device Id value (range 0:127)
MMC Punch In: Device Id value (range 0:127)
MMC Punch Out: Device Id value (range 0:127)
MMC Pause: Device Id value (range 0:127)
MMC Goto: Device Id value (range 0:127), Timecode (hh:mm:ss:ff)

Task trigger:

Action:
Note On: Channel value (range 1-16), Note (range 1-128), Velocity (1-128)
Note On No Velocity: Channel value (range 1-16), Note (range 1-128)
Note Off: Channel value (range 1-16), Note (range 1-128), Velocity (1-128)
Control Change: Channel value (range 1-16), Control (range 1-128), Value (1-128)
Program change: Channel value (range 1-16), Program(range 1-128)

Digimap trigger:

Action:
Note On/Off: Channel value (range 1-16), Note (range 1-128)

Control change: Channel value (range 1-16), Control (range 1-128)
Program Change: Channel value (range 1-16)

User interface:

N/A

Device information:

See here more information about MIDI protocol.

> ! USB 2.0 MIDI devices should be always be plugged in a USB 2.0 port.
> The MIDI devices should be always be Power On and plugged in the server before launching Modulo Player.
> If the MIDI is accidentally unplugged during a show, you should restart Modulo Player application after re-plugging it.

OSC

This device allows you to receive or send OSC message.

Settings:

Name: User-friendly name
Input Enable: Enable or disable input
Input Port: 8000 is the default value (usually doesn't have to be changed)
Output Enable: Enable or disable output
Output IP: Enter the ip address of the device's Output. Your device and Modulo Player need to be in the same subnet
Output Port: 8000 is the default value (usually doesn't have to be changed)
Trigger Enable: Enable or disable Trigger using protocol below
Feedback: On/Off using protocol below

Task action:

Send Message
Send Message + Int (message + Int value)
Send Message + float (message + float value)
Send Messgae + string (message + string value)
Send PlayList
Send TaskList
Start Record (name)
Stop Record

Task trigger:

Action:
-Message
-Message + int
-Message + float
-Message + string

Message (alphanumerical field)

Digimap trigger:

Action:
-Message
-Message + int
-Message + float
-Message + int Array
-Message + float Array

Message (alphanumerical field)

User interface:

N/A

Device information:

For more information go on this webpage.

Modulo Player Protocol:

You need to enable “trigger enable” to activate this protocol.
You can then use any OSC controler to communicate easily with Modulo Player.

Allows you to use all defined triggers by entering the following protocol:

- /modulo/gocue/x/y
  Where x refers to the playlist index and y the cue index.

- /modulo/launchtask/x
  Where x refers to the task index.

- /modulo/faderfull/x
  Where x refers to the playlist index. Set the fader value at 100% in the time indicated on the remote control.

- /modulo/faderzero/x
  Where x refers to the playlist index.Set the fader value at 0% in the time indicated on the remote control.

- /modulo/fader/x v
  Where x refers to the playlist index and v the value of the playlist fader between 0.0 and 1.0.

- /modulo/gocuenext/x
  Where x refers to the playlist index.

- /modulo/gocueprev/x
  Where x refers to the playlist index.

- /modulo/volume v
  Where v refers to the master volume value between 0 and 100.

Feedback:

if feedback is enable, an automatic OSC feedback is sended using the following syntax to send back information about a playlist (around 5 per second):

- /modulo/fader/x followed by a float between 0 and 1:
  Returns the playlist fader value where x refers to the playlist index.

- /modulo/volume followed by an int between 0 and 100:
  Returns the master volume.

- /modulo/cue/index/x
  Followed by the index of the active cue on playlist number x.

- /modulo/cue/name/x
  Followed by the name of the active cue on playlist number x.

- /modulo/cue/time/x:
  Followed by the timecode (string value) of the active cue on playlist number x.

- /modulo/online
  Send back an int between 0 and 1 as a lifeline.

- /modulo/cue/playlistIndex/index
  Send when a cue is launched.
  Where playlistIndex is the playlist index and index the cue index followed by the cue name.

- /modulo/task/index
  Send when a task is launched
  Where index is the task index followed by the task name.

Video Projectors

Barco

Select this device to control your Barco video-projectors.

Barco supported:

Very old Barco projector
HDQ / HDX projectors
PGWU series

Use instead **Barco UDX/F** for current Barco video-projector generation.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
ID: Optional ID (herited from old RS232 protocol).
Port: TCP/IP port. 43680 is the default value (usually doesn't have to be changed)
Type: Choose the matching device:
- OLD: Very old Barco projector
- HDQ / HDX projectors
- PGWU series
Feedback On/Off: Allows you to disable feedback on very old Barco projector that doesn't like a lot of IP Traffic.

Task action:

Command available:

Power On/Off
Lamp On/Off
Shutter On/Off
Channel (value)
Freeze On/Off
Focus increase/decrease
Zoom increase/decrease
Horizontal shift increase/decrease
Vertical shift increase/decrease

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to Barco website for more information.

Barco RLM

Select this device to control your Barco video-projectors RLM series.

Use instead **Barco UDX/F** for current Barco video-projector generation.

Settings:

Name: User-friendly name
IP: enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
ID: optional ID (herited from old RS232 protocol).
Port: TCP/IP port. 43680 is the default value (usually doesn't have to be changed)

Task action:

Command available:

Power On/Off
Lamp On/Off
Lamp Mode: Economy/ Standard/ Dimming
Shutter On/Off
Channel (value)
Test Pattern (list)
OSD On/Off

Projection Front/ Rear/ Floor/ Ceiling
Set Lamp Power (value)
Load Lens Memory (value)
Save Lens Memory (value)
Set Lamps Count (value)
Focus Increase/Decrease
Zoom Increase/Decrease
Horizontal Shift Increase/Decrease
Vertical Shift Increase/Decrease

Task Trigger:

N/A

Digimap Trigger:

N/A

User Interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device Information:

Go to Barco website for more information.

Barco UDX-F

Select this device to control your Barco video-projectors UDX or F series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 9090 is the default value (usually doesn't have to be changed)

Task action:

Command available:

Lamp On/OFF

Shutter On/OFF
Focus increase/decrease
Zoom increase/decrease
Horizontal shift increase/decrease
Vertical shift increase/decrease

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to Barco website for more information.

Christie Digital

Select this device to control your Christie Digital video-projectors with this device.

Settings:

Name: user friendly name.
IP: enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet.
Port: TCP/IP port. 3002 is the default value (usually doesn't have to be changed).

Task action:

command available:

Power On/Off
Shutter On/Off
Channel (value)
Channel PIP (value)
Freeze On/Off

Freeze PIP On/Off
Internal test Pattern (list)
PIP On/Off
Picture Mute On/Off
Focus (value)
Zoom (value)
Horizontal Shift (value)
Vertical Shift (value)
Lamp Intensity (value)
Lamp Mode (list)
Lamp Power (value)
OSD (list)
Screen Orientation (list)

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to the manufacturer website for more information.

Digital Projection

Select this device to control your Titan Digital Projection projector.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 7000 is the default value (usually doesn't have to be changed)

Task action:

Command available:

Power On/Off
Shutter On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to the manufacturer website for more information.

Epson

Choose this device to control your Epson video-projectors.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 3002 is the default value (usually doesn't have to be changed)

Task action:

Command available:

Power On/Off
Shutter On/Off
Channel (value)
Freeze On/Off

Freeze PIP On/Off
Internal test Pattern (list)
Focus (value)
Zoom (value)
Horizontal Shift (value)
Vertical Shift (value)
Lamp Intensity (value)
Lamp Mode (list)
Lamp Power (value)
OSD (list)

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to the manufacturer website for more information.

Pjlink

This device allows you to control Panasonic video-projectors and many other brands that support this protocol.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 4352 is the default value (usually doesn't have to be changed)
Authentification Off/On: Enables the authentification. Most of the time, it's necessary to activate the authentification. You need to match the Pjlink settings in your projector with this setup
Password: If authentification is enable, you need to enter the password corresponding to your device. If you don't know the password, go to the user manual of your video projector and search for PjLink, you will find the default password

Task action:

Command available:

Power On/Off
Picture Mute On/Off
Input RGB (value)
Input Video (value)
Input Digital (value)
Input Storage (value)
Input Network (value)
Shutter On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to the manufacturer website for more information.

If you want to test the device Pjlink, it's possible to download a Windows application that can simulate a device supporting PjLink protocol.
Download the tool, unzip the zip, then lauch the application PJLinkTEST4CNT.exe.

Projectiondesign

Choose this device to control your Projectiondesign video-projectors.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 1025 is the default value (usually doesn't have to be changed)

Task action:

Command available:

Power On/Off
Lamp Mode (list)
Shutter On/Off
Channel (value)
Freeze On/Off
Focus Increase/Decrease
Zoom Increase/Decrease
Horizontal Shift Increase/Decrease
Vertical Shift Increase/Decrease
OSD On/Off
Set Desktop Front
Set Desktop Rear
Set Ceiling Front
Set Ceiling rear

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

Go to Barco website for more information.

Sanyo

Choose this device to control your Sanyo video-projectors.

Settings:

Name: User-friendly name
Serial/IP : Choose serial or IP
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 1000 is the default value (usually doesn't have to be changed)
ID: Optional ID (herited from old RS232 protocol)
Authentification Off/On: Enables the authentification. Most of the time, it's necessary to activate the authentification. You need to match the settings in your projector with this setup
Password: If authentification is enabled, you need to enter the password corresponding to your device. If you don't know the password, go to the user manual of your video projector and search for protocol, you will find the default password

Task action:

Command available:

Power On/Off
Channel (value)
Freeze On/Off
Picture Mute On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Matrices

Barco Matrix Pro 8×8 DVI

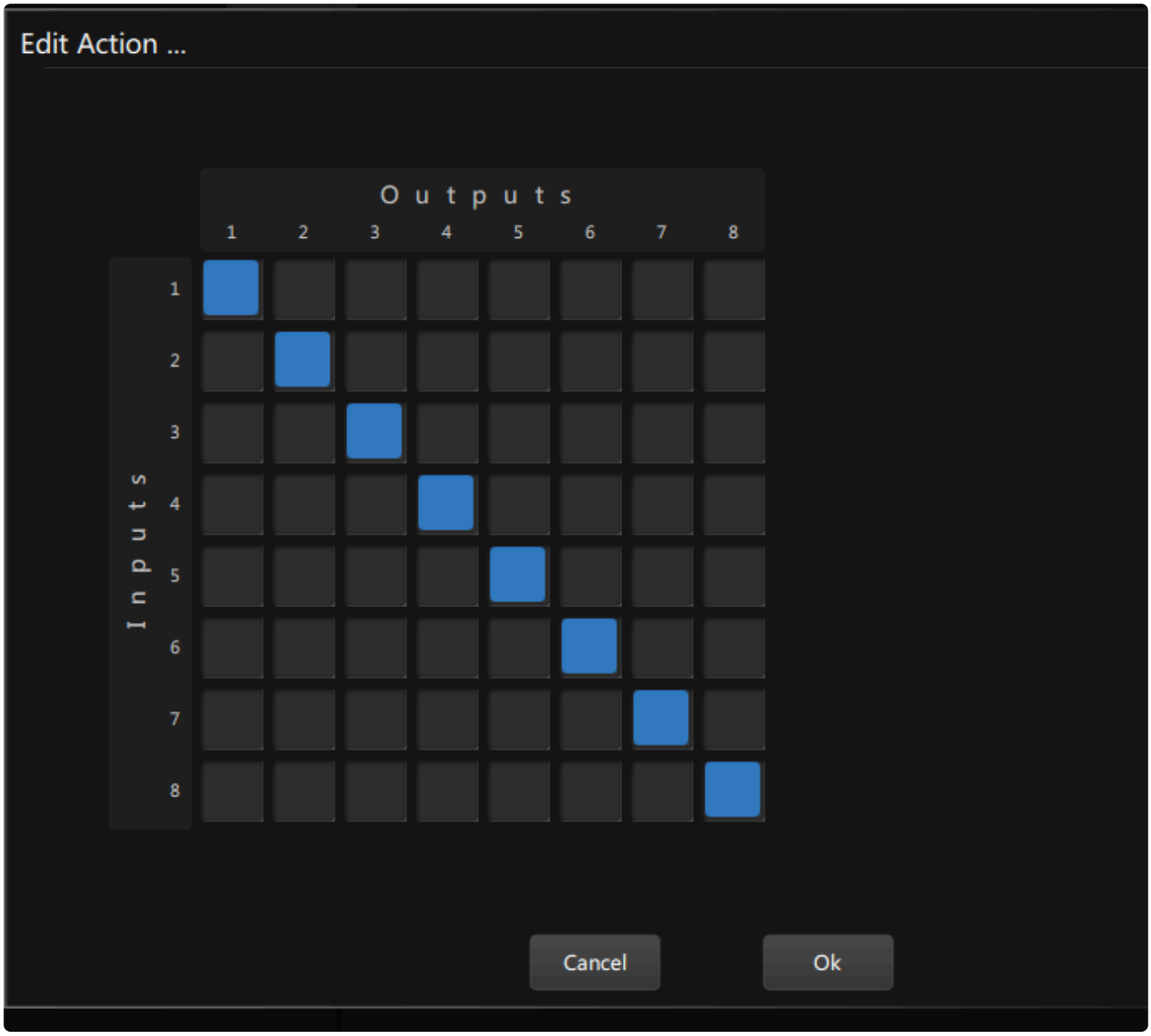
Choose this device to control your Barco Matrix Pro 8×8 DVI router.

Settings:

Name: User-friendly name
IP: Enter the ip address of your router. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 23 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to manufacturer website for more information.

Barco Matrix Pro-II 16×16 DVI

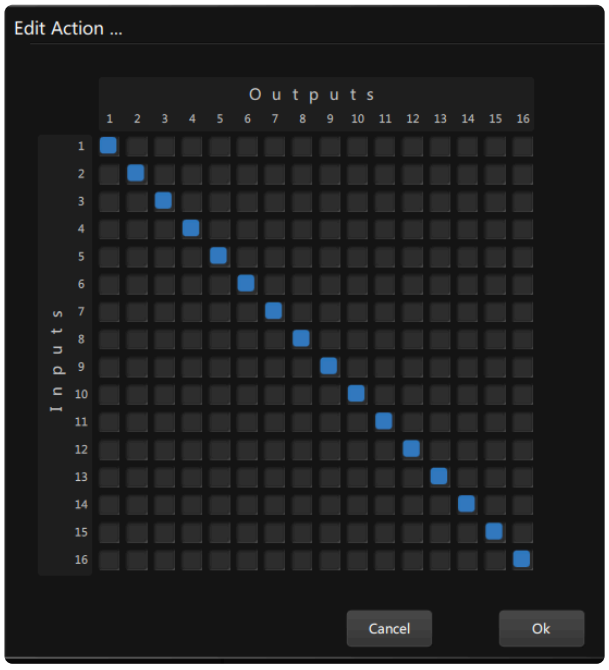
Choose this device to control your Barco Matrix Pro-II 16×16 DVI router.

Settings:

Name: User-friendly name
IP: Enter the ip address of your router. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 23 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to [manufacturer website] for more information.

Blackmagic Videohub

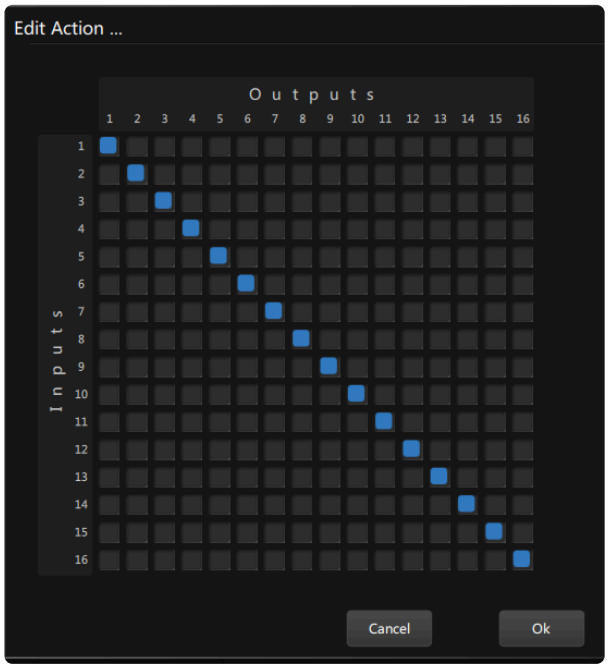
Choose this device to control your 16×16 Blackmagic VideoHub.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 9990 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to Blackmagic website for more information.

Extron DXP 8×8

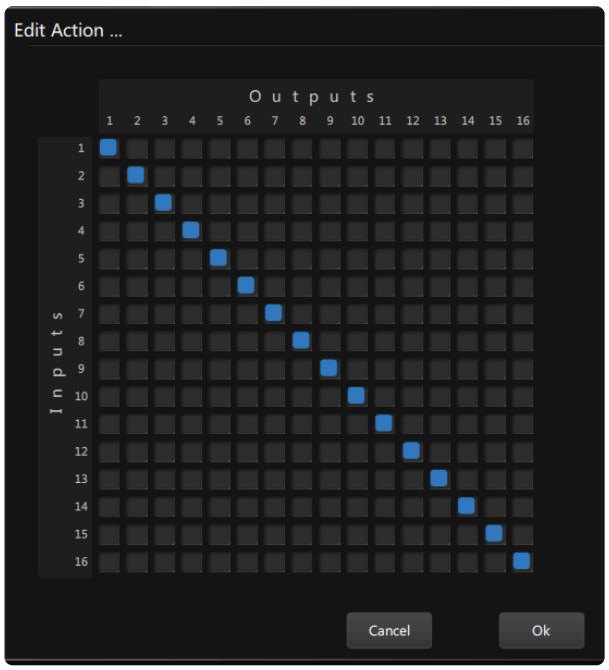
Choose this device to control your Extron DXP Matrix 8×8 router.

Settings:

Name: User-friendly name
IP: Enter the ip address of your router. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 23 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A.

Device information:

Go to the manufacturer website for more information.

Extron SMX Multi Matrix

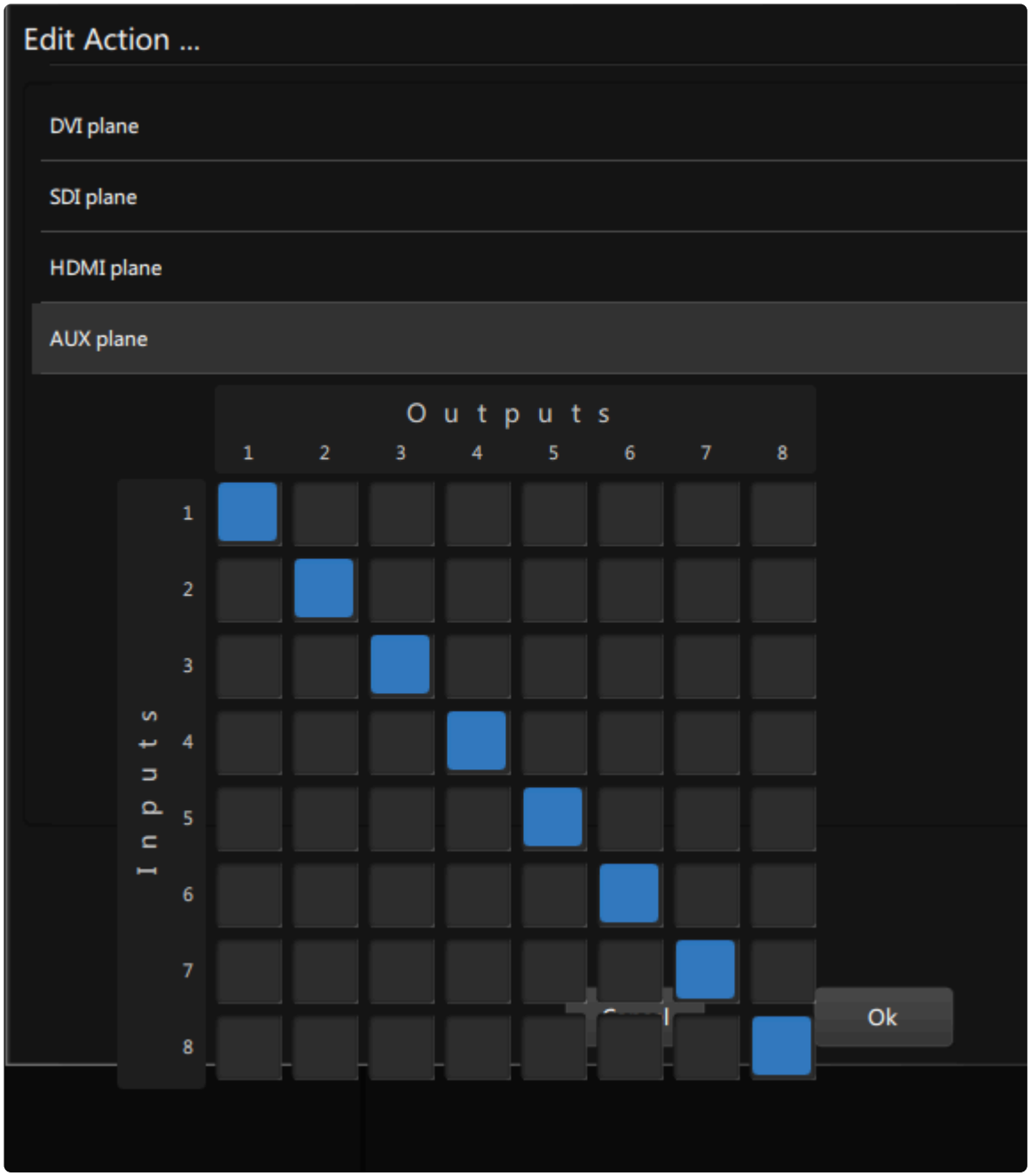
Choose this device to control your Extron SMX Multi Matrix router.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 23 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A.

Device information:

Go to the manufacturer website for more information.

IHSE Draco Tera KMV

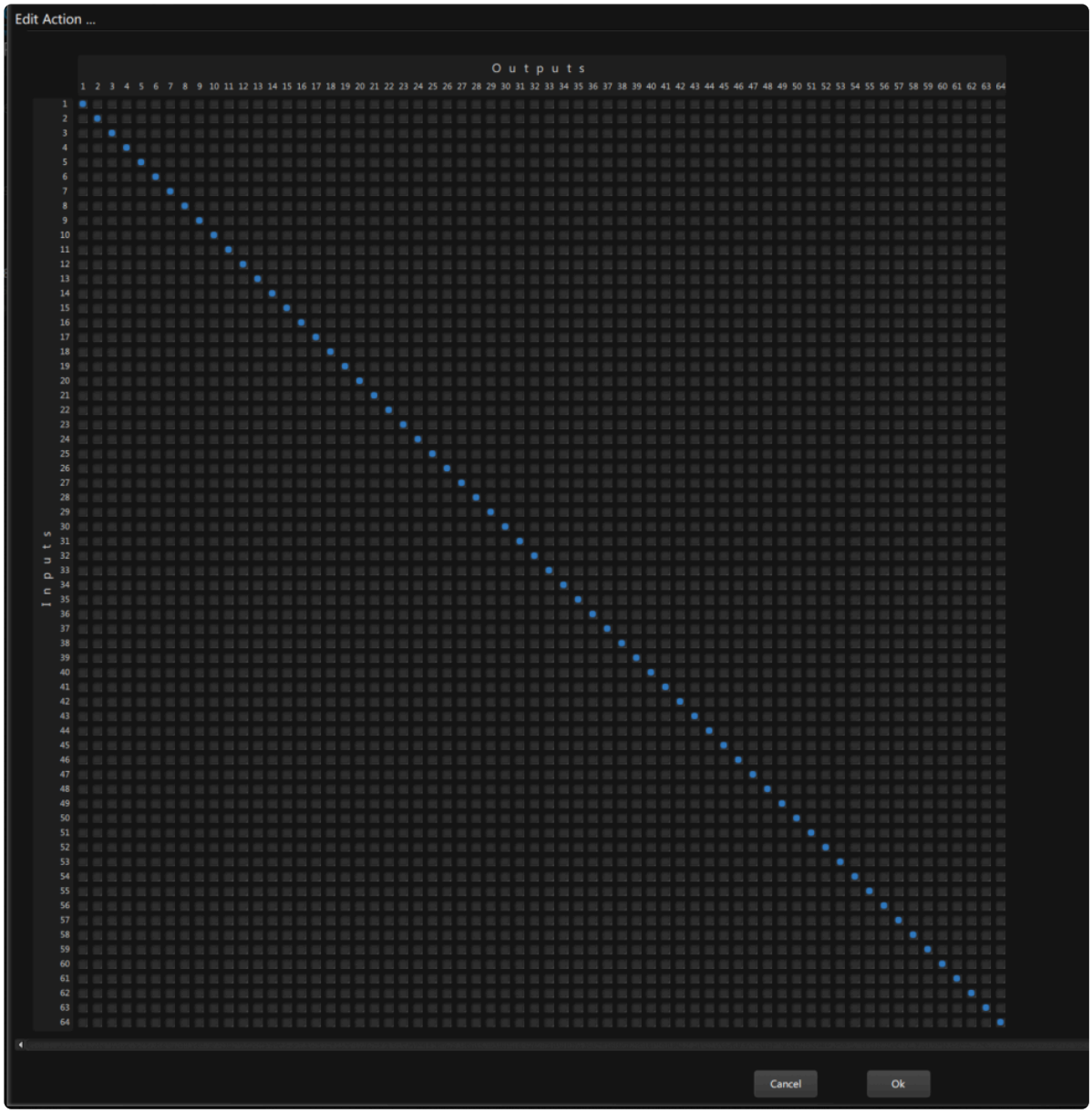
Choose this device to control your IHSE Draco Tera KVM.

Settings:

Name: User-friendly name
IP: enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 5555 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Kramer 8×8

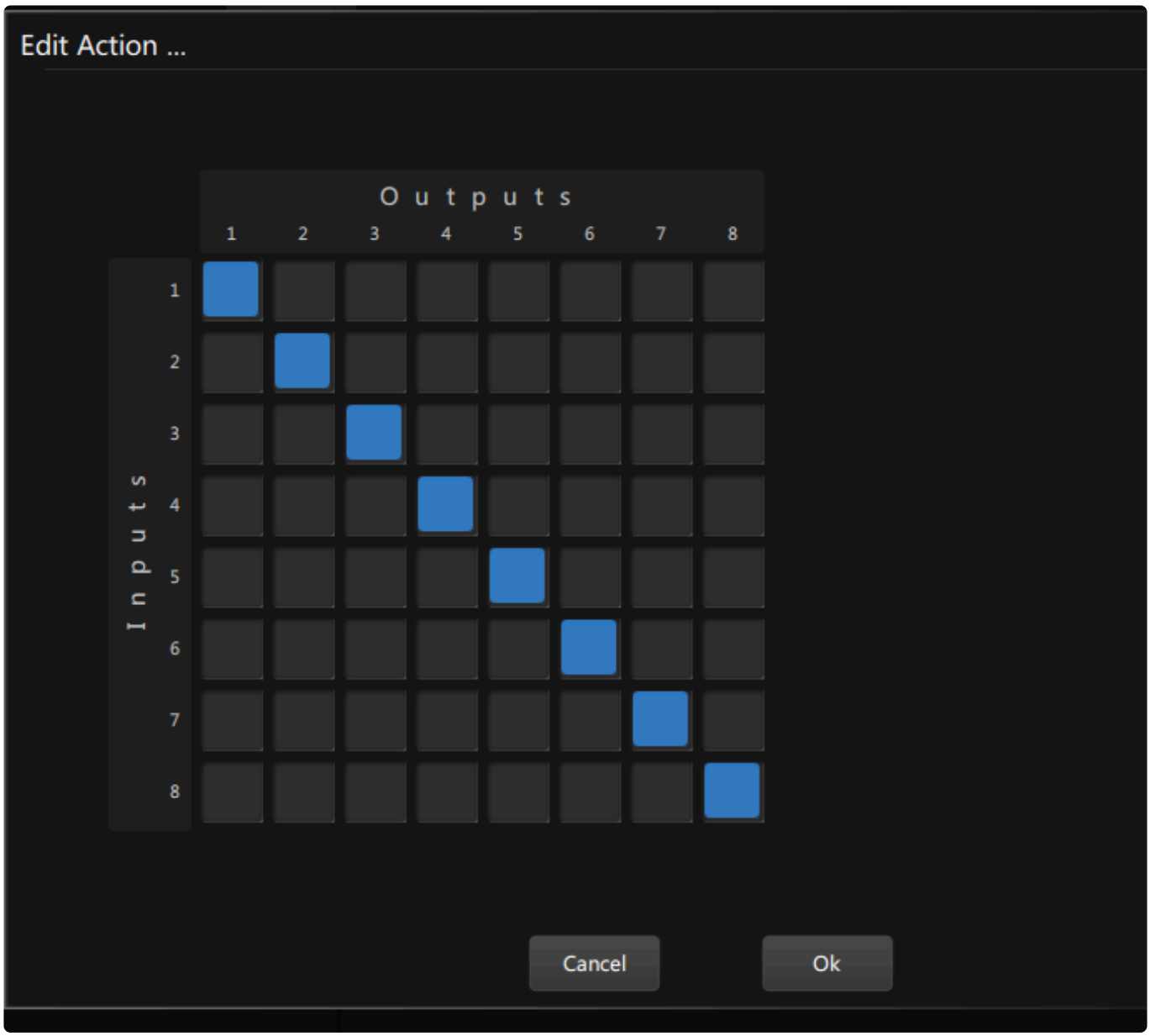
Choose this device to control your Kramer Matrix 8×8.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 5000 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Lightware 16×16 DVI

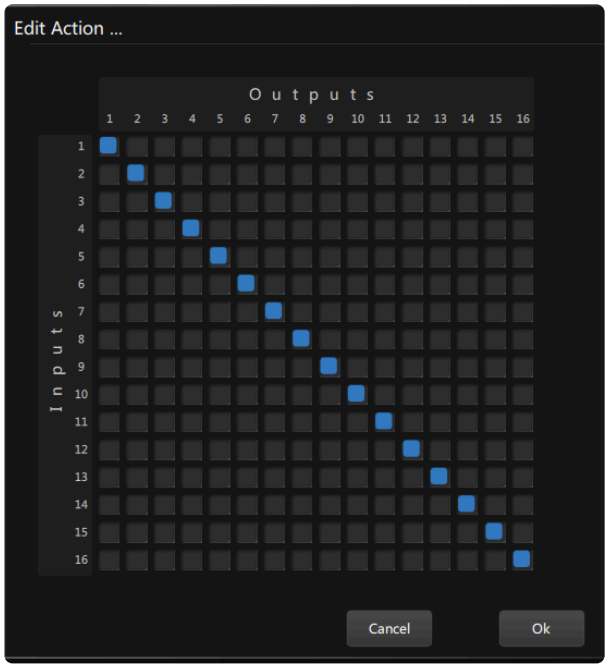
Choose this device to control LightWare 16×16 DVI.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 10001 is the default value (usually doesn't have to be changed)

Task action:

Choose the routing:



Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Lightware Fiber Extender HDMI-OPTC-TX220-Pro

Choose this device to select the input on the Lightware Fiber Extender HDMI-OPTC-TX220-Pro.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 6107 is the default value (normally never need to be changed)

Task action:

Select Input 1
Select Input 2

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacture website for more information.

Switchers

Analog Way LiveCore

Choose this device to control Analog Way LiveCore series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your switcher. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 10600 is the default value (usually doesn't have to be changed)

Task action:

Recall Preset
Recall Preset & Take
Recall Master Memory
Recall Master Memory & Take
Take Preset
Take Master Memory

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

AnalogWay Midra

Choose this device to control Analog Way Midra series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your switcher. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 10500 is the default value (usually doesn't have to be changed)

Task action:

Load Preset Preview
Load Preset Program
Take Screen
Take All

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Analog Way VIO

Choose this device to control Analog Way VIO series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 10600 is the default value (usually doesn't have to be changed)

Task action:

Load Preset from Memory
Set Source
Load View from memory to active input
Take
Select Manual Mode
Select Auto Apply Mode
Reboot
Wake up
Stand by
Power Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Barco Encore

Choose this device to control Barco Encore series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your video projector. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 3000 is the default value (usually doesn't have to be changed)

Task action:

Take
Take Time (1/10s)
Recall Preset

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Barco E2

Choose this device to control Barco E2 series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 3000 is the default value (usually doesn't have to be changed)

Task action:

Take
Take Time (1/10s)
Recall Preset

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Barco Image Pro 2

Choose this device to control Barco Image Pro 2.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 10001 is the default value (usually doesn't have to be changed)

Task action:

Freeze On/Off
Route

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Barco PDS

Choose this device to control Barco PDS series.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 3000 is the default value (usually doesn't have to be changed)

Task action:

Take
Set transition time
Select Input
Go Program Black On
Go Program Black Off
Freeze On
Freeze Off
Set Output RasterBox Program On
Set Output RasterBox Program Off
Set Output RasterBox Power On
Set Output RasterBox Power Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Christie Spyder

Choose this device to control Christie Spyder series.

Settings:

Name: User-friendly name
IP: enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 11116 is the default value (usually doesn't have to be changed)

Task action:

Recall Script Cue

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Low Level

Http Rest

Choose this device to control a device using a Low Level Http Rest.

Settings:

Name: User-friendly name
Url: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Login: Choose a login (optional)
Password: Choose a password (optional)

Task action:

Command: You need to enter the command you want to send.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

N/A

Serial

Choose this device to control a device on a serial port. Optionally, you will need a USB to RS232 converter to connect.

Settings:

Name: User-friendly name

Port: Select the serial port. Go to the device manager to find the good one
Baudrate: Select a value in the dropped down list
Data Bits: Select a value in the dropped down list
Parity:* Select a XXX in the dropped down list
Stop Bits: Select a XXX in the dropeed down list

Task action:

Command: You have to enter the ASCII character string you want to send.
You can add a carriage return using the string \r (0×0D in hexadecimal format).
You can add a line feed using the string \n (0×0A in hexadecimal format).
This device can be used to receive a string in order to trigger a task.
You can send hexadecimal value if you prepend the $ character.
For example, if you want to send a line feed you can directly enter $0A

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

To test your device you can use this free tools.

TCP Client

Choose this device to control a device sending TCP/IP command.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: Choose the correct TCP/IP port

Task action:

Command: You have to enter the ASCII character string you want to send.
You can add a carriage return using the string \r (0×0D in hexadecimal format).
You can add a line feed using the string \n (0×0A in hexadecimal format).
This device can be used to receive a string in order to trigger a task.
You can send hexadecimal value if you prepend the $ character.
For example, if you want to send a line feed you can directly enter $0A

Task trigger:

You can trigger a task sending an ASCII string terminated with a line feed ('\n' or 0×0A in hexadecimal format).
You need to enter the same ASCII command without the line feed in the message field.

Digimap trigger:

You can trigger a Digimap sending an ASCII command with a specific syntax terminated with a line feed ('\n' or 0×0A in hexadecimal format).
The syntax is: name_of_you_command?value\n
name_of_you_command: string
value: float
For example, it can be /modulo/x?124.213\n: you then choose the message /modulo/x and you will receive the value 124.213 in your Digimap.

You need to enter the name of your ASCII command in the message field.

User interface:

N/A

Device information:

To test your device, you can use this free tools.

TCP Server

Choose this device to create a TCP/IP server. other device can connect to this server.

Settings:

Name: User-friendly name
Port: The TCP/IP port binded

Task action:

Command: You can add a carriage return using the string \r (0×0D in hexadecimal format).
You can add a line feed using the string \n (0×0A in hexadecimal format).
This device can be used to receive a string in order to trigger a task. The string has to have a line feed as terminating character.
You can send hexadecimal value if you prepend the $ character.
For example, if you want to send a line feed you can directly enter $0A

Task trigger:

You can trigger a task sending an ASCII string terminated with a line feed ('\n' or 0×0A in hexadecimal format).
You need to enter the same ASCII command without the line feed in the message field.

Digimap trigger:

You can trigger a Digimap sending an ASCII command with a specific syntax terminated with a line feed ('\n' or 0×0A in hexadecimal format).
The syntax is : name_of_you_command?value\n
name_of_you_command: string
value: float
For example, it can be /modulo/x?124.213\n: you then choose the message /modulo/x and you will receive the value 124.213 in your Digimap.

You need to enter the name of your ASCII command in the message field.

User interface:

N/A

Device information:

To test your device, you can use this free tools.

UDP

Choose this device to send and receive UDP packet to/from other devices.

Settings:

Name: User-friendly name
IP: Enter the ip address your device. Your device and Modulo Player need to be in the same subnet

Port: UDP port

Task action:

Command: You have to enter the ASCII character string you want to send.
You can add a carriage return using the string \r (0×0D in hexadecimal format).
You can add a line feed using the string \n (0×0A in hexadecimal format).
This device can be used to receive a string in order to trigger a task.
You can send hexadecimal value if you prepend the $ character.
For example, if you want to send a line feed you can directly enter $0A

Task trigger:

You can trigger a task sending an ASCII string.
You need to enter the same ASCII command in the message field.

Digimap trigger:

You can trigger a digimap sending an ASCII command.
The syntax is : name_of_you_command?value
name_of_you_command: string
value: float
For example, it can be /modulo/x?124.213: You then choose the message /modulo/x and you will receive the value 124.213 in your Digimap.

You need to enter the name of your ASCII command in the message field.

User interface:

N/A

Device information:

To test your device you can use this free tools.

GPIO & power switch

EpowerSwitch 1G

This device allows Modulo Player to communicate with an E PowerSwitch 1G, which is a controllable electric IP socket.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet

Task action:

Switch On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Ip Power 9255 Pro

This device allows Modulo Player to communicate with an IP PowerSwitch which is a controllable electric IP socket.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Login: Choose a login
Password: Choose a password

Task action:

Switch On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website to have more information.

TCP ModBus IO

Control any TCP/IP Modbus GPIO.

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 502 is the default value (usually doesn't have to be changed)
Type: Choose the device:
Adam-6060/6066 6 inputs/6 outputs
Adam-6251 16 inputs
Generic: A generic GPIO modbus device

If you select Generic, you need to enter the following information:
Nb input: The number of digital inputs
Nb output: The number of digital outputs
Start input address: Modbus input register address
Start output address: Modbus output register address
Use Coils feedbacks: Enables feedback ask to device (some devices don't like this command so you can disable this behavior).

Task action:

Choose the task to switch some outputs.

Task trigger:

You can trigger a task when the inputs are in a specific state.

Digimap trigger:

N/A

User interface:

N/A

Device information:

You can use for example the Advantech ADAM-6060
We have also validated the WAGO-I/O-SYSTEM 750 (750-352) when you need a lot of GPIOs.

TCP ModBus Analog

Choose this device to control analog outputs and mesure analog values using Modbus with this device ADAM-6224

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 502 is the default value (usually doesn't have to be changed)
Type:* Choose the ADAM-6224 or the generic Modbus version

Precision: adjust the DAC precision (8/12/16 bits)
Visual Mode: Choose the visual mode (V or mA)
min: Enter the minimal value of the range
max: Enter the maximal value of the range

If you select Generic, you need to enter the following information:
Nb input: The number of digital inputs
Nb output: The number of digital outputs
Start input address: Modbus input register address
Start output address: Modbus output register address

Task action:

Select the outputs you want to change and the corresponding values you want.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

You can use for example the ADAM-6224

Time

Calendar

Choose this device when you want a task to be triggered by date, day or time.

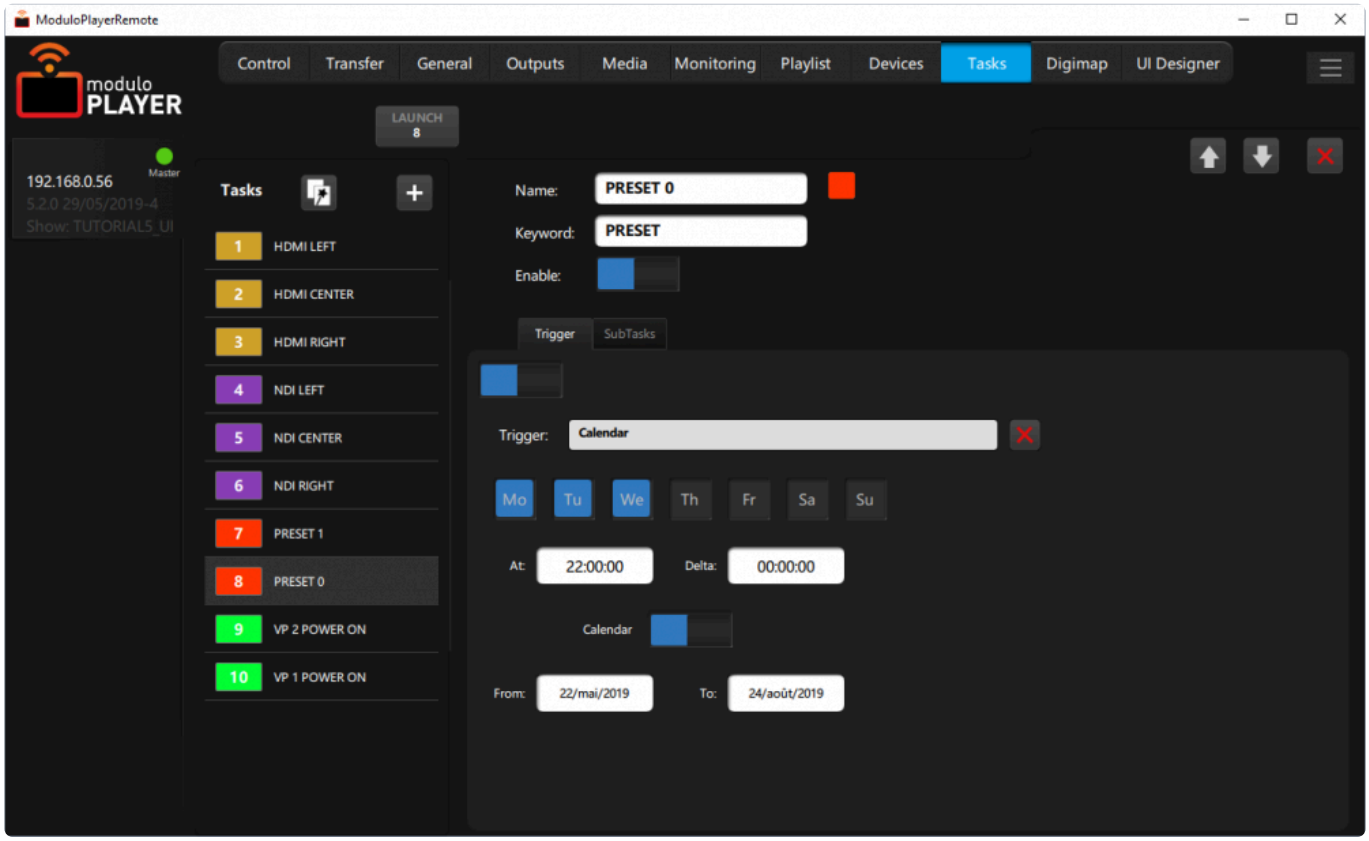
Settings:

Name: User-friendly name

Task action:

N/A

Task trigger:



Trigger a task according to a specific calendar state.
Select all the days you wish to trigger your task (Enable all 7 days if you do not wish to filter out by days).
Then specify the activation hour.
The delta gives you a triggering time frame. For example, if you specify 20 hours with a ten minutes delta, you can start your server from 8pm to 8:10pm and your task will be triggered properly.
As an option, you can enable a start and final date to filter a valid range of date.

Digimap trigger:

N/A

User interface:

N/A

Device information:

N/A

Chronometer

This device is an internal chronometer.
You can use to trigger a task or display a Chronometer in the User Interface.

Settings:

Name: User-friendly name
Autostart On/Off: If activated, the chronometer will start at the startup of the Modulo Player application

Task action:

Locate Timecode (value)
Play Timecode (value)
Pause
Play

Task trigger:

You can trigger tasks if you pass a specific value of the chronometer.
For instance, you can use this device to shut down an installation after x hours of playback.

Digimap trigger:

You can use the chronometer time value (in ms) as a Digimap input.

User interface:

You can use this device in the user interface.

Device information:

N/A

CountDown

This device is an internal countdown.

Settings:

Name: User-friendly name

Task action:

Locate Timecode (time)
Play Timecode (time)
Pause
Play
Set Label (name)

Task trigger:

You can trigger tasks if you pass a specific value of the countdown.
For instance, you can use this device to shut down an installation after x hours of use.
Specify the countdown value used to trigger the task.

Digimap trigger:

You can use the countdown time value (in ms) as a Digimap input.

User interface:

You can use this device to send countdown info to the panels.
You need to drag & drop the device in the panel to display information.

Device information:

N/A

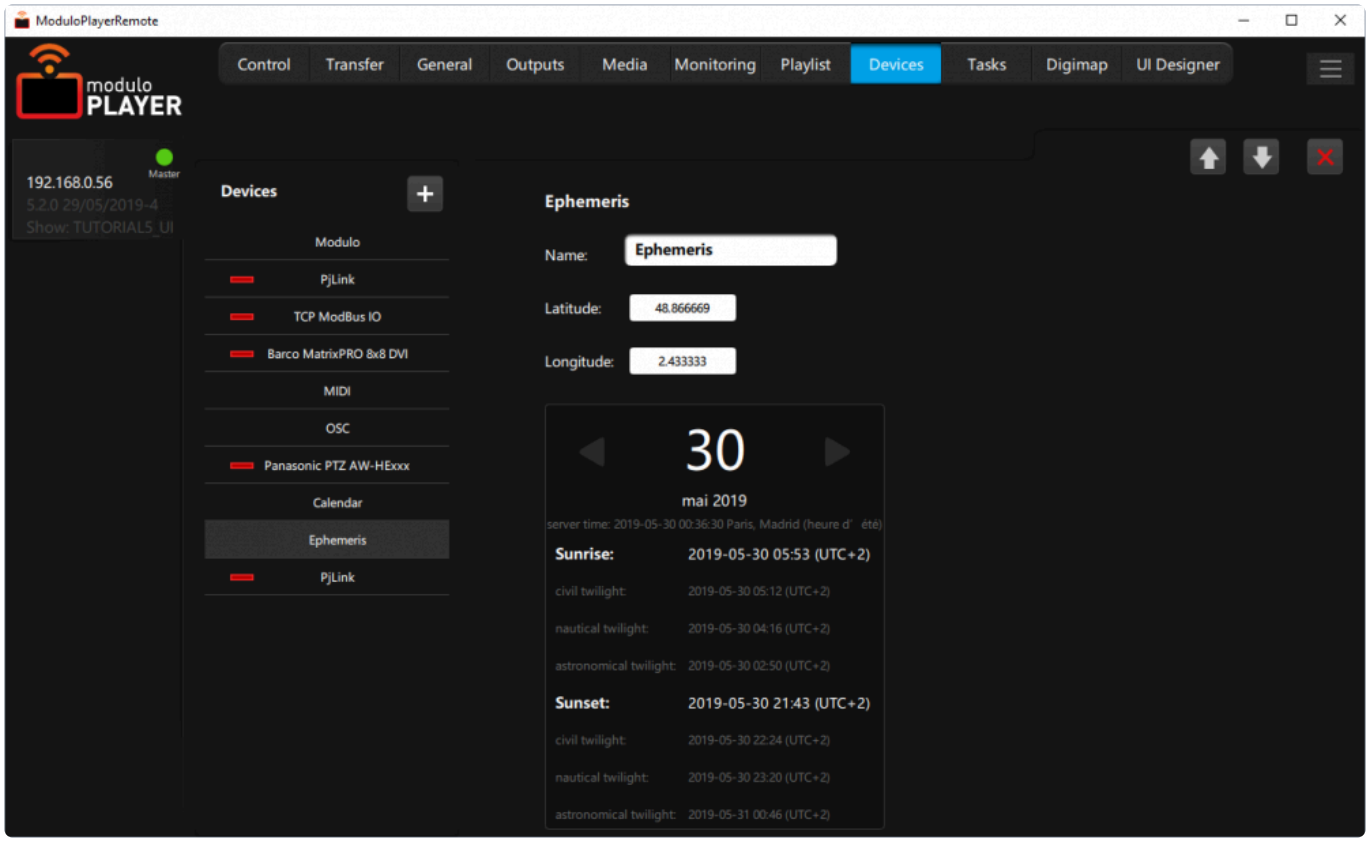
Ephemeris

This device is an integrated ephemeris.
You can launch tasks depending on the ephemeris, days or dates.

Settings:

Name: User-friendly name
*Latitude: *Fill in the latitude of the Modulo Player’s location
Longitude: Fill in the longitude of the Modulo Player’s location

Here you can consult the date, hour and day on the server. You can check the Ephemeris on a date you choose.



Task action:

N/A

Task trigger:

Trigger a task according to a specific calendar state.
Select all the days you wish to trigger your task (Enable all 7 days if you do not wish to filter out by days).
Then specify the trigger event: Sunrise , civil sunrise, …., sunset …
You can enter an offset (positive or negative) that is added to the triggering hours.
As an option, you can enable a start and final date to filter a valid range of date.

Digimap trigger:

N/A

User interface:

You can use this device in the user interface.

Device information:

N/A

PixTimer Pro

You can use this device to control the Pixtimer Pro version.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 9756 is the default value (usually doesn't have to be changed)

Task action:

Recall timer preset
Timer play/pause/stop
Timer Session play/pause/stop
Timer All play
Timer All pause

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to manufacturer webpage for more information.

Modulo Pi

Computer Remote

Choose this device to control a Modulo Player server to start/stop application or shutdown your computer.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Mac: : Specify the MAC address only if you want to use the « Wake Up On Lan » action

Task action:

Start Modulo: Start the Modulo Player application
Stop Modulo: Stop the Modulo Player application
Reboot server: Reboot the computer
Halt server: Shutdown the computer

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

N/A

Modulo Player

Choose this device to control the Modulo Player application (internal action).
Refer to Modulo Player external control if you want to control another Modulo Player.

Settings:

Name: User-friendly name

Task action:

Go cue
Go Cue or Play

Go Previous Cue
Go Next Cue
Play
Pause
Preload Cue
Enable Loop Cue
Disable Loop cue
Lock To TC
UnLock To Tc
Locate Master to Timecode
Play Master to Timecode
Play Master TC
Pause Master TC
Set Grand Master
Set Output On/Off
Set All outputs On/Off
Set All X-Map/Fixture On/Off
Set Audio Master
Increase Audio Master
Decrease Audio Playlist
Refresh Media List
Refresh Media List (force)
Remove Media Missing
Save Show
Backup Show
Set enable Task trigger On/Off
Set Enable Task On/Off
Launch task
Random task
Recall Monitoring Preset
Set Enable Digimap Off
Set Enable Digimap On
Send Show Control String
Refresh All Ui Designer Panels
Get Snapshot Desktop
Send an email
Mixer: recall preset to PGM

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

N/A

Modulo Player external control

Choose this device to control an external Modulo Player.

Settings:

Name: User-friendly name
IP: Enter the ip address of the Modulo Player you want to control. Both Modulo Player need to be in the same subnet

Task action:

Launch Cue
Launch Task
Backup Show
Save Show

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

N/A

Modulo Shortcut

Add this device if you want to control a Keynote or a Powerpoint presentation.
Download the Modulo Shortcut application on our customer portal and install it in a Remote computer (Computer with the Powerpoint PC or Keynote presentation MAC).

Settings:

Name: User-friendly name
IP: Enter the ip address of the Remote Computer you want to control. The Remote Computer and Modulo Player need to be in the same subnet

Task action:

Page Up/Down
Space
Enter
Home
End

Task trigger:

N/A

Digimap trigger:

N/A

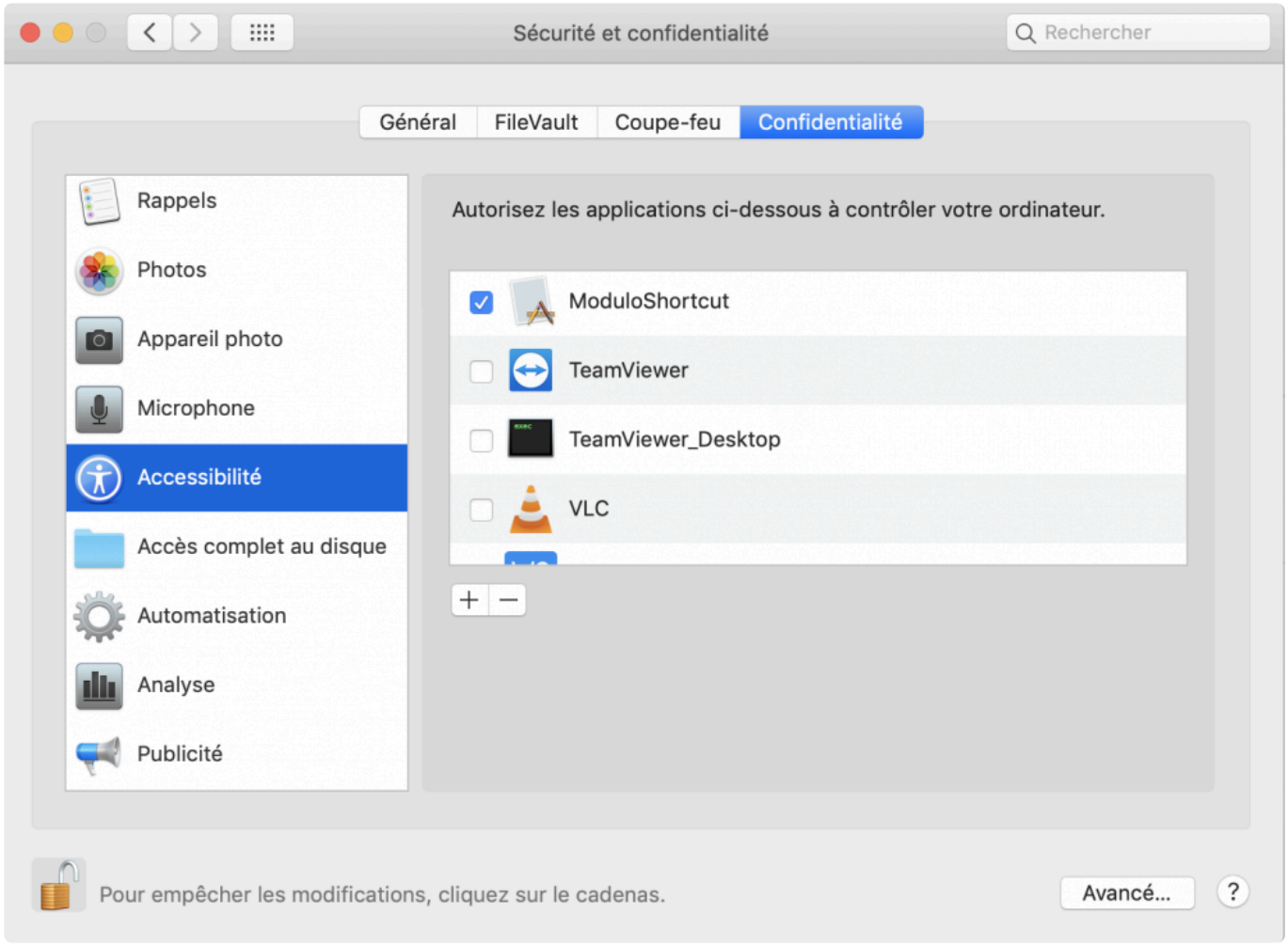
User interface:

N/A

Device information:

N/A

> ! You need to authorize ModuloShortcut to control the computer. Go to Mac settings, Confidentiality tab and authorize ModuloShortcut to control the computer.



Internal

Counter

This device is an internal counter.

Settings:

Name: User-friendly name

Task action:

Set Value (value)
Increment
Decrement

Task trigger:

You can trigger tasks if you pass a specific value of the counter.

Specify the counter value used to trigger the task.

Digimap trigger:

You can use the counter value as a digimap input.

User interface:

You can add this device in any user panel. You can then choose the available features in the panel.

Device information:

N/A

Label

This device is an internal device:
Choose this device to send text info to the User Interface.
When the text is modifed, it will be updated automatically to all Modulo Player panels connected to the server.

Settings:

Name: User-friendly name
Text: Enter herer the default text
Color: Choose text color

Task action:

Set Text (Text field)
Set Color (color grid)

Task trigger:

Trigger a task when the label device has the matching property text with your triggered task.

Digimap trigger:

N/A

User interface:

You can add this device in any user panel.

You can then choose the available features in the panel.

Device information:

N/A

LED

This device is an internal.
You can use this to control a LED on an user panel from tasks.

Settings:

Name: User-friendly name
State: On/Off

Task action:

Set State On/Off
Toggle

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

N/A

Phidgets

Connect to a list of electronics devices: cost effective, easy to install and use, you can received informations from dozen of sensors, trigger relay, control motors… It’s fuly integrated in Modulo Player.

Go to Phidgets website to learn more.

20-bit voltage input

Choose this device to connect to a 20-bit (±40V) Voltage Input Phidget You can then mesure voltage value with high precision on a large range (±40V).

Settings:

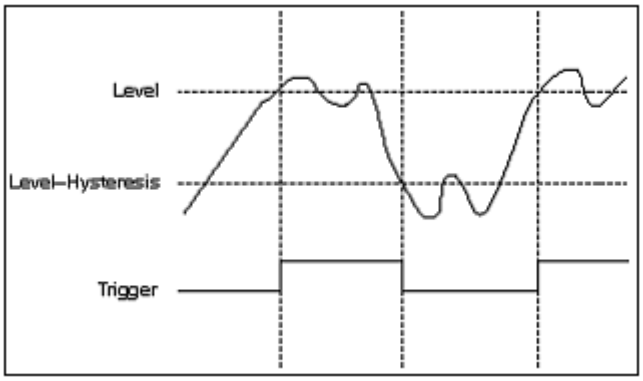
Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Task trigger:

N/A

Digimap trigger:

The incoming value is patched to this Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Accelerometer

Choose this device to connect to a Phidgets Accelerometer MOT1100_0
You can then receive Accelerometer value and use it with a Digimap.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value

>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
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For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
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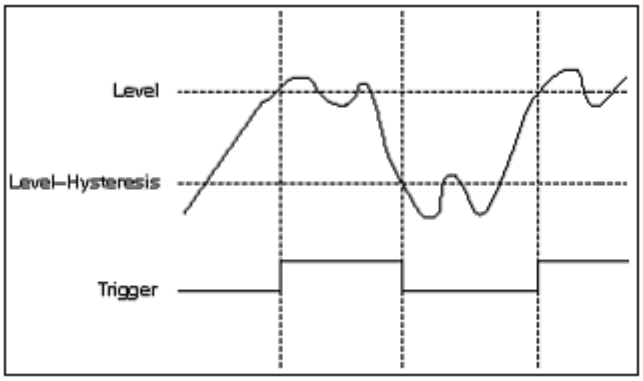
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Select the accelerometer axis X or Y or Z.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Accelerometer high resolution

Choose this device to connect to a PhidgetSpatial Precision 0/0/3 High Resolution 1043_1B
You can then receive Accelerometer value and use it with a Digimap.

Settings:

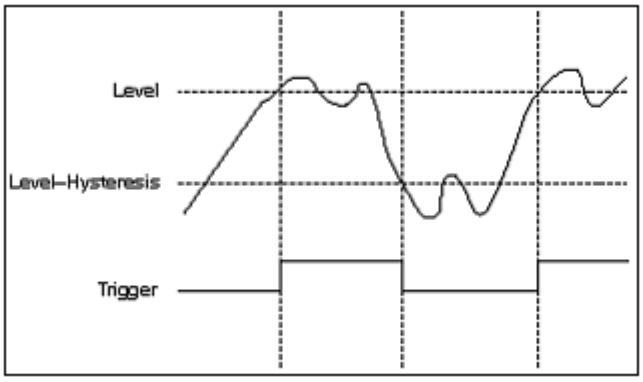
Name: User-friendly name
Serial Number: Enter the serial number of this phidget
interval ms: Choose the refresh interval in milliseconds

Task action:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Task trigger:

N/A

Digimap trigger:

Select the accelerometer axis X or Y or Z.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.

Barometer

Choose this device to connect to a Phidgets Barometer PRE1000_0 You can then precisely measure the absolute air pressure between 50 and 110 kPa with this barometer that connects to any VINT port and use it with a Digimap.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

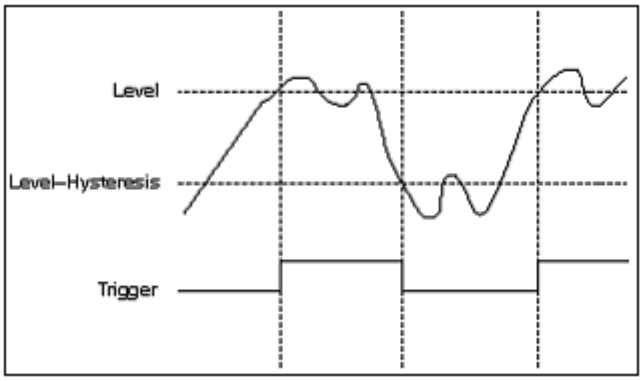
Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value

<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

You will receive the absolute air pressure (units kPa) as input.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

DC Motor 2A

Choose this device to connect to a Phidgets 2× 2A DC Motor DCC1003_0
Control two DC motors from one VINT port with this compact motor controller.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Acceleration/Velocity/ braking /Power limit Refer to the phidget documentation for more information.

Task action:

Set power limit (value)
Set acceleration (value)
Set velocity (value)
Set braking strength

Task trigger:

N/A

Digimap trigger:

N/A

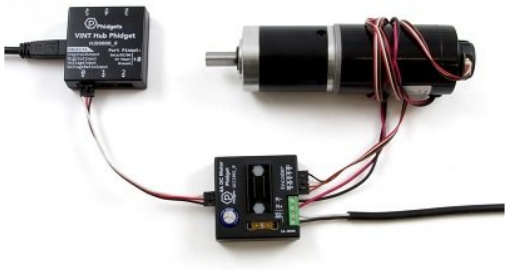
User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

DC Motor 4A motion control



Choose this device to connect to a Phidgets 4A DC Motor DCC1002_0
The DCC1002 gives you complete control of one medium to large DC motor from one of the ports on your VINT hub. You can control motor velocity, acceleration and braking strength using commands from your software. The compact and enclosed form factor of the DCC1002 makes it easy for this Phidget to fit in smaller projects while still controlling motors with current ratings of up to 4 amps.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Step mode: Choose between Step mode (target position) or Continuous mode (velocity)
Reset position: Set the current motor position as the zero position.
Engaged : Need to be active to move the motor.
Acceleration/Velocity max/Target position/Power limit/KP/KI/KD/Dead Band Refer to the phidget documentation for more information.

Task action:

Engaged (on/off)
Go to (acceleration/velocity/target position)
Set power limit (value)
Set rescale factor (value)
Set target position (value)
Set acceleration (value)
Set velocity (value)
Set Kp (value)
Set Ki (value)
Set Kd (value)
Set DeadBand (value)
Zeroing

Task trigger:

N/A

Digimap trigger:

You can use the position of the motor as a input value for Digimap.

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Dial

Choose this device to connect to a Phidgets Dial HIN1101_0 You can then precisely measure the position of the dial use it with a Digimap.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

*Set value:” Set the value of the encoder
*Reset:” Reset to zero the value of the encoder

Task trigger:

You can trigger a task when you press the internal button of the dial.
Select “Button ON” if you want to trigger the task on press, or select “Button OFF” if you want to trigger the task on release.

Digimap trigger:

You will receive the encoder dial position as input.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Digital output

This device is a generic digital output.
You can for example use the output of a VINT HUB Phidget

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds
output count: Total number of channels
output start: Start value

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.

Digital 4 outputs

Choose this device to connect to a Phidgets 4 digital outputs OUT1100_0 If the 3.3V digital output mode of your hub's VINT port is not powerful enough, or if you just need more digital outputs, this cost-effective output module has you covered. This board adds four 5V digital outputs to your VINT hub, allowing you to control LEDs, relays, and other logic-level electronics

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Distance sensor (0-200mm)

Choose this device to connect to a Phidgets Distance sensor DST1000_0
You can the measure the distance with this infrared sensor from 0mm to 170mm.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

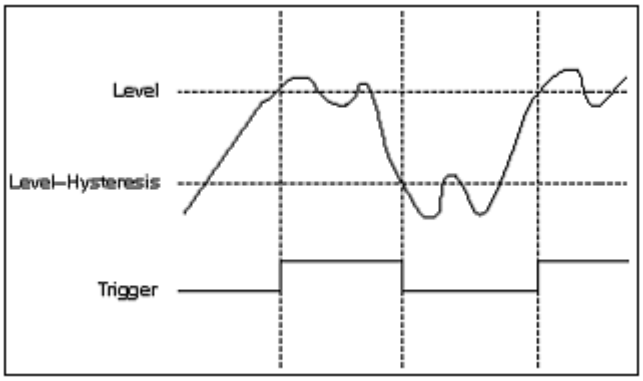
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the distance detected by the sensor as an input for Digimap.

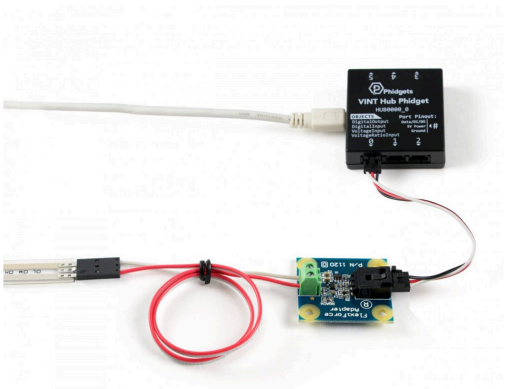
User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Flexi force adapter



Choose this device to connect to a Flexiforce adapter sensor 1120_0
This adapter can interface one Flexiforce force-sensitive resistor.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port.
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

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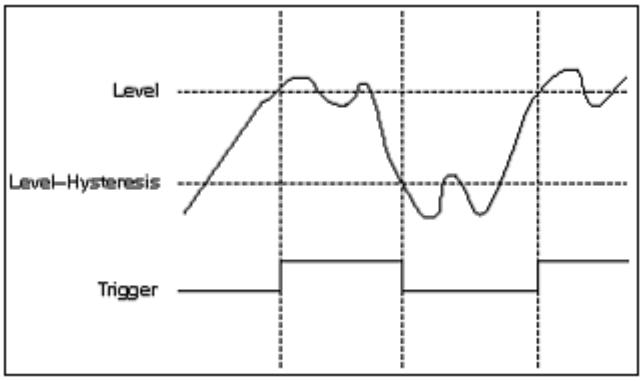

Digimap trigger:

Use the bending detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Humidity sensor

Choose this device to connect to a Phidgets Distance sensor HUM1000_0
You can measure relative humidity from 0 to 100% and temperature from -40°C to +85°C with this little sensor.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
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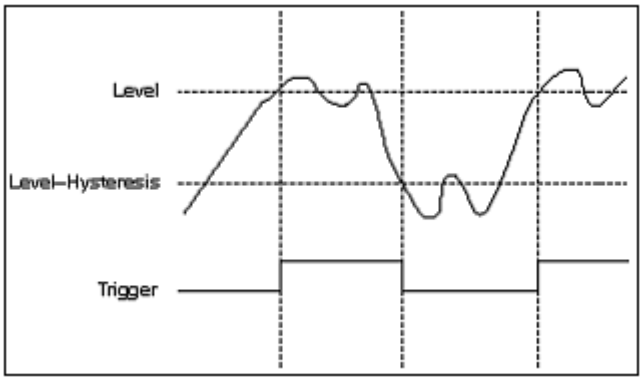

Digimap trigger:

Use the relative humidity detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Humidity temperature sensor

Choose this device to connect to a Phidgets Distance sensor HUM1000_0
You can measure relative humidity from 0 to 100% and temperature from -40°C to +85°C with this little sensor.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
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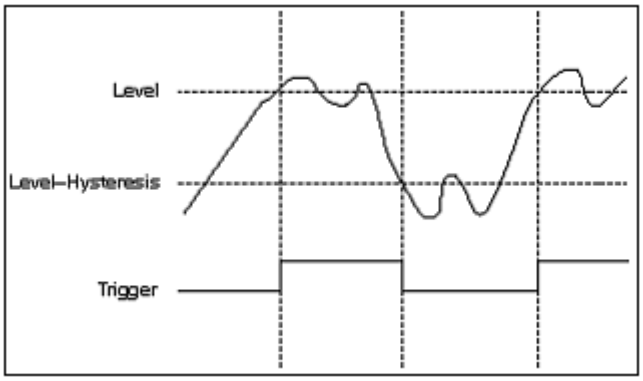


h2. Digimap trigger:

Use the relative humidity detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

InterfaceKit 8/8/8

Choose this device to connect to a PhidgetInterfaceKit 8/8/8 1018_2B

Analog Inputs
The analog inputs are used to measure continuous voltage outputs generated by various sensors such as temperature, humidity, position, or pressure.
Phidgets offer a wide variety of sensors that can be plugged directly into the board using the cable included with the sensor.
Sampling rates can be set at 1ms, 2ms, 4ms, 8ms and multiple of 8ms up to 1000ms.
For more information about these inputs and their connectors, have a look at the Analog Input Primer.

Digital Inputs
The Digital Inputs have a Digital Input Hardware Filter to eliminate false triggering from electrical noise. They can be used to convey the state of devices such as push buttons, limit switches, relays, and logic levels.

Digital Outputs
The Digital Outputs can be used to drive LEDs, solid state relays (such as the 3052 SSR Relay Board), transistors,… anything that will accept a CMOS signal.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the device

Choose for each voltage input if you have to receive the voltage or ratio, the voltage sensor type and the refresh interval.

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

You can trigger a task on a change of the state of the inputs.

Digimap trigger:

The incoming value is patched to this Digimap.

User interface:

N/A

Device information:

Go to this page for more information.

Isolated 32 LED

Choose this device to connect to a Phidgets 32 isolated led outputs LED1000_0 Light up your world with this 32-output dimmable LED controller. Precise control of your LEDs has never been easier, and it only takes one VINT port on your hub.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Isolated 16-bit voltage output

Choose this device to connect to a Phidgets Isolated 16-bit voltage output OUT1002_0
Generating extremely precise voltages is easy with this Phidgets voltage output module. It is designed to interface with devices that are controlled by an analog voltage signal. Simply plug it in to a VINT port, and you'll be able to set a voltage in your program between -10 and +10 volts with 16 bit resolution (300µV) at a current of up to 5mA.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds
Range: Choose the range +/- 10V DC or 0-5V DC

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Isolated digital input

This device is a generic isolated digital input.
You can use any input of this device, for example VINT HUB Phidget.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Input start: Index of the input
Input count: Number of inputs

Task action:

N/A

Task trigger:

You can trigger a task on a change of the state of the inputs.

Digimap trigger:

N/A

User interface:

N/A

Device information:

You need to plug this device to a VINT HUB Phidget.

Isolated digital 4 inputs

Choose this device to connect to a 4x Isolated Digital Input Phidget DAQ1300_0 Looking to add some serious digital inputs to your VINT Hub? This module has four active-high digital inputs ideal for reading switches, buttons, digital sensors, and other devices with a logic-level output. Each input can withstand up to 30V from the devices it's connected to, and they trigger faster than ordinary VINT digital inputs, making it more likely to trigger from very brief changes.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

You can trigger a task on a change of the state of the inputs.

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Isolated digital 16 inputs

Choose this device to connect to a 16x Isolated Digital Input Phidget DAQ1301_0 If you need to read a whole bunch of logic-level signals, this input module adds sixteen active-high digital inputs using just one port on your VINT Hub. They're also more resilient than a VINT port running in digital input mode, able to withstand up to 30V. Whether you're reading buttons, switches, or logic-level outputs from other devices, this module offers the most efficient use of your VINT ports.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

You can trigger a task on a change of the state of the inputs.

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Isolated solid state relay 16 outputs

Choose this device to connect to a Phidgets isolated solid state relay 16 outputs REL1101_0 For applications that require a ton of outputs, this module is the one you're looking for. With sixteen PWM-enabled relay outputs, it can be used to control devices and switch circuits of up to 30V volts and 8 amps. LED strips, DC motors, power relays, fans and other small circuits are all common loads for this type of output.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Light sensor

Choose this device to connect to a Phidgets Light sensor LUX1000_0
This handly little sensor measures the amount of light shining on it, making it a perfect addition to automated systems that need to switch on at night or in low-light conditions. It has a wide measurement range from 188 microlux (starlight on a moonless night) to 220,000 lux (direct sunlight).

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

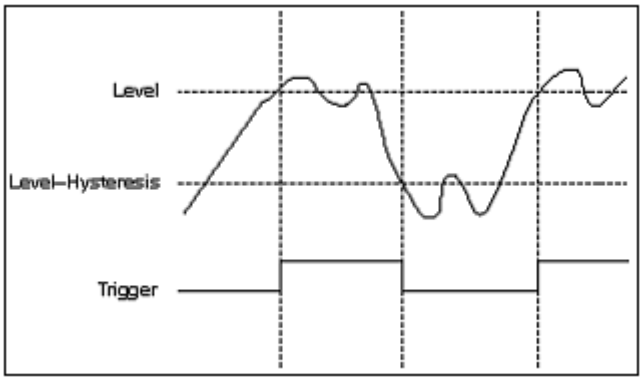
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the luminosity detected by the sensor as an input for Digimap.

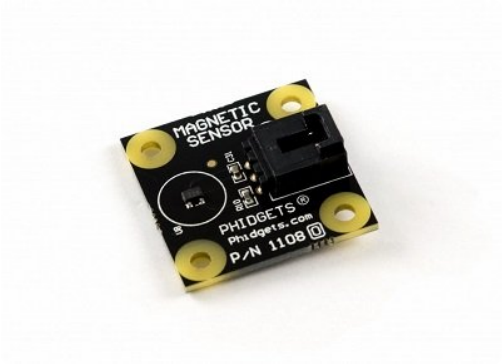
User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Magnetic sensor



Choose this device to connect to a Phidgets Magnetic sensor ID: 1108_0
The 1108 is a hall-effect sensor that provides a voltage output that is proportional to the applied magnetic field.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
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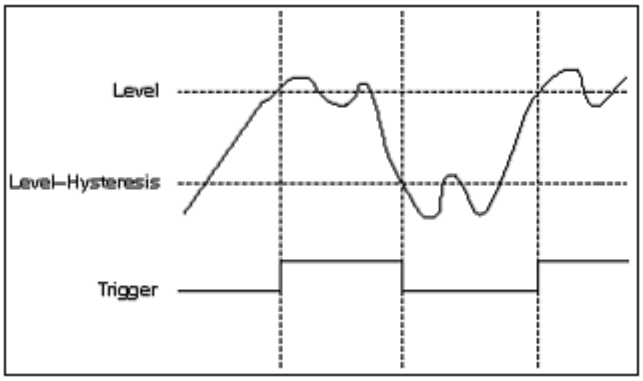
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the magnetic fields or sense the proximity of a magnet detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Motion sensor

Choose this device to connect to a Phidgets Motion sensor ID: 1111_0
The 1111 detects changes in infrared radiation that occur when there is movement by a person (or object), which is different in temperature from the surroundings.
As this sensor detects temperature differences, it is well suited to detecting the motion of people by their body temperature.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
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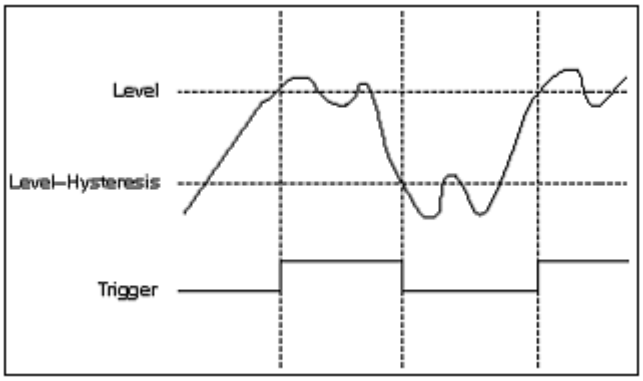

Digimap trigger:

Use the luminosity detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Precision light sensor

Choose this device to connect to a Phidgets Light sensor 1142_0
Measures light intensities of up to 1000 lux and connects to an Analog Input or VINT Hub port.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

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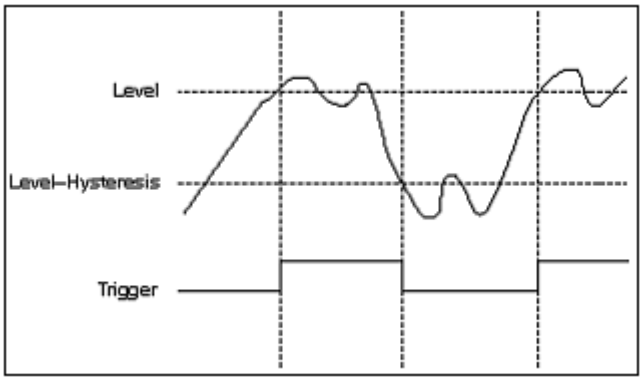


Digimap trigger:

Use the luminosity detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Quadrature encoder

Choose this device to connect to a Phidgets Dial HIN1101_0 A quadrature encoder is the most commonly used feedback device for a DC or stepper motor. Interface a quadrature encoder at speeds of up to 100,000 quadrature cycles per second to a port on your VINT Hub.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: choose the port
Channel: Choose the channel. (default is 0 when you have a single quadrature encoder)
Interval ms: Choose the refresh interval in milliseconds

Task action:

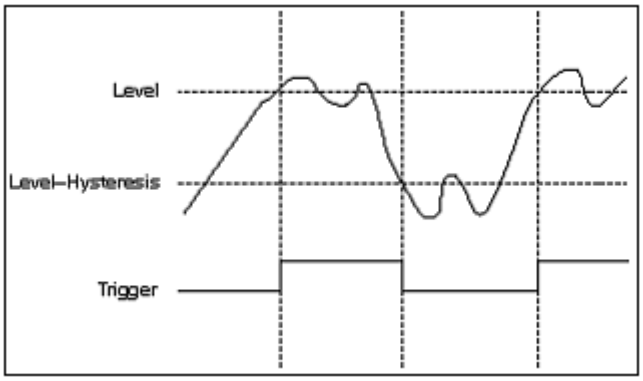
*Set value:" Set the value of the encoder
*Reset:" Reset to zero the value of the encoder

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

You will receive the encoder position as input.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Relay 4 outputs

Choose this device to connect to a 4x Relay Phidget REL1000_0
Controlling the power circuits of as many as four separate devices is a snap with this relay module. Each mechanical relay can control a seperate circuit of up to 210W of DC power or 1750 VA of AC power. This module requires an external power supply, which is isolated from the VINT port in order to improve stability by preventing ground loops. The relays by nature also isolate the load circuit from the control circuit, meaning you don’t have to worry about voltage spikes in the load damaging your VINT Hub or computer.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

You can select some outputs and assign a voltage value.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

RFID

Choose this device to connect to a Phidgets RFID Read-Write 1024_0B

You can trigger a task with a RFID badge or sticker.
The Phidget RFID Read-Write is compatible with tags that use either the EM4100 series, T5577, or FDX-B protocols.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the device
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

You can trigger a task when you press the internal button of the dial.
Select “Button ON” if you want to trigger the task on press, or select “Button OFF” if you want to trigger the task on release.

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.

Rotation sensor

Choose this device to connect to a Phidgets rotation sensor 1109_0
The 1109 can be rotated 300 degrees and outputs a voltage ratio between 0 and 1 that varies linearly with angle.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

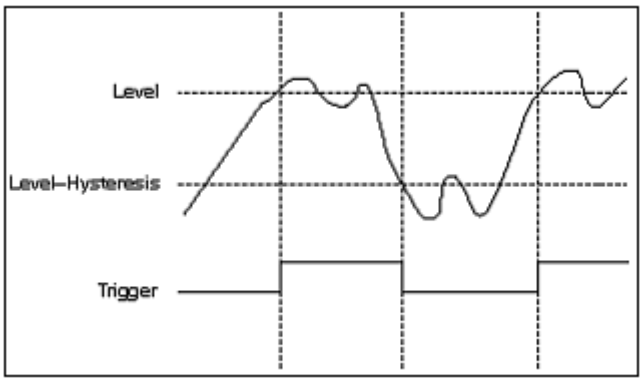
Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:

> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the rotation detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Rotation sensor (multi-turn)

Choose this device to connect to a [Phidgets Rotation multi-turn sensor 1116_0]
This multi-turn potentiometer measures 10 full rotations, useful for input applications that require a fine adjustment.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the [VINT HUB Phidget]
Port: Choose the port
linterval ms:* Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
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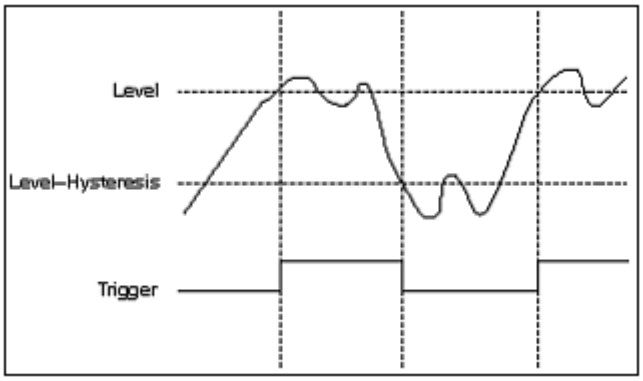
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the rotation detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Slider 60mm

Choose this device to connect to a Phidgets Slider sensor 1109_0
The Slider 60 is a linear potentiometer – the resistance varies linearly with the position of the slider.
It outputs a voltage ratio between 0 and 1 that varies linearly over the 60mm of travel.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

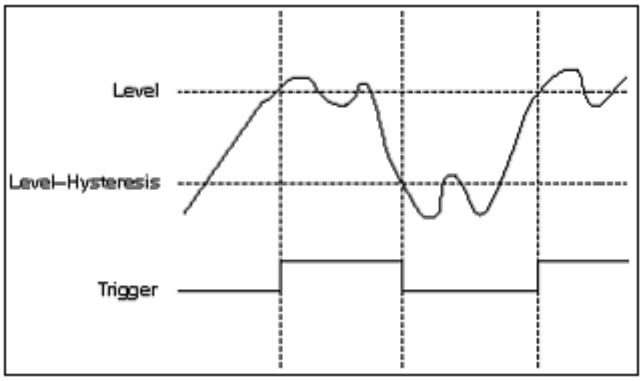
N/A

Task trigger:

Trigger a task according to the incoming slider position:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the position of the slider detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Sonar

Choose this device to connect to a Phidgets Sonar sensor DST1200_0 Detect several solid objects up to 10m away in a wide sensing range, or use this Phidget as an ultrasonic range finder.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
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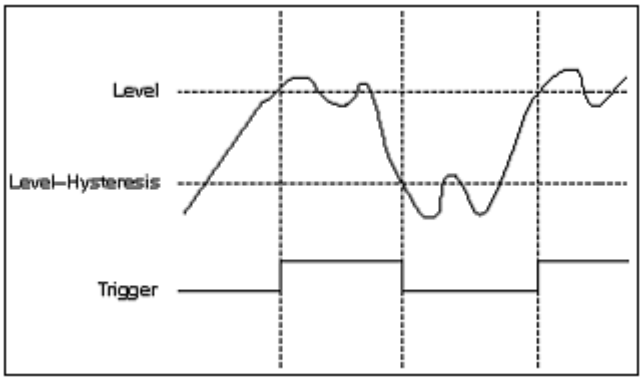

Digimap trigger:

Use the distance detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Sound sensor

Choose this device to connect to a Phidgets Sound sensor SND1000_0
Measure sound from 34 to 102 dB (SPL).
Supports A and C weightings, and can split data into distinct frequency bands.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

N/A

Digimap trigger:

Use the Db or DbA or DbC, or specific frequency bands:
The following frequency bands are represented:
octaves 0 = 31.5 Hz
octaves 1 = 63 Hz
octaves 2 = 125 Hz
octaves 3 = 250 Hz
octaves 4 = 500 Hz
octaves 5 = 1 kHz
octaves 6 = 2 kHz
octaves 7 = 4 kHz
octaves 8 = 8 kHz
octaves 9 = 16 kHz

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Spatial

Choose this device to connect to a PhidgetSpatial Precision 3/3/3 Basic 1042_0B The PhidgetSpatial 3/3/3 combines the functionality of a 3-axis compass, a 3-axis gyroscope, and a 3-axis accelerometer all in one convenient package.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

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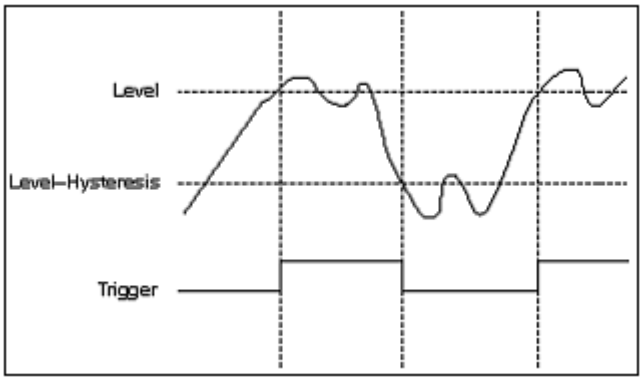
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Select the accelerometer axis X or Y or Z, or the Gyroscope angular speed X or Y or Z, or the magnetic field on X or Y or Z.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Spatial high resolution

Choose this device to connect to a PhidgetSpatial Precision 3/3/3 High precision 1044_1B This spatial board has a 3-axis accelerometer, gyroscope and compass with high resolution readings at low magnitudes.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the device
Interval ms: Choose the refresh interval in milliseconds

Task action:

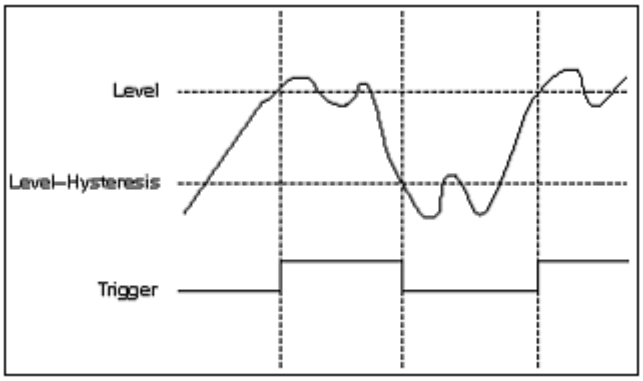
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Select the accelerometer axis X or Y or Z, or the Gyroscope angular speed X or Y or Z, or the magnetic field on X or Y or Z.

User interface:

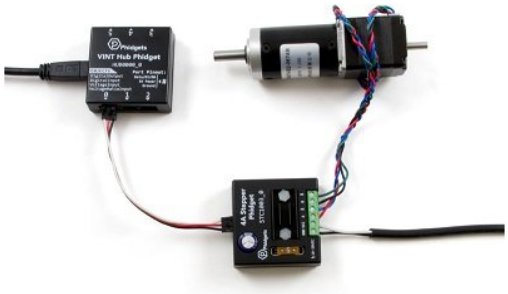
You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.

Stepper 4A

Choose this device to connect to a Phidgets 4A Stepper STC1003_0
This compact Stepper Phidget gives you control of one bipolar stepper motor from a port on your VINT hub.



Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Step mode: Choose between Step mode (target position) or Continuous mode (velocity)
Rescale factor: You can use this factor to change the scale of your unit.
Reset position: Set the current motor position as the zero position.
Engaged : Need to be active to move the motor.
Acceleration/Velocity max/Target position/Power limit Refer to the phidget documentation for more information.

Task action:

Engaged (on/off)
Go to (acceleration/velocity/target position)
Set power limit (value)
Set rescale factor (value)
Set target position (value)
Set acceleration (value)
Set velocity (value)
Set control mode: step mode or continous
Zeroing

Task trigger:

N/A

Digimap trigger:

You can use the position of the motor as a input value for Digimap.

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Temperature sensor

Choose this device to connect to a Phidgets Temperature sensor TMP1000_0
This Temperature Phidget can measure the ambient temperature of the surrounding air from -40°C to 85°C.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port

Interval ms: choose the refresh interval in milliseconds

Task action:

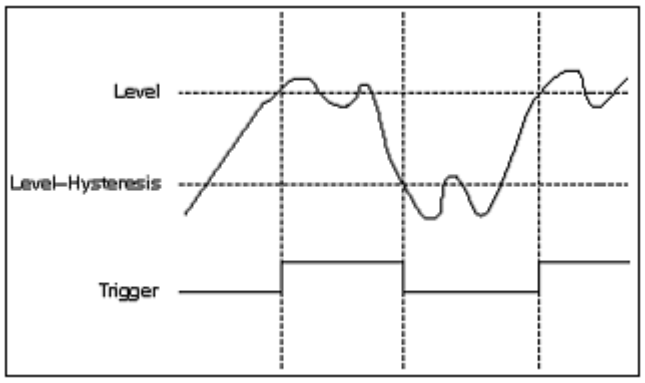
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the temperature detected by the sensor as an input for Digimap.

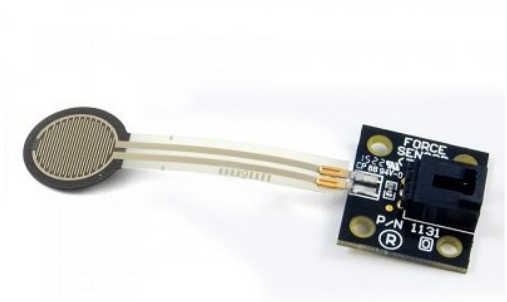
User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Thin force sensor



Choose this device to connect to a Phidgets thin force sensor 1131_0
With its paper-thin construction, flexibility and force measurement ability, the Thin Force sensor can measure force between almost any two surfaces, up to 2 kg.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

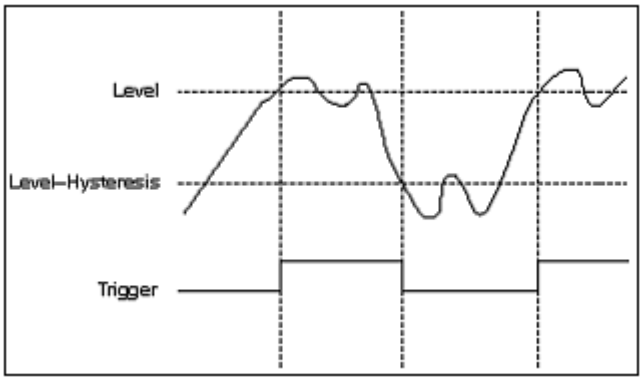
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

Use the force detected by the sensor as an input for Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Touch keypad

Choose this device to connect to a Phidgets Touch Keypad HIN1000_0
For a seamless user input solution that differs from the ordinary pushbutton, try the Touch Keypad Phidget.
It works like a smartphone's touchscreen, sensing the change in capacitance as you finger comes near.
As such, you can place the Touch Keypad Phidget behind up to 3mm of glass or plastic, allowing you to enclose the hardware to make the panel child-friendly and aesthetically pleasing.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Choose to trigger on pressed or released and choose on which button.

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Touch wheel

Choose this device to connect to a Phidgets Touch Wheel HIN1000_0
Need a user-friendly control panel for your Phidgets project? Look no further than the Touch Wheel Phidget. This user interface board uses capacitive touch technology, similar to the touchscreen on a smartphone.
Capacitive touch sensors such as this can detect a touch through a piece of glass or plastic of up to 3mm thick, so you can hide this board inside an enclosure or behind a panel.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Choose to trigger on pressed or released and choose on which button.

Digimap trigger:

You can patch the wheel to this Digimap.

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Thumbstick

Choose this device to connect to a Phidgets Thumbstick HIN1100_0
Need a user-friendly control panel for your Phidgets project? Look no further than the Thumbstick Phidget. It provides a familiar 2-axis thumbstick similar to those on a video game controller. The stick springs back to the neutral position when released. It can also be pressed down with a click, which will register in software and can be tied to a function in your software.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

N/A

Task trigger:

Choose to trigger on pressed or released of the thumbstick.

Digimap trigger:

You can patch the axis X or Y of the thumbstick to this digimap.

User interface:

N/A

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Voltage input 8 in

Choose this device to connect to a 8 Voltage Input Phidget DAQ1000_0
For applications where you just need a lot of sensors, the 8x Voltage Input Phidget adds eight 0-5V analog inputs to your VINT Hub (See the Connection & Compatibility tab for a list of Hubs).
Each input can be used in one of two modes: VoltageInput or VoltageRatioInput.
With VoltageInput mode, you simply measure a voltage value from 0 to 5V. This mode is useful for interfacing 5V sensors and for monitoring small voltages.
In VoltageRatioInput mode, you can read ratiometric sensors like potentiometers and voltage dividers, whose output voltage depend on their input voltage.
The return voltage is expressed as a ratio of the return voltage to the supply voltage from 0.0 to 1.0.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
interval ms: Choose the refresh interval in milliseconds

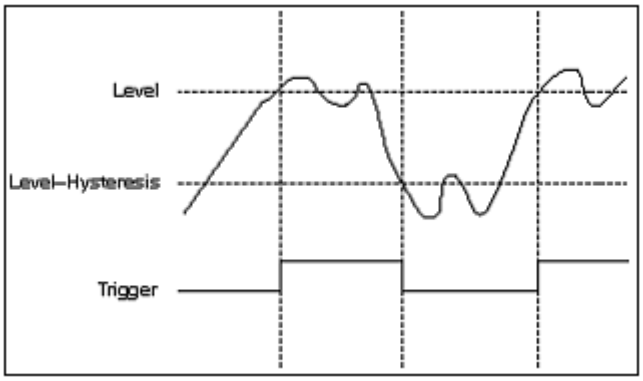
Choose for each input if you want to work in voltage or ratio mode,and you can assign a specific type to the sensor.

Task action:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Task trigger:

N/A

Digimap trigger:

The incoming value is patched to this Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to this page for more information.
You need to plug this device to a VINT HUB Phidget.

Voltage input sensor

It's a generic voltage input sensor.
You can use this on a VINT HUB Phidget.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Sensor type: Choose a specific type
Is HUB: If your device is not detected, click on this checkbox and try again

Task action:

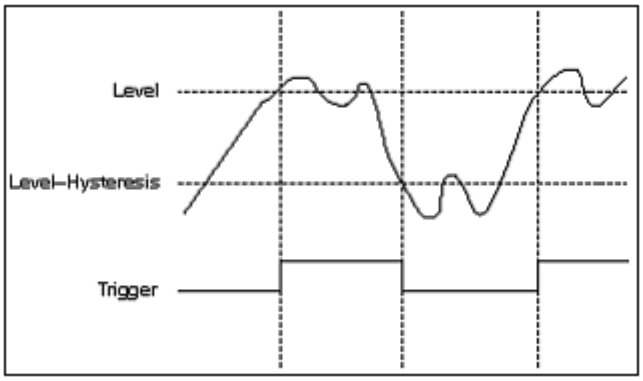
N/A

Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

The incoming value is patched to this Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

You need this device VINT HUB Phidget.

Voltage output

Choose this device to connect to a Phidgets voltage output using a VINT HUB Phidget.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds

Task action:

You can force the voltage of the output.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

You need this device VINT HUB Phidget.

Voltage ratio input sensor

It's a generic voltage ratio input sensor.
You can use this on a VINT HUB Phidget.

Settings:

Name: User-friendly name
Serial Number: Enter the serial number of the VINT HUB Phidget
Port: Choose the port
Interval ms: Choose the refresh interval in milliseconds
Sensor type: Choose a specific type

Task action:

N/A

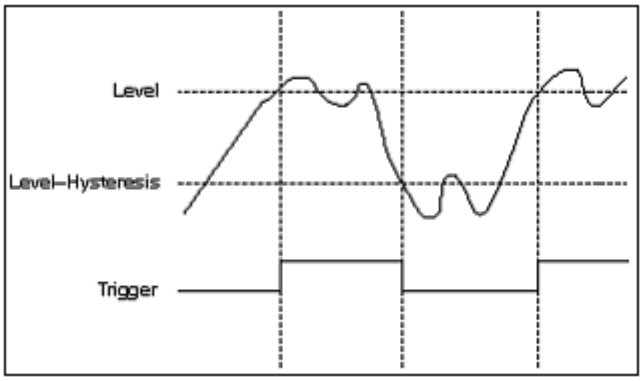
Task trigger:

Trigger a task according to the incoming parameter:

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.

For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

The incoming value is patched to this Digimap.

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

You need this device VINT HUB Phidget.

PTZ

NDI PTZ

Choose this device to control a PTZ camera with the NDI protocol.

Settings:

Name: User-friendly name
Source: Choose the NDI PTZ source in the list. If you don’t see it, click on the refresh button.

A user interface allows you to direclty control your PTZ from this page.

Task action:

Power On/Off
Save Preset (Index)
Recall Preset (index)
Set Preset Recall Speed (value)
Stop Pan Tilt
Pan Tilt Home
Move Left Slow /Medium /Fast
Move Left Speed (value)
Move Right Slow /Medium /Fast
Move Right Speed (value)
Move Up Slow /Medium /Fast
Move Up Speed (value)
Move Down Slow /Medium /Fast
Move Down Speed (value)
Move Zoom Tele Slow /Medium /Fast
Move Zoom Tele Speed (value)
Move Zoom Wide Slow /Medium /Fast
Move Zoom Wide Speed (value)
Stop Zoom
Zoom Home
Set White Balance Auto
Set White Balance Auto Indoor
Set White Balance Auto Outdoor
Set Exposure Auto

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can drag &drop this device in a user interface.

Device information:

Go to the manufacturer website for more information.

Panasonic PTZ AW-Hexxx

Choose this device when you want to control Panasonic PTZ AW-Hexxx with Modulo Player.

Settings:

Name: User-friendly name
Ip: Enter the IP address of the camera

Task action:

Power On/Off
Save Preset (Index)
Recall Preset (index)
Set Preset Recall Speed (value)
Stop Pan Tilt
Pan Tilt Home
Move Left Slow /Medium /Fast
Move Left Speed (value)
Move Right Slow /Medium /Fast
Move Right Speed (value)
Move Up Slow /Medium /Fast
Move Up Speed (value)
Move Down Slow /Medium /Fast
Move Down Speed (value)
Move Zoom Tele Slow /Medium /Fast
Move Zoom Tele Speed (value)
Move Zoom Wide Slow /Medium /Fast
Move Zoom Wide Speed (value)
Stop Zoom
Zoom Home
Tally On/Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can drag&drop this device in the user interface.

Device information:

Go to the manufacturer website for more information.

Sony PTZ

Choose this device when you want to control a Sony PTZ BRC-xx with Modulo Player.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet

Task action:

Recall a preset with a specific speed.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Visca PTZ

Choose this device when you want to control a PTZ using the VISCA protocol.

Settings:

Name: User-friendly name
Serial / IP: Choose mode

Settings for serial mode:
Port: Choose the serial number port
Baudrate: Choose the matching baudrate

Settings for IP mode:
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: Enter the TCP/IP port
ID: ID of the camera

- **Enable DMX control Off /On** : You can enable DMX control using Art-Net
- **DMX:** Choose the corresponding device to send DMX data
- **Start Channel:** Assign a start channel by entering the channel number

Task action:

Power On/Off
Go Home
Reset
Save Preset (Index)
Recall Preset (index)
Stop Pan Tilt
Pan Tilt Home
Move Left Slow /Medium /Fast
Move Left Speed (value)
Move Right Slow /Medium /Fast
Move Right Speed (value)
Move Up Slow /Medium /Fast
Move Up Speed (value)
Move Down Slow /Medium /Fast
Move Down Speed (value)
Move Zoom Tele Slow /Medium /Fast
Move Zoom Tele Speed (value)
Move Zoom Wide Slow /Medium /Fast
Move Zoom Wide Speed (value)
Stop Zoom
Zoom Home
Move Focus Tele Slow /Medium /Fast
Move Focus Tele Speed (value)
Stop Focus
Tally On/Off

WB Auto 1
WB Auto 2
WB indoor/Outdoor
Exposure Auto/Manua
Exposure Shutter Priority
Exposure Iris Priority
Exposure Gain Priority
Shutter
Iris
Gain
Exposure Compensation
Zoom
Focus
Move to Position

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

You can drag & drop this device in the user interface.

Device information:

N/A

Tracking

Kinesys

Choose this device to receive motion information from the Kinesys K2 solution.

Settings:

Name: User-friendly name
Multicast: Choose Multicast mode or unicast (multicast is the default value)
IP: Enter the ip address of the multicast network (default value is 239.195.0.1)
Port: UDP port. 6061 is the default value (usually doesn't need to be changed)

Task action:

Start Record: Record a file to send to debug
Stop Record: Stop the record and create a file in DMX subfolder

Task trigger:

N/A

Digimap trigger:

Construct ID: Choose the construct ID that you want to map on this Digimap
Axis: (X/Y/Z/Rotx/Roty/RotZ) axis of the construct ID you want to map on this Digimap

User interface:

N/A

Device information:

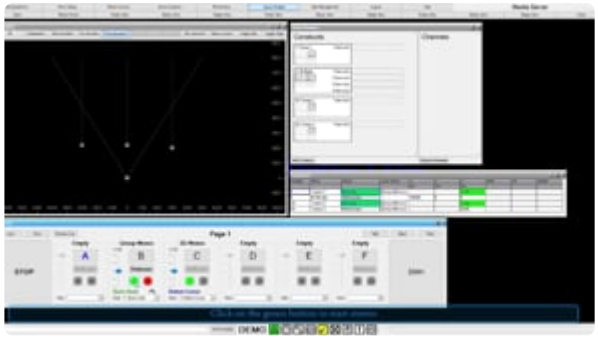
Go there have more information about Kinesys Media Server protocol.

Short tutorial:

You can download a sample show K2 created by Kinesys and download a sample show for Modulo Player that works together.

You can download a demo version of the K2 on the Kinesys website.

Watch this video to understand how to setup:



Leap Motion

Choose this device to interact with Leap Motion using hand movements as a task trigger.

You need to install this driver (the last driver is not working with Modulo Player).

Settings:

Name: User-friendly name

Task action:

N/A

Task trigger:

You can trigger a task from a basic Leap Motion gesture:
Action Swipe Left/Swipe Right/Enter

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

LeuzeRod 4

Choose this device to trigger task from a Laser scan Leuze Rod 4 .

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 9008 is the default value (normally never need to be changed)
Pixel Grid: Zoom In or Out to set scale
Zones:
- Click on **+** to add trigger zones
- Assign starting point and size in pixels
- Make sure each zone you create is named differently

Task action:

N/A

Task trigger:

Choose the zone that will trigger a task. This will trigger this task when a user enter in this zone.

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website more information.

PosiStage PSN

Choose this device to receive PosiStage PSN information.

Settings:

Name: User-friendly name
IP: Enter the multicast address. default value is 236.10.10.10
Port: TCP/IP port. 56565 is the default value (usually doesn't need to be changed)
Filter: On/Off

Task action:

Record Start/Stop for debug purpose.

Task trigger:

N/A

Digimap trigger:

ID / Name: You can work with the ID or the name

ID or Name (value): Enter the name or ID of the parameter you want to patch to this Digimap
Axis (List): Choose the corresponding axis

User interface:

N/A

Device information:

Go to this website to have more information.

Rotary IP

Choose this device to mesure an angular rotation or a distance if this device is associated with Draw Wire.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 6000 is the default value (usually doesn't need to be changed)
Device settings:
- **Setup**: The encoder needs a specific internal setup to works correctly with Modulo Player. Click on this button to force the correct settings.
- **Set CW**: Set the positive counting to clockwise
- **Set CCW**: Set the positive counting to counter-clockwise
- **Reset Offset**: Set a default value to 100 000
- **Set IP**: Setup a new IP to your encoder

Filter: On/Off if activated you need to enter a filter value to reduce latency
Kalman: On/Off: filter to smooth the incoming value and you can change the delay to compensate the latency (try a value around 1.0)

Task action:

N/A

Task trigger:

N/A

Digimap trigger:

You can use this device in a Digimap.

User interface:

N/A

Device information:

Go there to have more information on this device.

TeraRanger

Choose this device to measure a range with the Terabee Range sensor.

Settings:

Name: User-friendly name
Port: Enter the serial port where is connected your device

Task action:

N/A

Task trigger:

N/A

Digimap trigger:

You can use this device in a Digimap.

User interface:

N/A

Device information:

Go there to have more information.

Sensor

Papago 2TH

Choose this device to monitor a temperature/humidity sensor Papago 2TH

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet

Monitor directly the temperature and humidity in this panel.

Task action:

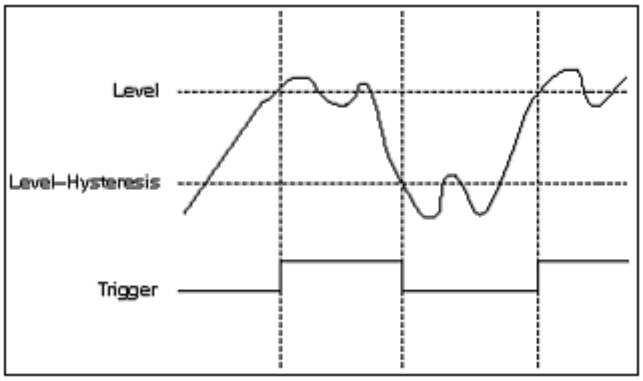
N/A

Task trigger:

Trigger a task according to the incoming parameter (can be temperature, humidity or dew point):

Choose the trigger condition:
> trigger the task when the incoming value is superior to the condition value
>= trigger the task when the incoming value is superior or equal to the condition value
< trigger the task when the incoming value is inferior to the condition value
<= trigger the task when the incoming value is inferior or equal to the condition value
= trigger the task when the incoming value is equal to the condition value
range trigger the task when the incoming value is superior to the condition value min and inferior to value max

For all theses conditions, you can set a hysterys value to avoid false triggering.
For example you use the **>** condition with a value of 0.5, you set an hysterys value of 0.1. When the incoming value reach 0.5, the task is triggered.
If the incoming value go back to 0.45 then go to 0.5, the task is not triggered.
If the incoming value go back to 0.35 (less than condition value – hystererys value) then go to 0.5, the task is triggered.



Digimap trigger:

N/A

User interface:

You can add this device in any user panel.
You can then choose the available features in the panel.

Device information:

Go to the manufacturer website for more information.

Sound

Meyer Galileo

Choose this device to control a Meyer Galileo device.

Settings:

*Name:*User-friendly name
IP: Enter the IP address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 15006 is the default value (usually doesn't need to be changed)

Task action:

You can recall a snapshot.

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website to have more information.

QSC DCP-xxx

Choose this device to control a digital cinema processor QSC DCP.

Settings:

Name: User-friendly name
IP: Enter the IP address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port 4448 is the default value (usually doesn't have to be changed)
Type: Choose the corresponding version from list

Task action:

Recall preset
Mute On
Mute Off
Set Volume
Increase Course Volume
Decrease Course Volume
Increase Fine Volume
Decrease Fine Volume
Amps On
Amps Off

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Yamaha MTX

Choose this device to control a Yamaha MTX.

Settings:

Name: User-friendly name
IP: Enter the ip address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 49280 is the default value (usually doesn't need to be changed)

Task action:

Mute DCA
UnMute DCA
Set Volume DCA (value)
Recall Preset (Preset number)

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go to the manufacturer website for more information.

Other

Keyboard

Choose this device to trigger task with a shortcut.
You can connect a Keyboard or a PowerPoint remote controller to the Modulo Player server to trigger a task.

Settings:

Name: User-friendly name

Task action:

N/A

Task trigger:

Enter the shortcut that will trigger the task.
For example, it can be PgDown.

Digimap trigger:

N/A

User interface:

N/A

Device information:

N/A

Playback Pro

This device allows you to control the Playback Pro Plus software.

Settings:

Name: User-friendly name
IP: Enter the IP address of your device. Your device and Modulo Player need to be in the same subnet
Port: TCP/IP port. 4647 is the default value (usually doesn't have to be changed)

Task action:

Clip Previous/Next
Load Clip Preview
Load Clip Main

Take
Kill
Goto 10/20/30
Loop Program
Unloop Program
Play
Pause

Task trigger:

N/A

Digimap trigger:

N/A

User interface:

N/A

Device information:

Go there for more information.
Only the “Plus” version can be controlled.

Log

This device allows you to create a log txt file.

All the log files are created in the subfolder /log of your project.
You can use the transfer file to download to your remote.

Settings:

Name: User-friendly name
log file: Name of the current log file

Task action:

Clear current file: Empty the current log file
Delete all log files: Delete all files in the /log folder
Append text: Add your text in the file at the end
Append timestamped text: Add your text in the file at the end. this line start with the date and time

Set text: Empty the current log file and append your text
Create new file: Change the current log file name
Create timestamped new file: Change the current log file name. Add a timestamp with date and time
Delete file: Delete the file

Task trigger:

N/A

Digimap trigger:

N/A

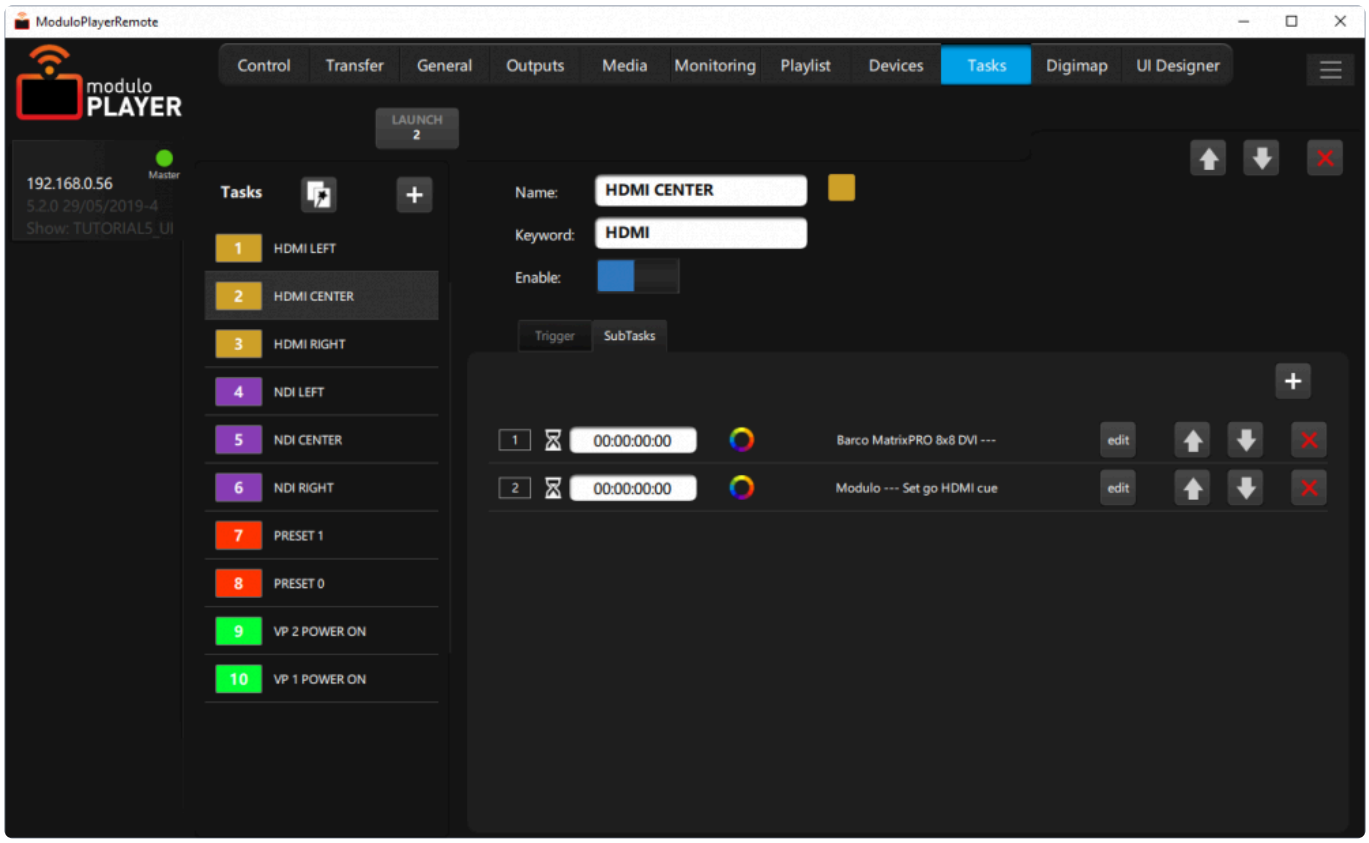
User interface:

N/A

Device information:

N/A

Tasks tab

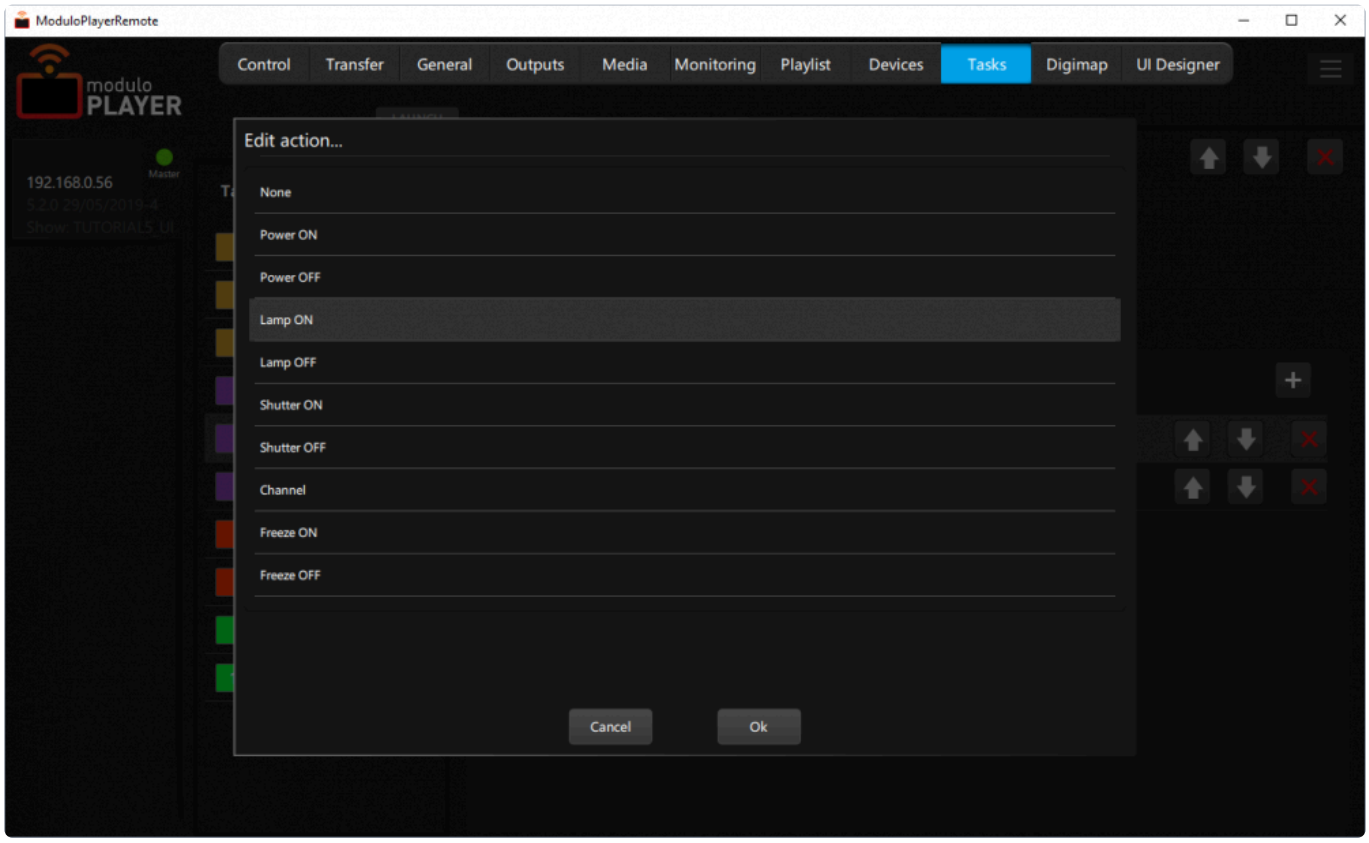


This tab is for creating Tasks.

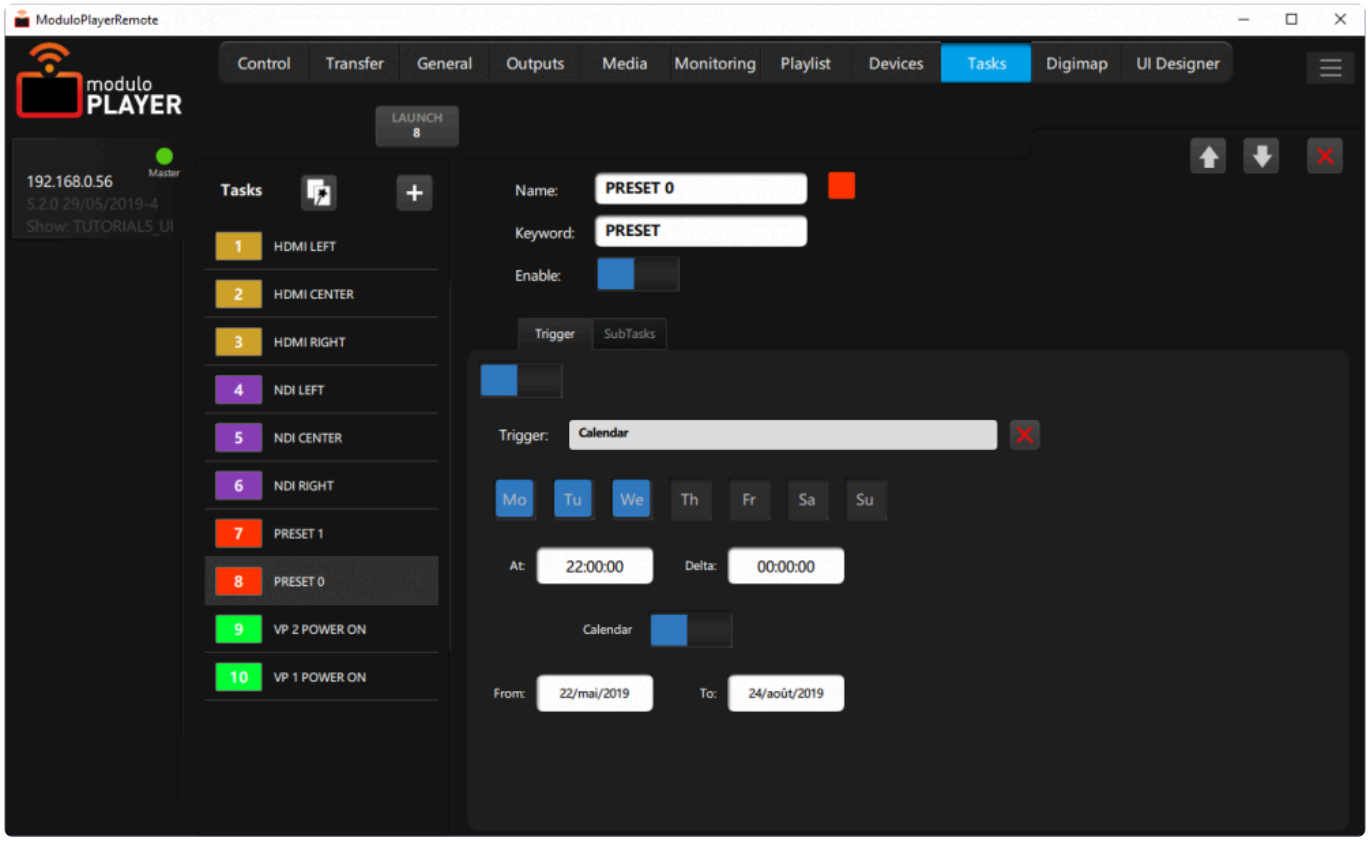
A task contains subtasks: A subtask is an action on a device.
You can specify a Wait per subtask to sequence the launch of the subtasks.

A task can be triggered manually, from a cue in a playlist, from an external show control TCP/IP command, from Modulo Wing , from Modulo Panel or from a Stream Deck.
A task can also be triggered from another device: A calendar, a MIDI command, Art-Net, OSC, GPIO,…
When triggered, a task will blink in green for a few seconds.

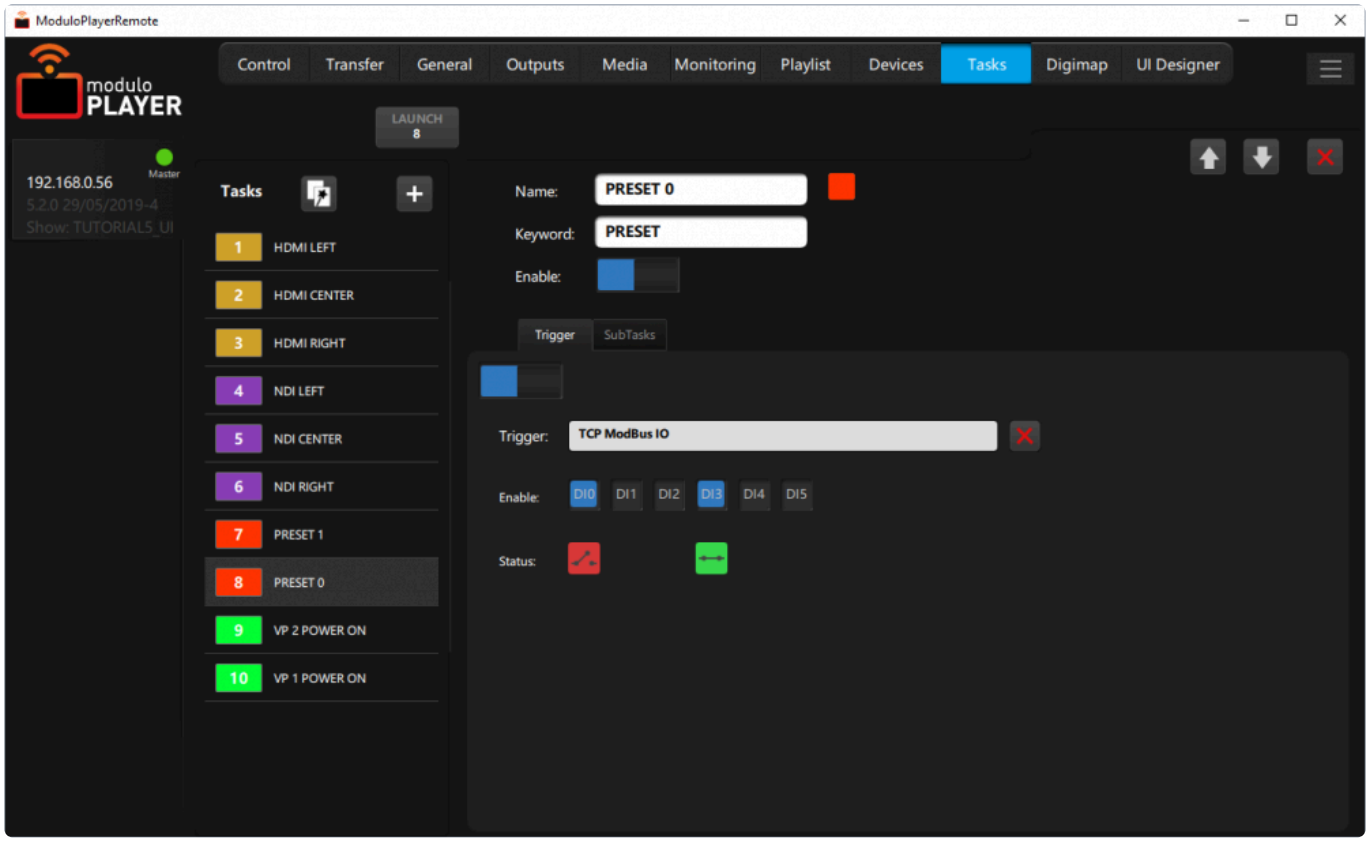
Task Creation:
Click on the **+** button to create a new task.
You can choose a name and a color to easily identify this task.
You can specify a keyword: It will allow you to easily filter tasks by keywords in a custom User Interface.
You can then add a subtask clicking on the **+** button: A Dialog box will popup prompting you to choose a device to control.
After that, just click on the **Edit** button and choose an action.



Trigger from a device:

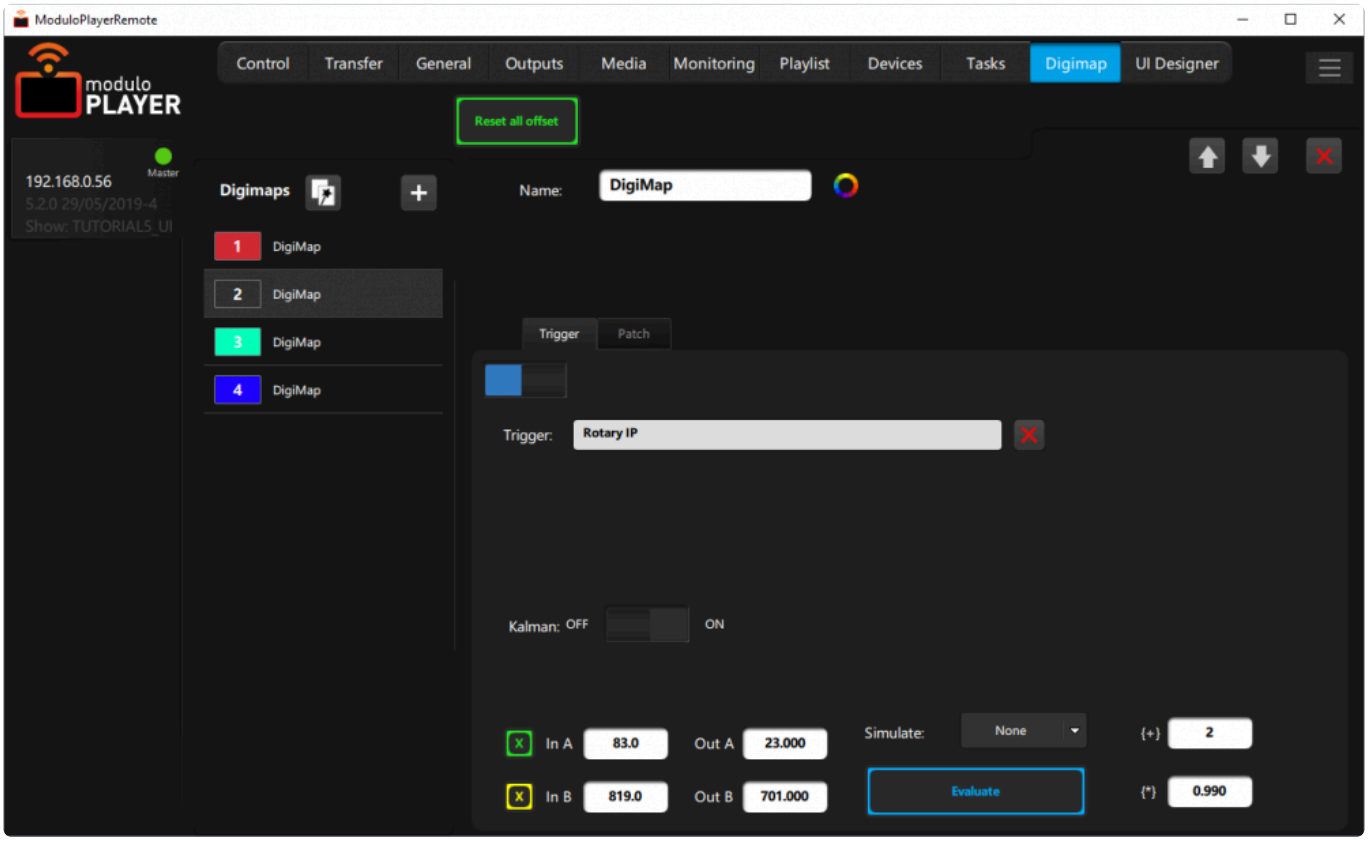


You can use for example the device calendar to trigger this cue at a specific time.
If you prefer to trigger the task from a GPIO, just add a GPIO device and use this GPIO as a trigger.



Digimap tab

Video



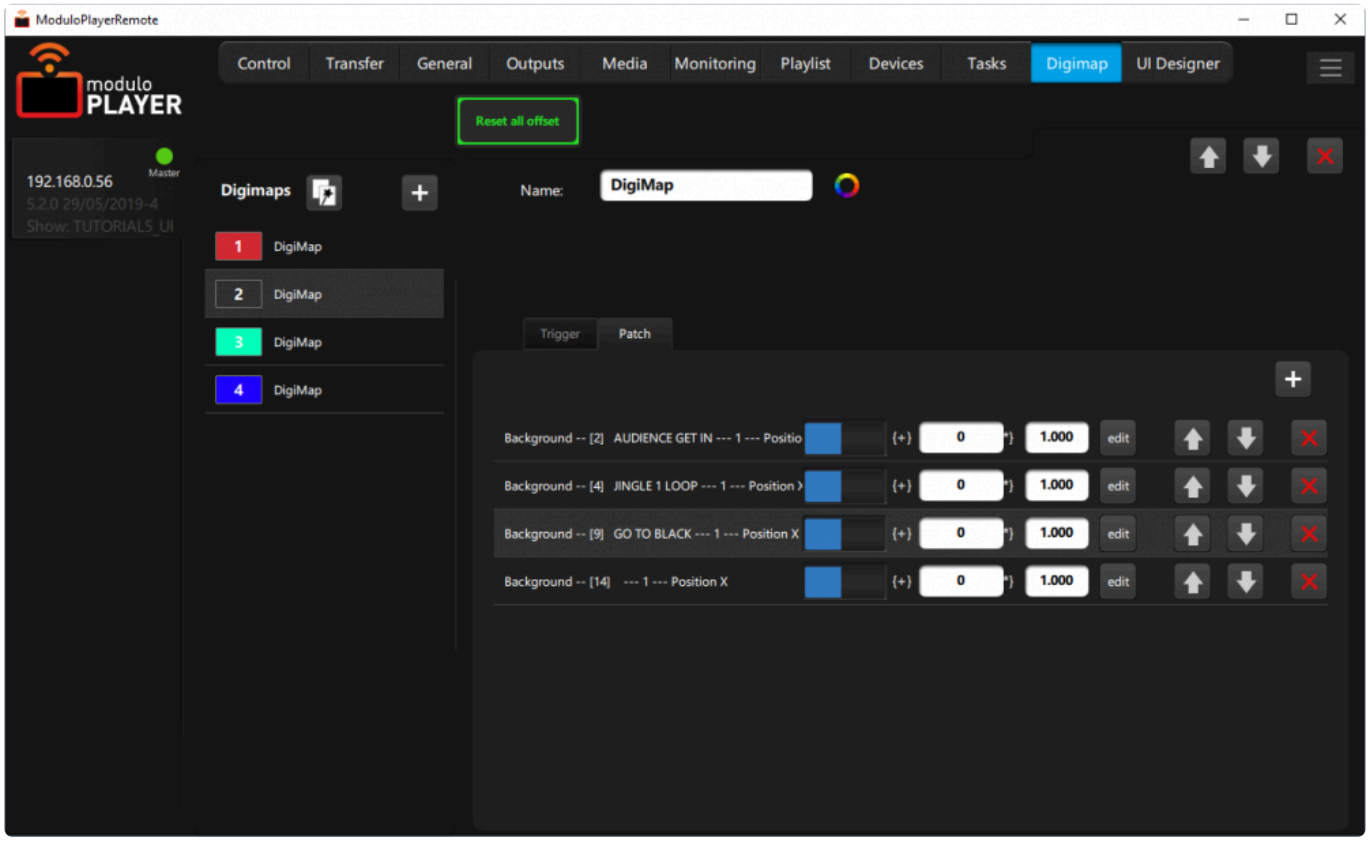
The Digimap tab allows you to take control of some playlist parameters from a sensor or an external device.
This way, you can add interactivity to your show.
For instance, you can move a panel on a stage (with the projection moving along with it).
You can also change the layer opacity from a lighting control, or control your show from a custom OSC control panel, etc.

Add a new Digimap by clicking on the **+** button.

Trigger:

For each new Digimap, you have to select a device and setup the value to grab.

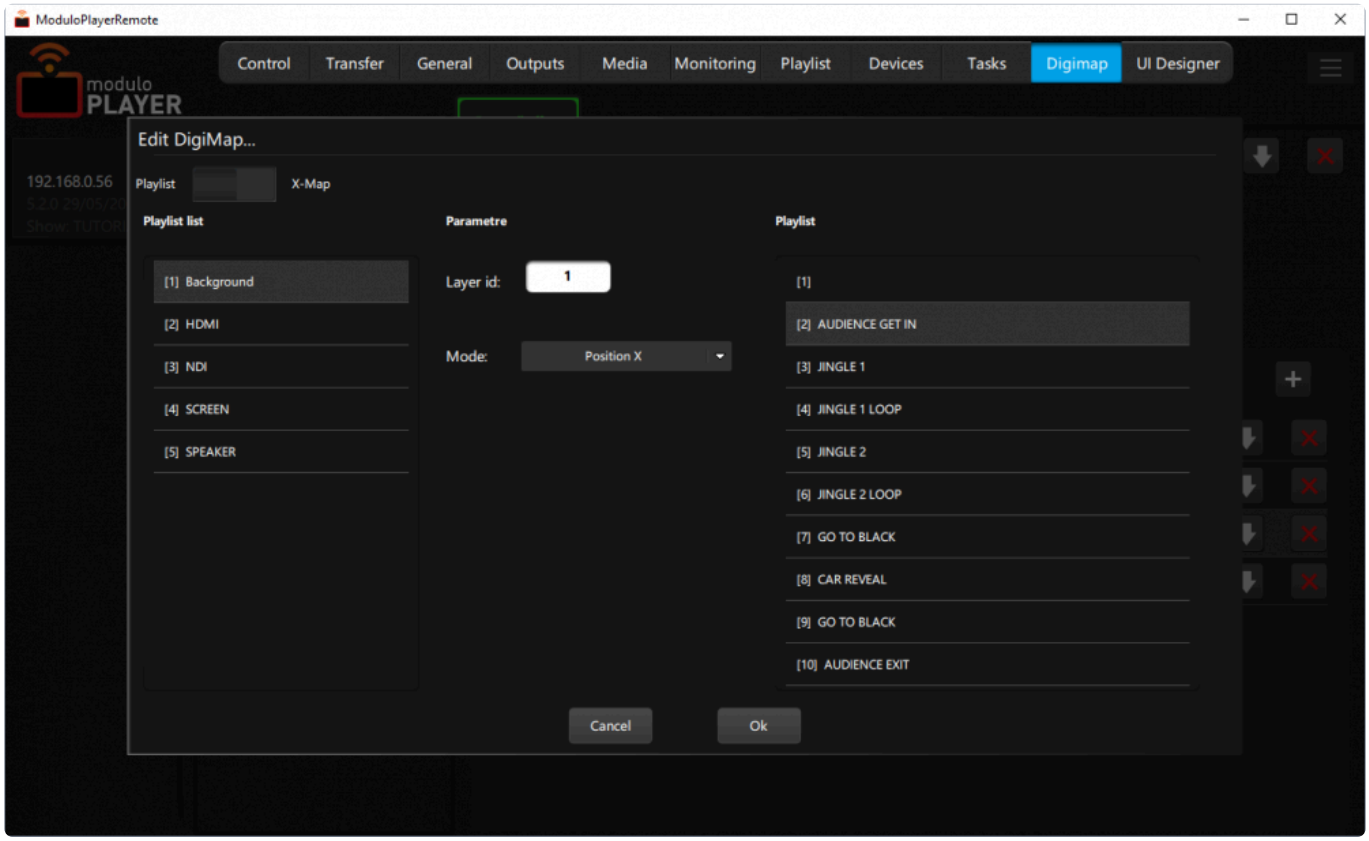
Patch:



Once your trigger is selected, you can create a patch to take the control of the parameters with this digimap.

You can interact with parameters of a playlist or on an X-Map:

Playlist:



Select Enable Playlist to control a media scale or position in a specific layer and cue; or all media in the same Layer throughout all Cues in one Playlist.
For example, add a Digimap to modify the x position of the first layer in the cue number 3, or move from an input value all the x positions of the first layers of a playlist.

Position x	layer position x	
Position y	layer position y	
Scale x	layer scale horizontal	value in %
Scale y	layer scale vertical	value in %
Rotation	layer rotation	value in °
Opacity	layer opacity	value in %
Mask Position x	Mask layer position x	
Mask Position y	Mask layer position y	
Mask Scale x	Mask layer scale horizontal	value in %
Mask Scale y	Mask layer scale vertical	value in %
Mask Rotation	Mask layer rotation	value in °
Mask Opacity	Mask layer opacity	value in %

Global Position x	Global position x	

Global Position y	Global position y	
Global Scale x	Global scale horizontal	value in %
Global Scale y	Global scale vertical	value in %
Global Rotation	Global rotation	value in °
Global Opacity	Global opacity	value in %
Global Mask Position x	Global Mask position x	
Global Mask Position y	Global Mask position y	
Global Mask Scale x	Global Mask scale horizontal	value in %
Global Mask Scale y	Global Mask scale vertical	value in %
Global Mask Rotation	Global Mask rotation	value in °
Global Mask Opacity	Global Mask opacity	value in %

Red	adjust the layer red component	value in %
Green	adjust the layer green component	value in %
Blue	adjust the layer blue component	value in %

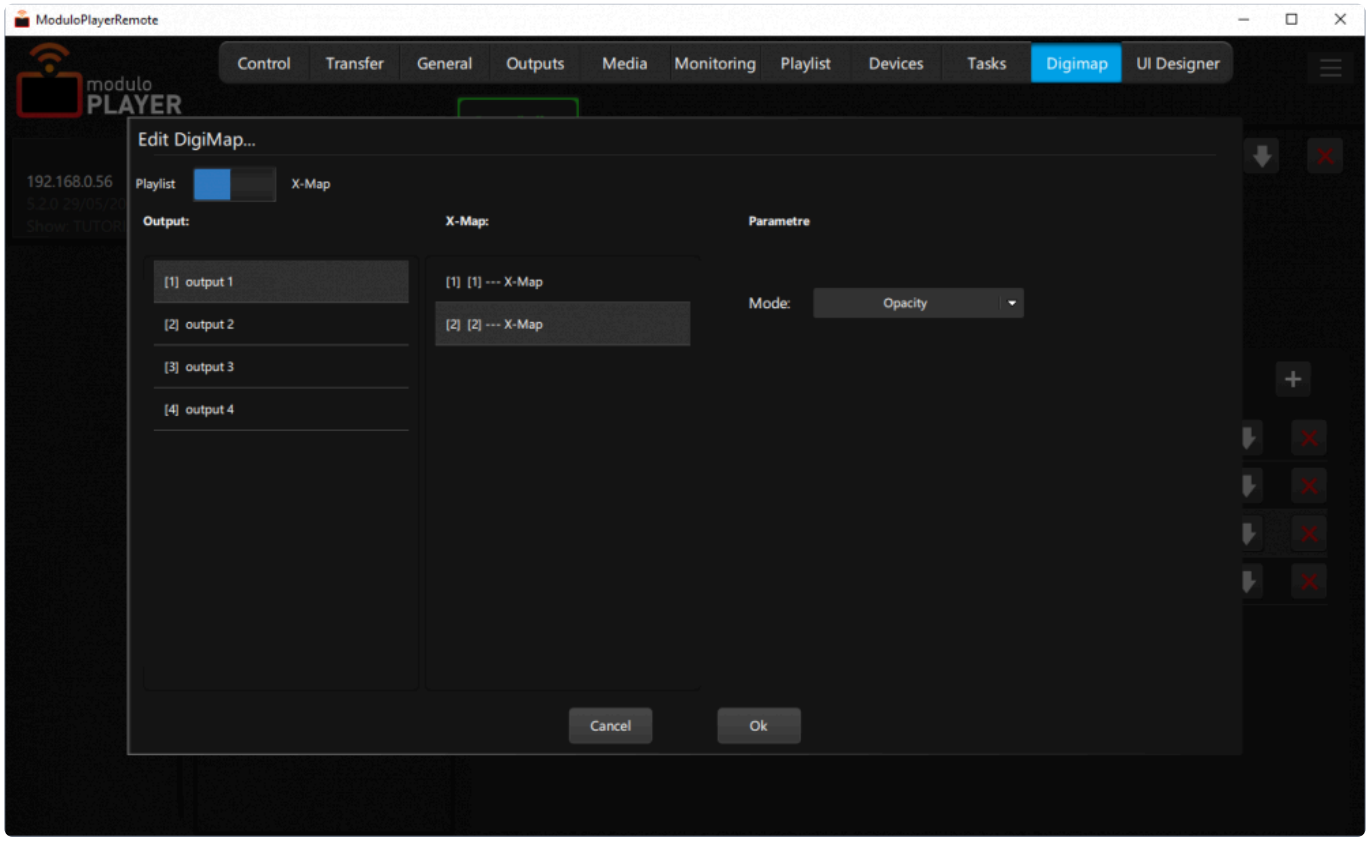
Global Red	adjust the global layer red component	value in %
Global Green	adjust the global layer green component	value in %
Global Blue	adjust the global layer blue component	value in %

Launch cue	launch a cue	index of the cue
Launch cue skip x2	launch a cue	value is multipled by 2 to evaluate the index of the cue

FX1	value of the first parameter of the fx	
FX2	value of the second parameter of the fx	
FX3	value of the third parameter of the fx	
FX4	value of the 4th parameter of the fx	
FX5	value of the 5th parameter of the fx	

Speed	speed of the movie layer	value in %
Global Speed	global speed of the movie	value in %

X-Map:



• Select Enable X-Map to affect the opacity and the RGB values of an X-Map shape.

Red	adjust the X-Map red component	value in %
Green	adjust the X-Map green component	value in %
Blue	adjust the X-Map blue component	value in %
Opacity	adjust the X-Map opacity	value in %

Digimap calibration:

In order to program the trigger, you will need to calibrate the incoming value (In A) which is the starting point; and the incoming value B (In B), the end point.
Then you will have to assign a value (i.e. media position in pixels) as a starting point, and a value for the end point.
Once this is done, it will generate 2 new values: The Offset (in pixels) and the coefficient {*}.

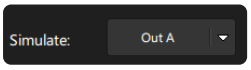
The following example shows the steps for the calibration of a media projected on a moving panel using a Rotary IP device to trigger:

Once you have assigned the media on the Patch tab, go to the trigger tab to calibrate the media accordingly to the Rotary values.
• Click on the trigger bar to select a device to trigger: Digimap 01, will be triggered by the Rotary-IP01
NB: In order to cover a smooth tracking of a panel on which we want the media on Layer 1, Cue 2 to

follow, we will have to calibrate the maximum distance possible between the Start position A and the End position B.

• Move the panel physically on the Start position (A)

• Simulate the encoder's value in position (A)

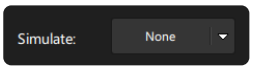
• Select 

in order to calibrate the Start position

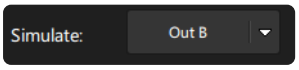
• Click on the

to set a Starting position encoder value

• Now, simulate the A point in pixels: Move with the mouse on the white box to calibrate and set the Out A

• Then, return back to 

• Now, move the panel physically on the End position (B)

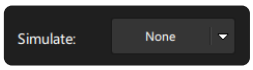
• Select 

to calibrate the end position

• Click on the

to set an Ending position encoder value

• Now, simulate the B point in pixels: Move with the mouse on the white box to calibrate and set the Out B

• Then, go back to 

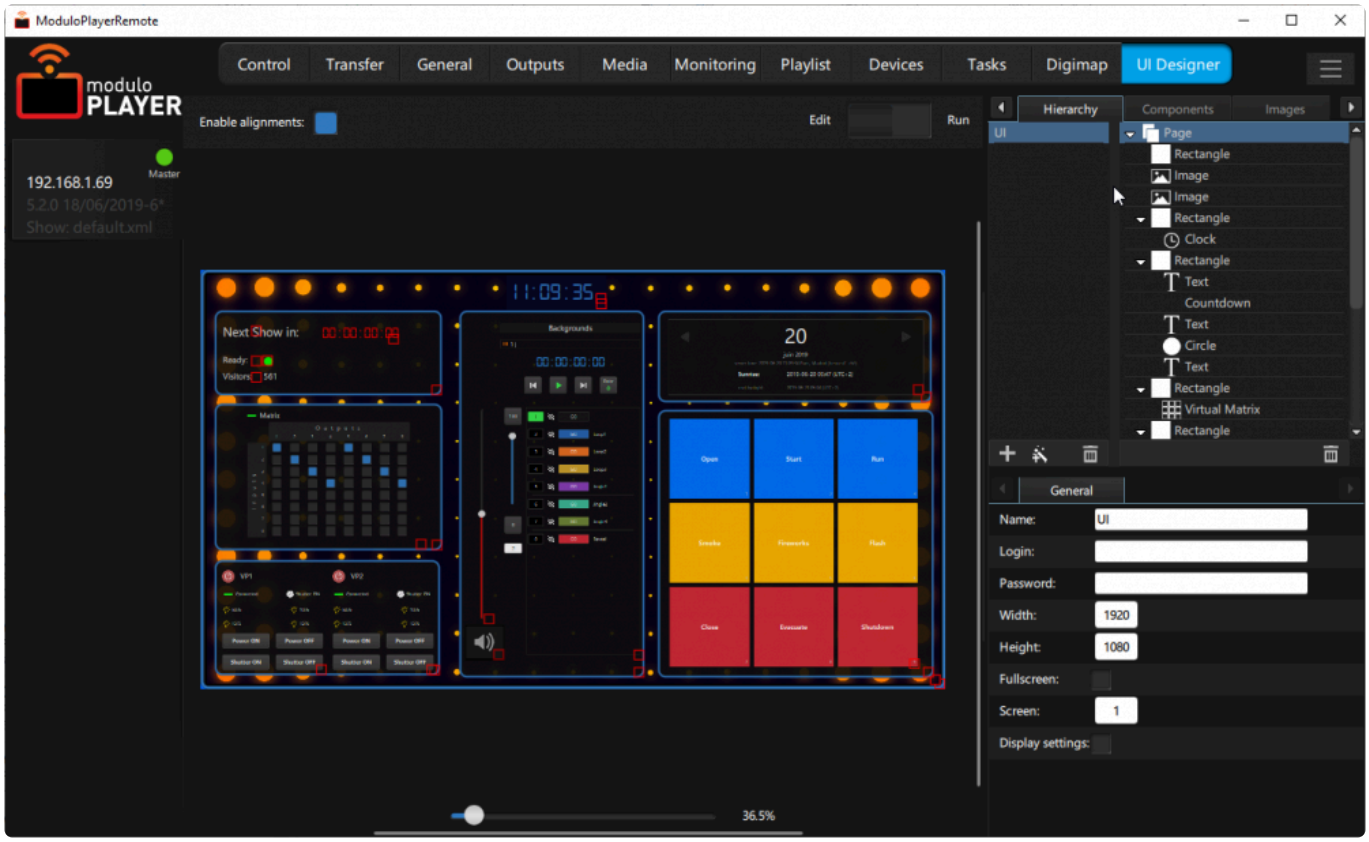
• Once the Start and End position are calibrated, click on

This action will set a *new Offset + *and a *new Coefficient * *value.

The Digimap process is over. Test it by moving the panel.

Digimap DMX settings:

UI Designer tab



The User Interface (UI) Designer is a graphic Designer Interface where you can create your own customized interfaces.

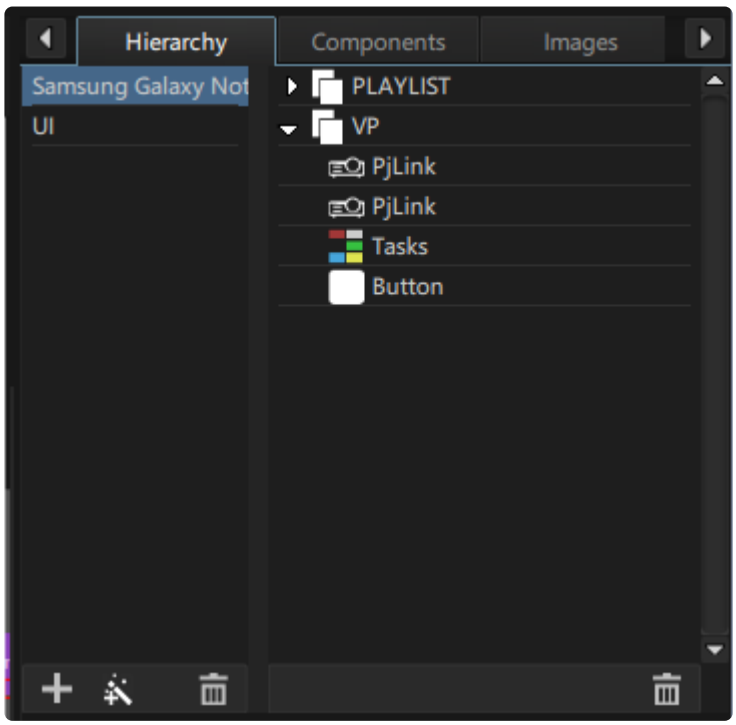
You can create your own pages to control a show from a computer, a tablet or an iPad, or another touch device.
You can add as many UI as you want, with different user logins and passwords.
Simply create new buttons to trigger actions on the server.
Download Modulo Panel to connect to the server from another computer, iPad or tablet and launch the UI.
You can find this application in modulo-pi.com>Customer Area, or download it from the iTunes store or Google Play.

The UI Designer is divided in two parts: The central design panel, and the component list on the right.
Enable the Run Button in order to test/Run the interface from the Remote application.
Disable it to get back to Edit mode.

The central part is the panel that displays the page you are currently designing.
On the upper right part:
• Create a new UI and add components by dragging and dropping them in your page
• Add Images to customize the appearance of the UI
• Drag and drop devices (Devices tab) in order to display information of the devices you added in the Device tab.

On the lower right part are the parameters of the elements you selected either from the Hierarchy or by clicking on the element directly on the Interface.

Hierarchy:



• To create a new User Interface click on “+”
• Select the new UI from the Hierarchy tab and configure it from the General tab
• Name: This name will be displayed in the settings of Modulo Panel application
• As an option, you can add login and password
• Set up the resolution in pixels
• Activate the Fullscreen button if you don’t want the interface to appear Windowed on the Modulo Panel
• Display Settings: If this option is activated, a Setup button will be displayed in Modulo Panel which allows you to go back to the Modulo Player IP selection or refresh UI.
NB: This is necessary to refresh the interface or switch between Interfaces.

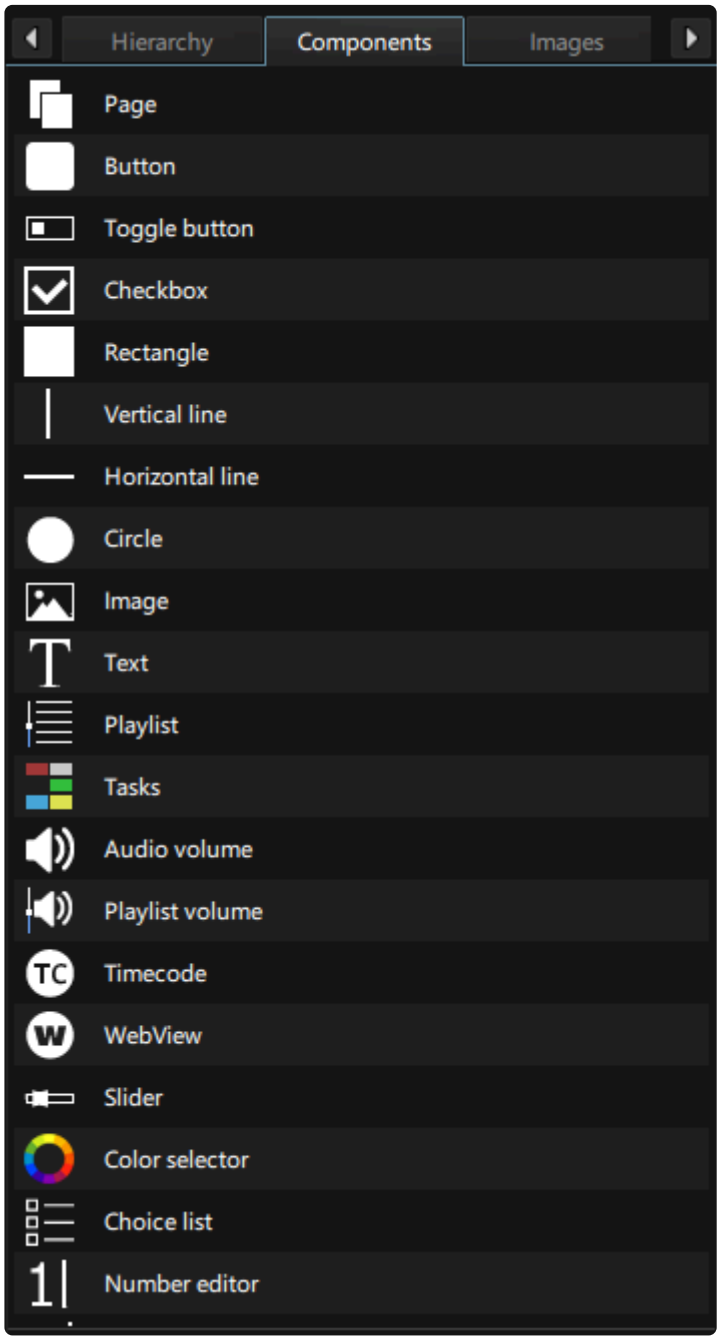
An alternate way to refresh UI or display the setup menu is to create and launch a task using the Modulo Player device.
• From the Devices tab, add a new Modulo Player device
• Go to Task tab, add a new task
• Add a SubTask by selecting the Modulo Player device you just created (Add a device to Task)
• Click on edit in order to edit the action

The tasks that are relevant to the User Interface are :
• Refresh all UI Designer Panels: Refreshes the current UI Page
• Display Login UI Designer Panels: Takes you back to UI Selection/Setup
• Quit All UI Designer Panels: Quits the Panel app

If you are unable to go back to the main menu with a kiosk mode application on a mobile platform:
On Android: Clear application cache and restart the application

On iOS: Uninstall and re-install the application

Components:



From the Components tab you can drag and drop several functions to the panel:
• You can create several pages per interface, add custom buttons, filter Tasks by keywords, etc.
• You can move components in the Hierarchy, drag & drop them to change the order of the Component layers or to parent/unparent them
• You can parent/unparent components directly in the interface panel, by selecting them with the mouse and pressing down the alt key
• Depending on the component, a simple configuration will be necessary from the General and Actions tab

Images:

From the Images tab, you can select an image to display in the background of your panel in order to customize its appearance.
NB: In order to display images you will have to load them beforehand from the Transfer tabs.
All images should be loaded in the user interface folder of your project.
Once the images are loaded, refresh the list by clicking on the button.

> ! To obtain images in the User Interface, place the image files in the user interface sub-folder of your project folder.

Devices:

In this subtab of the Ui Designer are listed all the Devices you added.
Drag and drop the devices to display it in your Interface.
NB: This function is only available for some devices (projectors, phidgets, …)

Shortcuts

Discover a list of shortcuts.
Please note that these shortcuts apply for the **Modulo Player Remote**:

General shortcuts

- Save: Ctrl + S
- Undo: Ctrl + Z

Text shortcuts

- Copy: Ctrl + C
- Paste: Ctrl + V

Shape – Control points

- Move control points: ← → ↓ ↑
- Move 10 pixels: Ctrl + ← → ↓ ↑
- Move 0.2 pixels: Maj + ← → ↓ ↑
- Jump to next point: Alt + ← → ↓ ↑
- Select the current row/column: Ctrl + Alt + ← → ↓ ↑
- Add the next point to the selection: Alt + Maj + ← → ↓ ↑
- Add the next row/column to the selection: Ctrl + Alt + Maj + ← → ↓ ↑
- Select all control points: Ctrl + A
- Deselect all control points: Alt + A

Playlist – Navigation

- Display the beginning/end of the playlist: ↖ / Fn
- View the next/previous cue: ↓ / ↑
- Launch the next cue: Page down **or** Space bar
- Launch the previous cue: Page up
- Launch the selected cue: Ctrl + Space bar
- Preview thumbnail – next/previous frame: + / –
- Preview thumbnail – next/previous sec: Ctrl + + / –

Playlist – Triggers

- Go for the current displayed cue: G
- Follow1 for the current displayed cue: F
- Wait for the current displayed cue: W

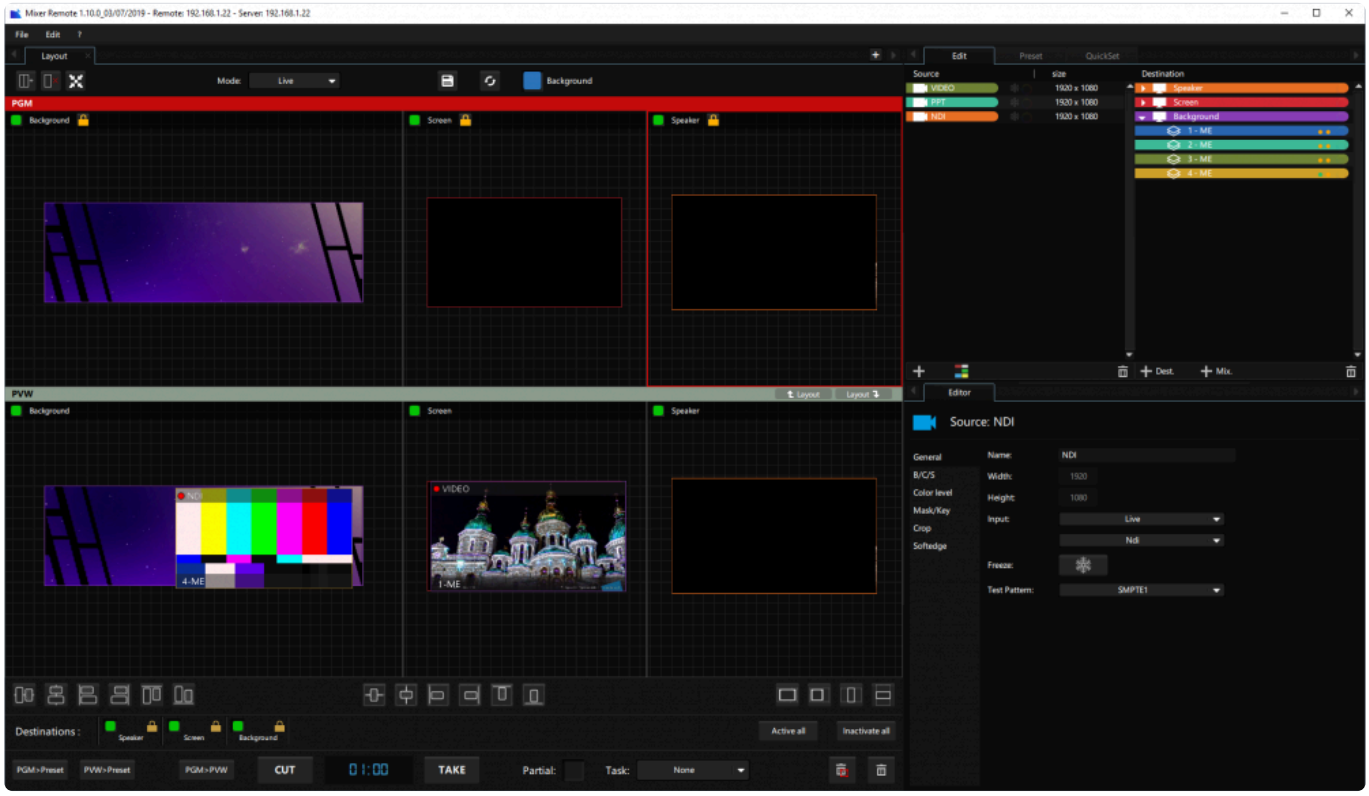
- Timecode for the current displayed cue: T

Playlist – Settings/Edit

- Position editor: P
- Scale editor: S
- Rotation editor: R
- Face in/out editor: I / O
- In/out movie editor: Ctrl + I / O

Live Mixer

Embedded Low-Latency Live Mixer



As a world's first, Modulo Player embeds a low-latency live mixer with all main functionalities of a mixer: Live program, preview, and confidence screens, presets management, transition effects,…

Modulo Player is a multi-user device: Several operators can work simultaneously on the media server and mixer interfaces.
All contents and operations are perfectly synchronized.

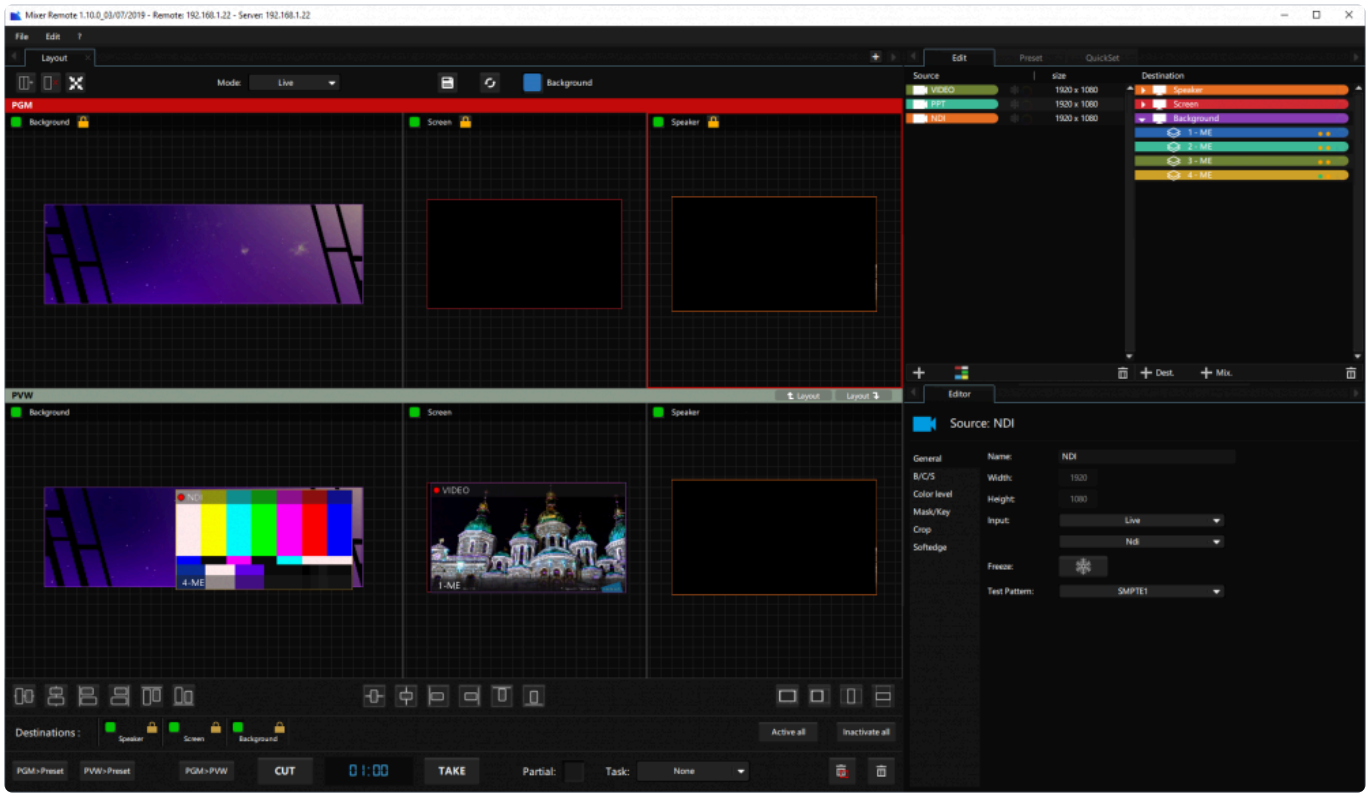
Live Input Boards
Modulo Player integrates live input cards, including FLEX video I/O technology by Deltacast:

- Up to 8 x SD/HD/3G-SDI inputs
- Up to 4 x HDMI 2.0 inputs

It supports NewTek's NDI technology, and allows to stream multiple high quality live video sources across an Ethernet network, and use them as inputs.

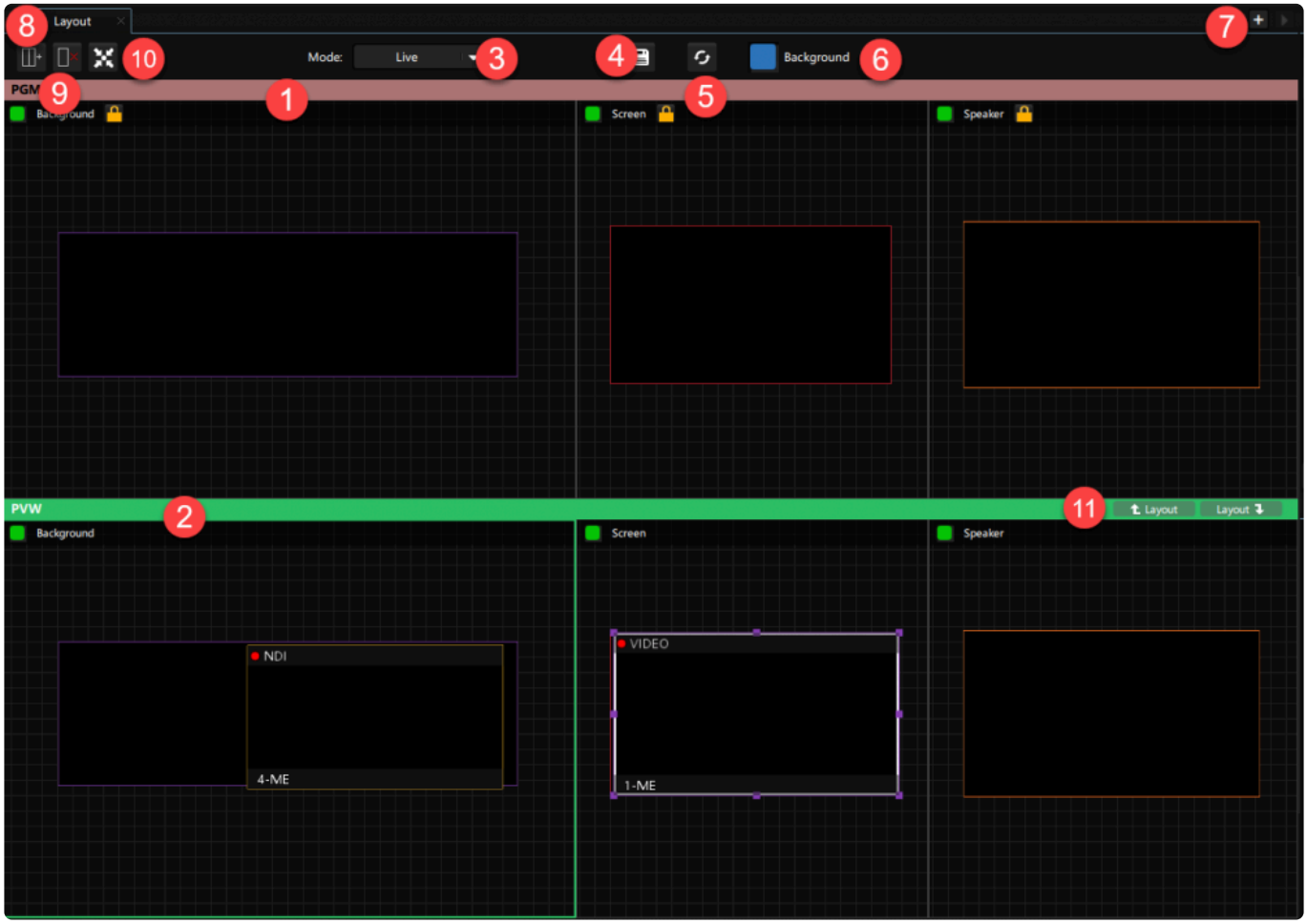
Visualize all your live sources on your custom designed monitoring output and/or stream them over NDI.

Live Mixer overview



This application works on MAC and PC. It’s a free remote application. When you launch the application, you need to enter the IP address of the Modulo Player.
You can open any number of Live Mixer simultaneously: It’s fully Multi-User.
You can open at the same time the Modulo Player Remote application.

User Interface



1 Program (PGM):
You can split this view and drag several Destinations. The Program is what is displayed on Stage

2 Preview (PVW):
You can split this view and drag several Destinations. The Preview allows you to prepare arrangement of layers before sending them to the Program with the Cut or Take button

3 Mode:
You can choose what you want to see in the Source: None, Thumbnail or Live preview of the content (streamed in Network)

4 Save:
Save the show on the Media Server

5 Refresh:
Download the show from the Media server

6 Background:
Enable this checkbox to have a live video preview of the Background of the Media Server

7 Add Layout:

This button allows you to create more Layout. A Layout is a view of Program/Preview. Using several Layout is useful when there is several user: each user will use one Layout

8 Split:
This button allows you to split the view to display more Destination in the Preview or Program

9 Delete Split:
This button allows you to delete a split in the current view

10 Reset View:
Allows you to reset the view to see all the Destination.

11 Copy Layout:
Allows you to copy the Preview Layout to Program or copy the Program Layout to Preview.

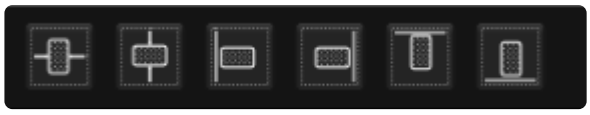
Align Layers:

Aligns severals layers.

Select several layers and then click on one of the button to aligns theses layers:
- vertical center aligned
- horizontal center aligned
- horizontal left aligned
- horizontal right aligned
- vertical top aligned
- vertical bottom aligned

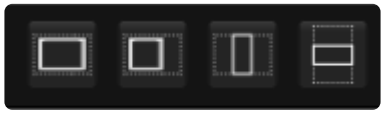
Align Layers to Border:

Align a layer regarding a Destination.



Select a layer and align this layer:
- horizontal centered with the Destination
- vertical centered with the Destination
-horizontal left aligned with the Destination
-horizontal right aligned with the Destination
- vertical top aligned with the Destination
- vertical bottom aligned with the Destination

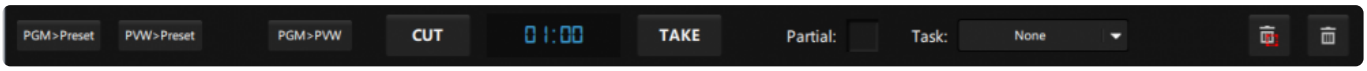
Fit Layers:



Destination Bar:

This bar allows you to activate/deactivate Destination.
Click on “Active All” to activate all Destinations.
Click on “Inactivate All” to deactivate all Destinations.

Action Bar:



PGM->Preset: Create a new Preset with the content of the PGM
PVW->Preset: Create a new Preset with the content of the PVW
PGM->PVW: Copy the content of the PGM to the PVW

CUT: do a CUT transition
Time: Time for the Take transition
TAKE: Do a Take transition
Partial: When checked, only do a transition with the layers that are not already on the PGM
Task: The Task that will be recalled when you do a CUT or TAKE action
Trash selection: Remove the selected Layers from the PGM or PVW
Trash: Clear the PGM or PVW

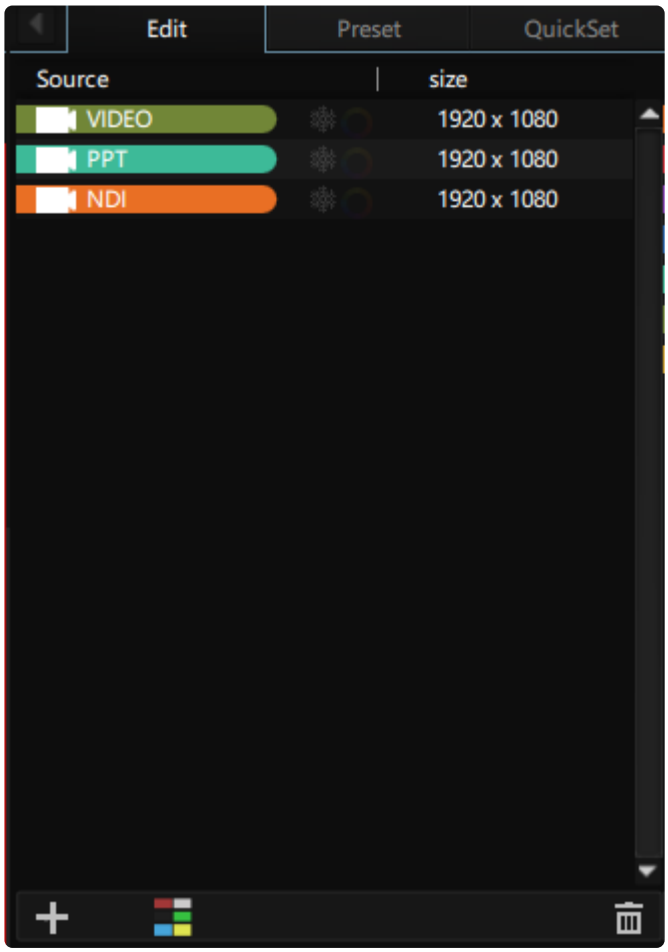
Drag&Drop:

You can Drag&Drop:

- a Destination to one view of PGM or PVW : This view will display then the content of this Destination
- A Source in one view of PGM (if Destination not locked) or of PVW: if you drag&drop in an existing Layer, it will replace the source of this Layer. If you drag&drop in any empty area, it will add the first Layer available with the source associated
- A Layer in one view of PGM (if Destination not locked) or of PVW: it will add this Layer in the Destination
- A Source in a Mix Engine: it will add this Layer with the associated source on PVW (if active) or PGM (if active)
- A Preset to PGM or PVW: it will recall the preset to PGM (even if locked) or to PVW
- A QuickSet to a Layer in PGM (if Destination is not locked) or in PVW: it will apply the QuickSet to the

layer

Sources



You can create any number of sources.

Click on the **+** button to add new source in your project.

Click on the button to delete a source.

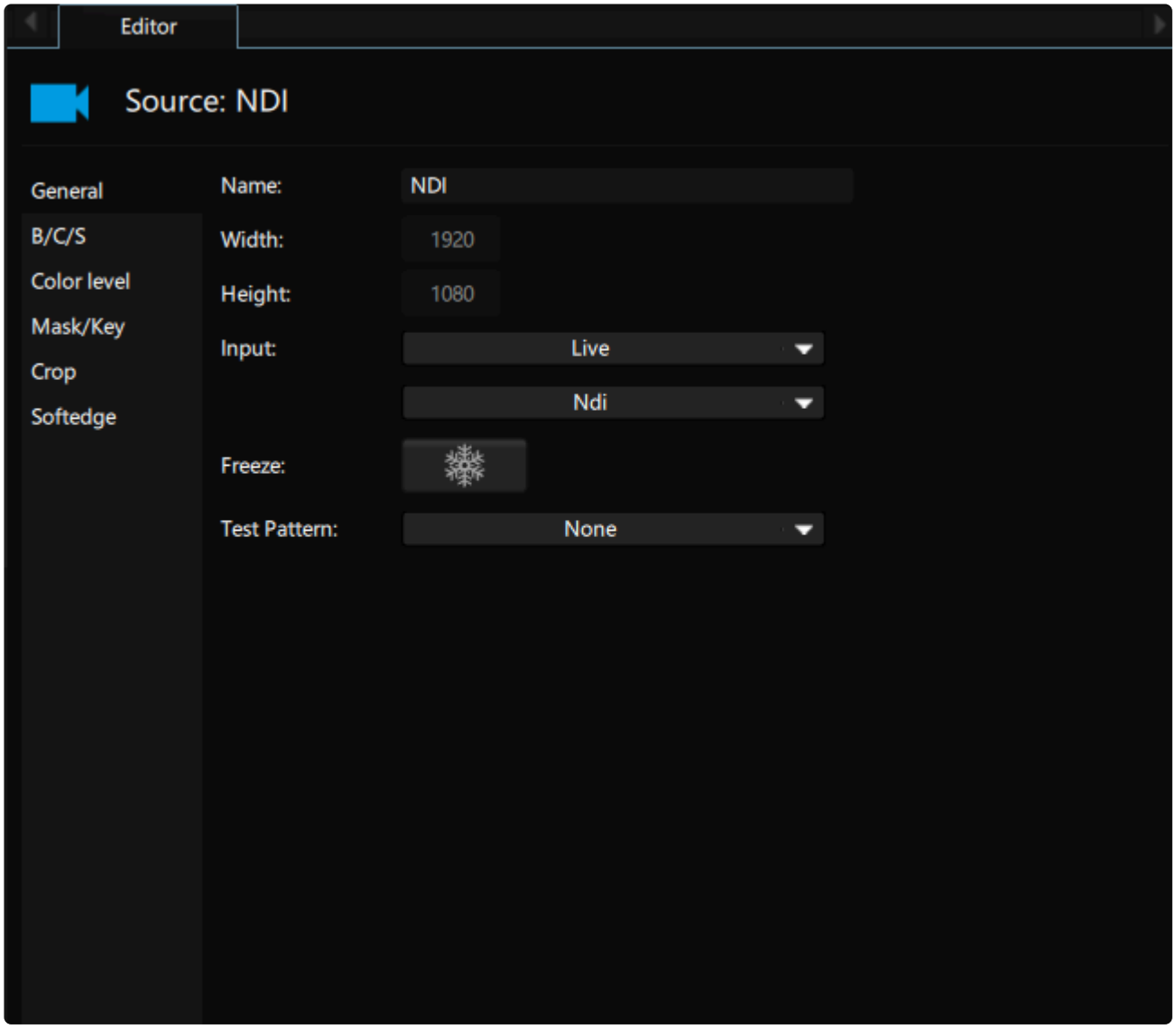
Click on this button to visualize live thumbnail stream.

You can directly freeze/unfreeze a source in the list.

You can duplicate a source with a right click on a source in the list.

Click on a source to edit the settings in the editor:

General:

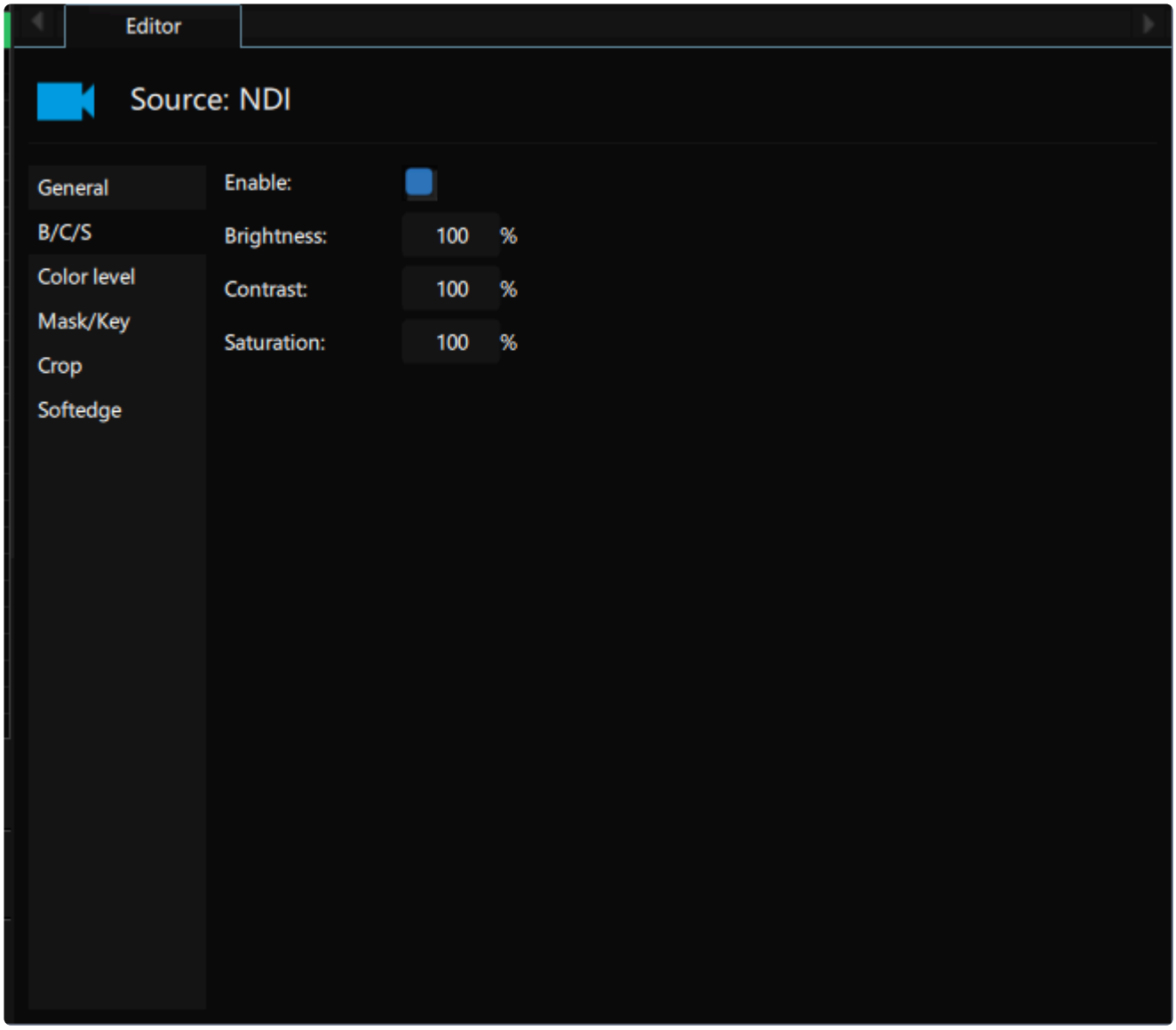


Name: Enter the name of your source
Width: indicate the width of your source after crop (original value between parenthesis)
Height: indicate the height of your source after crop (original value between parenthesis)
Input: Choose the kind of input: None, Live or Background.
When you choose Live, a combobox allows you to select the input declared in the media list (Live media only: Deltacast/NDI).
When you choose Background, you can then use the crop feature with “extract” mode to use a non visible part of the pixel workspace to playback media. you can use this part of the pixel workspace as a kind of source.0
Freeze: Freeze/unfreeze the source.
Test Pattern: You can add an overlay top pattern on top of your source.

B/C/S:

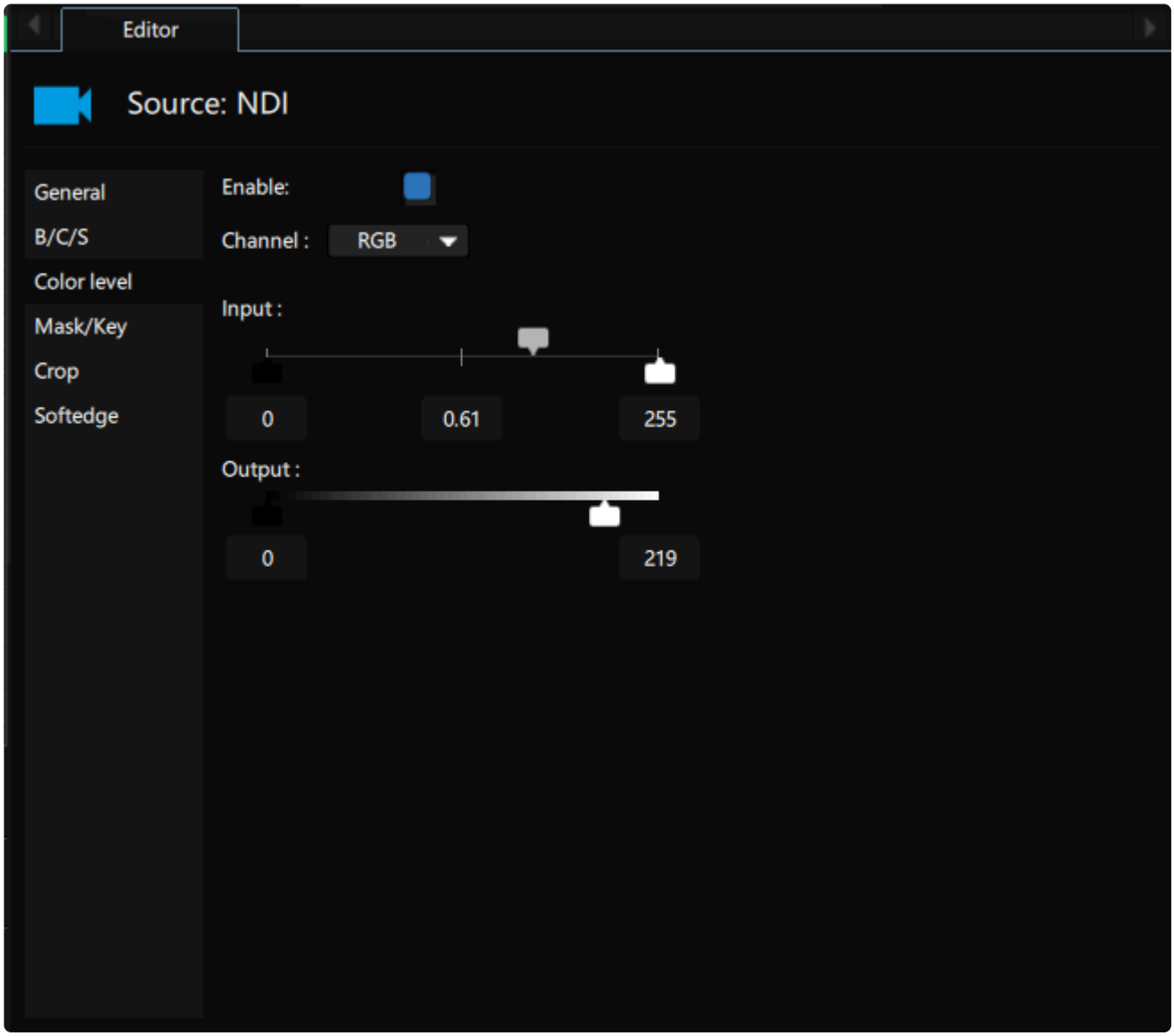
You can Enable/Disable this property clicking on the checkbox.

Brightness/Contrast/Saturation values are in percent mode. 100% means a neutral value.



Color level:

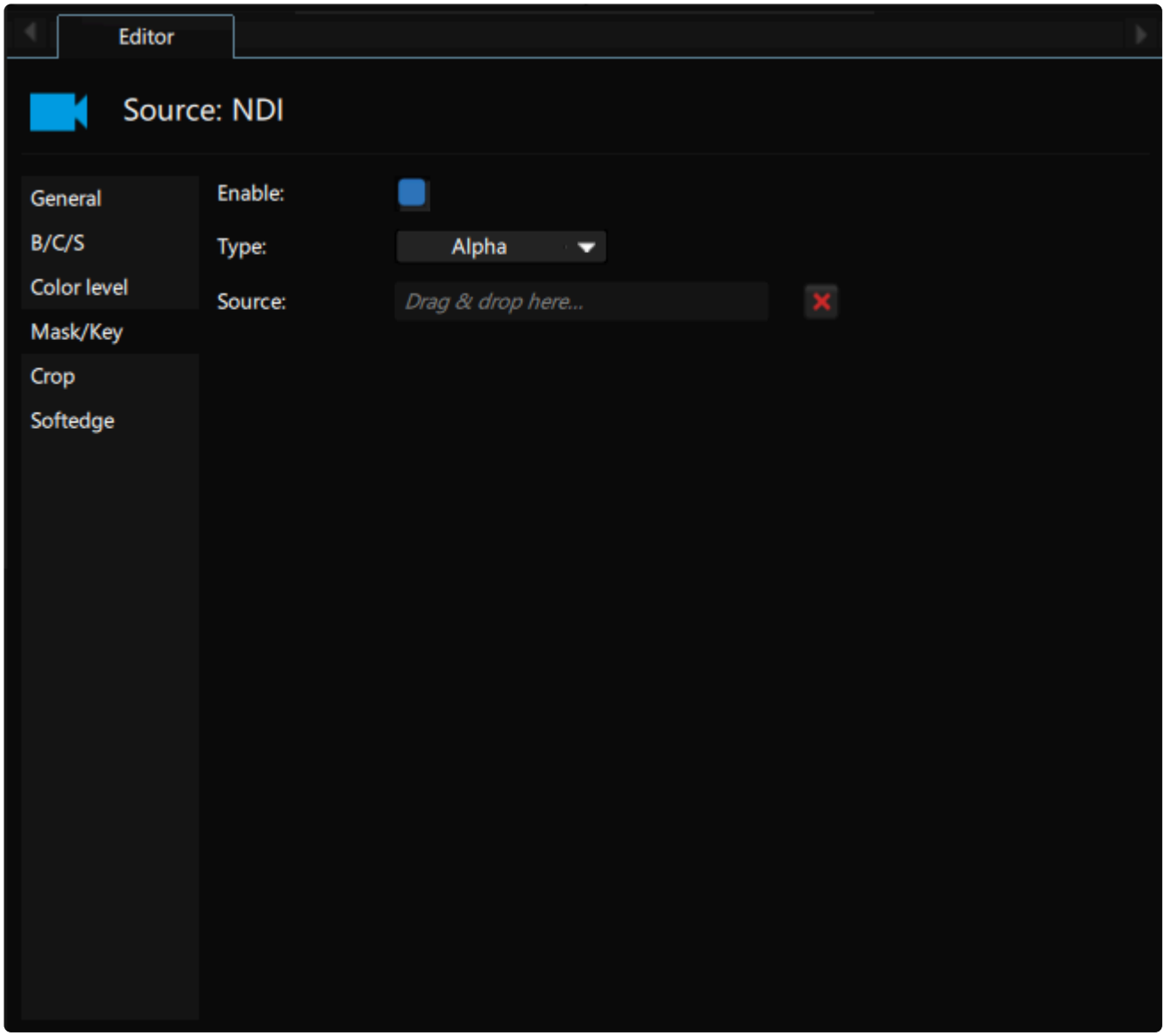
You can Enable/Disable this property clicking on the checkbox.
The color level allows you to adjust RGB level for global RGB and channel by channel.



Mask/Key:

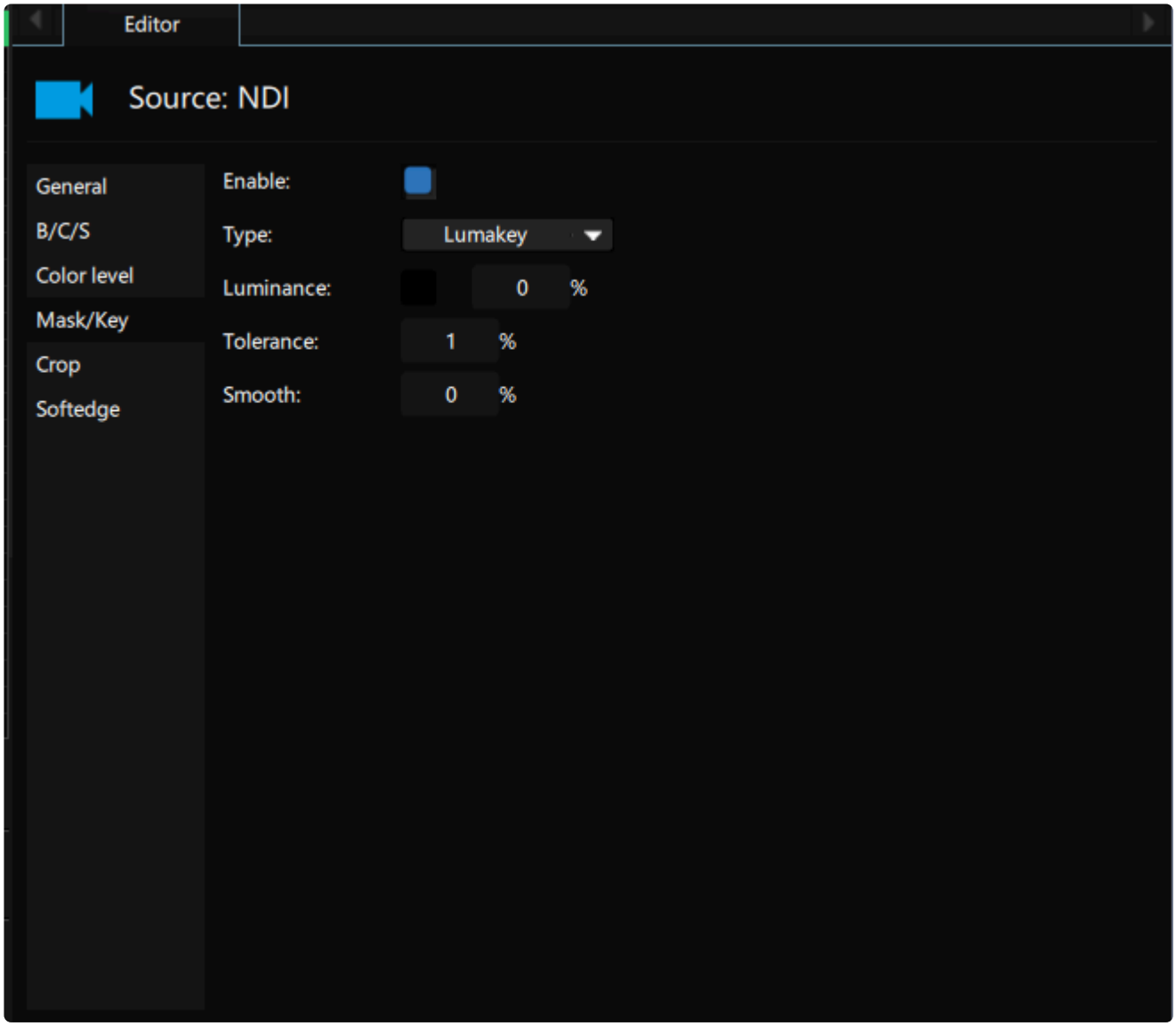
You can Enable/Disable this property clicking on the checkbox.

Choose the Mask/Key Type:
Alpha: use a live source as mask in Alpha mode. If the mask source has a pixel transparent, your resulting source pixel will be transparent, If the mask source has a pixel with full alpha, the resulting source pixel is unchanged.
Inv Alpha: use a live source as mask in inverted Alpha mode. If the mask source has a pixel transparent, your resulting source pixel will be unchanged, If the mask source has a pixel with full alpha, the resulting source pixel is transparent.
Grey: use a live source as mask in grey mode. If the mask source has a pixel black, your resulting source pixel will be transparent, If the mask source has a pixel with full white, the resulting source pixel is unchanged.
Inv Grey: use a live source as mask in inverted grey mode. If the mask source has a pixel full white, your resulting source pixel will be unchanged, If the mask source has a pixel with black, the resulting source pixel is transparent.



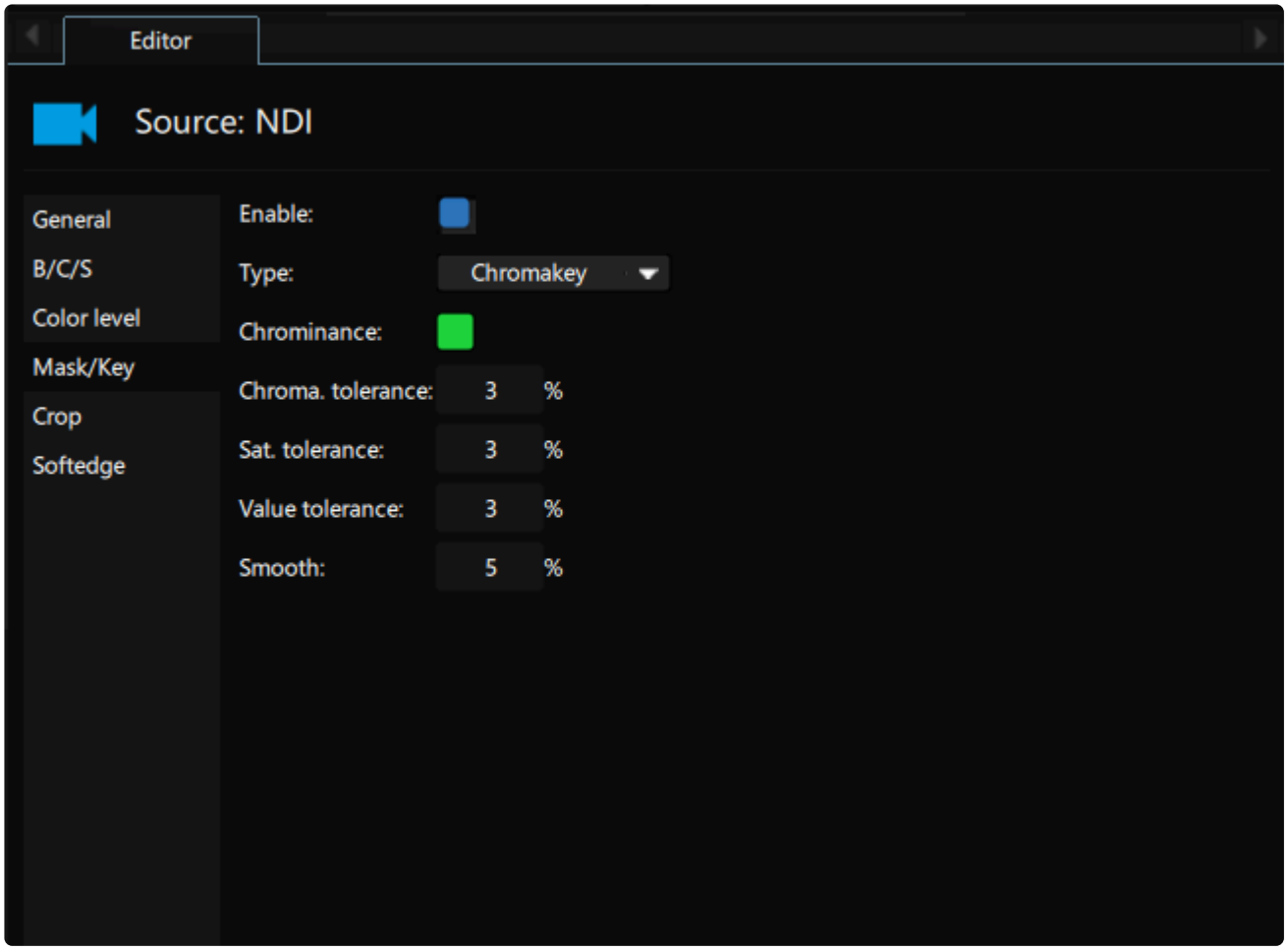
Lumakey: use the lumakey settings to do a real time lumakey filtering on your source.

Luminance: choose the luminance value to discard.
Tolerance: allow a more larger luminance value to discard.
Smooth: smooth the border to avoid a hard edge



Chromakey: use the Chromakey settings to do a real time chromakey filtering on your source.

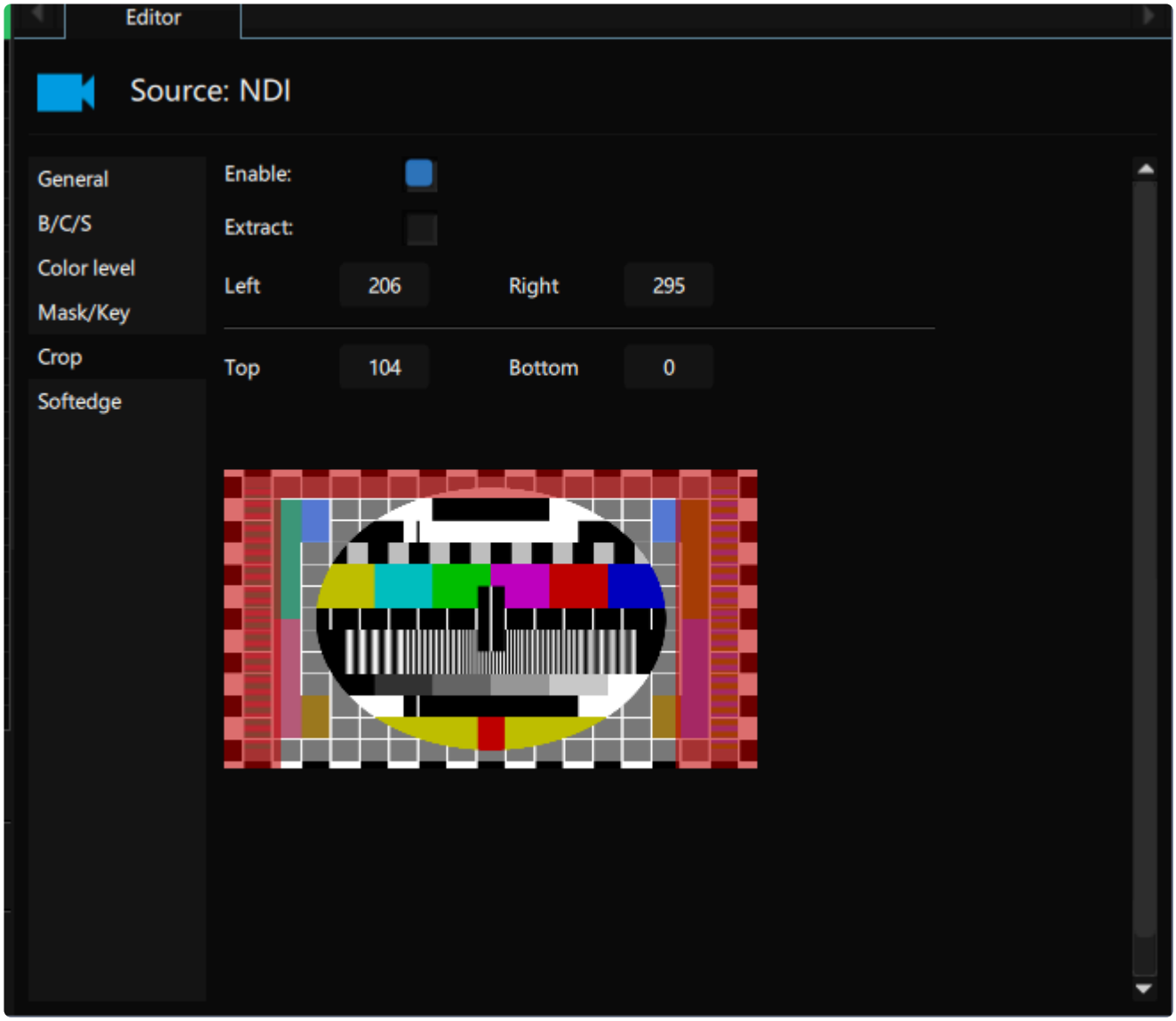
Chrominance: choose the chrominance value to discard.
Chrominance Tolerance: allow a more larger chrominance value to discard.
Saturation Tolerance: allow a more larger saturation value to discard.
Value Tolerance: allow a more larger value to discard.
Smooth: smooth the border to avoid a hard edge



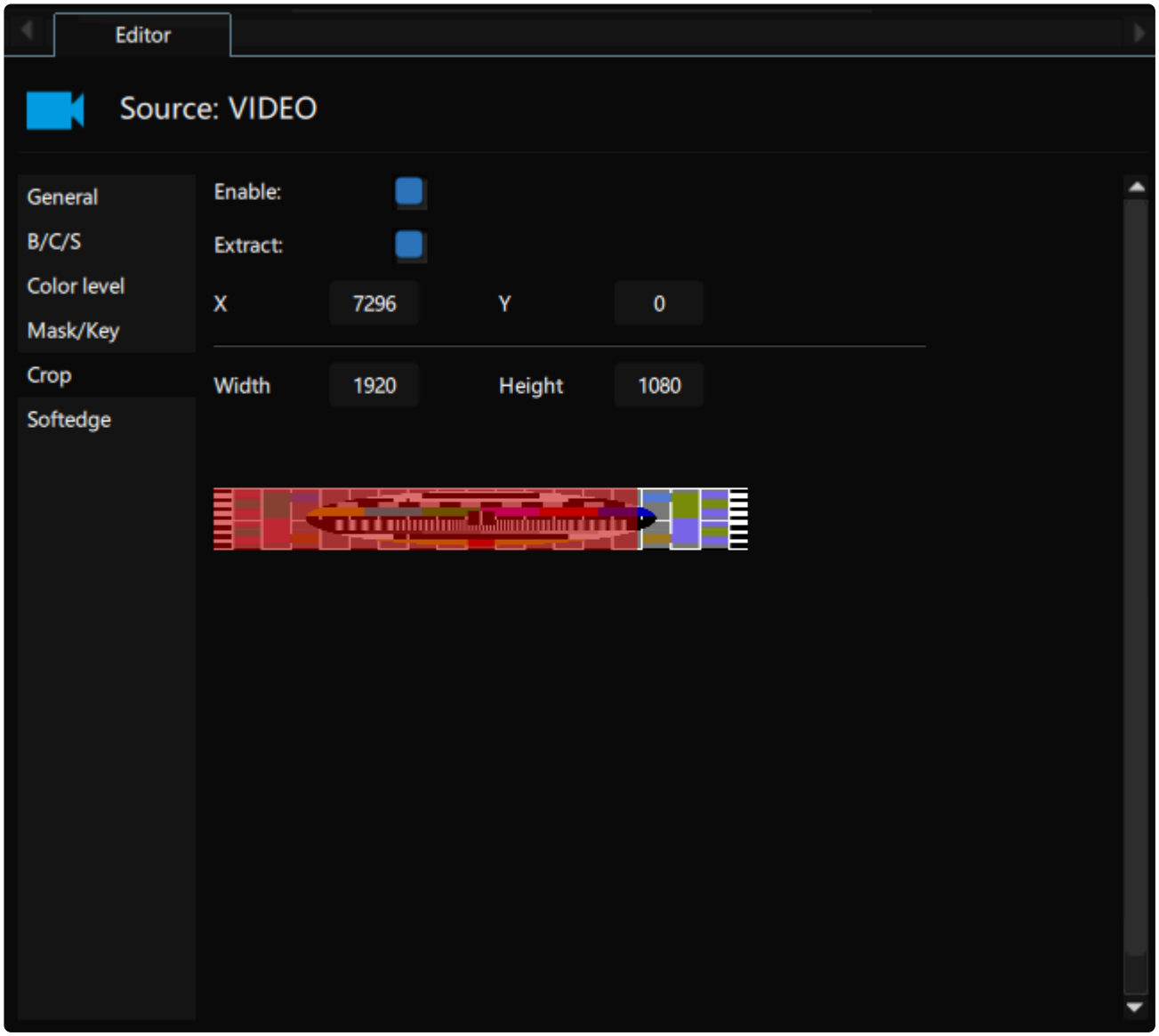
Crop:

You can Enable/Disable this property clicking on the checkbox.

You have two way to crop an image, the common way when you don’t enable Extract mode:

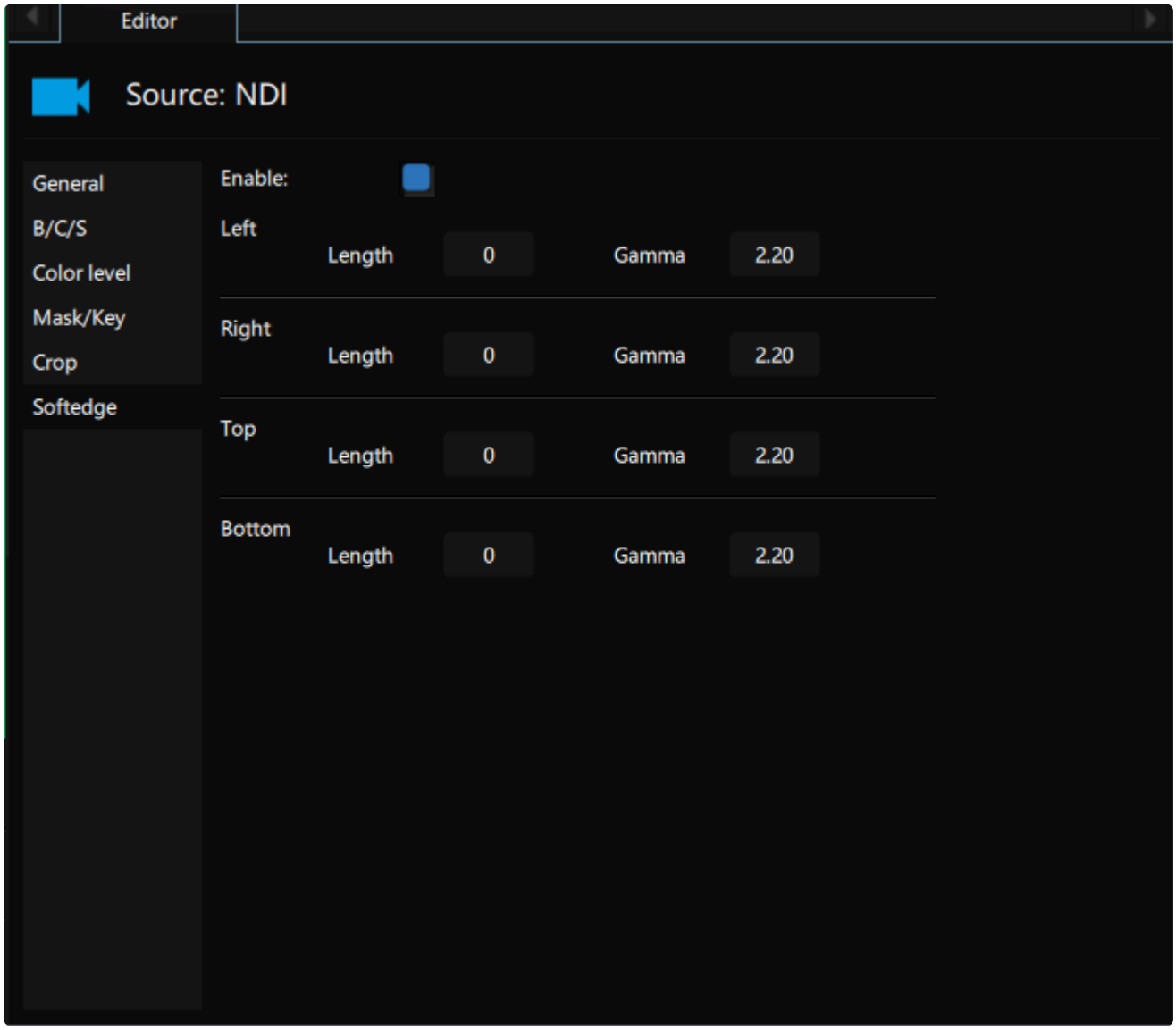


The extract mode that allows you to enter the extract view in Left-Top/Size coordinate. It’s usefull when you want to use a part of the background as a source.

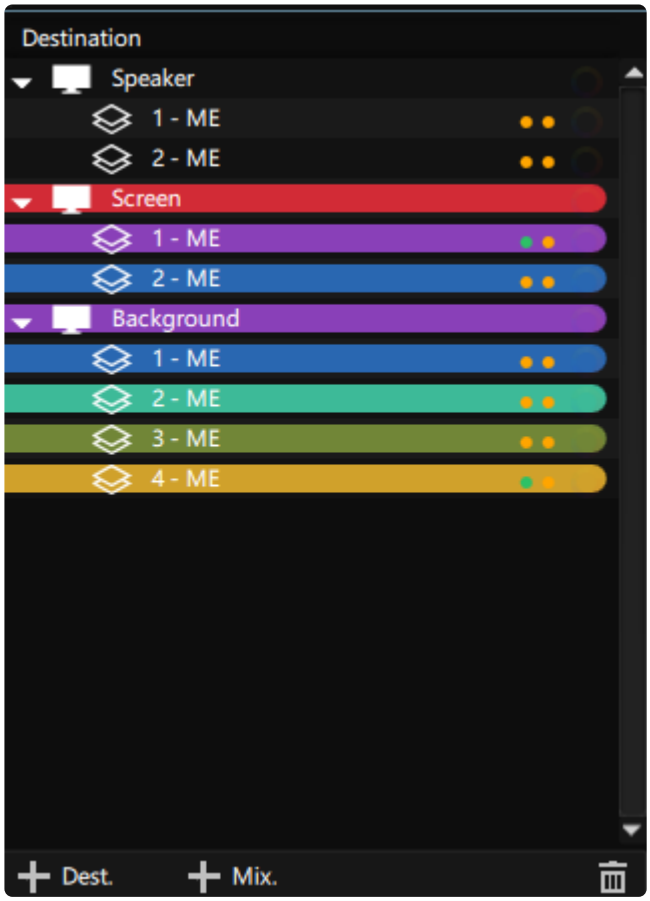


Softedge:

You can Enable/Disable this property clicking on the checkbox.
You can adjust the lenght of the softedge and the gamma value per border.


Editor
Source: NDI
General
B/C/S
Color level
Mask/Key
Crop
Softedge
Enable:
Left
Length 0 Gamma 2.20
Right
Length 0 Gamma 2.20
Top
Length 0 Gamma 2.20
Bottom
Length 0 Gamma 2.20

Destinations



Destinations

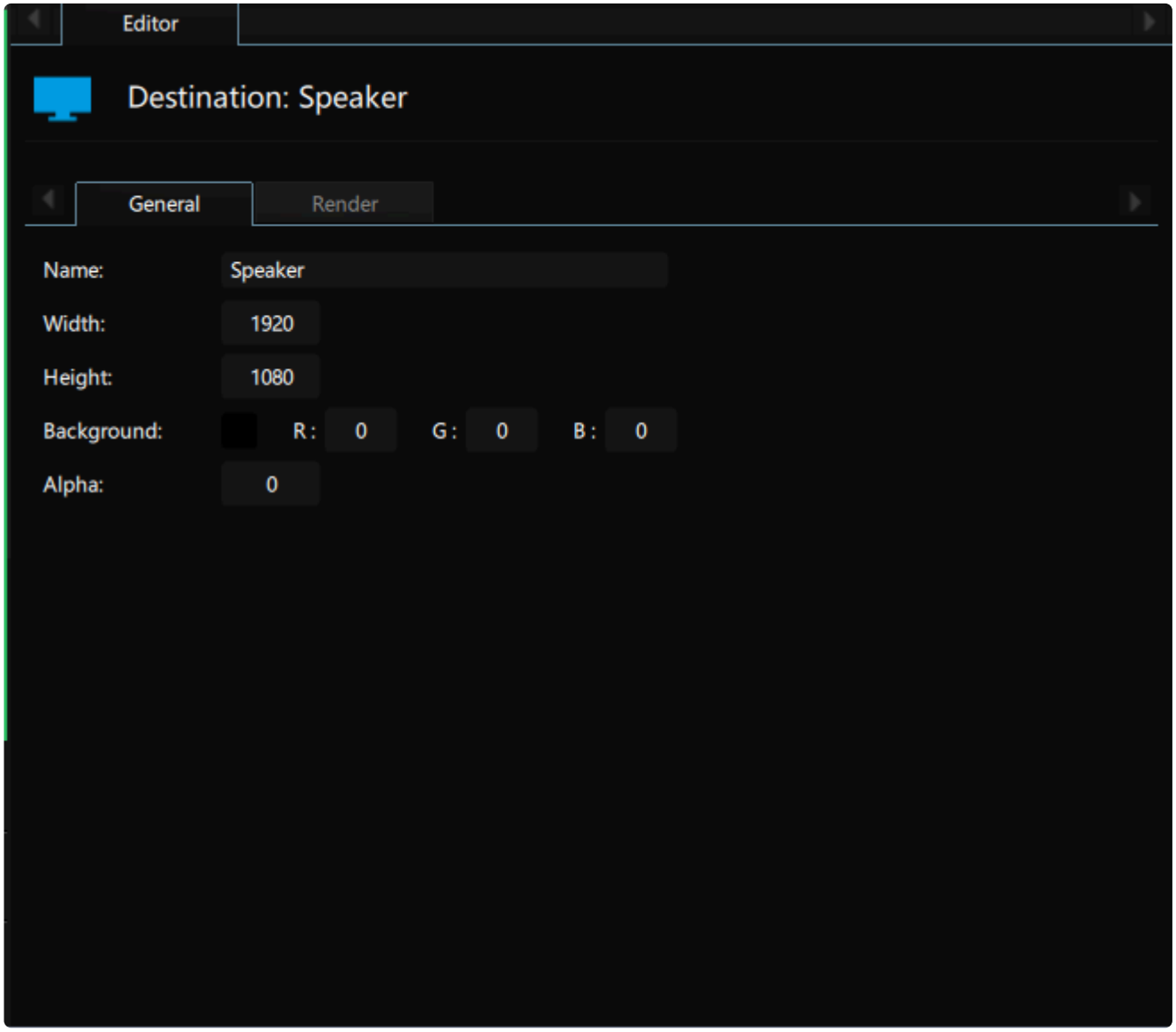
You can create any number of Destinations.
Each Destination can have any number of Mix/Engine (ME).
Each Mix/Engine is composed of two layers than can crossdfade from Preview to Program.

Click on the **+Dest** button to add new Destination in your project.
Click on the **+Mix.** button to add new a new Mix/Engine in a Destination.

Select a Destination or Mix/Engine and click on the button to delete respectively a Destination or a Mixe/Engine.

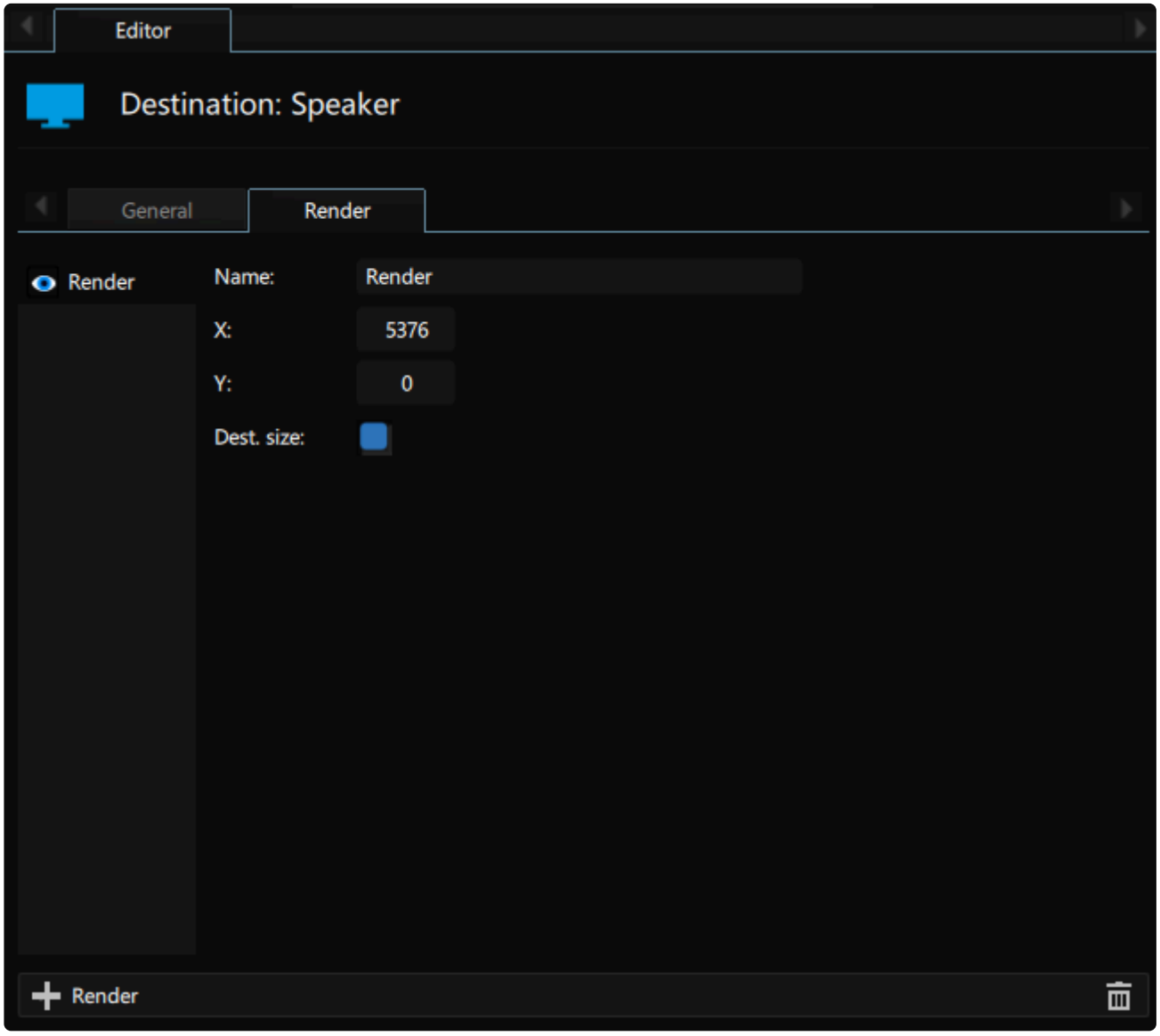
Click on a Destination to edit the settings in the editor:

General settings:



Name: name of your Destination
Width: width of your Destination (max 16 384 pixels)
Height: height of your Destination (max 16 384 pixels)
Background: it’s the background color if the alpha of your Destination is not transparent.
Alpha: Alpha value of the Destination. By default, the Destination is transparent, meaning that you can add PIP on top of your background.

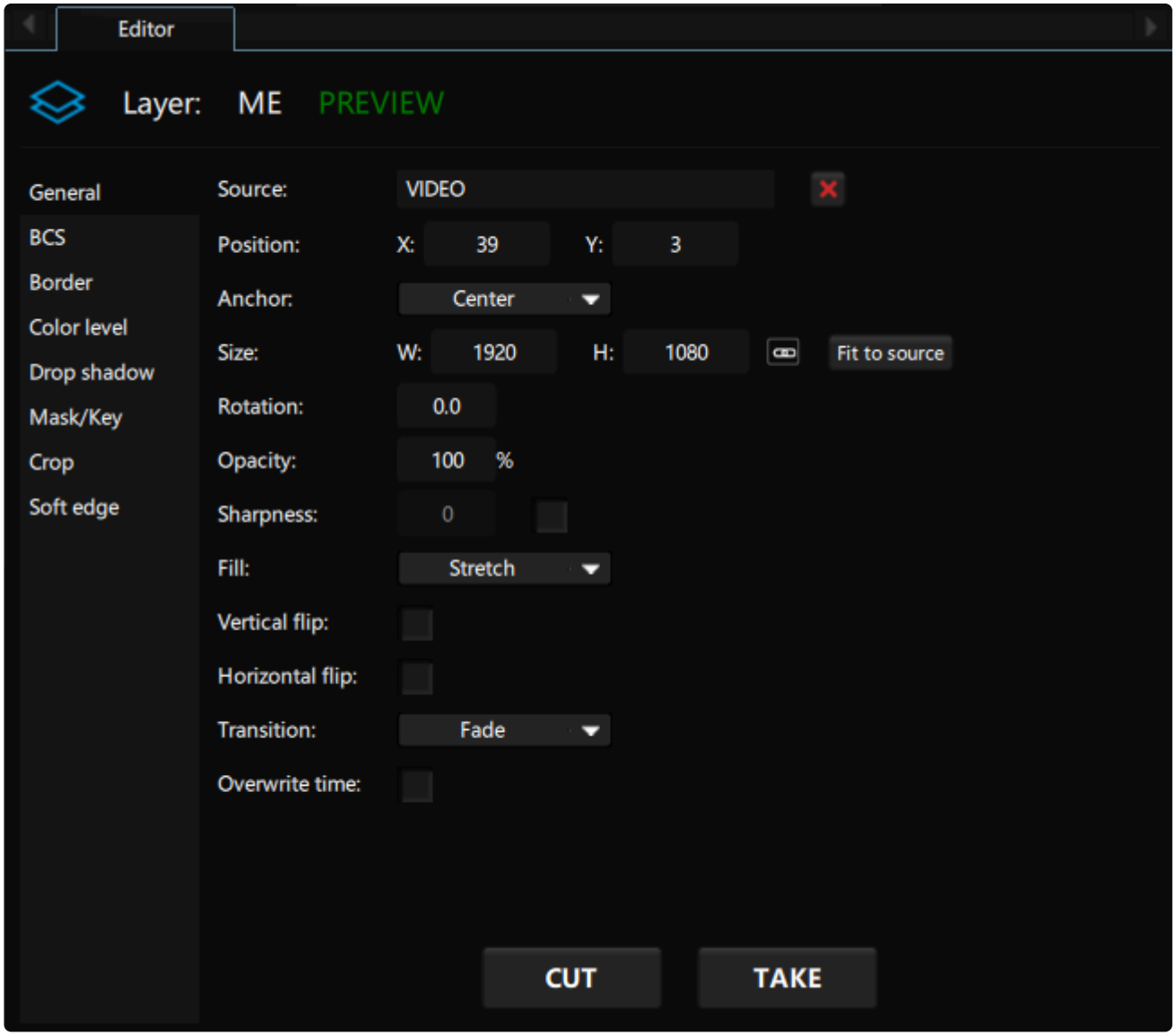
Render Settings:



Click on **+** to add a Render. You need at least one render to have your destination visible in the Modulo Player. Most of the time you will only create one with size corresponding to Destination Size.
X,Y: top left position of your Destination in the Pixel Workspace of the Modulo Player.
You can create other Render for example if you want to send stretched version of the Destination in a Return output.

Layers:

General:



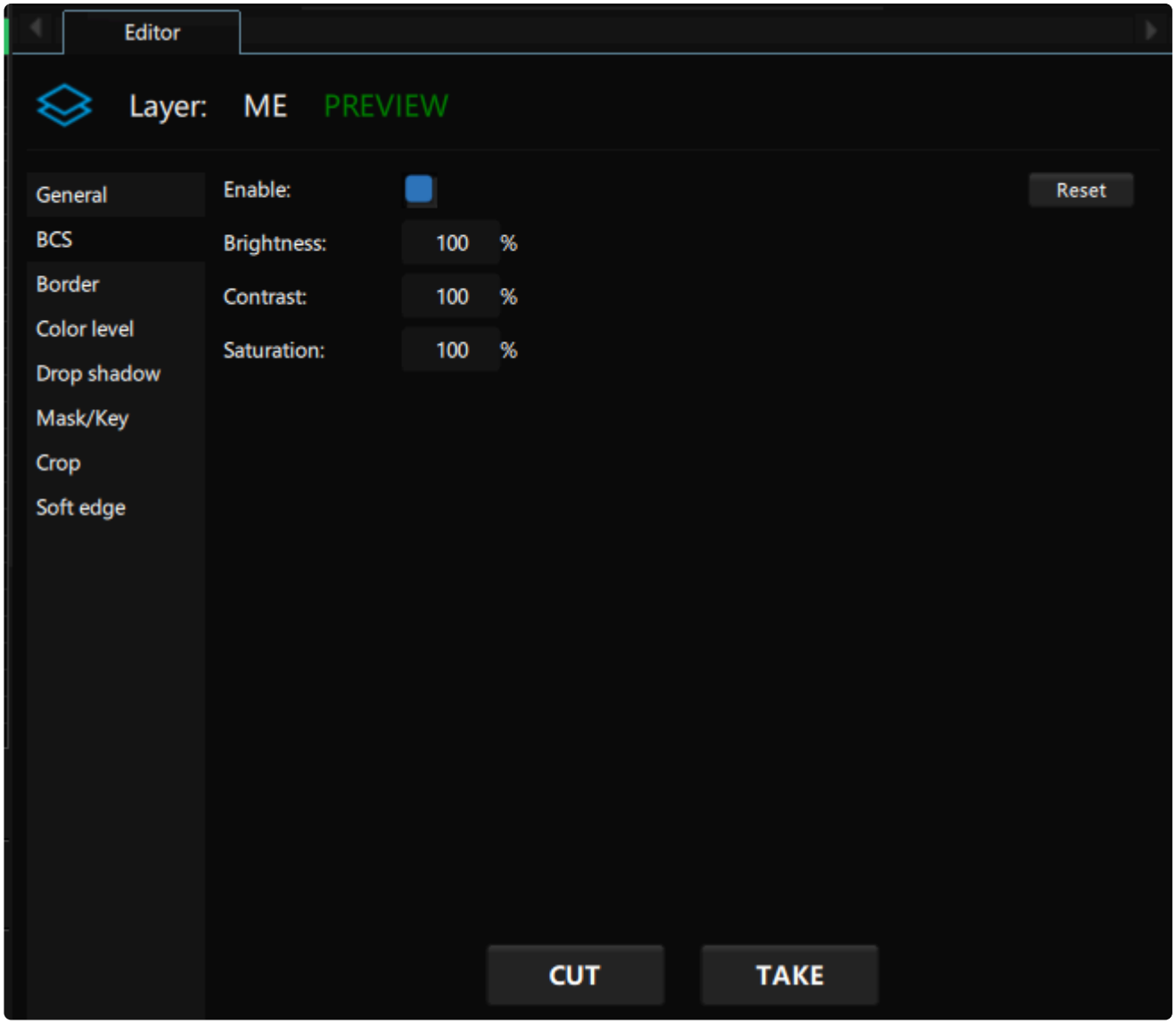
Source: drag&drop the source on this area.
Position: position of the layer
Anchor: anchor of the layer
Size: Size in pixel of the layer. You can clik on “Fit to source” to adjust the size of the layer with the size of the source
Rotation: rotation angle in degree
Opacity: opacity of the layer
Sharpness: You can add a sharpness to reinforce the edge of your layer
Fill: Size mode when the size of the layerdon’t match with the ratio of the source (Stretch/ Horizontal fit/ Vertical fit)
Vertical flip: flip the source vertically
horizontal flip: flip the source horizontally
Transition: the transition mode when the layer go from Preview to Program (Cut/Fade/Flying)

Overwrite time: if enable, enter the Transition time and this time will replace the default preset Transition time for this layer

B/C/S:

You can Enable/Disable this property clicking on the checkbox.

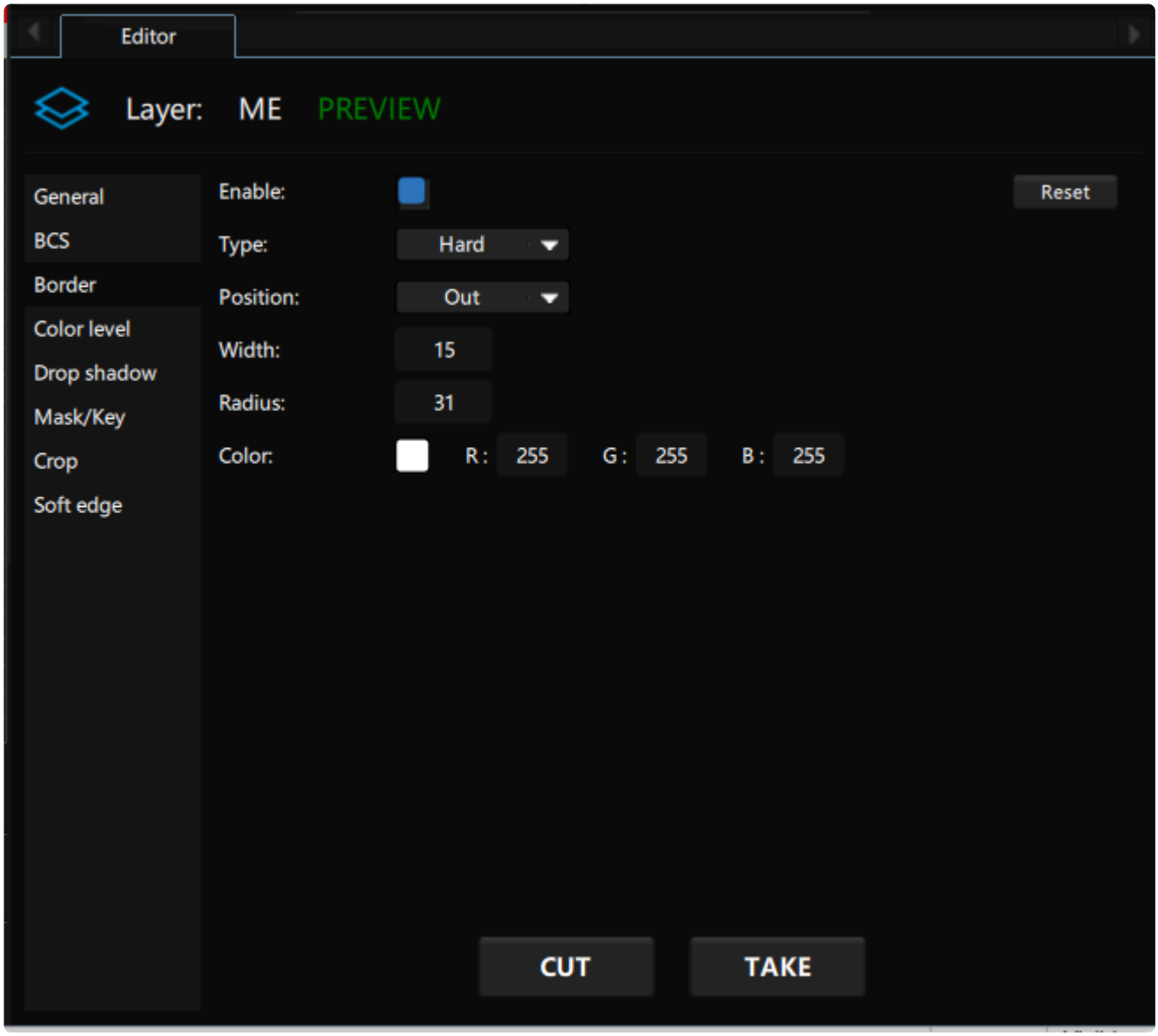
Brightness/Contrast/Saturation values are in percent mode. 100% means a neutral value.



Border:

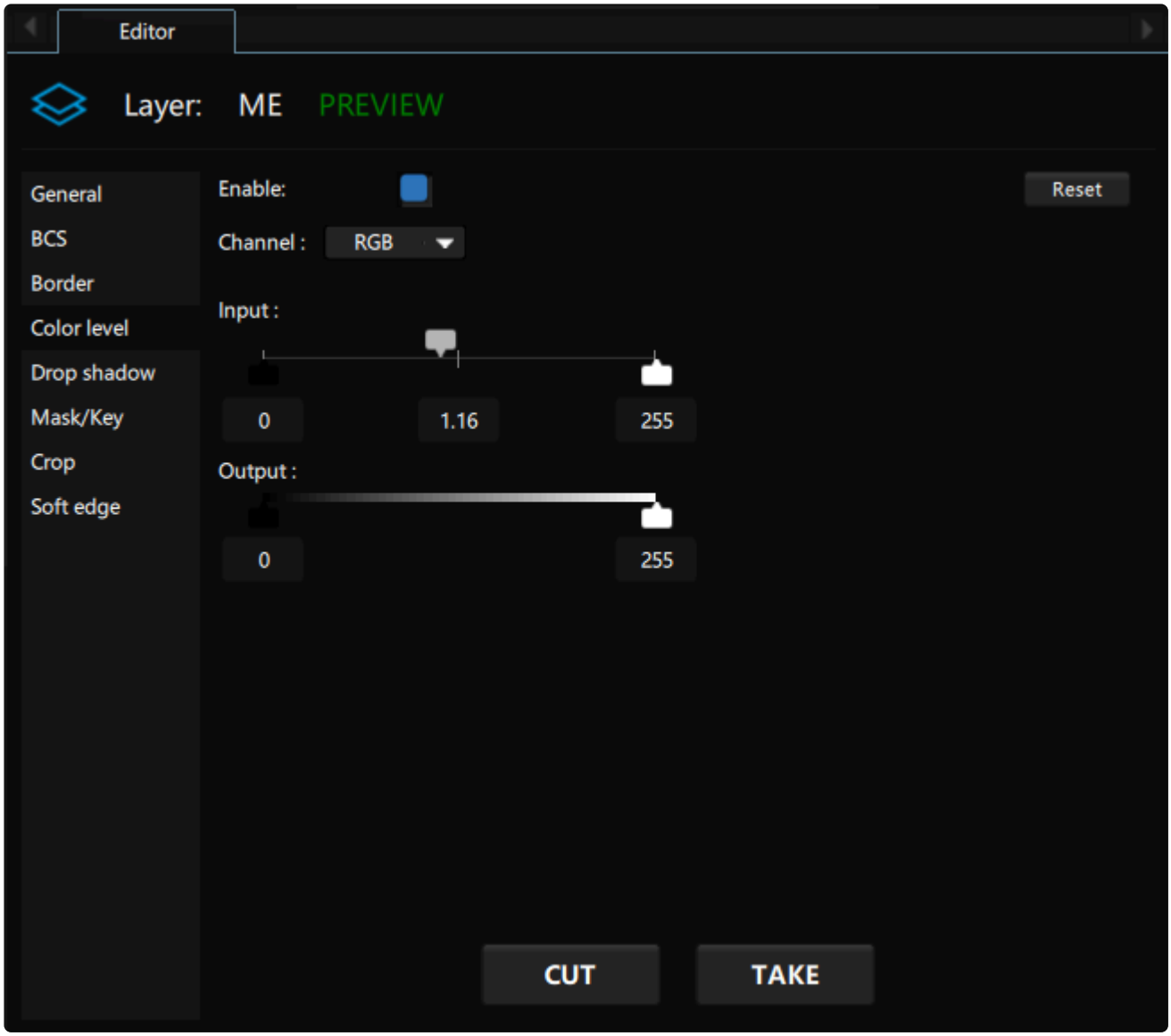
You can Enable/Disable this property clicking on the checkbox.
You can adjust theses properties:
Type: Hard or Soft (smooth)
Position: In (full border inside the Image), Center (half in the image, half outside), Out (border around the image).
Width: pixel width of the border
Radius: amount of roundness of the edge

Color: color of the border



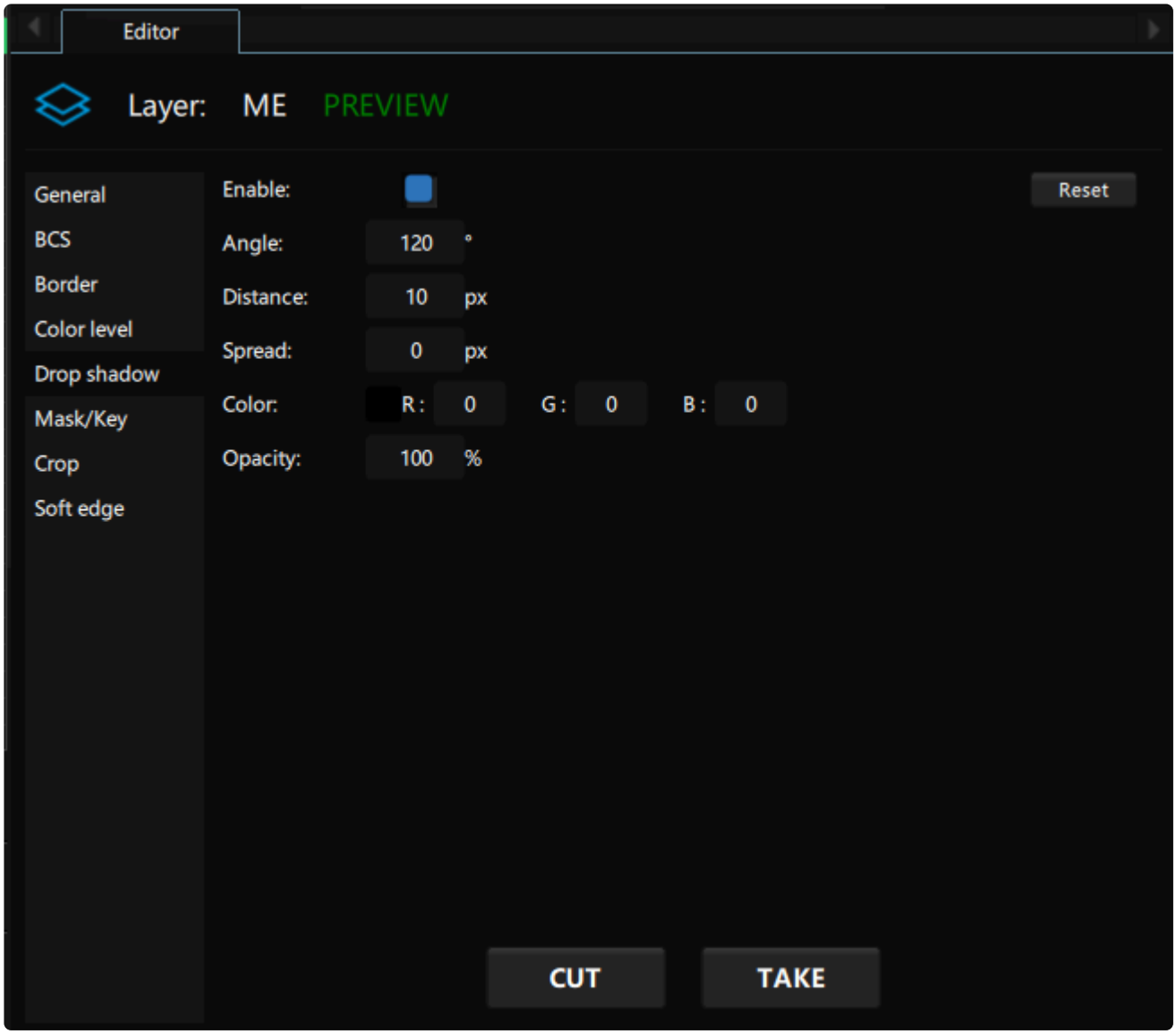
Color level:

You can Enable/Disable this property clicking on the checkbox.
The color level allows you to adjust RGB level for global RGB and channel by channel.



Drop shadow:

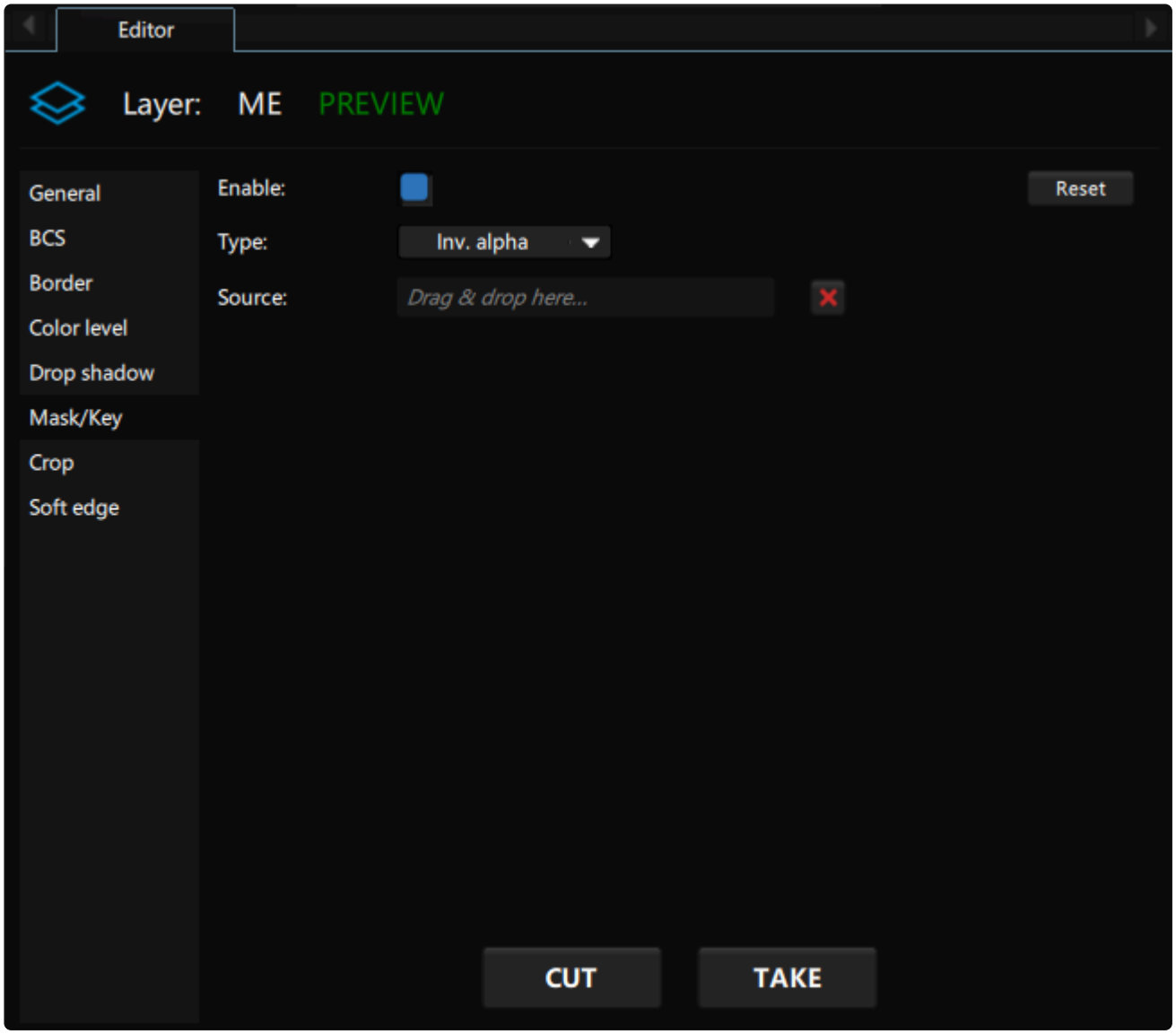
You can Enable/Disable this property clicking on the checkbox.
You can adjust theses properties:
Angle: angle around the center of the media
Distance: distance outside of the border regarding the media
Spread: allow a kind of smooth
Color: color of the drop shadow
Opacity: opacity of the drop shadow



Mask/Key:

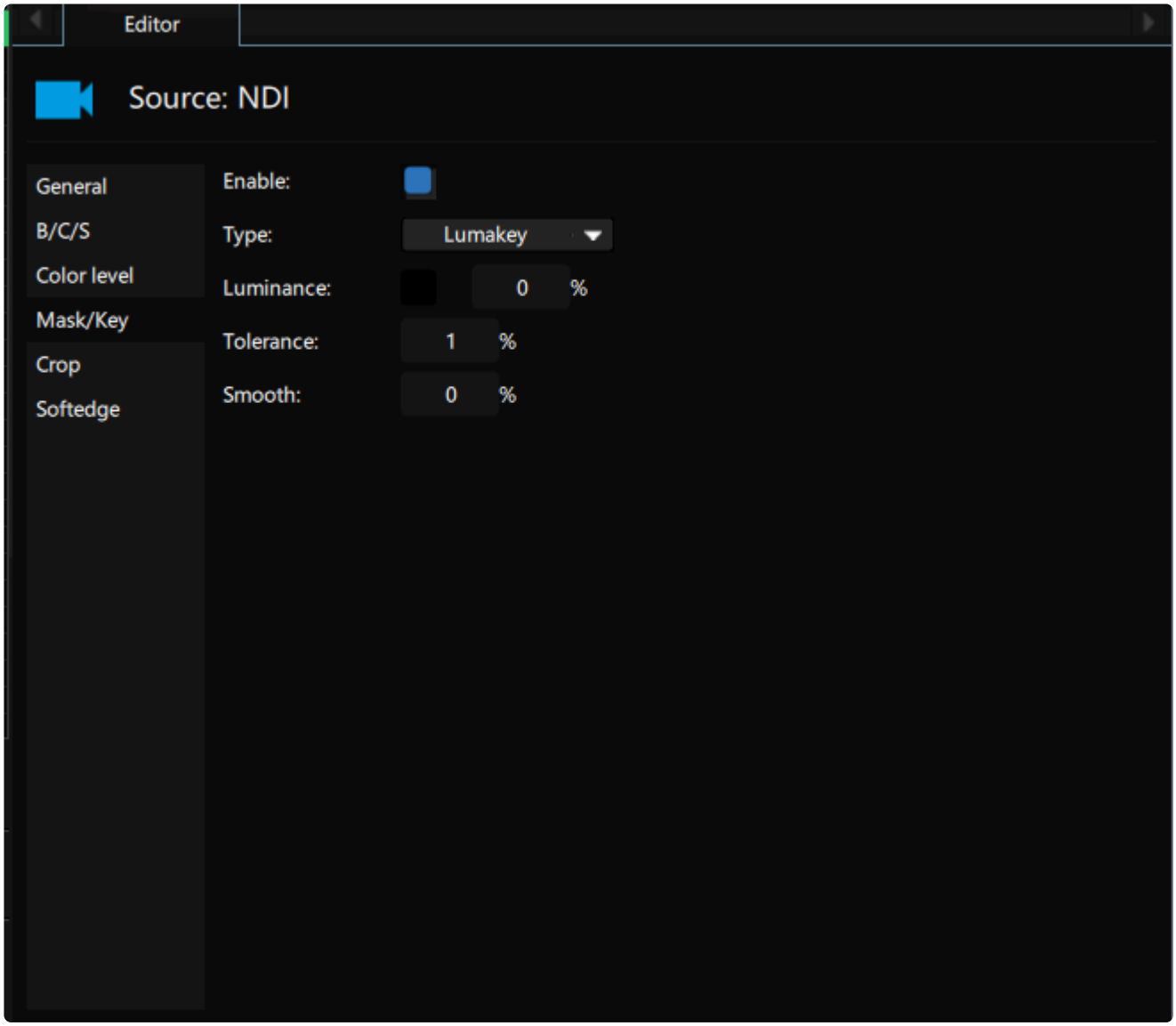
You can Enable/Disable this property clicking on the checkbox.

Choose the Mask/Key Type:
Alpha: use a live source as mask in Alpha mode. If the mask source has a pixel transparent, your resulting source pixel will be transparent, If the mask source has a pixel with full alpha, the resulting source pixel is unchanged.
Inv Alpha: use a live source as mask in inverted Alpha mode. If the mask source has a pixel transparent, your resulting source pixel will be unchanged, If the mask source has a pixel with full alpha, the resulting source pixel is transparent.
Grey: use a live source as mask in grey mode. If the mask source has a pixel black, your resulting source pixel will be transparent, If the mask source has a pixel with full white, the resulting source pixel is unchanged.
Inv Grey: use a live source as mask in inverted grey mode. If the mask source has a pixel full white, your resulting source pixel will be unchanged, If the mask source has a pixel with black, the resulting source pixel is transparent.



Lumakey: use the lumakey settings to do a real time lumakey filtering on your source.

Luminance: choose the luminance value to discard.
Tolerance: allow a more larger luminance value to discard.
Smooth: smooth the border to avoid a hard edge

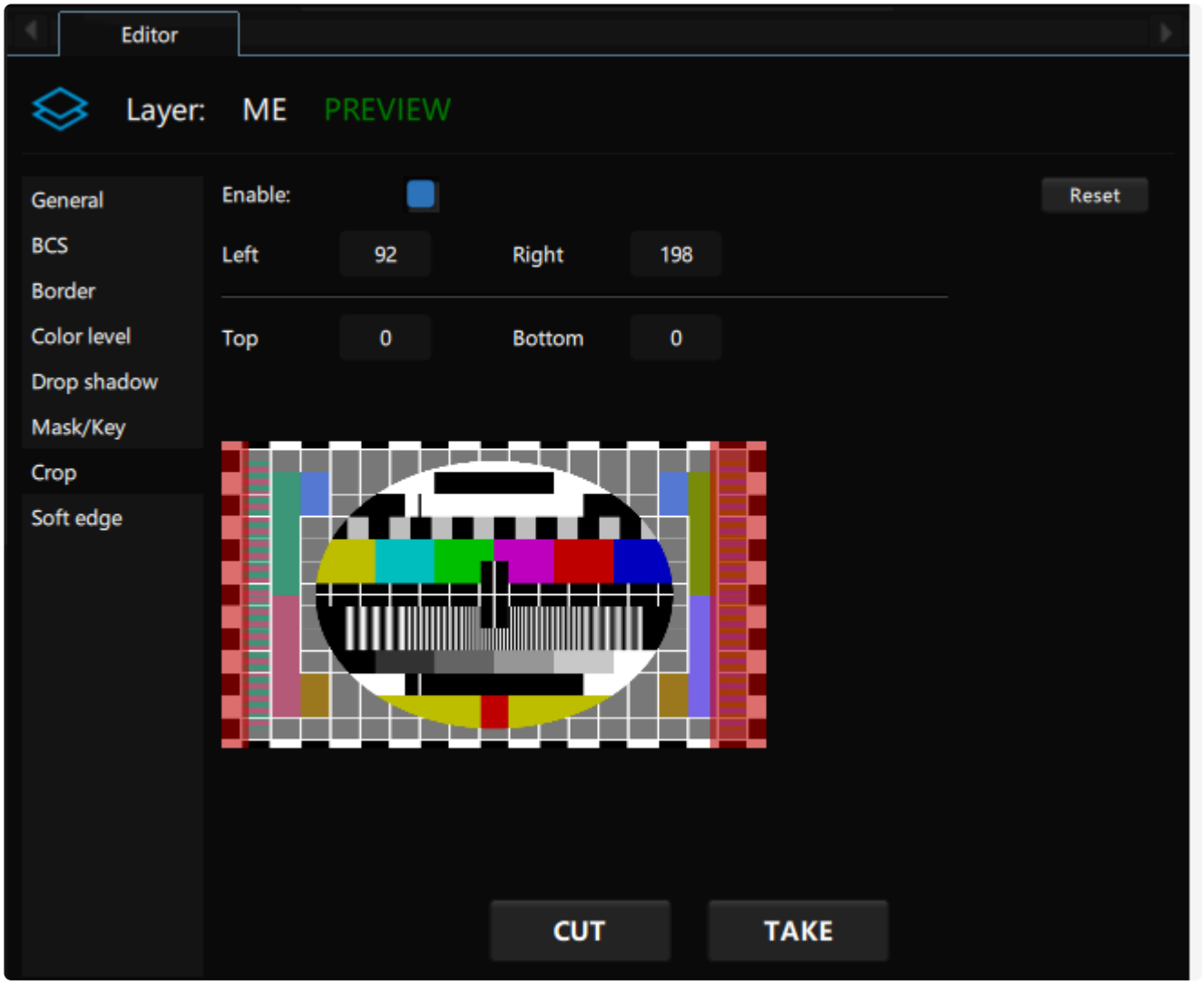


Chromakey: use the Chromakey settings to do a real time chromakey filtering on your source.

Chrominance: choose the chrominance value to discard.
Chrominance Tolerance: allow a more larger chrominance value to discard.
Saturation Tolerance: allow a more larger saturation value to discard.
Value Tolerance: allow a more larger value to discard.
Smooth: smooth the border to avoid a hard edge

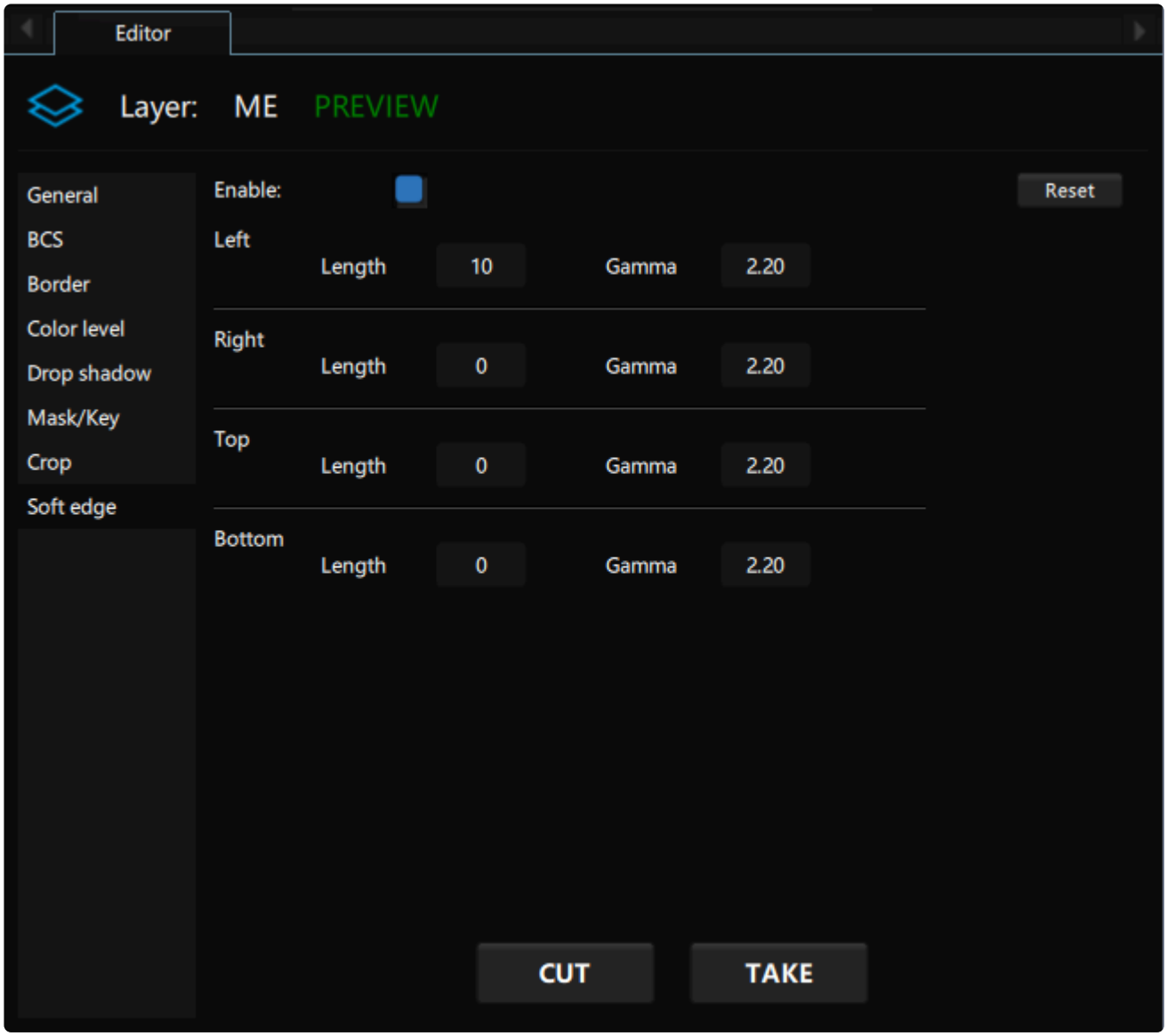
Crop:

You can Enable/Disable this property clicking on the checkbox.
You enter the number of pixels you want to crop on each border.

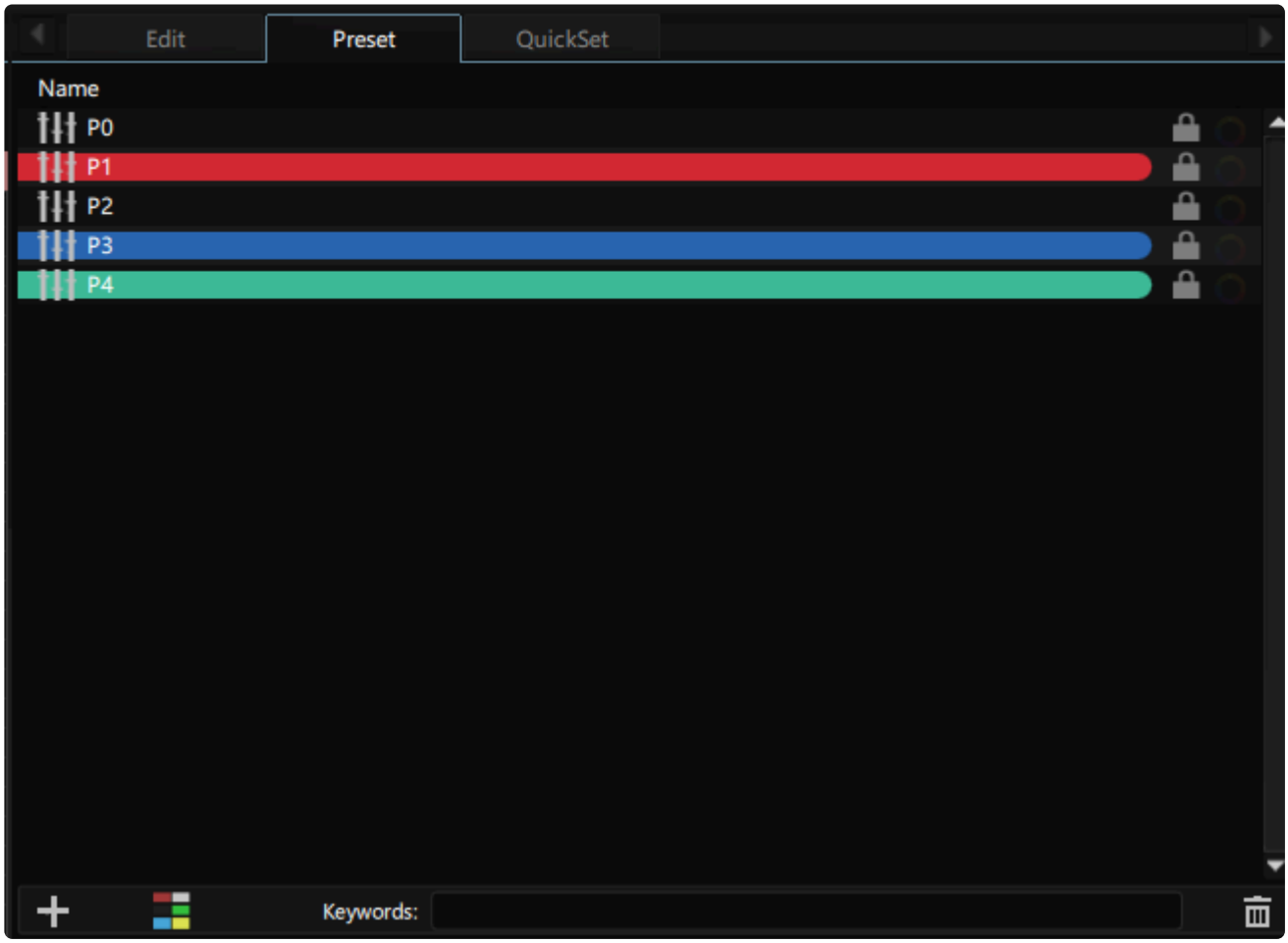


Softedge:

You can Enable/Disable this property clicking on the checkbox.
You can adjust the lenght of the softedge and the gamma value per border.


Editor
Layer: ME PREVIEW
General
BCS
Border
Color level
Drop shadow
Mask/Key
Crop
Soft edge
Enable:
Reset
Left
Length 10
Gamma 2.20
Right
Length 0
Gamma 2.20
Top
Length 0
Gamma 2.20
Bottom
Length 0
Gamma 2.20
CUT
TAKE

Presets



You can create any number of Presets.
The Preset allows you to store layers settings to recall to Program or Preview. You can additionnaly store a recall of a task.

Click on the **+** button to add new Preset in your project: It will create a Preset with the content of the PGM if the PGM is selected, or with the content of the PVW if the PVW is selected.
Only active Destinations are saved.
The global Transition time, the Task and the Partial Mode will also be store in this preset.

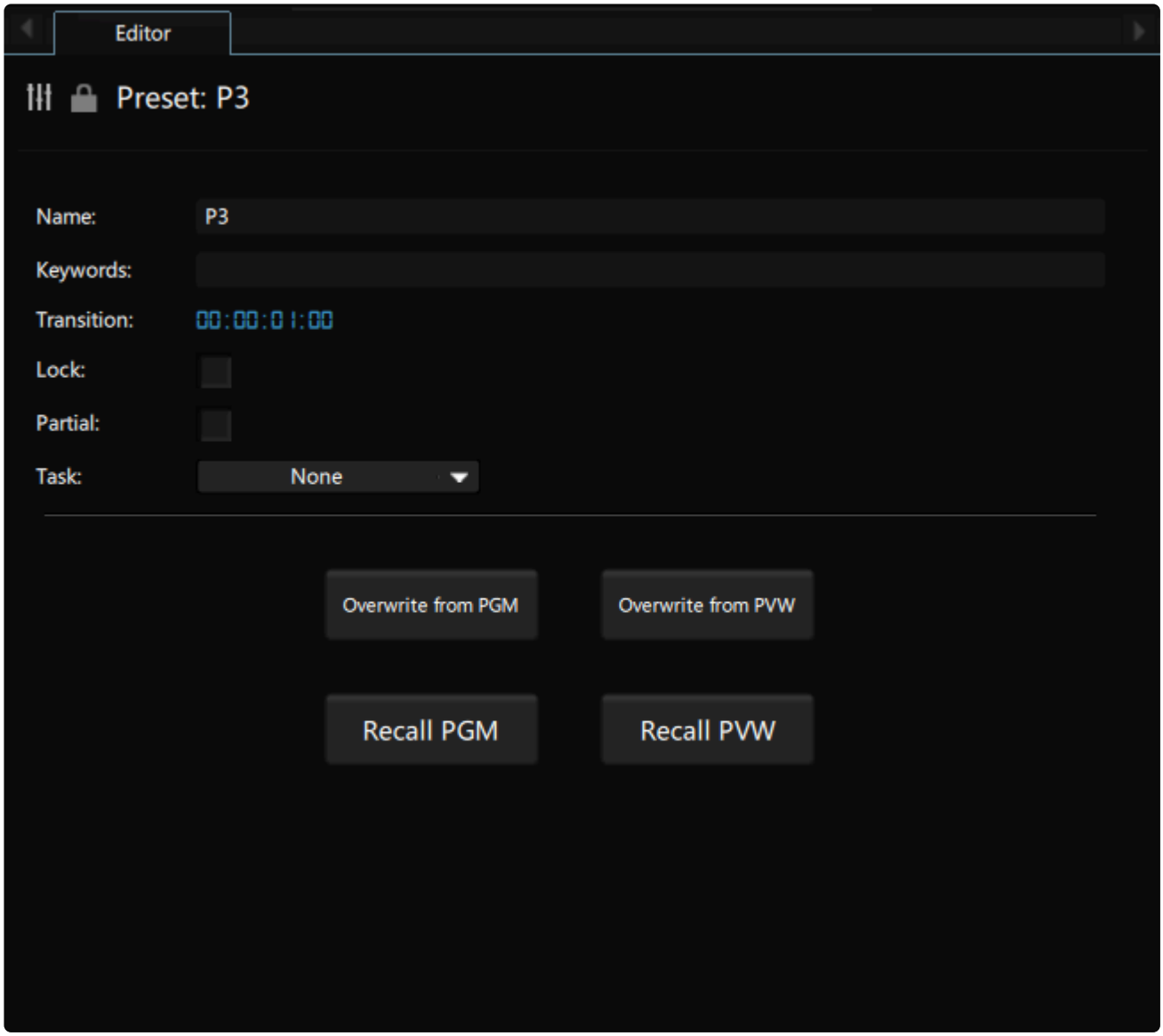
Click on the button to delete a source.

You can directly lock/unlock a preset to avoid to modify this preset by mistake.

You can duplicate a Preset with a right click on a source in the list.

You can drag a Preset in a Destination of the Preview or of the Program to recall the Preset to the Preview or the Program.

Click on the preset to edit the settings in the editor:

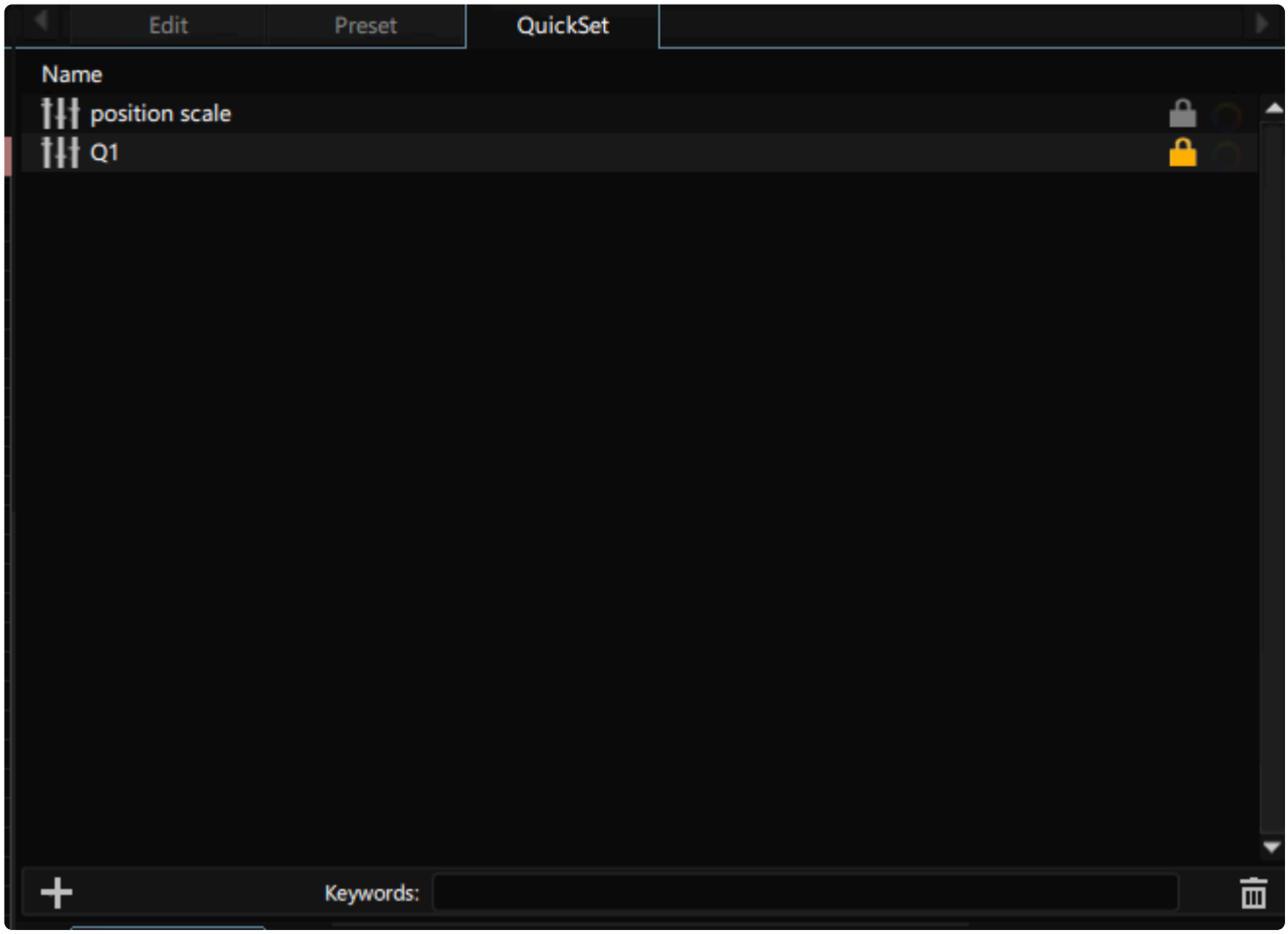


Name: name of your preset
Keywords: Allows you to filter the list of Presets by Keywords
Transition: it's the global transition time
Lock: allows you to lock the preset to avoid any modification
Partial: if this activated, only Mix/Engine recorded in the Preset will be changed. It allows you for example to add a Text on top of a Destination without changing other layers.
Task: You can recall a Task when the Preset is recalled to PGM (or recall to PVW With a consecutive Take after).

Overwrite from PGM: Overwrite the Preset with the content of the Program. Partial state/Task Recall are not overwritten.
Overwrite from PVW: Overwrite the Preset with the content of the Preview. Partial state/Task Recall are not overwritten.

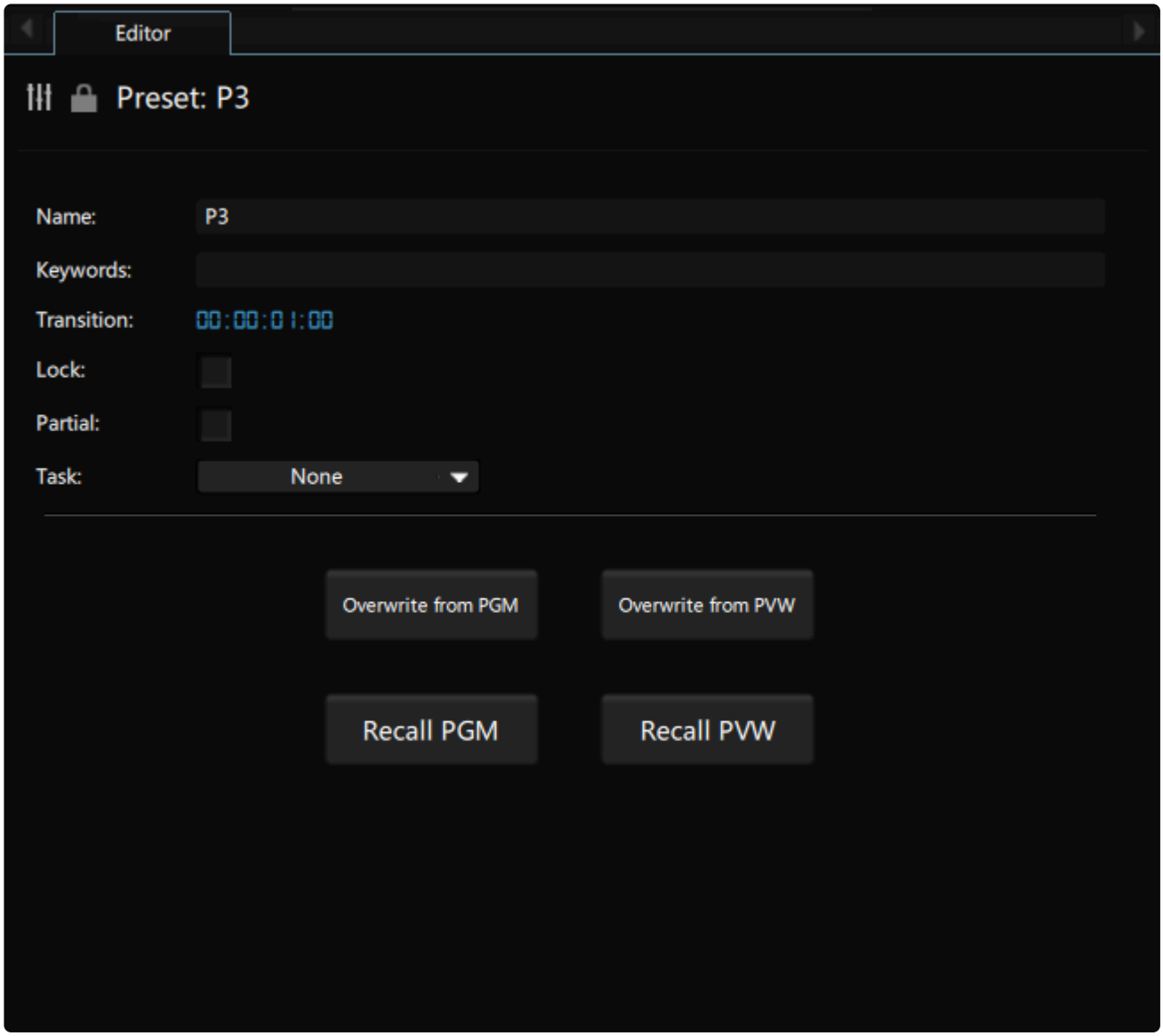
Recall PGM: Recall the Preset to the Program.
RECALL PVW: Recall the Preset to the Preview.

Quicksets



You can create any number of QuickSet.
A Quickset is a selection of parameters from a layer than can re-use by a drag&drop on a layer in the Preview or Program(if not locked). it allows you to save the most usefull layer settings to apply them quickly.

Click on the **+** button to add new QuickSet in your project: a popup dialog box allows you to choose the settings you want to save:

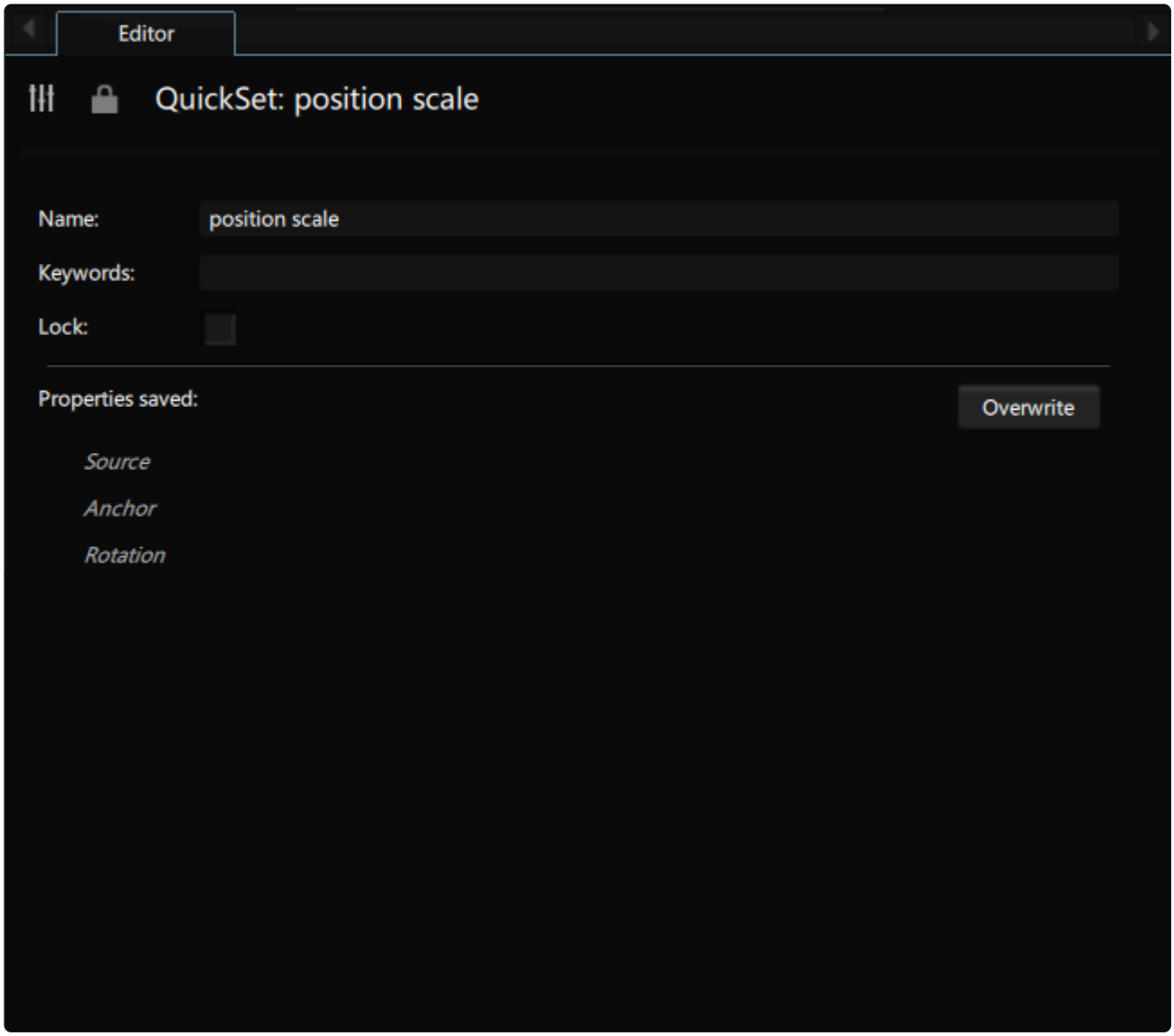


Click on the button to delete a QuickSet.

You can directly lock/unlock a QuickSet to avoid to modify this QuickSet by mistake.

You can duplicate a QuickSet with a right click on a source in the list.

Click on the QuickSet to edit the settings in the editor:



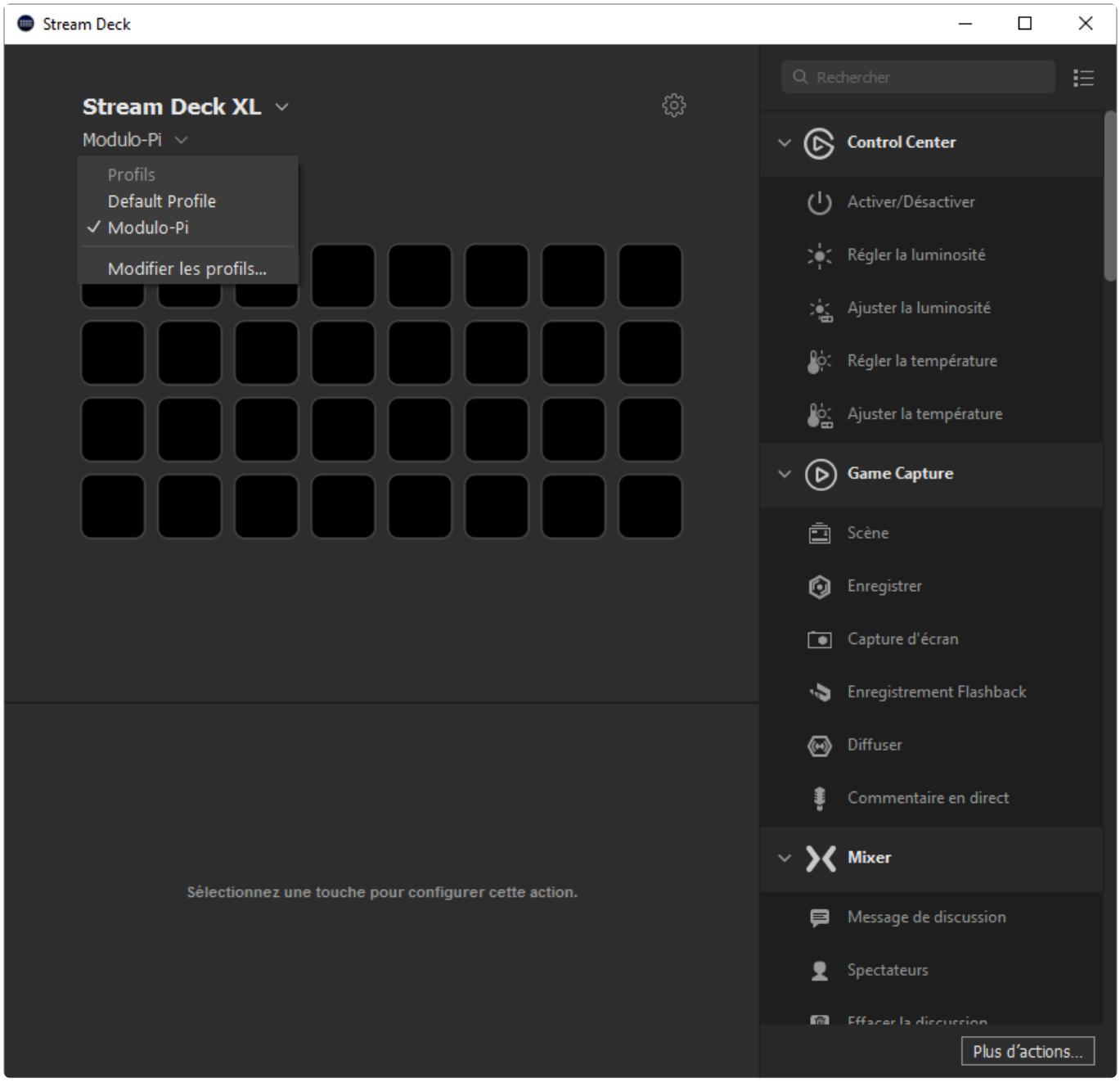
Name: name of your preset
Keywords: Allows you to filter the list of Presets by Keywords
Lock: allows you to lock the preset to avoid any modification
Properties saved: A list of properties store in this QuickSet

Stream Deck

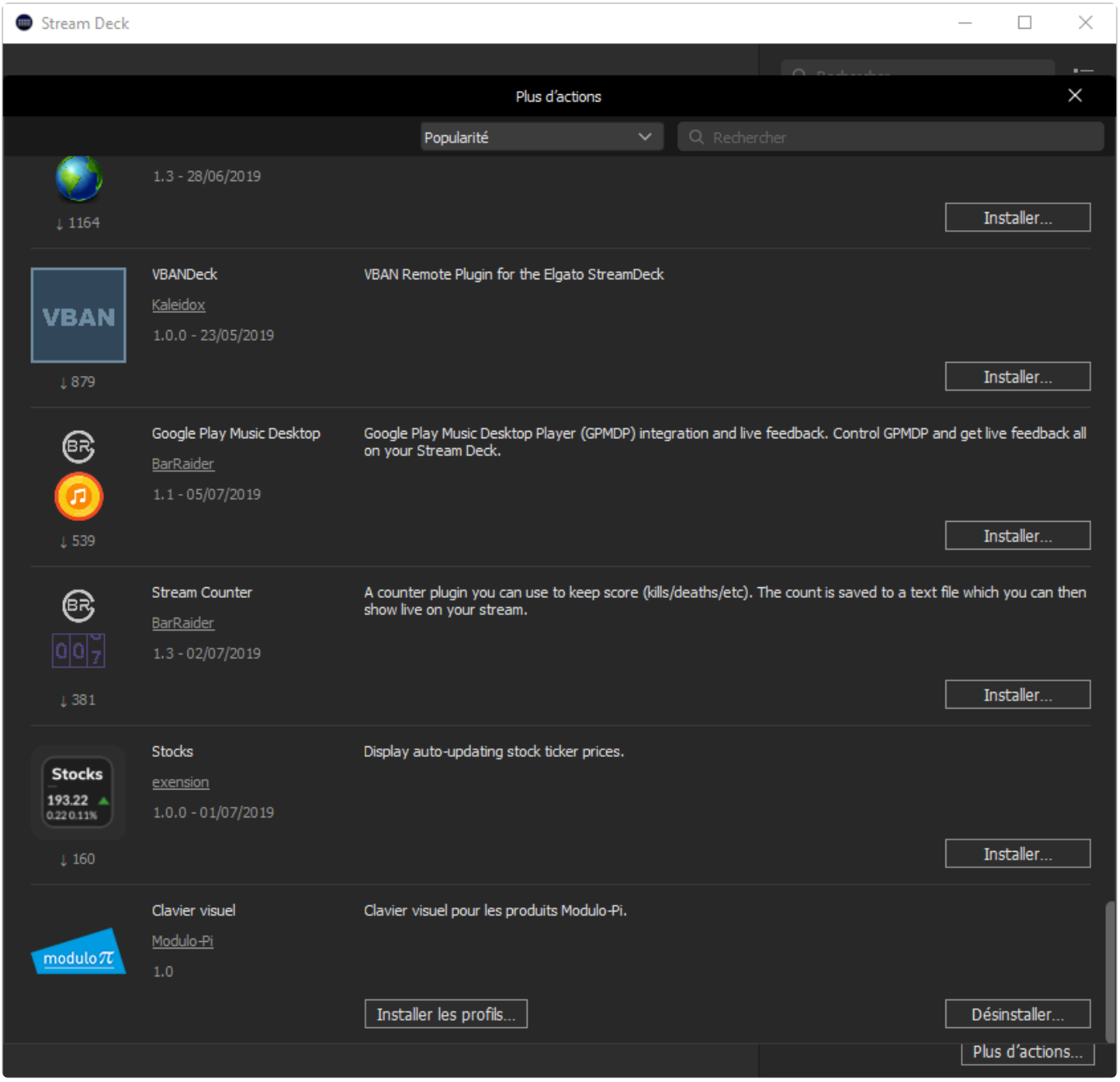
Stream Deck installation:

Go on the Elgato website to download the Stream Deck application.
Download and double click on the Modulo Stream Deck plugin (one unified plugin for all Modulo Pi applications supporting Stream Deck, compatible MAC and PC).
At the end of the installation, you will be prompted to install the profile: Choose Yes to install the profile.

Then, you can select the Modulo Pi profile and use it.



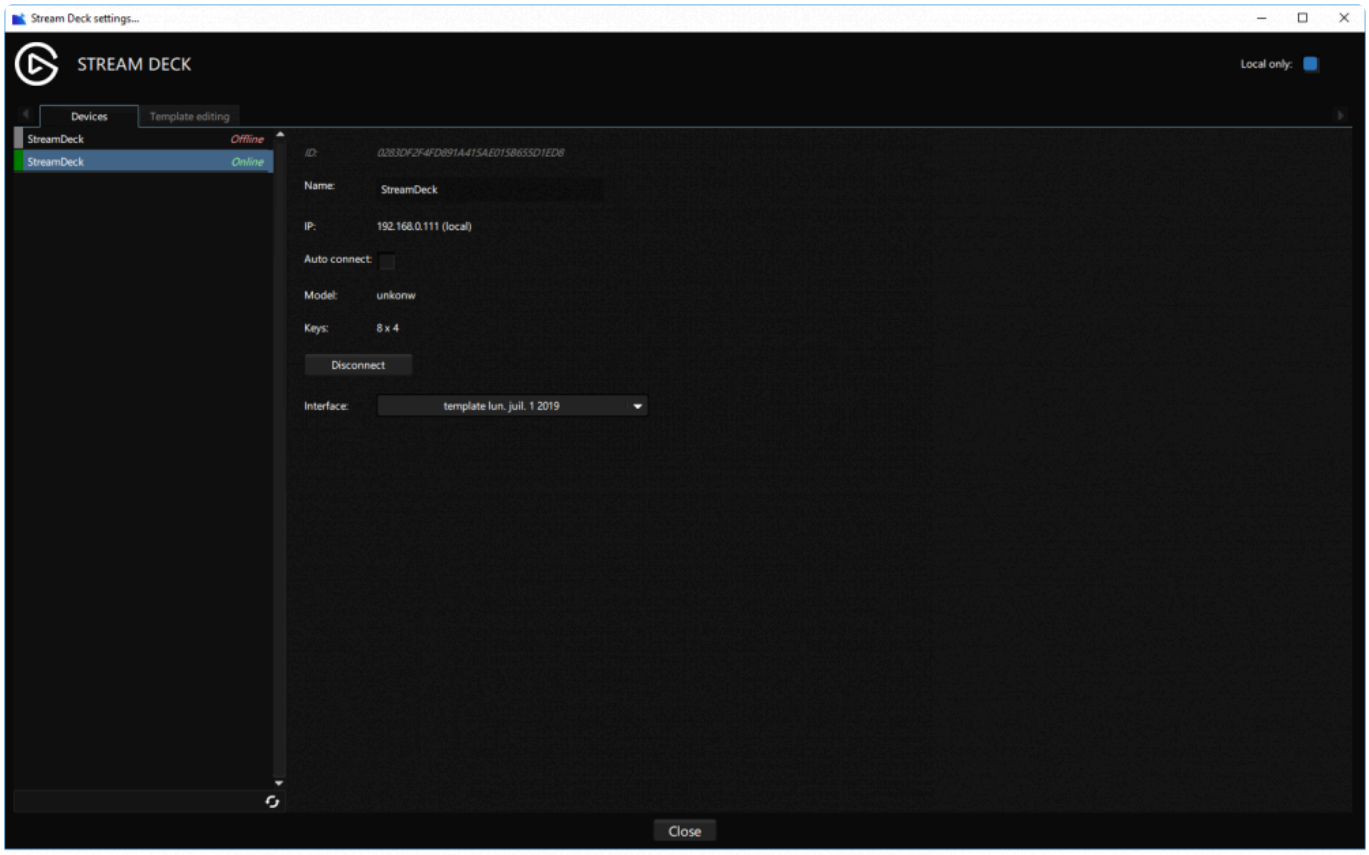
If the profile is not installed, go to “More action”, scroll to find the Modulo Pi Stream Deck plugin and re-install the profile.



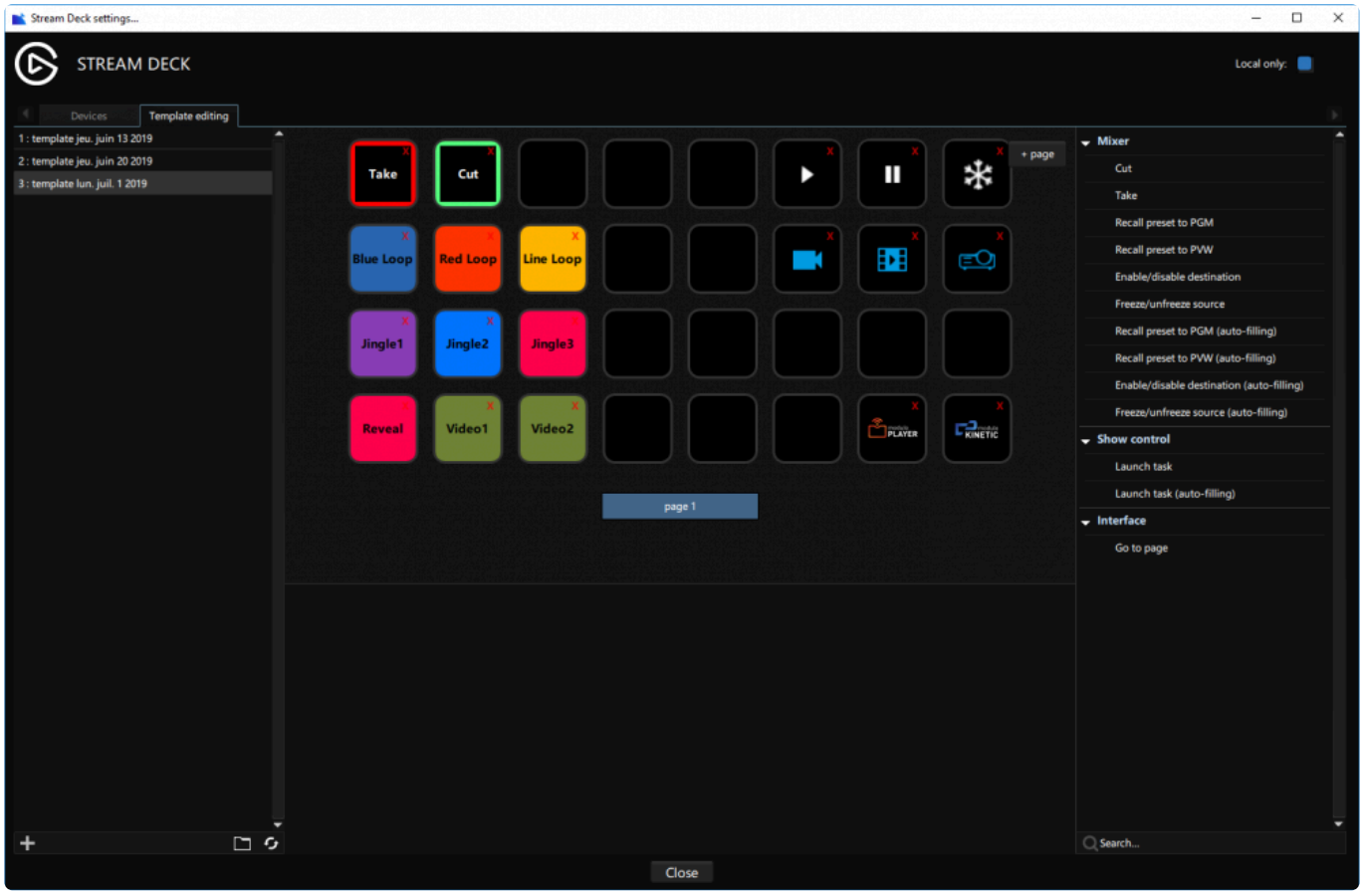
Modulo Player remote and Live Mixer:
Open the Modulo Player remote and go the menu list, choose Stream Deck.

Mixer:

select the menu “Edit” and choose “Stream Deck”. A window will popup:



On the first tab, you can list all available Stream Deck pads on your computer or a computer available in the network.



On the second tab, you can create your user interface template (You don’t need to have a physical Stream Deck connected to prepare a template).
It’s possible to re-use theses templates on project or share theses templates.

Click on the **+** button to create a new template. Choose the name of the template and number of columns and rows you have on your Stream Deck.
Select this template and drag&drop an action from the list in one button.

You have the following actions that you can drag:
Cut
Take
Recall preset to PGM
Recall preset to PVW
Enable/Disable destination
Freeze/unfreeze source
Recall preset to PGM (auto-filling)
Recall preset to PVW (auto-filling)
Enable/Disable destination (auto-filling)
Freeze/unfreeze source (auto-filling)

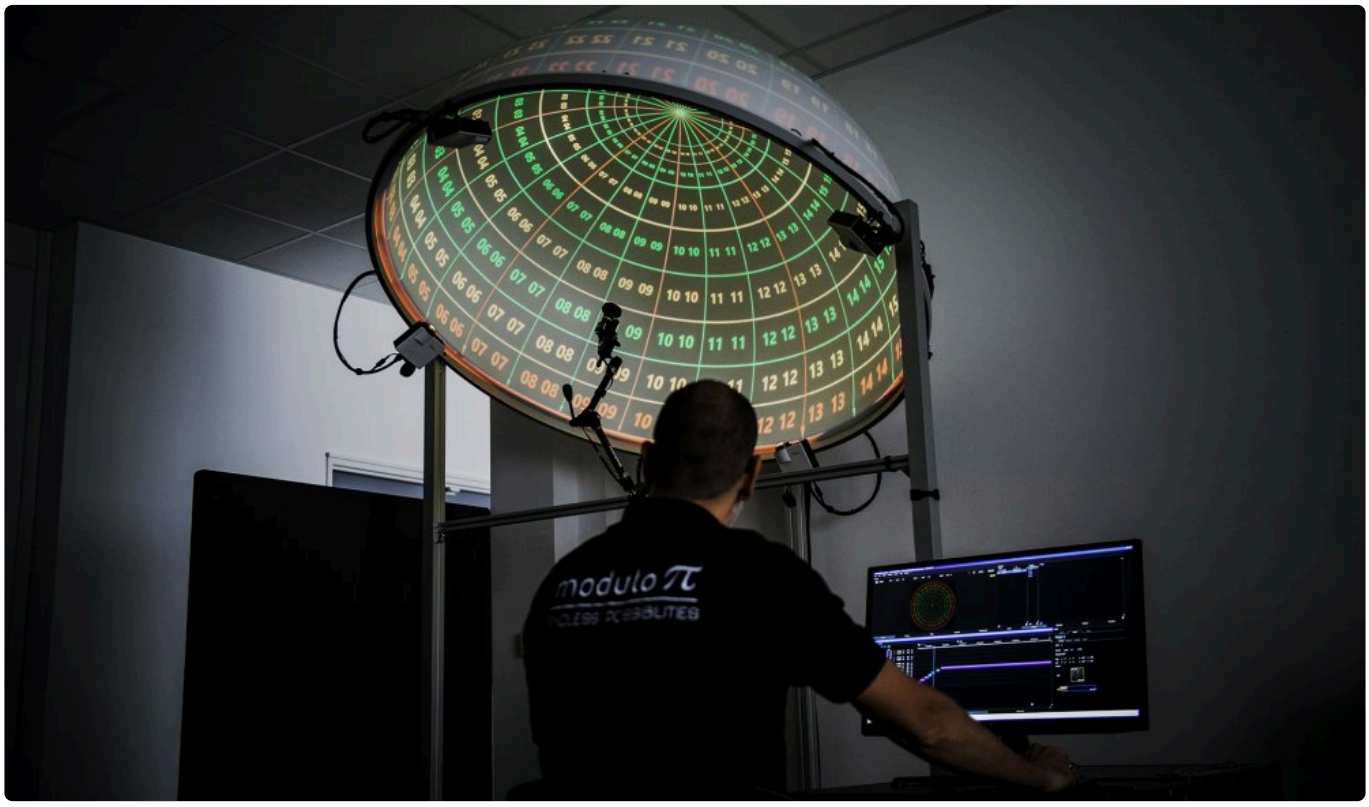
Launch task
Launch Task (auto-filling)

Go to page

If you select an action with auto-filling, it allows you to add a lot of actions in one click. A window will popup:
Choose the Method: the first icon indicate that when the auto fill reach a new lign, it will start from the first column.
the second icon indicate that when the auto fill reach a new lign, it will start on the same column that your initial button.
You can enter the start index: For example if you use this for Launch Task and enter a start index of 10, it means the first button will launch Task 10, the next one Task 11, …

Multi-projector auto-calibration

Multi-projector auto-calibration system by Modulo Pi



Achieve a perfectly warped and blended projection within minutes thanks to Modulo Pi's auto-calibration solution.
Available as an option for the **Modulo Player** and **Modulo Kinetic** series of media servers, the auto-calibration feature allows to automatically align multiple video-projectors on **planar, curved, and dome surfaces** for a pixel-perfect projection.

Developped by Modulo Pi, the auto-calibration module relies on PoE cameras for fast and simplified cabling.
Use one camera – not included – to capture your whole projection surface, and the auto-calibration module will do the rest. Your Modulo Pi media server will project a series of patterns, and video-projectors will automatically align in a few minutes.
The versatile masking feature included in the module ensures a perfectly fine-tuned projection.

With the auto-calibration option added in your Modulo Player and Modulo Kinetic media servers, you will benefit from **a reliable and significantly simplified workflow**. Using our media servers equipped with the auto-calibration option, **get a high-precision edge blending, warping, and play your content within minutes, and with zero latency.**

For more details, see the **auto-calibration specification sheet**.

Auto-calibration software

To find out more about the multi-projector auto-calibration module, please visit this section.

Hardware

DisplayPort Adapter

DP to DVI or HDMI :

You need to use active adapters to convert from DisplayPort to another format (for example HDMI or DVI).
To avoid tearing in the video ouputs, please make sure you only use one type of adapters per server (the exact same type of adapter for every output of one server).

We recommend the following Startech adaptors :
DP to DVI single link DP2DVIS
Mini DP to DVI single link MDP2DVIS
DP to HDMI 2.0

SDI outputs :

If you want to output in SDI 3G, the best option is to use a DP to HDMI 2.0 converter with an AJA mini converter for instance HA5-4K that will split your 4K in 4 SDI 3G.

Driver update

Graphics card

Here is the link to the most recent and tested Amd Graphics cards driver. We recommend to use this driver, and never update if there is not a valid reason.

Windows Seven Embedded (x64):

Here is the link to the drivers.

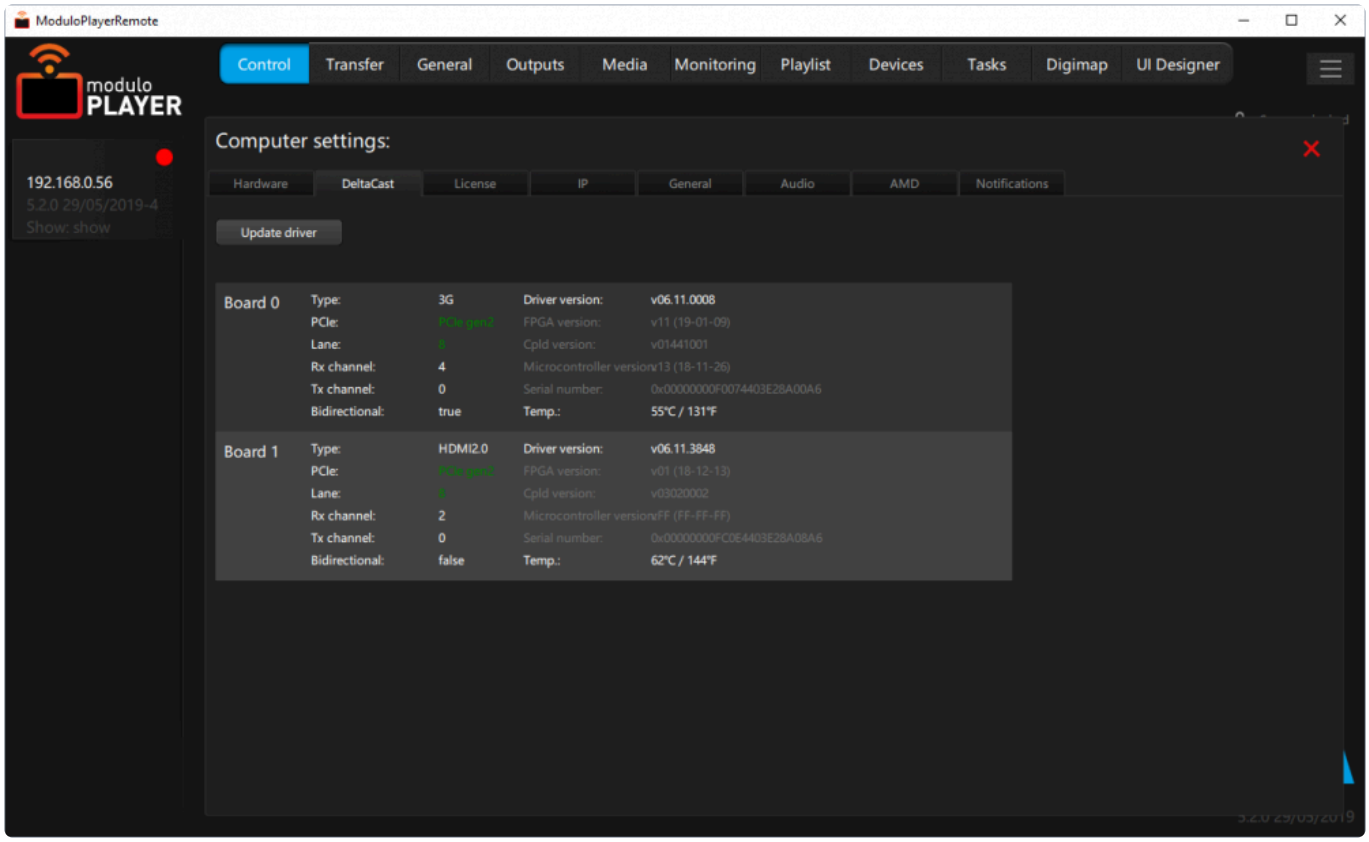
Windows 10 ×64 LTSB:

Here is the link to the drivers.

Deltacast

To check that you have the good drivers:

Go on tab Control, click on “settings”, go to Deltacast tab:



This panel lists the available Deltacast live capture cards when they are properly installed on your system.
You can validate that your cards are installed on the right slot with appropriate settings in BIOS.
To have good performance, check that the value for field PCI and lane are in green. If you have any issue, please contact the support team.
Check that the temperature is not too high.

You can use this panel to install or update the Deltacast driver.

If you see a warning with “Driver/DLL mismatch”, just update the Deltacast driver with the button “update driver”.

✻ Updating the Deltacast driver: click on the button “update driver”.
A Windows popup asking to allow a non-certified driver may appear on screen (make sure to check all screens when on multiscreen setup!).
Please wait until the installation is finished (do not reboot before it is over). Sometimes, the driver updates the fimrware of the capture card and you need to wait before rebooting.

! Always use the driver integrated in Modulo Player application.
NEVER install a driver directly from the Deltacast website.
Both the driver and application version need to match to work properly.

Issues and need to do a manual installation: Go to Device manager, click on the Deltacast item in the list (or multimedia uninstalled item), then choose manual installation and go to c:/Program Files(X86)/Modulo Player/drivers.

Companion Apps

Companion Apps

Modulo Player comes with a series of companion apps designed to further enhance your experience working with our media server:

- ModuloDMXTool: Send and receive Art-Net DMX from/to any device
- Modulo Panel: Access your custom user panels on Android or iOS devices, Mac or PC
- Modulo Shortcut: Take control of your Keynote or PowerPoint presentations
- Modulo Sync: Automatically transfer media to several Modulo Player servers simultaneously
- Modulo Wing: Access all your playlists and tasks on Android devices, iPad, Mac or PC
- VNC Viewer: Remotely connect to the Modulo Player server

ModuloDMXTool

ModuloDMXTool:

ModuloDMXTool is free application to send and receive Art-Net DMX from/to any device.
You can use this application to simulate a light desk or a light when you use the DMX device in Modulo Player or Modulo Kinetic.

Download:

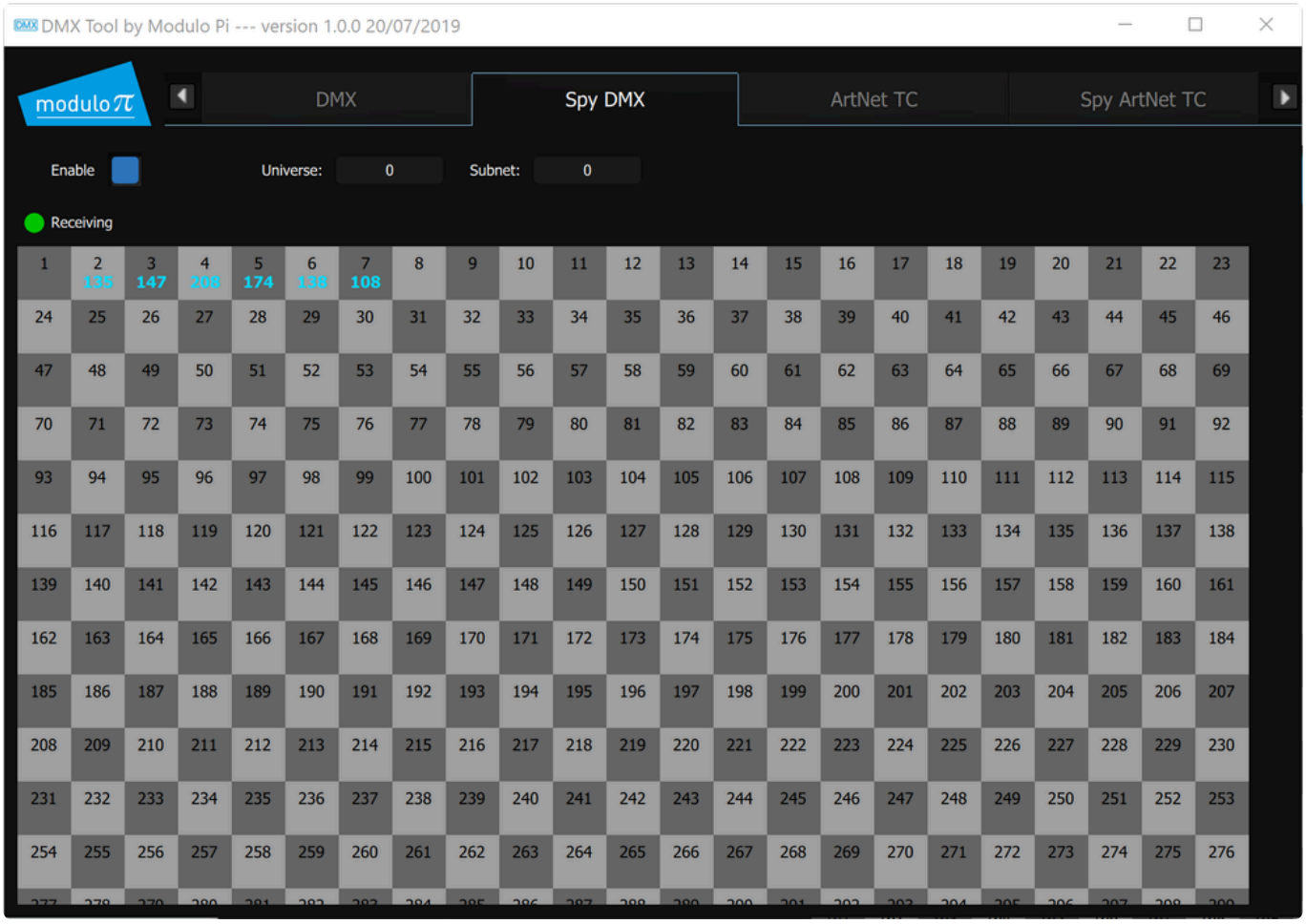
For PC: Connect to the Customer Area > Modulo Player > Companion Apps section
For Mac: Connect to the Customer Area > Modulo Player > Companion Apps section

Send DMX:

Click on the Enable button to send Art-Net.
Choose the universe and subnet.
If the IP field is empty, it will broadcast Art-Net.
If there is an IP, it will only unicast to this IP.

Spy DMX:

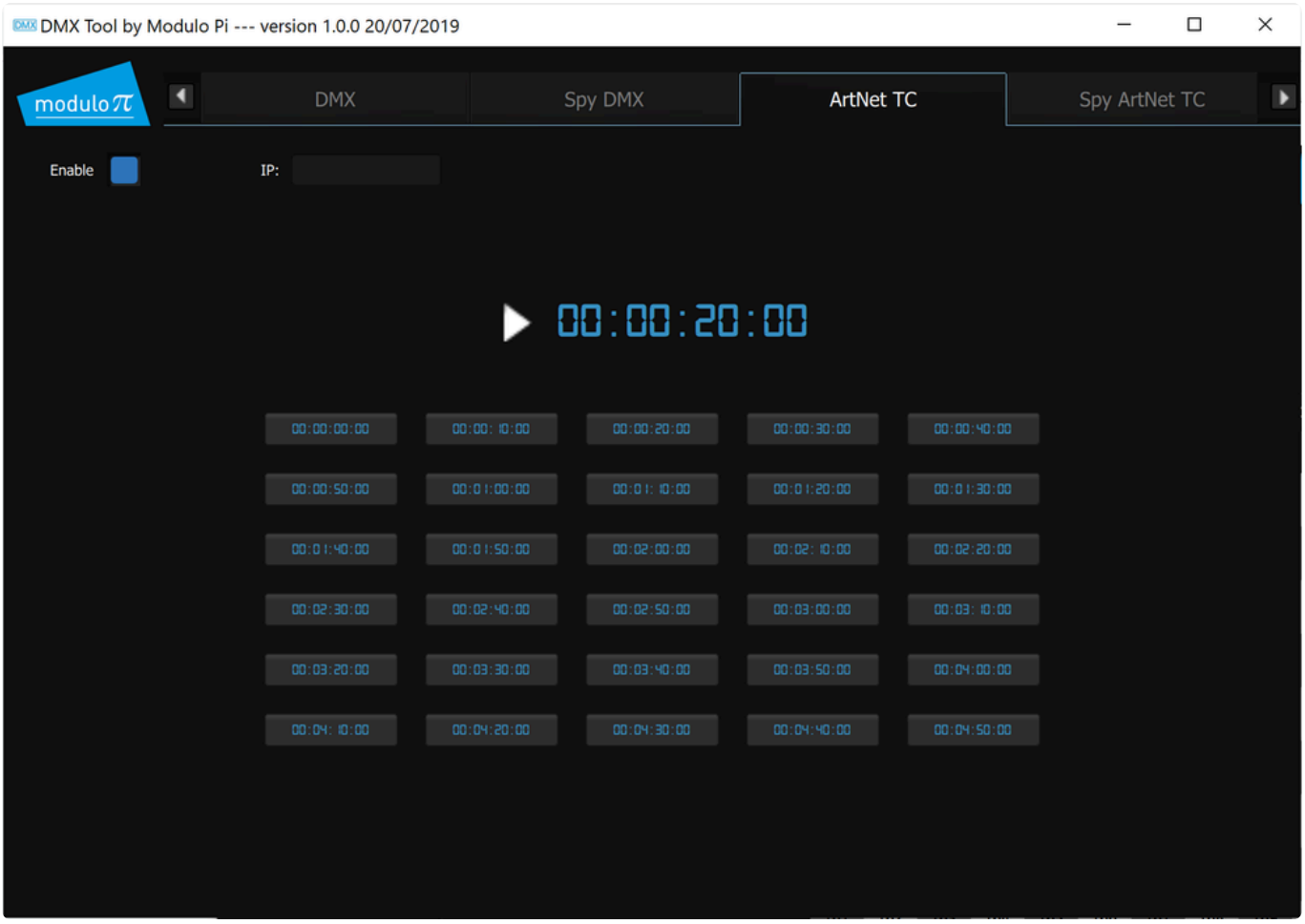
Click on the Enable button to receive Art-Net.
Choose the universe and subnet.



Send Art-Net Timecode:

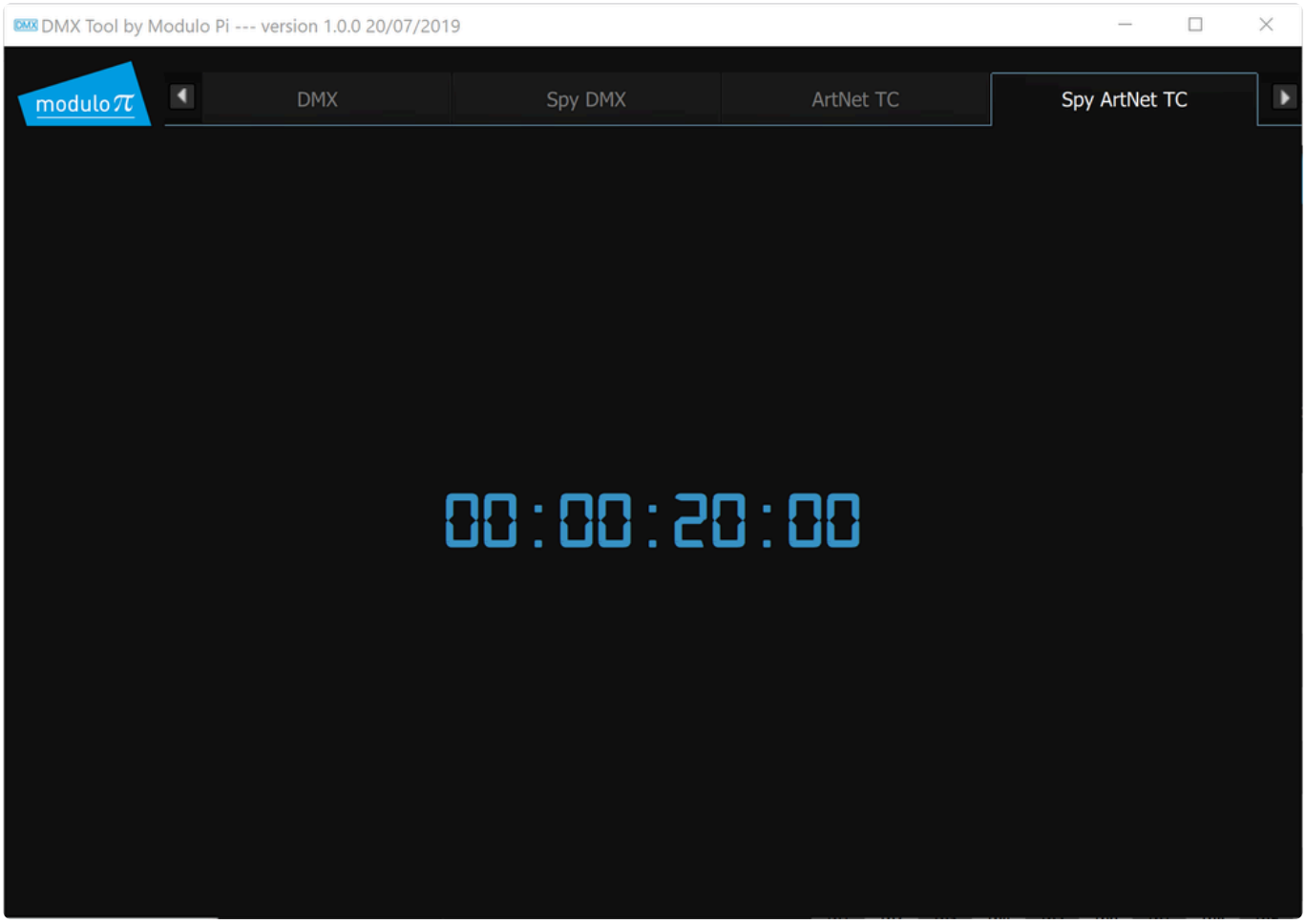
Click on the Enable button to send Art-Net.
If the IP field is empty, it will broadcast Art-Net.
If there is an IP, it will only unicast to this IP.

Toggle the Play/Pause button.
Double click on the timecode to edit the timecode.
Recall a timecode from the button Array.



Receive Art-Net Timecode:

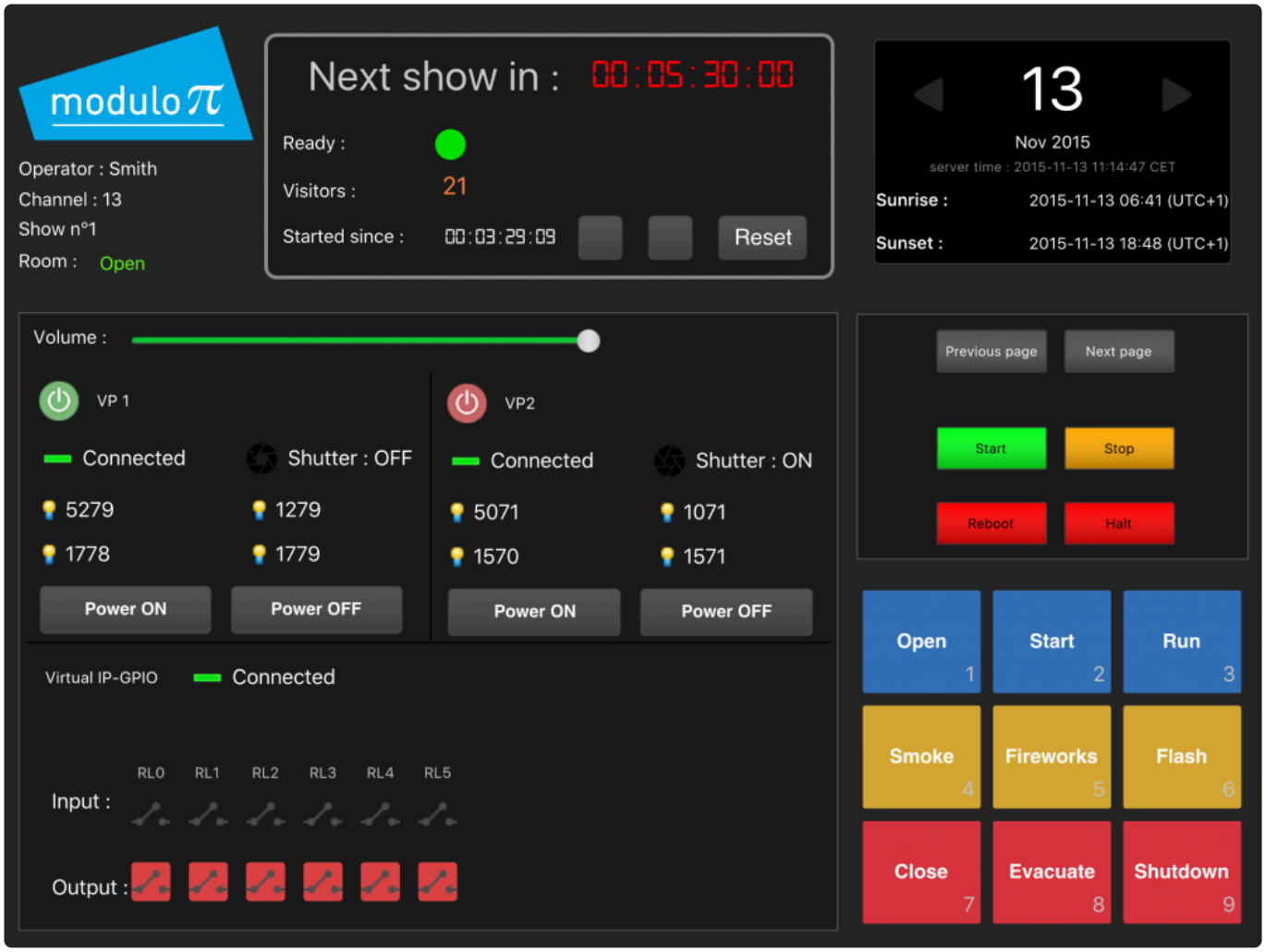
Display the incoming Art-Net timecode.

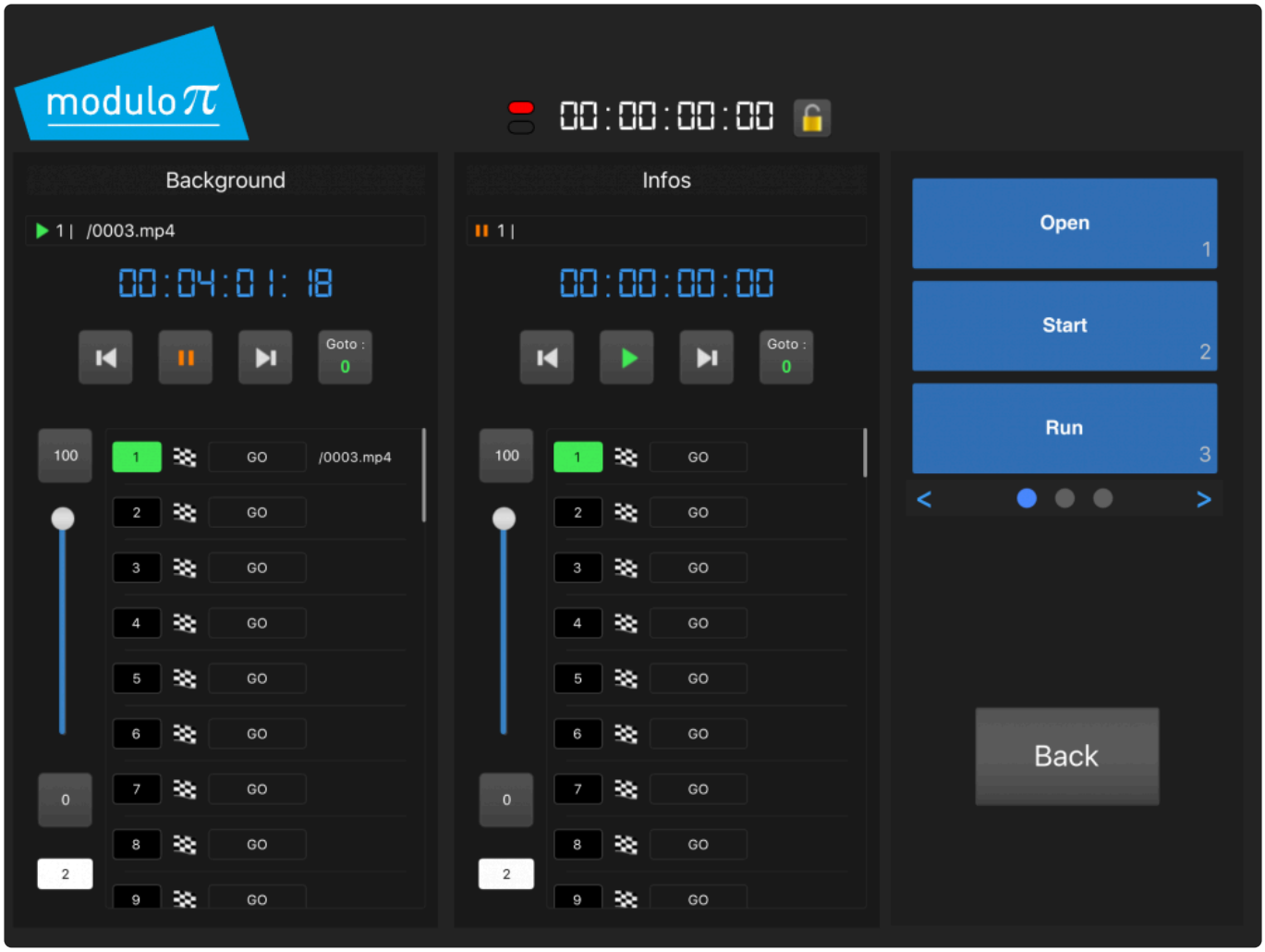


Modulo Panel

Modulo Panel:

Once you have created your custom panels in the UI Designer, Modulo Panel allows to easily access and use the interfaces directly from a Mac, PC, as well as Android and iOS devices.
Assign different panels depending on your needs (show control, monitoring…), all available anytime over wifi.


modulo π
Operator : Smith
Channel : 13
Show n°1
Room : Open
Next show in : 00:05:30:00
Ready :
Visitors : 21
Started since : 00:03:29:09
Reset
13
Nov 2015
server time : 2015-11-13 11:14:47 CET
Sunrise : 2015-11-13 06:41 (UTC+1)
Sunset : 2015-11-13 18:48 (UTC+1)
Volume :
VP 1
Connected
Shutter : OFF
5279
1279
1778
1779
Power ON
Power OFF
VP2
Connected
Shutter : ON
5071
1071
1570
1571
Power ON
Power OFF
Virtual IP-GPIO
Connected
RL0 RL1 RL2 RL3 RL4 RL5
Input :
Output :
Previous page
Next page
Start
Stop
Reboot
Halt
Open 1
Start 2
Run 3
Smoke 4
Fireworks 5
Flash 6
Close 7
Evacuate 8
Shutdown 9

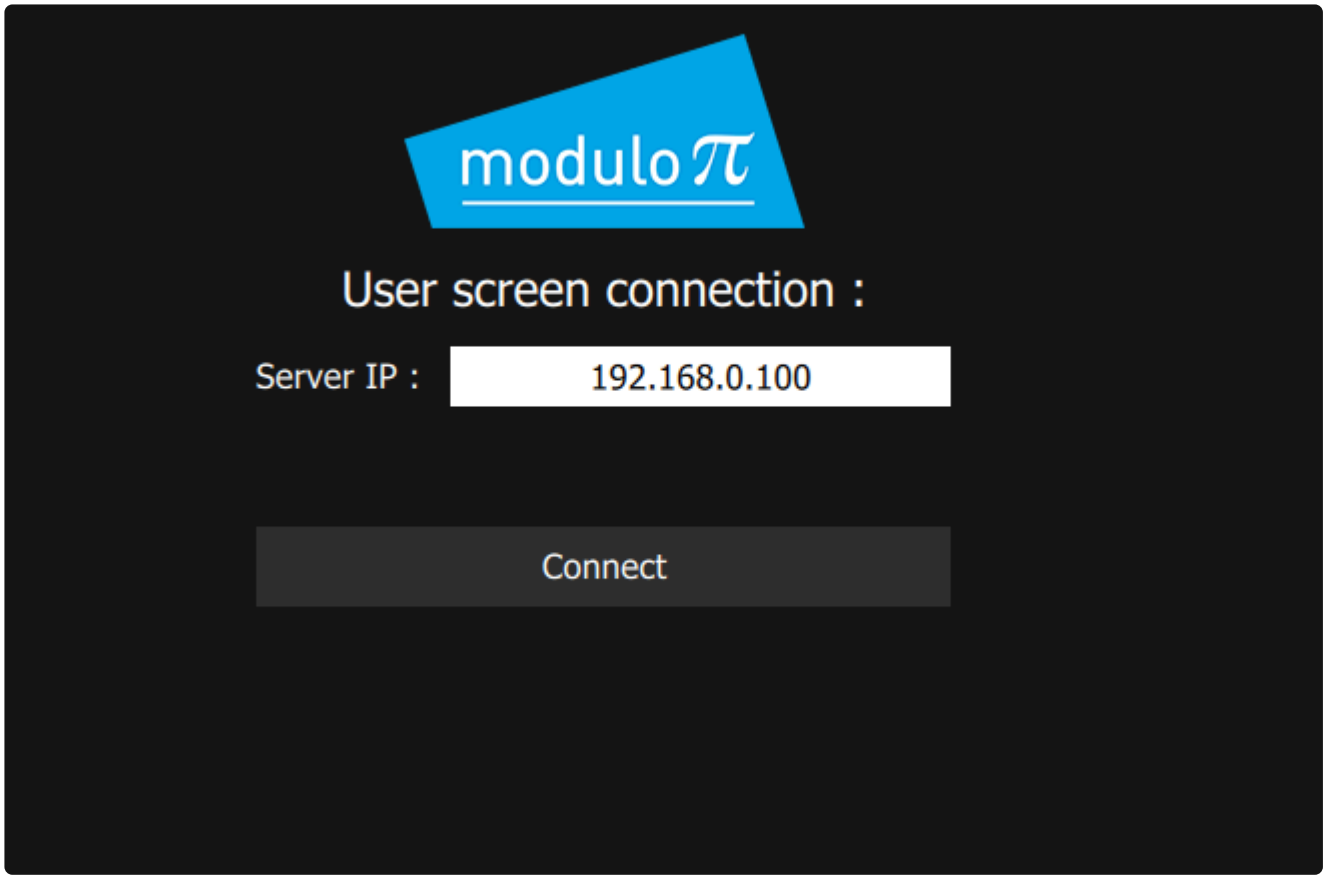


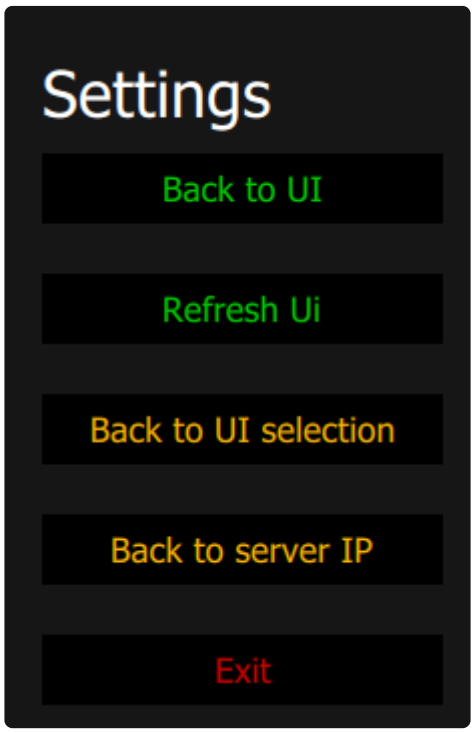
Download:

For Mac and PC: Connect to the Customer Area > Modulo Player > Companion Apps section
For iOS phones and tablets: Visit the Apple Store
For Android phones and tablets: Visit Google Play

Setup:

• Install the Modulo Panel application, and launch it to connect to the media server
• Connect to Modulo Player via wifi in order to launch the panels previously created in the UI Designer on your Android/iOS device, or remote computer (PC/Mac)
• Type the server IP to connect
• Then select UI: Type a Login and a Password if there is one, and click on Submit
• As soon as you connect with the server's UI, you can access the Settings by pressing ESC on the keyboard.



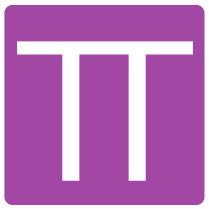


Back to UI: Return to the selected UI
Refresh UI: Reload the UI page
Back to UI selection: Return to the panel UI selection
Back to Server IP: Return to the panel server IP selection
Exit: Quit the application

Modulo Shortcut

Modulo Shortcut:

Use this free application to easily take control of your Keynote or PowerPoint presentations using common shortcuts.

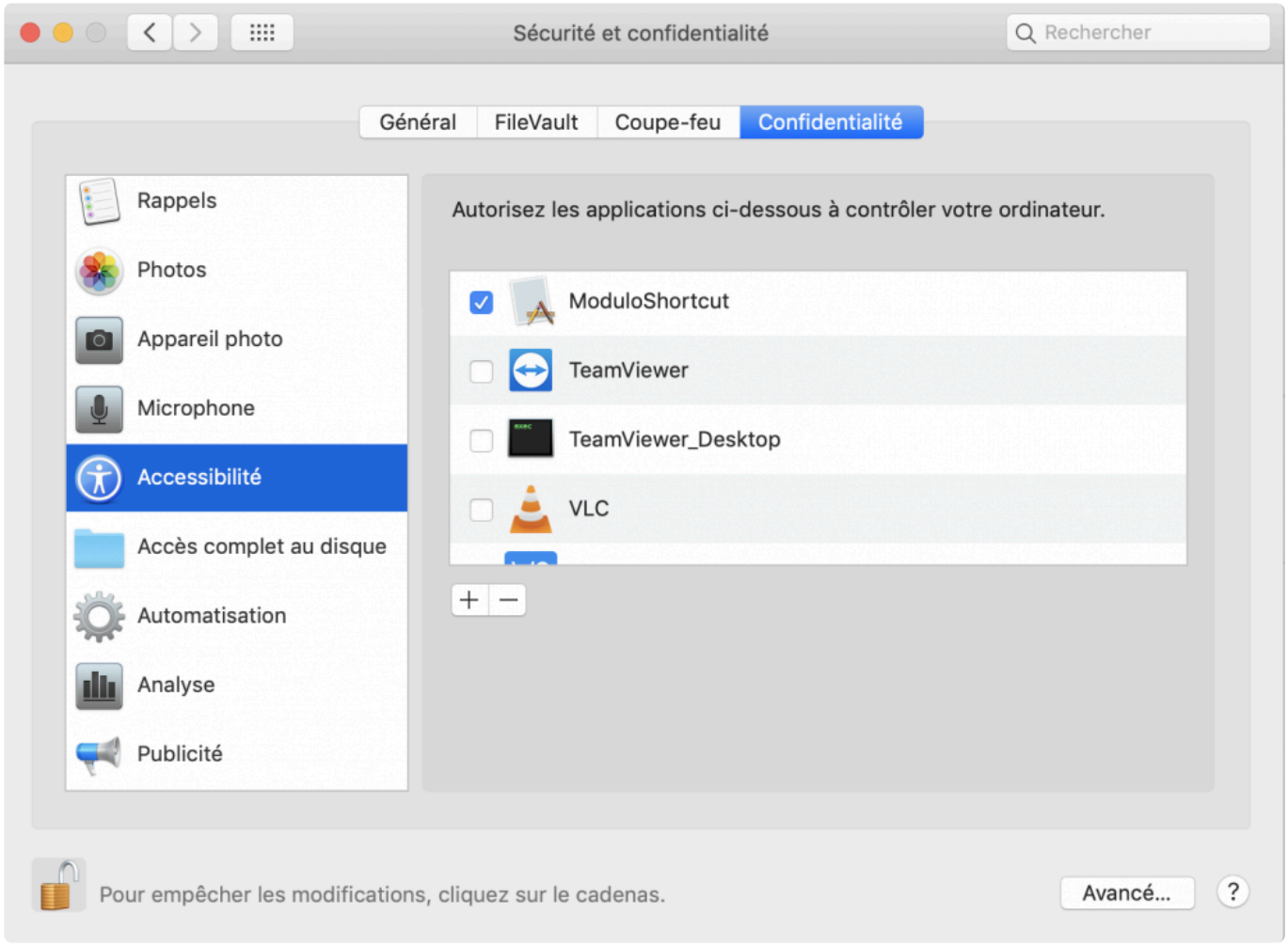


Download:

For Windows PowerPoint: Connect to the Customer Area > Modulo Player > Companion Apps section
Then install Modulo Shortcut PowerPoint Windows x64 to the PowerPoint PC.

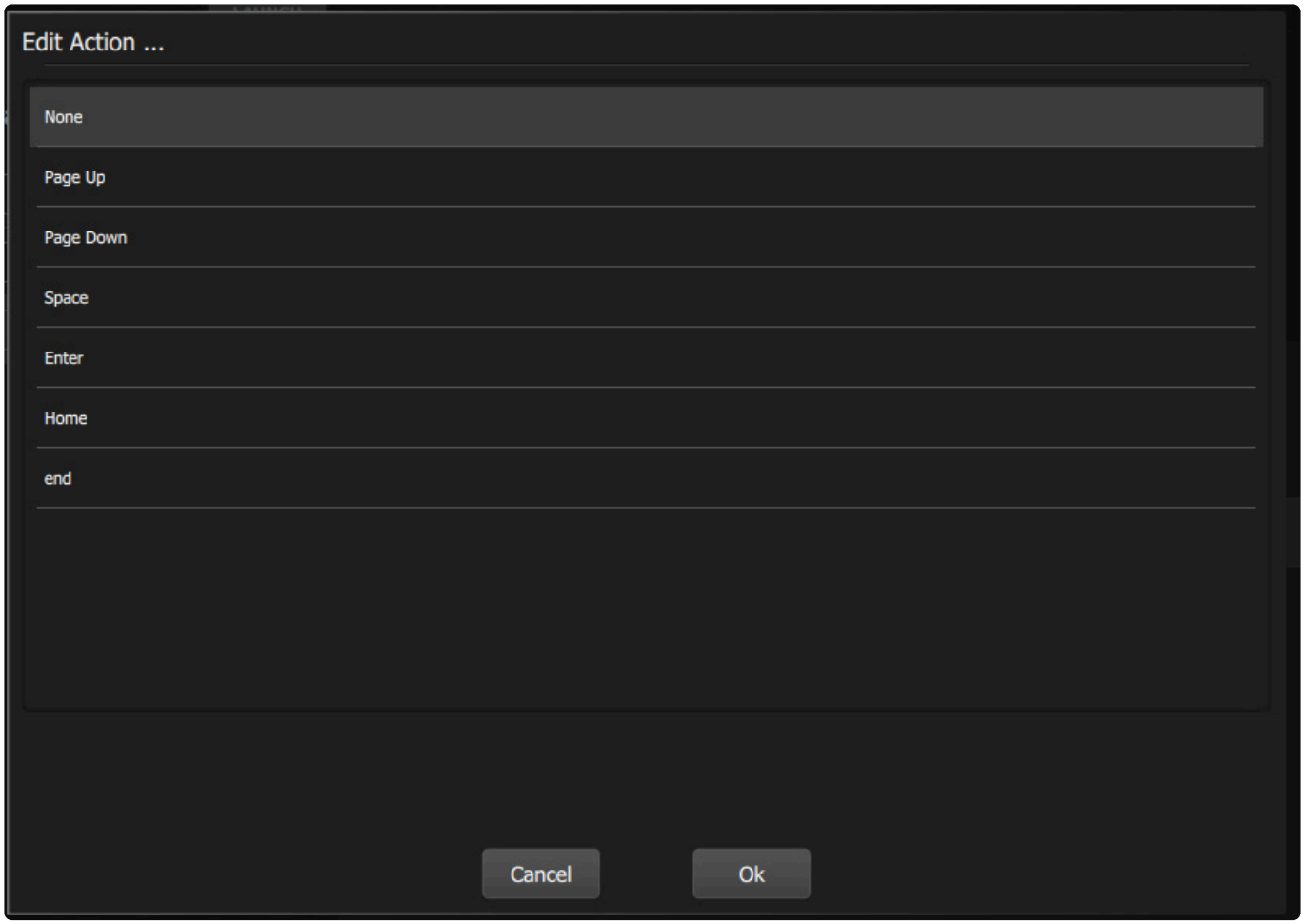
For Mac Keynote: Connect to the Customer Area > Modulo Player > Companion Apps section
Then install Modulo Shortcut Mac Keynote to the Keynote Mac.

> ! You need to authorize Modulo Shortcut to control the computer. Go to Mac settings, Confidentiality tab and authorize Modulo Shortcut to control the computer.



Setup:

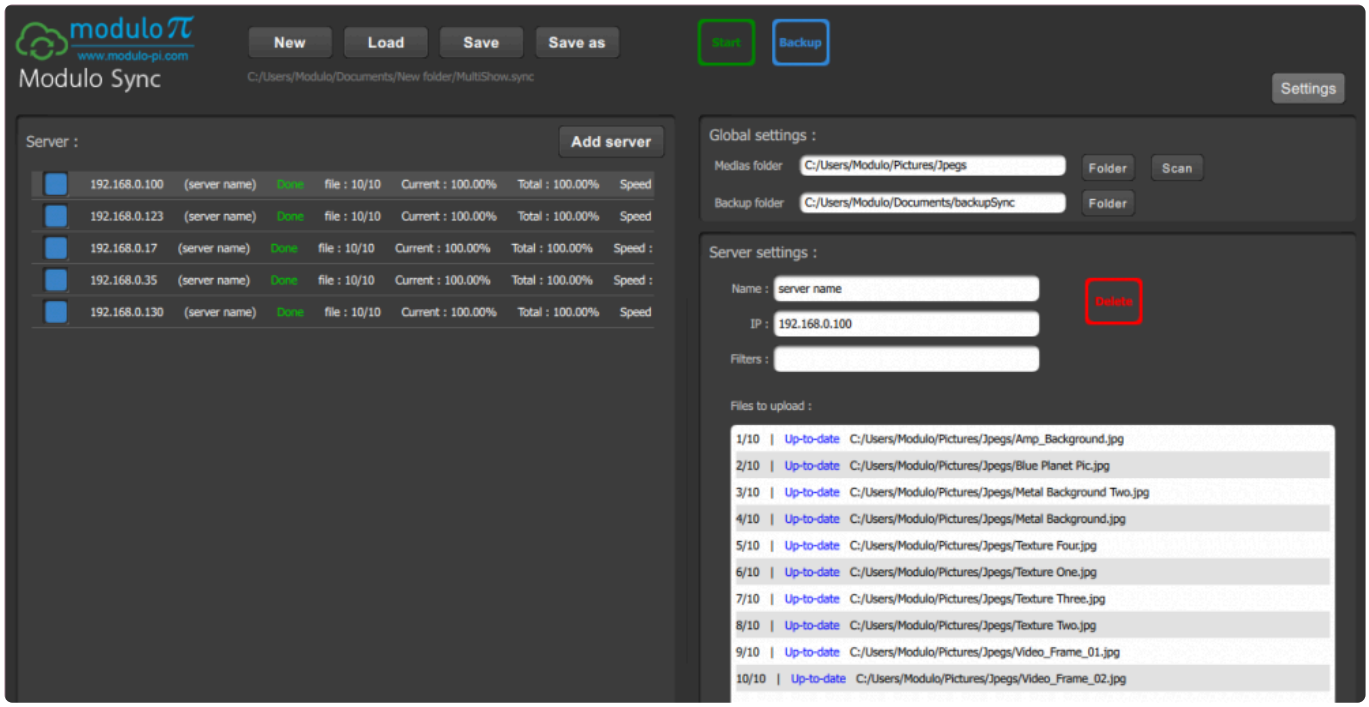
- Install Modulo Shortcut and launch the application
- Add Modulo Shortcut as a device. See Remote > Devices tab
- Add the IP address computer with the PowerPoint/Keynote presentation to the Devices > Modulo Shortcut Remote
- From the Tasks tab, assign Modulo Shortcut as a subtask, and Edit action. You can create tasks and control the following commands: Page up, Page down, Space, Enter, Home, End.



Modulo Sync

Modulo Sync:

Modulo Sync is a file synchronization tool for Modulo Player.
Use this free application to transfer media in several servers at the same time, or to get a backup of your project (excluding media files).



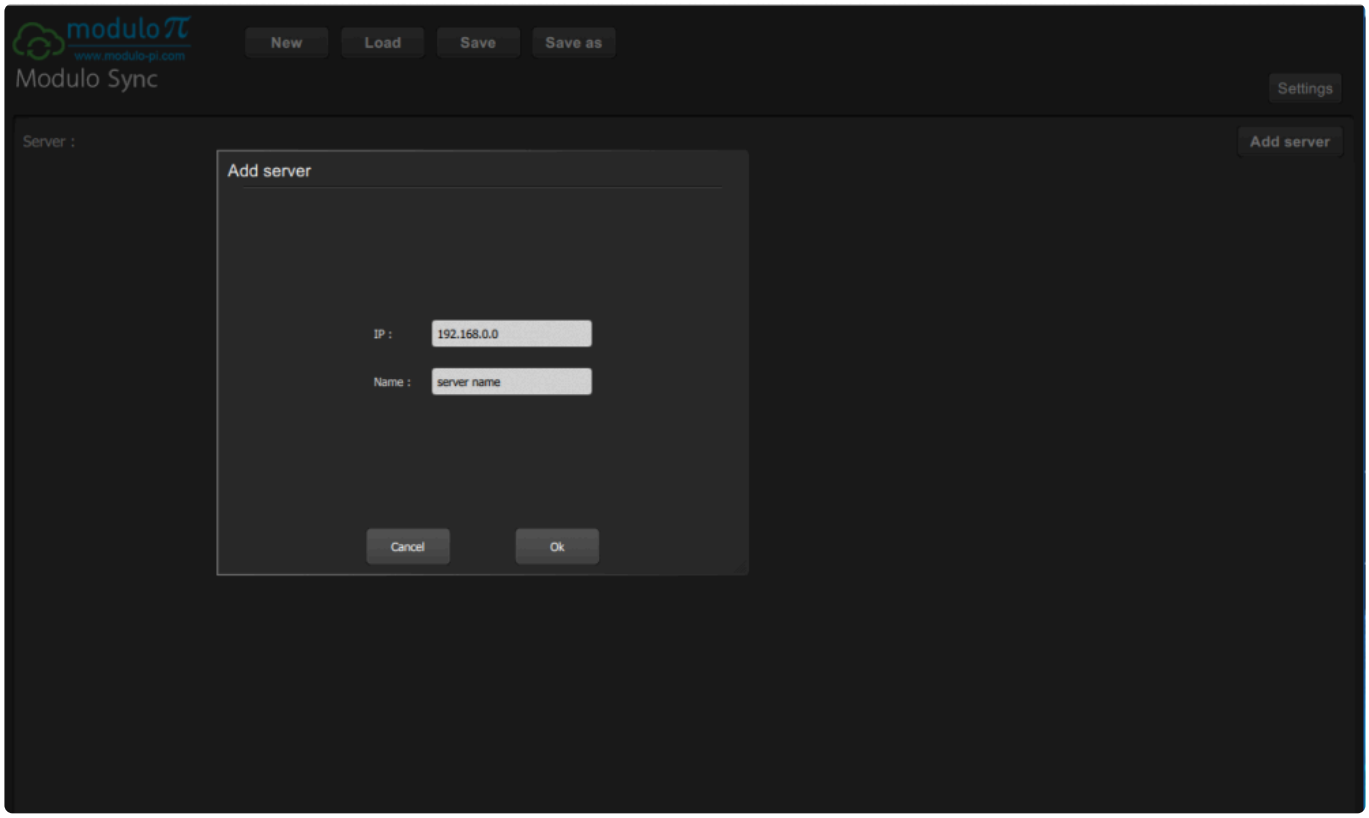
Download:

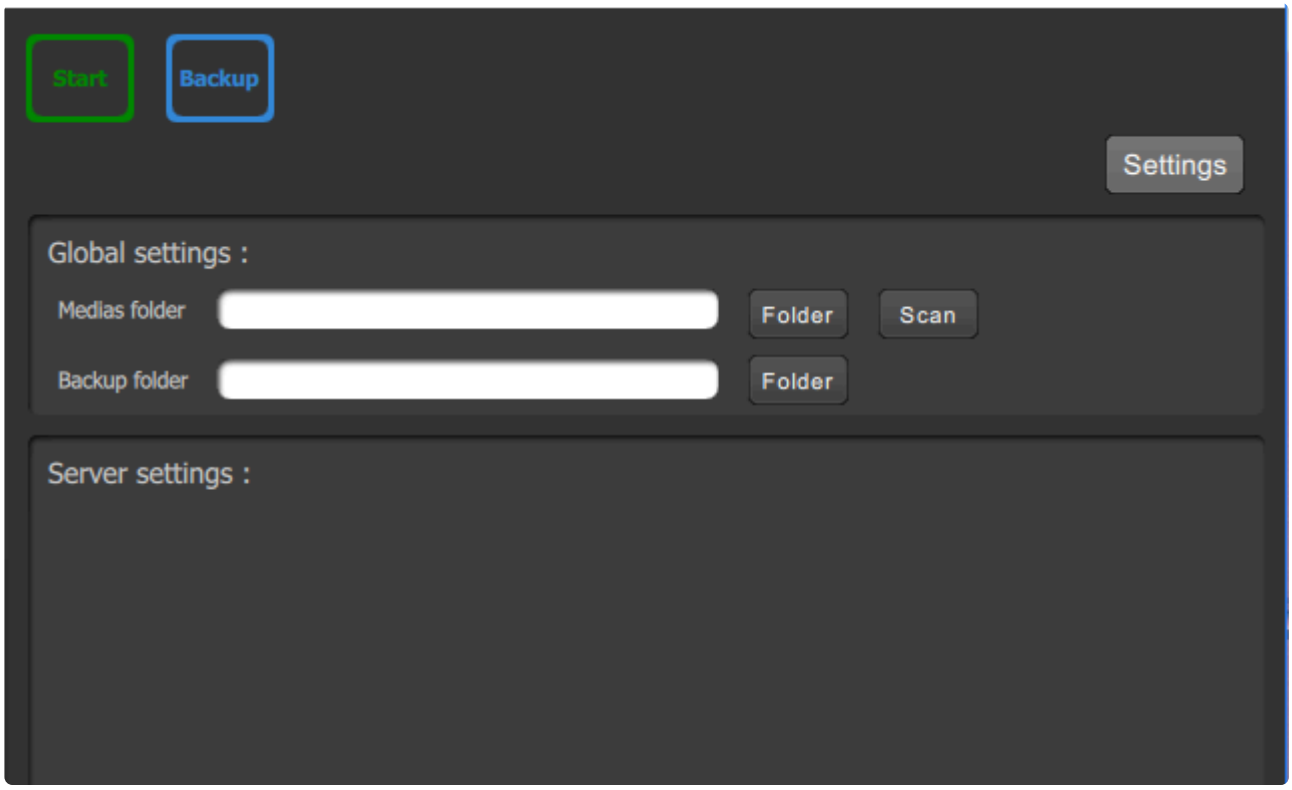
For PC (Windows x32): Connect to the Customer Area > Modulo Player > Companion Apps section

Setup:

- Install the Modulo Sync application and launch it
- Click on the Add server button, and type the media server IP address. You can add all media servers to the network
- Then, click on Settings to point out media folder(s)
- Once settings are configured, click on Start to start the transfer

NB: The logo will be replaced by the transfer analysis. While transfering files, the Start button will be replaced with a Stop button: Click on it to stop the transfer at anytime.
A Backup function is incorporated in the software to retrieve all the files of the Show" and backup folders of the added server(s).





Using filters:
You can filter media folders in order to send the appropriate file to the appropriate server:

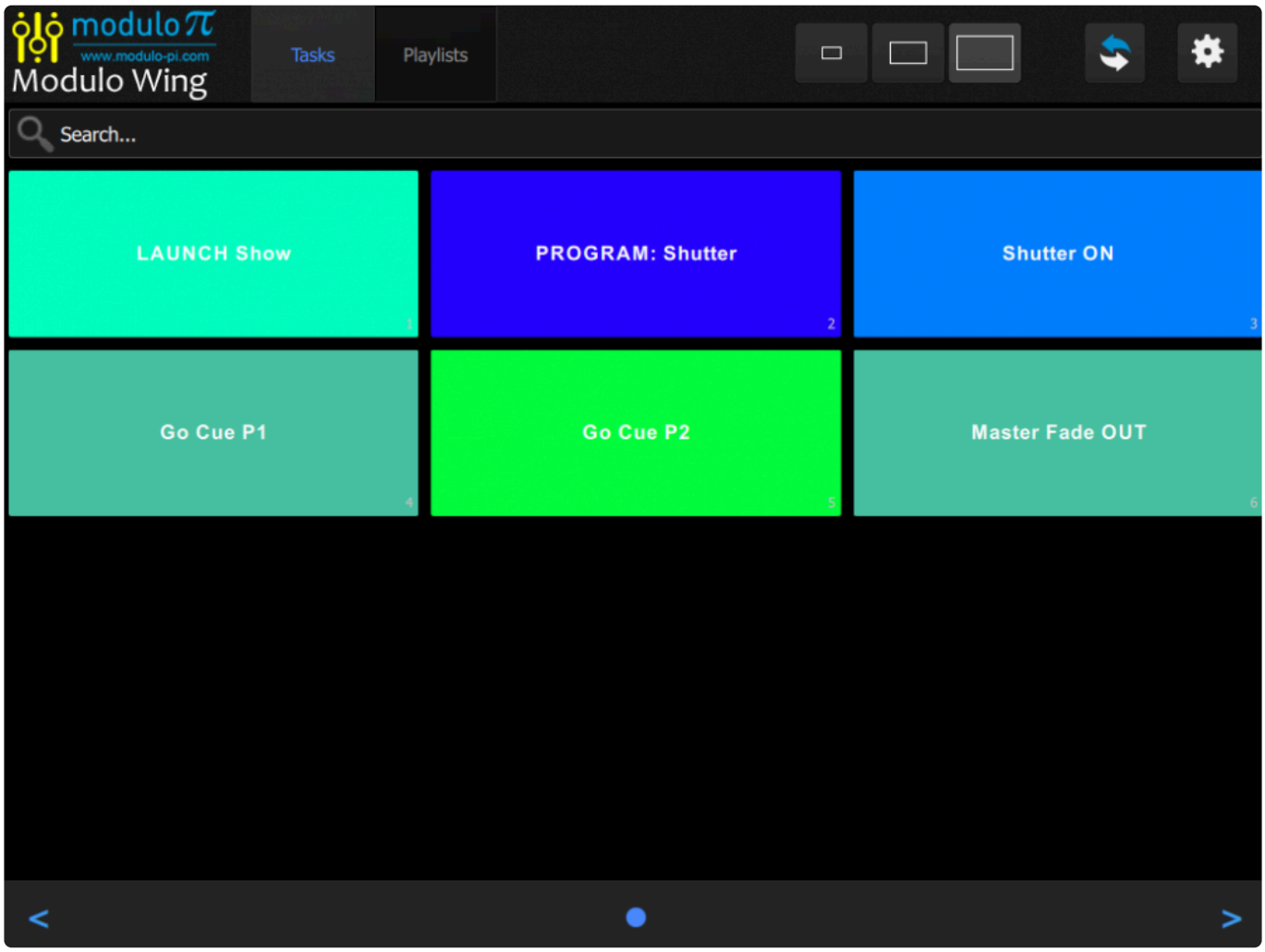
- On the left, click on the server from the list, and add nomenclature filter. In this case, server should be configured to use the same filter nomenclature. To assign a filter to a server, go to the Remote Application > General tab > Media ID
- You can separate media filters with a semicolon

Right now, it is not possible to handle media sub-folders using the Modulo Sync application (feature coming soon).
After the media transfer, media will be placed in the root folder of the project on the server.

Modulo Wing

Modulo Wing:

Modulo Wing is a free application to access all your playlists and tasks on Android devices, iPad, Mac or PC.
Thanks to this overview, playlists and tasks come all available anytime over wifi for show control, monitoring…



Download:

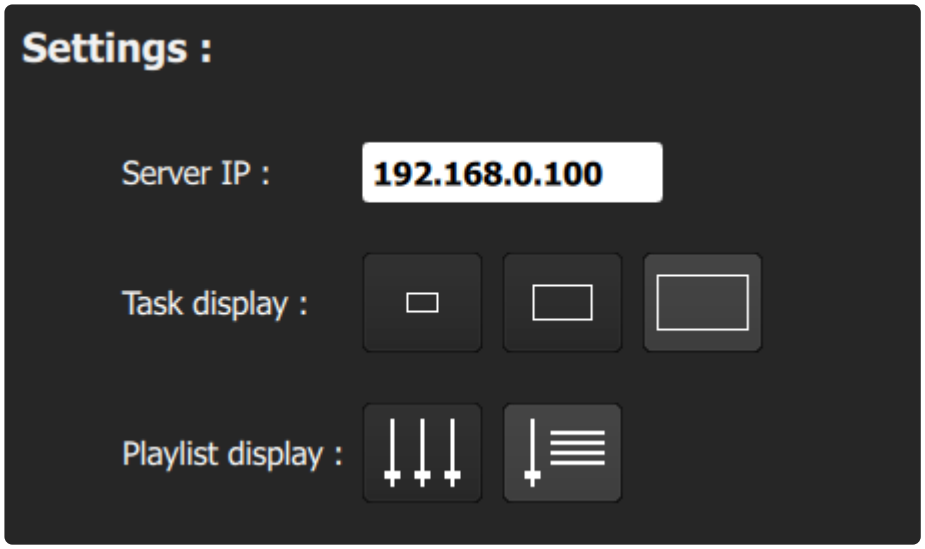
For Mac and PC: Connect to the Customer Area > Modulo Player > Companion Apps section
For iPad: Visit the Apple Store
For Android phones and tablets: Visit Google Play

Setup:

- Install the Modulo Wing application
- The device hosting Modulo Wing needs to be on the same network as your Modulo Player server
- Launch Modulo Wing
- Click on the setup button to enter the IP address of your Modulo Player server

In the Settings section, you can:

- Choose the size of the Tasks button
- Choose between two different modes to display your Playlists: Display faders and current cue only, or full playlist controllers including triggers and cue lists



VNC Viewer

VNC Viewer:

You can use any VNC Viewer to connect to the Modulo Player server.

VNC is a viewer – server sharing system, that allows you to remotely control devices connected to a network.
The VNC Server application is already installed in the server.
To access and control the server via your remote computer: Download and install TightVNC viewer, and connect to the server by typing the servers' IP address.
The password for our servers is: **modulo** .

Download:

For Mac and PC: Connect to the Customer Area > Modulo Player > Companion Apps section
Or visit Real VNC

TCP/IP external control protocol

This protocol allows you to control the Modulo Player application with a TCP/IP client connected to the Modulo Player application.

We use this convention to separate each command :
At the end of each command, you need to add a separator: '\n' in ascii (or 0×0A in hexadecimal).
To separate each argument in a command, you need to use the separator: '?'

PC controls: Port 28670

start\n: Start Modulo-Player

terminate\n:Sstop Modulo-Player

reboot\n: Reboot the server

halt\n: Halt the server

loadByNameSession?session's name\n: Load a session with the session's name
For example, loadByNameSession?spare1\n will load the session named «spare1»

Modulo Player controls: Port 28686

playItem?playlistIndex?cueIndex\n
► Launch a cue on a playlist
playlistIndex: playlist index between 1 and n
cueIndex: cue index between 1 and n

locatePlayListCue?playlistIndex?cueIndex?playState?time\n
► Locate a cue of a playlist at a timecode
playlistIndex: playlist index between 1 and n
cueIndex: cue index between 1 and n
playState: 1 for play, 0 for pause
time: timecode in ms from the start of the cue

setPlayState?playlistindex?playState\n
► set the reading state of the current cue of a playlist
playlistIndex: playlist index between 1 and n
playState: 1 for play, 0 for pause

setFaderPlayList?playlistIndex?value\n
► Set the fader value of a playlist
playlistIndex: playlist index between 1 and n
value: between 0.0 et 1.0

setFaderWithTimePlayList?playlistIndex?value?time\n
► Set the fader value of a playlist with a fade time
playlistIndex: playlist index between 1 and n
value: between 0.0 et 1.0
time: fade time en ms

getPlayListGrandMaster?playlistIndex\n
► Return the fader value of a playlist
playlistIndex: playlist index between 1 and n

getPlayListCueIndex?playlistIndex\n
► Return the string «playListCueIndex?xx\n» (xx: active cue index between 1 et n)
playlistIndex: playlist index between 1 and n

getPlayListCueTimecode?playlistIndex\n
► Return the string «playListCueTimecode?xx\n» (xx: timecode of the current cue)
playlistIndex: playlist index between 1 and n

getPlayListCueName?playlistIndex\n
► Return the string «playListIsPlay?xx\n» (xx=1 for play, xx=0 for pause)
playlistIndex: playlist index between 1 and n

playnextcue?playlistIndex\n

► Play the next cue on a playlist

playlistIndex: playlist index between 1 and n

playpreviouscue?playlistIndex\n

► Play the previous cue on a playlist

playlistIndex: playlist index between 1 and n

preloadcue?playlistIndex?cueIndex\n

► Preload a cue on a playlist

playlistIndex: playlist index between 1 and n

cueIndex: cue index between 1 and n

getallplaylistswithuuid\n

► Return allplaylistswithuuid?uuid|xxx;uuid|yyy;uuid|zzz;uuid|ddd;uuid|dddsz\n (playlists names)

getallcueswithuuid?playlistIndex\n

► Return allcueswithuuid?playlistuuid?cueuuid|xxx;cueuuid|xd;cueuuid|gf;e\n (cues names)

getallmediaswithuuid\n

► Return allmediaswithuuid?id1|hello.mov;id2|toto.png;xxxxxx\n

getalltaskswithuuid\n

► Return alltaskswithuuid?uuid|xxx;uuid|yyy;uuid|zzz;uuid|ddd;uuid|dddsz\n (task names)

AppliReady\n
► Return the string «Online»

rescanMedias\n
► Return the string «RescanDone» once the media update is done

launchTask?x\n
► Launch the task number x (between 1 and n)

setUserKeyValue?key?value\n
► Set a value for a user key

userKeyValue?key?value\n

getUserKeyValue?key\n
► Return connected user Key value

userKeyValue?key?value\n

getConnectedController\n
► Return connectedController?x\n

getAllPlayLists\n
► Return AllPlayLists?xxx;yyy;zzz;ddd;dddsz\n (playlists names)

getAllCues\n
► Return AllCues?playlistindex?xxx;xd;gf;e\n (cues names)

getAllMedias\n
► Return AllMedias?id1|hello.mov;id2|toto.png;xxxxxx\n

getAllMediasWithInfos\n

getMediaCount\n
► MediaCount?450\n

getPlayListCount\n

► PlayListCount?2\n

getCueCount?playlistindex\n
► CueCount?playlistindex?45\n

setPlayListProperty\n
► // Not implemented at the moment // to be modified …

backupShow\n
► Request an archive with date + time

saveShow\n
► Request a save of the show

addCue?playlistindex?cueIndex\n

deleteCue?playlistindex?cueIndex\n

addNoRefreshCue?playlistindex?cueIndex\n*
► Does not send the information to the remote to avoid making the player ram

deleteNoRefreshCue?playlistindex?cueIndex\n
► Does not send the information to the remote to avoid making the player ram

sendToRemotePlaylist?playlistindex\n
► Return playlist to the active remote
(Eg after a series of action on the playlist without refresh)

copyToSlavePlaylist?playlistindex\n
► Sends an order to copy playlist to slaves

getMediaProperty?idmedia?property\n
► Return MediaProperty?idmedia?property?value
available properties: name, info, fileName, folder, extension, size, lastModified,
thumbnail jpg(base 64)

getPlayListProperty?playlistindex?property\n
► Return PlayListProperty?playlistindex?property?value\n
available properties: name,cueIndex, cueName, cueIsPlay, cueTimecode , grandMaster

getCueProperty?playlistindex?cueindex?property\n
► Return CueProperty?playlistindex?cueindex?property?value\n

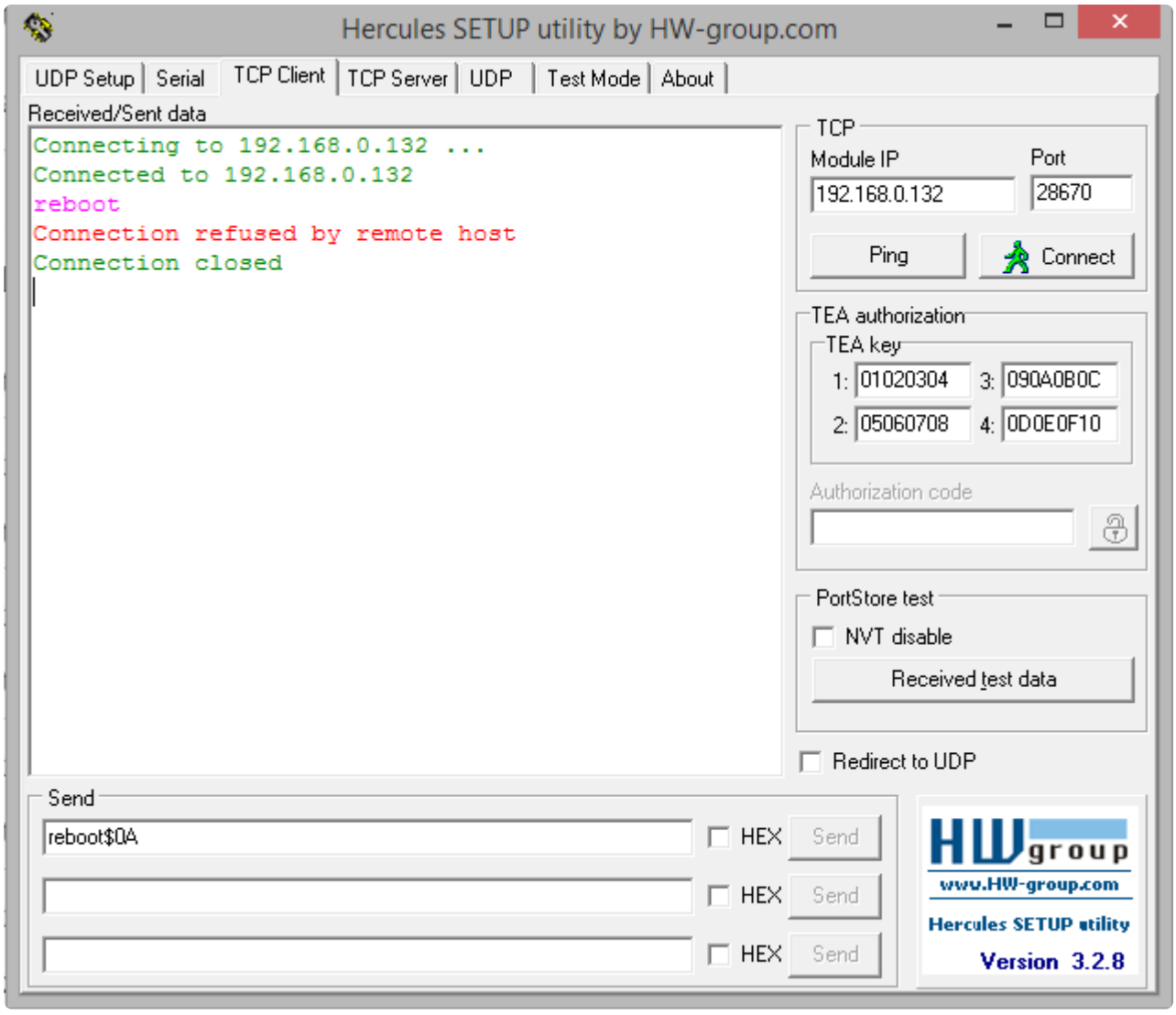
setCueProperty?playlistindex?cueindex?property?value\n
► Property disponible : name
► Trigger (0:go, 1 : follow, 2:wait, 3 : TC)
► TriggerValue (eg. time in ms for the wait or the TC)

setCueLayerProperty?playlistindex?cueIndex?layerIndex?property?xx\n

getCueLayerProperty?playlistindex?cueIndex?layerIndex?property\n

► **CueLayerProperty?playlistindex?cueIndex?layerIndex?property?xx\n**
available properties: media (idmedia in param), fadein (time in ms), fadeout (time in ms), x ,y , scale x, scale y, rotation, opacity

TCP/IP Example:



In the example below, using Hercules, a free toool , we configure the Hercules application:
• IP: 192.168.0.132 (the address of your test Modulo Player server, adapt to your IP address)
• Port: 28670
• Click and send a reboot command in Hexadecimal:
• End separator: '\n' 0×0A
• Argument Separator: '?' click
Server will reboot, and connection will be closed.

How-To

Useful Guidelines

This section provides some how-to to help you use Modulo Player.

Contact our support team

For technical inquiries, please click on this link to access our Ticket system, or send an email to: ticket@modulo-pi.com.
To speed up the response time, please submit 1 ticket / topic.

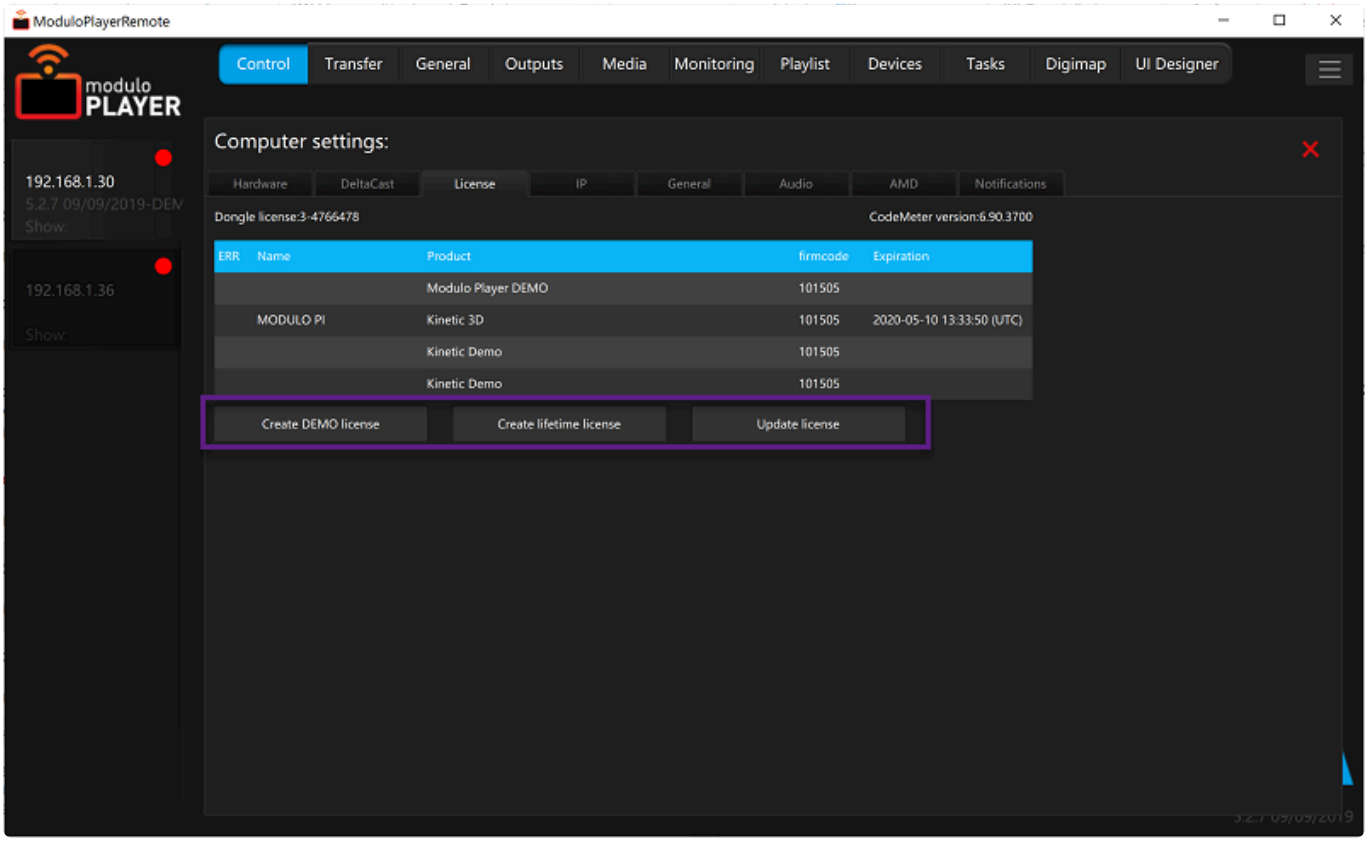
Generate a dongle context file

You have two options to generate a dongle context file:

- Directly from the Modulo Player remote
- From the Modulo Player server (or notebook with Lite edition)

> ! If you need to update several applications at once on the same dongle (for example Modulo Player and Modulo Kinetic on the same dongle), generate only one context file from Modulo Player or Kinetic.
> Do not send us one context file for Modulo Player and one for Modulo Kinetic. We can update both products with only one single context file.

Generate the dongle context file from the Remote:



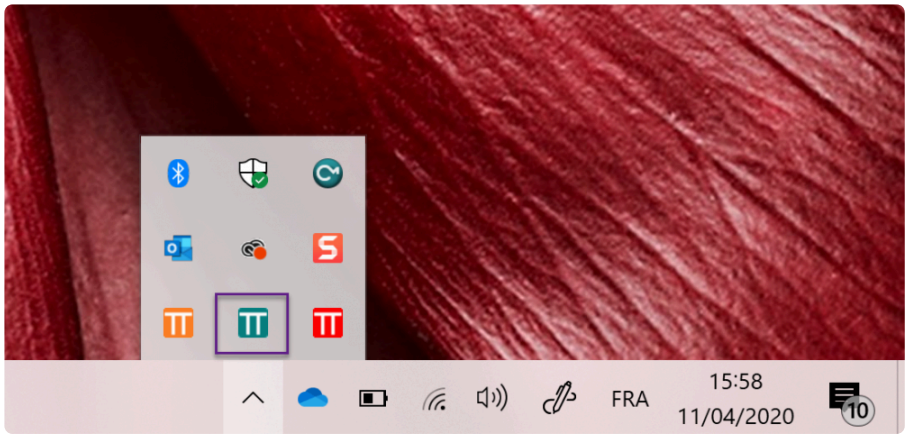
If you need to generate a context file for a regular Modulo Player media server, click on *create lifetime license*.
Send this file to the support team.

If you need to generate a context file for a Modulo Player Lite edition, click on *create demo license*.
Send this file to the support team.

If we send you back a context file to update your dongle, click on *Update license* and choose the context file we sent you.

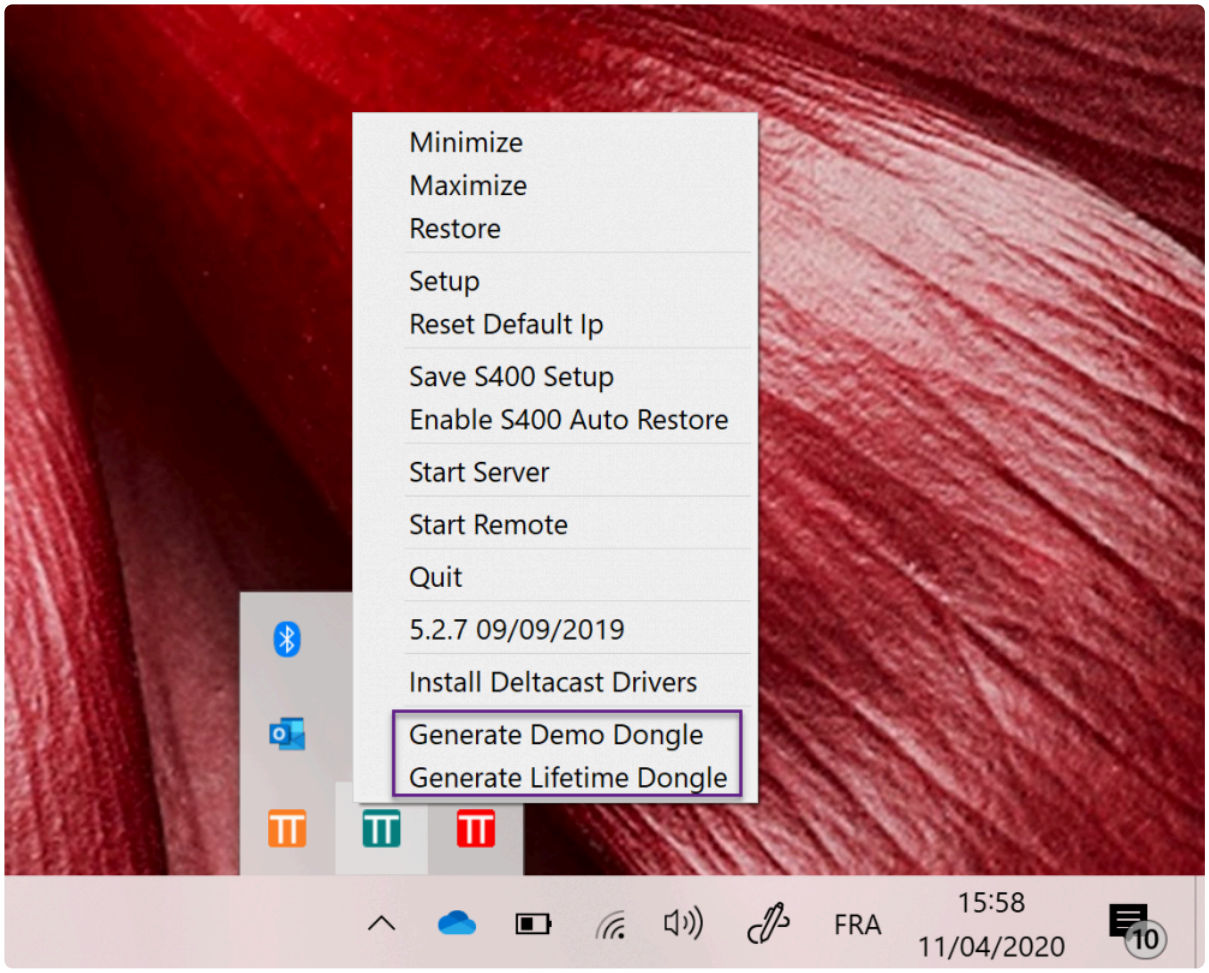
Generate the dongle context file on the server:

Right click on the Modulo Player icon in the taskbar.



if you need to generate a context file for a regular Modulo Player media server, click on *create lifetime license*.
A file is generated on the desktop.
Send this file to the support team.

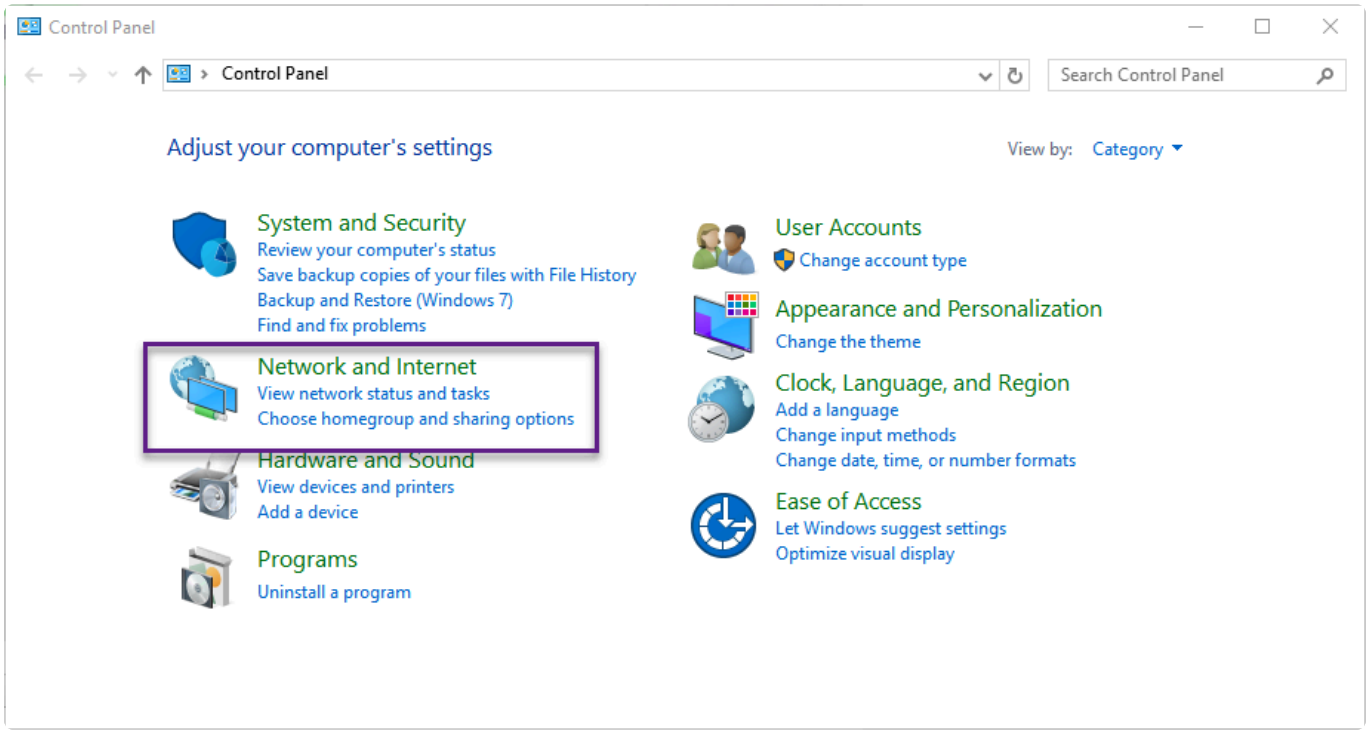
If you need to generate a context file for a Modulo Player Lite edition, click on *create demo license*.
A file is generated on the desktop.
Send this file to the support team.



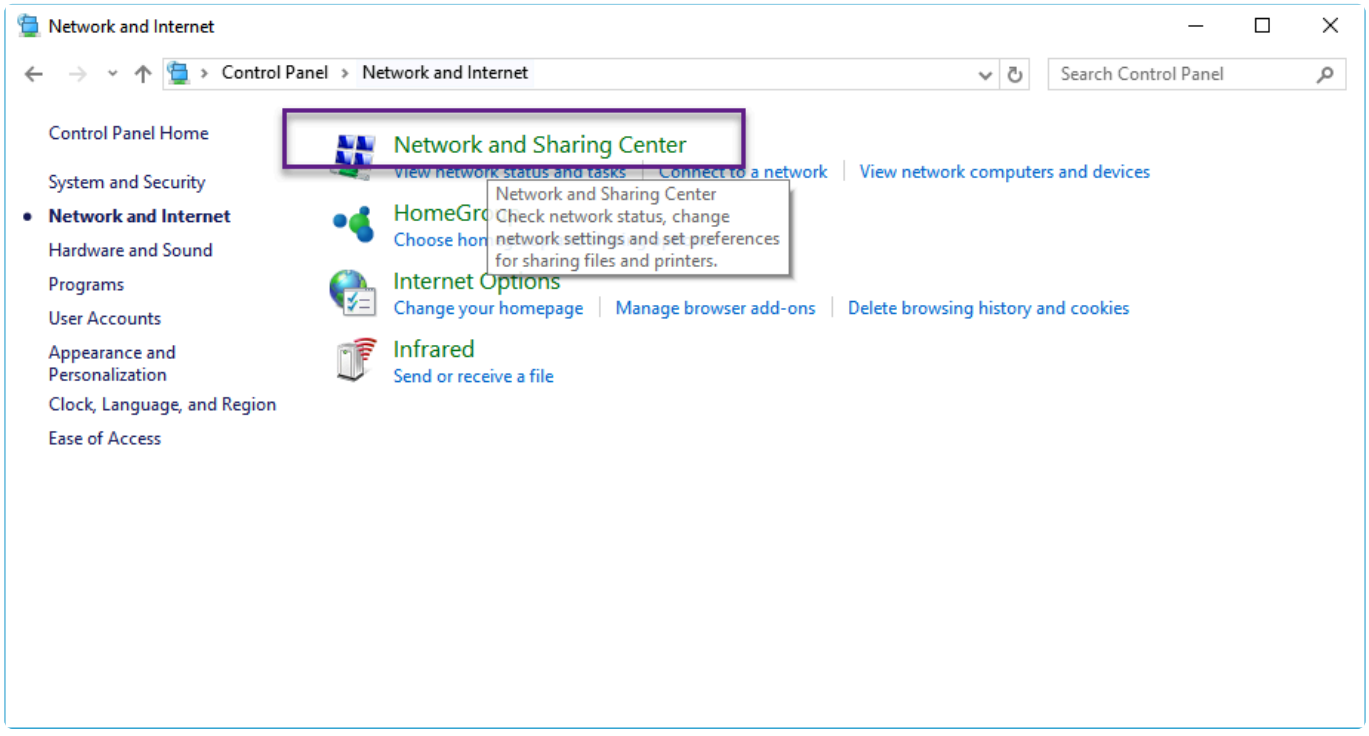
If we send you back a context file to update your dongle, copy this file on your Modulo Player and double click on it.

Setup the IP address of your PC

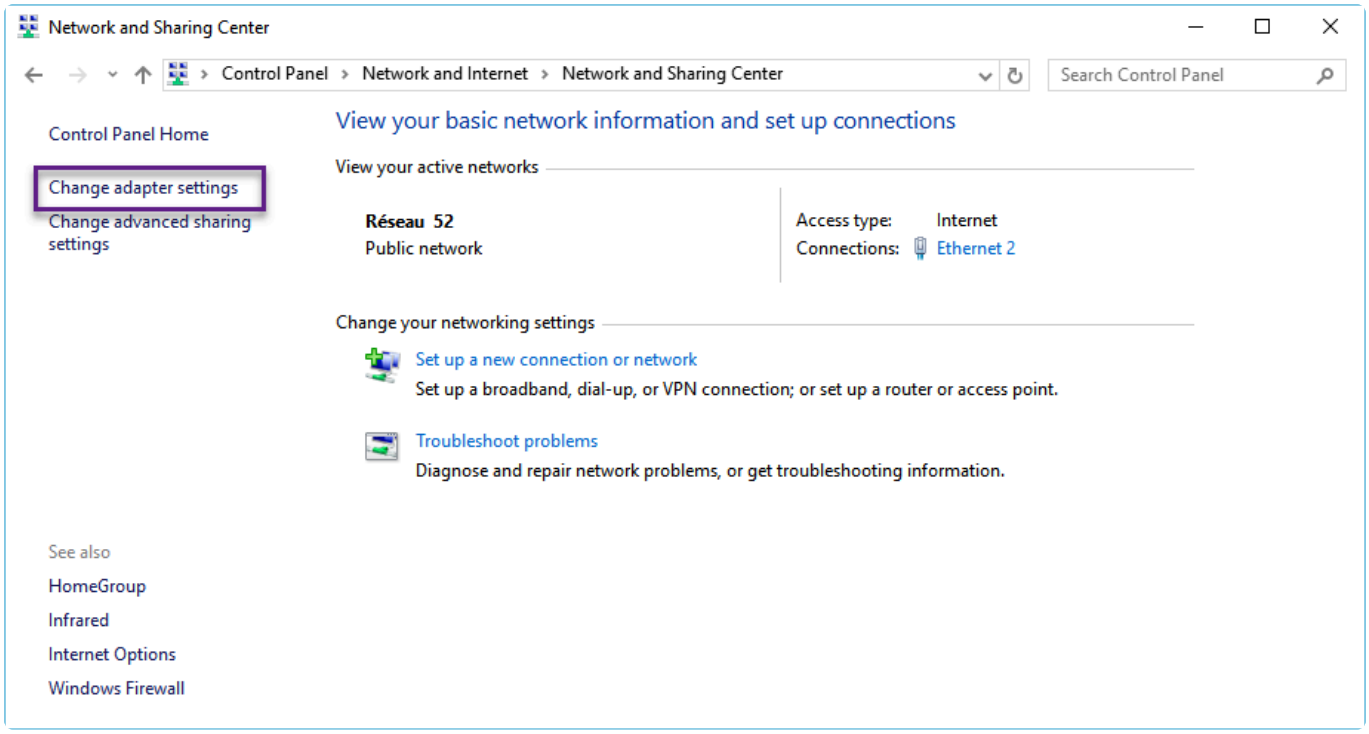
Open the control panel (for example enter *control panel* on the loop field on the left back of your Windows.
Choose *network and internet*



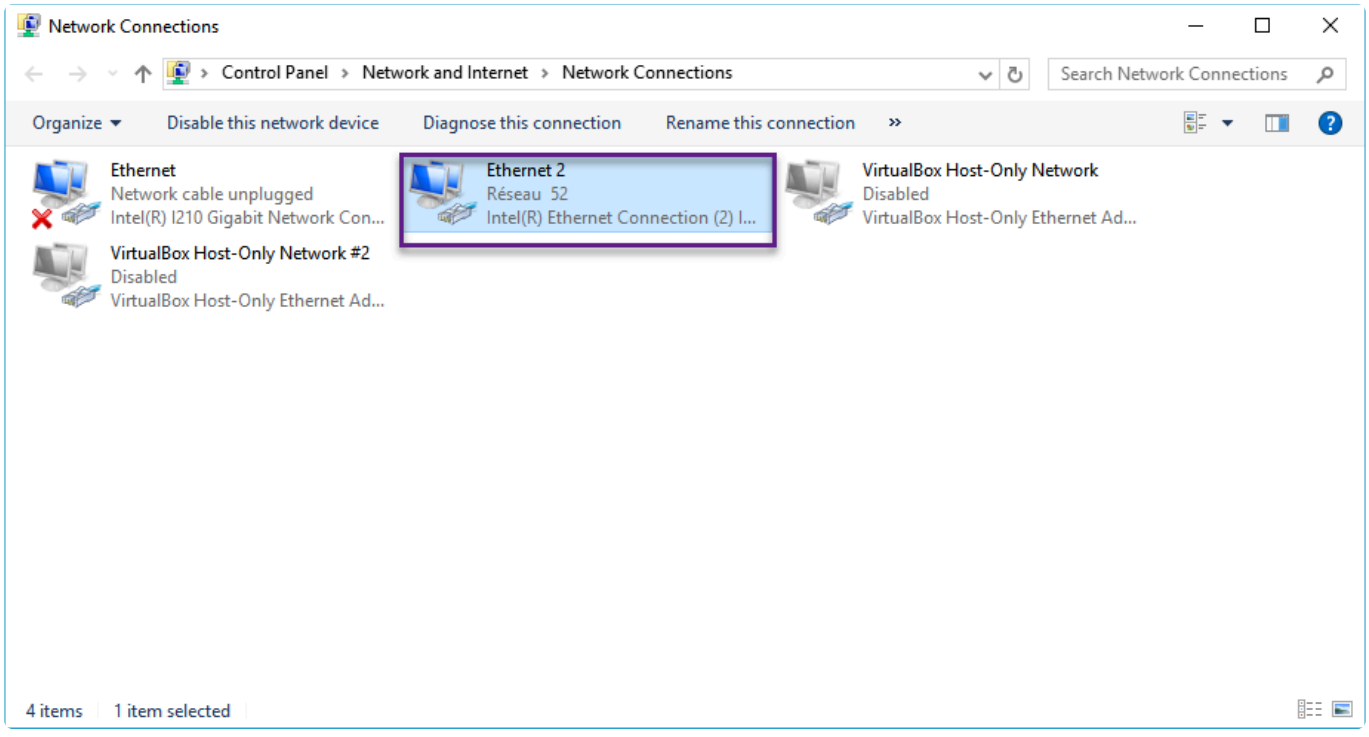
Click on *network and sharing center*



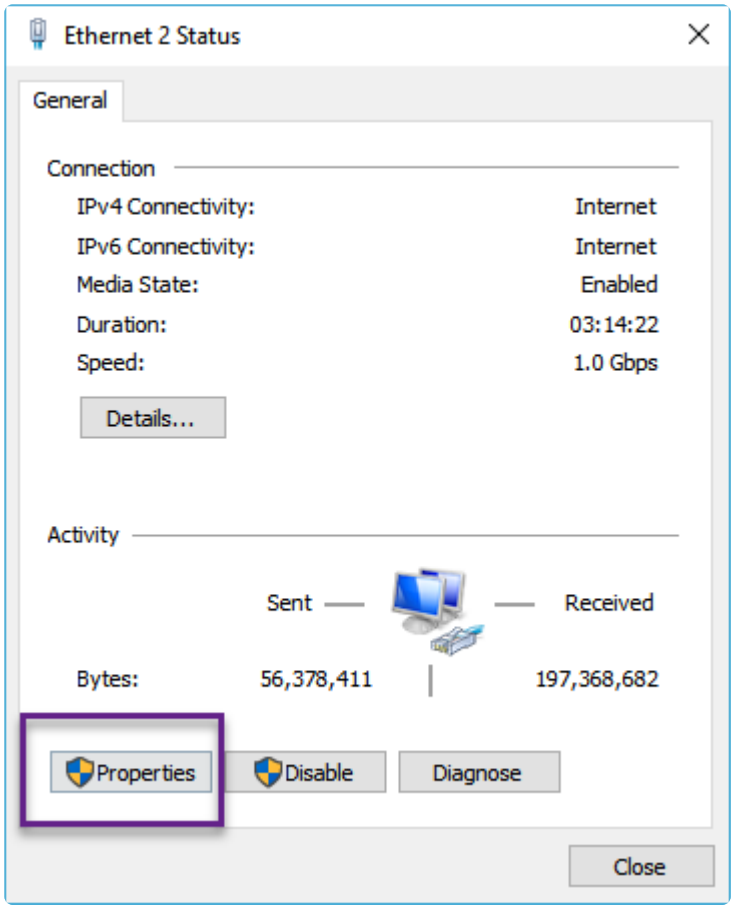
Click on the left on *change adapter settings*



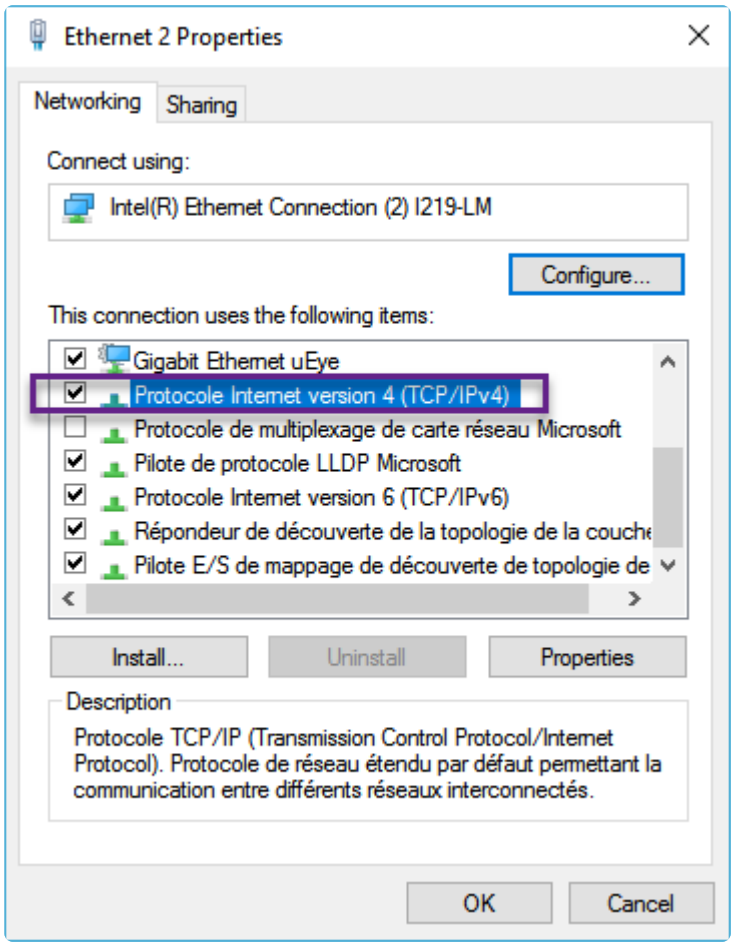
Then choose your network adapter (WIFI or Wired).
Double click on it.



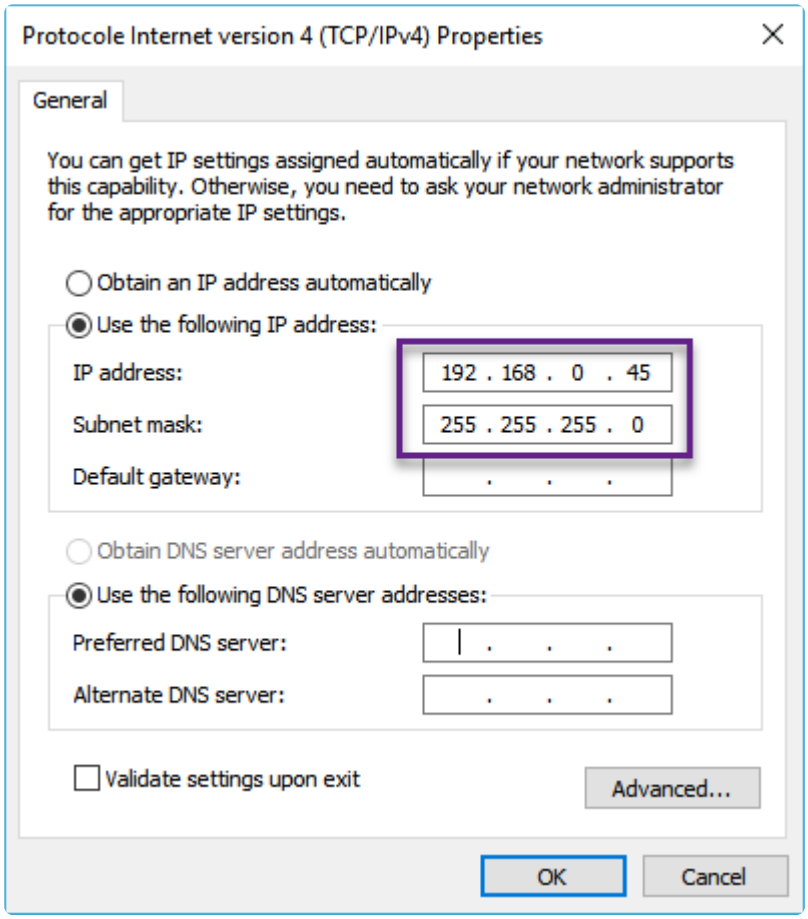
Click on *property* button.



Click on *internet protocol v4*

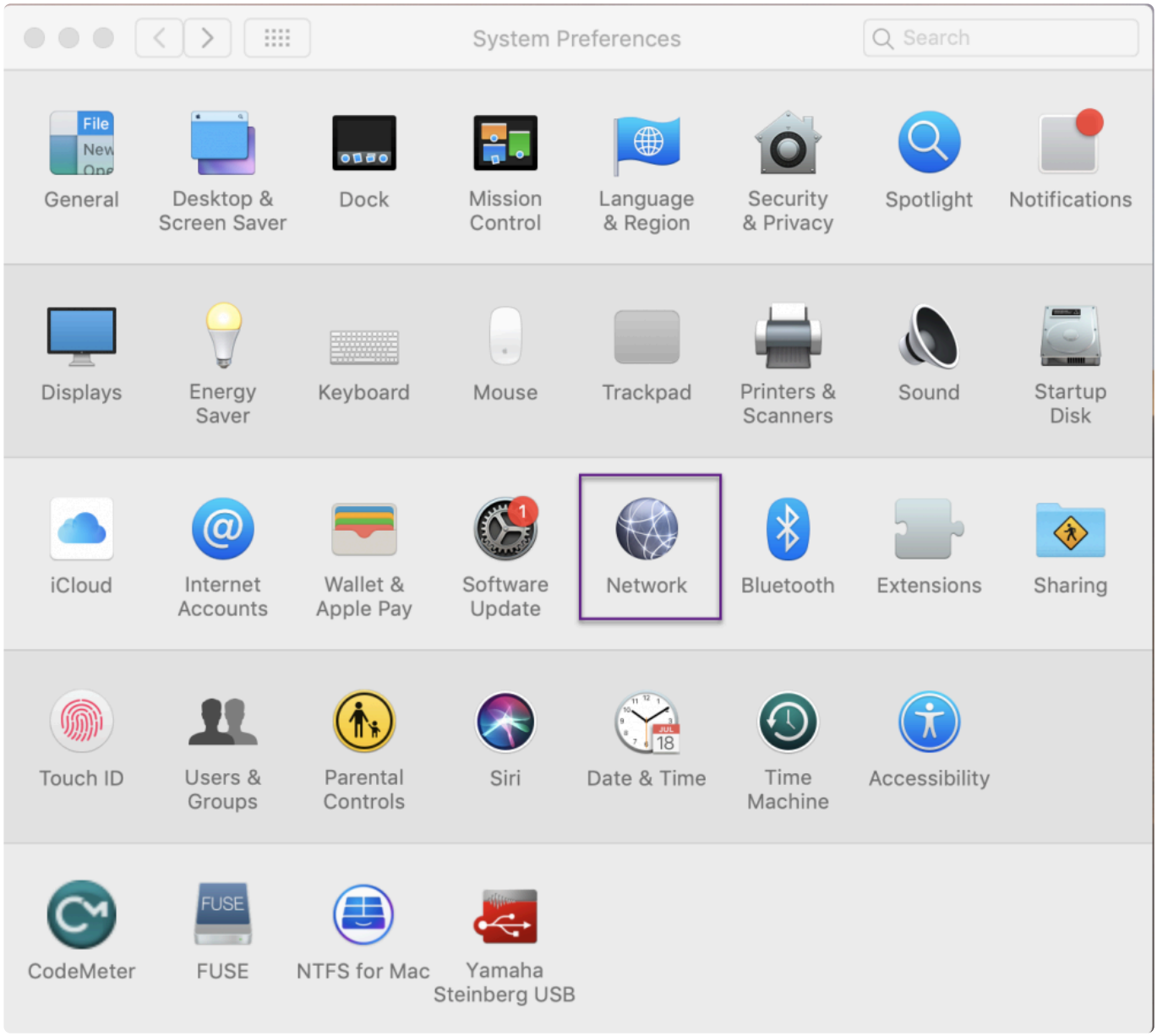


Click on *Use the following ip address* and enter a free IP address in the same network with the corresponding network mask (most of the time 255.255.255.0).

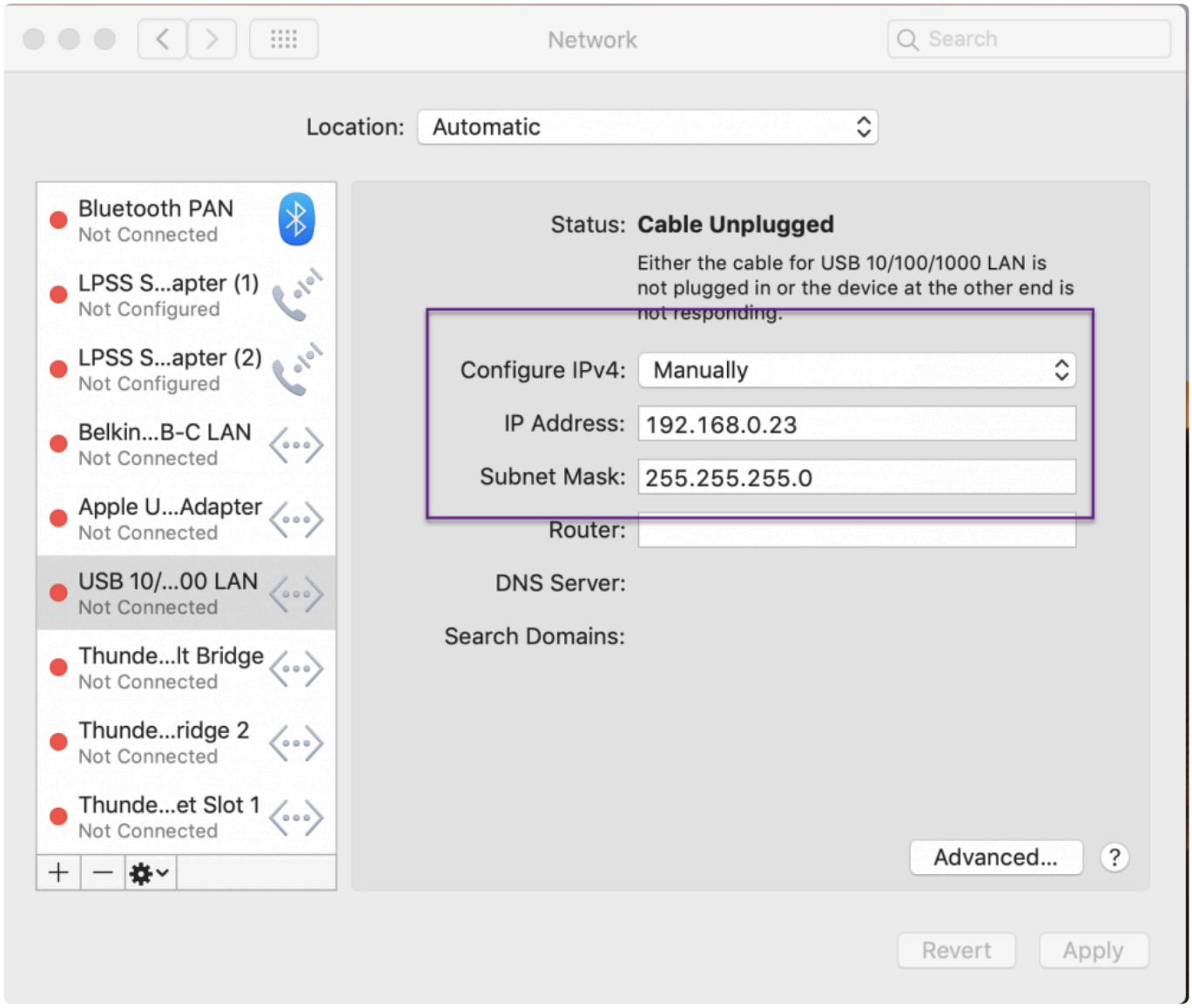


Setup the IP address of your MAC

First open the control panel.
Go on the top menu and choose *System preferences*.
Then choose *Network*.



Choose your adapter and select manually *Configure IPV4* to force a manual IP address.
Choose an free IP in your network that is on the same network as your Modulo Player media server.
Choose the good network mask: Most of the time 255.255.255.0


Network
Search
Location:
Automatic
Bluetooth PAN
Not Connected
LPSS S...apter (1)
Not Configured
LPSS S...apter (2)
Not Configured
Belkin...B-C LAN
Not Connected
Apple U...Adapter
Not Connected
USB 10/...00 LAN
Not Connected
Thunde...lt Bridge
Not Connected
Thunde...ridge 2
Not Connected
Thunde...et Slot 1
Not Connected
Status:
Cable Unplugged
Either the cable for USB 10/100/1000 LAN is not plugged in or the device at the other end is not responding.
Configure IPv4:
Manually
IP Address:
192.168.0.23
Subnet Mask:
255.255.255.0
Router:
DNS Server:
Search Domains:
Advanced...
?
Revert
Apply

Useful Guidelines

Useful Guidelines

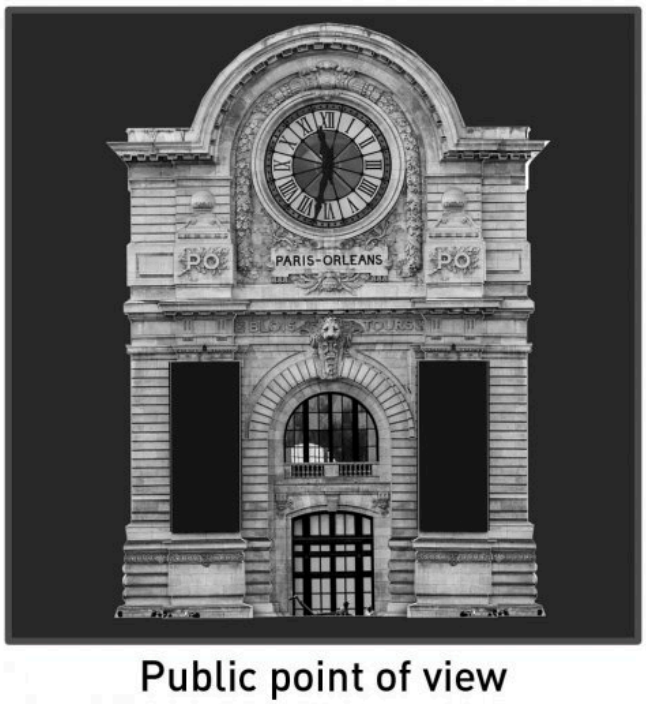
This section provides some guidelines for content creation and management when working with Modulo Player.

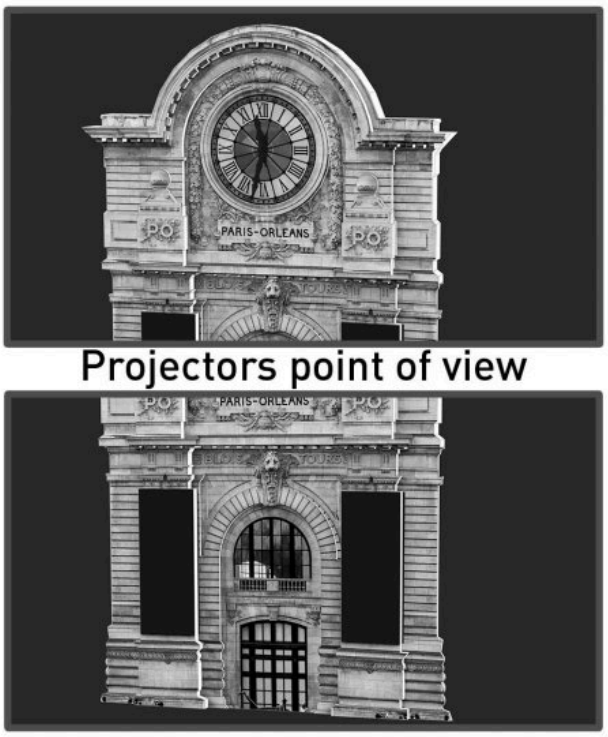
X-Map creation

In this topic we will see how to create a Photoshop file in order to use it in the Modulo Player.
To do this we will start from an example of projection on a facade with 2 HD video projectors.

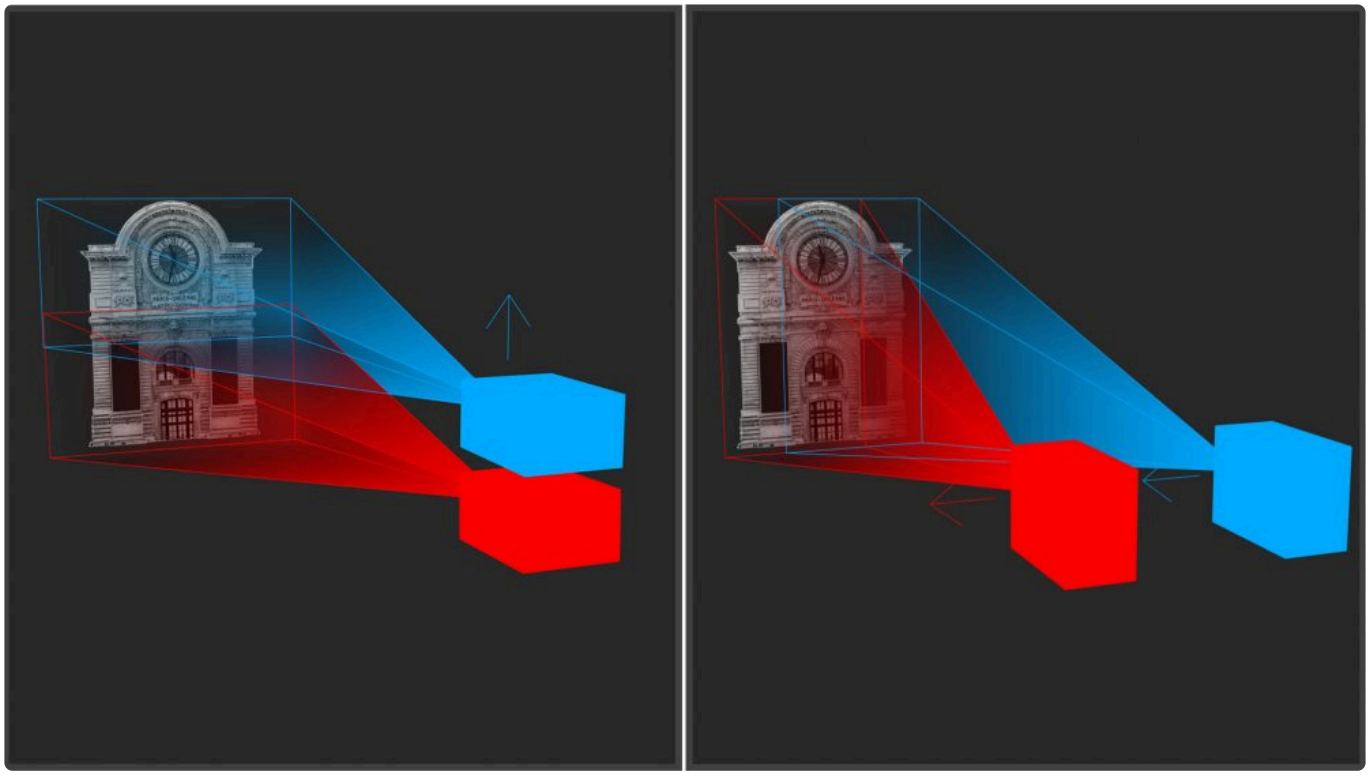
Depending on the methodology used to create images, there are two options for creating the calibration pattern :

1. from a Global perspective (public point of view)
2. from the point of view of each projector (simulation of the optics of each projector)





In the next example we will examine the case of a global perspective for 2 HD projectors with overlap.
We will first consider that the projectors are in horizontal mode (stacked on top of each other).
Then we wil see how to do it with the projectors in vertical mode (placed one next to the other).



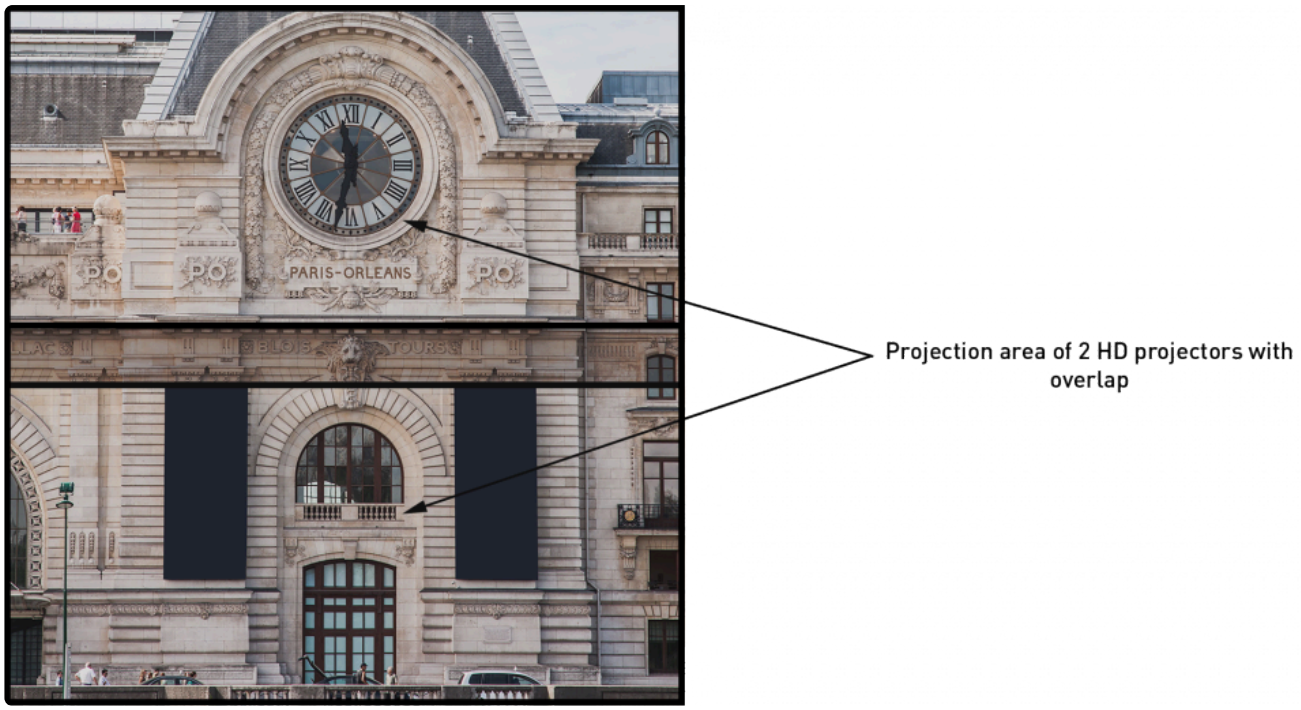
Our project concerns a part of the Orsay museum facade.

Horizontal mode: Landscape

Photo of the calibration pattern : public point of view

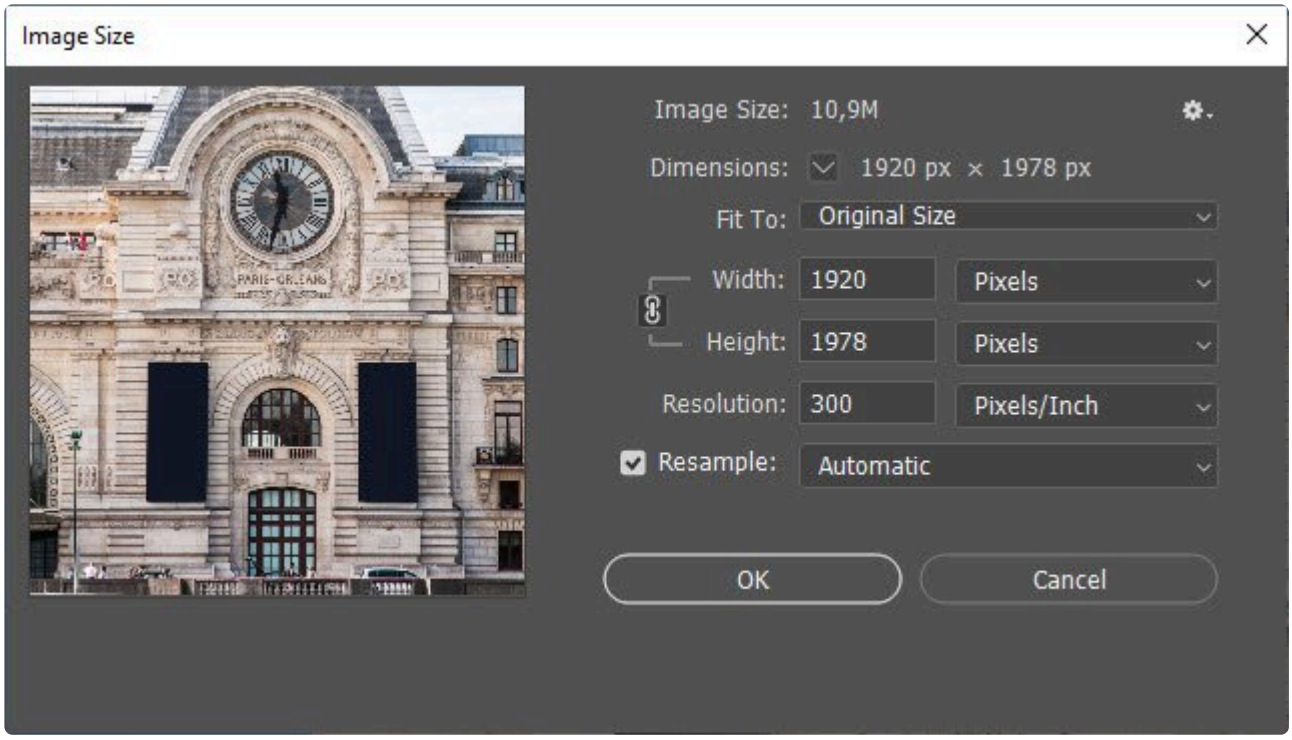
A photo should be taken from the general point of view.
This photo must be adjusted to match the ratio and resolution of our projectors using Photoshop Crop tool. And possibly correct the paralaxes generated during the shooting.
Firstly it is necessary to determine the projection area. For that, we have to define the size of the Photoshop file according to the resolution of our projectors (We have two 1920 × 1080 HD projectors).

This will be our reference pattern. All media must be based on this pattern.



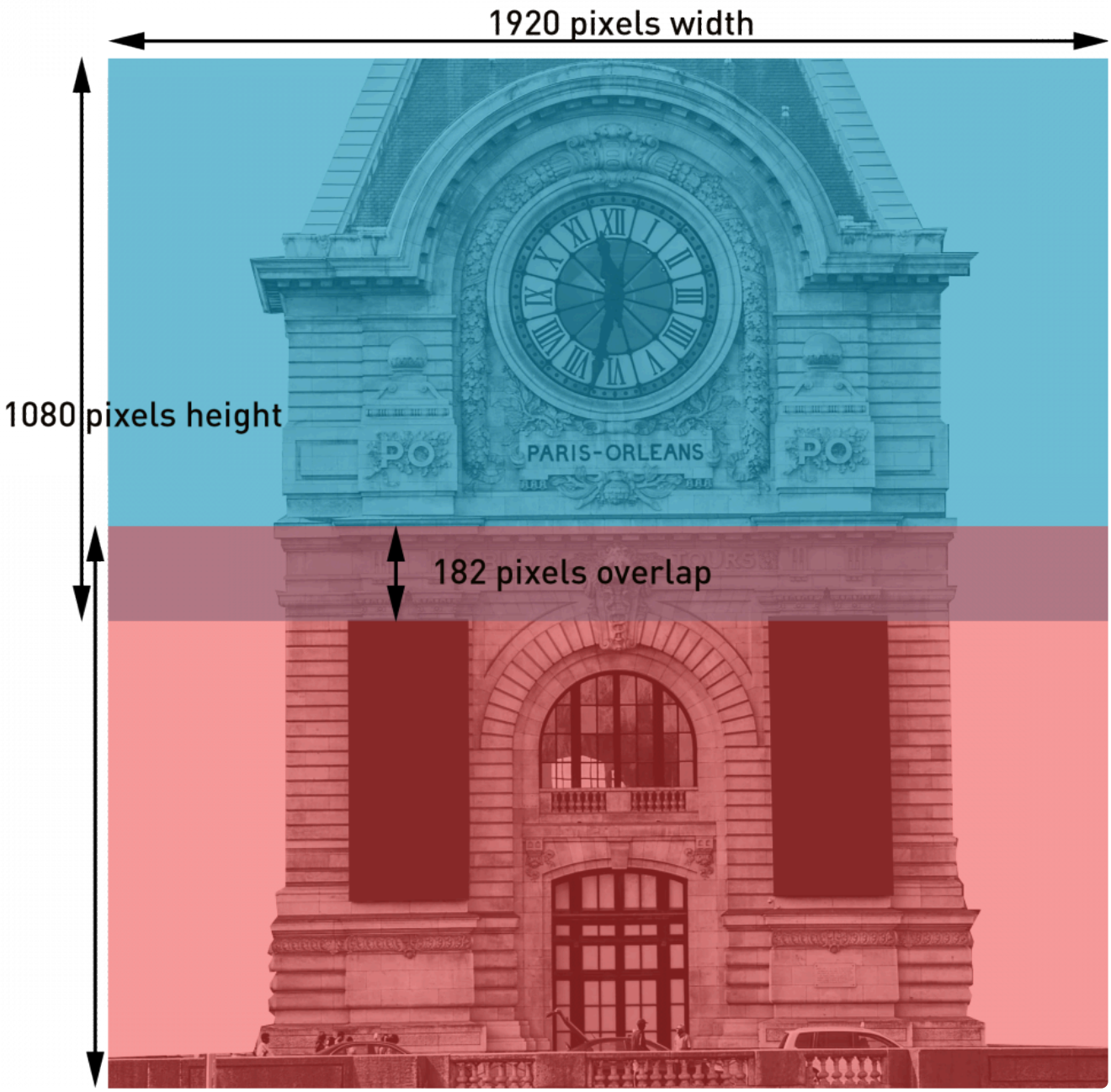
Photoshop and PSD file Resolution.

By importing the photo in Photoshop we can configure the calibration pattern file size.
• Go to Image/Image Size, in order to work on a fixed size, make sure the padlock is locked (this will maintains the image ratio) and enter 1920 pixels width.
The height changes relatively to the width to match the new image size.
• Click OK.
Note the new height.
To match its size to 2 projectors of 1920×1080 pixels resolution, we must calculate overlap.

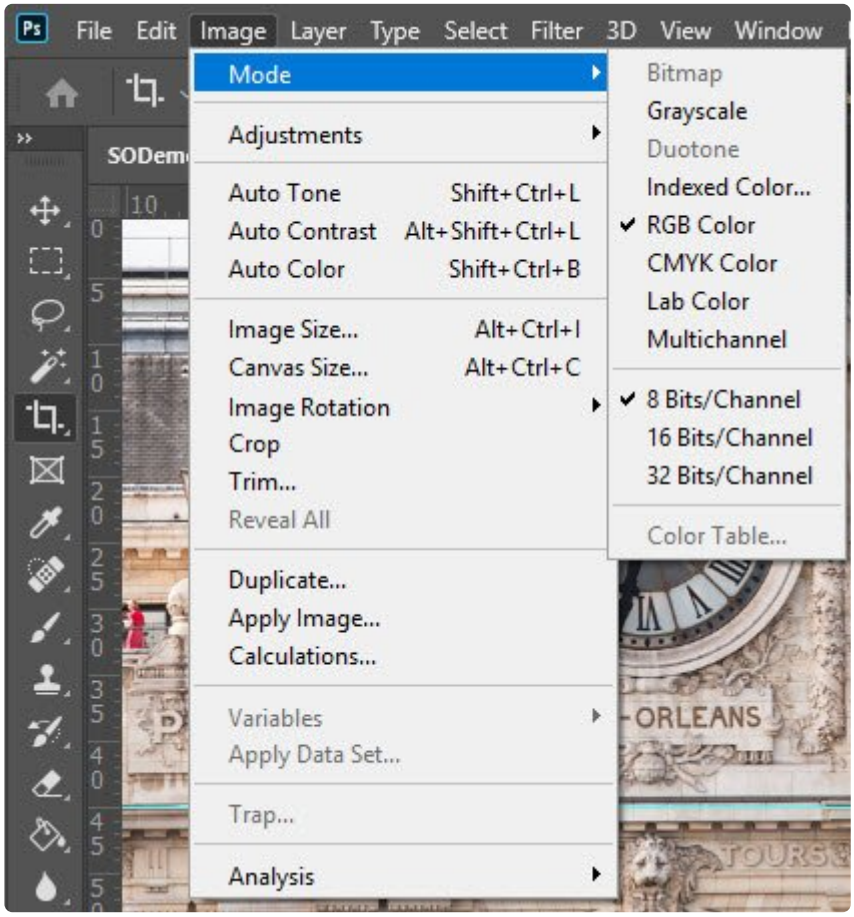


Calculating Overlap

If our project did not have overlap; the pixel workspacespace for 2 projectors would be two times their height in pixels, which is equal to 1080*2 = 2160 pixels.
Our photoshop file has a height of 1978 pixels. So the overlap is: 2160 – 1978 = 182 pixels.


1920 pixels width
1080 pixels height
182 pixels overlap
PARIS-ORLEANS
PO
PO

Characteristics of the PSD file



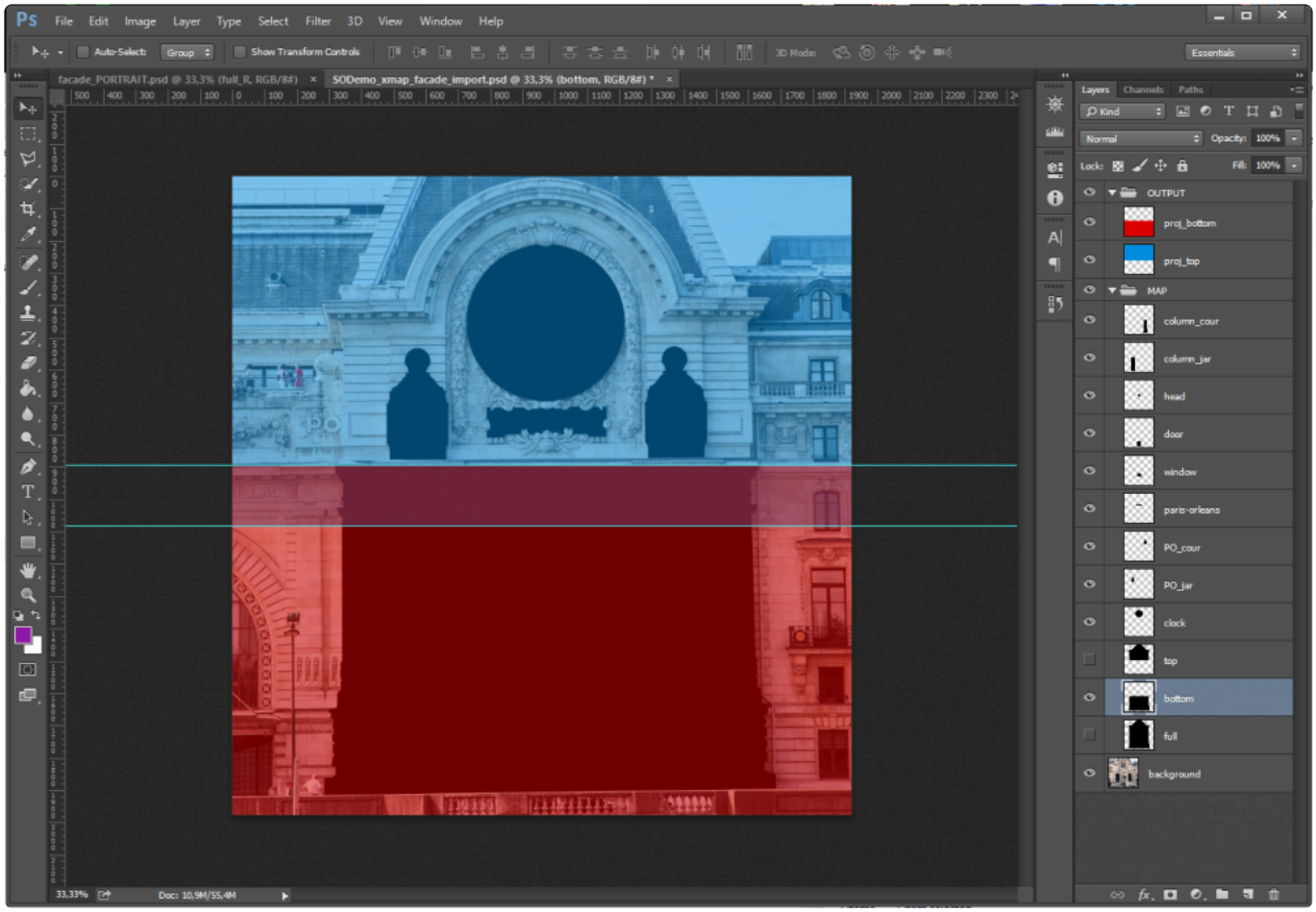
> ATTENTION : The Photoshop file must be in Mode : RGB and 8 bits/ channel. The folders names should be as follows.

You will have to create :

-A folder named **OUTPUT**.
This folder contains all the Outputs of your project. Each Output is a single layer layer.

-A folder named **MAP**.
This folder contains all the layers of the X-Map and masks. Each shape is a single layer.

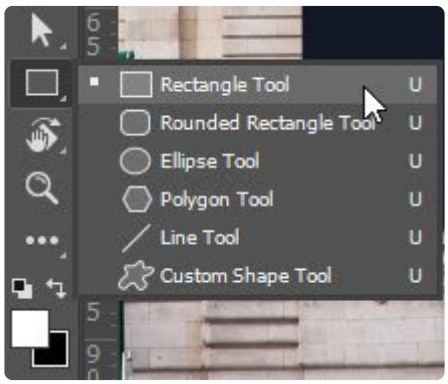
> Double check the name of the two folders OUTPUT and MAP.



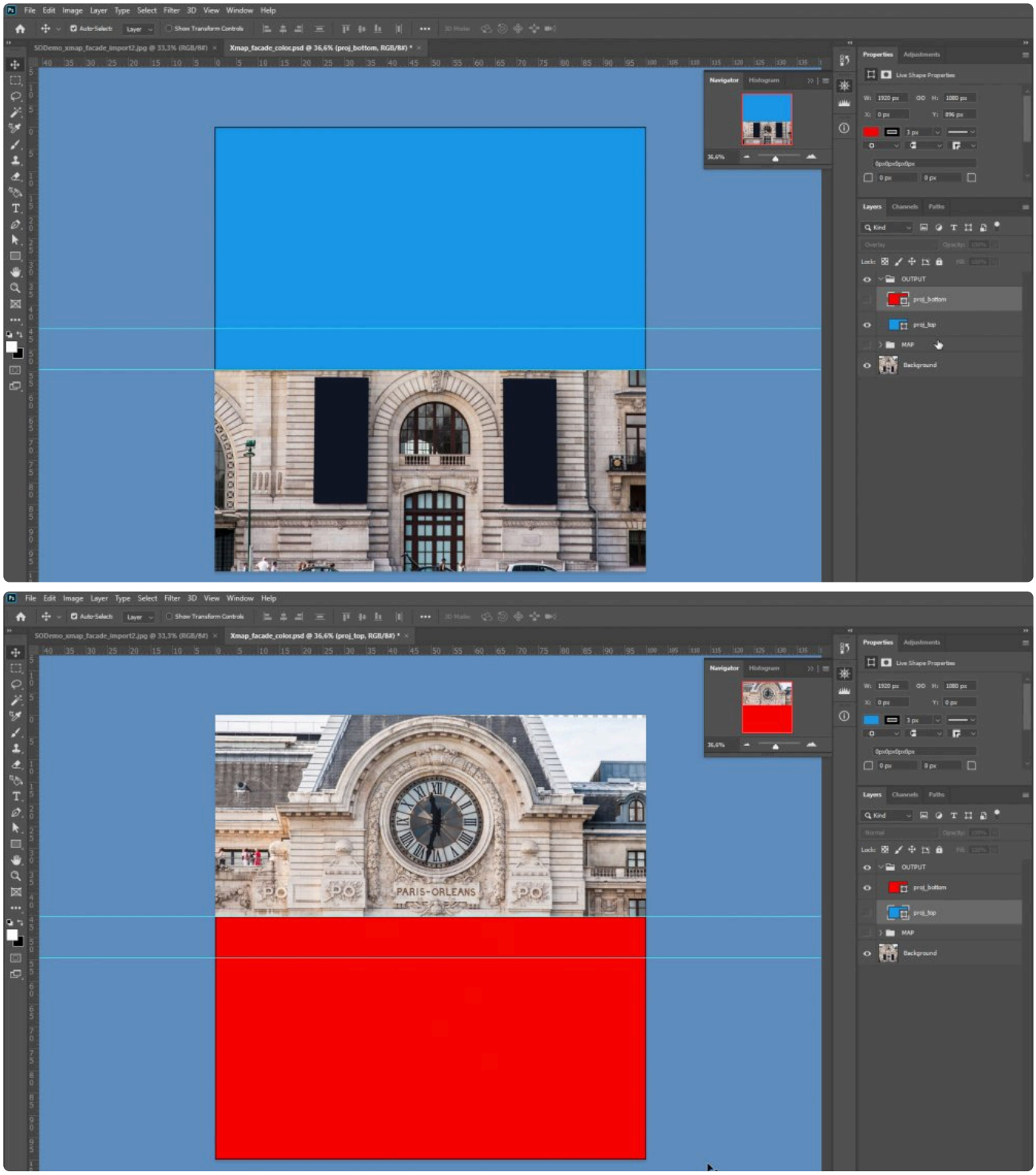
> ! ATTENTION : Overlap will be managed by Modulo application. It can be assigned to the global output, or an X-Map Shape.
> The Modulo Player application uses the opacity to manage overlap, that's why the layers you create in Photoshop must be in full opacity (100%).

Output layers

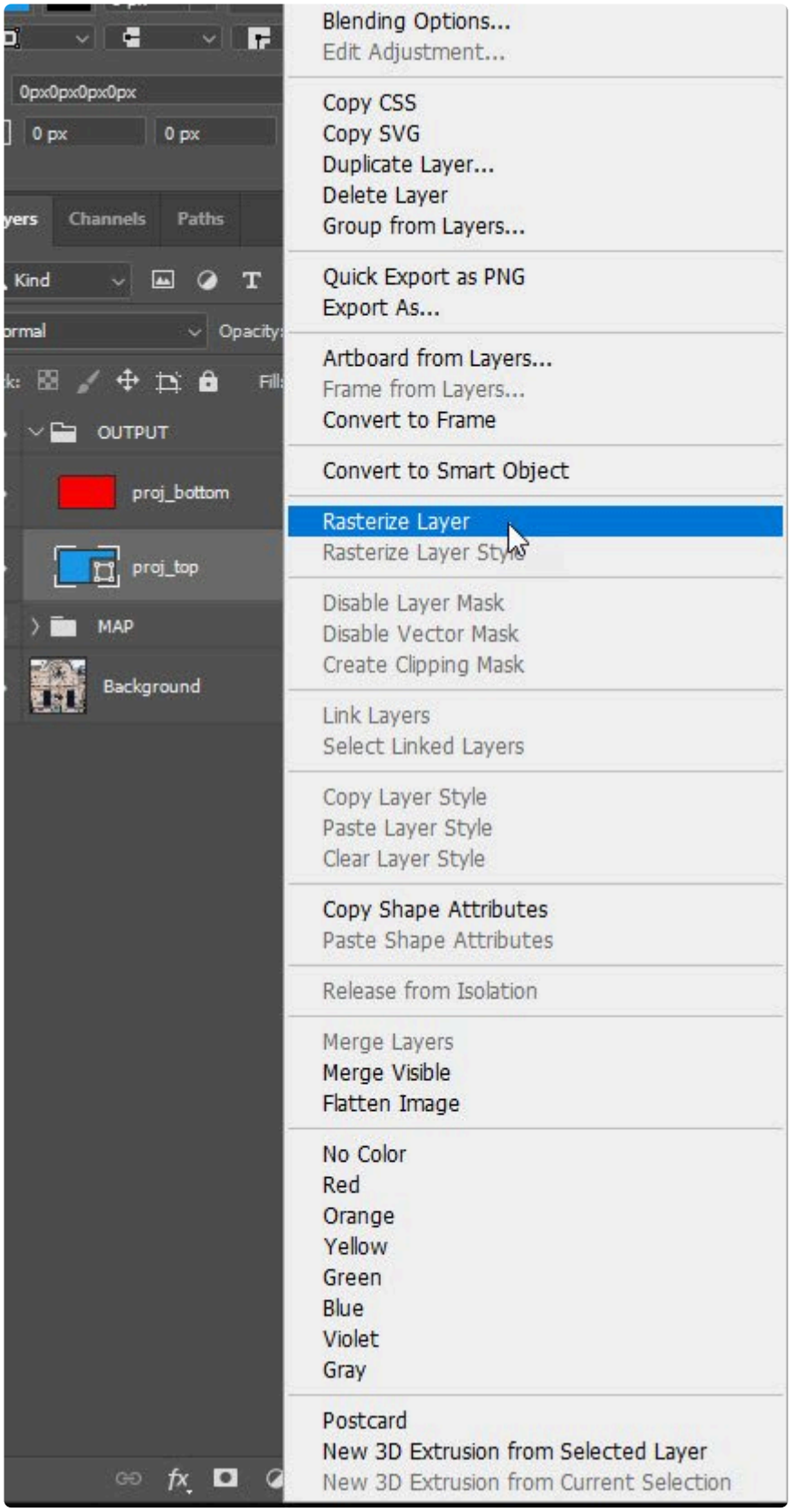
To create the future outputs of the Modulo Player, you have to create rectangles shapes that correspond to the ratio of your video projectors (in our example 16/9).
For this you can use the Rectangle tool of Photoshop.



Each shape corresponds to the desired projection area of a projector.



In the end, the vectorial shapes must be pixelized (right click on the layer then choose Rasterize Layer).



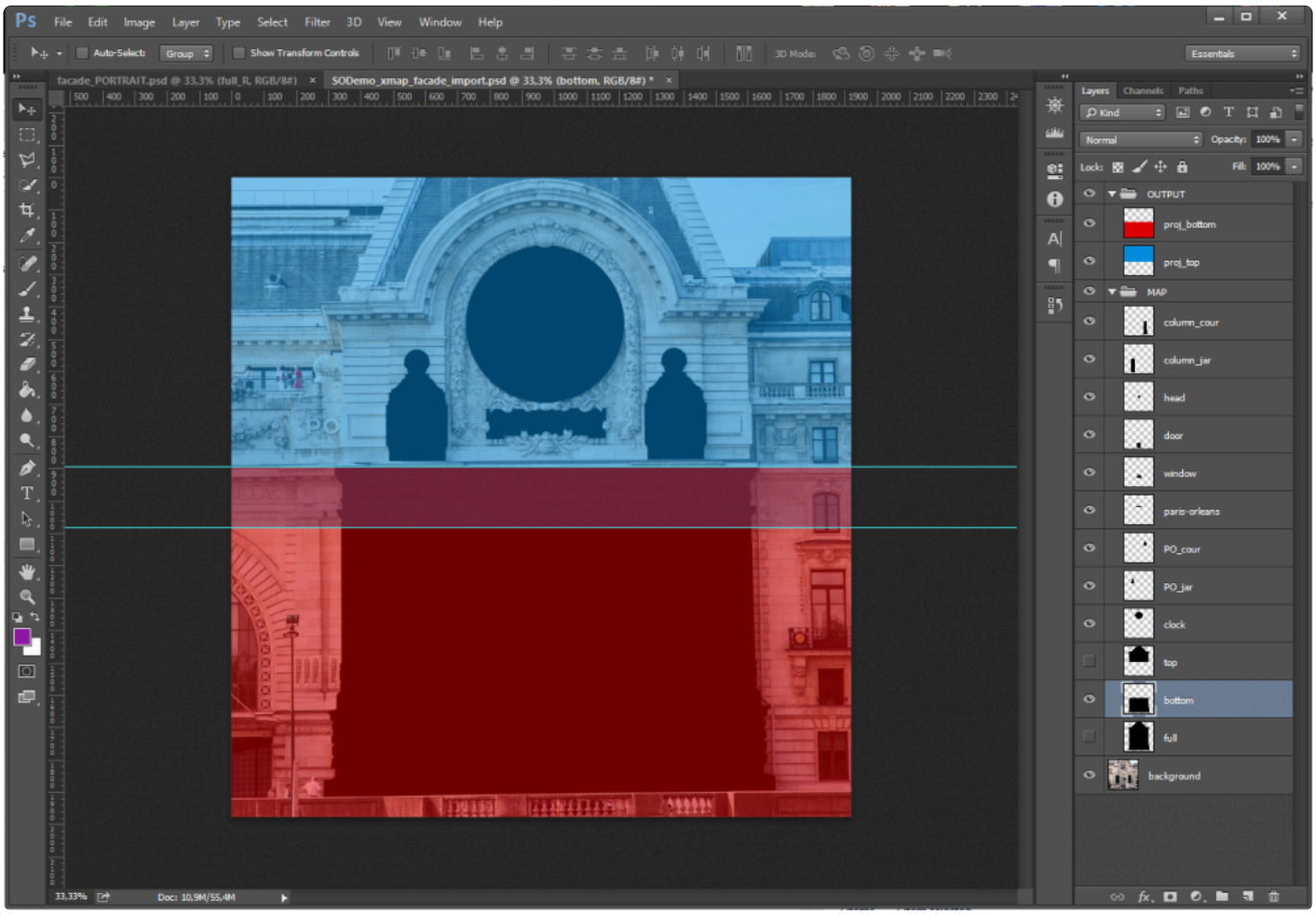
Map layers

> ! ATTENTION : Each layer should include only one element at a time.

Use all the Photoshop tools to isolate all the significant elements of the facade and create a layer for

each element.
Start with relatively flat areas, and then the decorative elements.
We advise you to follow the following order:
- major background surfaces (top, bottom, full)
- big elements of the façade (door, window, column…)
- details of the façade

Every element should be cutout and filled with a single solid color.
For semi opaques elements (like windows) it is advisable to select a black solid color. In order to turn the X-Map into a mask if necessary.
It will be useful to split each element overlapping on several outputs at the same time. One part for the top part of the projection and a second for the bottom part.
This will make it easier to adjust the warp of each X-Map.



Note: we have splitted the layer “full” into 2 layers, one called “top” and the other called “bottom”

Importing The PSD file in Modulo Player

Now we are ready to import the PSD file in Modulo Player.
The size of the Photoshop canvas will automatically inform the size of the Pixel Workspace of the

Modulo Player.
Outputs will automatically be created according to the layers in the OUTPUT folder of Photoshop.
X-Maps will be created in the corresponding outputs according to the layers present in the MAP folder of Photoshop.

> ! The order of the Photoshop layers will be preserved in Modulo Player. However it will be possible to change this order in the Modulo Player if necessary.

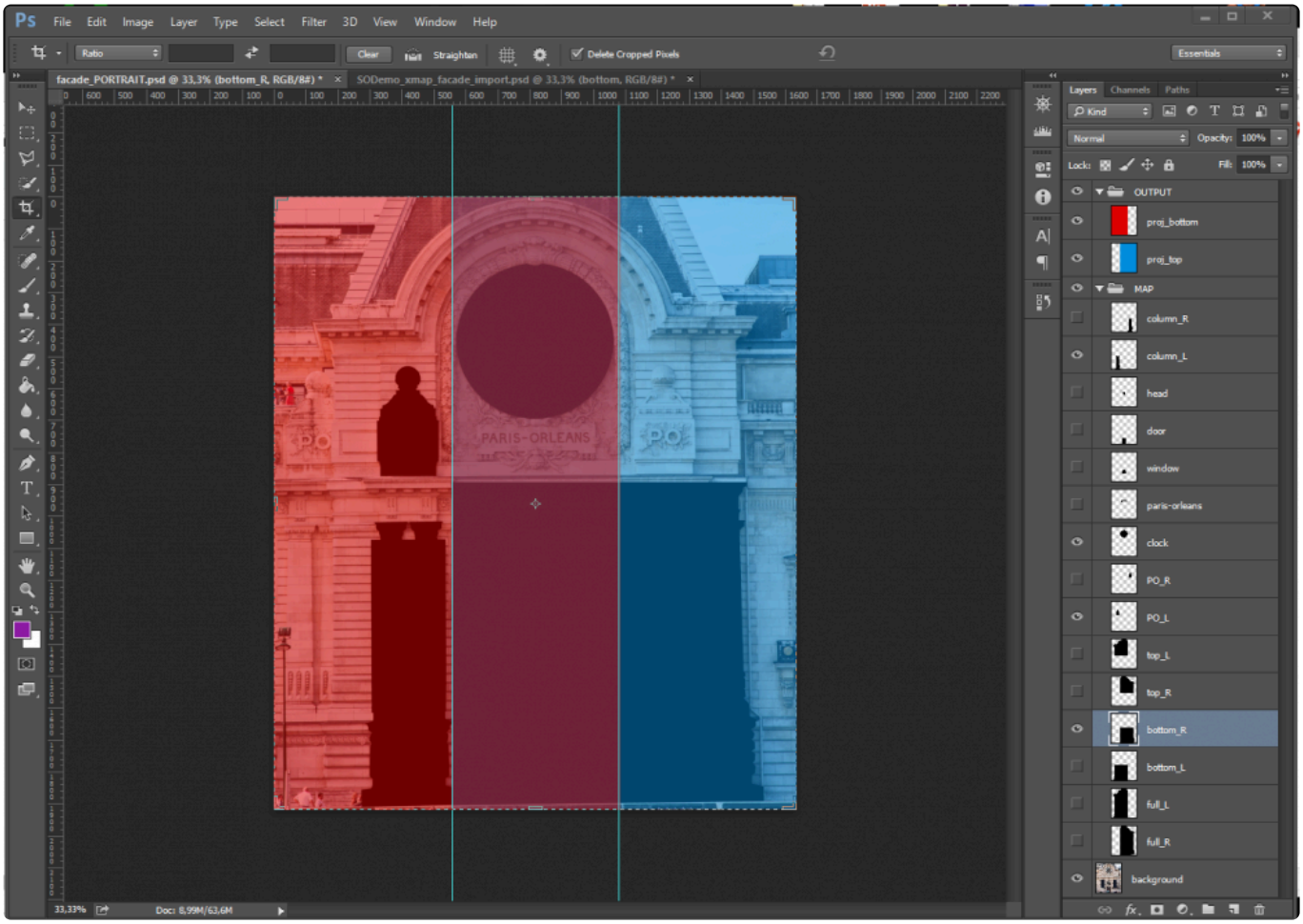
You can download the PSD file here: Xmap_facade_landscape
For more informations about X-Map see X-Map

You can save a copy in .jpg or .png format with the X-Map layers filled with bright colors and place it in the Modulo player playlist.
This will be useful to set the warp of the X-Maps.

You can download the colored pattern here: colored-pattern

Vertical mode: Portrait

If you plan to use your projectors in a vertical position, simply create vertical shapes in Photoshop OUTPUT folder, taking care to keep your projector's aspect ratio.
All the recommendations seen previously remain the same.



You can download the PSD file here Xmap_facade_portrait

Media Creation

Here are the recommendations for media creation in Modulo Player V5.

Video

You can read compressed files with the MPEG2, H264, HAP, or Apple ProRes codecs.

We rather recommend the HAP codec, lighter to decode and directly managing the alpha channel. Apple ProRes is a good option for a direct workflow, very good quality and less intensive than H264. H264 requires more CPU resources from the server but it is preferable if you want to have small video files with multiplexed audio tracks.

The video files must be in **progressive**. It is not possible to **deinterlace** directly the files on Modulo Player.
If the servers have a base of **60** (EDID in 60), you have to play files in **30P** or in **60P**.
If the servers have a base of **50** (EDID in 50), you have to play files in **25P** or in **50P**.

MPEG2

MPEG2 (Extensions MPV, MPG, M2V…):
Files must have a **width divisible by 16** and a* height divisible by 8*.
Files must be compressed in **constant bitrate**, and preferably* between 10 and 40 MBit/s*.

H264

H264 (Extensions MP4 or MOV):
Files must have a width and a **height divisible by 2** (pair).
Files must be compressed in **constant bitrate**, and preferably between **5 and 40 MBit/s**.
The maximum resolution is 4096 × 2304 pixels. If your media is larger, you need to split your media.
Select a **High Profile** and **Level 5.1** (or **5.2**). Select **CBR** and a **bitrate** value.

Bitrate parameters

The ideal bitrate depends on file resolution and scene complexity: The higher the resolution, the more necessary it is to increase bitrate.
Take into consideration the number of simultaneous files to play, including the crossfade:

- If you play a few files with large resolution simultaneously, increase the bitrate
- f you want to play multiple HD files simultaneously, it is preferable to lower the bitrate

To be considered of the same quality, a file encoded in H264 requires a two-times lower bitrate than the MPEG2. In comparison, a blueray H264 is usually encoded in a maximum bitrate of 15 MBit/s.
For example, for 4 outputs playing simultaneously 4 videos that fade in to 4 other videos, the player will playback 8 videos during the transition.

HAP

HAP / HAP Alpha / HAP Q (Extension MOV):
Modulo Player natively supports the HAP codec with graphics acceleration support: It is possible to playback a .mov video file encoded with the HAP, HAP Alpha or HAP Q codec.
HAP:
Reasonable image quality.
HAP Alpha:
Reasonable image quality with an Alpha channel.
HAP Q:
Good image quality at a higher data-rate, no Alpha layer management.

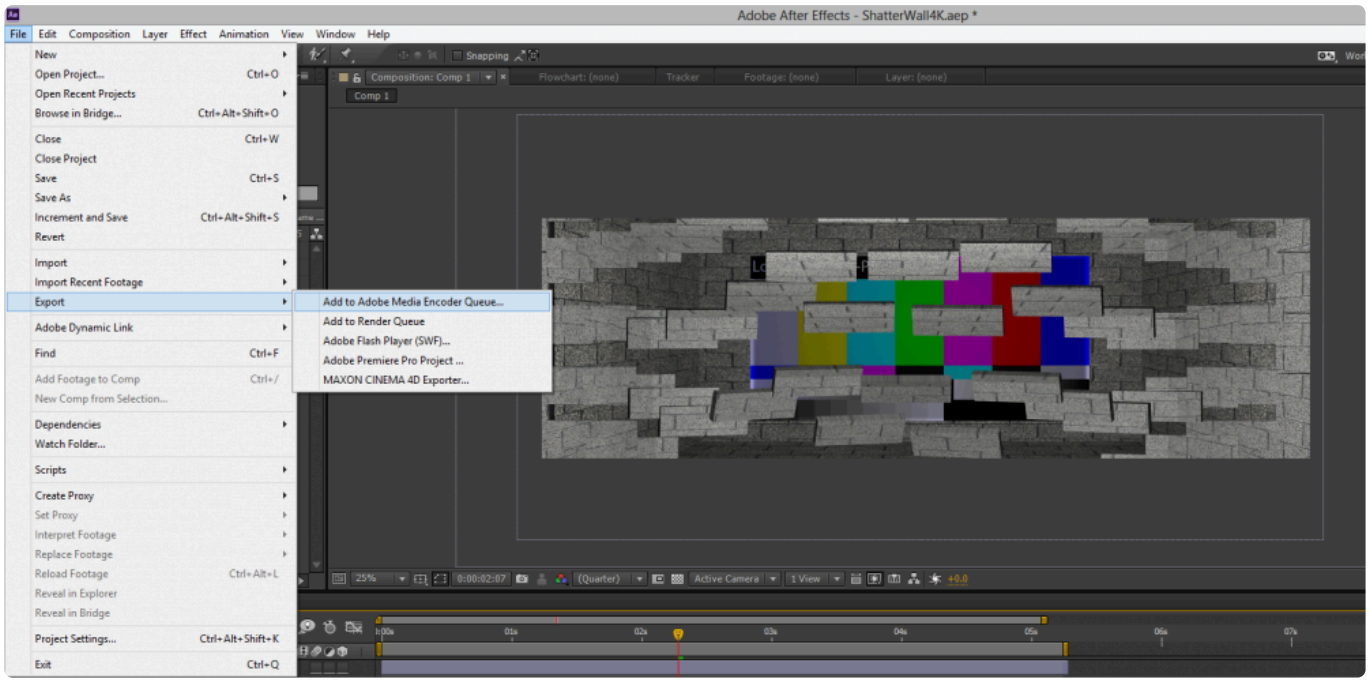
NB: It is currently not possible to playback audio within a .mov HAP, HAP Alpha ou HAP Q codec.

Apple ProRes

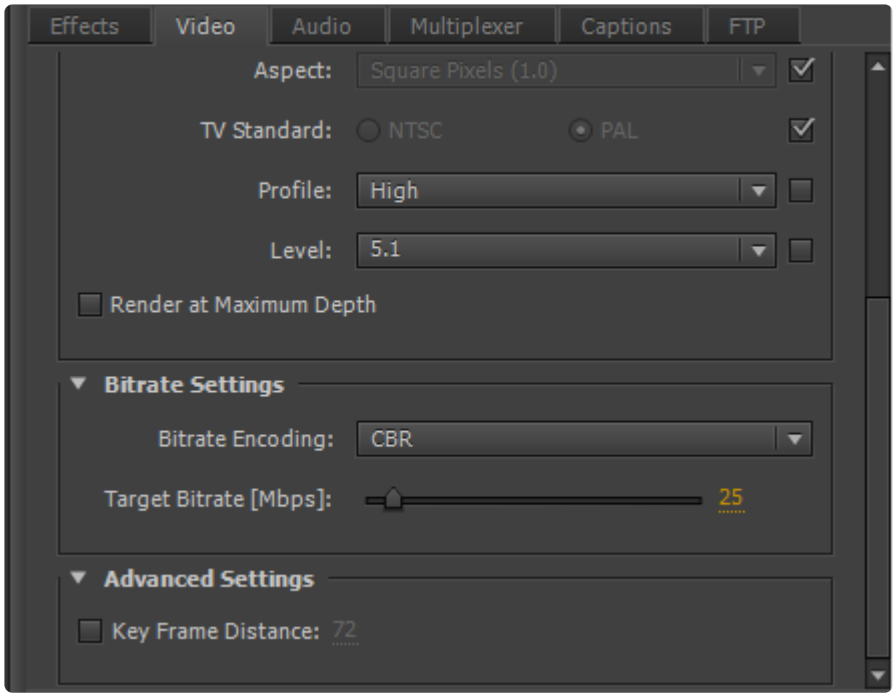
Apple ProRes (Extension MOV):
Modulo Player natively supports the Apple ProRes codecs.
It is possible to playback a .mov video file encoded with the Apple ProRes 422 codec.

NB: It is currently not possible to playback audio within an Apple ProRes .mov file.

Export H264
Export from After Effects CC
To export your media via After Effects CC, you have to send your composition to export using Adobe Media Encoder CC:
1. Select the composition you want to export and go to File > Export
2. From the Export list, select “Add to Adobe Media Encoder Queue ”:
Adobe Media Encoder CC will then automatically open with the preloaded composition.
Files must have a **width** and a **height divisible by 2** (pair).



Export from Adobe Media Encoder CC
You can directly encode your media by importing it to Adobe Media Encoder.
1. Choose the H264 codec (CERTAINLY DO NOT use the Quicktime format with the H264 codec).
2. Choose **High Profile** and **Level 5.1** (or **5.2**). Choose **CBR** and a **bitrate** value.
3. Once the export is done, make sure the file is readable and shows the correct framerate by importing it in After Effects.



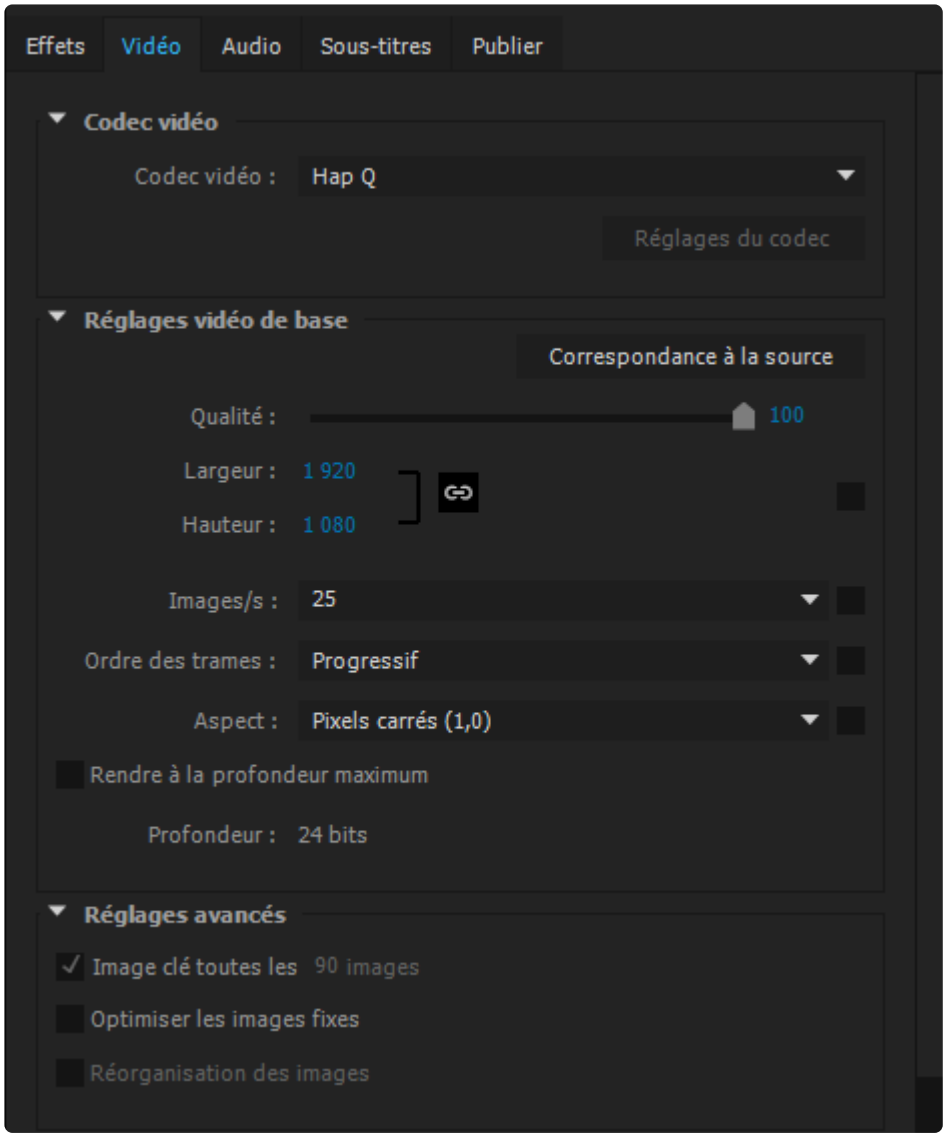
Export HAP

Export from Adobe Media Encoder CC

To encode and playback the HAP codec, download the latest codec for QuickTime on the page:
https://github.com/Vidvox/hap-qt-codec/releases/
Install the plugin (Mac or PC).
Then, you can directly encode your media by importing it to Adobe Media Encoder.
1. Select the **QuickTime** format, and the **HAP, HAP Alpha** or **HAP Q** codec.
2. Select **100** ***Quality*** and ***Progressive***. Keep a ***Square pixel*** aspect ratio (1,0).
3. Once the export is done, make sure the file is readable and shows the correct framerate by importing it in After Effects.
Files must have a **width** and a* height divisible by 4*.

HAP and HAP Alpha have a quality setting.
Although QuickTime displays a slider, it has only two effective settings:

- Below “High”, a fast low-quality encoder is used
- At “High or above, a slower high-quality encoder is used



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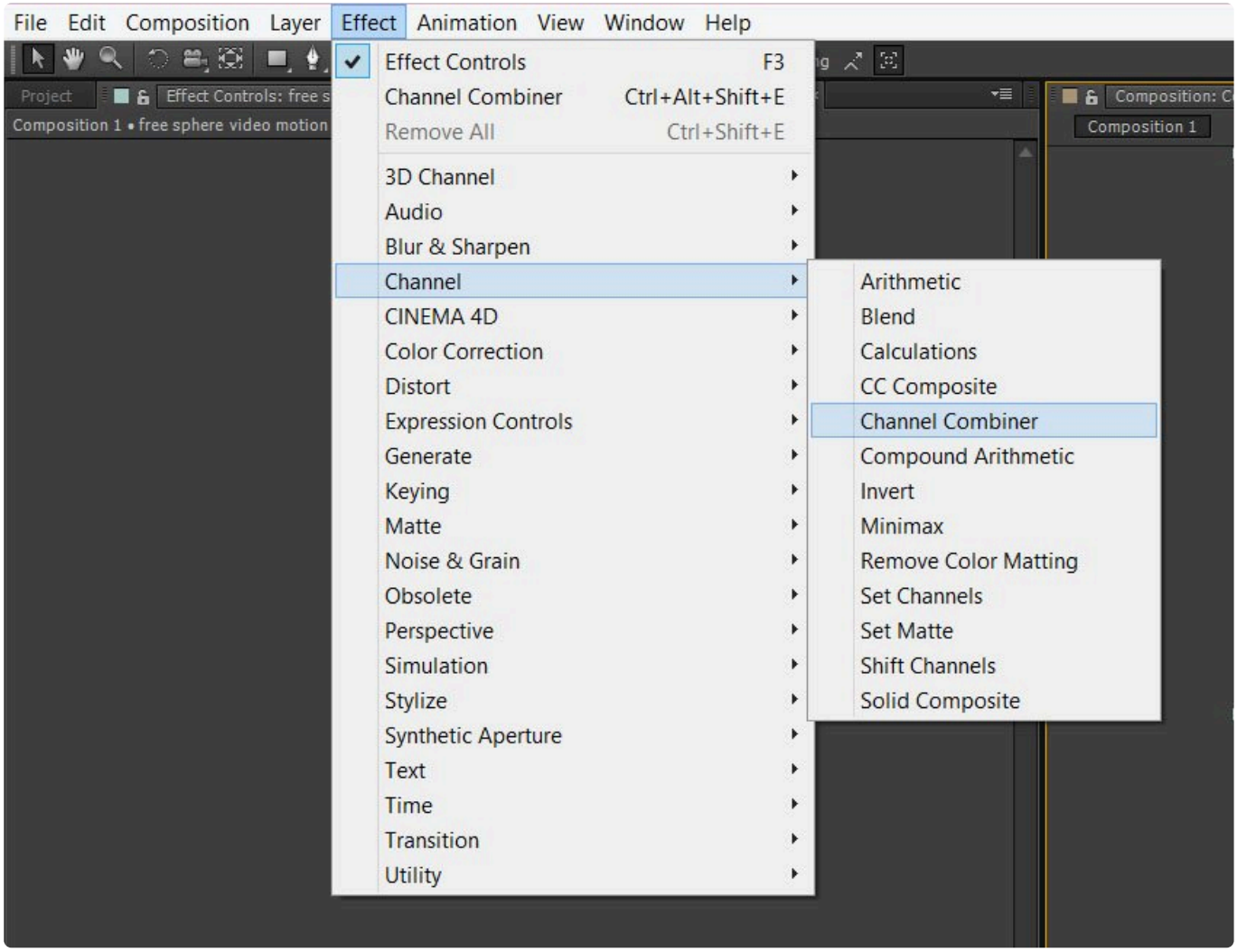
MPEG2 / H264 and Alpha channel

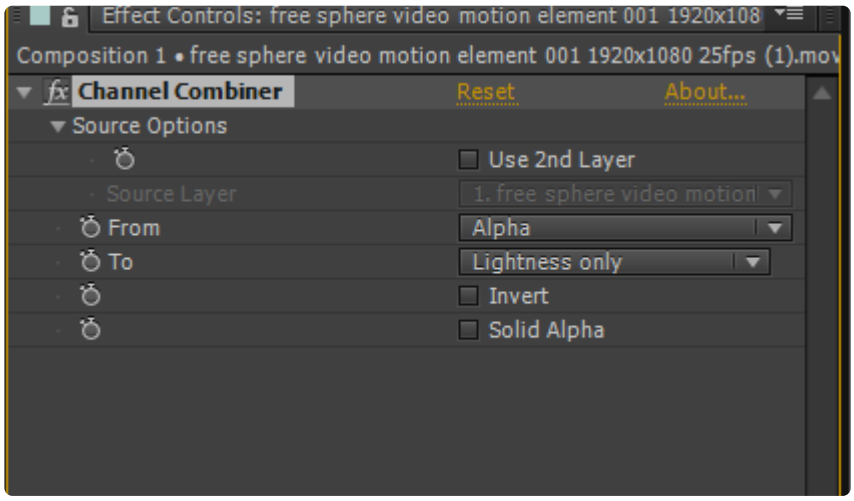
It is possible to playback a video MPEG2 / H264 or image file with an Alpha channel.
To maintain an Alpha channel from an After Effects composition, simply import the media twice in Modulo Player and follow the example below:

Alpha channel export
Export from After Effects CC
After following the export procedure of example, re-import the composition in After Effects CC.
1. From the **Effect** dropdown menu, select **Channel > Channel Combiner**



2. Select Alpha for source (From)

3. Select Lightness only for target (To)
NB: To test the Alpha transparency, you can add a solid color layer under the video layer, as shown in the example (don't forget to hide the visibility of the color layer before export):



4. Add the Alpha composition to the Adobe Media Encoder Render Queue, and export the separate Alpha channel with the same parameters as in example above.

Alpha layer configuration in Modulo Player

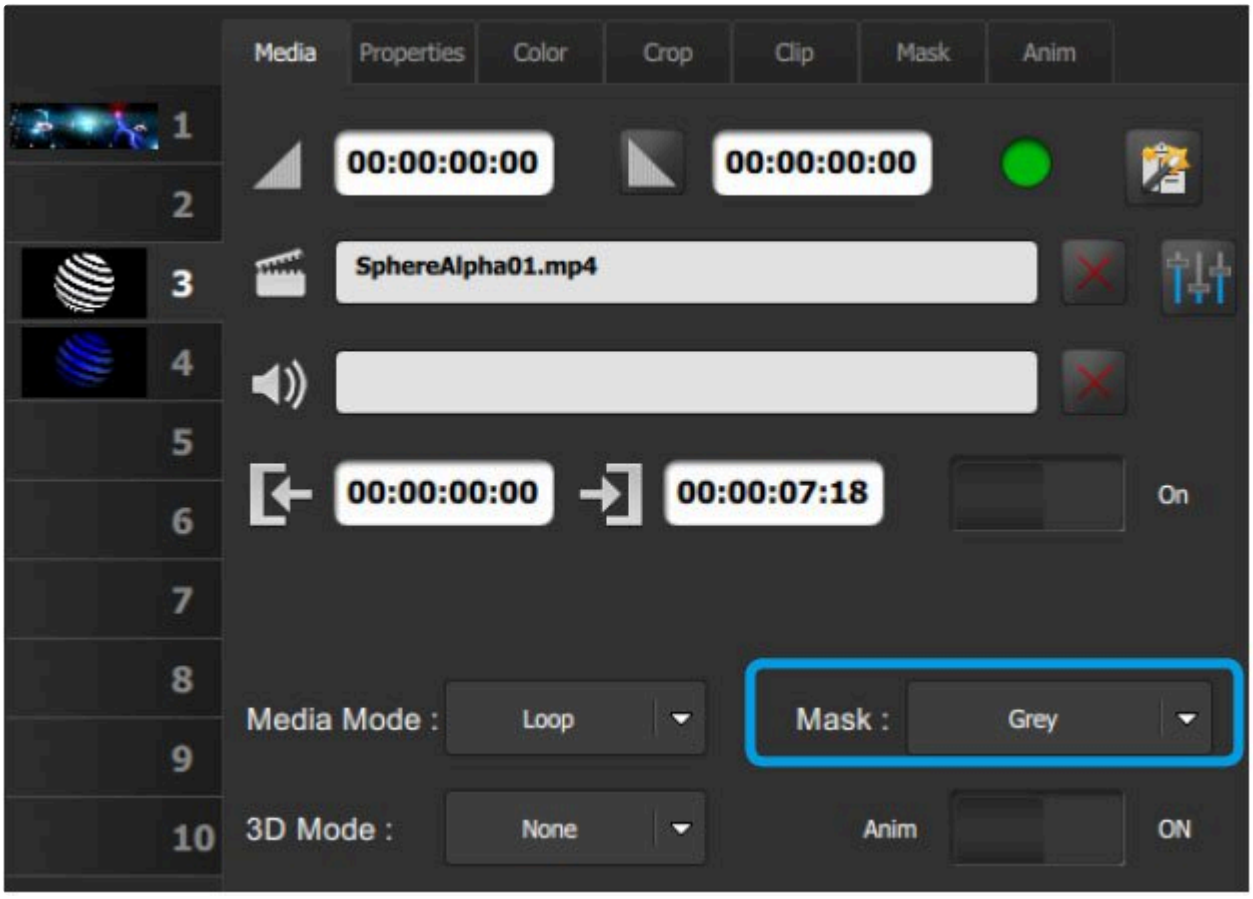
Follow the next steps to configure Alpha transparency in Modulo Player:

1. Import the file in RGB and Alpha mode.

2. Place Background media on Layer 1.

3. On Layer 3, place the media exported in Alpha mode, from the Mask dropdown menu, select Grey.

4. On Layer 4, place the media exported in RGB mode.



Image

You can read the following image files: **PNG**, **JPG** and **TIFF** formats.
We rather recommend the PNG format as **lighter**, of **better quality** and above all **lossless**.

PNG image format **preserves Alpha channel transparency**.

Audio

You can read the following audio files: **WAV, AIFF.**
You can work with mono, stereo, or multi-channel audio files.
It is recommended that audio files be **multiplexed with all channels inside**.

Modulo Player can manage – depending on the sound card – up to 7.1.
To read more than two channels, it is necessary to activate the ASIO mode in Modulo Player, and use a compatible sound card.
In this case, it is imperatively required to create all files on the same samplerate and configure Modulo Player in this samplerate beforehand.

NB: It is possible to read video files with multiplexed audio within the video.
It is currently not possible to playback audio within a MOV, HAP, HAP Alpha or HAP Q codec.

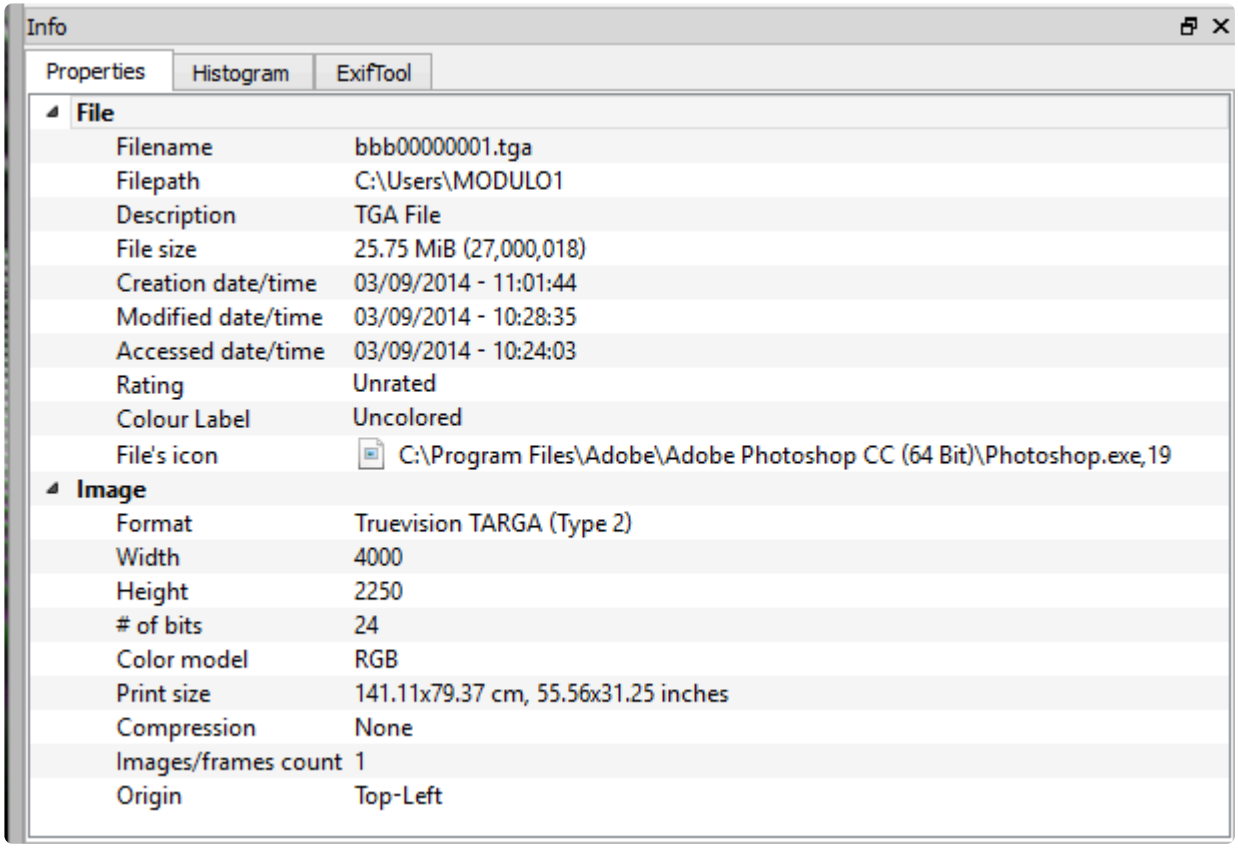
Uncompressed option

Uncompressed TGA image sequence (optional)

Modulo Player servers with the uncompressed option can read TGA image sequences directly.
For this option, you need to prepare a folder with the following name: media-name.tga. This folder should contain the TGA image sequence numbered.
Careful: You should copy all the images in this folder. If an image is missing from the middle of the sequence, the duration of the media will be divided by 2!

Modulo Player supports the **24-bit RGB TGA (type 2)** format without compression (NB: It must not be RLE compressed!).
It is also possible to import images of a **32-bit RGBA (type 2)** format.

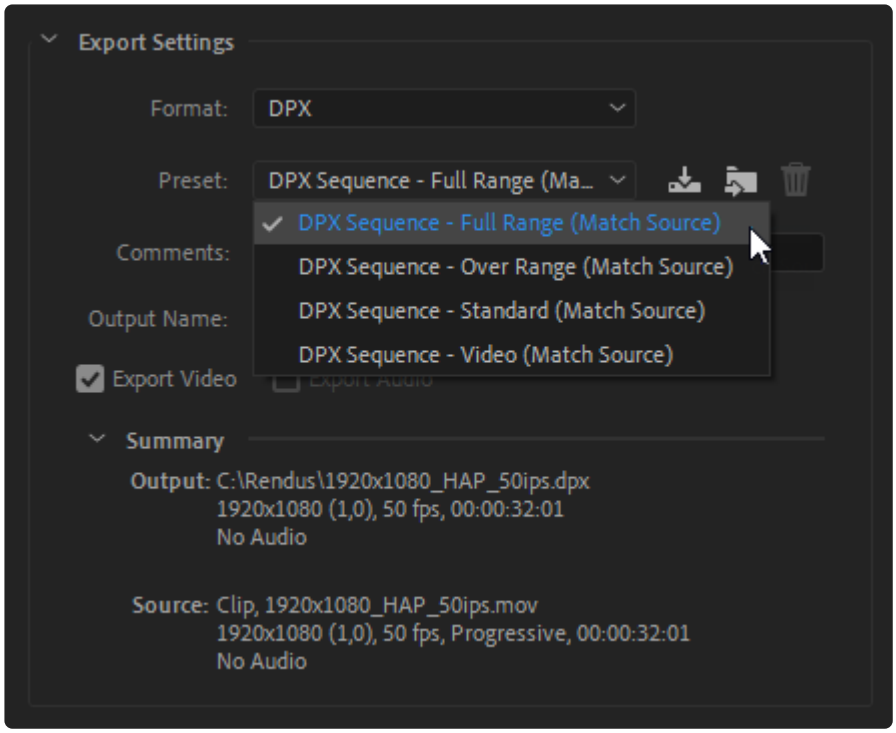
We recommend to download the XnView software (http://www.xnview.com/fr/xnviewmp) (MAC / PC) to confirm your TGA are in the right format.
Then, make sure the following information is marked in blue:



Uncompressed still Sequence DPX (optional)

Modulo Player servers with the uncompressed option can read DPX image sequences directly.
For this option, you need to prepare a folder with the following name: media-name.dpx. This folder should contain the DPX image sequence numbered.
Careful: You should copy all the images in this folder. If an image is missing from the middle of the sequence, the duration of the media will be divided by 2!

Modulo Player supports the **10 bits DPX full range (little and big endian)** and **16 bits DPX full range (little and big endian).**
The playback of **10 bits DPX Little endian** is more optimized.
For example, it is better to use Adobe Media Encoder that exports in Little Endian, than After Effect that export in Big Endian.


Export Settings
Format:
DPX
Preset:
DPX Sequence - Full Range (Ma...
DPX Sequence - Full Range (Match Source)
DPX Sequence - Over Range (Match Source)
DPX Sequence - Standard (Match Source)
DPX Sequence - Video (Match Source)
Comments:
Output Name:
Export Video
Summary
Output: C:\Rendus\1920x1080_HAP_50ips.dpx
1920x1080 (1,0), 50 fps, 00:00:32:01
No Audio
Source: Clip, 1920x1080_HAP_50ips.mov
1920x1080 (1,0), 50 fps, Progressive, 00:00:32:01
No Audio

Troubleshooting guide

Useful Guidelines

This section provides some guidelines to help fix issues.

Check OpenGL version

Modulo Player needs an OpenGL 4.5 version installed on your media server for the regular version.
For the Modulo Player Lite edition, you need a minimum OpenGL 4.1 version.

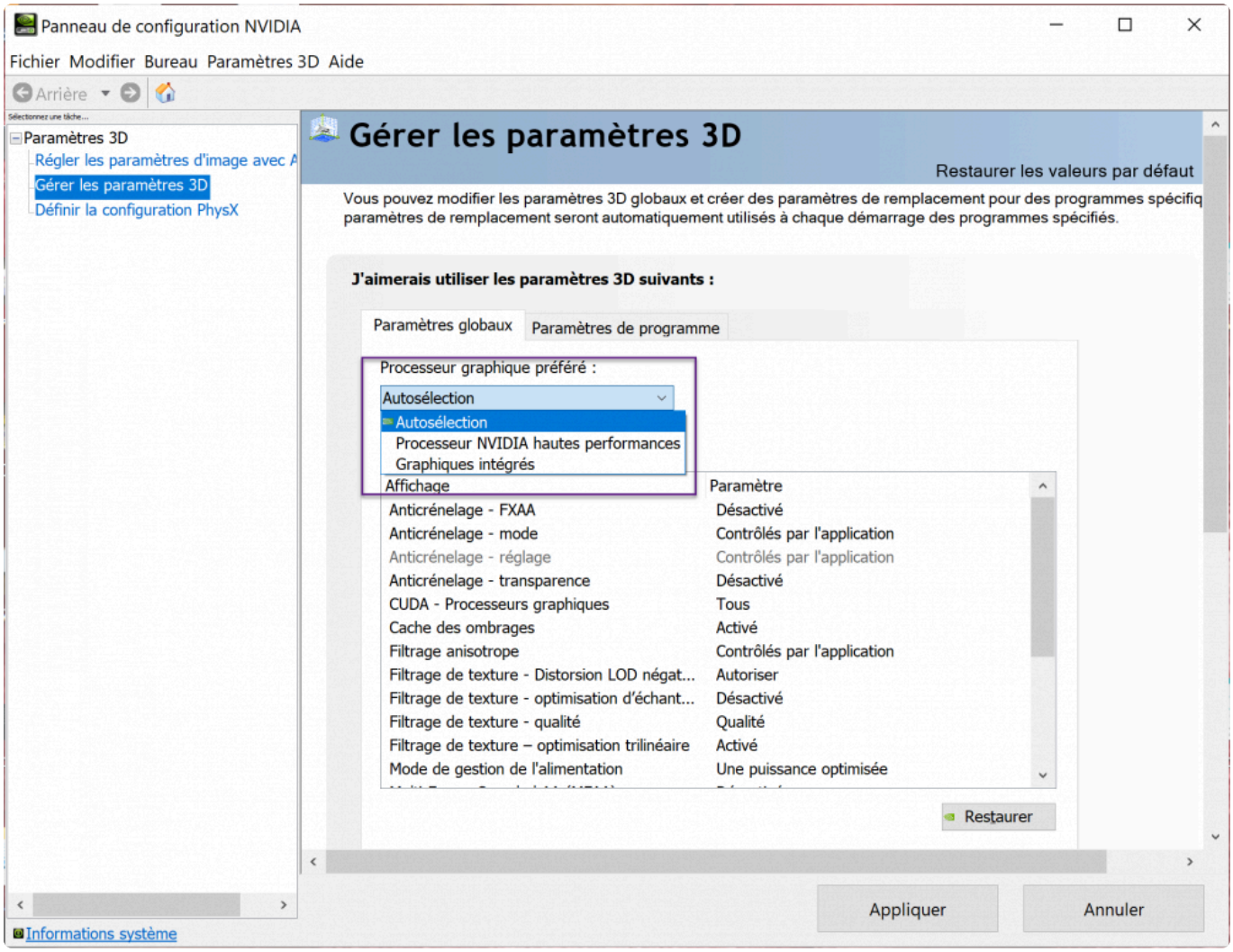
You need to check the OpenGL version if you don’t succeed to launch the Modulo Player application.
For example each time you launch the application, it goes back to the desktop.
To support an OpenGL version, it depends on the capability of your graphics card and a recent graphics card driver.

Force the high performance graphics card on a notebook:

On most notebooks, you have an integrated low performance Intel graphics card and a higher performance graphics card (NVIDIA or AMD). Most of time, the computer uses the INTEL graphics card because it uses far less power than the high-end one.

Usually, Modulo Player tries to use the high performance graphics card.
If you have an issue (unable to start or poor performance), you can force this on the graphics card panel.

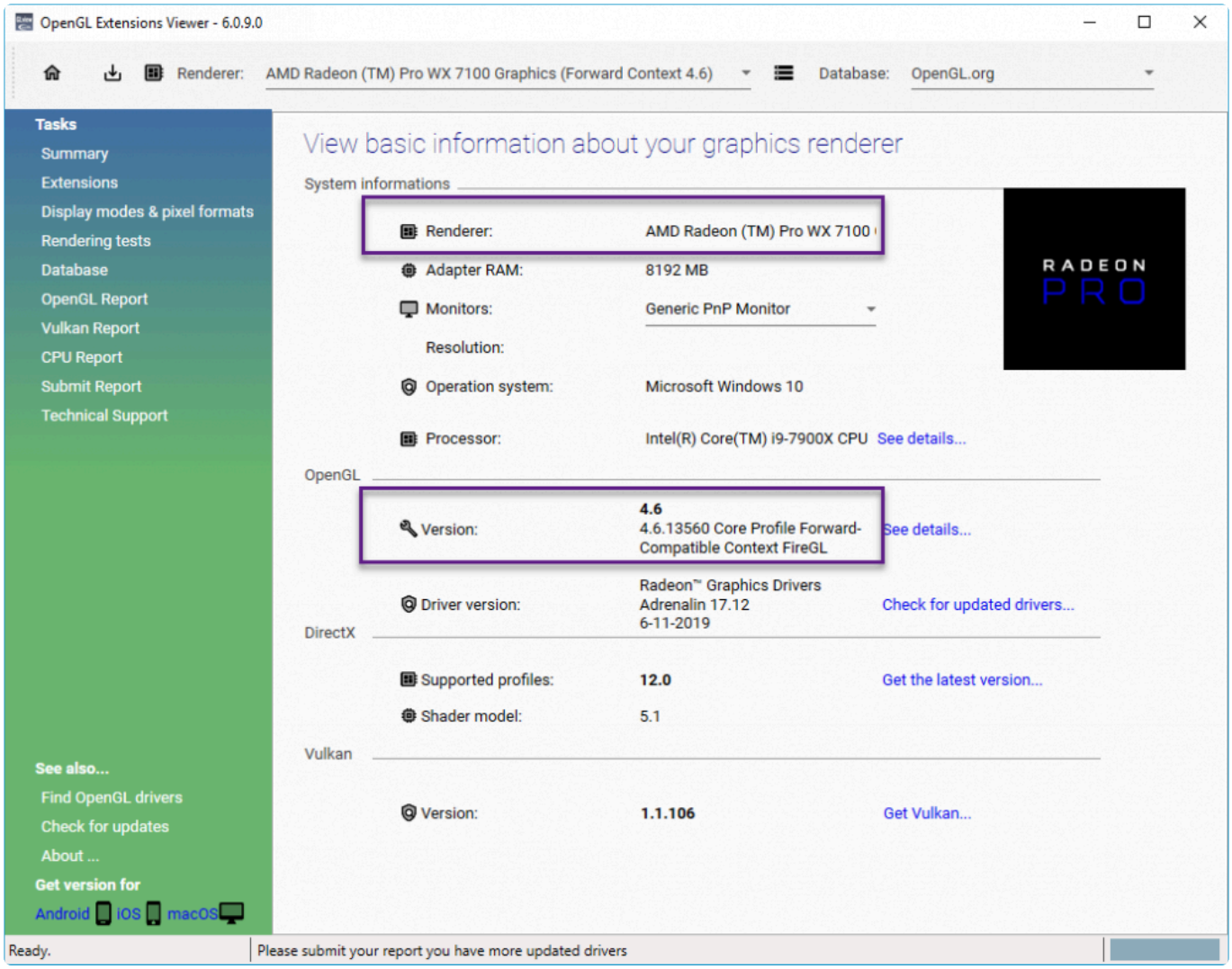
For example, on an NVIDIA graphics card:
Do a right click on the desktop > Choose NVIDIA control panel > Manage 3D settings > Adjust *Preferred graphics processor* and select *High performance NVIDIA processor*.



Check the OpenGL version:

To check the OpenGL version, we recommand to install this application: [GLview software for OpenGL](#).

Launch the application and check the OpenGL version:

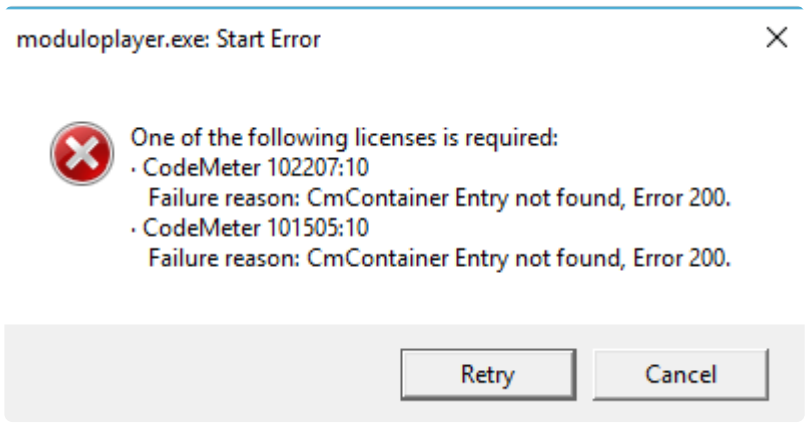


Dongle issue

You installed your application. Your dongle is connected, and you have a Codemeter popup error.

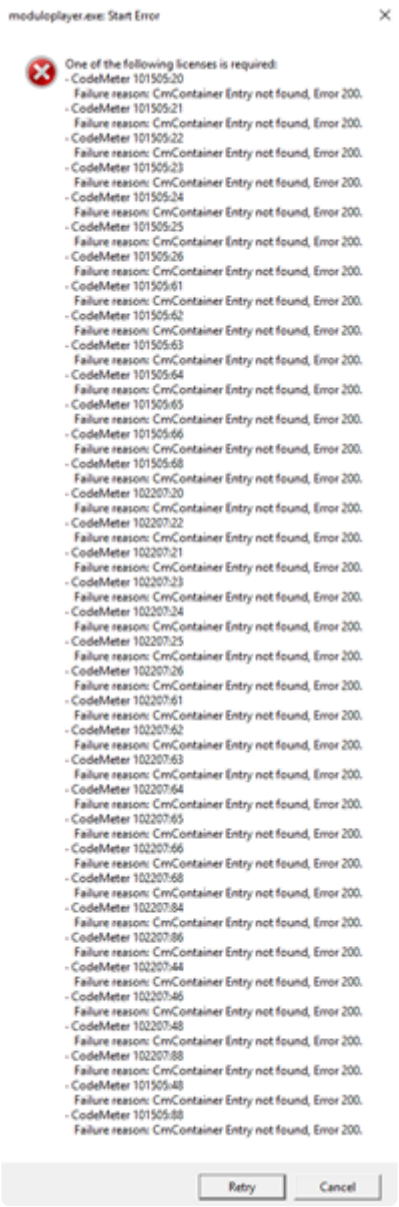
You have a Modulo Player Lite license:

If you have the following popup, it means you have an issue with the activation of Modulo Player Lite on your dongle:



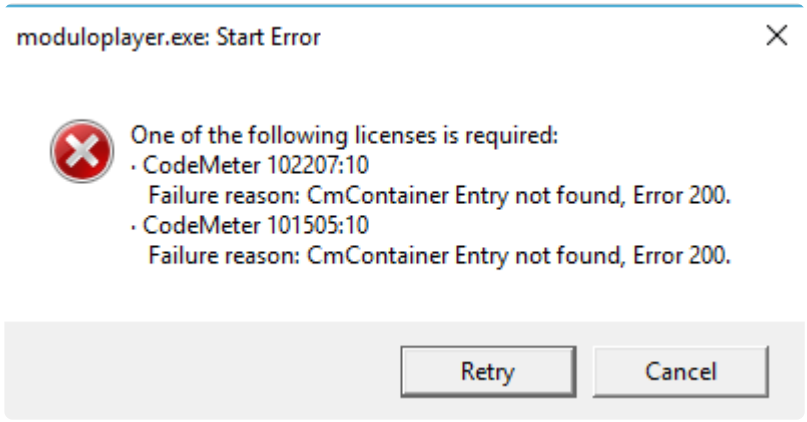
There might be an issue with the dongle.
Check on this page that you have followed all necessary steps.

If you have the following popup, it means you installed the wrong version of Modulo Player.
You need to install the Modulo Player Lite version.
Go on this page for more information.



You have a regular Modulo Player:

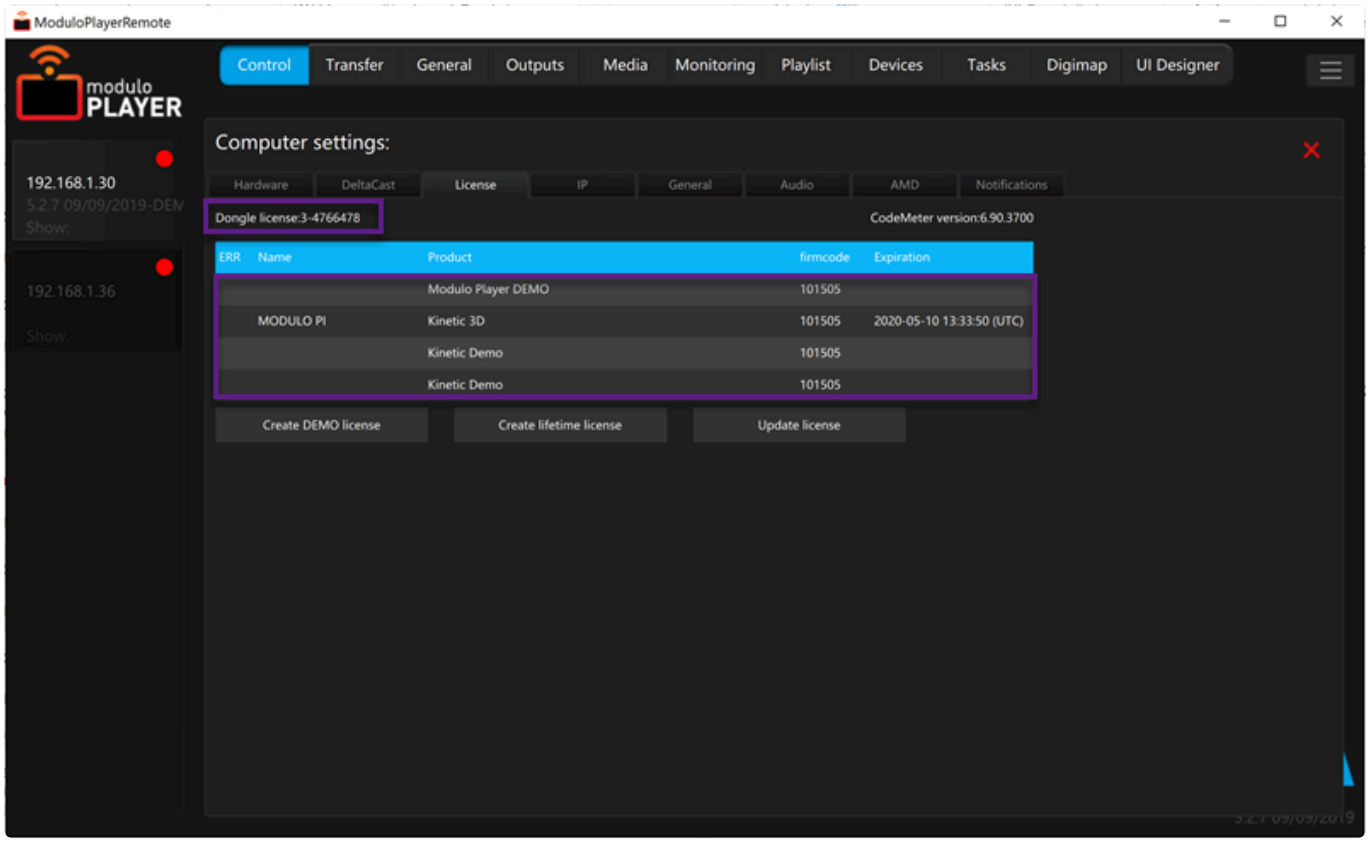
If you have the following popup, it means you installed the wrong version of Modulo Player.
You have installed the Modulo Player Lite version, while you need to install the Modulo Player version.



If there is still an issue, follow the following steps:

Check on your Remote that you have the good license:

Open the Modulo Player Remote, go on the control panel.
Click on Settings, then go to the License tab.



First, check that the dongle is detected.
Then check that your Modulo Player is on the list.
Check that the version is not outdated if there is a date limitation.

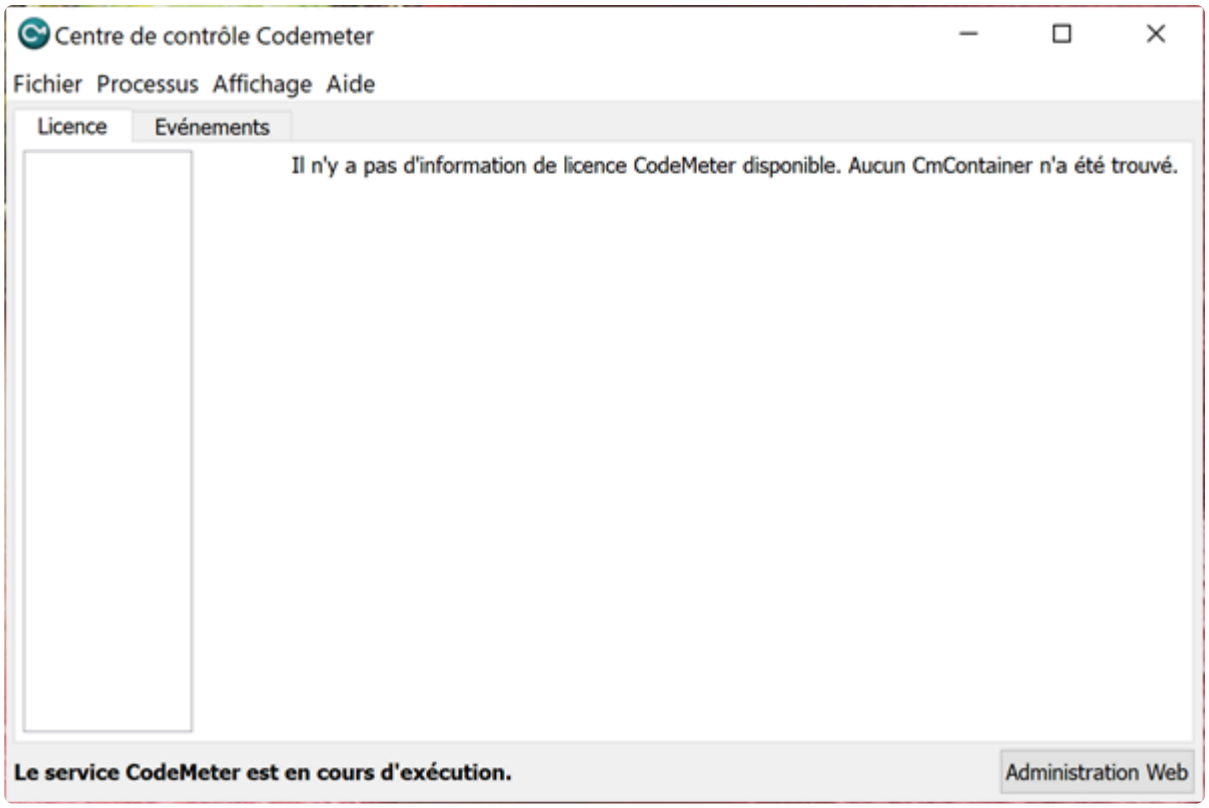
No dongle visible:

We will check more in depth using Codemeter tools.

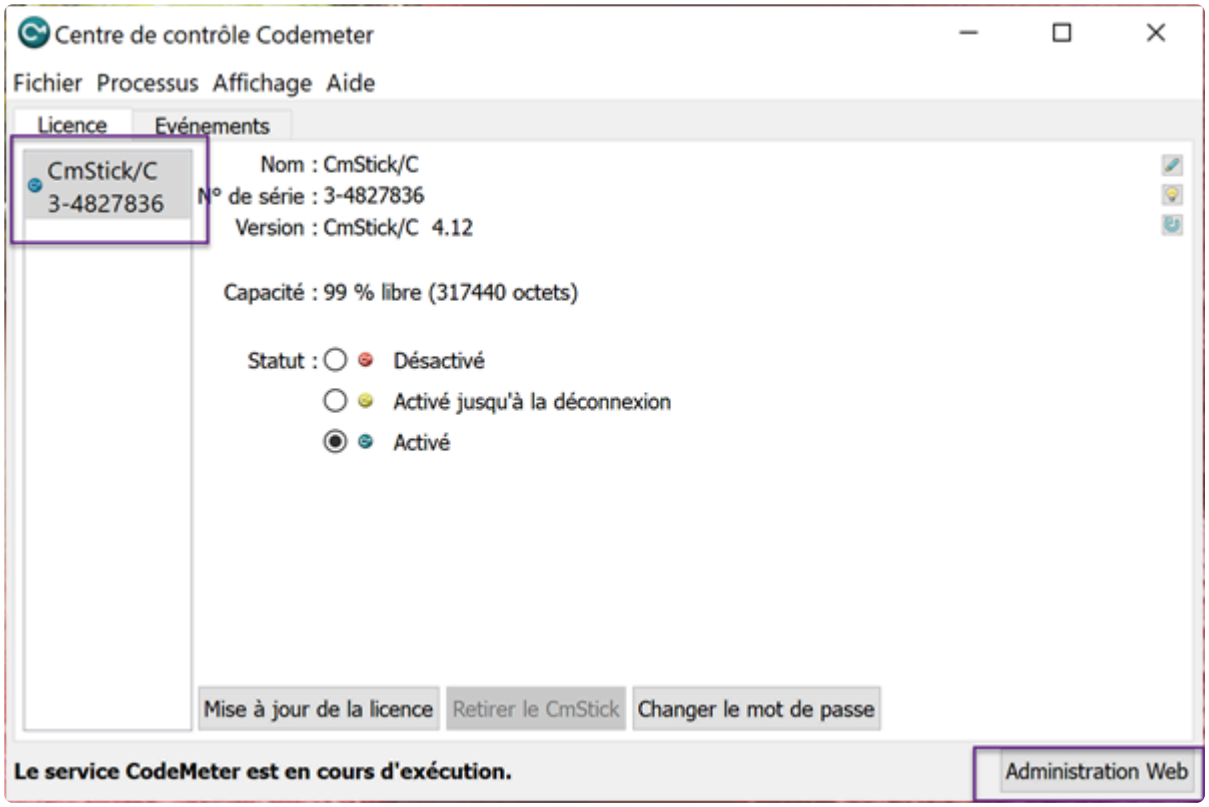
Go to the taskbar and double click on the Codemeter icon:

Then check that the dongle is visible in the list.

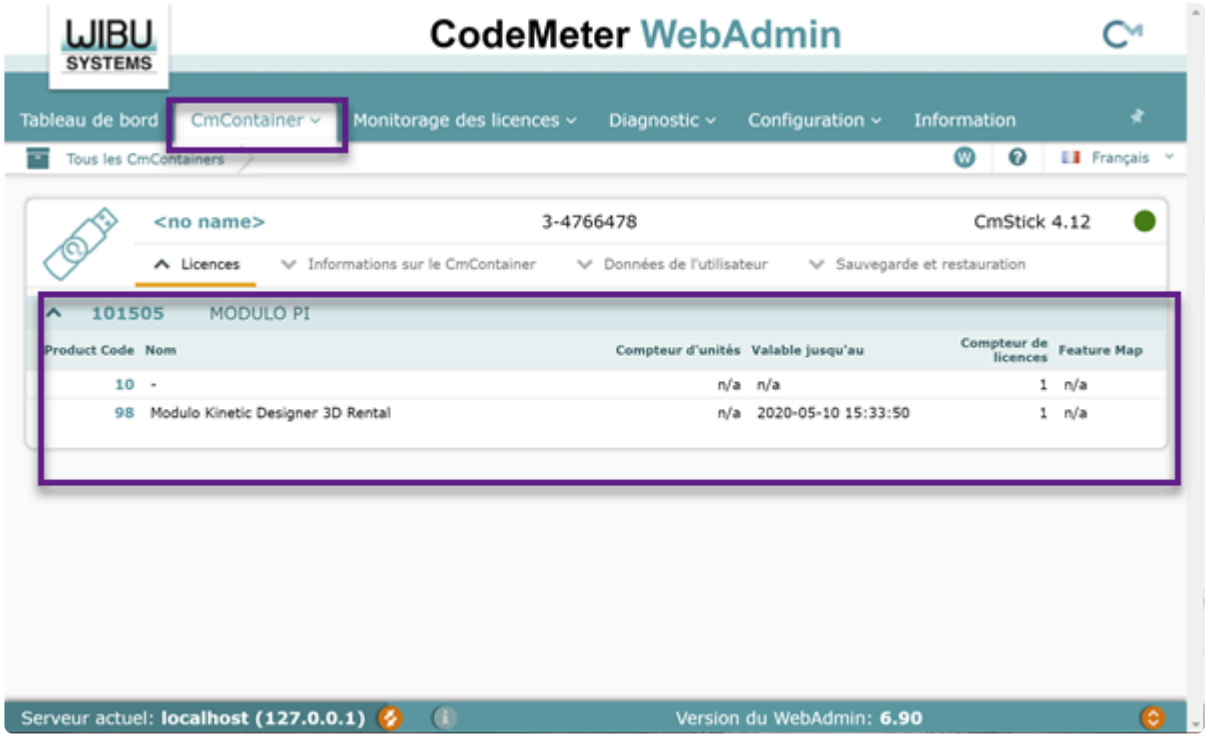
If you have this, your dongle is not detected.
Check the connection of the dongle.
If it is still not detected, Contact our support team.



If the dongle is listed, it means that the dongle is correctly detected and that you have an issue with the license.
Click on *Administration web*.



After clicking on *Administration web*, you have access to all licenses available in your dongle. Check if it is correct.



If you have still an issue, you need to Contact our support team.

The license is not available:

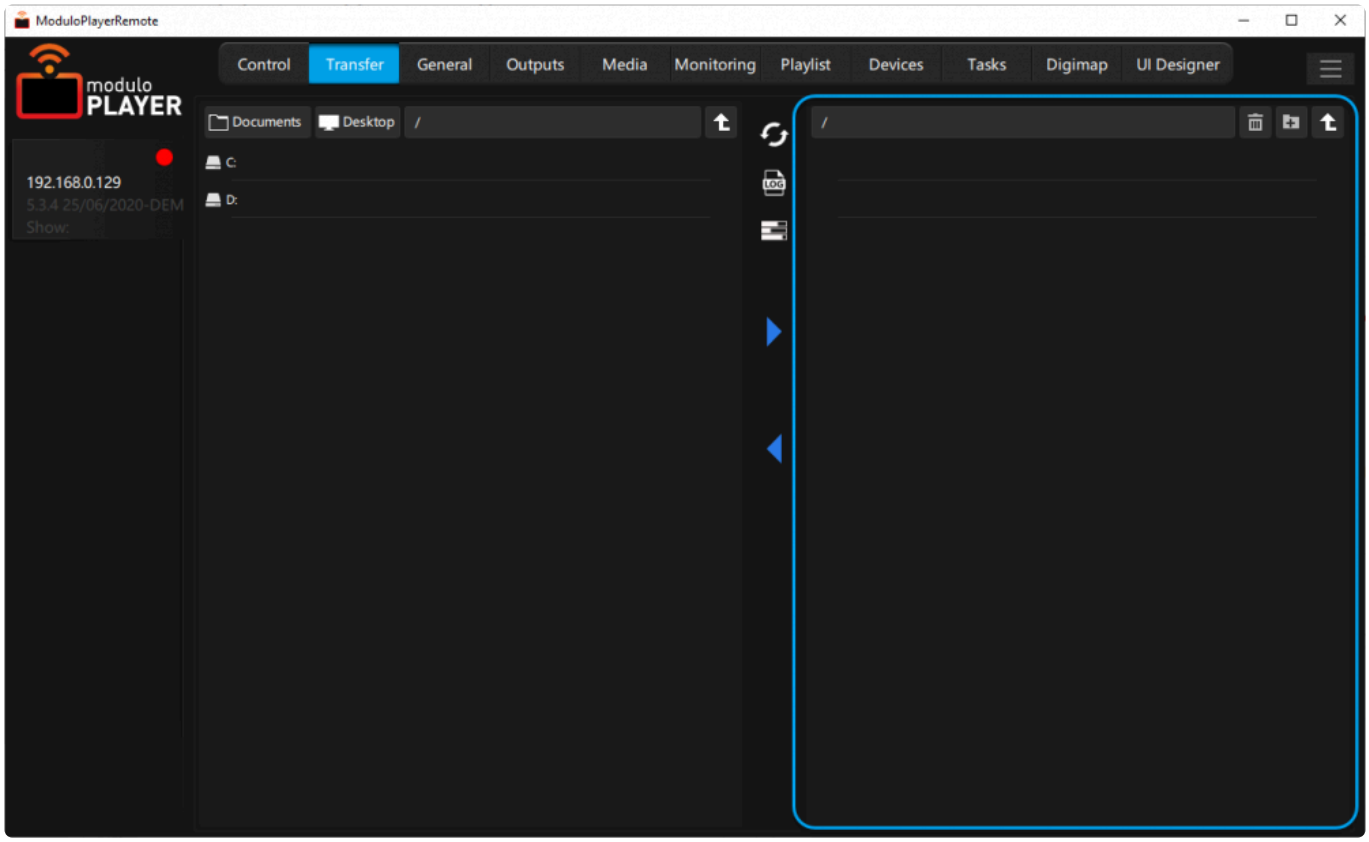
If it is for Modulo Player Lite, check that you have correctly installed the license in the dongle.

Check on this page that you have followed all necessary steps.

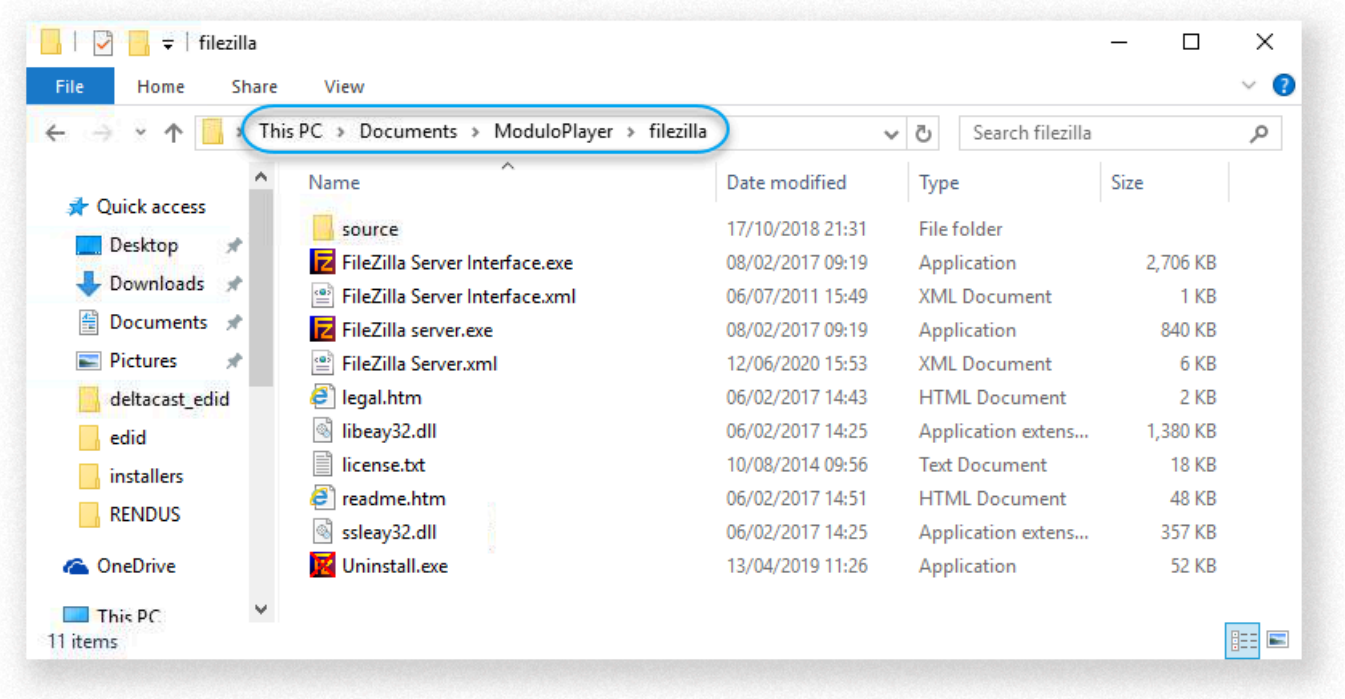
If it is a regular Modulo Player media server, Contact our support team.

File transfer issue

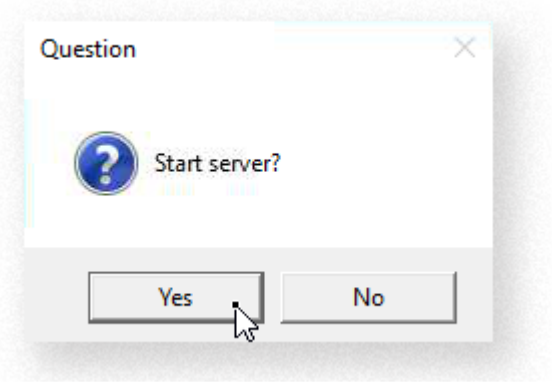
Modulo Player use FileZilla FTP solution to transfer medias from the Remote to the Modulo Player.
If for any reasons, FileZila is not running on your server, you will not be able to transfer medias and the right part of the transfer window will be empty.



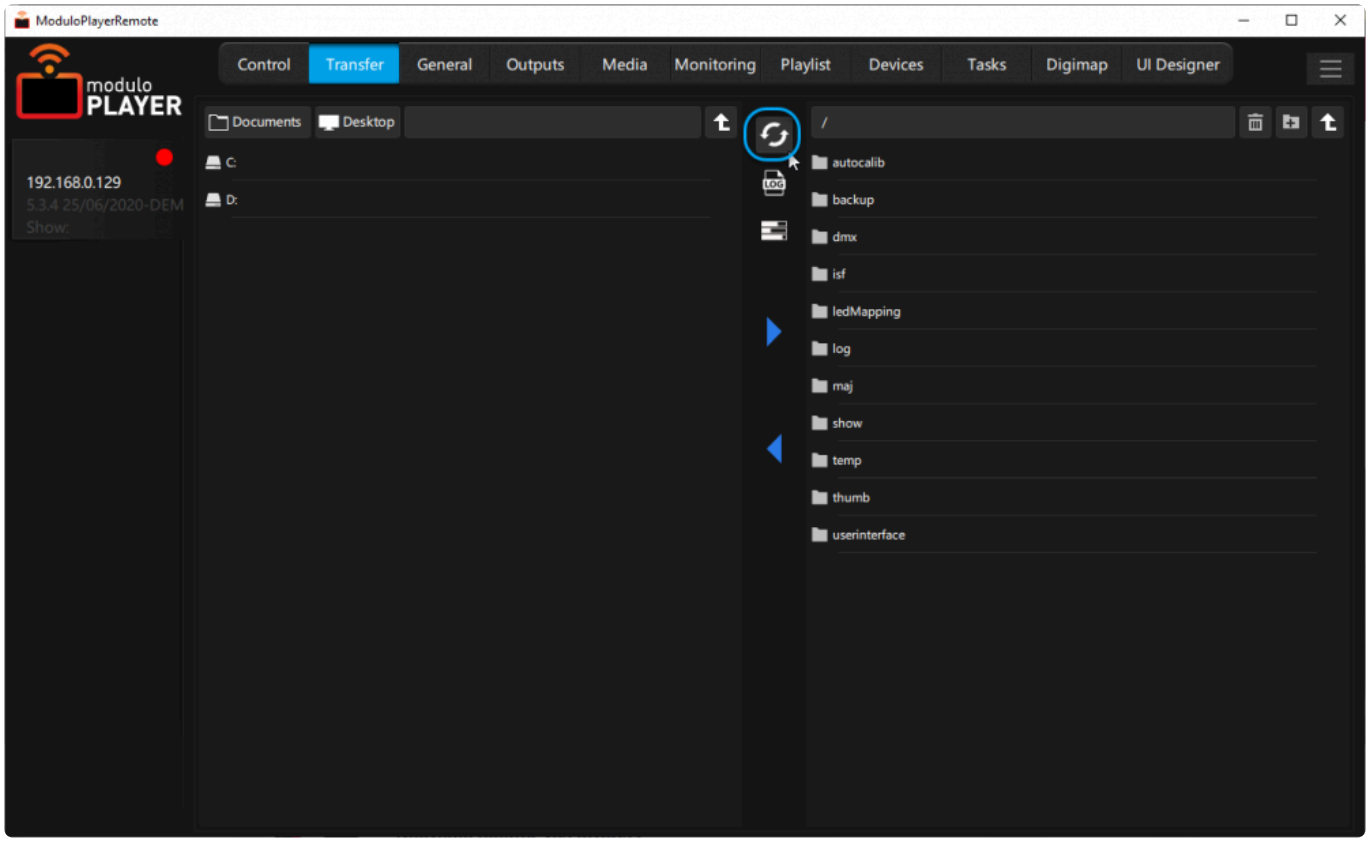
To run FileZilla again, go to Documents/ModuloPlayer/filezilla



Double Click on FileZilla sever.exe.
A pop-up windows appear and ask you if you want to start server.Click on yes.



Now if you go back to the transfer window and click on the refresh button, you will see the right part of the window is not empty anymore. You can now transfer medias again.


ModuloPlayerRemote
modulo PLAYER
Control
Transfer
General
Outputs
Media
Monitoring
Playlist
Devices
Tasks
Digimap
UI Designer
192.168.0.129
Documents
Desktop
C:
D:
/
autocalib
backup
dmx
isf
ledMapping
log
maj
show
temp
thumb
userinterface

Application notes

Application notes

Thanks to its all-in-one approach, Modulo Player can be used in a great variety of live or permanent applications.
Visit pages of the section and discover diagrams illustrating some of the many possibilities offered by Modulo Player and its advanced features (live mixer, show control, auto-calibration…).

Application notes are also available for direct download below:

- Soft Edge Blending configuration featuring Live Mixer, Show Control, Speaker panel
- Soft Edge Blending and Projection Mapping configuration featuring LED Mapping, Live Mixer, Show Control, Speaker panel
- Creative LED display configuration up to 8K
- Multi-projector Auto-Calibration in dome configuration

Soft edge blending and live mixer

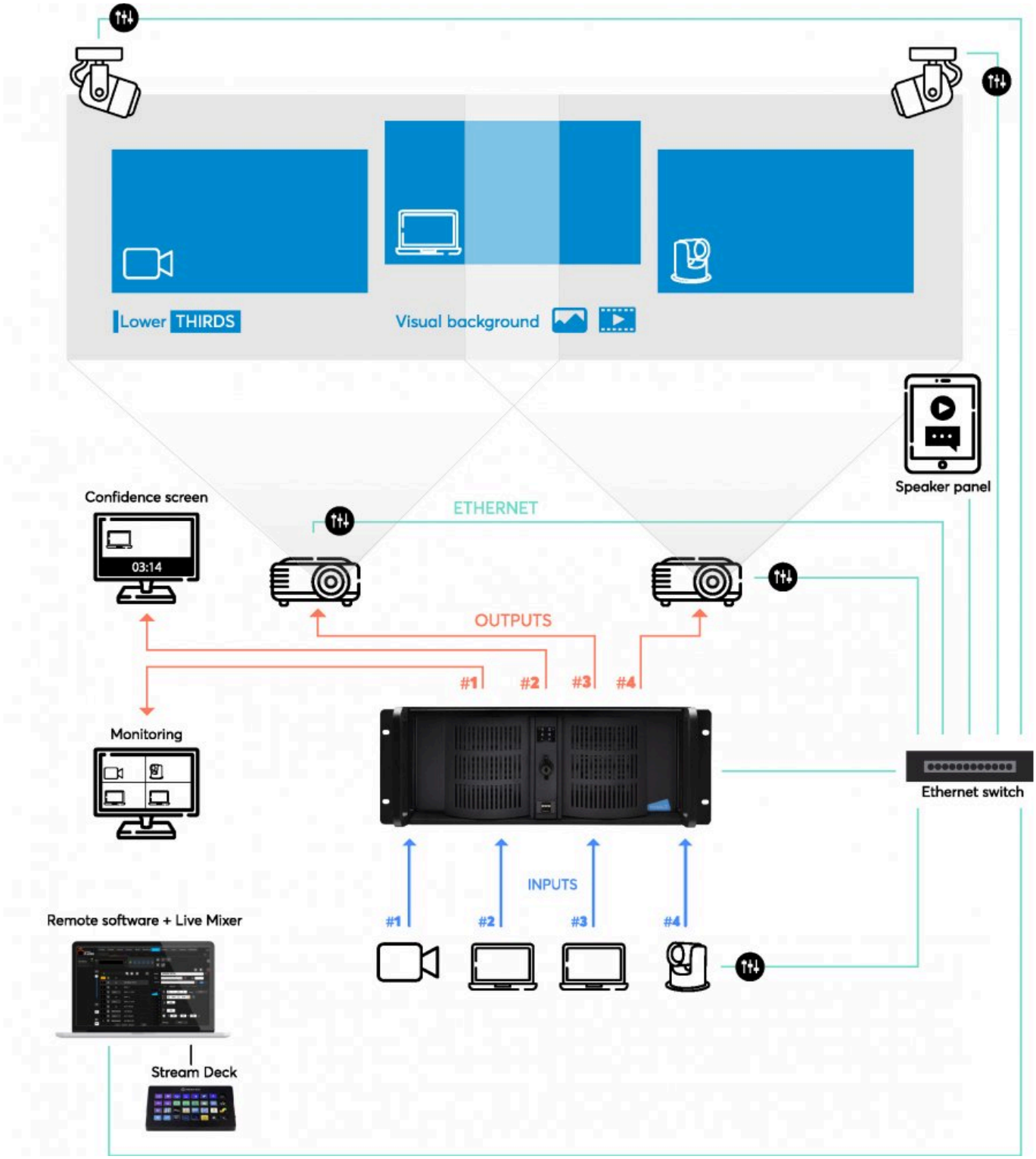
Soft edge blending and live mixer configuration

Set-up relies on:
1 x Modulo Player Pro with 4 outputs
Live capture cards (option):
- 3 × 3G-SDI
- 2 x HDMI 2.0

Versatile display capabilities:
Multi-projector soft edge blending
Powerful image & video playback
Unlimited PIPs with free Live Mixer app
Monitoring & Confidence screens (NDI or HDMI)
Designed for steady and reliable 24/7 operation

Powerful Show Control:
In this example, control of video-projectors and PTZ camera (internal devices library)
Control of lights (Art-Net)
Trigger tasks from Calendar, MIDI, OSC, GPIO, DMX…

User-friendly and flexible management:
Free Remote Control Software and Live Mixer application compatible with PC/Mac
UI Designer to create custom panels compatible with PC, Mac, iOS, and Android devices



Soft edge blending, mapping, and live mixer

Soft edge blending, projection mapping, and live mixer configuration

Set-up relies on:

1 x Modulo Player Pro with 6 outputs

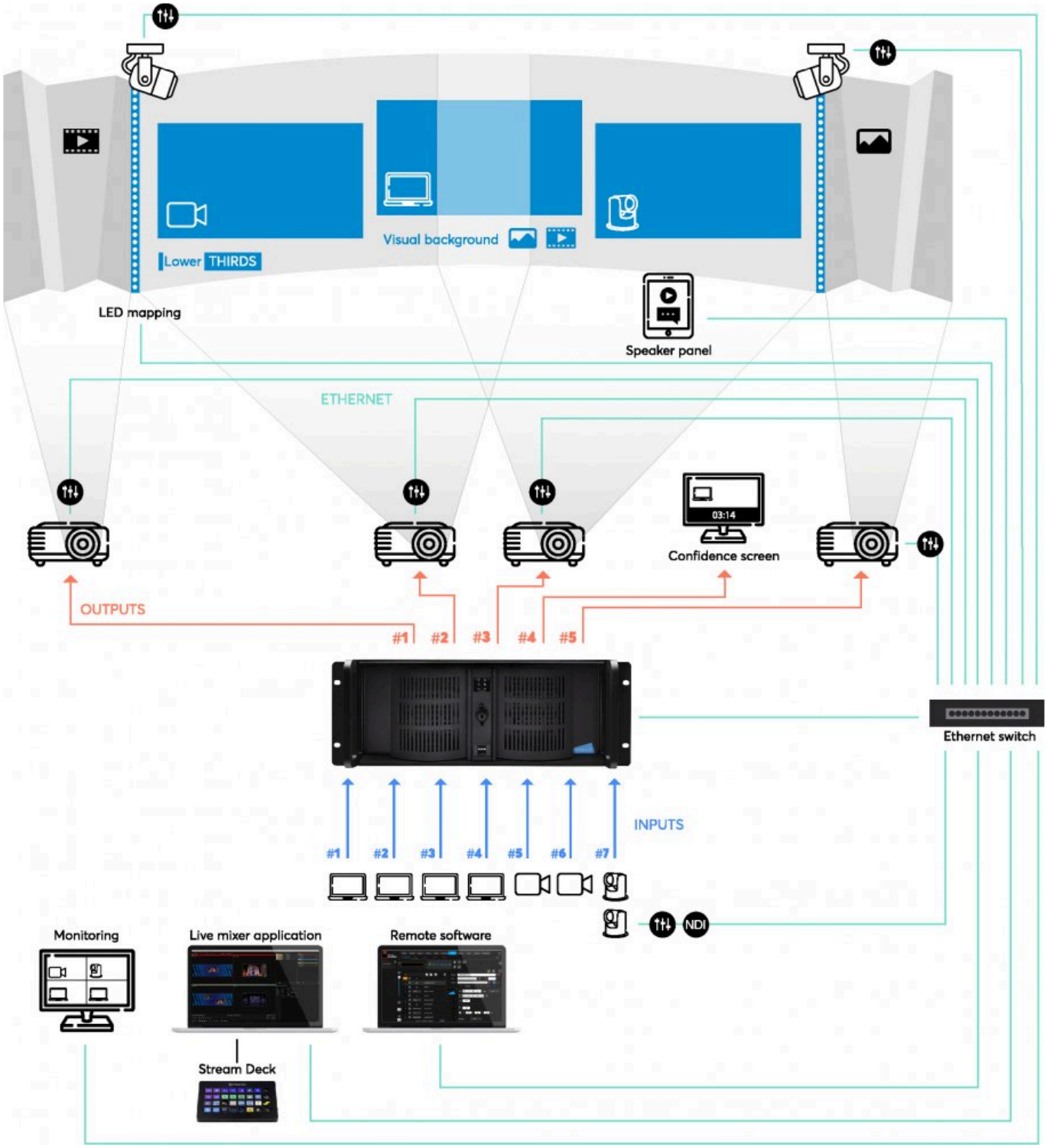
Live capture cards (option):

- 1 × 12G-SDI or 4 × 3G-SDI
- 2 x HDMI 2.0

Versatile display capabilities:
Multi-projector soft edge blending
Video mapping with 2D warping tools including X-Map function
LED mapping
Powerful image & video playback
Unlimited PIPs with free Live Mixer app
Monitoring & Confidence screens (NDI or HDMI)
Designed for steady and reliable 24/7 operation

Powerful Show Control:
In this example, control of video-projectors and PTZ camera (internal devices library)
Control of lights (Art-Net)
Trigger tasks from Calendar, MIDI, OSC, GPIO, DMX…

User-friendly and flexible management:
Free Remote Control Software and Live Mixer application compatible with PC/Mac
UI Designer to create custom panels compatible with PC, Mac, iOS, and Android devices



Creative LED display

Creative LED display configuration

Set-up relies on:

1 x Modulo Player Pro 4×4K with 4 outputs

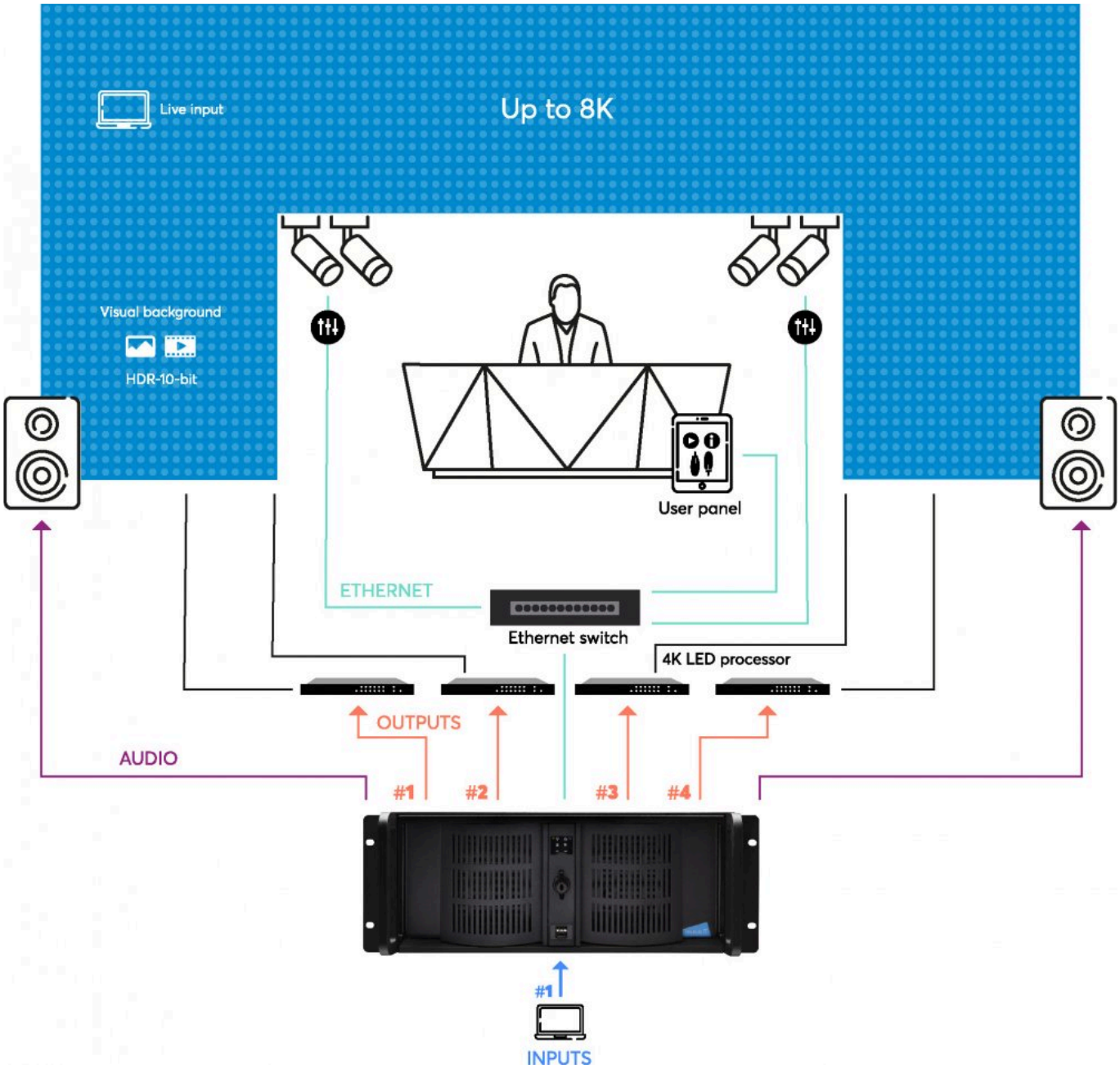
Live capture cards (option):

- 1 x HDMI 2.0

Versatile display capabilities:
Custom LED wall configuration up to 8K
Frame-accurate synchronization between multiple outputs
Powerful audio, image, and video playback
Apple ProRes with 10-bit support for HDR video
Designed for steady and reliable 24/7 operation

Powerful Show Control:
In this example, control of lights (Art-Net)
Trigger tasks from Calendar, MIDI, OSC, GPIO, DMX…
Compatible with external show control systems

User-friendly and flexible management:
Free Remote Control Software and Live Mixer application compatible with PC/Mac
UI Designer to create custom panels compatible with PC, Mac, iOS, and Android devices



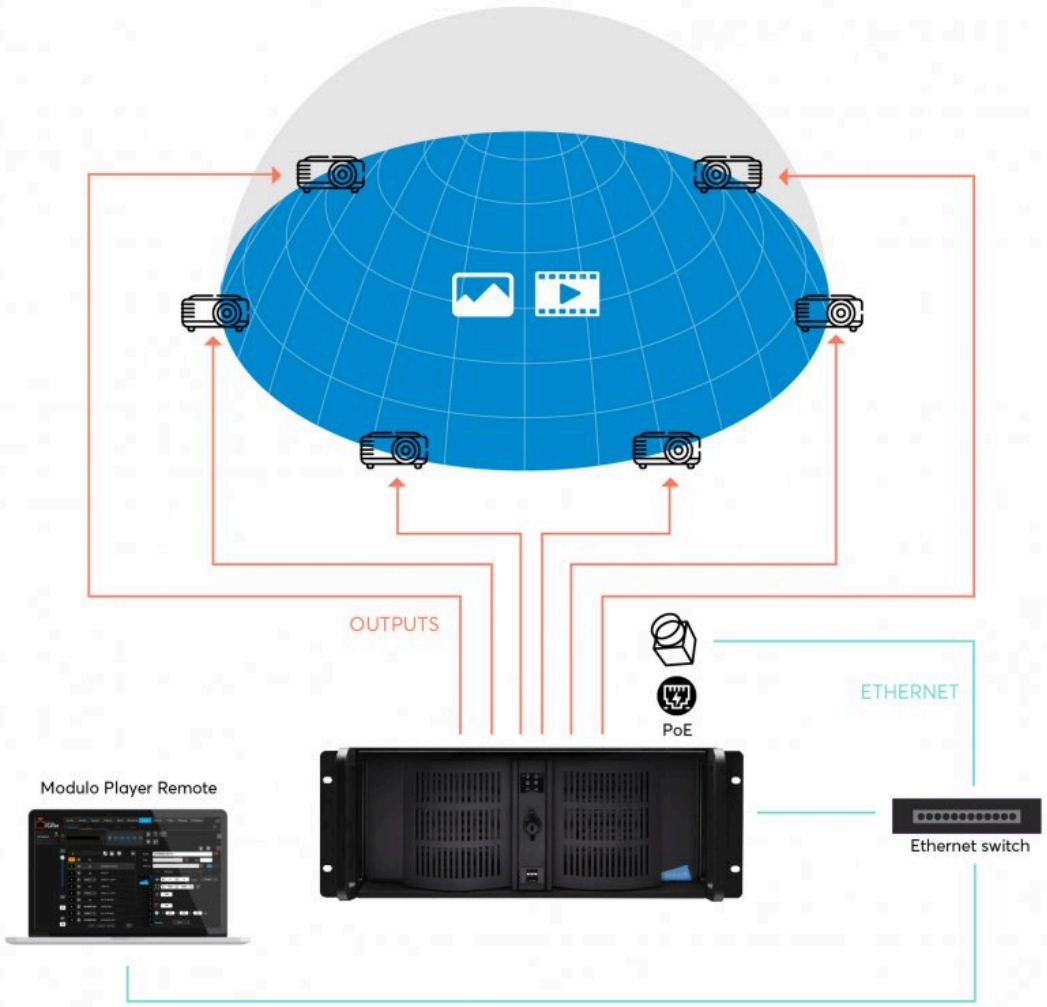
Multi-projector auto-calibration for a dome

Multi-projector auto-calibration in dome configuration

Set-up relies on:
1 x Modulo Player Pro with 6 outputs
1 x dongle with Auto-Calibration option for 6 outputs
1 x PoE camera (not-included)

Powerful Auto-Calibration module:
Multi-projector automatic edge blending and warping for planar, curved, and dome surfaces
Support of 1 Modulo Player server: Up to 6 outputs
Support of independent calibration groups and stacked projectors
Masking features for a perfectly fine-tuned projection
Zero latency
Designed for steady and reliable 24/7 operation

User-friendly and flexible management:
Free Remote Control Software compatible with Mac/PC
Quick and easy auto-calibration thanks to dedicated wizzard embedded in Modulo Player Remote


OUTPUTS
ETHERNET
PoE
Modulo Player Remote
Ethernet switch

Tutorials – English

Tutorials – English

To support you all the way with Modulo Player, two types of tutorials are available in this user manual:

- Training tutorials: All steps to work with Modulo Player from scratch
- Video tutorials: Live demos guiding you through the Modulo Player Remote software

Training tutorials

Discover some tutorials to learn using Modulo Player step by step.
These tutorials are part of the Modulo Player certification course.

In order to do all the exercises, you will need the following:
1 x Modulo Player or Modulo Player Lite license + Modulo Pi key
1 x pico video-projector (reference 1 ; reference 2)
1 x mapping box (example)
1 x Modulo Pi Learning kit available on our eShop
1 x media kit (link is available in each tutorial section)

Start project

This guided exercise will allow you to learn how to use the Modulo Player software.

We will learn to:

- Set settings in demo mode and on a real server
- Create the project folder
- Transfer Media
- Create a new show
- Create an output and perform basic warping
- Create a playlist and add cues

Required equipment:
1 x pico projector
1 x mapping box

> ! All exercises are based on a 1920×1080 projector resolution. Pico projectors are not natively in this resolution. You will have to force the resolution in 1920×1080 in Windows.

Media kit Link:

You can download the media kit here.

Project creation

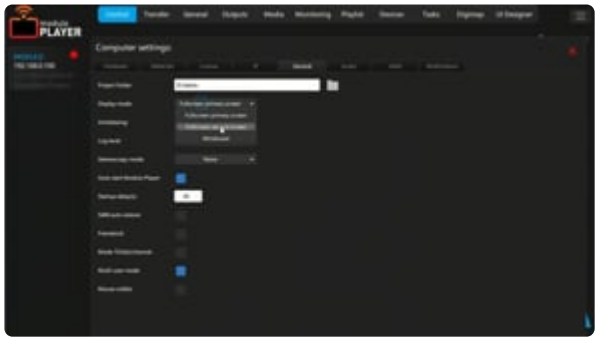
First, go to the Control tab and click on the Settings button

> ! Get into the habit of always creating a new project folder for each new project.

If you work in demo mode on your laptop:

First, check the application is set up in Display Mode: Fullscreen secondary screen to display the output on the external screen of the laptop, so you can have the remote open on the main screen of the laptop.

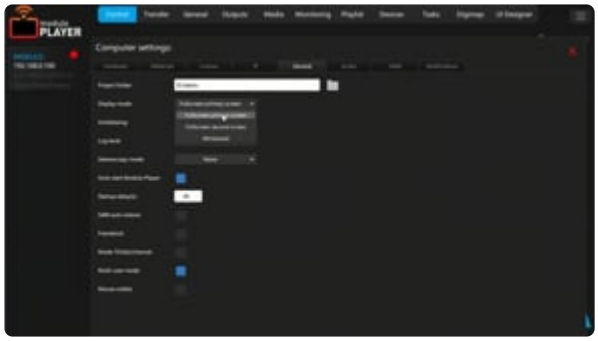
Then, create a new project folder called Start Project



If you are working while connected to a Modulo Player server:

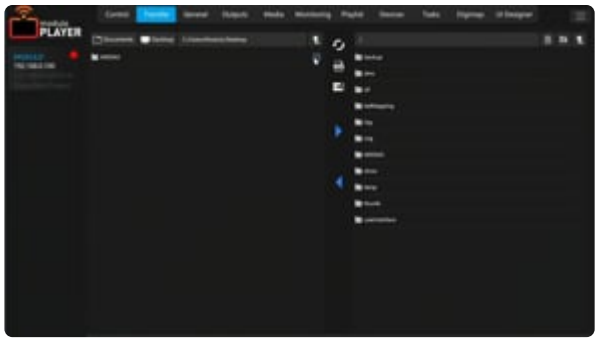
Here is an overview of the tabs in the settings panel

First, check that the application is set up in Display Mode: Fullscreen primary screen
Then, create a new project folder, call it Start Project



Media transfer

Now, let’s copy the media to the server folder. The media are available on the laptop desktop.
You can copy media one by one but it is much faster to copy the entire folder.

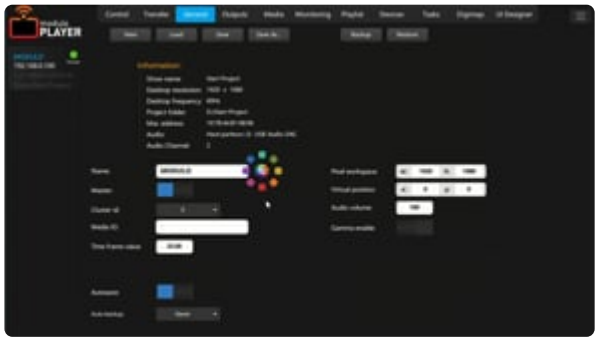


New show creation

Now, go to the general tab and click on “new” to create a new show.

> ! by default, the name of the show will be called “default.xml”. Get into the habit of always renaming the show.

Call it “Start Project”
Next, give a name to your server to find it easily in the list, for example MODULO.
You can also choose a color to distinguish it in the list when there are several networked servers.

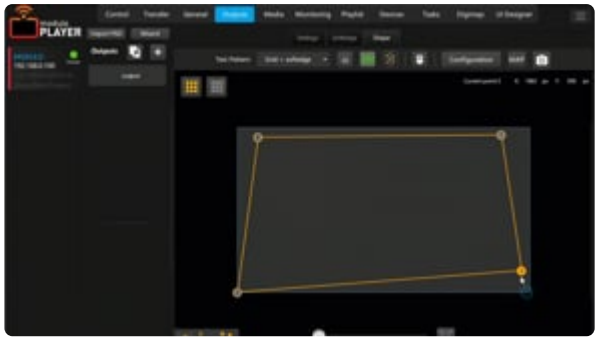


Next, go to the Media tab to load media into the show.

Click on the refresh button

Add an output

Now, create a simple output in 1920×1080 resolution.
Then go to the Shape subtab
Click on configuration to switch to Keystone mode, the most suitable mode for a very simple flat screen.
A test pattern grid is displayed on the output.
Just move the 4 control points to adjust the output to the bottom of the mapping box



Playlist creation

Go to the Playlist tab
Add several cues in the Playlist
Always leave the cue 1 video to ensure nothing appears on the screen when the app is launched and to allow a proper preload of the show’s first cue, which is cue 2.
Go to cue 2, select the first layer and click in the media area
The media list opens on the left.
Just drag&drop the media on the layer.
Add a 2 seconds fade in time
Put the media in loop mode so that it loops when it reaches the end of the media

Add cues

Now add a jingle on cue 3, don’t put it in a loop, only play it once.
Add a fade in

Add a looped video on cue 4. Now let’s set an automatic sequence between cue 3 and cue 4, you can do it with a Wait by calculating the duration of the jingle or just by using the Follow mode which allows an automatic sequence while taking the fade in time into account .

Cue with crossed layer

Now, let’s make a PIP appear while keeping what plays on cue 4 in the background .
To do this, go to cue 5 and disable the first layer to indicate that you want to keep what was playing on layer 1.
Then put the PIP media on layer 2 of cue 5.

Next, let’s make the PIP disappear but keep what was playing in layer 1.
Disable the first layer on cue 6 and put nothing on layer 2 of cue 6.

Now add a fade from the background to a fixed image with a 30-second wait

Second playlist

You can use another method to display a PIP at any time:

Add a second Playlist.
Add several cues
Leave the cue 1 empty as usual

Use the copy/paste tool to copy cue 5 into playlist 2 in the second position.
Then use the multi delete to delete cue 5 and 6 from playlist 1.
The PIP can now be launched at any time over playlist 1, completely independently.

Projection mapping

This guided exercise will teach you aboout Modulo Player software and its warping posssibilities:
You will create a new project, copy media, add an output and try to project a media set on 3 sides of a cube with a classic warping grid.
You will then try the exercise again by manually creating X-Maps to simplify the calibration.
You will learn how to use the import of a photoshop file to automatically create X-Maps.
Finally,you will learn to add a projection background using X-Maps.

Material required:
1 x pico projector
1 x mapping box
1 x cube
1 x media kit + PSD template file

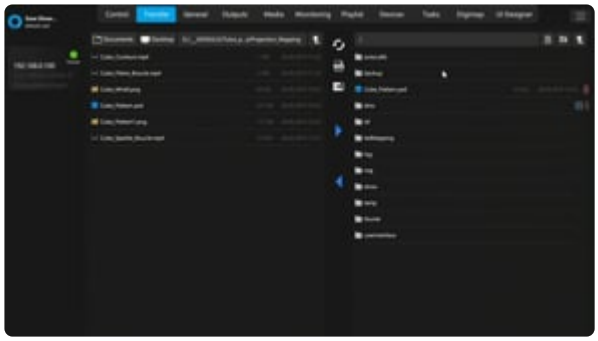
Position the cube in the mapping box.
The projector should project on the entire cube but also on the back of the mapping box.

Media kit Link:

You can download the media kit here.

Project creation

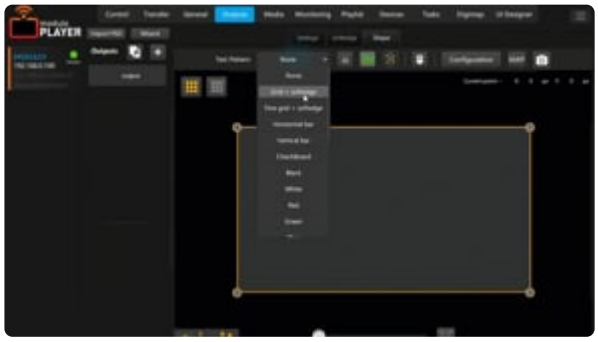
First go to the Control tab and click on the settings button to create a new folder for the project and select it.
Then start the Modulo Player application by clicking on the “Start Modulo Player” button.
Transfer the media to the server:
The Photoshop file will be used as a template to create XMAPS later and must be copied to the root of the project.
Create a media folder in the server and copy the media into it.
Once the copy is finished, go to the Media tab and click on the Refresh button: you will then see the list of media and the thumbnails will appear.



Output creation

In the General tab, check that the output is correctly set to 1920×1080 resolution.
Choose a name for the server and a color to identify it if there are several networked Modulo Player.
Check that the size of the pixellar space is 1920×1080.
Go to the Output tab and click on the **+** button to add an output:
By default the extracted map area should be good : top,left: 0,0 and size: 1920×1080 and the out area: top,left: 0,0 and size: 1920×1080.

Go to the shape subtab and display a test pattern grid.



Playlist creation and basic warp

Go to the Playlist tab and we can add 2 cues.
Cue 1 remains empty to insure neutral state and allow to preload the spoon 2.
Go to cue 2 and click in the media area. The drop-down list appears on the right. Drag&drop the target.
Add a fade in time of 2 seconds to display the cue 2 media.
Press the space bar to switch from cue 1 to cue 2 on the screen.
The image appears on the screen.
Go back to the Output tab, under Shape tab to try to fix the image on the cube.
You can first click on configuration and set yourself in Keystone and then move the 4 corners to try to fix the image on the cube. As you can see that this is not easy.
Try to switch to curve mode (configuration button), and try to set the image again, you can increment the number of control points by clicking on the configuration button.

X-Map – By hand

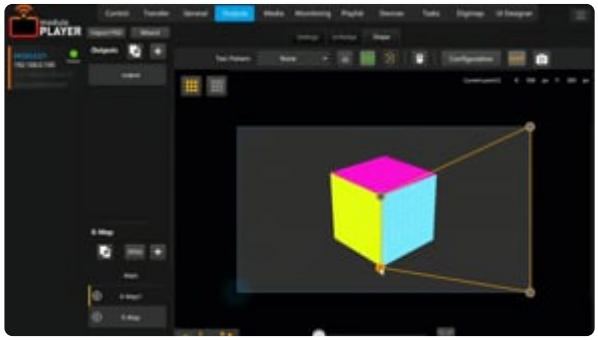
Let's manually create XMAPs to be able to warp the 3 sides of the cube independently.
First, go to the Shape tab, click on the configuration button and go back to 2×2 neutral.

Add 3 XMAPS, 1 per cube side.
Go to the Shape subtab and switch to MAP mode (extraction of a pixel workspace area), click on the camera to capture and display in the background in the remote a still image of what is currently playing on the server: you see the pattern image appear.
Then we will bring the four control points back to the four corners of the cube. You have to do it as precisely as possible (you can zoom in the window, and choose the cross-tool to be thinner – at the bottom left you have three icons, by clicking on the one on the right, you can choose to switch to Cross mode which is more practical to see the image below -.
Repeat steps for the other two sides of the cube.

Then, go back to Warp mode by unchecking the MAP button. Now move the control points to fit the projection on the cube. Although not mentioned in the video, it is recommended to switch to Keystone mode (Configuration button) for each XMAP instead of using CURVE mode: that way, the pixels spread automatically without the need to add several control points.

> To avoid seeing the projections of the other two unwarped cube faces, you can use the Solo mode (if you click on Solo on the XMAP1, only this one will be displayed).

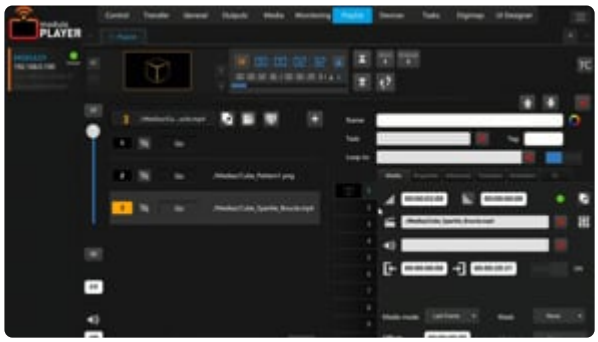
Repeat steps for the other two sides of the cube.
Now you've experienced that it is possible to easily and independently warp all the faces of the cubes.



X-Map – PSD import

We will now use a Photoshop PSD template to automatically create XMAPS.
Start by deleting the existing output.
Then click **+** and choose PSD import.
The existing PSD is selected from the list (it is the one that has been previously copied to the project file root). This PSD respects a particular nomenclature to be understood by Modulo Player (refer to the documentation for more information on creating PSD files).click here

The output is created directly in XMAP mode and we see the 3 XMAPS. Switch the 3 XMAPS to Keystone mode and we can warp the 3 XMAPS.
Now add a video on cue 3 with a fade time and watch the video, it should be perfectly set on the cube!



Add background

We will now project independent content on the background using the same projector.
First, increase the pixel workspace from 1920×1080 to 3840×1080 (2 HD) in the General tab.
Then go to the Output tab and add an XMAP just after the general warp, it will then be in the cube's background: set the map (the extraction area) in top left to 1920.0 to capture the area starting from 1920 pixels. Switch this XMAP to keystone mode.
Go to the Playlist tab: rename Playlist 1 and add a second Playlist.
Select the second Playlist and add 3 cues.
Drag&drop a background media on cue 2.
Set the media position to 1920.0. (This corresponds to the area extracted from the background).
Then use the copy/paste function to duplicate cue 2 several times, then replace the media in the new cues with another background media.
Go to cue 2 and then back to the Output tab > in the Shape sub-tab. Select the XMAP background and warp it to the back of the mapping box.

> ! In this exercise, we chose to create two independent Playlists: one for the cube and one for the background because we have media without any link between the background and the cubes that we want to play independently. If the media had consistency when being played together on the cube and the background, we could have used a single Playlist with several cues, each cue with the background media on layer 1 and the cube media on layer 2.

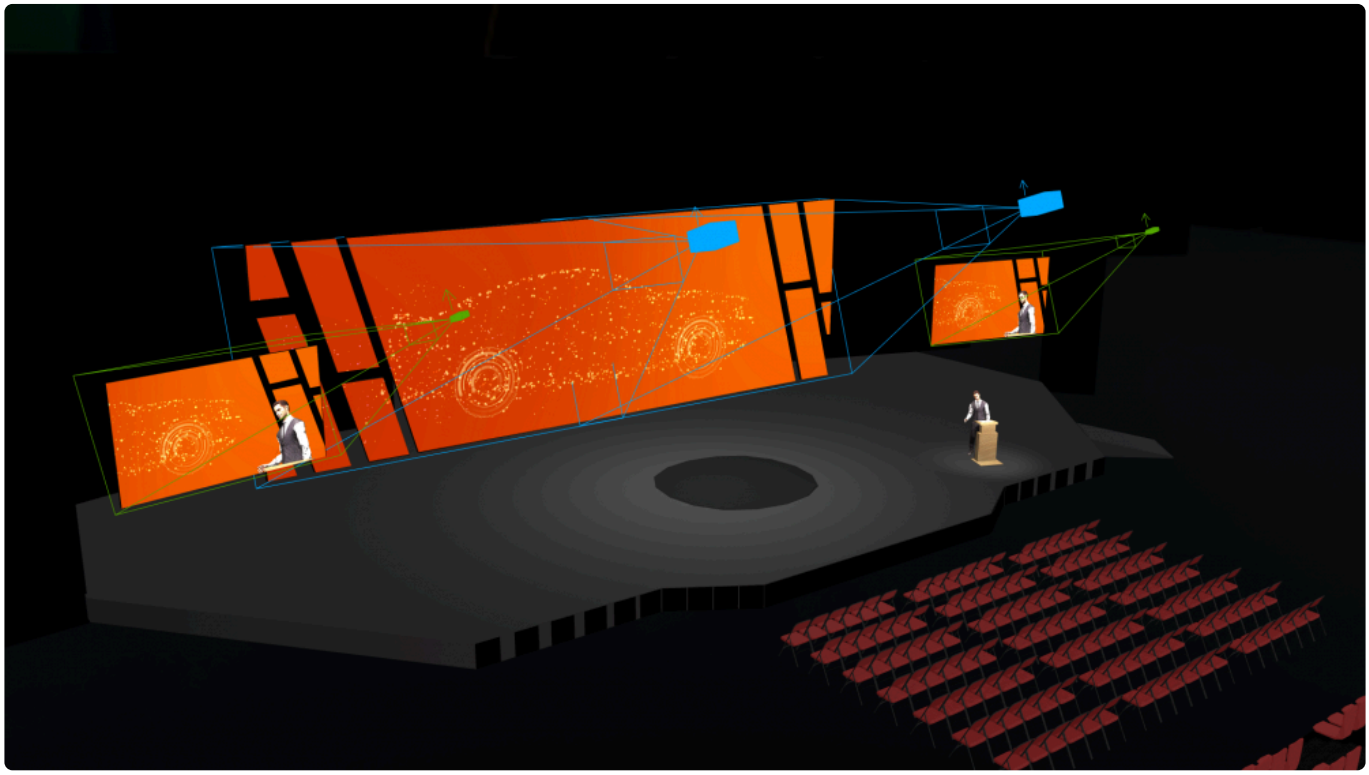
Live Event

This guided exercise will allow you to learn how to use the Modulo Player software:

We will use the pretext of preparing a typical show for a live event. This exercise will allow you to understand the essential notions of Modulo Player, whether for corporate event, touring or permanent installation purposes.

Context: preparation of a show such as the launch of a new car
1 cyclo screen with 2 projector videos 1920×1080 with 384 pixel overlap
1 reminder screen with 1920×1080 projector on the side
1 monitor return scene 1920×1080 for the speaker

VP1 / Resolution: 1920×1080	VP2 / Resolution: 1920×1080 with 384 overlap	Return VP3: Resolution: 1920×1080	Speaker Screen Resolution: 1920×1080



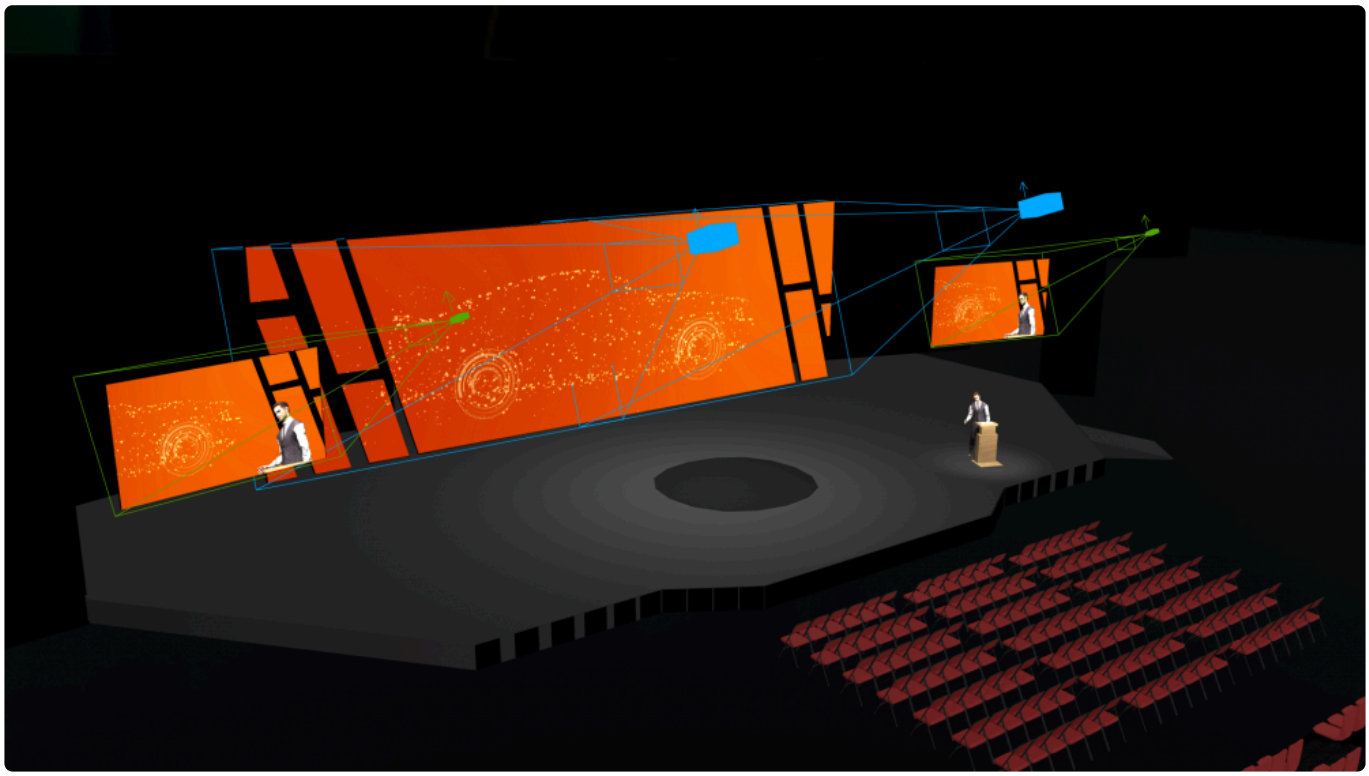
Media kit Link:

You can download the media kit here.

Live event-1

The first part of the exercise will allow you to create a project from scratch. We will discuss the following concepts in turn:

- The creation of a project
- The setting of the Media Server or laptop in Demo version if necessary
- Copying media to the Media Server
- The configuration of the outputs
- The use of Monitoring
- The creation of a Playlist
- The basic use of the internal device Modulo Player to make cues reminders
- The use of the Modulo Wing application



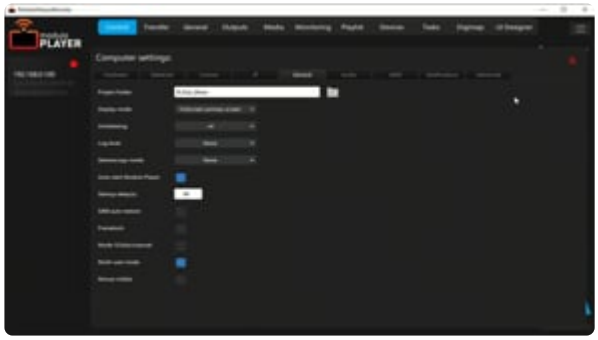
Project setup

Topic: Control tab. The control tab allows you to start/stop the application, reboot/stop the server, access the server settings from your remote and even update the Modulo Player application.

Launch of Modulo Player Remote
Selection of the server on the left (if only one Modulo Player in network, we have only one tab).

Control / Settings / General

Creation of a new project for the show: creation of a new folder in the data folder named CAR-SHOW.



Server setup

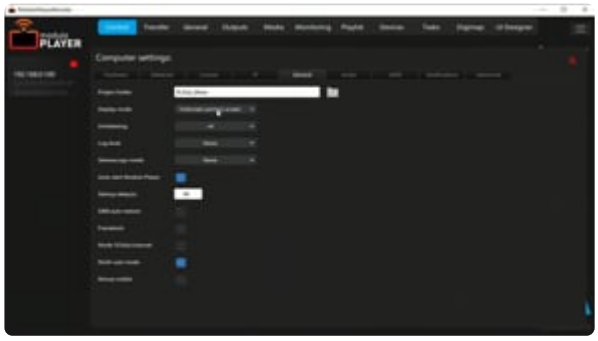
> ! If you are working on a laptop with the demo version, follow the next paragraph (otherwise go directly to the next paragraph).

Preparatory work on computer demo

Connect an external monitor to the HDMI or DP output of the graphics card. This screen will allow us to display the monitoring.

We will configure the software to start in full screen on the external screen:
Control/settings/General/Display mode choose “Fullscreen second screen”

We can now start the Modulo Player application:
Control/ button Start Modulo Player
The application then starts on the second screen in full screen, and the Modulo Player indicator light changes from red, orange and finally to green (left tab).



Working with a Modulo Player server

Connect the 2 video projectors for the cyclo to connectors 1 and 2 of the graphics card (order from top to bottom)
Connect the reminder projector to connector 3 of the graphics card
The speaker feedback screen is connected to connector 4 of the graphics card.

We will now force EDIDS and create an extended desktop with 4 screens:

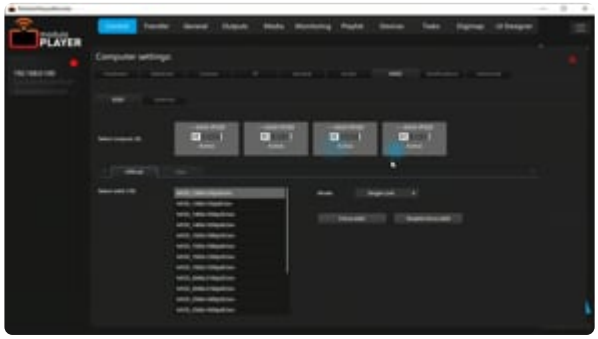
Control/Settings/AMD/EDID select the first 4 outputs and choose an EDID 1920×1080@50P from the list and click on “Force EDID”.
The outputs of the graphics card will flash several times and finally a message indicates on the remote that the operation is performed.

Control/Settings/AMD/Eyefinity: select the first 4 outputs and click on “create Eyefinity”. We choose an arrangement of 4 horizontal screens (Cols:4 Rows:1). The outputs of the graphics card will flash several times and finally a message indicates on the remote that the operation is performed. The graphics card is now configured as an extended desktop and when Modulo Player is launched, the application will display full screen on all 4 screens simultaneously.

We will configure the software to start in full screen on the main screen (consisting of the 4 screens grouped following Eyefinity):
Control/settings/General/Display mode choose “Fullscreen primary screen”

We can now start the Modulo Player application:
Control/ button Start Modulo Player

The application then starts and the Modulo Player indicator light changes from red, orange and finally to green (tab on the left).



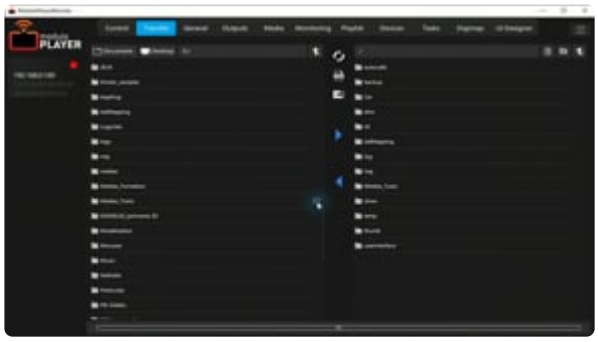
Media transfer

We will now transfer the media to the server (or to the laptop folder in demo mode but simulating a network transfer as with a real server).

We go to the Transfer tab:

The left part lists the folders available in the Modulo Player Remote computer (including external disks or USB key.)
The right part lists the contents of the project folder. It is not possible to see other folders in the server to avoid copying media into a folder that does not belong to the Project folder.
You can copy the media one by one (select the media and move the arrow from left to right to start copying). To save time, we will click directly on the arrow to the right of the media folder on the remote to copy all the media at once while respecting the existing tree structure.

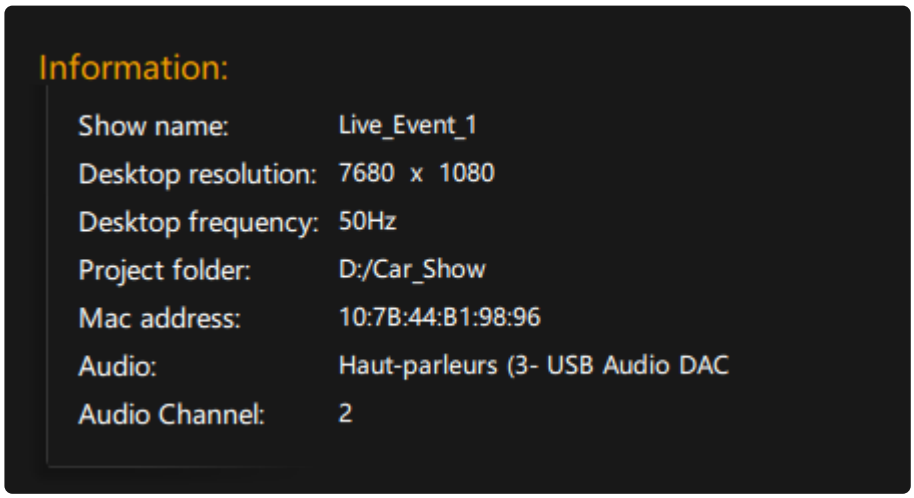
To see the media appear in the Media tab, it is necessary to click on the refresh button in the Media tab.



General tab

This tab allows you to create a new show, save it,… When a new project is created, a show named Default is created. We will rename the show by calling it “Live_Event_1” We click on “Save As…” and we write Live_Event_1.

If you are working on a Modulo Player server: You can check in the info area that the Windows desktop is correctly configured as an extended screen with a full resolution of 7680×1080.



Pixel workspace & outputs

First, adjust the pixel workspace:
The pixel workspace is a rendering area in which all media will be composited. You will then be able to assign a portion of this pixel workspace to each output.
You will therefore declare a total pixel workspace of: horizontal resolution proj 1 + horizontal resolution proj 2 + horizontal resolution proj 2 – overlap between projector + horizontal resolution recall projector + horizontal resolution monitoring screen, i. e. 1920 + 1920 – 384 + 1920 + 1920 + 7296 and a height of 1080 pixels.

> You can declare a larger pixel workspace, but do not assign an area outside the pixel workspace to an output.

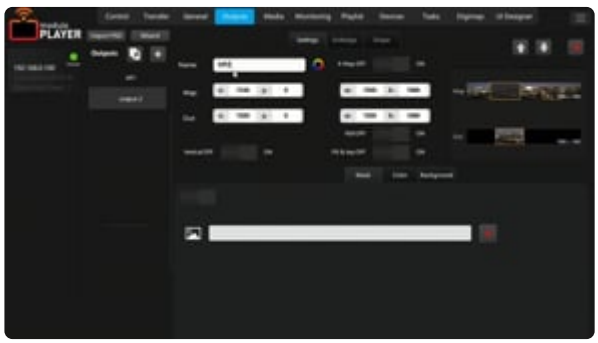
Output	Name	Map	Out
Out 2	VP2	top left:1536;0 Size:1920×1080	top left:1920,0 Size:1920×1080
Out 3	VP Return	top left:3456;0 Size:1920×1080	top left:3840,0 Size:1920×1080
Out 4	Screen Speaker	top left:5376;0 Size:1920×1080	top left:5760,0 Size:1920×1080

Out	**Out 1**	VP1	top left:0;0 Size:1920×1080	top left:0,0 Size:1920×1080

Now let’s use the wizard to create the first two outputs with an overlap:
open the wizard, choose 2 × 1 for the arrangement and a cover of 384, a resolution of 1920×1080 per projector.
You see the first two screens: check that the extracted map area is correct and that the outputs are consistent with the extended desktop. You can also go to the soft-edge tab to validate that the soft-edge has been correctly calculated by the wizard.

The 2 outputs respectively VP1 and VP2 are renamed.

> If you are on a laptop in demo mode with only one output, the outputs will be displayed outside the desktop since it will not have the correct size. It doesn’t matter, you can then import the project into the Modulo Player Server when it is available.

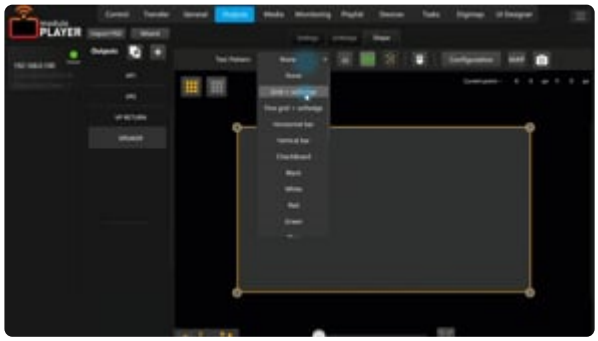


We will then manually add the other 2 outputs:

reminder output: A new output is created. She is renamed VP RETURN.
on Map parameter with top left: :3456;0 Size:1920×1080
on parameter Output: top left:3840,0 Size:1920×1080

stage return output: A new output is created. It is renamed SPEAKER.
on Map parameter with top left: :5376,0 Size:1920×1080
on parameter Output: top left:5760,0 Size:1920×1080

You can now go to the shape tab and display the Grid pattern on each output.



Media

After clicking on the refresh button, you will see the media appear in the list. Move the mouse over a thumbnail to have a larger view.

Now let’s create Test Pattern media:
Creation of test pattern media at the full resolution of the 2 soft projectors

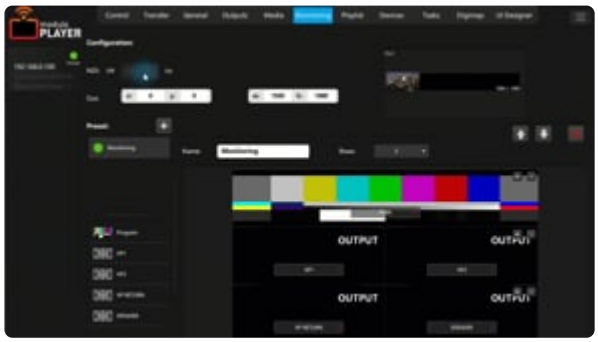
Monitoring

We will use the monitoring to display the PGM and the 4 outputs.
We add a monitoring positioned at the top left: 0.0 and resolution 1920×1080
We create a preset. We create 3 lines.
on the first line, drag and drop the PGM into the monitoring window.
we subdivide into 2 columns, the next 2 rows: we drag and drop the outputs in the 4 boxes.

The monitoring is displayed on output 1 and therefore blocks a physical output.

> ! With a Try&Learn dongle, only one of the outputs can be displayed in the monitoring. It is therefore mainly necessary to use the PGM.

It is possible to enable the NDI option to stream monitoring to NDI and not block an output from the server.



Playlist

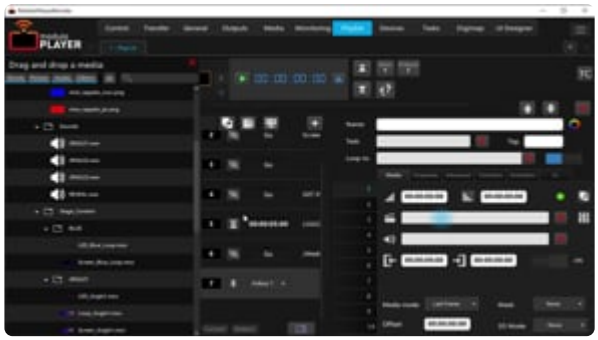
Now let’s add cues to the Playlist.

Create several cues.
Leave the cue 1 empty as usual.
Add the 3 test patterns on the layers 1,2,3 of cue 2. They are correctly positioned in the pixel space.
Put a fade in of 2 seconds on layer 1.
The copy/paste per layer is used to copy the fade in time on layers 2 and 3.
Display cue 2

Leave cue 3 empty.
Add in cue 4 the blue loop media
Add a 5-second trigger wait on cue 5.
Cross the layer 1 of cue 5 to keep the loop of cue 4.
The Modulo logo is displayed in layer 2 of cue 5. The size of the logo is reduced by putting a scale of 20% and adjusts the position of the logo in the pixel space.
Put a fade-in of 2 seconds for the layer cue 4.

The copy/paste special layer is used to copy the fade-in of the layer 1 of cue 4 to the layer 2 of cue 5.

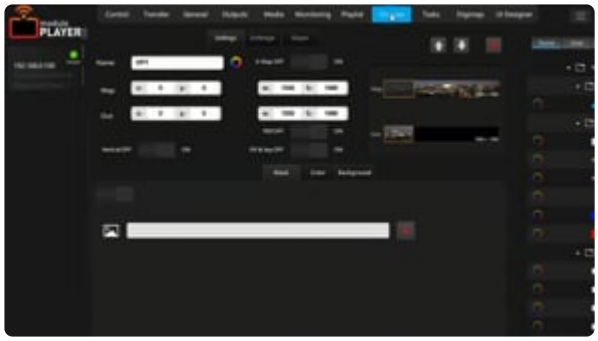
Then add a new cue with the jingle. Add the associated sound on the soundtrack of layer 1.
Add a cue 7 with a follow 1 trigger, add the media loop 1 with a fade-in of 1 second. Switch the media to loop mode.
Multiple copy/paste is used to create cues 8 and 9. Replace the media by using jingle 2 and loop 2.



The color level on layer 1 of cue 8 is used to adjust the colorimetry of the media.
Use the brightness/contrast/saturation to adjust the brightness of layer 1 of cue 10.

Devices and tasks

Now go to the Device tab. Click on + and add a Modulo Player device. This device will allow you to recall cues with a Task.



Go to the Task tab. Create several Tasks to recall cues directly from a task.

Click on + to create a task. You can change the name and choose a color to identify it. Go to the subtask tab, click on + and select the Modulo Player Remote device. Click on Edit and select Go cue/ playlist choice 1/ then choose the cue you want to trigger.
If you click on Launch Task after having selected the Task, you will see the Task blinking for a few seconds to indicate that it has been triggered and you will see that the cue has been launched.

Modulo Wing

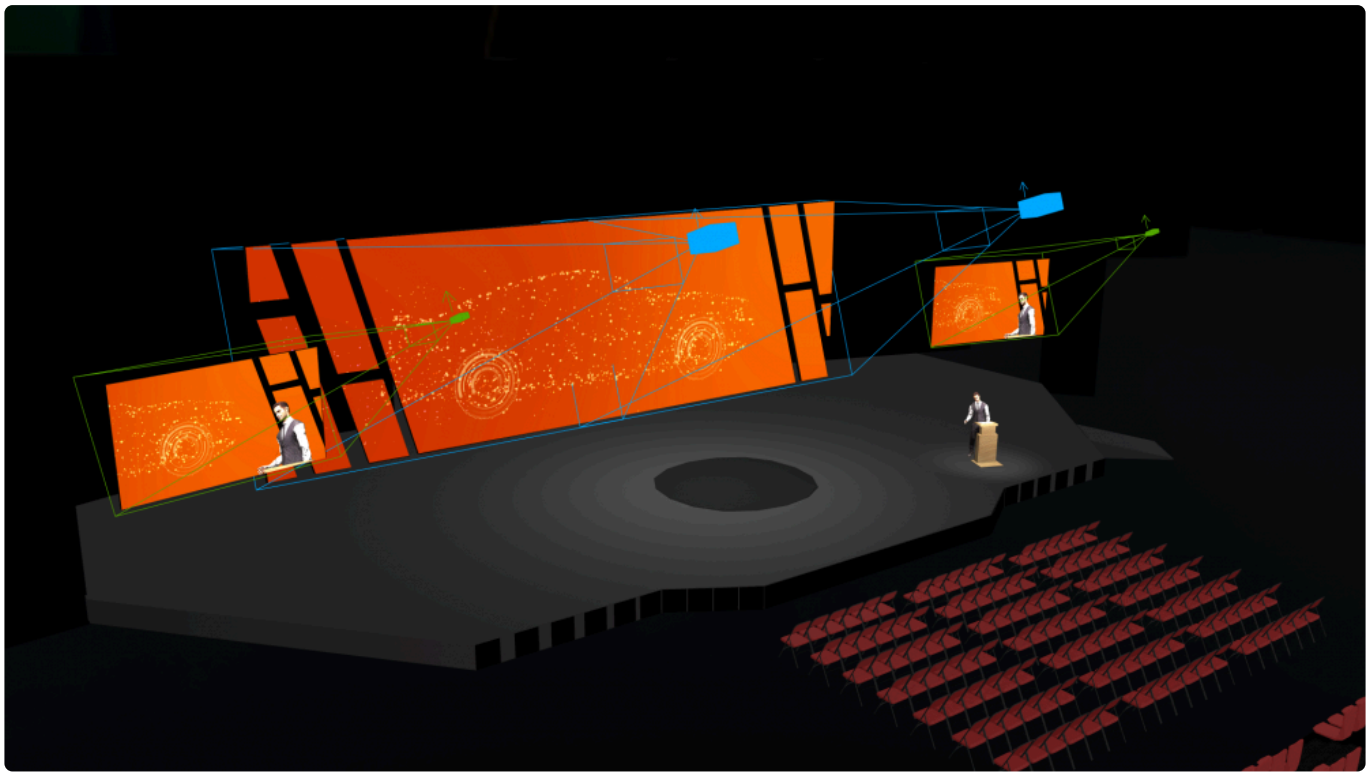
Install the Modulo Wing companion application. It can be installed on the Modulo Player Remote computer or a tablet (Android/IOS) or phone (ANDROID) if the device is networked to the Modulo Player (WIFI).
For tablets or phones, you have to go to the Android or IOS store and search for the Modulo Wing application.
The PC and MAC application is available in the customer area.

Launch the application and enter the IP address of the Modulo Player: you can then display several playlists or tasks. It is possible to launch several Modulo Wing (on the same machine or different machines).

Live event-Multi playlists / User interface

The second part of the exercise will allow you to extend the previous exercise and discuss the following concepts:

- The creation and use of NDI Live media and counter and text media
- The creation and use of several Playlists
- The use of Monitoring to visualize live sources
- The use of the user interface editor
- Using Modulo Panel



Sources creation

Creation of NDI Live sources, counter and text:

NDI:

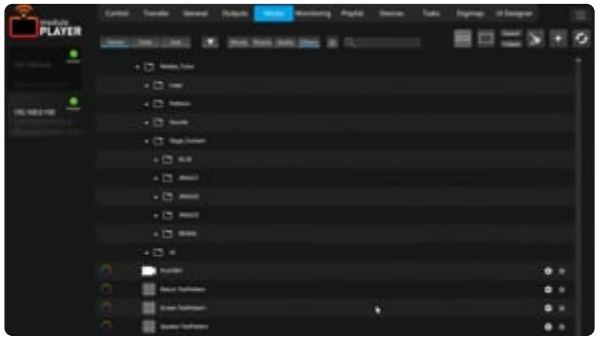
We will now declare NDI Live Media to capture streamed sources with the “NewTek NDI” protocol: https://fr.newtek.com/ndi/ . NDI Info click here
This protocol allows video streams to be transported using a traditional TCP/IP network. Many applications allow you to stream an NDI stream over the network. The Newtek website allows you to download some free tools (NDI option for VLC, integration possibility to stream NDI from Adobe suite, test tool). Many PTZ cameras support this protocol. There are also conversion boxes between NDI and HDMI/SDI.

The Modulo Player application itself is capable of streaming monitoring to NDI or streaming an Output.

> We will assume that 4 NDI streams are currently available on your network.

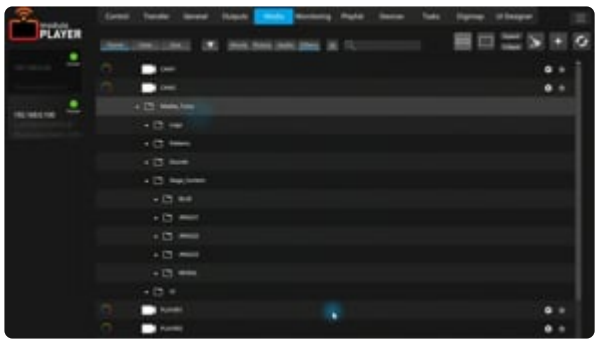
So we go to the Media tab. When you click on the **+** button, a window appears to select the type of media to add.
So we will create an NDI Media. The NDI Media Editor appears.
We give a name to the source to identify it in the media list, we choose in the streams list the NDI stream to capture.
If the NDI stream does not appear, you can click on the refresh icon to search for sources available on the network.

We will repeat this operation 4 times to add the 4 NDI sources available on the network.



Counter:

We are now going to a Media Counter. We will set it in countdown mode with the text LEFT TIME and set the time to 2 minutes. We will use this media to position it on the SPEAKER screen to indicate the remaining speaking time to the Speaker in overlay on the NDI Powerpoint stream.



Playlists creation

The creation and use of several Playlists

We will now add several playlists in order to be able to launch different content in independent ways.
Click on the **+** button and add 4 playlists.

We will now rename the playlists and add a color to make them easier to distinguish.

The first Playlist is called SHOW.
The second PPT
the third Live
the fourth SPEAKER

The media player2 is added to the cue of playlist 2 and positioned on the third output.
The special paste is used to duplicate the media on layer 2.
It is positioned on the fourth output

The special cue paste is used to copy cue 2 to cue 3.
We will now add a static mask using a png with an alpha layer.

Cue advanced settings

We will now copy/paste on cue 2 of playlist 2 to cue 2 of playlist 3.
We will then replace the media with another media on cue 2 of playlist 3

It is possible to apply different colorimetric settings on each layer. To illustrate this, we will apply a color level change on the first layer and a brightness/contrast/saturation setting on layer 2

We will now add a drop shadow on a media
We add cue 3 a media and apply a drop shadow
We will also use the transition mode to switch from one cue to another with a transition.

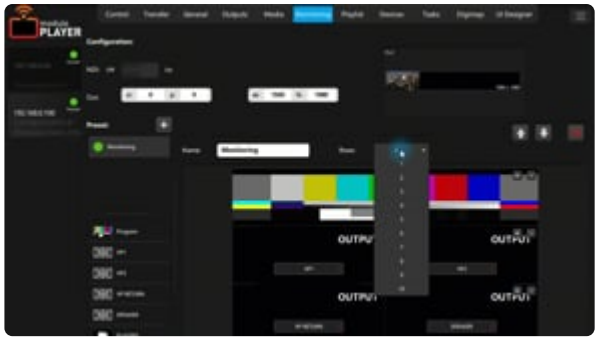
We will add 2 effects a media:
A hue rotate to act on the color
and a Dot effect to display the media as large dots

Monitoring

Using Monitoring to view live sources

We will modify our monitoring preset to visualize the same monitoring on the NDI sources.
We add a line and divide it into four columns.
We drag&drop the 4 NDI sources into the empty slots.

> With a Try&Learn dongle, only one of the outputs can be displayed in the monitoring. It is, therefore, mainly necessary to use the PGM.

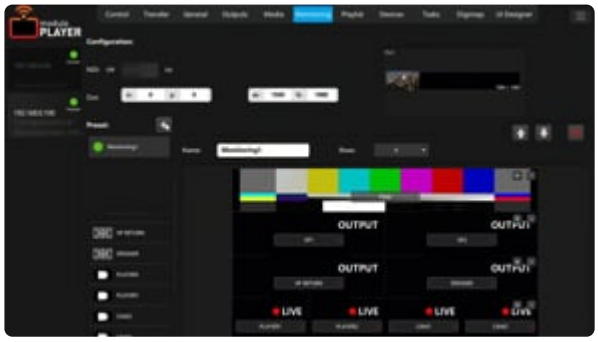


We will now create another preset with only the LIVE sources. We then create two rows, each subdivided into two columns.

We drag&drop the 4 NDI sources in.

We will now create a third preset with only the first NDI source to get a close-up of this source.

We will now create three new monitoring preset reminder Tasks. In each Task, the Modulo device is added, and the “Recall Monitoring Preset” action is selected, and a Monitoring recall is associated with each Task. It is now easy to recall Monitoring presets.



User Interface

The use of the user interface editor

In the previous exercise, we used the Modulo Wing application: This application is handy to view all playlists or to have a Task reminder interface. However, the layout of the Playlists and Tasks is fixed. We will learn how to use the user interface editor to create an interface that is perfectly adapted to our use.

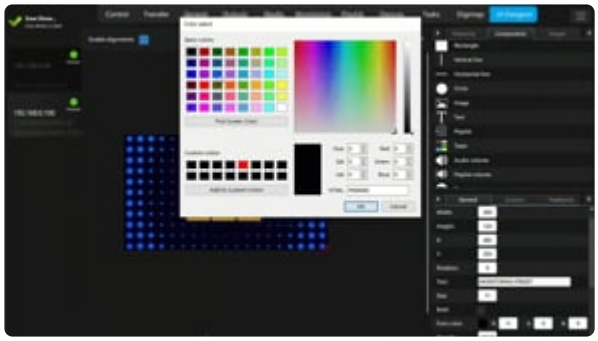
We now go to the UI Designer tab. Click on the **+** button to add a user interface.

First of all, we will add an image in the background to dress the panel. The xxxx image must first be copied to the Ui sub-folder in the Transfer tab. Then go back to the UI Designer tab, “images” section and click on the refresh button. We then see the image appear, and we have drag&drop in the background.

We will now choose from the list of components, the Playlist icon and drag&drop it in the user interface. In the editor, we will select playlist 1.

We will then drag and drop the Tasks icon. We adjust the size of the buttons. All Tasks appear, but we want to display only the Monitoring Preset Reminder Tasks. We return to the Task tab, and we will then add the Keyword MONITORING to the Monitoring Preset Reminder Reminder Tasks.

We then go back to the user interface, select the Task box and add in the Keyword MONITORING editor. This Task box then displays only Tasks with this keyword. We will add a text above the buttons with the text “Monitoring preset”



We will now add a second control page for Projector Videos:

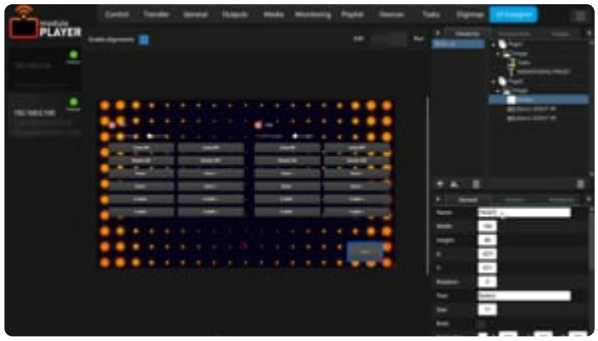
We add a second page and select it.

We go back to the Device tab and declare 2 Barco UDX video projectors. This device allows us to control a projector of the Barco brand UDX reference. Device's list proposes to take control of most of the Video Projector brands used in the Pro AV market.

We go back to the UI Designer tab and go to the Device section. On drag&drop the two video projectors on page 2.

Then we add a button on this page. Choose "PAGE 1" in text, click on action, section Ui, and drag&drop the action go to page. Indicate 1 for the page number in the editor. This button will allow the user to return to page 1.

Page 1 is selected in the hierarchy and a button is created to point to page 2 and "PAGE 2" is selected in text.



Modulo Panel

Using Modulo Panel

> ! Be careful, the Modulo Panel application will only be able to connect to the server if the computer or tablet is in the same address range as the Modulo Player.

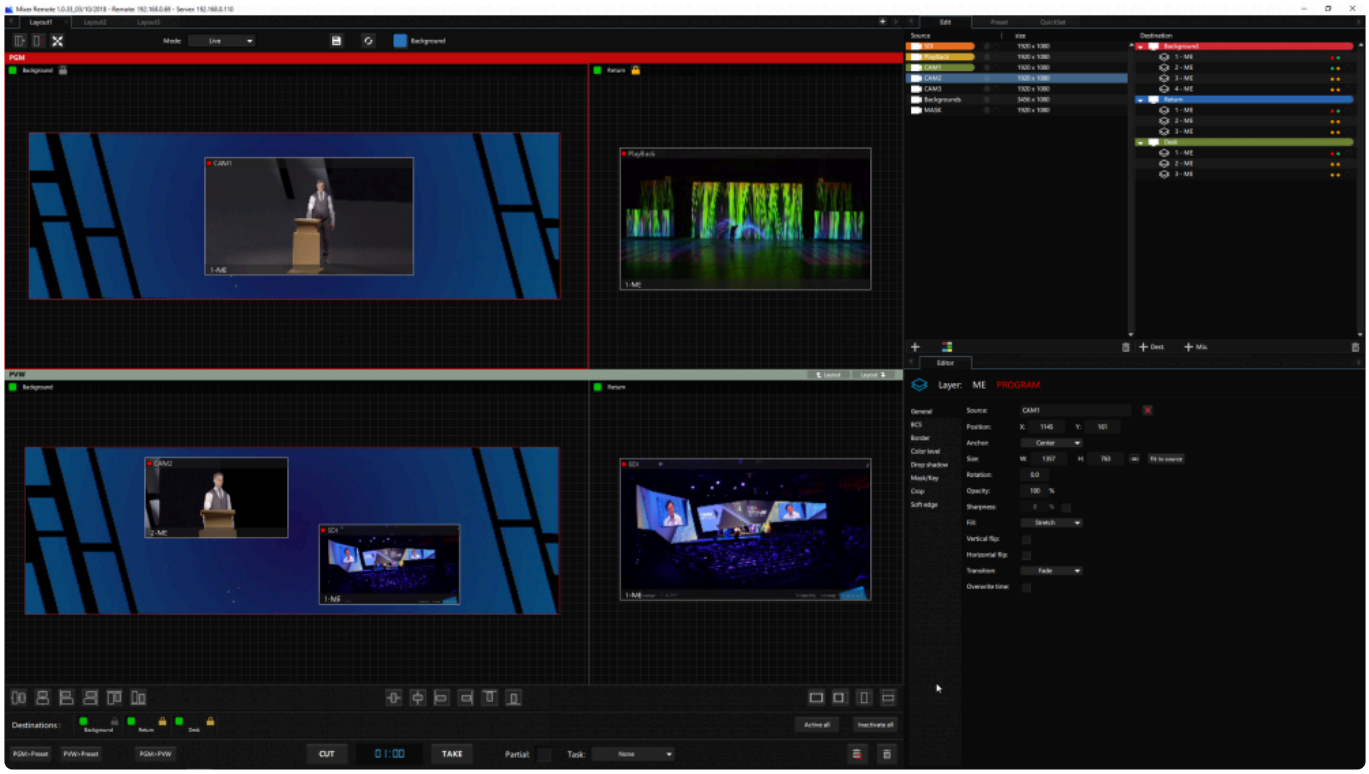
the Modulo Panel application is installed on the laptop or on a tablet / phone connected in network with

the Server Media. Launch the application and enter the IP address of the Modulo Player. A list appears with all available interfaces and the TECH_UI interface is recalled.
The created user interface appears.

Live event-Mixer

Following on from the previous exercise, we will discover the Live Mixer integrated in Modulo Player. We had previously used Live Media by integrating them into Playlists like other media but we will discover the multiple possibilities of the Mixer to go much further.

The initial project is a simplified version of the previous year's live source management since we will now use the Mixer to manage live sources and launch video topics.



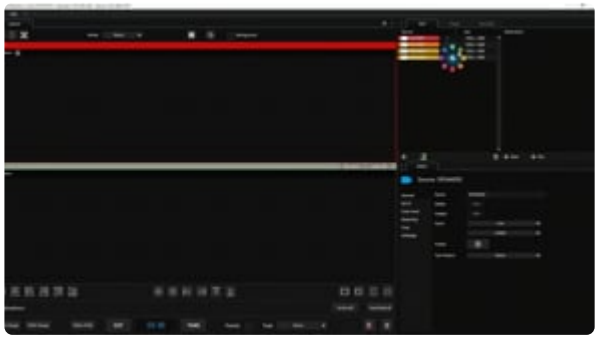
We will discuss the following concepts:

- Discovery of the Modulo Mixer interface
- The creation and use of sources
- The creation and use of Destinations/Mix Engines

- The use of the Preview/Program associated with CUT/TAKE actions
- Creating and recalling presets
- The creation and use of Quicksets
- The creation and use of Background source type
- The configuration and use of the StreamDeck

Sources creation

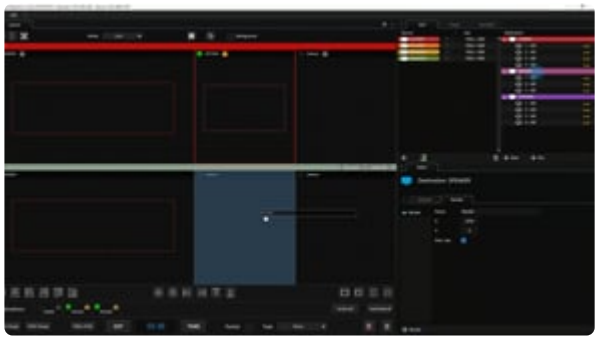
We will add the 4 live sources in the mixer.
We will learn how to create a source, assign a live media to this source.
We can see that it is possible to retouch the colorimetry, to make a crop, to softer the edges or to apply a mask or keying.
It is possible to use the same live media several times in different sources to apply different presets to it.
We can see that it is easy to duplicate a source.



Destinations creation

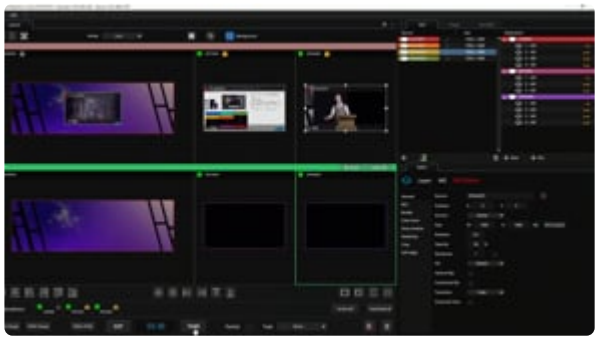
We will create 3 destinations: one for the main screen, one for the reminder screen and one for the speaker feedback
For each destination, a rendering area is generally created at the same resolution as the destination.

We add mixes/engines in each destination.
We divide the preview and the program into 3 zones and drag&drop the destinations in its zones.



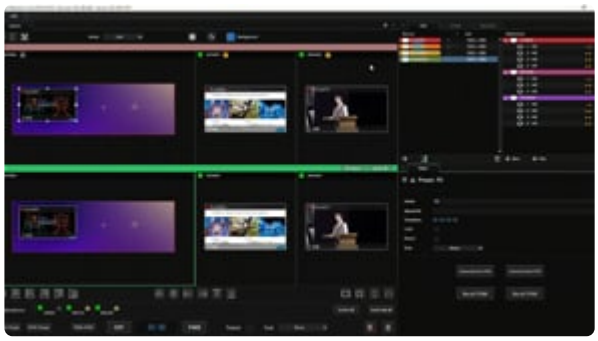
Preview/program

Now you can drag and drop the sources in the preview
You can use various alignment tools to fill a destination.
You can send the preview to the program in CUT.



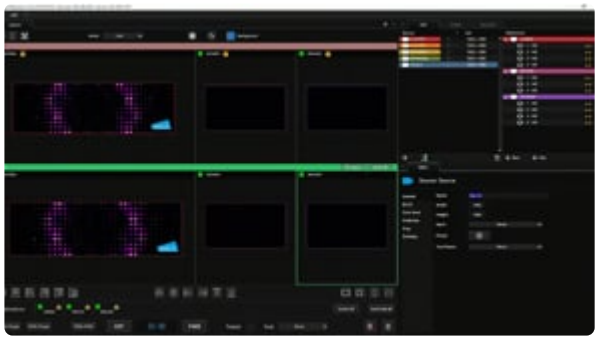
Presets creation

- Creation and recall of presets



Background source creation

Now let’s use a zone of the pixel workspace as a Live source



Stream Deck

- Setting up and using Stream Deck by Elgato

Project transfer on the Media Server

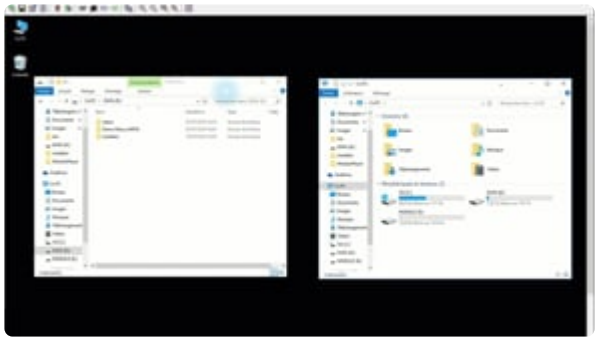
This final exercise will allow you to set the project up on the Media Server:

- Server configuration
- Transfer of the complete show
- Perform the calibration and blending of the two video projectors
- Setting up and using Live SDI and/or HDMI sources
- StreamDeck configuration
- Launch of the show using Modulo Player Remote and Live Mixer together

Setup and copy of the project

Transfer exercise:
The Modulo Player PRO-4 is installed and connected to 2 VPs (e. g. wall projection) + 2 HD LCD screens + 2 LIVE SDI sources (blackmagic player?) + 2 HDMI LIVE sources.

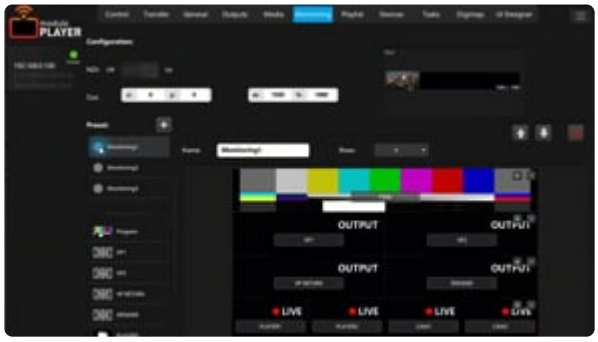
Now transfer the show to the server. Connect the hard disk with the whole show to the server.
Connect with a VNC client on the server (modulo password).
Copy the complete project folder to the data disk.
Go to the remote, Control tab, Settings button and point the project to the folder that has been added.



Setup of EDID and Eyefinity

Let’s force the 4 outputs with an EDID and do eyefinity to have an desktop extended over 4 screens. Check that the outputs are correctly configured in the output tab (if you have done the initial setup on a single screen, the resolution of the outputs has been done at the ratio of an output and it is necessary to correctly configure each output.

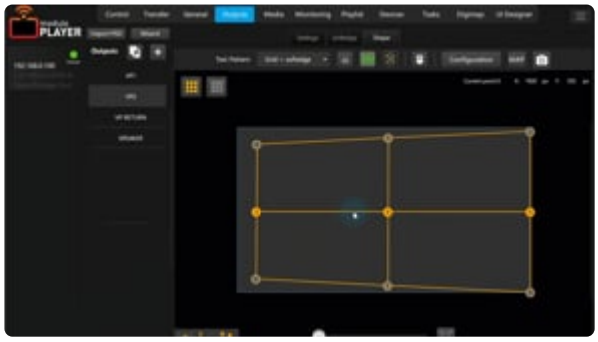
Disable monitoring (or possibly NDI stream)



Display a test pattern on all outputs to check that everything is working correctly.

Video projectors calibration

We will now calibrate the 2 video projectors. Try in keystone mode and if necessary switch to curve mode

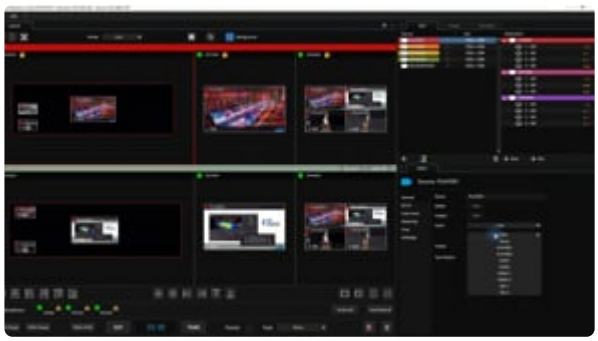


Live sources creation

Now let’s add Live Deltacast media to the show.

Repatching of sources in the Live Mixer

Repatch live sources in the mixer to point to Deltacast live sources instead of NDI



We can now launch the show.

Workshop

Art-Net light steering

We will use the Dmx device (Art-Net) to drive 2 PARS RGB.

> ! It is imperative there's only one person working on the same universe and subnet. If several people send Art-Net on the same Subnet/Universe, everything will get mixed-up and the result will be incomprehensible.

Creation of the Patch:

Create a DMX device. Activate the output and choose the universe/subnet coherent with the Art-Net box that converts from Art-Net to DMX.
The first PAR is patched to channel 1 and the second PAR to channel 4.

Go in Patch and create the first fixture, call it R1 for red PAR 1, select channel 1. You can apply a red color to it to better identify the color managed by this parameter in the mini desk.
Create the second fixture, call it G1 for green PAR 1, choose channel 2. You can apply a green color to it to better identify the color managed by this parameter in the mini desk.
Create the third fixture, call it B1 for blue PAR 1, choose channel 3. You can apply a blue color to it to better identify the color managed by this parameter in the mini desk.

Go in Patch and create the first fixture, call it R2 for red PAR 2, select channel 4. You can apply a red color to it to better identify the color managed by this parameter in the mini desk.
Create the second fixture, call it G2 for green PAR 2, choose channel 5. You can apply a green color to it to better identify the color managed by this parameter in the mini desk.
Create the third fixture, call it B2 for blue PAR 2, choose channel 6. You can apply a blue color to it to better identify the color managed by this parameter in the mini desk.

Creating presets:

Go to the Mini-Desk tab.
You can work in Prep mode (to prepare a preset in blind mode, without sending anything) or in Stage mode (the values are sent in ART-NET and can be adjusted visually).
Switch to Stage mode. Let's do a first preset called Black as an example. To do this, all fixtures are enabled, the values are set to zero, a wait of 0 and a fade of 0, and the preset is created by pressing "+". Call this preset BLACK.
Move the R channels to FULL for each PAR. Now for the fade time, enter 5 seconds on each channel. Create a new preset called RED.
Move the G channels to FULL for each PAR and reset the state of the R channel on the two PARs to zero, put a 5 seconds fade time on each channel. Create a new preset called GREEN.
Select only the B channels B of each PAR and set this parameter to FULL, set the wait time at 3 seconds. Create a preset called PARTIAL B.

Recall the BLACK preset: the PARS are off.
Recall the RED preset: it switches to red in 5 seconds.
Recall the preset PARTIAL B: the RED channel remains at the same value while the blue rises in 3 seconds. We only activated the B channel in the presets, only its parameters are modified.

Recall of presets from a task:

Create tasks. Add the DMX device to each TASK and recall a different preset in each TASK.
Launch each Task from a cue in the playlist. You can now recall a synchronized preset with the launch of a media cue.

Piloting PARS using the UI:

Add 3 sliders. The 3 sliders are patched respectively to parameter R,G and B of PAR1.
Add 1 color wheel. Patch the PAR2 to the color wheel.

You can now control both pars using the user interface.

Add a feedback to the 3 sliders and the color wheel. We can still control PARS from the user interface and when we recall a task containing a DMX preset, we can see it remains synchronous with the actual DMX state in output.

Control Modulo Player with Art-Net

The Modulo Player can be easily controlled by using the Art-Net protocol to receive commands from a light console, for example.
There are 3 ways to control it: DMX trigger triggering a task, patch a DMX value to a playlist parameter or X-Map using a digimap, or use the fixture mode (auto digimap).

We have developed a small application that will allow you to send and receive Art-Net: Here is the link download “ModuloDmxTool”.

A DMX device is declared in a show that has several cues (for example a show from the Live Event exercise).

Activate DMX input and choose the universe on which you want to receive orders.

> ! It is imperative that each trainee works on different universes to avoid DMX conflicts!

Task Trigger:

Create a task. Add the DMX device as a trigger, choose channel 1 and 10 as value for instance. Add a Modulo Player device and add a subtask to trigger cue 5 for instance. When you send, from an external application, the value 10 on channel 1 (in the right universe/subnet), the task will be triggered and it will launch your cue 5.
This makes it easy to create an action per value on a channel to control the playlist or, for example, control a task that opens/closes a projector shutter.

Digimap:

Create a digimap. Add the DMX device as a trigger, choose channel 2 as a parameter. Add a patch and we will then act on the X position of layer 1 of a cue. An offset/coefficient can be calculated (refer to the Digimap Interactive Panel or MIDI tutorial to check the procedure). When we receive a value on channel 2, we will see the layer move according to this. You can interact on many parameters of the playlist and also on the X-MAP (for example to give the hand to the lighting console in order to change the opacity of an X-Map in a concert).

> ! If we create a digimap with a patch on a parameter and delete this digimap or change the parameter, the value will remain. It is necessary to click on the reset digimap button to eliminate these phantom values.

Digimap DMX settings:

Fixture mode (Auto Patch Digimap):

The fixture mode allows you to quickly create a link between the lighting console and the Modulo Player. There are 3 modes:
- The minimal mode: from the light console, take control over the big master and the cue launch of one

or more playlists (the most used mode).
- The Basic mode which can take more parameters but also allows you to control the parameters of the minimal mode, as well as the opacity and colorimetry of each layer.
- The Extended mode which requires a large number of DMX channels but allows you to control even more parameters.

Let's use the minimal mode. Go to the DMX device and activate this mode, add playlist 1 to the control. The mini light console can be used to control the playlist 1. The first channel allows the control of a global fade per playlist. If we move this DMX fader we see that we have the hand on the overall opacity of playlist 1.
Use channel 2 (in 16 bits… so channel 2 and 3) to control the launch of a cue. If we send the value 1 on the 16-bit channel, cue 1 will start, if we send the value 10 it is cue 10 that will be launched.

! If you are playing cue 2 and want to restart it from the beginning, it is necessary to send the value 0 to the cue start parameter and to send the value 2 again to restart the cue.

✻ We often need to change the order of the cues or add intercues. In this case, it is always necessary to reprogram the light console at the slightest change. It's not very practical. A better way is to activate the mode in the DMX device. Give a tag to each cue of the playlist that you want to trigger from the light console. Put tag 1 on the cue to be triggered with the DMX value 1, tag 2 on the cue to be triggered with the DMX value 2, and so on. This option simplifies the link between the light console and the Modulo Player.

Digimap-interactive panel

We will use a sensor to track the movement of a panel and project content positioned on it.

We will see how the sensor is used to move a panel and track the media on it. We will then see how to make an x-ray effect to reveal an image.
We will finally see how to use the tasks to change cue according to the position of the panel.
And for those who want to go further, we will show the possibility of wedging a media on a rotating panel.

For this purpose we will use one of the following sensors of your choice:

- Cable reel with absolute Posital encoder. Here is the "link": http://support.modulo-pi.com/modulo-player-manual/1/en/topic/rotary-ip on the documentation.
- "Phidgets cable reel": https://www.phidgets.com/?tier=3&catid=104&pcid=84&prodid=1002 and encoder quadrature. See the "link": http://support.modulo-pi.com/modulo-player-manual/1/en/topic/

quadrature-encoder on the documentation.
- TeraRanger measuring laser. Here is “the link”: http://support.modulo-pi.com/modulo-player-manual/1/en/topic/teraranger to the documentation.
- and the low cost version with a simple slider by gluing a mini panel on it. Here is the “link”: http://support.modulo-pi.com/modulo-player-manual/1/en/topic/slider-60mm to the documentation.

Fixing the projector:

To follow a panel in image, it is imperative that it is seen from the projector as a basic offset on an axis. We will therefore try to have a movement as parallel as possible to the axis of the projector. If this is not the case, it is necessary to use warping in Keystone mode (Keystone mode is important because it allows to have a homogeneous spread in pixels, otherwise the panel will be in the right place on each side but not in the middle of the movement). For this reason:
The Grid sight is displayed on the output.
We’re going to move the left panel, we’re moving the left corners of the warping.
The panel is moved to the right and the right corners of the warping are shimmed.
Then move the panel from left to right to see if the image is correctly spread over the entire movement.

Playlist:

Picture 1: empty
Cue 2 : media Test Pattern at the ratio of the panel in pixels : the panel is placed on the left and the number of pixels of the media is adjusted to display an image only on the panel.
Cue 3: animated video media: the crop on the layer is used to display images only on the panel
Cue 4: layer 1: Test Pattern media at the ratio of the panel in pixel in alpha mask mode, and layer 2 video in HD not cut

Digimap:

We create a digimap, we select it, we add a patch and we edit it. we choose Playlist/ we choose the playlist 1/ we choose cue 2 and layer 1.
The sensor device is used in trigger mode.
We’ll first wedge cue 2 with the movement of the target.
We put the panel to the left. We’re going into simulate A mode.
click on the cross to read the value of the sensor.
we move the value in out A at sight until the image is fixed on the panel.
We put the panel to the right. We’re going into simulate B mode.
click on the cross B to read the value of the sensor.
we move saw the value in out B until the image is fixed on the panel.
we go back to simulate in none. we click on “evaluate” to calculate the coefficient and the offset.
The panel can normally be moved from left to right and the image must remain on the panel.

We now want to apply the same effect on cue 3 and cue 4. We will control the digimap on it: Two options, either we add one Digimap per cue and we make the calibration again each time (a little long), or we will simply use global position x a instead of position x: We will thus apply a global offset in x to all

cues. So we need only one digimap for the whole show. We will therefore simply edit the patch and replace position x by global position x. We do a reset offset.

All cues can now be tested, including the x-ray cue.

> ! The offset applied from a digimap is cumulated with the position of the layer and with the global offset applied to the entire playlist. If you remove the Digimap or change the setting, the offset will remain as a ghost behind. If you want to delete the ghost values after a change on a digimap, you can click on the “reset offset” button, this will affect the active values (since the sensor position is read permanently and it will eliminate the ghost values).

Task:

you can also trigger a task when the panel enters an area. For example, you can have several cues on the playlist, and depending on the position of the panel you can trigger the launch of a different cue depending on the position of the panel.

We will create several tasks, one per cue to launch.
We add a Modulo Player device and use this device to launch cue 2 from task 1, launch cue 3 from task 2, and launch cue 4 from task 3.

We will then add a task trigger using the sensor. We will choose a row for each task to trigger the corresponding cue. To know the range values to be entered for each interval, go to the device tab on the sensor, move the sensor and note the range values to be entered in the task trigger.

Rotation of a panel on an axis:

It is also possible to use an “encoder”: https://www.phidgets.com/?tier=3&catid=103&pcid=83&prodid=997 with the panel glued on top centred on the projector side. This must be connected to the “next” device: http://support.modulo-pi.com/modulo-player-manual/1/en/topic/quadrature-encoder.

we will create a digimap with the quadrature encoder as a trigger and which acts on the rotation of a layer. We need to put this layer in Center mode instead of Top-Left.

Digimap-MIDI

We will now use a MIDI controller to interact with the content using digimap.
The MIDI controller is connected to the server. For example, you can use NanoKontrol2 from Korg.
We go to the MIDI controller setup and activate the input and choose NANOKONTROL2.
you move a slider and see the received message written down in “Last Received:” You can see if it is a NOTE ON, Control Change or Program Change command, the channel used and the parameter.
We add a media in the playlist.

we create a first digimap, we trigger the MIDI device, we set to receive the slider value. We create a patch that acts on the X position of the cue/layer containing the media.
The incoming MIDI value is between 0 and 127, and we want to move the media between 0 and 1920 pixels. The coefficient and offset can be directly modified to remap the input value to act in pixels on a value between 0 and 1920.
For simplicity, the integrated calculator can also be used:
we choose In A: 0 for the lower position of the MIDI slider, in OUT A we choose 0 for the value 0 corresponds to 0 pixels.
In In B: 127 is selected for the upper position of the MIDI slider, in OUT B the value 19200 corresponding to the maximum offset value in pixels is entered.
Click on evaluate to calculate the coefficient and offset.

We can now move the slider and we will see the image move from 0 to 1920 pixels depending on the position of the slider.

Opacity:
The second slider is used to act on the opacity of the media.

Fx:
We add an FX and interact on the parameter with the third slider.

ISF

We will learn how to integrate an ISF effect into Modulo Player. Modulo Player integrates an effect database applicable to any media (image, video or live) but it is possible to create an ISF effect yourself if you have GLSL opengl shader databases or more simply to use ISF effects available online (for example this “bank”: https://www.interactiveshaderformat.com).
You can use this “application”: https://docs.vidvox.net/freebies_isf_editor.html to create or preview EWBs.

> ! It is imperative that the ISF effect follows the V2 standard. ISF V1 effects are not supported.

For example, we will download this “effect”: https://www.interactiveshaderformat.com/sketches/2641 on the Interactiveshaderformat.com website

We will then go to the transfer tab and copy the file (.fs extension) into the ISF folder.

> ! Most effects are composed only of an.fs file but others also have an.vs file: in this case it is necessary to copy both files.

We add a cue with a media.

We go to FX, select ISF and we can choose the effect we added in the ISF folder.

It is then possible to adjust the values.

To go further:

If you have a MIDI controller or DMX Art-Net device or OSC controller, you can create a digimap and interact on one or more parameters of this effect.

OSC

The OSC protocol

OSC is the acronym for Open Sound Control. This protocol was created to send orders between different applications using the network, a bit like MIDI but more flexible. Many software programs support this protocol and it is therefore a simple way to communicate several applications.
The OSC uses the UDP network protocol.

An OSC device can be declared in Modulo Player.
To be able to send orders to a third party application, it is necessary to know the IP address of the machine where the application and the communication port are hosted.
The IP address is a bit like the street and the port a bit like the number of the mailbox in the street.

To send orders, it is therefore imperative to enter this information correctly, otherwise the order will not be received by the third-party application.

In the same way to receive orders from a third party application in Modulo Player: It is necessary to choose the port on which you want to receive the orders and in the third party application it is necessary to say that we will send commands to the IP address of the Modulo Player.

An OSC message is composed of a path and sent values.

A path is defined by a sequence of words separated by / for example it can be /modulo/task/1 This string is defined arbitrarily but it is imperative that the sender and receiver use the same syntax.

The values sent can be Boolean, integers, float or strings.

Use of the OSC protocol of the Modulo Player:

Modulo Player has an integrated protocol for receiving and sending orders in OSC: This protocol and “Touch OSC”: https://hexler.net/products/touchosc were used to create user interfaces on tablets or telephone when the IU did not exist in Modulo Player.

So we’re going to use a preset for Touch OSC.
This preset is loaded into the tablet or phone connected in network with the Modulo Player using the

Touch OSC Editor application, the documentation is available on this “page”: https://hexler.net/products/touchosc
The input and output ports are by default the ones used in Touch OSC.
we will activate “trigger enable” and “feedback” on the OSC device, to receive orders using the OSC Modulo Player protocol and to send information back to TouchOSC.

For those who want to go further, the OSC Modulo Player protocol is described on this “link”: http://support.modulo-pi.com/modulo-player-manual/1/en/topic/osc

It is possible to use this protocol with any application to communicate with Modulo Player in OSC.

Manual use: Task:

A task can also be triggered by using the OSC device as a trigger.
We create a task, we add the OSC device as a trigger.

Manual use: Digimap:

It is also possible to create a digimap that will receive a value from an OSC device.
We add a touchpad in touch osc.
We create a digimap, we patch it to the x-position of a media.
We create a second digimap and patch it to the y-position of a media.

sending an OSC command to a device:

You can also send commands to an OSC application using a task.
For example, we will create two tasks to move a button in the TouchOSC application.

Timecode

This workshop will allow you to synchronize a playlist on timecode.

Timecode:

Timecode is used to synchronize several techniques (e.g. video server media, sound player and lighting console together) in a show. In general, one device is the master (it generates the timecode – Generator -) and the other devices read this timecode and synchronize themselves on it (Slave/ Reader).

LTC time code:

The LTC timecode is the most commonly used to synchronize shows. It is an audio modulation so you can simply use all the audio devices to broadcast it (player audio, Wav) and distribute it (sound console, audio distri) and classic audio wiring. See this “site”: https://fr.wikipedia.org/wiki/Timecode_ (temporal) for more information. The LTC time code allows to send time information such as HH:MM:SS:SS:FF or

FF is in 25 frames per second (called EBU – European standard) or in 30 frames per second (called SMPTE).

Be careful: Readers are often very sensitive to audio. It is often necessary to have a high sound level before the reader hooks the modulation (it's all or nothing…you receive or receive nothing at all). If using a telephone application as a generator, it is usually necessary to over-volume (message indicating that too loud and dangerous for the ear).

To receive LTC timecode in a Modulo Player: we use a PCIE timecode card or an Adrienne USB card.
To send LTC timecode from a Modulo Player: it is possible to use a sound file with a timecode track lying on it. We now also support the Adrian PCIE Timecode card which makes generator: This is the most practical because you can control a playlist on it and the timecode is generated synchronously (with the possibility of positrack).
If you have an LTC timecode generating card, you can switch to MASTER mode and see that it is possible to launch cues from the playlist and that the timecode will follow.

> It is possible to do the same exercise using the Art-Net timecode which does not require a special card.

MTC MIDI Timecode:

It is possible to receive MTC MIDI timecode if the Modulo Player has a MIDI card.

Art-Net Timecode:

It is possible to receive or generate Art-Net time code. The time code is sent over a network. The ChamSys console supports Art-Net timecode.
We have developed a small application that will allow you to use the Art-Net timecode: Here is the link to download ModuloDmxTool

Other applications:
You can use this "application": https://timelord-mtc.com/index.php/download/ to generate/receive Art-Net timecode.
You can also use this "application": http://www.s-jaekel.de/software/download/artnet_timecode_sender/index.php to generate Art-Net timecode and this "application": http://www.s-jaekel.de/software/download/artnet_timecode_viewer/index.php to receive Art-Net timecode.

Exercise:

Creating a playlist with several cue.
The first Cue is empty as usual.
We choose a Timecode trigger for all cues.

> ! It is imperative when working in timecode to have only cues with triggers in Timecode mode and that the timecode value of each cue trigger increases from one cue to another.

If you have an LTC Timecode interface and a Timecode generator:
we go to the TC setup menu on the playlist.
LTC is selected as the time code type.
We choose SLAVE to be in reader mode.
EBU is selected if the time code received is in 25FPS or SMPTE if the time code received is in 30 FPS.
close the window and lock the timecode lock to locate the timecode: The playlist is now synchronized on the timecode.

You can now try to send timecode from the generator (MIF or sound file with timecode track on another PC or phone application timecode generator).
We can see that the Modulo Player will be located on the timecode even if we receive a time between two cues.

Use and control of Rosendahl’s Mif4:

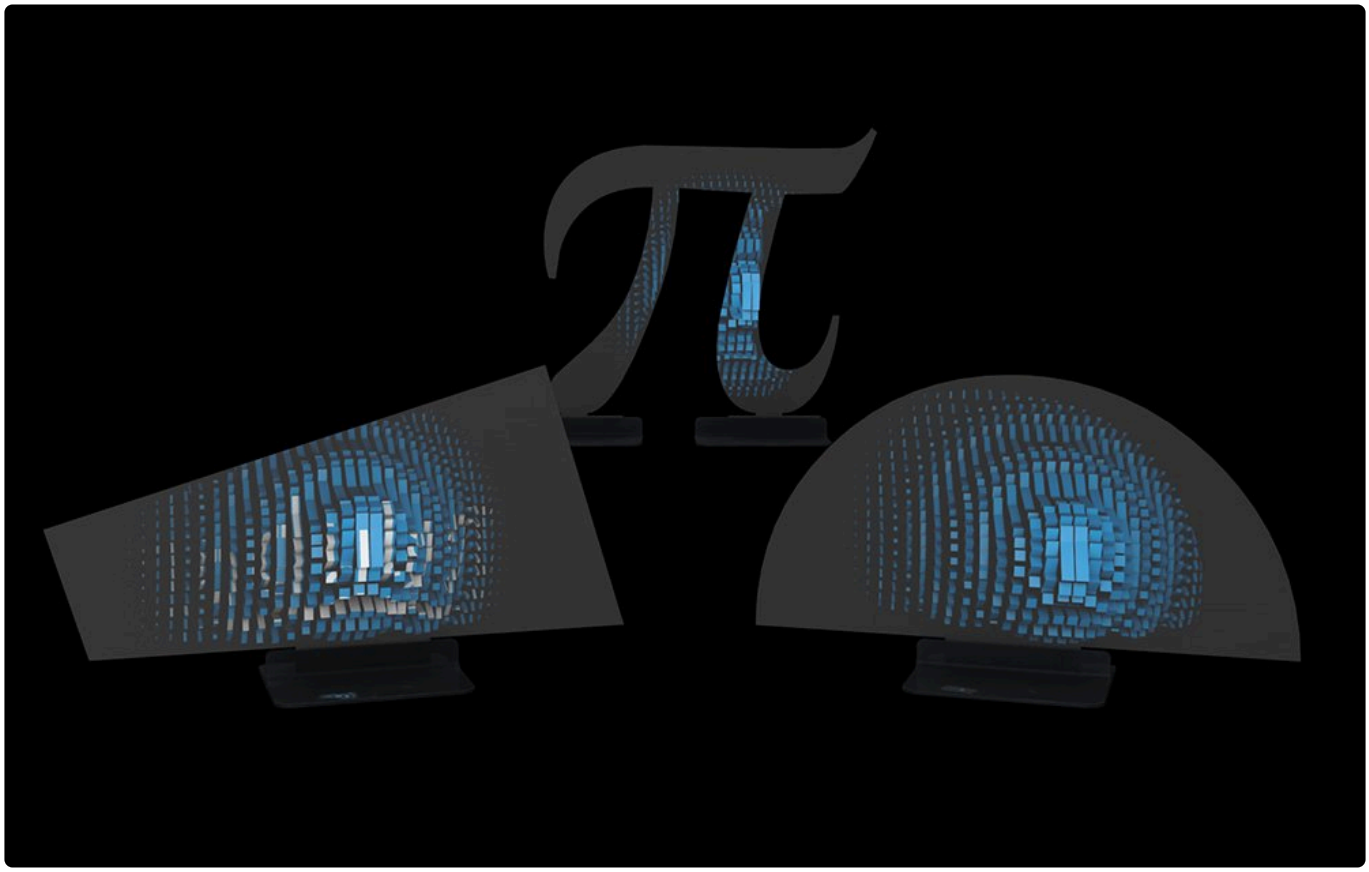
If you have a “MIF4”: https://www.rosendahl-studiotechnik.com/mif4.html, you can use it as an LTC timecode generator to enter an adrian card in the Modulo Player. It is even possible to control the MIF4 from the Modulo Player to make time code reminders. To do this, you will declare a MIDI device in the Modulo Player after connecting the MIF4 to the Modulo Player via USB. In the MIDI device setup you must select the Rosendahl MIF4 in OUTPUT. You can then create tasks and send MMC commands to MIF4 to ask it to generate time code and PLAY/PAUSE.

function to be understood and tested:

Disable positrack in cue:
This mode can be useful in concert: You only need to synchronize to the beginning of each song because the timecode may be suddenly cut before the end of the song. If the “disable positrack in cue” mode is activated, a time code jump will only be taken into account if the time code jump corresponds to a cue change.

Use of offset:
You have entered all the timecode times starting at 0:00:00:00:00 and the time code finally sent is shifted by 10H : To avoid re-encoding the triggers, you can simply use the time code offset in the time code setting menu.

X-Map-Letter



In this exercise, we will:

- Use X-Maps to easily set media to shapes
- Create a corporate event playlist
- Use copy/paste to save time
- Use the Live Mixer

Material required:
1 x pico projector
1 x mapping box
1 x kit of shapes
1 x media kit + PSD template file

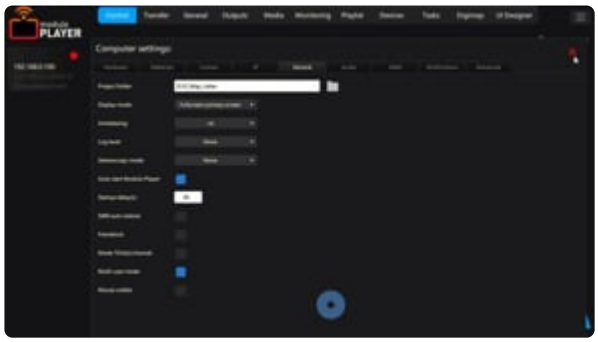
We position the shapes in the mapping box.
Place the projector to project on the three shapes but also on the back of the mapping box.

Media kit Link:

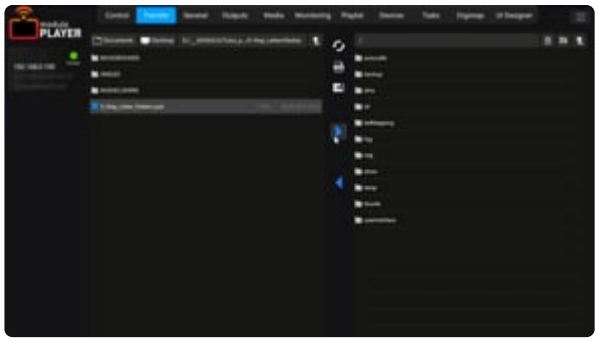
You can download the media kit here.

Project creation

Create a new project folder and then start the Modulo Player application.

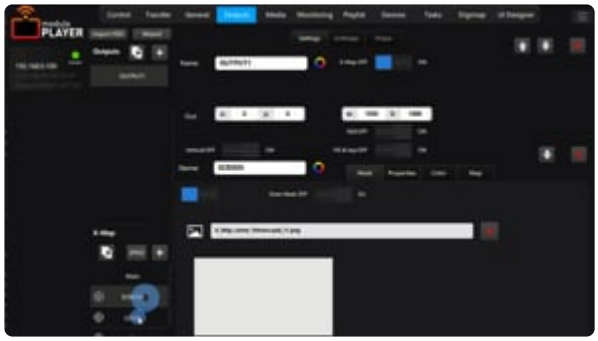


Then copy the PSD file to the server at the root of the project folder.



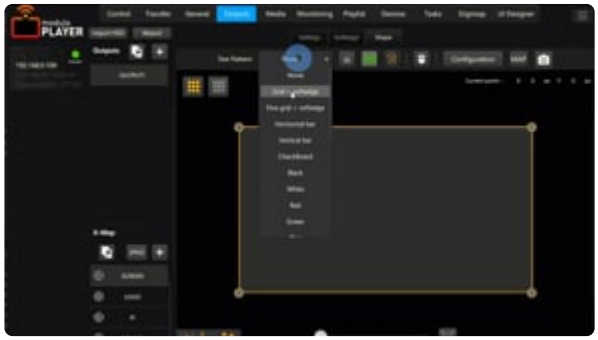
Next, create a new Show

Then import the PSD file:
Select the PSD file and uncheck the “filter outside” option: The elements are placed side by side and are not linked to the position in the projector; if you leave the option enabled, you will lose the import of shapes outside the projector area which is not what we want.
After import, you can see the different X-Maps appear: the background and the different shapes with the mask.

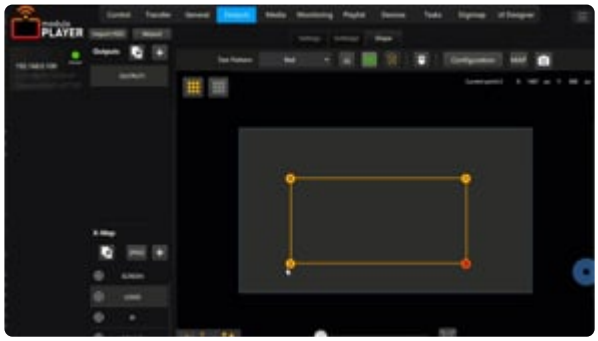


X-Maps – warping

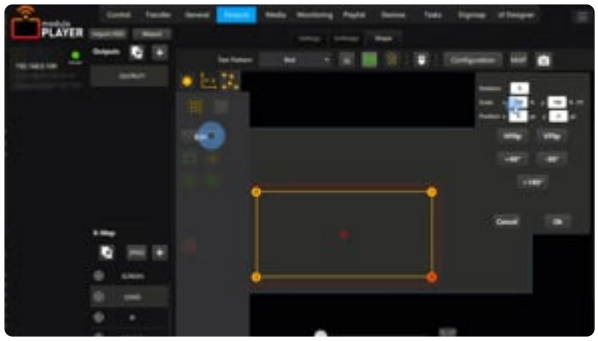
Display a test pattern on the background screen



Then warp the Modulo PI logo:
Since the PSD file has all the elements one after the other, we must bring the shape back into the screen.
Display a red pattern to see the element.
Select all the control points with the “select all” button
Move the everything back into the projection area.



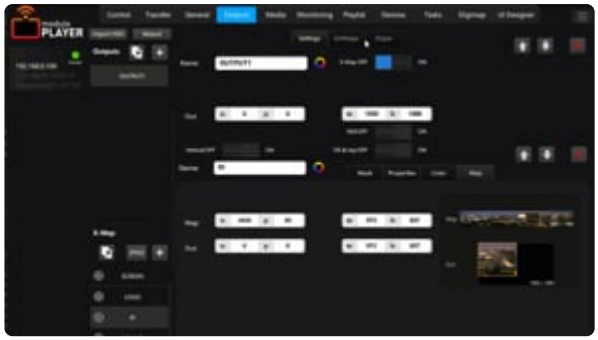
The “rescale” tool is used to reduce the size to a more consistent size.



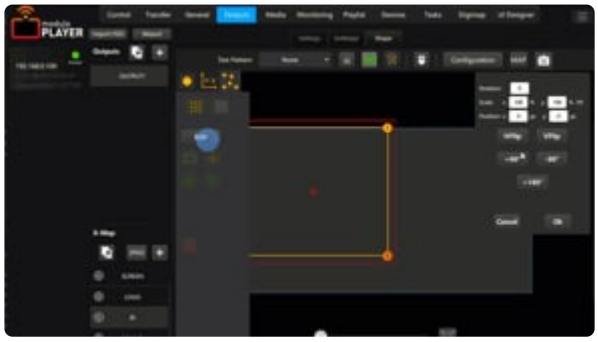
PI sign:

We will use another method to bring the element back into the screen area.
Go to the MAP tab and choose a value in OUT to bring it back into the projection area.

> ! When you modify values in this tab, you are actually modifying the default values for when you reset the shape. You must click on configuration, activate the Reset checkbox and confirm so that the new setting is taken into account.



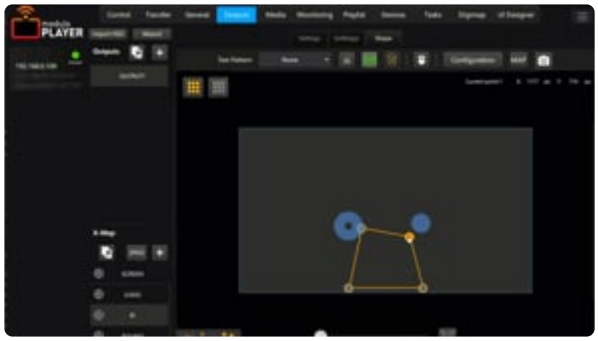
The “rescale” tool is used to reduce the size to a more consistent size.



Apply the same procedure on the ROUND form.

Warping:

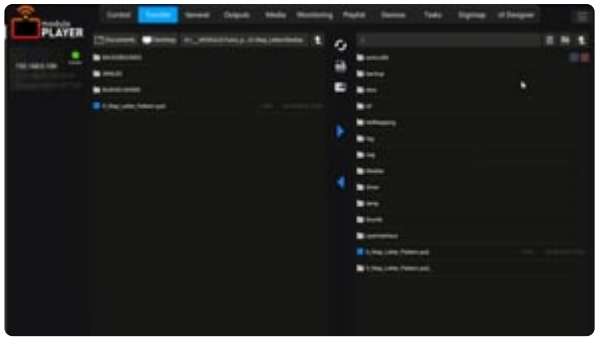
Each shape is then warped one by one. You can use the Keystone mode if the surface is flat (this will automatically compensate for parallax) or the curve mode if necessary.



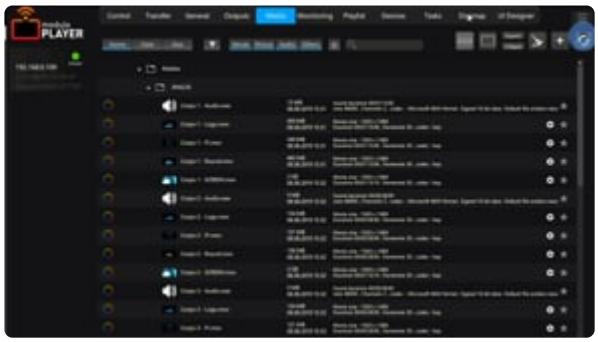
Playlist creation – first cue

We will now copy the media to the server

First create a new folder
Then select the medias folders and copy them into the created folder



Then go to the Media tab and click on the “Refresh” button to display the new media in the show



Then go to the Playlist tab and add cues to the playlist
Always leave the cue 1 empty
Now drag&drop the background media on layer 1
Set a 2 seconds Fade In time.

Then drag&drop the media corresponding to the shapes on layer 2
We set a Fade In time of 2 seconds
The position of the media is shifted to position x at 1920 to correspond to the position of the X-Map logo

We can now launch cue 2 and see the result in projection.

Playlist creation – copy/paste

We will now add the following cues
Use the copy/paste function to save time

Then replace the video media and the sound file

Now copy and paste again to create cue 4.
Put the trigger of cue 4 in Follow 1 mode: it will automatically follow at the end of cue 3 while respecting the fade time

Then set all the layers of cue 4 in loop mode so that the media loop once at the end of the video

Now use copy/paste again but this time copy two cues at once

Then replace the media to put sequence 2

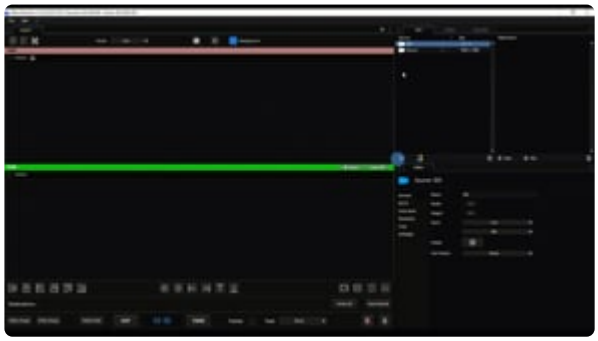
Live mixer – sources creation

Now let’s add live sources in the Modulo Player: depending on the sources and frame grabber available, they may be SDI or HDMI sources or more simply Streamlined sources in NDI.

Open the Mixer application, connect to the server by entering its IP address

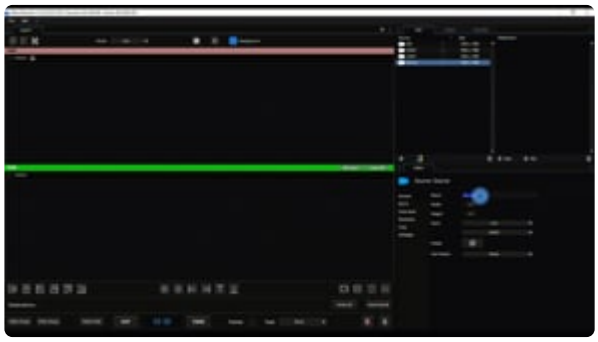
First, create the first source

then the second one



then the third one

and finally the fourth one

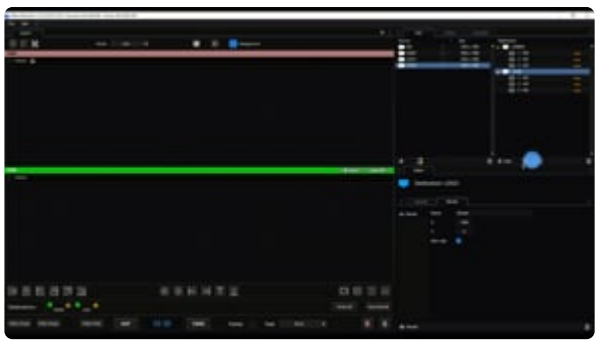


Live mixer – destinations creation

Now, let’s create three destinations: one for the background screen, one for the Modulo PI logo and one for the ROUND shape.

Let’s first create the one for the background screen

Then the one for the shapes



Live mixer – layouts creation

Split the layout preview and program into 2 zones, one per destination
Then drag&drop each destination in its respective area

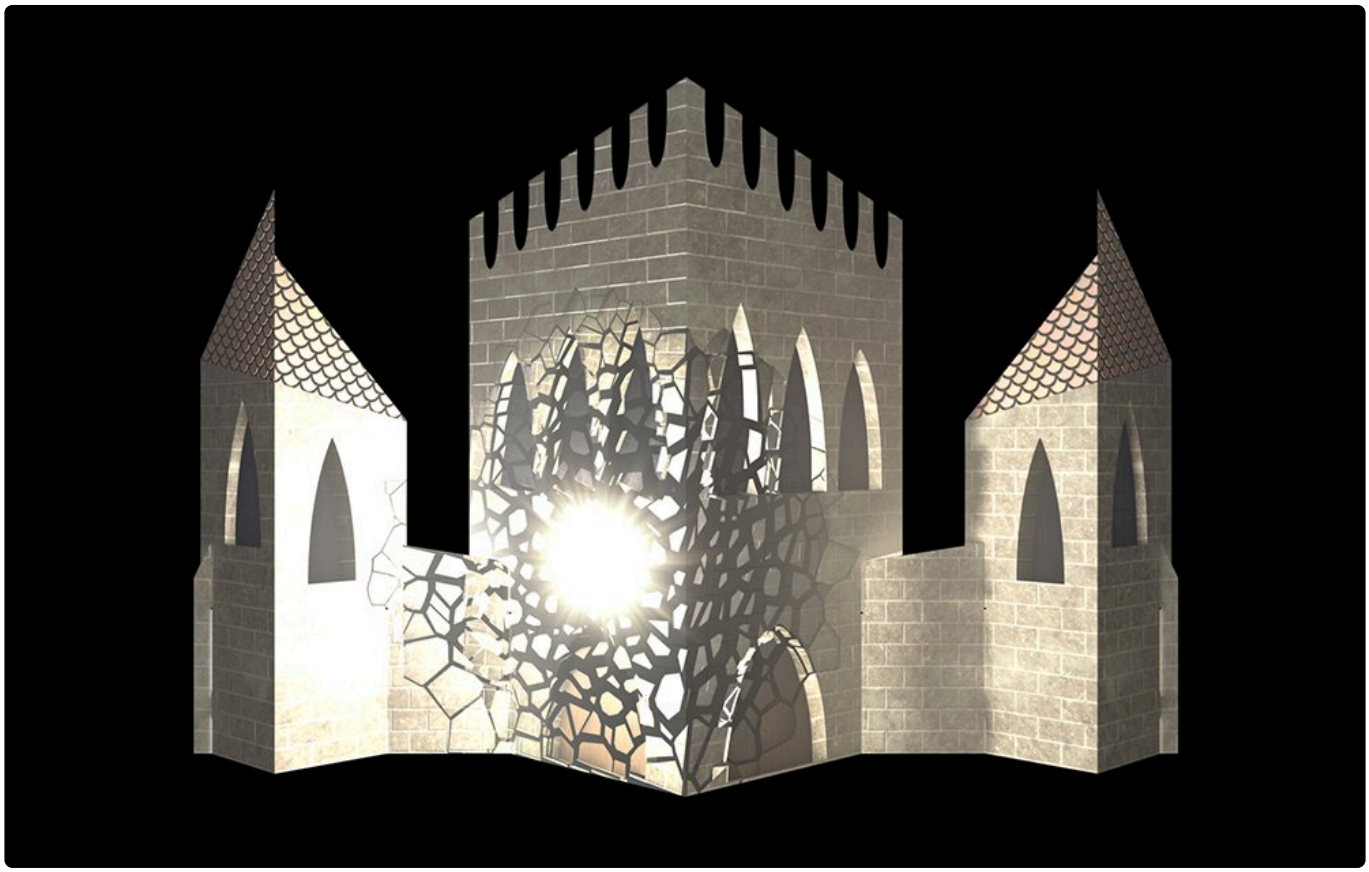
Live mixer – add source to preview and take

Now add two sources in the SCREEN destination

Then a source in the Logo destination and in the Round destination

You can now press Take to send what is in the preview to the program with a fade.

Architectural video mapping



In this exercise, you will:

- Use X-Maps to easily set up a show on a building
- Create an architectural mapping playlist
- Use copy/paste to save time
- Add a Modulo Player device to recall sequences
- Use a calendar device to trigger a task

Material required:
1 x pico projector
1 x mapping box
1 x castle kit
1 x media kit + PSD template file

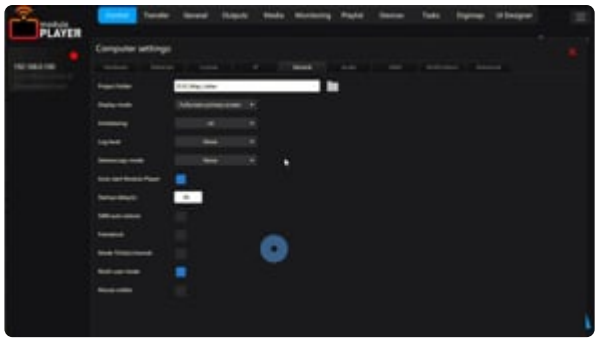
We position the castle in the mapping box.
Then place the projector to project on the whole castle.

Media kit Link:

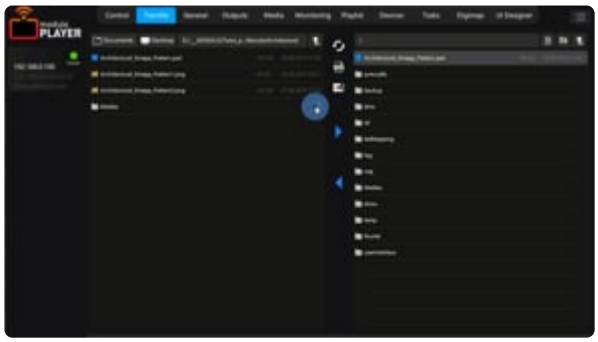
You can download the media kit here.

Project creation

Create a new project folder and start the Modulo Player application.



Copy the PSD file on the server, at the root of the project folder.
Copy the media folder and place the two media test patterns for the calibration in it

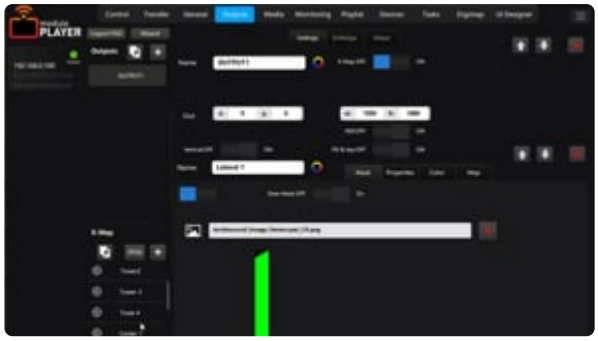


Then create a new Show

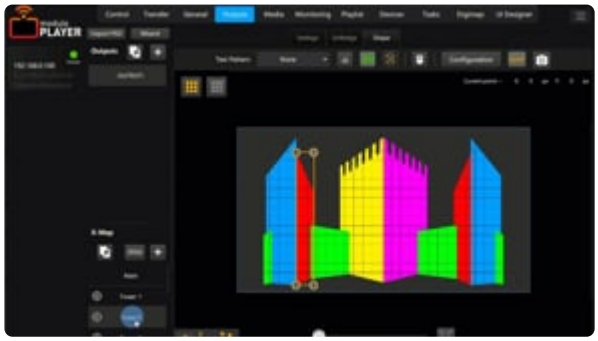
X-Maps warping

First, import the Photoshop PSD file.
Then go to the Media tab and click on the “refresh” button to load the media previously copied into the show.
Then, go to the Playlist tab.
Add cues, leave the cue 1 empty.
Load the test Pattern into cue 2

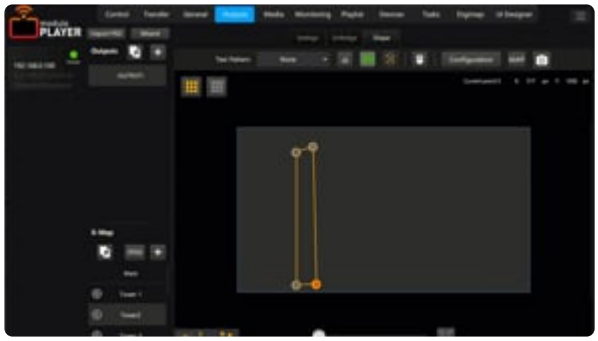
You can see that the X-Maps are imported and you can recognize the shape of the castle



You can switch to Map mode, and click on the camera to see the area extracted by each X-Map



Now warp each X-Map
Don’t forget to use the Solo mode to add X-Maps one by one as the warping progresses.
For some shapes, the Keystone mode will be sufficient, for others it will be necessary to switch to Curve mode and gradually increase the number of control points.



Playlist creation

Now let’s create the show’s playlist
Add 2 more cues
Leave cue 3 empty, add the castle-1-UV media and the associated sound file in cue 4
Put a Fade In time of 2 seconds on this cue.

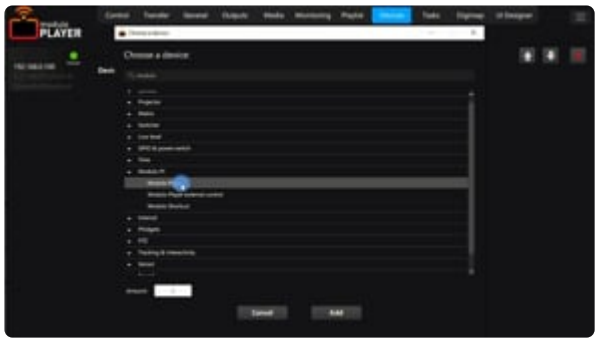
Now add a Fade Out to cue 4:
Add an empty cue 5 called FADE OUT
Add a follow trigger on cue 5 to automatically go to cue 5 at the end of cue 4

Use the copy/paste function to duplicate cues 4 and 5 twice

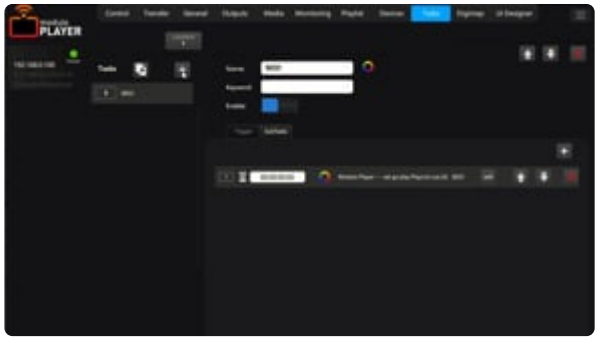
The media are replaced by sequences 2 and 3 respectively

Device – add a Modulo Player device

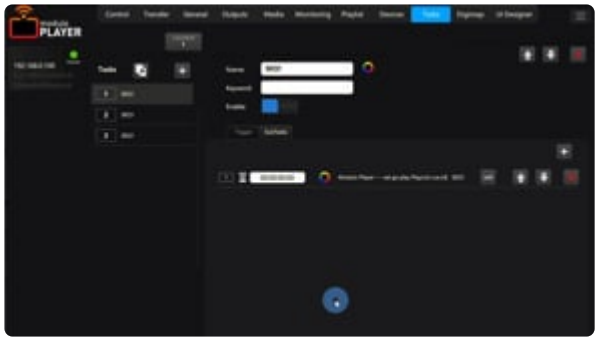
Let’s now add a Modulo Player device



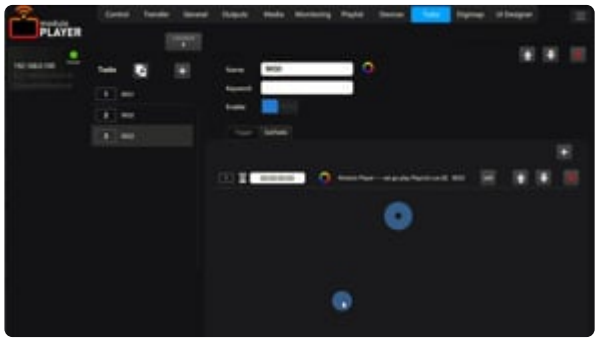
Now you can create a task
Add the device Modulo Player as a subtask and choose the go cue action



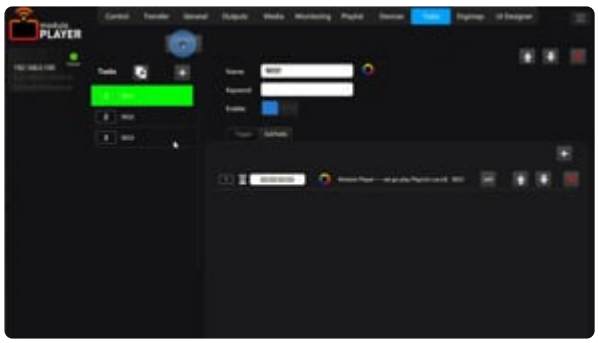
Use copy/paste to duplicate the previously created task twice



Modify both new tasks to start sequence 2 and sequence 3 respectively

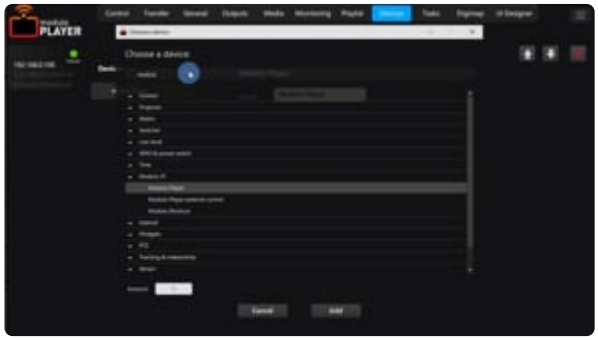


Click on the first task and press Launch. Sequence 1 should now launch.

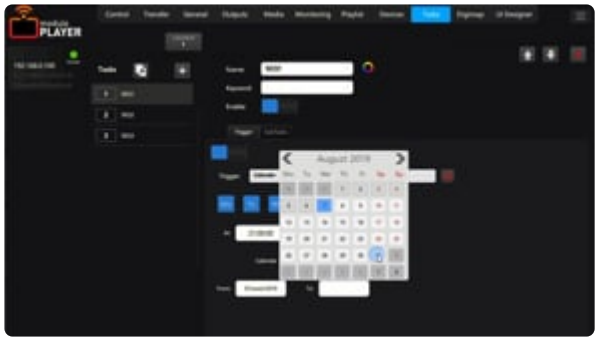


Device – add a Calendar device

Now add a Calendar device



Then use this Calendar device as a trigger to trigger the launch of the first task



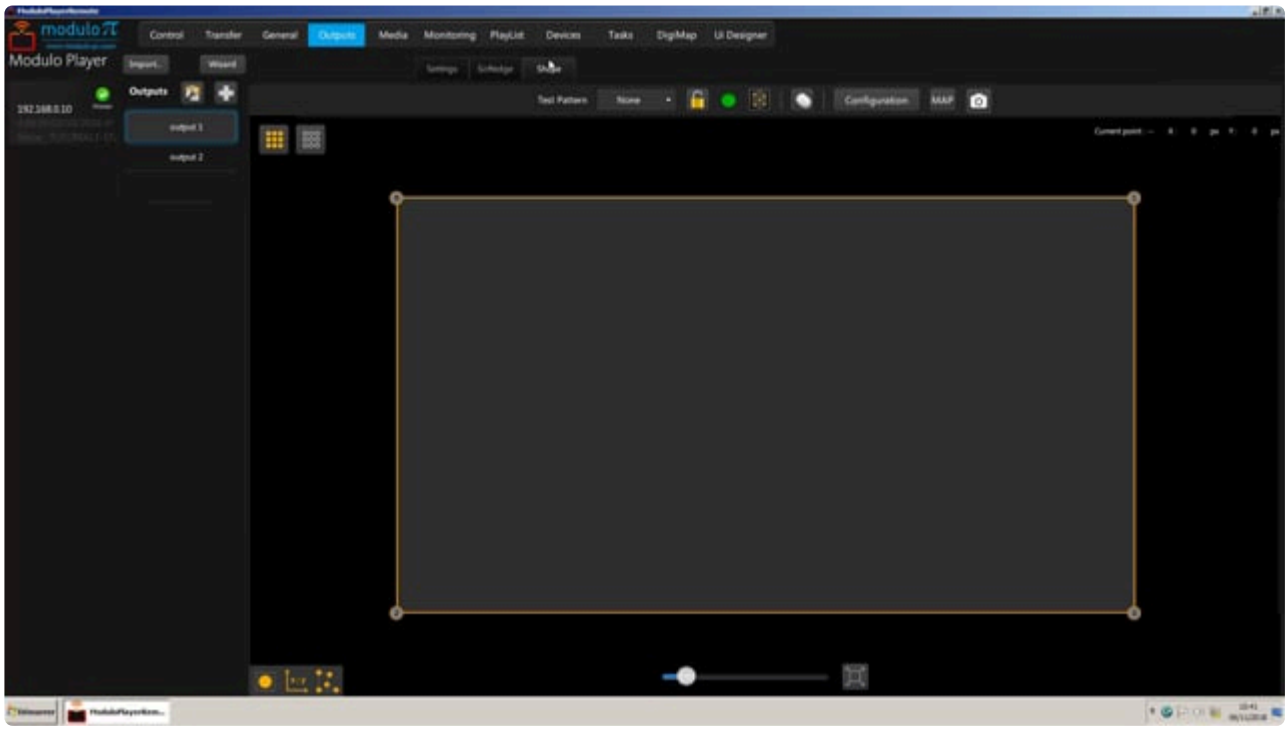
Video tutorials

Discover a series of video tutorials to learn how to use Modulo Player's main functionalities step by step.

> ! If you use the Modulo Player Lite license on your notebook, some features won't be available (hardware dependant). For example, it's not possible to use the EDID, Eyefinity, Live capture SDI & HDMI.

1st show creation

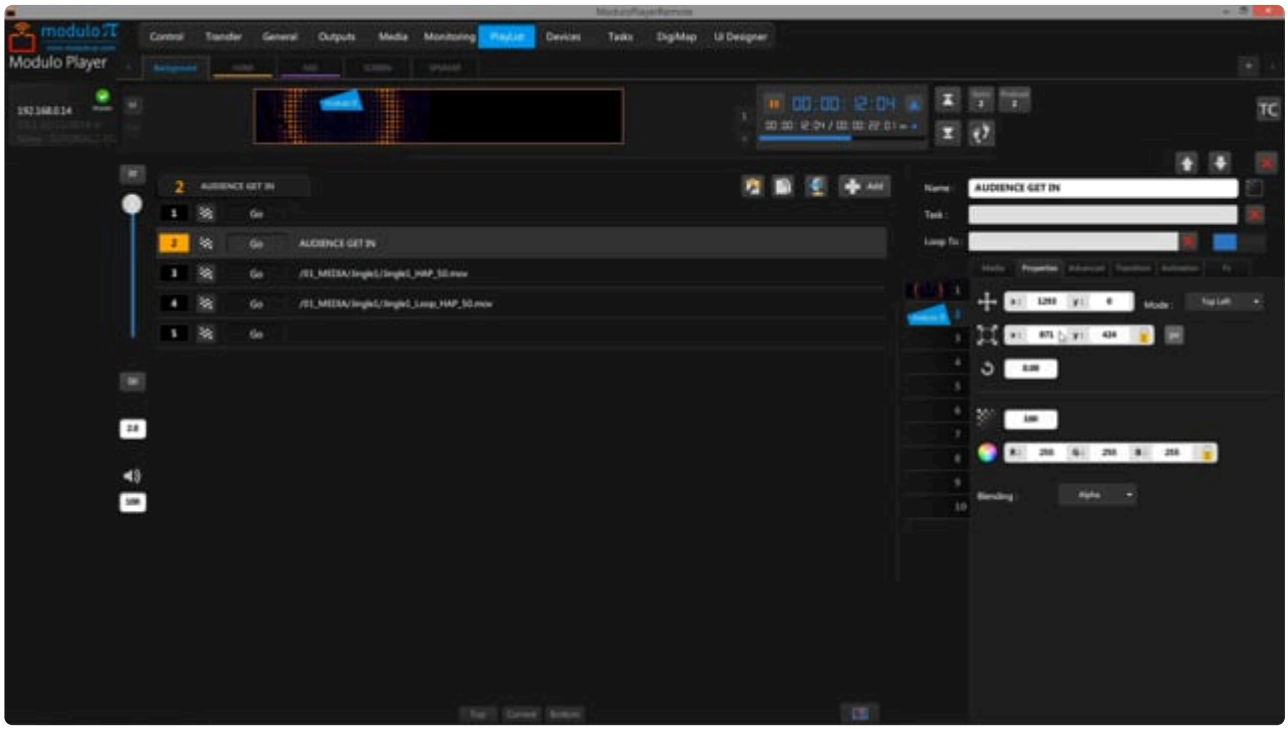
First show creation:



Download the tutorial pack here

Working with playlists

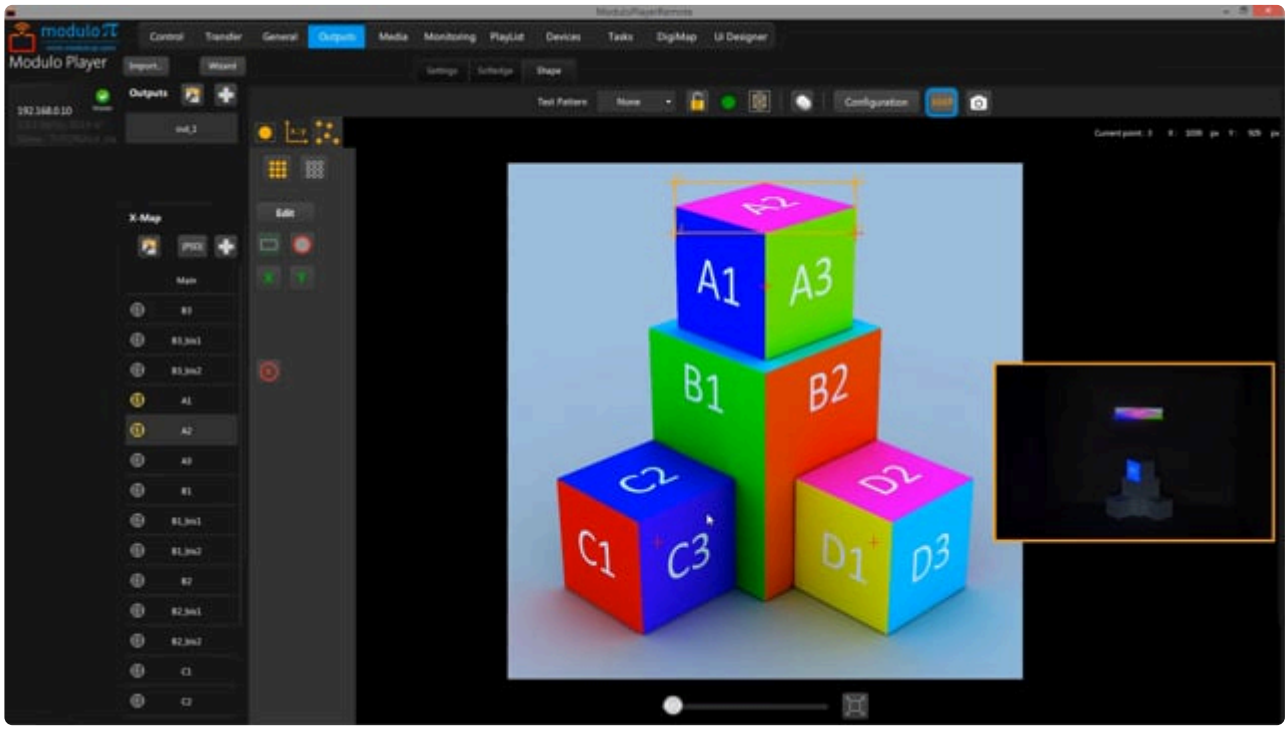
Working with playlists:



Download the tutorial pack here

X-Map function

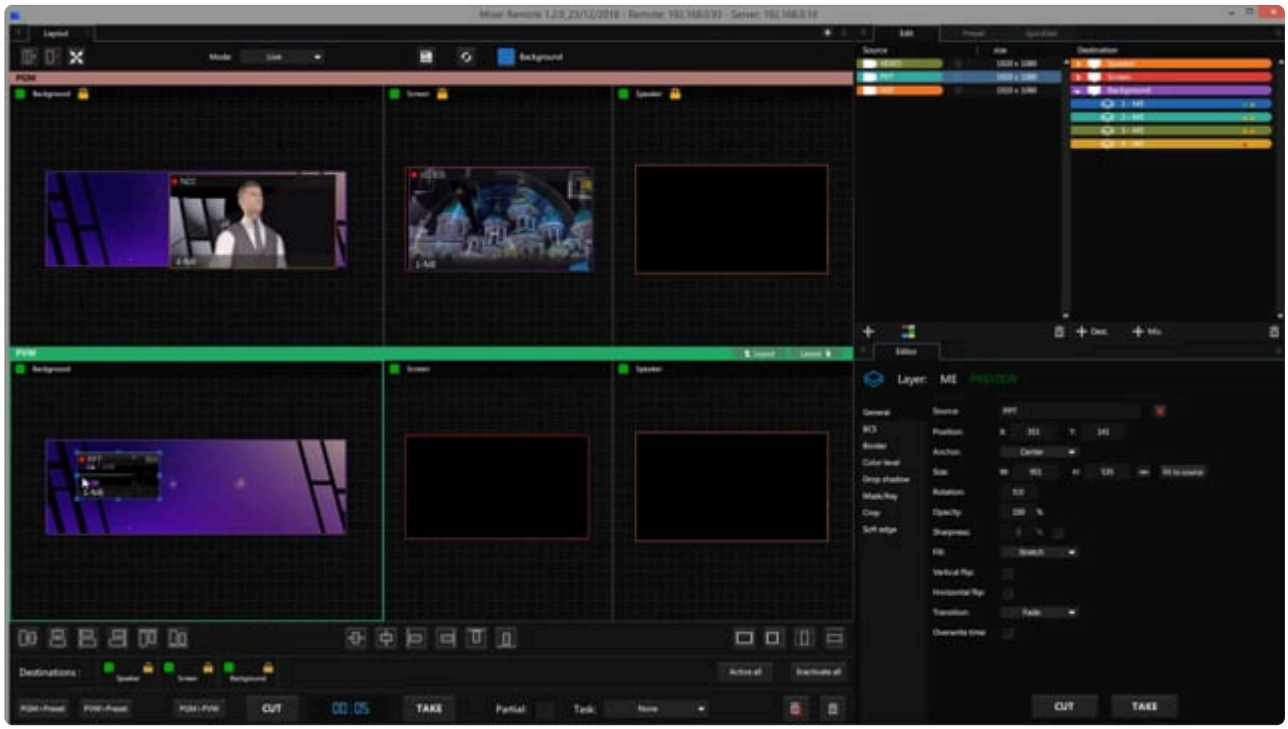
X-Map function:



If you want to print the 3D model, here is a link the STL model.
Download the tutorial pack here

Live Mixer (Part 1)

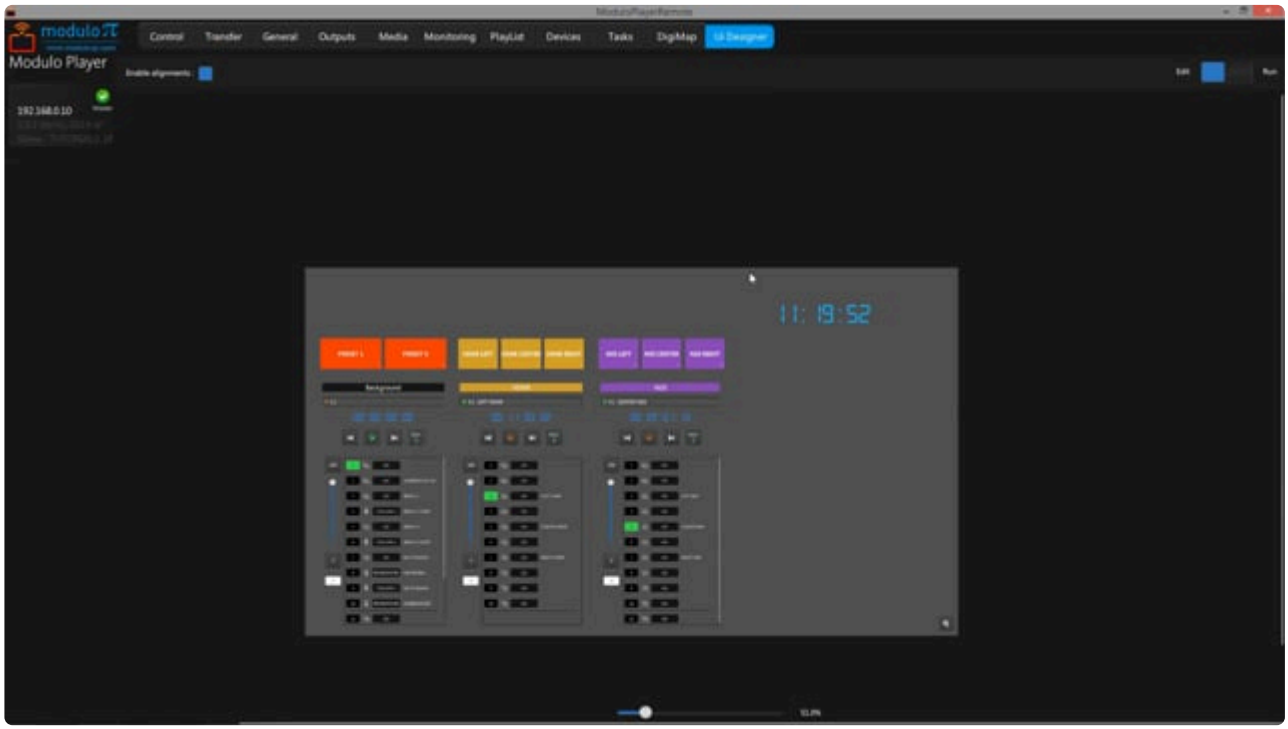
Live Mixer:



Download the tutorial pack here

UI Designer

UI Designer:



Download the tutorial pack here

Tutoriels – Français

Tutoriels – Français

Pour vous accompagner dans votre utilisation de Modulo Player, deux types de tutoriels sont présents dans ce manuel :

- Tutoriels de formation: Toutes les étapes pour apprendre à utiliser Modulo Player from scratch
- Tutoriels vidéo: Des démos live pour vous guider dans la découverte du logiciel Modulo Player Remote

Tutoriels de formation

Découvrez des tutoriels pour apprendre à utiliser Modulo Player pas à pas.
Ces tutoriels font partie des exercices de la formation certifiante Modulo Player.

Afin de pouvoir réaliser l'ensemble des exercices, vous aurez besoin du matériel suivant :
1 x Modulo Player ou licence Modulo Player Lite license + Modulo Pi key
1 x projecteur pico (référence 1 ; référence 2)
1 x mapping box (exemple)
1 x Modulo Pi Learning kit disponible sur notre eShop
1 x kit de média (lien disponible dans le déroulé des tutoriels)

Start project

Cet exercice guidé va permettre de prendre en main le logiciel Modulo Player :

Nous allons apprendre les notions suivantes :

- Réglage des settings en mode démo et sur un vrai serveur
- Création du dossier projet
- Transfert des médias
- Création d'un nouveau show
- Création d'une output et warping simple
- Création de playlist et ajout de cue

Matériel nécessaire :
1 x vidéo-projecteur Pico
1 x mapping box

> ! Tous les exercices sont basés sur une résolution de projecteur 1920×1080. Les

projecteurs Pico ne sont pas dans cette résolution nativement. Il faut donc aller forcer la résolution en 1920×1080 dans Windows.

Lien media kit :

Vous pouvez télécharger le media kit ici.

Création du projet

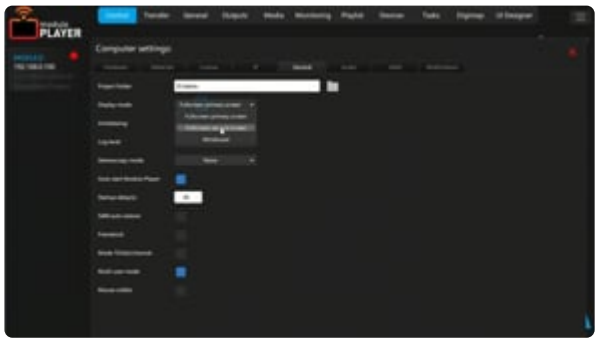
Nous allons aller dans l'onglet Control et cliquer sur le bouton Settings.

! Veiller à toujours créer un nouveau dossier projet pour chaque nouveau projet.

Si on travaille en mode démo sur son ordinateur portable :

Nous allons tout d'abord vérifier que l'application est bien paramétrée en Display Mode : Fullscreen secondary screen pour afficher la sortie sur l'écran externe du portable et ainsi avoir la remote ouverte sur l'écran principal du portable.

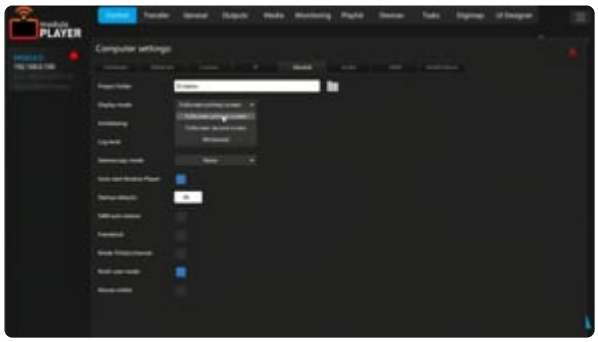
Nous allons ensuite créer un nouveau dossier de projet qui s'appelle Start Project.



Si on travaille connecté à un serveur Modulo Player :

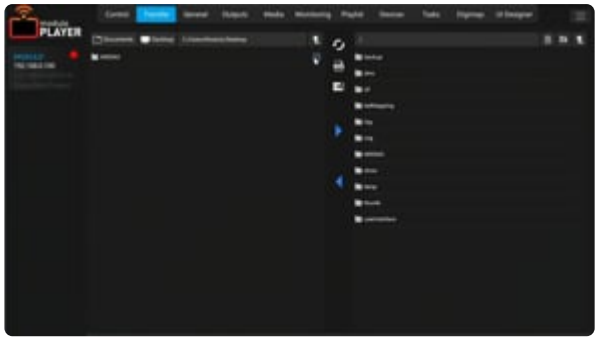
Voici un aperçu des onglets du panneau Settings

Nous allons tout d'abord vérifier que l'application est bien paramétrée en Display Mode : Fullscreen primary screen
Nous allons ensuite créer un nouveau dossier de projet qui s'appelle Start Project



Transfert des médias

Nous allons maintenant copier les médias dans le dossier du serveur. Les médias sont disponibles sur le bureau du portable.
On peut copier les médias un par un, mais une copie directe du dossier est plus rapide.

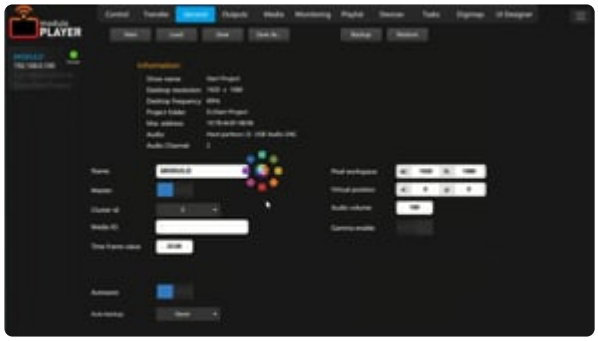


Création nouveau show

Nous allons maintenant dans l'onglet General, puis on clique sur "New" pour créer un nouveau show.

> ! Par défaut, le show sera nommé default.xml. Pensez à toujours renommer le show.

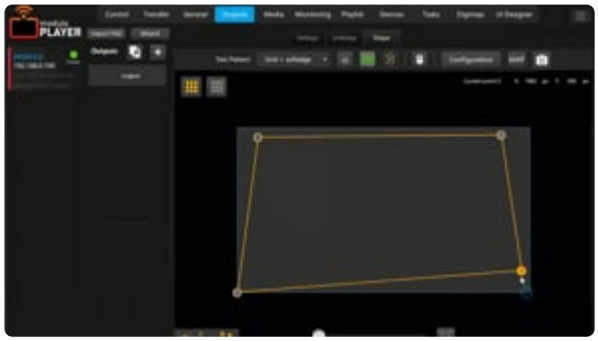
On l'appelle Start Project.
On donne ensuite un nom au serveur pour le retrouver dans la liste, par exemple MODULO.
On peut également choisir une couleur pour le distinguer dans la liste quand il y a plusieurs serveurs en réseau.



On va ensuite dans l'onglet Media pour charger les médias dans le show.
On clique sur le bouton Refresh.

Ajout output

Nous allons créer une output simple en résolution 1920×1080.
On va ensuite dans le sous-onglet Shape.
On clique sur configuration pour passer en mode Keystone, le plus adapté pour un écran plat très simple.
On affiche une test pattern grid sur la sortie.
On déplace les 4 points de contrôle pour ajuster la sortie sur le fond de la mapping box.



Création playlist

Nous allons dans l'onglet Playlist.
On ajoute plusieurs cues dans la playlist.
On laisse toujours le cue 1 vide pour ne rien avoir à l'écran au lancement de l'application, et pour permettre de pré-loader correctement le premier cue du show qui sera donc le cue 2.

On va sur le cue 2, on sélectionne la première layer et on clique dans la zone média.
La liste des médias s'ouvre à gauche.
On drag & drop le média sur la layer.
On met un temps de fade in de 2 secondes.
On passe le média en mode loop pour qu'il boucle une fois arrivé à la fin du média.

Ajout de cues

Nous allons maintenant rajouter un jingle sur le cue 3, qui ne va donc pas jouer en boucle mais seulement une fois.
On rajoute un fade in.

On rajoute sur le cue 4 une vidéo en boucle. On va faire un enchaînement automatique entre le cue 3 et le cue 4. On peut le faire avec un Wait en calculant la durée du jingle, ou plus simplement en utilisant le mode Follow qui permet un enchaînement automatique en tenant compte du temps de fade.

Cue avec layer barré

Nous souhaitons maintenant faire apparaître un PIP tout en conservant en fond ce qui joue sur le cue 4.
Pour cela, nous allons sur le cue 5 et on désactive la première layer pour indiquer que l'on souhaite conserver ce qui jouait sur la layer 1.
On met le média PIP sur la layer 2 du cue 5.

On souhaite ensuite faire disparaître le PIP mais toujours conserver ce qui jouait en layer 1.
On désactive donc la première layer sur le cue 6, et on ne met rien sur la layer 2 du cue 6.

On veut ensuite passer le background en fondu vers une image fixe avec un wait de 30 secondes.

Seconde Playlist

On peut utiliser une autre méthode pour faire apparaître un PIP tout moment :

On va ajouter une seconde Playlist.
On ajoute plusieurs cues.
On laisse le cue 1 vide comme d'habitude.

On va utiliser l'outil copier/coller pour copier le cue 5 dans la playlist 2 en deuxième position.
On va ensuite utiliser le multi delete pour supprimer le cue 5 et 6 de la playlist 1.
On peut maintenant lancer à tout moment le PIP par dessus la playlist 1 de manière complètement indépendante.

Projection mapping

Cet exercice guidé va permettre de prendre en main le logiciel Modulo Player et de voir les possibilités de warping :
Nous allons créer un nouveau projet, copier des médias, rajouter une output et essayer de projeter un média calé sur 3 faces d'un cube avec une grille de warping classique.
Nous allons ensuite refaire l'exercice en créant manuellement des X-Maps pour simplifier le calage.
Nous allons finalement utiliser l'import d'un fichier Photoshop pour créer automatiquement les X-Maps.
Nous allons enfin ajouter un arrière-plan de projection en utilisant les X-Maps.

Matériel nécessaire :
1 x vidéo-projecteur Pico
1 x mapping box
1 x cube
1 x kit de média + fichier template PSD

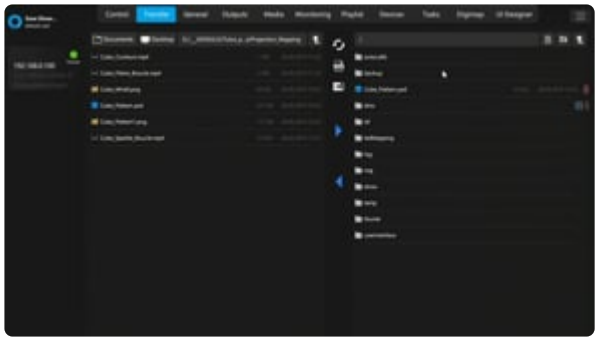
0n place le cube dans la mapping box, puis on positionne le projecteur de façon à projeter sur le cube au complet mais également sur l'arrière de la mapping box.

Lien media kit :

Vous pouvez télécharger le media kit ici.

Création projet

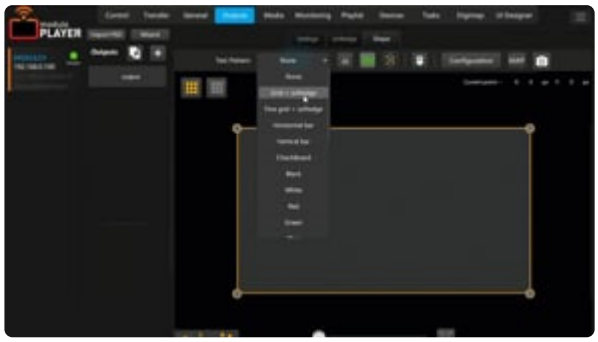
Nous allons tout d'abord aller dans l'onglet Control puis cliquer sur le bouton Settings pour créer un nouveau dossier pour le projet et le sélectionner.
Nous pouvons ensuite démarrer l"application Modulo Player en cliquant sur le bouton "Start Modulo Player".
Nous allons transférer les médias dans le serveur :
Le fichier Photoshop va nous servir de template pour créer ultérieurement des X-Maps.
Il doit être impérativement copié à la racine du projet.
Nous allons ensuite créer un dossier médias dans le serveur et copier les médias dedans.
Une fois la copie terminée, on peut aller dans l'onglet Media et cliquer sur le bouton Refresh : on va alors voir apparaître la liste des médias et les vignettes vont apparaître petit à petit.



Création output

Nous pouvons vérifier dans l'onglet General que la sortie est correctement réglée à la résolution 1920×1080.
Nous allons ensuite choisir un nom pour le serveur et une couleur pour le repérer si plusieurs autres Modulo Player sont présents sur le réseau.
Nous allons ensuite vérifier que la taille de l'espace pixellaire est bien en 1920×1080.
Nous allons dans l'onglet Output puis nous cliquons sur le bouton **+** pour ajouter une output :
Par défaut, la zone map extraite est bien : top,left : 0,0 et taille : 1920×1080 et la zone out : top,left:0,0 et taille : 1920×1080.

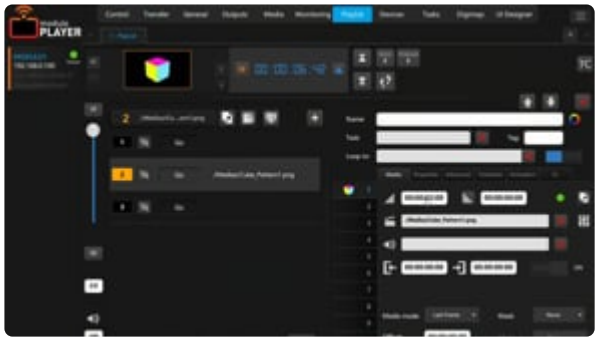
On va ensuite dans le sous-onglet Shape et on affiche une test pattern grid.



Création playlist et warp basiques

Nous allons dans l'onglet Playlist, et l'on ajoute 2 cues.
Le cue 1 reste vide pour avoir un état neutre et permettre de précharger le cue 2.
On va ensuite sur le cue 2 et on clique dans la zone média. La liste déroulante apparaît à droite. On drag & drop la mire.
On ajoute un temps de fade de 2 secondes pour afficher le média du cue 2.
On appuie sur la barre espace pour passer du cue 1 au cue 2 à l'écran.
On voit apparaître l'image à l'écran.
On retourne dans l'onglet Output, sous onglet Shape pour essayer de caler l'image sur le cube.
On peut d'abord cliquer sur configuration, se mettre en Keystone, et déplacer ensuite les 4 coins pour essayer de caler l'image sur le cube. On voit que cette manipulation n'est pas évidente à réaliser.
On peut ensuite essayer de passer en mode Curve (bouton configuration).
On essaie à nouveau de caler l'image, on incrémente le nombre de points de contrôle en cliquant sur le

bouton configuration.



X-Map manuel

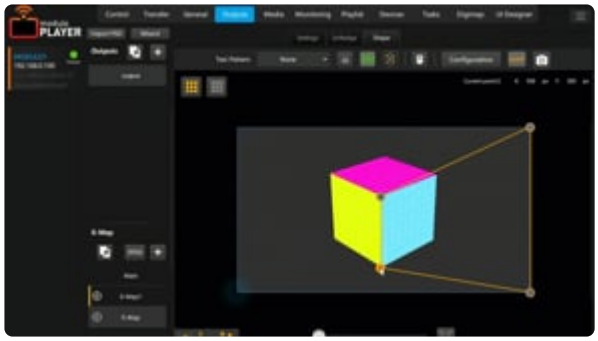
Nous allons créer manuellement des X-Maps pour pouvoir caler indépendamment les 3 faces du cubes. Pour commencer, nous allons dans l'onglet Shape, bouton configuration et on repasse en 2×2 neutre.

On ajoute ensuite 3 X-Maps, 1 par face du cube.
On va ensuite dans le sous-onglet Shape et on passe en mode MAP (extraction de zone de l'espace pixellaire) et on clique sur l'appareil photo pour capturer et afficher en fond dans la remote une image fixe de ce qui joue actuellement sur le serveu r: on voit apparaître l'image de mire.
On va ensuite ramener les quatre points de contrôles sur les quatre coin du cube. Il faut le faire le plus précisément possible. On peut zoomer dans la fenêtre, et choisir l'outil cross pour être plus fin. En bas à gauche, on a trois icônes : en cliquant sur celle qui est le plus à droite, on peut choisir de passer en mode Cross ce qui est plus pratique pour bien voir l'image en-dessous.
On renouvelle l'opération pour les 2 autres faces du cube.

On repasse ensuite en mode Warp en décochant le bouton MAP. On va alors déplacer les points de contrôles pour caler sur le cube en projection. Ce n'est pas indiqué dans la vidéo, mais il est recommandé de passer pour chaque X-Maps en mode Keystone (bouton Configuration) plutôt que d'utiliser le mode Curve : cela permet de rattraper l'étal des pixels automatiquement sans avoir à ajouter plusieurs points de contrôle.

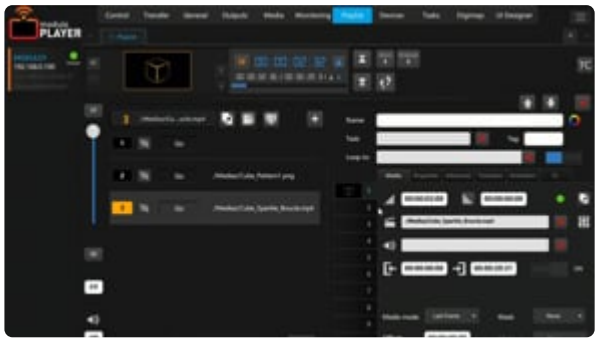
> ✻ Pour ne pas voir la projection des deux autres faces de cube non calé, on peut utiliser le mode Solo (si on clique sur Solo sur le XMAP1, on ne voit plus que celui ci à l'écran).

On renouvelle l'opération pour les 2 autres faces du cube.
On voit qu'il est possible de caler facilement et indépendamment toutes les faces du cubes.



X-Map import PSD

Nous allons maintenant utiliser un template Photoshop PSD pour créer automatiquement les X-Maps.
Nous allons commencer par supprimer la sortie existante.
Nous allons ensuite cliquer **+** et choisir import PSD.
On choisit le PSD existant dans la liste (c'est celui qui avait au préalable été copié à la racine du projet).
Ce PSD respecte une nomenclature particulière pour être comprise par Modulo Player (se référer à la documentation pour plus d'information sur la création des fichiers PSD).
L'output est créée directement en mode X-Maps et on voit les 3 X-Maps. On passe les 3 X-Maps en mode Keystone et on peut caler les 3 X-Maps.
On ajoute ensuite une vidéo sur le cue 3 avec un temps de fondu et on peut regarder la vidéo qui est parfaitement calée sur le cube !



Ajout d'un background

On va maintenant projeter un contenu indépendant sur le fond en utilisant le même projecteur.
Nous allons d'abord agrandir l'espace pixellaire : on va passer de 1920×1080 à 3840×1080 (2 HD) dans l'onglet General.
On va ensuite dans l'onglet Output et on ajoute un X-Map juste après le warp general, il sera ainsi en arrière plan du cube.
On positionne le map (la zone d'extraction) en top left à 1920,0 pour capturer la zone commençant à partir de 1920 pixels.
On passe ce X-Map en mode Keystone.
On va dans l'onglet Playlist : on renomme la playlist 1 et on ajoute une seconde playlist.
On sélectionne la seconde playlist et on ajoute 3 cues.
On drag & drop un média de fond sur le cue 2.
On va ensuite régler la position du média à 1920,0, Ce qui correspond à la zone extraite du background.

On va ensuite utiliser la fonction copier/coller pour dupliquer plusieurs fois le cue 2. On remplace ensuite dans les nouveaux cue le média par un autre média de background.
On va ensuite sur le cue 2 et on retourne dans l'onglet Output et dans le sous-onglet Shape. On sélectionne le X-Map background et on cale le fond sur le fond de la mapping box.

> ! On a choisi dans cet exercice de créer deux playlists indépendantes : une pour les cubes et une autre pour le fond car nous avons des médias sans lien entre le background et les cubes que l'on souhaite jouer indépendamment. Si les médias avaient une cohérence et que l'on souhaitait les jouer ensemble sur le cube et sur le background, on aurait pu utiliser une seule Playlist et avoir à chaque cue le média background sur la layer 1 du cue et le média cube sur la layer 2 du cue.

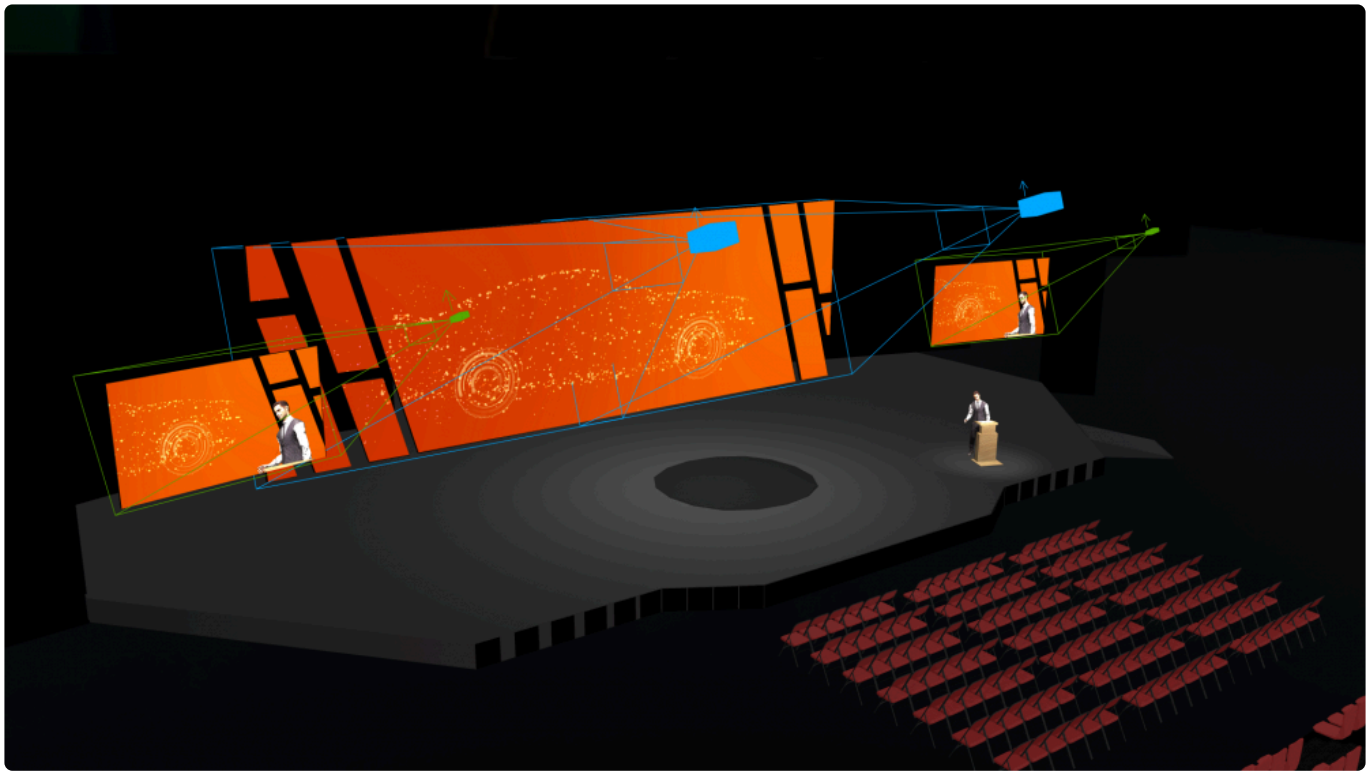
Live Event

Cet exercice guidé va permettre de prendre en main le logiciel Modulo Player :

Nous allons prendre le prétexte de préparer un show typique d'un live event. Cet exercice permet de comprendre les notions essentielles de Modulo Player que ce soit dans le cadre d'un usage orienté corporate event, touring ou installation permanente.

Contexte : préparation d'un show type lancement nouvelle voiture
1 écran cyclo avec 2 vidéo-projecteurs 1920×1080 avec recouvrement de 384 pixels
1 écran rappel avec vidéo-projecteur 1920×1080 sur le côté
1 moniteur retour scène 1920×1080 pour l'orateur

VP1 / Resolution: 1920×1080	VP2 / Resolution: 1920×1080 with 384 overlap	Return VP3: Resolution: 1920×1080	Speaker Screen Resolution: 1920×1080



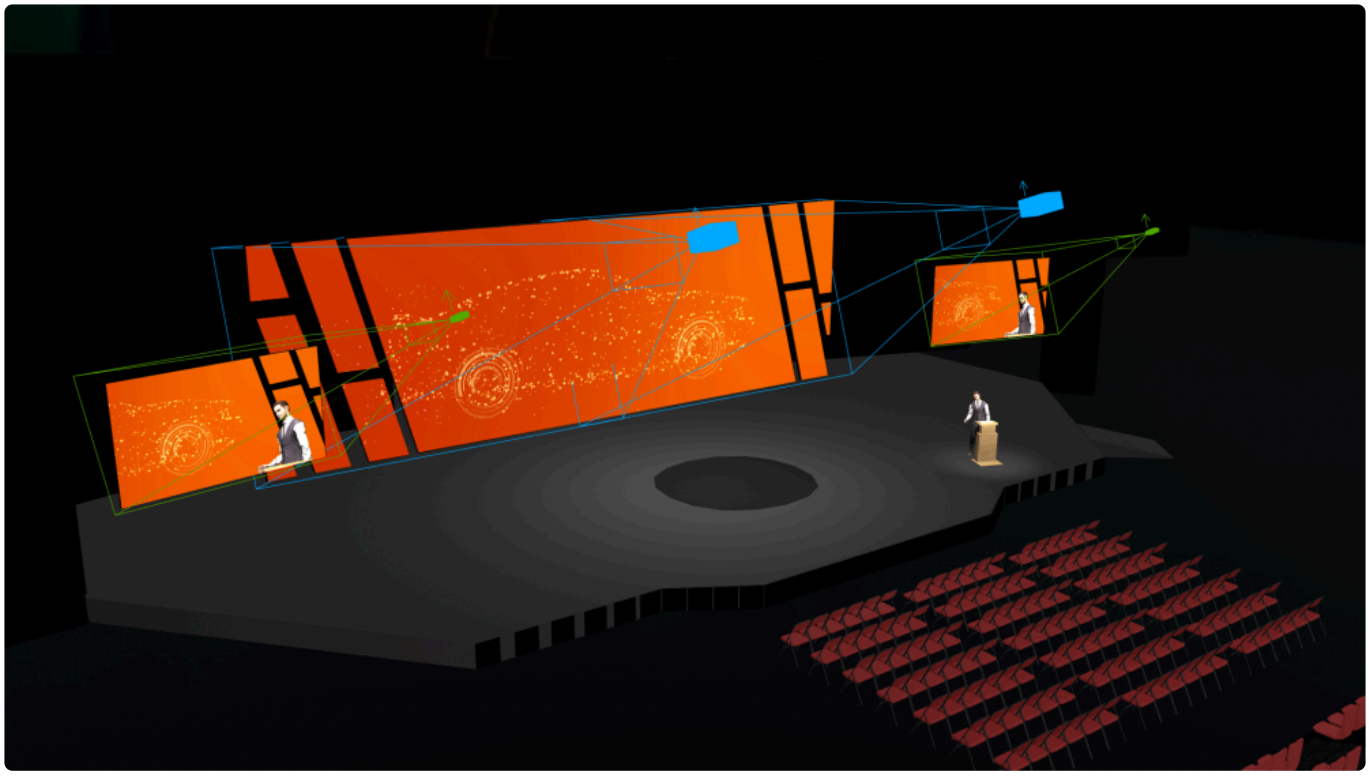
Lien media kit :

Vous pouvez télécharger le media kit ici.

Live event – 1

La première partie de l'exercice va permettre de créer un projet from scratch. Nous allons aborder successivement les notions suivantes :

- La création d'un projet
- Le réglage du média serveur ou de l'ordinateur portable en version démo le cas échéant
- La copie des médias sur le média serveur
- Le paramétrage des sorties
- L'utilisation du Monitoring
- La création d'une playlist
- L'utilisation basique du device interne Modulo Player pour faire des rappels des cues
- L'utilisation de l'application Modulo Wing



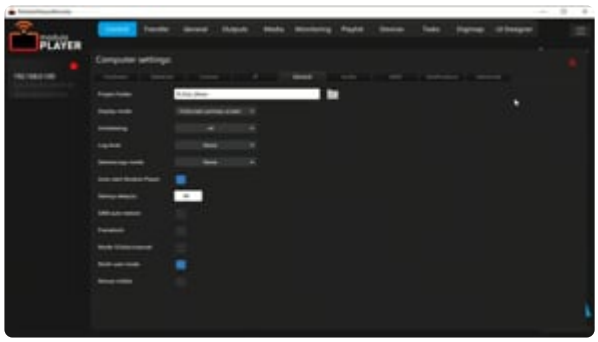
Préparation du projet

> Topic : onglet Control. L'onglet Control vous permet de lancer/arrêter l'application, rebooter/arrêter le serveur, accéder aux réglages du serveur depuis votre remote et même mettre à jour l'application Modulo Player.

Lancement de Modulo Player Remote
Sélection du serveur à gauche (uniquement si un seul Modulo Player en réseau, on a un seul onglet).

Control / Settings / General

Création nouveau projet pour le show : création nouveau dossier dans le dossier data nommé CAR-SHOW.



Préparation du serveur

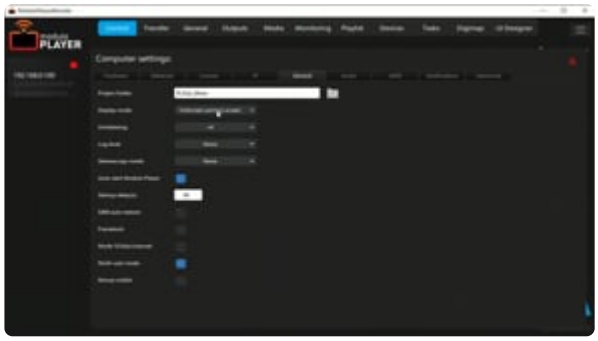
> ! Si vous travaillez sur un ordinateur portable avec la version démo, suivre le paragraphe suivant (sinon passer directement au paragraphe d'après).

Travail préparatoire sur ordinateur démo

Branchez un écran externe sur la sortie HDMI ou DP de la carte graphique. Cet écran va nous permettre d'afficher le monitoring.

Nous allons paramétrer le logiciel pour démarrer en plein écran sur l'écran externe :
Control/Settings/General/Display mode : choisir "Fullscreen second screen"

Nous pouvons maintenant démarrer l'application Modulo Player :
Control/ bouton Start Modulo Player
L'application démarre alors sur le second écran en plein écran, et le témoin lumineux du Modulo Player passe du rouge, orange et finalement au vert (onglet à gauche).



Travail avec un Modulo Player serveur

On connecte les 2 vidéo-projecteurs pour le cyclo sur les connecteurs 1 et 2 de la carte graphique (ordre de haut en bas)
On connecte le vidéo-projecteur de rappel sur le connecteur 3 de la carte graphique
On connecte l'écran de retour orateur sur le connecteur 4 de la carte graphique

Nous allons maintenant forcer les EDIDS et créer un bureau étendu composé de 4 écrans :
Control/Settings/AMD/EDID : on sélectionne les 4 premières sorties et on choisit une EDID 1920×1080@50P dans la liste, puis on clique sur "Force EDID".
Les sorties de la carte graphique vont clignoter plusieurs fois et finalement un message indique sur le remote que l'opération est effectuée.

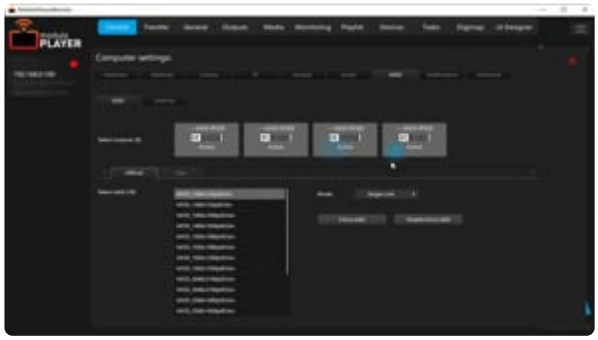
Control/Settings/AMD/Eyefinity : on sélectionne les 4 premières sorties et on clique sur "create Eyefinity". On choisit un arrangement de 4 écrans en horizontal (Cols:4 Rows:1). Les sorties de la carte graphique vont clignoter plusieurs fois et finalement un message indique sur la remote que l'opération est effectuée. La carte graphique est maintenant configurée en bureau étendu et lorsqu'on va lancer

Modulo Player, l'application va s'afficher plein écran sur les 4 écrans simultanément.

Nous allons paramétrer le logiciel pour démarrer en plein écran sur l'écran principal (constitué des 4 écrans groupés suite au Eyefinity) :
Control/settings/General/Display mode : choisir "Fullscreen primary screen".

Nous pouvons maintenant démarrer l'application Modulo Player :
Control/ bouton Start Modulo Player

L'application démarre et le témoin lumineux du Modulo Player passe du rouge, orange et finalement au vert (onglet à gauche).



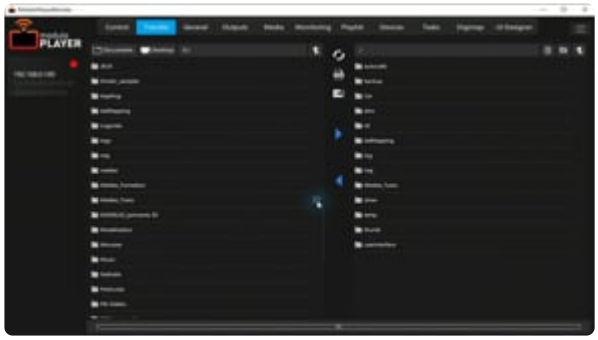
Transfert des médias

Nous allons maintenant transférer les médias sur le serveur (ou dans le dossier du portable en mode démo mais en simulant un transfert réseau comme avec un vrai serveur).

Nous allons dans l'onglet Transfer :

La partie de gauche liste les dossiers disponibles dans l'ordinateur Modulo Player Remote (y compris les disques externes ou clé USB.)
La partie droite liste le contenu du dossier du projet. Il n'est pas possible de voir d'autres dossiers dans le serveur pour éviter de copier les médias dans un dossier n'appartenant pas au dossier Projet.
Au choix, on peut copier les médias un par un (sélection des médias et flèche de gauche à droite pour lancer la copier). Pour gagner du temps, on va ici directement cliquer sur la flèche à droite du dossier média sur la remote pour copier tous les médias d'un coup en respectant l'arborescence existante.

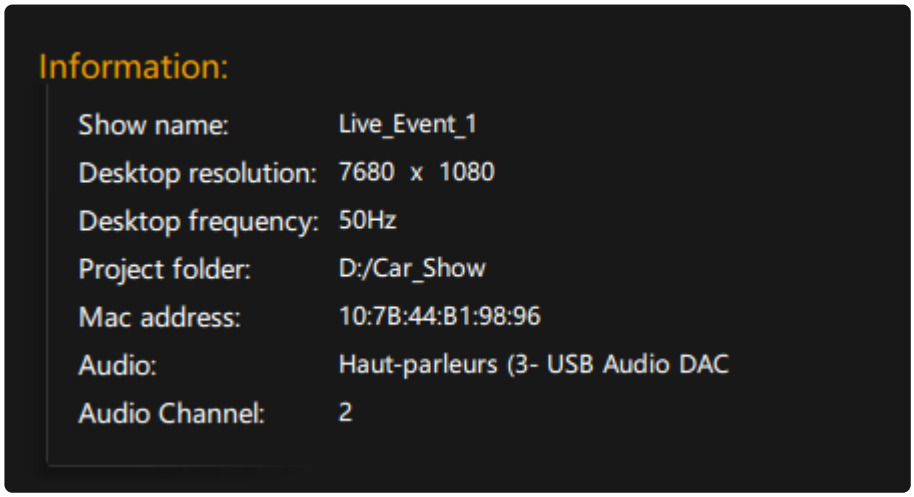
> ✻ Pour voir apparaître les médias dans l'onglet Media, il est nécessaire de cliquer sur le bouton Refresh dans l'onglet Media.



Onglet General

Cet onglet vous permet de créer un nouveau show, le sauvegarder…
A la création d'un nouveau projet, un show nommé Default est créé. On va renommer le show en l'appelant "Live_Event_1".
On clique sur "Save As…" et on écrit Live_Event_1.

Si vous travaillez sur un serveur Modulo Player : vous pouvez vérifier dans la zone info que le bureau Windows est correctement configuré en écran étendu avec une résolution totale de 7680×1080.



Espace Pixellaire & Outputs

Nous allons d'abord ajuster l'espace pixellaire :
Pour rappel, l'espace pixellaire est une zone de rendu dans laquelle tous les médias vont être

composités. On va pouvoir ensuite affecter à chaque sortie une portion de cet espace pixellaire.
Nous allons donc déclarer un espace pixellaire total de : résolution horizontale proj 1 + résolution horizontale proj 2 – recouvrement entre projecteur + résolution horizontale proj rappel + résolution horizontale écran retour, soit 1920 + 1920 – 384 + 1920 + 1920 = 7296 et une hauteur de 1080 pixels.

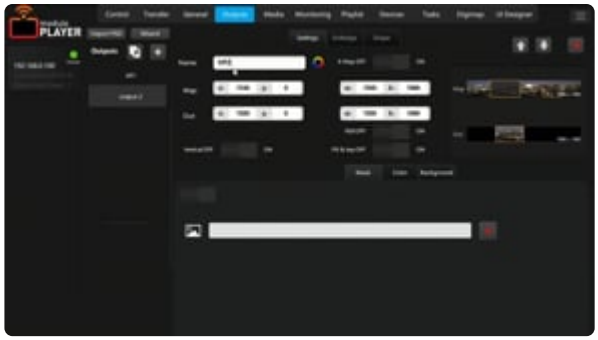
> ✻ Vous pouvez déclarer un espace pixellaire plus grand, par contre, il ne faut pas affecter à une sortie une zone en dehors de l'espace pixellaire.

Output	Name	Map	Out
Out 1	VP1	top left:0;0 Size:1920×1080	top left:0,0 Size:1920×1080
Out 2	VP2	top left:1536;0 Size:1920×1080	top left:1920,0 Size:1920×1080
Out 3	VP Return	top left:3456;0 Size:1920×1080	top left:3840,0 Size:1920×1080
Out 4	Screen Speaker	top left:5376;0 Size:1920×1080	top left:5760,0 Size:1920×1080

Nous allons ensuite utiliser le wizard pour créer les deux premières sorties avec recouvrement :
On ouvre le wizard, on choisit 2 × 1 pour l'arrangement et un recouvrement de 384, une résolution de 1920×1080 par projecteur.
On voit apparaître les deux premiers écrans : on peut vérifier que la zone map extraite est correcte et que les sorties sont cohérentes par rapport au bureau étendu. On peut aller également dans l'onglet soft edge pour valider que le soft edge a été correctement calculé par le wizard.

On renomme les 2 sorties respectivement VP1 et VP2.

> ✻ Si vous êtes sur un ordinateur portable en mode démo avec une seule sortie, les sorties vont s'afficher en dehors du bureau puisqu'il n'aura pas la taille correcte. Cela n'a pas d'importance, vous pourrez ensuite importer le projet sur le Modulo Player serveur quand il sera disponible.

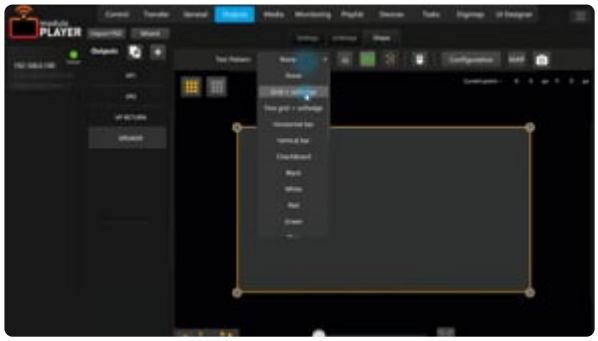


On va ensuite rajouter manuellement les 2 autres sorties :

Sortie rappel : on crée une nouvelle sortie. On la renomme VP RETURN.
On paramètre Map avec top left : 3456;0 Size :1920×1080
On paramètre Output : top left:3840,0 Size :1920×1080

Sortie retour scène : on crée une nouvelle sortie. On la renomme SPEAKER.
On paramètre Map avec top left : :5376,0 Size :1920×1080
On paramètre Output : top left:5760,0 Size :1920×1080

On peut maintenant aller dans l'onglet Shape et afficher la mire Grid sur chaque sortie.



Média

Après avoir cliqué sur le bouton Refresh, on voit apparaître les médias dans la liste. On peut passer la souris au survol au-dessus d'une vignette pour la voir en plus grand.

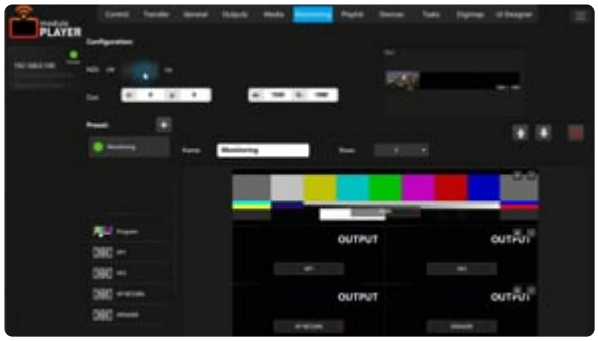
Nous allons maintenant créer des médias Test Pattern :
Création d'un média test pattern à la résolution totale des 2 vidéo-projecteurs softés.

Monitoring

Nous allons utiliser le monitoring pour afficher le PGM et les 4 outputs.
On ajoute un monitoring positionné en top left:0,0 et résolution 1920×1080.
On crée un preset. On crée 3 lignes.
Sur la première ligne, on drag & drop le PGM dans la fenêtre du monitoring.
On subdivise en 2 colonnes les 2 lignes suivantes : on drag & drop les outputs dans les 4 cases.
Le monitoring s'affiche sur la sortie 1 et bloque donc une sortie physique.

> ! Avec un dongle Try & Learn, seulement une des sorties pourra s'afficher dans le monitoring.
> Il faut donc principalement utiliser le PGM.

Il est possible d'activer l'option NDI pour streamer le monitoring en NDI et ne pas bloquer ainsi une sortie du serveur.

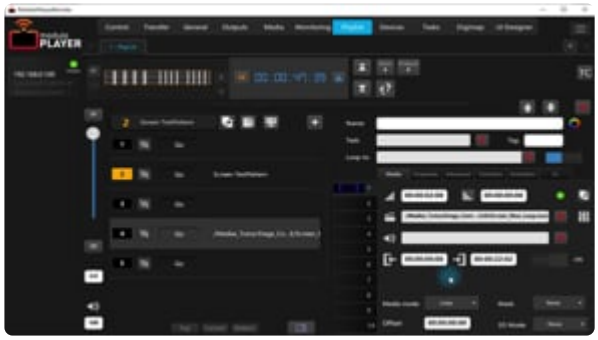


Playlist

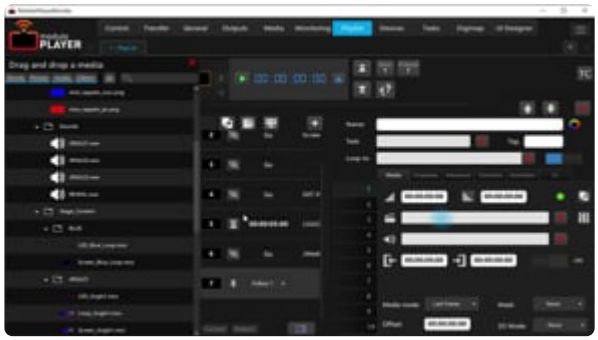
Nous allons maintenant ajouter des cues dans la playlist.

On crée plusieurs cues.
On laisse le cue 1 vide comme d'habitude.
On ajoute les 3 test patterns sur les layers 1,2,3 du cue 2. On les positionne correctement dans l'espace pixellaire.
On met un fade in de 2 secondes sur le layer 1.
On utilise le copy/paste par layer pour copier le temps de fade in sur les layers 2 et 3.
On affiche le cue 2.

On laisse le cue 3 vide.
On rajoute dans le cue 4 le média blue boucle.
On ajoute un trigger wait de 5 secondes sur le cue 5.
On barre le layer 1 du cue 5 pour conserver la boucle du cue 4.
On affiche le logo Modulo Pi dans la layer 2 du cue 5.
On réduit la taille du logo en mettant un scale de 20% et on ajuste la position du logo dans l'espace pixellaire.
On met un fade in de 2 secondes pour le layer cue 4.
On utilise le copy/paste special layer pour copier le fade in du layer 1 du cue 4 vers le layer 2 du cue 5.



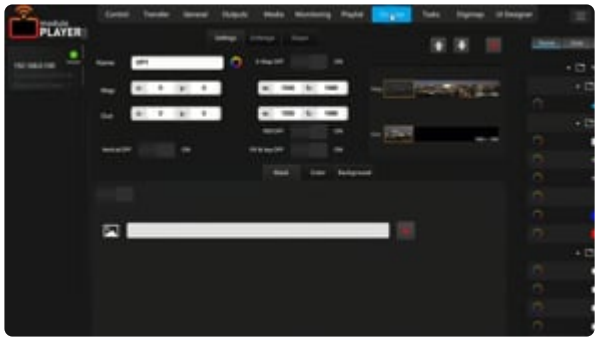
Nous allons ensuite ajouter un nouveau cue avec le jingle.
On ajoute le son associé sur piste son du layer 1.
On ajoute un cue 7 avec un trigger follow 1.
On ajoute le média loop 1 avec un fade in de 1 seconde.
On passe le média en mode loop.
On utilise le copier/coller multiple pour créer les cues 8 et 9.
On remplace les médias en utilisant le jingle 2 et la loop 2.



On utilise le color level sur le layer 1 du cue 8 pour ajuster la colorimétrie du média.
On utilise le brightness/contrast/saturation pour ajuster le brightness du layer 1 du cue 10.

Devices et Tasks

Nous allons maintenant aller dans l'onglet Device. On clique sur + et on ajoute un device Modulo Player.
Ce device va nous permettre de faire des rappels de cue depuis une Task.



Nous allons ensuite dans l'onglet Task. On va ensuite créer plusieurs tasks pour rappeler des cues directement depuis une task.

On clique sur + pour créer une task. On peut changer le nom et choisir une couleur pour la repérer.
On va dans l'onglet subtask, on clique sur + et on choisit le device Modulo Player Remote.
On clique sur Edit et on choisit sur Go Cue/ choix playlist 1/ choix du cue à déclencher.
Si on clique sur Launch Task en ayant au préalable sélectionné la Task, on voit la task clignoter quelques secondes pour indiquer qu'elle a été déclenchée et on voit que le cue a été lancé.

Modulo Wing

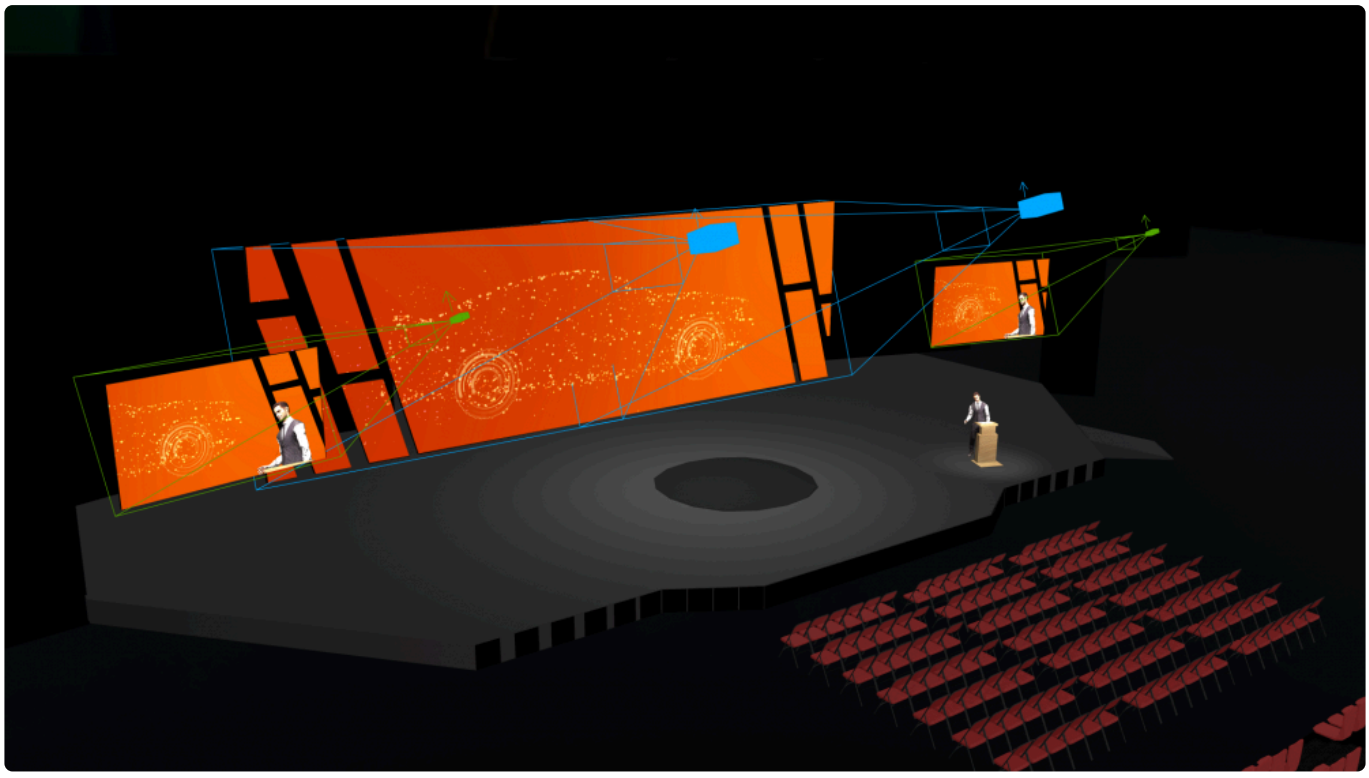
Nous allons maintenant installer l'application compagnon Modulo Wing.
On peut au choix l'installer sur l'ordinateur Modulo Player Remote ou sur une tablette (Android/iOS) ou un téléphone (ANDROID) si l'appareil est connecté en réseau au Modulo Player (WIFI).
Pour les tablettes ou téléphone, il faut aller sur le store Android ou iOS et chercher l'application Modulo Wing.
L'application PC et MAC est disponible sur la Customer Area.

On lance l'application et on rentre l'adresse IP du Modulo Player : on peut alors afficher plusieurs playlists ou les tasks.
Il est possible de lancer plusieurs Modulo Wing sur la même machine ou sur des machines différentes.

Live event – Multi-playlists / User interface

Dans le prolongement de l'exercice précédent, la seconde partie de l'exercice va nous permettre d'aborder les notions suivantes :

- La création et l'utilisation de média live NDI et de média compteur et texte
- La création et l'utilisation de plusieurs playlists
- L'utilisation du Monitoring pour visualiser les sources live
- L'utilisation de l'éditeur d'interface utilisateur
- L'utilisation de Modulo Panel



Création de sources

Création de sources live NDI, compteur et texte :

NDI:

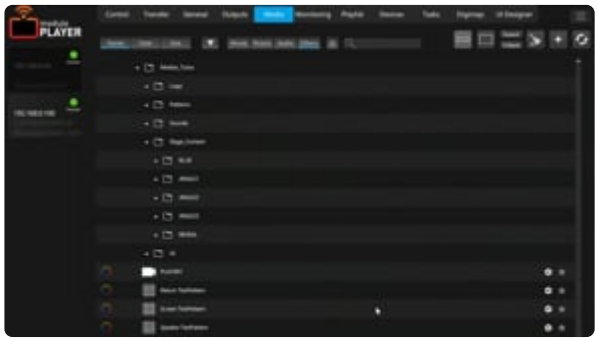
Nous allons maintenant déclarer des média live NDI pour capturer des sources streamées avec le protocole NDI de NewTek .
Ce protocole permet de transporter des flux vidéos en utilisant un réseau TCP/IP classique. De nombreuses applications permettent de streamer sur le réseau un flux NDI. Le site de Newtek permet de télécharger quelques outils gratuits (option NDI pour VLC, intégration possibilité de streamer du NDI depuis la suite Adobe, outil de test). De nombreuses caméras PTZ supportent ce protocole. Il existe également des boîtiers de conversions entre NDI et HDMI/SDI.

L'application Modulo Player est elle-même capable de streamer le monitoring en NDI ou de streamer une Output.

> Nous allons supposer que 4 streams NDI sont actuellement disponibles sur votre réseau.

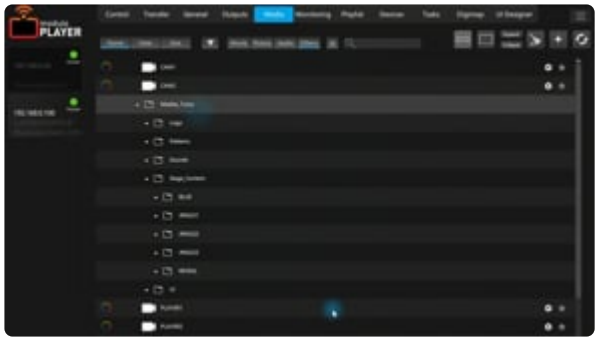
Nous allons dans l'onglet Medias. Lorsque l'on clique sur le bouton **+** , une fenêtre apparaît pour sélectionner le type de média a ajouter.
Nous allons créer un média NDI. L'éditeur du média NDI apparaît alors.
On donne un nom à la source pour l'identifier dans la liste média, puis on choisit dans liste des streams le flux NDI à capturer.
Si le flux NDI n'apparaît pas, vous pouvez cliquer sur l'icône Refresh pour rechercher les sources disponibles sur le réseau.

Nous allons répéter cette opération 4 fois pour rajouter les 4 sources NDI disponibles sur le réseau.



Compteur:

Nous allons maintenant ajouter un média Counter. Nous allons le régler en mode décompte avec le texte LEFT TIME et régler le temps sur 2 minutes.
Nous allons utiliser ce média pour le positionner sur l'écran SPEAKER pour indiquer le temps de parole restant au Speaker en overlay sur le stream NDI Powerpoint.



Création de playlists

La création et l’utilisation de plusieurs playlists

Nous allons maintenant ajouter plusieurs playlists afin de pouvoir lancer du contenu différent de manière indépendante.
On clique sur le bouton **+** et on ajoute 4 playlists.

Nous allons maintenant renommer les playlists et ajouter une couleur pour les distinguer plus facilement.

La première playlist s’appelle SHOW,
La seconde PPT,
La troisième Live,
La quatrième SPEAKER.

On ajoute le média player 2 dans le cue de la playlist 2. On le positionne sur la troisième sortie.
On utilise le special paste pour dupliquer le média sur la layer 2.
On le positionne sur la quatrième sortie.

On utilise le special paste de cue pour copier le cue 2 vers le cue 3.
On va maintenant ajouter un masque statique en utilisant un png avec une couche alpha.

Réglage cue avancé

Nous allons maintenant copier/coller sur le cue 2 de la playlist 2 vers le cue 2 de la playlist 3.
On va ensuite remplacer le média par un autre média sur le cue 2 de la playlist 3.

Il est possible d'appliquer des réglages colorimétriques différents sur chaque layer. Pour illustrer cela, on va appliquer un changement de color level sur la première layer et un réglage du brightness/contrast/saturation sur la layer 2.

Nous allons maintenant ajouter un drop shadow sur un média.
On ajoute le cue 3 un média et on applique un drop shadow.
On va également utiliser le mode transition pour passer d'un cue à l'autre avec une transition.

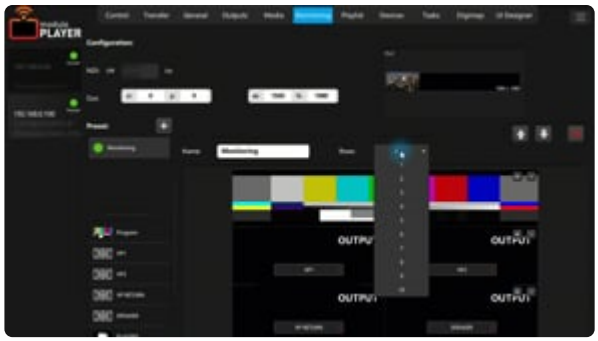
Nous allons ajouter 2 effets un média :
Un hue rotate pour agir sur la couleur, et un effet Dot pour afficher le média sous forme de gros points.

Monitoring

L’utilisation du Monitoring pour visualiser les sources lives

Nous allons modifier notre preset de monitoring pour visualiser sur le même monitoring les sources NDI.
On ajoute une ligne et on la divise en 4 colonnes.
On drag & drop les 4 sources NDI dans les emplacements vides.

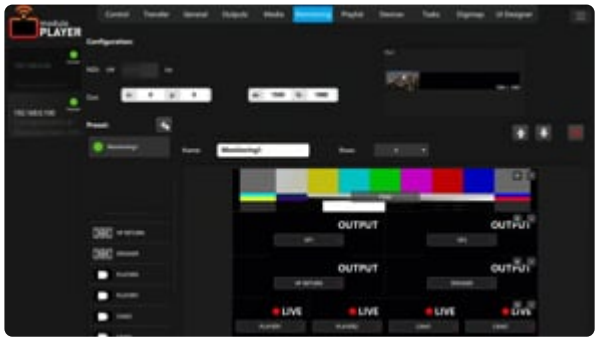
> Avec un dongle Try & Learn, seulement une des sorties pourra s’afficher dans le monitoring. Il faut donc principalement utiliser le PGM.



On va maintenant créer une autre preset avec uniquement les sources live.
On crée donc 2 lignes subdivisées chacune en 2 colonnes.
On drag & drop les 4 sources NDI dedans.

On va maintenant créer une troisième preset avec uniquement la première source NDI pour avoir un gros plan sur cette source.

Nous allons maintenant créer 3 nouvelles tasks de rappel de preset de monitoring.
Dans chaque task, on ajoute le device Modulo et on sélectionne l'action "Recall Monitoring Preset" et on associe un recall de Monitoring à chaque task. On peut donc maintenant facilement rappeler des presets de Monitoring.



User Interface

L'utilisation de l'éditeur d'interface utilisateur

Dans l'exercice précédent, nous avons utilisé l'application Modulo Wing.
Cette application est très pratique pour visualiser toutes les playlists ou pour avoir une interface de rappel de task. Cependant, l'agencement des playlists et tasks y est figé.
Nous allons apprendre à utiliser l'éditeur d'interface utilisateur pour créer une interface parfaitement adaptée à notre utilisation.

Nous allons dans l'onglet UI Designer. On clique sur le bouton **+** pour ajouter une interface utilisateur.

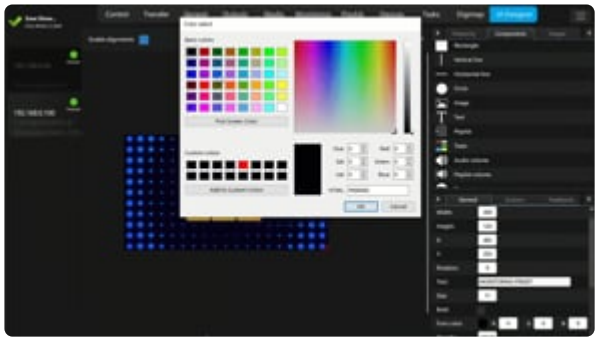
Nous allons tout d'abord ajouter une image en fond pour habiller le panel. On doit au préalable copier l'image xxxx dans le sous dossier UI dans l'onglet Transfer. On retourne ensuite dans l'onglet UI Designer, section "images" et on clique sur bouton Refresh. On voit alors apparaître l'image et on a drag & drop en fond.

On va maintenant dans la liste des composants. On choisit l'icône de Playlist et on la drag & drop dans l'interface utilisateur.
Dans l'éditeur, on va sélectionner la playlist 1.

Nous allons ensuite faire un drag & drop de l'icône des Tasks. On règle la taille des boutons.
Toutes les tasks apparaissent, mais nous souhaitons afficher uniquement les tasks de rappel de preset de Monitoring. Nous retournons dans l'onglet Task, et nous allons donc ajouter le Keyword MONITORING aux Tasks de rappel de rappel de preset de Monitoring.

Nous retournons ensuite sur l'interface utilisateur, on sélectionne la boite Task et on l'ajoute dans l'éditeur Keyword MONITORING.

Cette boite à Task affiche alors uniquement les tasks avec ce keyword.
On ajoute un texte au-dessus des boutons avec le texte “Monitoring preset”.



Nous allons maintenant ajouter une seconde page de contrôle des vidéo-projecteurs :

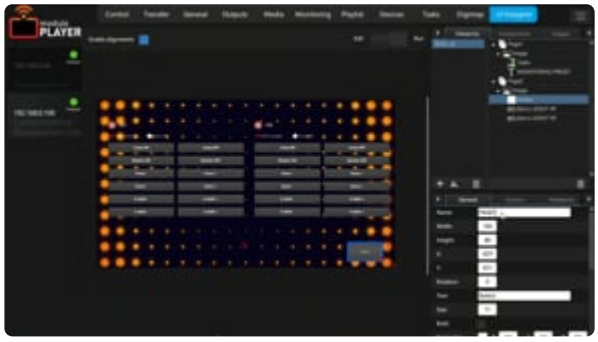
On ajoute une seconde page puis on la sélectionne.

On retourne dans l’onglet Device et on déclare 2 vidéo-projecteurs Barco UDX. Ce device nous permet de contrôler un projecteur de la marque Barco référence UDX. La liste de Device propose de prendre le contrôle de la plupart des marques de vidéo-projecteurs utilisés sur le marché Pro AV.

On retourne dans l’onglet UI Designer et on va dans la section Device. On drag & drop les 2 vidéo-projecteurs sur la page 2.

On ajoute ensuite un bouton sur cette page. On choisit en texte “PAGE 1”, on clique sur Action, section UI et on drag & drop l’action go to page. On indique 1 pour le numéro de la page dans l’éditeur. Ce bouton va permettre à l’utilisateur de retourner à la page 1.

On sélectionne la page 1 dans la Hierarchie et on crée de la même manière un bouton qui va lui pointer sur la page 2. On choisit en texte “PAGE 2”.



Modulo Panel

Utilisation de Modulo Panel

> ! Attention l’application Modulo Panel ne pourra se connecter au serveur que si

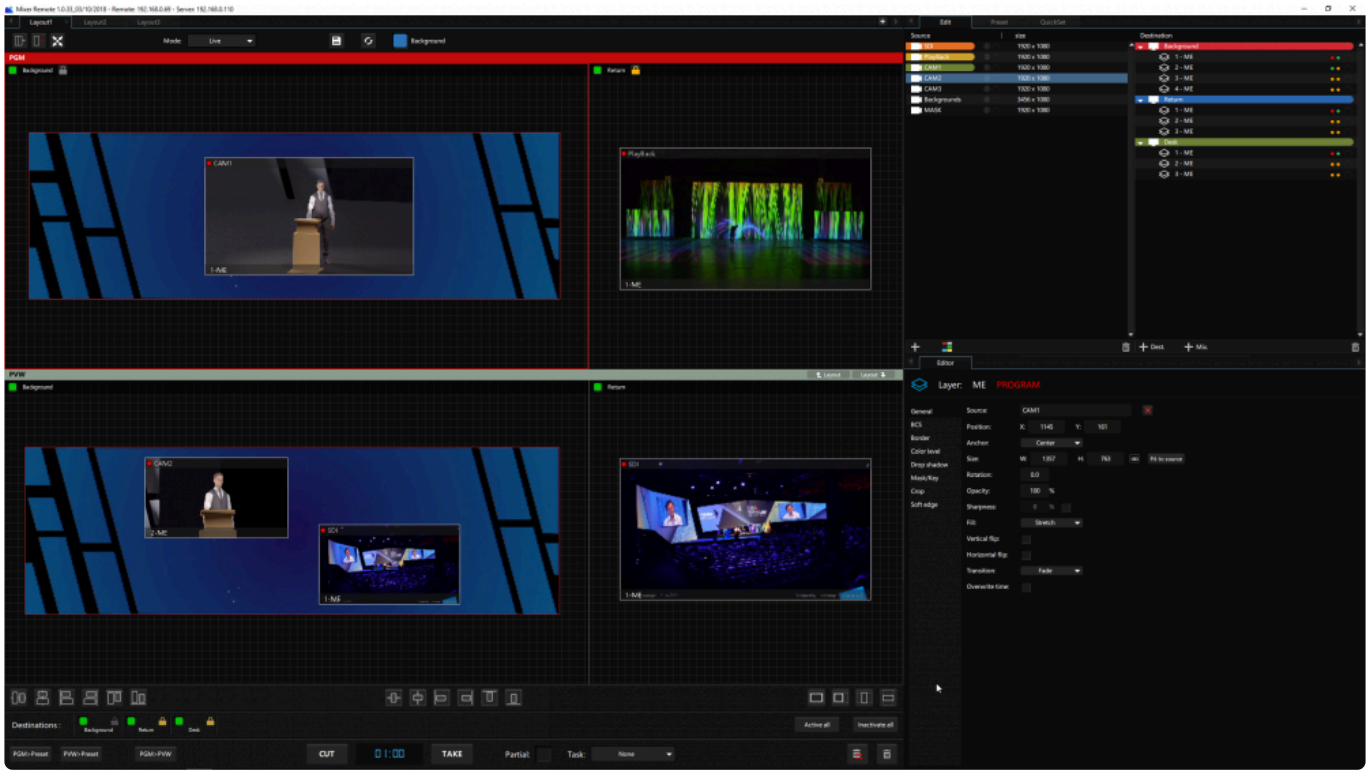
> l’ordinateur / la tablette / le téléphone est dans la même plage d’adresse que Modulo Player.

On installe l’application Modulo Panel sur l’ordinateur portable ou sur une tablette/téléphone connecté en réseau avec le média serveur.
On lance l’application et on rentre l’adresse IP du Modulo Player. Une liste apparaît alors avec toutes les interfaces disponibles.
On rappelle l’interface TECH_UI.
L’interface utilisateur créée apparait alors.

Live event – Mixer

Dans la continuité de l’exercice précédent, nous allons découvrir le Live Mixer intégré dans Modulo Player.
Nous avions précédemment utilisé les médias live en les intégrant dans des playlists comme les autres médias.
Nous allons maintenant découvrir les multiples possibilités du mélangeur embarqué pour aller beaucoup plus loin.

Le projet de départ est une version expurgée de la gestion des sources live de l’exercice précédent puisque nous allons maintenant utiliser le Mixer pour la gestion des sources live et lancement des sujets vidéo.

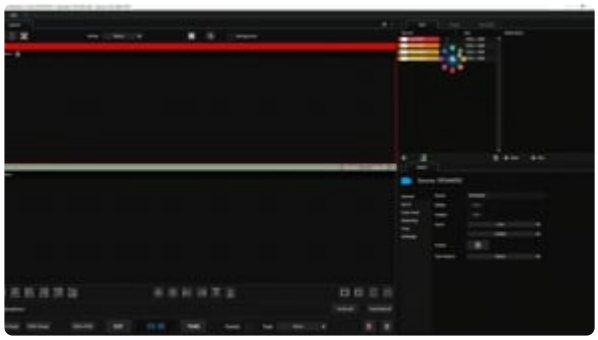


Nous allons aborder les notions suivantes :

- Découverte de l'interface de Live Mixer
- La création et l'utilisation des sources
- La création et l'utilisation des Destinations/Mix Engines
- L'utilisation du Preview/Program associé aux actions CUT/TAKE
- La création et le rappel de Presets
- La création et l'utilisation des Quicksets
- La création et l'utilisation de sources de type Background
- Le paramétrage et l'utilisation du Stream Deck

Création de sources

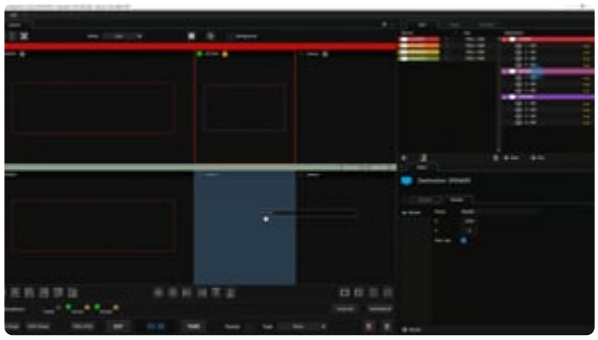
Nous allons ajouter les 4 sources live dans le mixer.
On va apprendre à créer une source, et affecter un média live à cette source.
On voit qu'il est possible de retoucher la colorimétrie, de faire un crop, de softer les bords ou d'appliquer un mask ou keying.
Il est possible d'utiliser plusieurs fois le même média live dans des sources différentes pour lui appliquer des pré-réglages différents.
On voit qu'il est facile de dupliquer une source.



Création de destinations

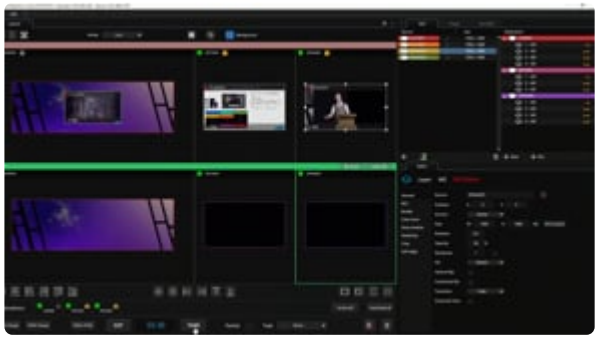
Nous allons créer 3 destinations : une pour l'écran principal, une pour l'écran de rappel, et une pour le retour speaker.
Pour chaque destination, on crée une zone de rendu en général à la même résolution que celle de la destination.

On rajoute des mix/engines dans chaque destination.
On scinde le preview et le program en 3 zones et on drag & drop les destinations dans ces zones.



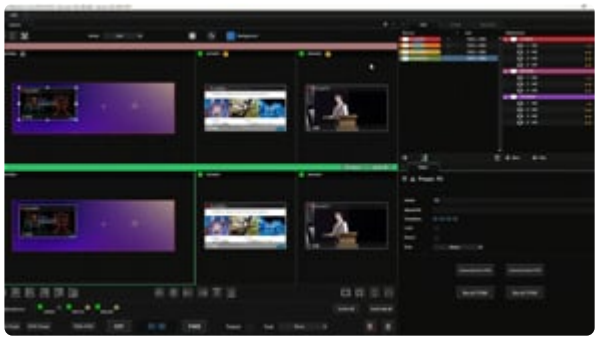
Preview/Program

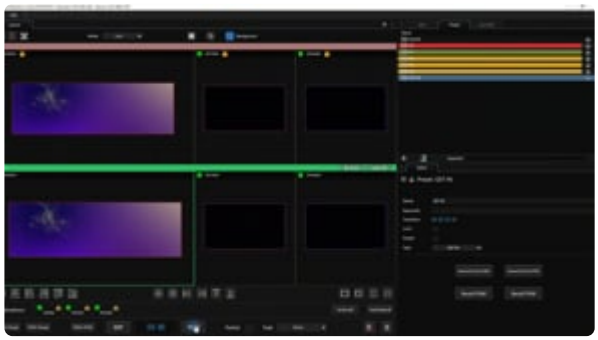
Nous allons maintenant pouvoir faire un drag & drop des sources dans le Preview.
On va pouvoir utiliser divers outils d'alignement ou pour remplir une destination.
On va ensuite envoyer en CUT le Preview vers le Program.



Création de presets

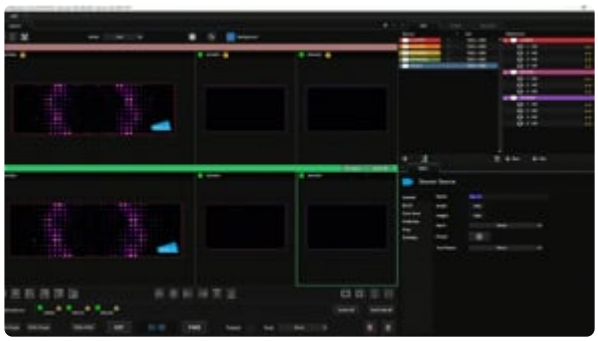
- La création et le rappel de presets





Création de source background

Nous allons maintenant utiliser une zone de l’espace pixellaire en tant que source live.



Stream Deck

- Le paramétrage et l’utilisation du Stream Deck

Portage du projet sur le média serveur

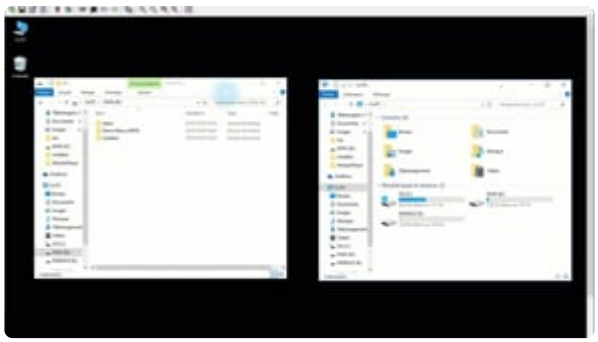
Cet exercice va vous permettre de mettre en place le projet sur le média serveur :

- Paramétrage du serveur
- Transfert du show complet
- Calage et blending des deux vidéo-projecteurs
- Paramétrage et utilisation des sources live SDI et/ou HDMI
- Paramétrage du Stream Deck
- Lancement du show en utilisant conjointement Modulo Player Remote et le Live Mixer

Set-up et copie du projet

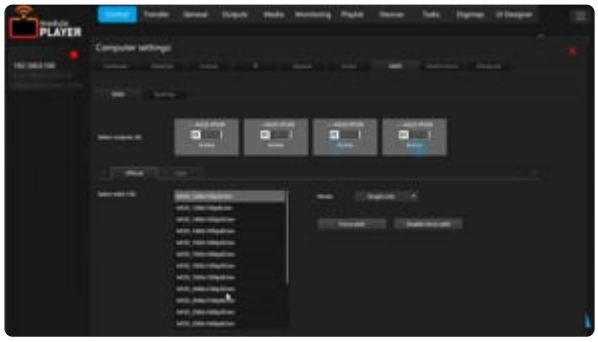
Exercice portage :
Le Modulo Player PRO-4 est installé et branché sur 2 VP (projection sur un mur par exemple) + 2 écrans LCD HD + 2 sources live SDI (lecteur Blackmagic ?) + 2 sources live HDMI.

On va maintenant transférer le show sur le serveur.
On branche le disque dur avec l’ensemble du show sur le serveur.
On se connecte avec un client VNC sur le serveur (mot de passe : modulo).
On copie le dossier de projet complet sur le disque data.
On va dans la remote, onglet Control, bouton Settings et on va pointer le projet sur le dossier qui a été ajouté.

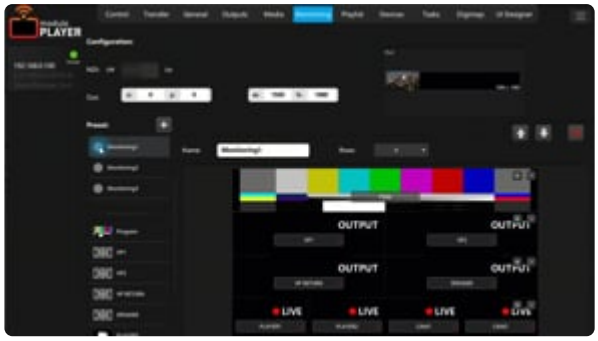


Paramétrage EDID et Eyefinity

On va maintenant forcer les 4 sorties avec une EDID et on fait le Eyefinity pour avoir un bureau étendu sur 4 écrans.
On vérifie que les outputs sont correctement configurées dans l'onglet Output. Si on a fait le setup initial sur un seul écran, la résolution des sorties a été faite au ratio d'une sortie, et il faut donc configurer correctement chaque sortie.



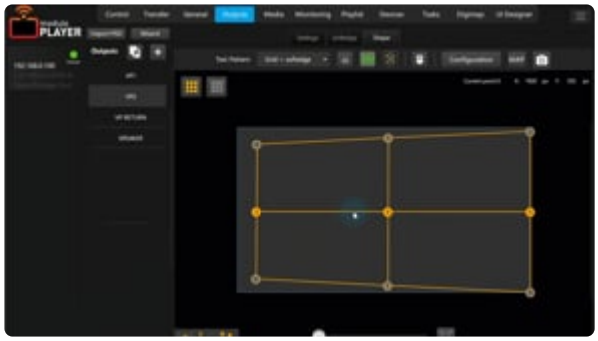
On désactive le monitoring (ou éventuellement stream NDI).



On affiche une test pattern sur toutes les sorties pour vérifier que tout fonctionne correctement.

Calage des vidéo-projecteurs

Nous allons maintenant caler les 2 projecteurs. On essaie en mode Keystone et si nécessaire, on passe en mode Curve.

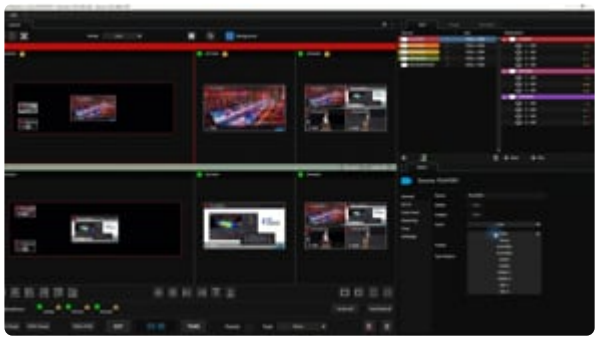


Création des sources live

Nous allons maintenant ajouter les médias live Deltacast dans le show.

Repatch des sources dans le Live Mixer

Repatch des sources live dans le mélangeur pour pointer sur les sources live Deltacast à la place de NDI.



On peut maintenant lancer le show.

Workshop

Art-Net pilotage lumière

Nous allons utiliser le device DMX (Art-Net) pour piloter 2 PARS RGB.

> ! Il est impératif de n'avoir qu'une seule personne qui travaille sur le même univers et subnet. Si plusieurs personnes envoient du Art-Net sur le même Subnet/Universe, tout va se mélanger et le résultat sera incompréhensible.

Création du Patch :

On crée un device DMX. On active la sortie et on choisit l'univers/subnet cohérent avec le boitier Art-Net qui convertit du Art-Net vers DMX.
Le premier PAR est patché sur le channel 1 et le second PAR sur le channel 4.

On va dans Patch et on crée une première fixture, on l'appelle R1 comme red PAR 1, on choisit le channel 1.
On peut éventuellement assigner une couleur rouge pour repérer dans le mini desk la couleur gérée par ce paramètre.
On crée une seconde fixture, on l'appelle G1 comme green PAR 1, on choisit le channel 2.
On peut éventuellement assigner une couleur verte pour repérer dans le mini desk la couleur gérée par ce paramètre.
On crée une troisième fixture, on l'appelle B1 comme blue PAR 1, on choisit le channel 3.
On peut éventuellement assigner une couleur bleu pour repérer dans le mini desk la couleur gérée par ce paramètre.

On va dans Patch et on crée une première fixture, on l'appelle R2 comme red PAR 2, on choisit le channel 4.
On peut éventuellement assigner une couleur rouge pour repérer dans le mini desk la couleur gérée par ce paramètre.
On crée une seconde fixture, on l'appelle 23 comme green PAR 2, on choisit le channel 5.
On peut éventuellement assigner une couleur verte pour repérer dans le mini desk la couleur gérée par ce paramètre.
On crée une troisième fixture, on l'appelle B2 comme blue PAR 2, on choisit le channel 6.
On peut éventuellement assigner une couleur bleu pour repérer dans le mini desk la couleur gérée par ce paramètre.

Création de presets :

On va dans l'onglet Mini-Desk.
On peut travailler en mode Prépa (pour préparer une preset en aveugle sans rien envoyer) ou en mode Stage (les valeurs sont envoyées en Art-Net et réglage à vue possible).
On passe en mode Stage. On va faire par exemple une première preset qui s'appelle BLACK. Pour cela on enable toutes les fixtures, on règle les valeurs à zéro, un wait de 0 et un fade de 0. On crée la preset en appuyant sur "+". On appelle la preset BLACK.
On bouge les channels R de chaque PAR à FULL, on rentre 5 secondes sur chaque channel pour le temps de fade. On crée une nouvelle preset qui s'appelle RED.
On bouge les channels G de chaque PAR à FULL et on remet l'état du channel R sur les 2 PARS à zéro, on rentre 5 secondes sur chaque channel pour le temps de fade. On crée une nouvelle preset qui

s’appelle GREEN.
On sélectionne uniquement les channel B de chaque PAR et on met à FULL ce paramètre, on règle 3 secondes pour le temps de wait. On crée une preset qui s’appelle PARTIAL B.

On rappelle la preset BLACK : les PARS sont éteints.
On rappelle la preset RED : on passe en rouge en 5 secondes.
On rappelle la preset PARTIAL B : on voit alors le channel RED qui reste à la même valeur et le blue qui monte en 3 secondes. On a activé uniquement le channel B dans la preset, seuls ses paramètres sont modifiés.

Rappel des presets depuis une task :

On crée des tasks. On ajoute le device DMX dans chaque task et on rappelle une preset différente dans chaque task.
On lance chaque task depuis un cue de la playlist. On peut donc rappeler une preset synchronisée avec le lancement d’un cue média.

Pilotage des PARS en utilisant l’UI:

On ajoute 3 sliders. On patche les 3 sliders respectivement sur le paramètre R,G et B du PAR1.
On ajoute 1 roue de couleur. On patche le PAR2 sur la roue de couleur.

On peut maintenant piloter les 2 PARS en utilisant l’interface utilisateur.

On ajoute un feedback sur les 3 sliders et sur la roue de couleur.
On peut toujours piloter les PARS depuis l’interface utilisateur. Quand on rappelle une task contenant une preset DMX, on voit que l’état reste synchrone avec l’état réel DMX en sortie.

Contrôle de Modulo Player en Art-Net

On peut contrôler facilement Modulo Player en utilisant le protocole Art-Net pour recevoir par exemple des commandes venant d’une console lumière.
On peut être contrôlé de 3 manières : trigger DMX déclenchant une task, patch d’une valeur DMX vers un paramètre de la playlist ou X-Map en utilisant un Digimap, ou utilisation du mode fixture (auto digimap).

Nous avons développé une petite application qui va vous permettre d’envoyer et de recevoir du Art-Net : voici le lien télécharger “ModuloDmxTool”

On déclare un device DMX dans un show qui a plusieurs cues (par exemple un show venant de l’exercice Live Event).
On active input DMX et on choisit l’univers sur lequel on veut recevoir des ordres.

> ! Il est impératif que chaque stagiaire travaille sur des univers différents pour éviter des conflits DMX !

Trigger de Task :

On crée une task. On ajoute en trigger le device DMX, on choisit par exemple le channel 1 et la valeur 10.
On ajoute un device Modulo Player et on ajoute une subtask pour déclencher le cue 5 par exemple.
Lorsque je vais envoyer depuis une application externe la valeur 10 sur le channel 1 (dans le bon univers/subnet), ma task va se déclencher et je vais donc lancer mon cue 5.
On peut ainsi facilement créer une action par valeur sur un channel pour contrôler la playlist ou par exemple contrôler une task qui ouvre/ferme un shutter de projecteur.

Digimap :

On crée un Digimap. On ajoute en trigger le device DMX, on choisit par exemple le channel 2 en paramètre.
On ajoute un patch et on va agir sur la position en X du layer 1 d'un cue. On peut calculer un offset/coefficient (se référer au tuto Digimap Panneau interactif ou MIDI pour voir le principe).
Lorsque l'on va recevoir une valeur sur le channel 2, on verra le layer se déplacer en accord avec cela.
On peut interagir sur de nombreux paramètres de la playlist et également sur les X-Maps (pour par exemple donner la main à la console lumière et changer l'opacité d'un X-Map dans un concert).

> ! Si on crée un Digimap avec un patch sur un paramètre et qu'on supprime ce Digimap ou change le paramètre, la valeur va rester en fantôme. Il est nécessaire de cliquer sur le bouton Reset Digimap pour éliminer ces valeurs fantômes.

Mode fixture (Auto Patch Digimap) :

Le mode fixture permet de créer très rapidement un lien entre la console lumière et le Modulo Player. Il existe 3 modes :
Le mode minimal pour prendre le contrôle depuis la console lumière sur le grand master et le lancement de cue de une ou plusieurs playlists (le mode le plus utilisé).
Le mode Basic qui prend plus de paramètres. Il permet de prendre la main sur les paramètres du mode minimal, mais aussi sur l'opacité et la colorimétrie de chaque layer.
Enfin, le mode Extended qui demande un grand nombre de canaux DMX mais qui permet de contrôler encore plus de paramètres.

On va utiliser le mode minimal.
On va dans le device DMX, on active ce mode et on ajoute la playlist 1 au contrôle.
On peut utiliser la mini console lumière pour piloter la piloter la playlist 1. Le premier channel permet de contrôler un fade global par playlist. Si on bouge ce fader DMX, on voit qu'on a la main sur l'opacité globale de la playlist 1.

On va utiliser le channel 2 (en 16 bits, donc channel 2 et 3) pour contrôler le lancement d'un cue. Si on envoie la valeur 1 sur le channel 16 bits, le cue 1 va se lancer. Si on envoie la valeur 10, c'est le cue 10 qui va être lancé.

> ! Si on est en train de jouer le cue 2 et que l'on veut le relancer du début, il est nécessaire d'envoyer la valeur 0 sur le paramètre de lancement de cue et d'envoyer à nouveau la valeur 2 pour relancer le cue.

> ✻ On a souvent besoin de changer l'ordre des cues ou de rajouter des inter-cues. Dans ce cas, il est nécessaire de reprogrammer la console lumière à chaque changement ce qui n'est pas très pratique. On va donc activer le mode dans le device DMX. On va donner un tag à chaque cue de la playlist que l'on souhaite déclencher depuis la console lumière. On va mettre le tag 1 sur le cue qui doit être déclenché avec la valeur DMX 1, le tag 2 sur le cue qui doit être déclenché avec la valeur DMX 2, et ainsi de suite. Cette option va nous permettre de simplifier le lien entre la console lumière et le Modulo Player.

Digimap DMX settings:

Digimap – Panneau interactif

Nous allons utiliser un capteur pour suivre le déplacement d'un panneau et projeter un contenu calé sur ce dernier.

On va voir l'utilisation du capteur pour déplacer un panneau et faire suivre le média sur ce panneau en mouvement.
On verra ensuite comment faire un effet rayon-x pour révéler une image.
On verra enfin comment utiliser les tasks pour changer de cue en fonction de la position du panneau.
Et pour ceux qui veulent aller plus loin, on montrera la possibilité de caler un média sur un panneau qui tourne.

Pour cela nous allons utiliser l'un des capteurs suivant au choix :

- Enrouleur de câble avec codeur absolu Posital. Voici le lien sur la documentation.

- Enrouleur de câble Phidgets et quadrature encodeur. Voir le lien sur la documentation.
- Laser de mesure TeraRanger. Voici le lien vers la documentation.
- Et la version low cost avec un simple slider en collant un mini panneau dessus. Voici le lien vers la documentation.

Calage du projecteur :

Pour suivre un panneau en image, il est impératif que cela soit vu du projecteur comme un offset basique sur un axe.
On va donc essayer d'avoir un mouvement le plus parallèle possible à l'axe du projecteur. Si ce n'est pas le cas, il est nécessaire d'utiliser le warping en mode Keystone. Le mode Keystone est important car il permet d'avoir un étal homogène en pixel, sinon le panneau sera au bon endroit de chaque coté mais pas au milieu du mouvement. Pour cela :
On affiche la mire Grid sur la sortie.
On va déplacer le panneau de gauche, on cale les coins gauches du warping.
On déplace le panneau à droite et cale les coins droits du warping.
On déplace ensuite de gauche à droite le panneau pour voir si l'image est correctement étalée sur l'ensemble du déplacement.

Playlist :

Cue 1 : vide
Cue 2 : média Test Pattern au ratio du panneau en pixel : on met le panneau à gauche et on règle le nombre de pixel du média pour afficher une image uniquement sur le panneau.
Cue 3 : média vidéo animé : on utilise le crop sur la layer pour afficher de l'image uniquement sur le panneau.
Cue 4: layer 1 : média Test Pattern au ratio du panneau en pixel en mode masque alpha, et layer 2 vidéo en HD pas recoupé.

Digimap :

On crée un digimap, on le sélectionne, on rajoute un patch et on l'édite.
On choisit Playlist/ on choisit la playlist 1/ on choisit le cue 2 et la layer 1.
On utilise en trigger le device capteur.
On va d'abord caler le cue 2 avec le déplacement de la mire.
On met le panneau vers la gauche. On se met en mode simulate A.
On clique sur la croix pour lire la valeur du capteur.
On bouge à vue la valeur en out A jusqu'a ce que l'image soit calée sur le panneau.
On met le panneau vers la droite. On se met en mode simulate B.
On clique sur la croix B pour lire la valeur du capteur.
On bouge à vue la valeur en out B jusqu'a ce que l'image soit calée sur le panneau.
On repasse simulate en none. On clique sur "Evaluate" pour calculer le coefficient et l'offset.
On peut normalement déplacer le panneau de gauche à droite et l'image doit rester sur le panneau.

On veut maintenant appliquer le même effet sur le cue 3 et le cue 4 .

On va asservir le Digimap dessus grâce à deux options : soit on ajoute un Digimap par cue et on refait le calage à chaque fois (un peu long), soit on va simplement utiliser global position x à la place de position x: On va ainsi appliquer un offset global en x à tous les cues. On a donc besoin d'un seul Digimap pour tout le show. On va donc éditer le patch et remplacer position x par global position x. On fait un "reset offset".

On peut maintenant tester tous les cues, y compris le cue rayon-x.

> ! L'offset appliqué depuis un Digimap se cumule avec la position du layer et avec l'offset global appliqué à toute la playlist. Si vous enlevez le Digimap ou si vous changez de paramètre, l'offset va rester en fantôme derrière. Si vous voulez supprimer les valeurs fantômes après un changement sur un Digimap, vous pouvez cliquer sur le bouton "Reset offset". Cela sera sans conséquence sur les valeurs actives, puisque la position du capteur est lue en permanence et cela éliminera les valeurs fantômes.

Task :

On peut également déclencher une task quand le panneau rentre dans une zone. Par exemple, on peut avoir plusieurs cues sur la playlist, et on peut déclencher le lancement d'un cue différent en fonction de la position du panneau.

On va créer plusieurs tasks, une par cue à lancer.
On ajoute un device Modulo Player et on utilise ce device pour lancer le cue 2 depuis la task 1, lancer le cue 3 depuis la task 2, et lancer le cue 4 depuis la task 3.
On va ensuite ajouter un trigger de task en utilisant le capteur. On va choisir une range à chaque task pour déclencher le cue correspondant. Pour connaitre les valeurs de range à renseigner pour chaque intervalle, on va dans l'onglet Device sur le capteur, on bouge le capteur et on note les valeurs de range à rentrer dans le trigger de task.

Rotation d'un panneau sur un axe :

On peut également utiliser un codeur avec le panneau collé dessus centré face projecteur. Il faut brancher cela sur le device suivant.

On va donc créer un Digimap avec comme trigger l'encoder quadrature et qui agit sur la rotation d'une layer.
On doit mettre cette layer en mode Center à la place de Top-Left.

Digimap – MIDI

Nous allons maintenant utiliser un contrôleur MIDI pour interagir avec le contenu en utilisant le Digimap.
On branche le contrôleur MIDI sur le serveur. On peut par exemple utiliser NanoKontrol2 de Korg.
On va dans le setup du contrôleur MIDI et on active l'input et on choisit NANOKONTROL2.
On bouge un slider et on voit en bas s'inscrire le message reçu dans "Last Received:" On peut voir s'il

s'agit d'un ordre NOTE ON, Control Change ou Program Change, le channel utilisé et le paramètre.
On ajoute un média dans la playlist.
On crée un premier Digimap, on choisit en trigger le device MIDI, on règle pour recevoir la valeur du slider. On crée un patch qui agit sur la position en X du cue/layer contenant le média.
La valeur entrante du MIDI est entre 0 et 127, et on veut par exemple déplacer le média entre 0 et 1920 pixels. On peut modifier directement le coefficient et l'offset pour remapper la valeur entrante pour agir en pixel sur une valeur entre 0 et 1920.
On peut également pour plus de simplicité, utiliser le calculateur intégré :
On choisit en In A : 0 pour la position basse du slider MIDI, en OUT A on entre la valeur 0 correspond à 0 pixels.
On choisit en In B: 127 pour la position haute du slider MIDI, en OUT B on entre la valeur 19200 correspondant à la valeur max de décalage en pixels.
On clique sur Evaluate pour calculer le coefficient et l'offset.

On peut maintenant déplacer le slider et on verra l'image se déplacer de 0 à 1920 pixels en fonction de la position du slider.

Opacité :
On utilise le second slider pour agir sur l'opacité du média.

FX :
On rajoute un FX et on interagit sur le paramètre avec le troisième slider.

ISF

Nous allons apprendre à intégrer un effet ISF dans Modulo Player.
Modulo Player intègre une base d'effets applicables sur n'importe quel média (image, vidéo ou live), mais il est possible de créer soi-même un effet ISF si on a des bases de shader opengl GLSL, ou plus simplement d'utiliser des effets ISF disponibles en ligne (par exemple cette banque).
Vous pouvez utiliser cette application pour créer ou pré-visualiser des ISF.

> ! Il est impératif que l'effet ISF suive la norme V2. Les effets ISF V1 ne sont pas supportés.

On va par exemple télécharger cet effet sur le site de Interactiveshaderformat.com.

On va ensuite aller dans l'onglet Transfer pour copier le fichier (extension .fs) dans le dossier ISF.

> ! La plupart des effets sont composés uniquement d'un fichier .fs mais d'autres ont également un fichier .vs. Dans ce cas, il faut copier les deux fichiers.

On ajoute un cue avec un média.

On va dans FX, on sélectionne ISF, et on peut choisir l'effet que l'on a ajouté dans le dossier ISF.

Il est ensuite possible de régler les valeurs.

Pour aller plus loin :

Si vous avez un contrôleur MIDI ou device DMX Art-Net ou un contrôleur OSC, vous pouvez créer un Digimap et interagir sur un ou plusieurs paramètres de cet effet.

OSC

Le protocole OSC

L'OSC est l'acronyme de Open Sound Control.
Ce protocole a été créé pour envoyer des ordres entre différentes applications en utilisant le réseau, un peu sur le même principe que le MIDI, mais avec plus de flexibilité. De nombreux logiciels supportent ce protocole. C'est donc un moyen simple de faire communiquer plusieurs applications.
L'OSC utilise le protocole réseau UDP.

On peut déclarer un device OSC dans Modulo Player.
Pour pouvoir envoyer des ordres à une application tierce, il est nécessaire de connaitre l'adresse IP de la machine ou est hébergée l'application et le port de communication.

L'adresse IP, c'est un peu comme la rue, et le port, un peu comme le numéro de la boite aux lettres dans la rue.
Pour envoyer des ordres, il est donc impératif de rentrer correctement ces informations, sinon l'ordre ne sera pas reçu par l'application tierce.

De la même manière, pour recevoir des ordres provenant d'une application tierce dans Modulo Player : il est nécessaire de choisir le port sur lequel vous voulez recevoir les ordres, et dans l'application tierce, il est nécessaire de dire que l'on va envoyer des commandes à l'adresse IP du Modulo Player.

Une message OSC est composé d'un chemin et de valeurs envoyés.

Un chemin est défini par une suite de mots séparés par des /. Par exemple, cela peut être /modulo/task/1.
Cette chaine est définie de manière arbitraire mais il est impératif que l'émetteur et le récepteur utilisent la même syntaxe.

Les valeurs envoyées peuvent être des booléens, des entiers, des float, ou des chaines de caractères.

Utilisation du protocole OSC du Modulo Player :

Modulo Player a un protocole intégré pour recevoir des ordres en OSC et en renvoyer.
On utilisait ce protocole et Touch OSC pour créer des interfaces utilisateurs sur tablettes ou téléphone

lorsque l'UI n'existait pas dans Modulo Player.

On va donc utiliser un preset pour Touch OSC.
On charge ce preset dans la tablette ou le téléphone connecté en réseau avec le Modulo Player en utilisant l'application Touch OSC Editor.
La documentation est disponible sur cette page.
Les ports input et output sont par défaut ceux utilisés dans Touch OSC.
On va activer "trigger enable" et "feedback" sur le device OSC pour respectivement recevoir des ordres en utilisant le protocole OSC Modulo Player et pour renvoyer des informations à Touch OSC.

Pour ceux qui veulent aller plus loin, le protocole OSC Modulo Player est décrit sur ce lien.

Il est possible d'utiliser ce protocole avec n'importe quelle application pour communiquer avec Modulo Player en OSC.

Utilisation manuelle : Task :

On peut également déclencher une task en utilisant le device OSC en tant que trigger.
On crée une task, on ajoute le device OSC en trigger.

Utilisation manuelle : Digimap :

On peut également créer un Digimap qui va recevoir une valeur provenant d'un device OSC.
On ajoute un touchpad dans Touch OSC.
On crée un Digimap, on le patch sur la position x d'un média.
On crée un second Digimap et on le patch sur la position y d'un média.

Envoi d'une commande OSC à un device :

On peut également envoyer des commandes à une application OSC en utilisant une task.
On va par exemple créer deux tasks pour déplacer un bouton dans l'application Touch OSC.

Timecode

Cet atelier va vous permettre de synchroniser une playlist sur du timecode.

Timecode :

On utilise du timecode pour synchroniser plusieurs techniques entre elles dans un spectacle, par exemple média serveur vidéo, player son et console lumière. En général, un appareil est maitre (il génère le timecode – Generator -) et les autres appareils lisent ce timecode et se synchronisent dessus (Esclave/ Reader).

Timecode LTC :

Le timecode LTC est celui le plus couramment utilisé pour synchroniser des shows.
Il s'agit d'une modulation audio. On peut donc utiliser tous les appareils audio pour le diffuser (player audio, Wav), le distribuer (console son, distri audio) avec un câblage audio classique. Voir ce site pour plus d'information.
Le timecode LTC permet d'envoyer une information temporelle type HH:MM:SS:FF ou FF est en 25 frames par seconde (on appelle cela EBU – norme européenne) ou en 30 frames par seconde (on appelle cela SMPTE).

Attention: Les readers sont souvent très sensibles au niveau audio. Il est souvent nécessaire d'avoir un niveau sonore important avant que le reader accroche la modulation. C'est tout ou rien : on reçoit ou on ne reçoit rien du tout. Si on utilise une application sur téléphone en générateur, il faut généralement mettre en sur-volume (message indiquant que trop fort et dangereux pour l'oreille).

Pour recevoir du timecode LTC dans un Modulo Player : on utilise une carte timecode PCIE ou une carte USB de marque Adrienne.
Pour émettre du timecode LTC depuis un Modulo Player : il est possible d'utiliser un fichier son avec une piste timecode couchée dessus. Nous supportons également la carte Timecode PCIE Adrienne qui fait générateur : c'est le plus pratique car on peut asservir une playlist dessus et le timecode est généré de manière synchrone (avec possibilité de positrack).
Si vous avez une carte générateur de timecode LTC, vous pouvez basculer en mode MASTER et voir qu'il est possible de lancer les cues depuis la playlist et que le timecode va suivre.

> ✻ Il est possible de faire les mêmes exercices en utilisant le timecode Art-Net qui ne nécessite pas de carte spéciale.

Timecode MTC MIDI :

Il est possible de recevoir du timecode MTC MIDI si votre Modulo Player possède une carte MIDI.

Timecode Art-Net :

Il est possible de recevoir ou de générer du timecode Art-Net.
Le code temporel est envoyé en réseau. La console ChamSys supporte le timecode Art-Net.
Nous avons développé une application qui va vous permettre d'utiliser le timecode Art-Net : Voici le lien pour télécharger ModuloDmxTool

Autre applications :
Vous pouvez utiliser cette application pour générer/recevoir du timecode Art-Net.
Vous pouvez également utiliser cette application pour générer du timecode Art-Net et cette application pour recevoir du timecode Art-Net.

Exercice :

Création d'une playlist avec plusieurs cues.
Le premier cue est vide comme d'habitude.
On choisit pour tous les cues un trigger de type Timecode.

> ! Lorsqu'on travaille en timecode, il est impératif de n'avoir que des cues avec des triggers en mode Timecode, et que la valeur timecode de chaque trigger de cue s'incrémente d'un cue à l'autre.

Si on possède une interface Timecode LTC et un générateur de timecode :
On va dans le menu de réglage du TC sur la playlist.
On choisit LTC comme type de timecode.
On choisit SLAVE pour être en mode reader.
On choisit EBU si le timecode que l'on reçoit est en 25FPS, ou SMPTE si le timecode que l'on reçoit est en 30 FPS.
On ferme la fenêtre et on verrouille le cadenas de timecode pour se locker au timecode. La playlist est alors synchronisée sur le timecode.

On peut maintenant tenter d'envoyer du timecode depuis le générateur (MIF ou fichier son avec piste timecode sur un autre PC ou appli téléphone générateur de timecode).
On peut voir que le Modulo Player va se locker sur le timecode même si on reçoit un temps entre deux cues.

Utilisation et pilotage du Mif4 de Rosendahl :

Si vous avez un MIF4, vous pouvez l'utiliser en générateur de timecode LTC pour entrer dans une carte Adrienne du Modulo Player. Il est même possible de piloter le MIF4 depuis Modulo Player pour faire des rappels de timecode. Pour cela, vous allez déclarer un device MIDI dans Modulo Player après avoir connecté le MIF4 au Modulo Player en USB. Dans le setup du device MIDI, il faut choisir en OUTPUT le MIF4 de chez Rosendahl. Vous pouvez ensuite créer des tasks et envoyer des commandes MMC au MIF4 pour lui demander de générer du timecode et de faire des PLAY/PAUSE.

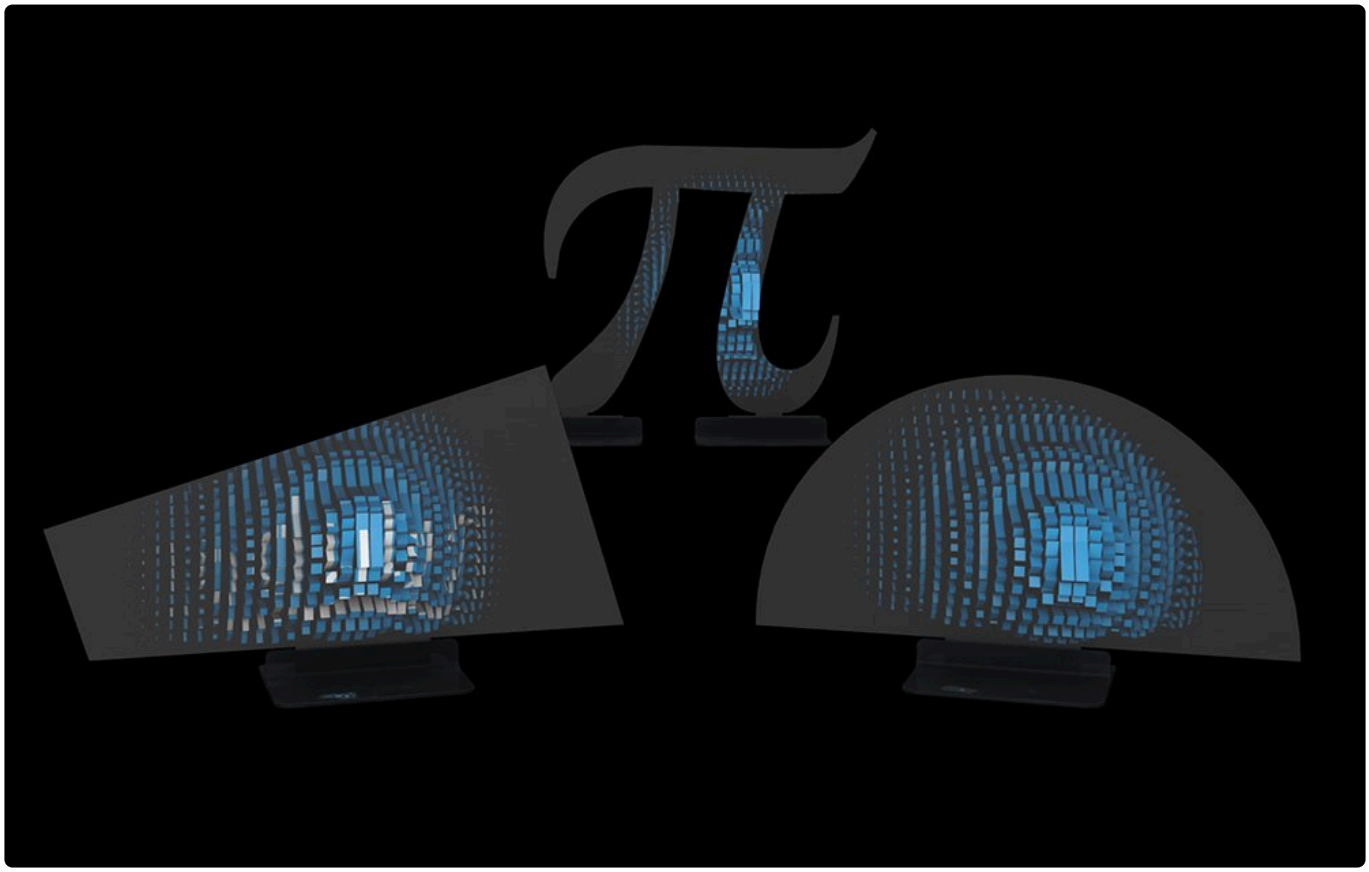
Fonction à comprendre et à tester :

Disable positrack in cue:
Ce mode peut être utile en concert. Vous avez besoin uniquement de vous synchroniser sur le début de chaque chanson car le timecode risque d'être coupé brutalement avant la fin de la chanson. Si le mode "disable positrack in cue" est enclenché, un saut de timecode ne sera pris en compte qu'en cas de jump de timecode correspondant à un changement de cue.

Utilisation de l'offset :
Vous avez renseigné tous les temps de timecode en commençant à 0:00:00:00, et le timecode envoyé finalement est décalé de 10H.

Pour éviter de ré-encoder tous les triggers, vous pouvez simplement utiliser l'offset de timecode dans le menu de réglage du timecode.

X-Map-Letter



Dans cet exercice, nous allons :

- Utiliser les X-Maps pour facilement caler des médias sur des formes
- Créer une playlist type corporate event
- Utiliser le copier/coller pour gagner du temps
- Utiliser le Live Mixer

Matériel nécessaire :
1 x vidéo-projecteur Pico
1 x mapping box
1 x kit formes institutionnelles
1 x kit de médias + fichier template PSD

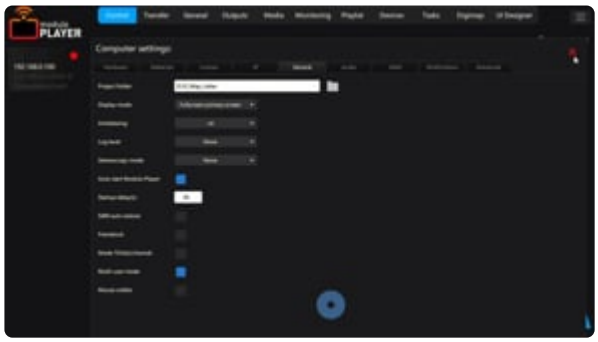
On place les formes dans la mapping box, et on positionne le projecteur pour projeter sur les trois formes mais également sur l'arrière de la mapping box.

Lien media kit :

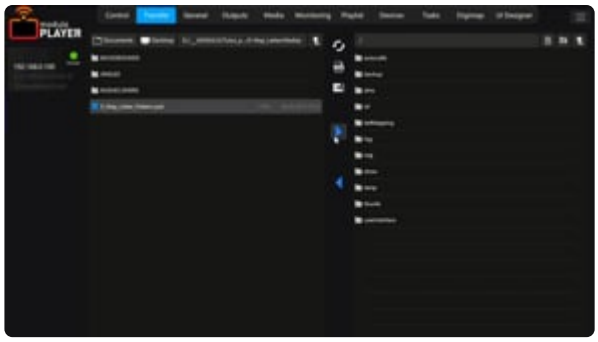
Vous pouvez télécharger le media kit ici.

Création du projet

Nous allons créer un nouveau dossier de projet, et démarrer ensuite l'application Modulo Player.

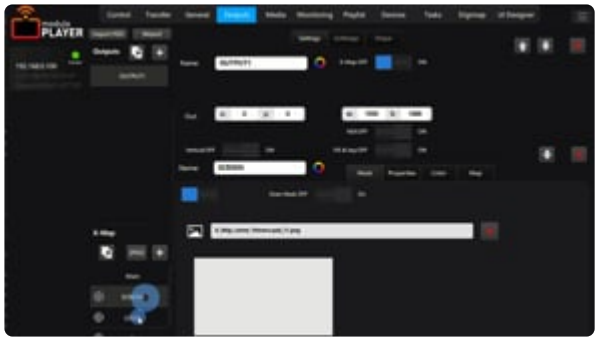


Nous allons copier le fichier PSD dans le serveur à la racine du dossier de projet.



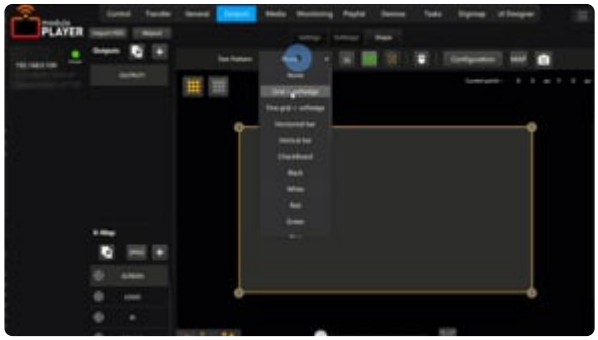
Nous créons ensuite un nouveau show.

Import du fichier PSD :
On sélectionne le fichier PSD et on décoche l'option "filter outside" : les éléments sont mis côte à côte et non pas liés à la position dans le projecteur. Si on laisse l'option activée, on va perdre l'import des formes en dehors de la zone du projecteur ce qui n'est pas souhaité.
Après import, on voit apparaître les différents X-Maps : le fond et les différentes formes avec le masque.

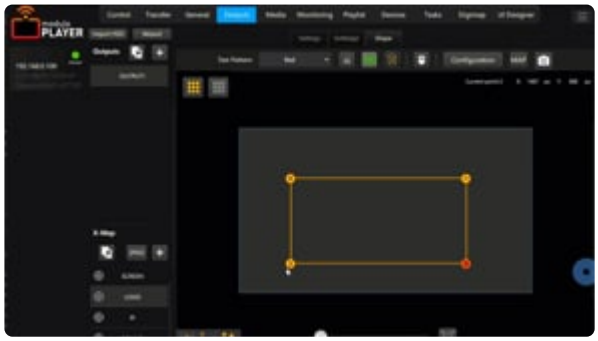


Calage des X-Maps

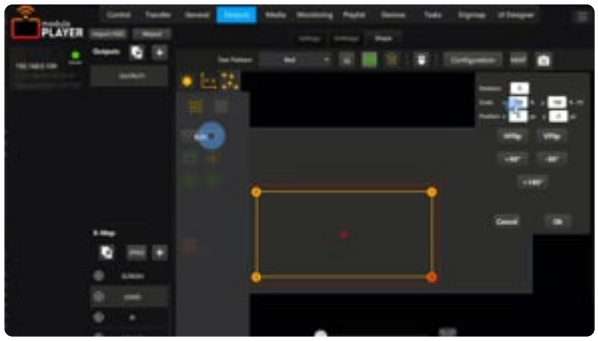
Nous allons maintenant afficher une test pattern sur l’écran de fond.



Nous allons ensuite caler le logo Modulo Pi :
Puisque le fichier PSD inclut tous les éléments les un à la suite des autres, on doit donc ramener la forme dans l’écran.
On affiche une pattern rouge pour voir l’élément.
On sélectionne tous les points de contrôle avec le bouton “Select all”.
On déplace l’ensemble pour le ramener dans la zone de projection.



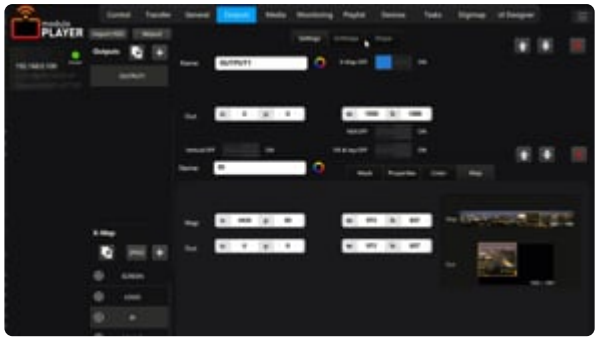
On utilise l’outil “Rescale” pour réduire la taille pour la ramener dans une taille plus cohérente.



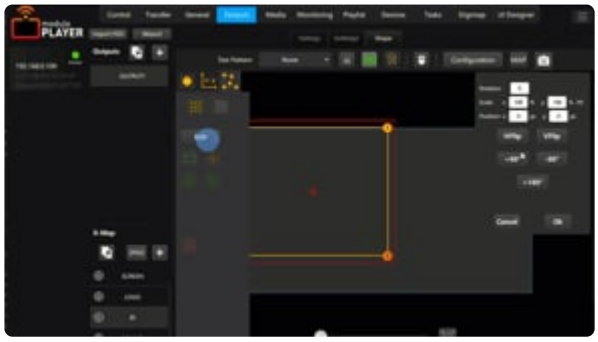
Lettre Pi :

On va utiliser une autre méthode pour ramener l'élément dans la zone de l'écran.
On va dans l'onglet MAP et on choisit une valeur en OUT pour le remettre dans la zone de projection.

> ! Quand on modifie des valeurs dans cet onglet, on modifie en fait les valeurs par défaut lors d'un reset de la shape. On doit cliquer sur configuration, activer la case à cocher Reset et valider pour que le réglage soit pris en compte.



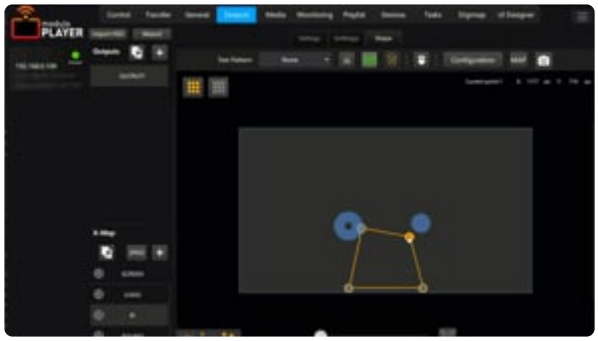
On utilise l'outil "Rescale" pour réduire la taille pour la ramener dans une taille plus cohérente.



On suit à nouveau la même procédure sur la forme demi-cercle.

Warping :

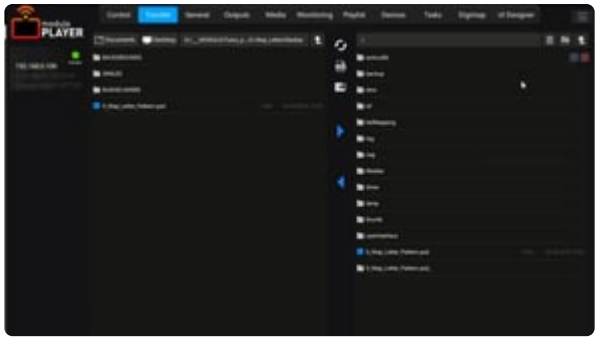
On cale ensuite chaque forme une par une.
On peut utiliser le mode Keystone si la surface est bien plane. Cela va compenser la parallaxe automatiquement.
Sinon, le mode curve est nécessaire.



Création playlist – premier cue

Nous allons maintenant copier les médias sur le serveur.

On va d’abord créer un nouveau dossier.
Nous sélectionnons ensuite les dossiers contenant le medias pour le copier dans le dossier créé.



Nous allons ensuite dans l’onglet Media et on clique sur le bouton “Refresh” pour faire apparaître les nouveaux médias dans le show.

Nous allons ensuite dans l’onglet Playlist et on ajoute des cues dans la playlist.
On laisse toujours le cue 1 vide.
On drag & drop le média de fond sur le layer 1.
On cale un temps de Fade In de 2 secondes.

On drag & drop ensuite le média correspondant aux formes sur la layer 2.
On cale un temps de Fade In de 2 secondes.
On décale la position du média en position x à 1920 pour correspondre à la position des X-Maps des différentes formes.

On peut maintenant lancer le cue 2 et voir le résultat en projection.

Création playlist – copier/coller

Nous allons maintenant ajouter de nouveaux cues en utilisant la fonction copier/coller pour gagner du temps.

Nous allons ensuite remplacer les médias vidéo et le fichier son.

On va ensuite refaire un copier/coller pour créer le cue 4.
On met le trigger du cue 4 en mode Follow 1 : il s'enchaînera automatiquement à la fin de cue 3 en respectant le temps de fondu.

On va ensuite passer toutes les layers du cue 4 en mode loop pour que les médias bouclent une fois arrivés à la fin de la vidéo.

On va à nouveau utiliser le copier/coller mais pour copier deux cues d'un coup.

On va ensuite remplacer les médias pour mettre la séquence 2.

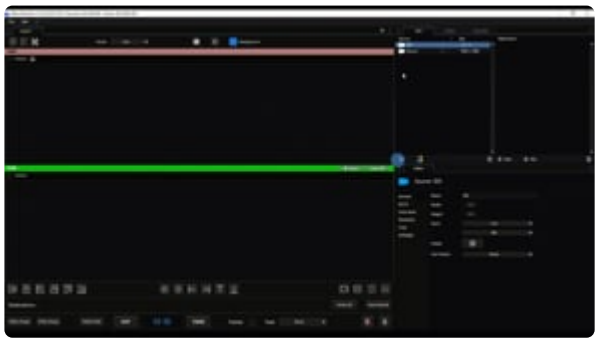
Live Mixer – création sources

Nous allons d’abord ajouter des sources live dans Modulo Player : en fonction des sources et des cartes d’acquisition disponibles, il pourra s’agir de sources SDI ou HDMI, ou plus simplement de sources streamées en NDI.

On ouvre l’application Live Mixer, on se connecte au serveur en renseignant son adresse IP.

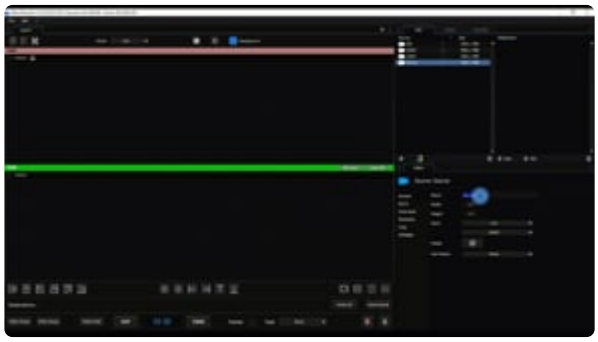
On va d’abord créer la première source :

Puis la deuxième :



Puis la troisième :

Et finalement la quatrième :

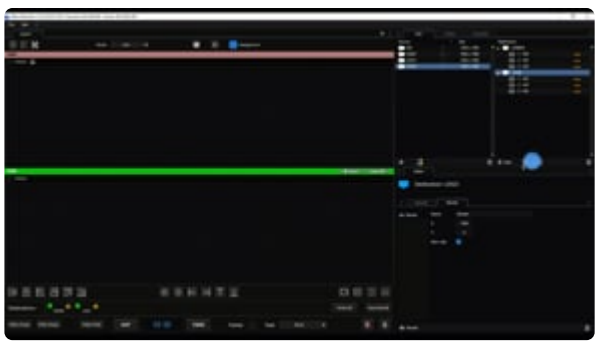


Live Mixer – création destinations

Nous allons ensuite créer deux destinations : une pour l’écran de fond et une pour les formes.

Créons d’abord celle pour l’écran de fond :

Puis celle pour les formes :



Live Mixer – création des layouts

Nous allons ensuite fractionner le layout Preview et Program en 3 zones, une par destination.
On va ensuite drag & drop chaque destination dans sa zone respective.

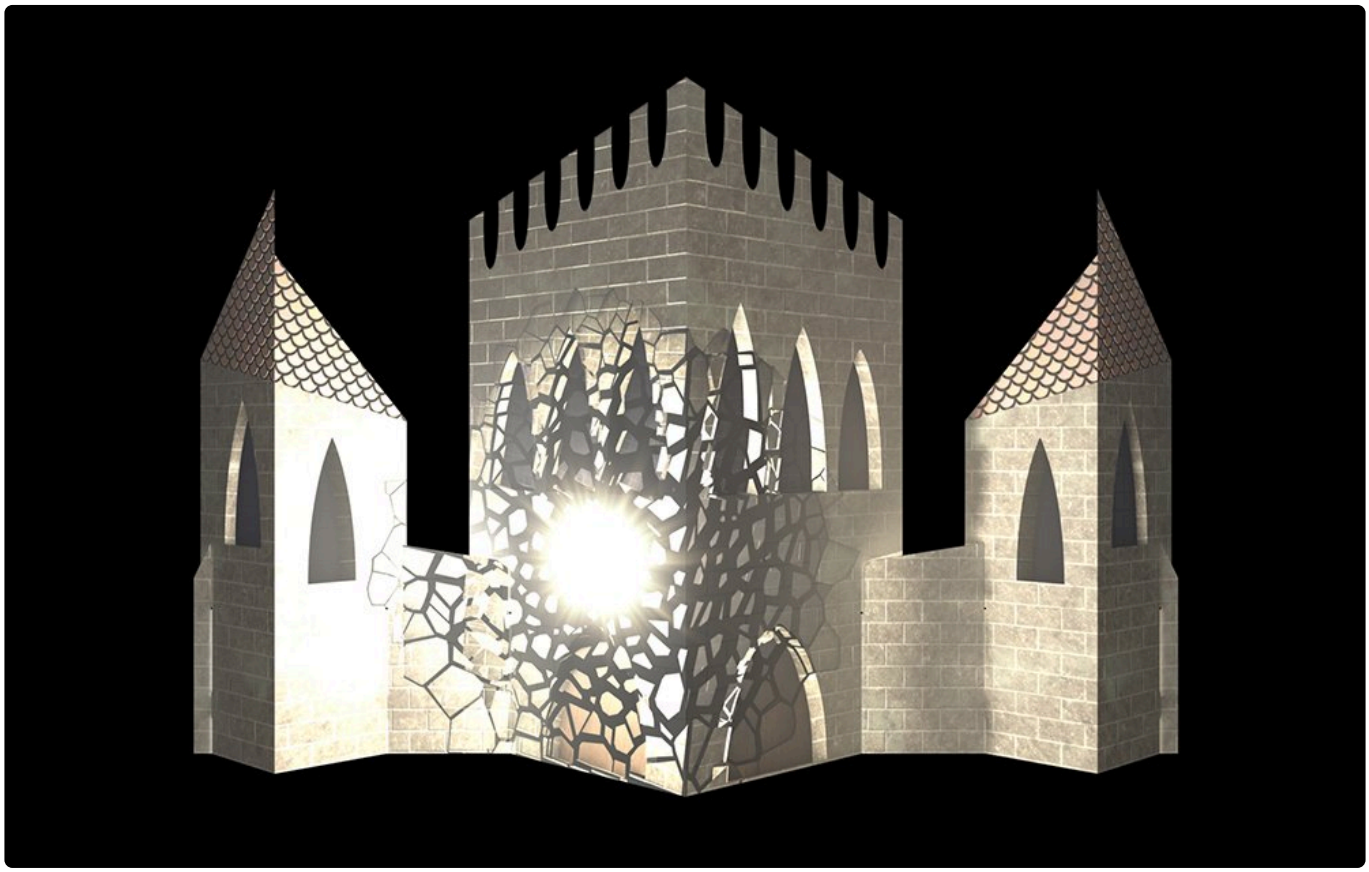
Live Mixer – ajout source au Preview et Take

Nous allons maintenant ajouter deux sources dans la destination SCREEN.

Puis une source dans la destination des formes

On peut maintenant appuyer sur Take pour envoyer en fondu ce qui est au Preview vers le Program.

Architectural video mapping



Dans cet exercice, nous allons :

- Utiliser les X-Maps pour facilement caler un show sur un bâtiment
- Créer une playlist type mapping architectural
- Utiliser le copier/coller pour gagner du temps
- Ajouter un device Modulo Player pour rappeler des séquences
- Utiliser un device Calendar pour déclencher une task

Matériel nécessaire :
1 x vidéo-projecteur Pico
1 x mapping box
1 x kit forme château
1 x kit de média + fichier template PSD

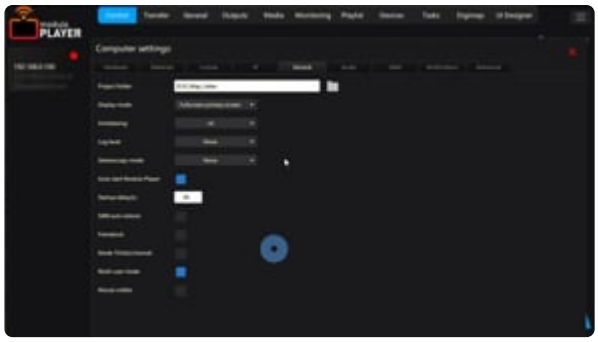
On place le château dans la mapping box, puis on positionne le projecteur pour projeter sur l'ensemble du château.

Lien media kit :

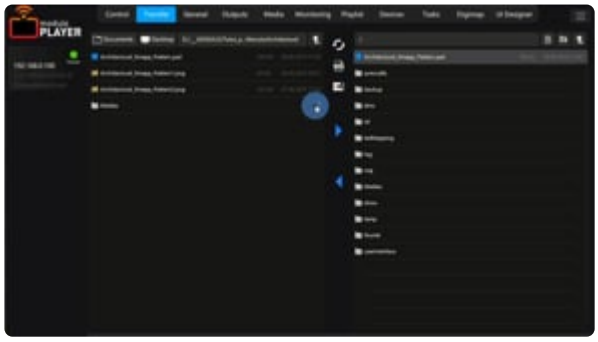
Vous pouvez télécharger le media kit ici.

Création du projet

Nous allons créer un nouveau dossier de projet, puis démarrer l'application Modulo Player.



Nous allons ensuite copier le fichier PSD dans le serveur à la racine du dossier de projet.
Nous copions ensuite le dossier média, et ajoutons dans ce dossier les deux médias test patterns pour le calage.

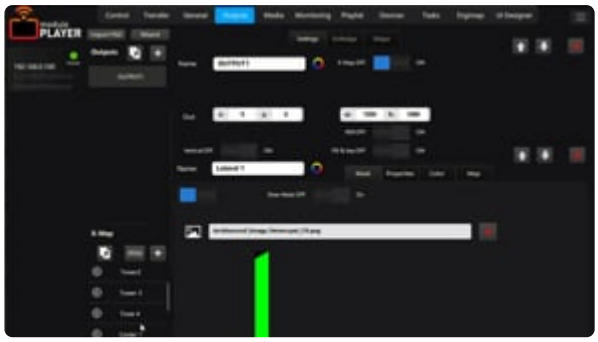


Nous créons ensuite un nouveau show.

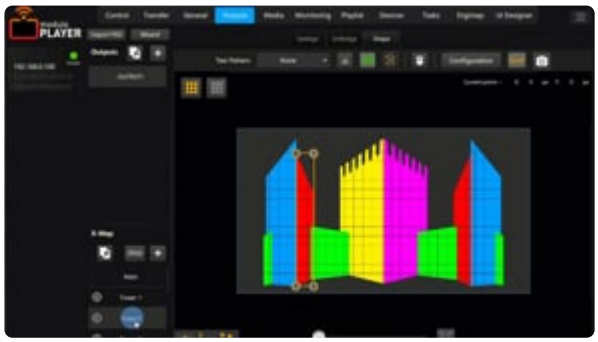
Calage de X-Maps

On va d'abord importer le fichier Photoshop PSD.
On va ensuite dans l'onglet Media et on clique sur le bouton "Refresh" pour charger les médias préalablement copiés dans le show.
On va enfin dans l'onglet Playlist.
On ajoute des cues, on laisse le cue 1 vide.
On charge la test pattern dans le cue 2.

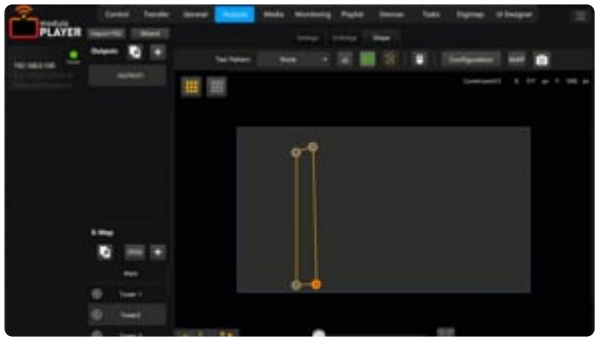
On peut voir que les X-Maps sont importés et on reconnait la forme du château.



On peut passer en mode Map, et cliquer sur l'appareil photo pour voir la zone extraite par chaque X-Map.



On peut ensuite caler chaque X-Map.
On pensera à utiliser le mode Solo pour ajouter au fur et à mesure du calage les X-Maps un par un.
Pour certaines formes, le mode Keystone sera suffisant. Pour d'autres, il faudra passer en mode Curve et incrémenter petit à petit le nombre de points de contrôle.



Création playlist

Nous allons ensuite créer la playlist de show.
On ajoute 2 autres cues.
On laisse le cue 3 vide, et on ajoute le média castle-1-UV ainsi que le fichier son associé dans le cue 4.
On met un temps de Fade In de 2 secondes sur ce cue.

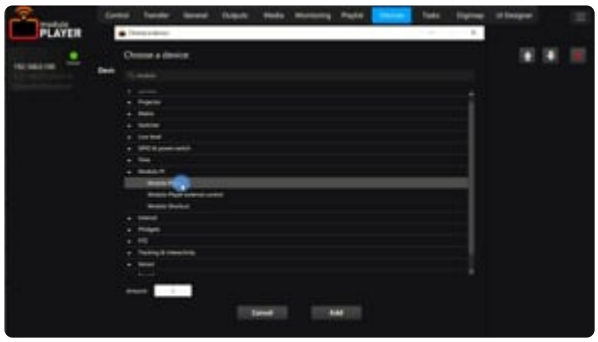
On va ajouter un Fade Out au cue 4.
On ajoute un cue 5 vide que l'on nomme FADE OUT.
On met en trigger sur le cue 5 un follow pour enchaîner automatiquement à la fin du cue 4 vers le cue 5.

On va utiliser le copier/coller pour dupliquer 2 fois les cues 4 et 5.

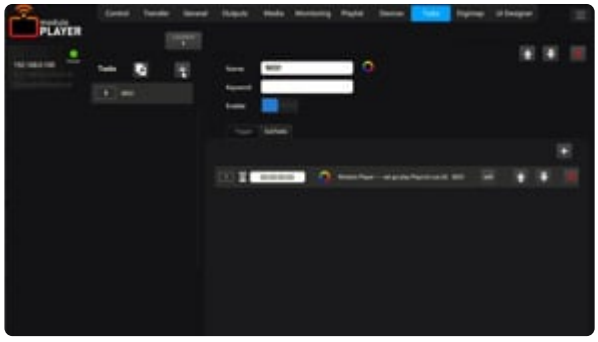
On remplace les médias par les séquences 2 et 3 respectivement.

Device – ajout d’un device Modulo Player

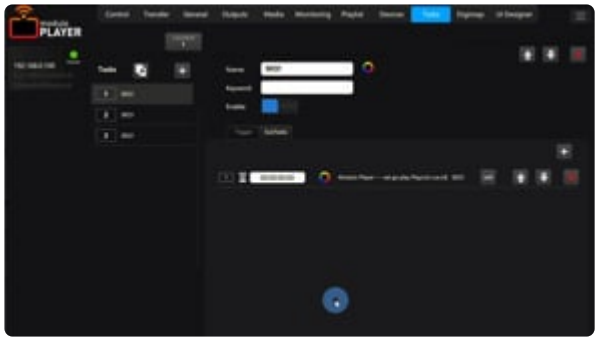
On va maintenant ajouter un device Modulo Player.



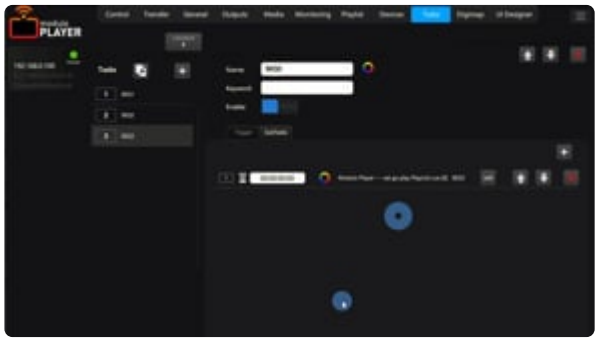
On peut ensuite créer une task.
On ajoute en subtask le device Modulo Player et on choisit l’action go cue.



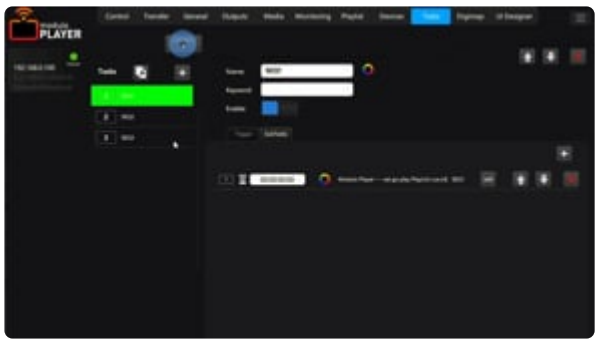
On utilise le copier/coller de task pour dupliquer 2 fois la task créée précédemment.



On modifie les deux nouvelles tasks pour lancer respectivement la séquence 2 et la séquence 3.

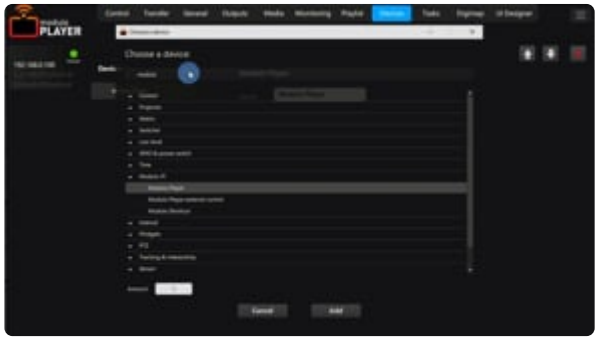


On clique sur la première task et on appuie sur Launch. La séquence 1 se lance alors.

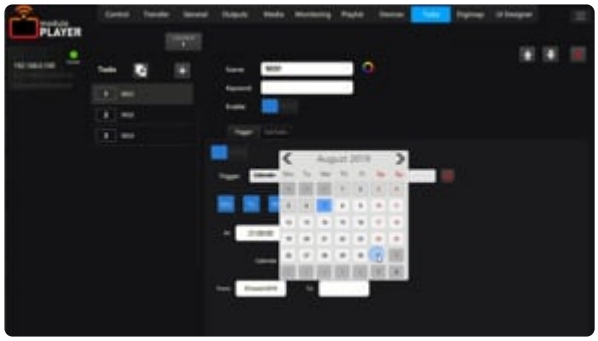


Device – ajout d’un device Calendar

Nous allons maintenant ajouter un device Calendar.



On va ensuite utiliser ce device Calendar comme trigger pour déclencher la première task.



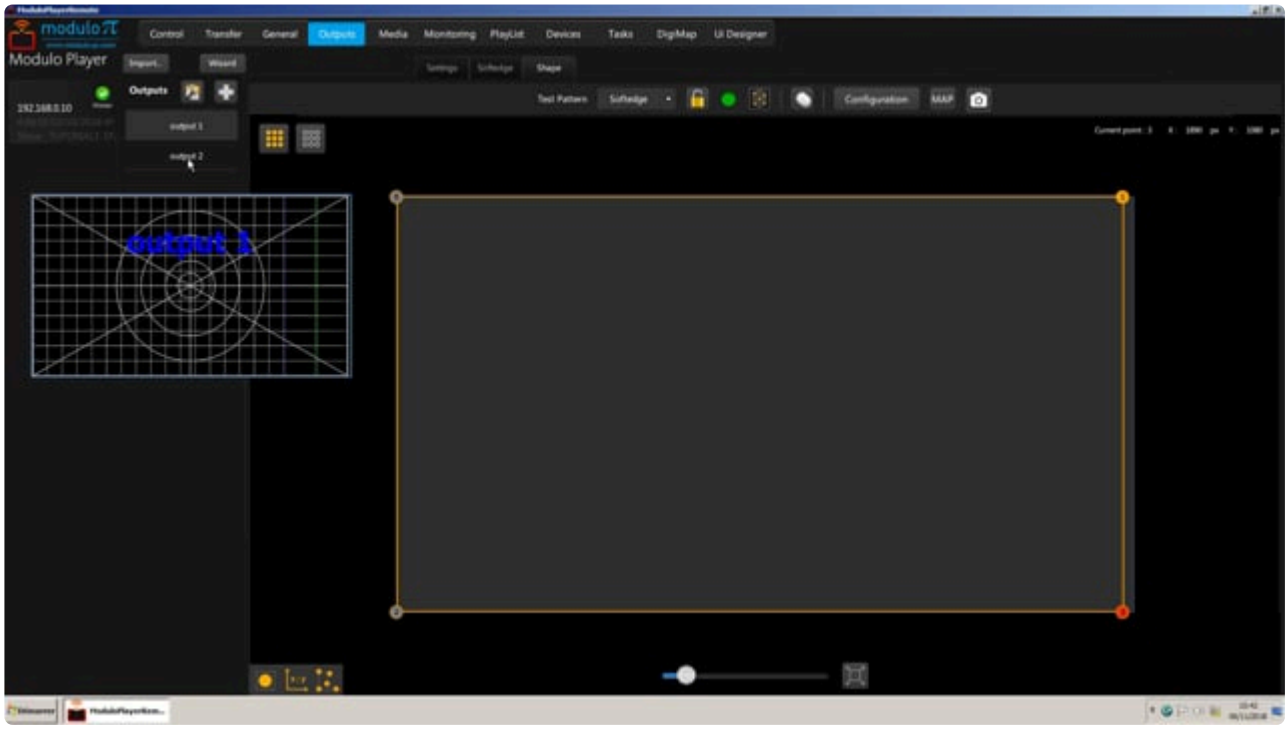
Tutoriels vidéo

Découvrez un ensemble de tutoriels vidéo en français pour vous accompagner pas à pas dans l'utilisation des fonctionnalités clés de Modulo Player.

> ! Si vous utilisez Modulo Player Lite sur votre ordinateur portable, veuillez noter que certaines fonctionnalités ne sont pas disponibles (hardware dependant). Par exemple, il n'est pas possible d'utiliser les EDID, Eyefinity, carte de capture SDI & HDMI.

Création 1er show

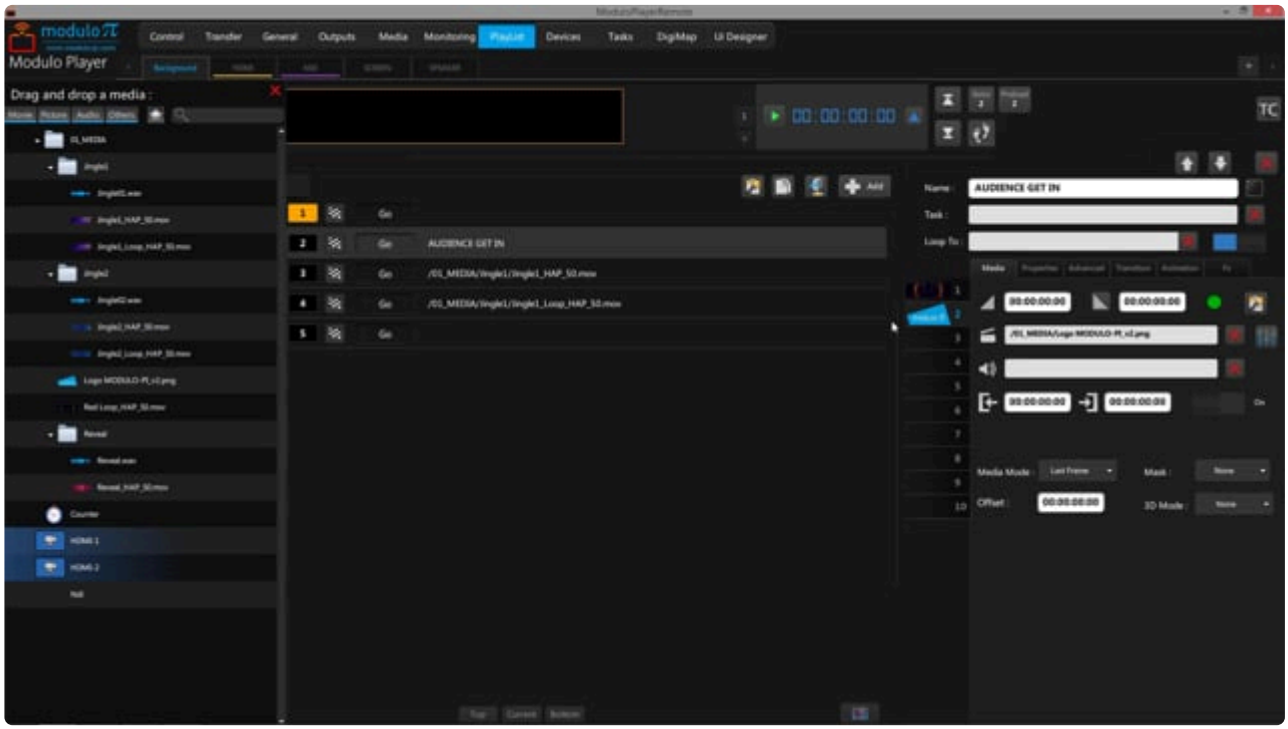
Création premier show :



Vous pouvez télécharger le pack de média ici

Travailler avec les playlists

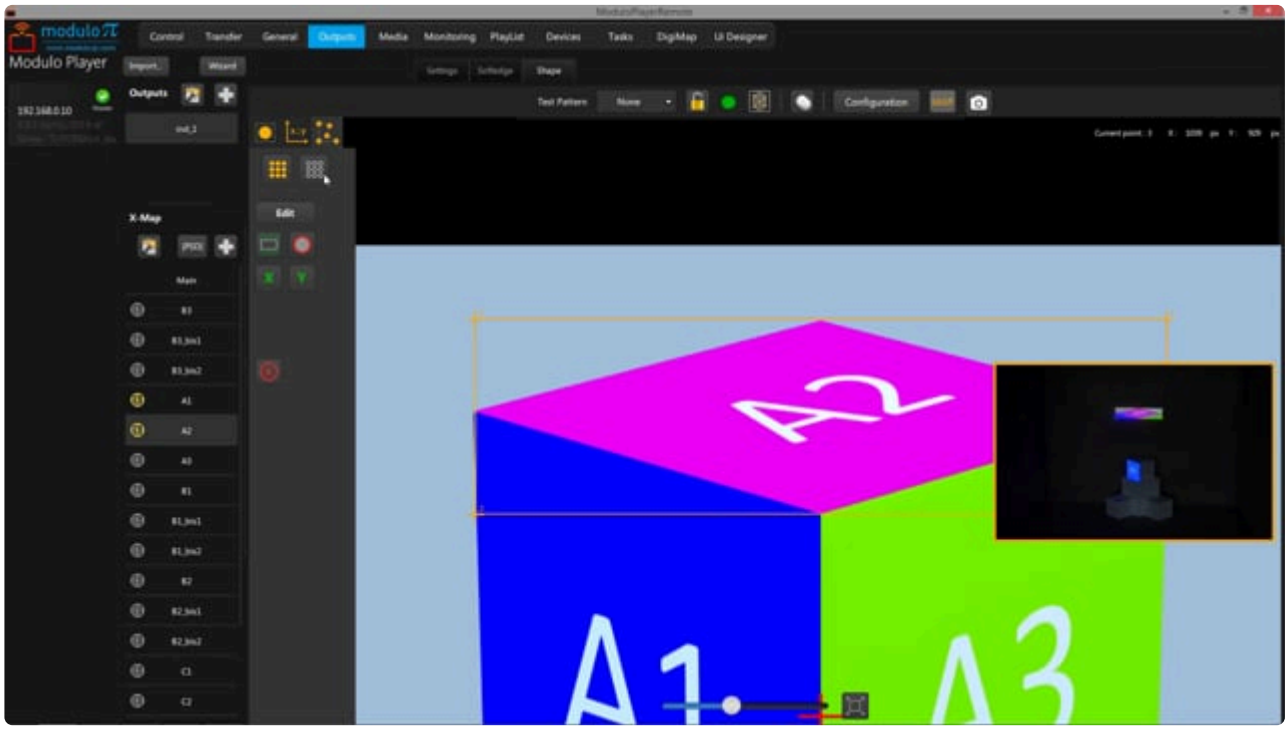
Travailler avec les playlists :



Vous pouvez télécharger le pack de média ici

Fonction X-Map

Fonction X-Map :

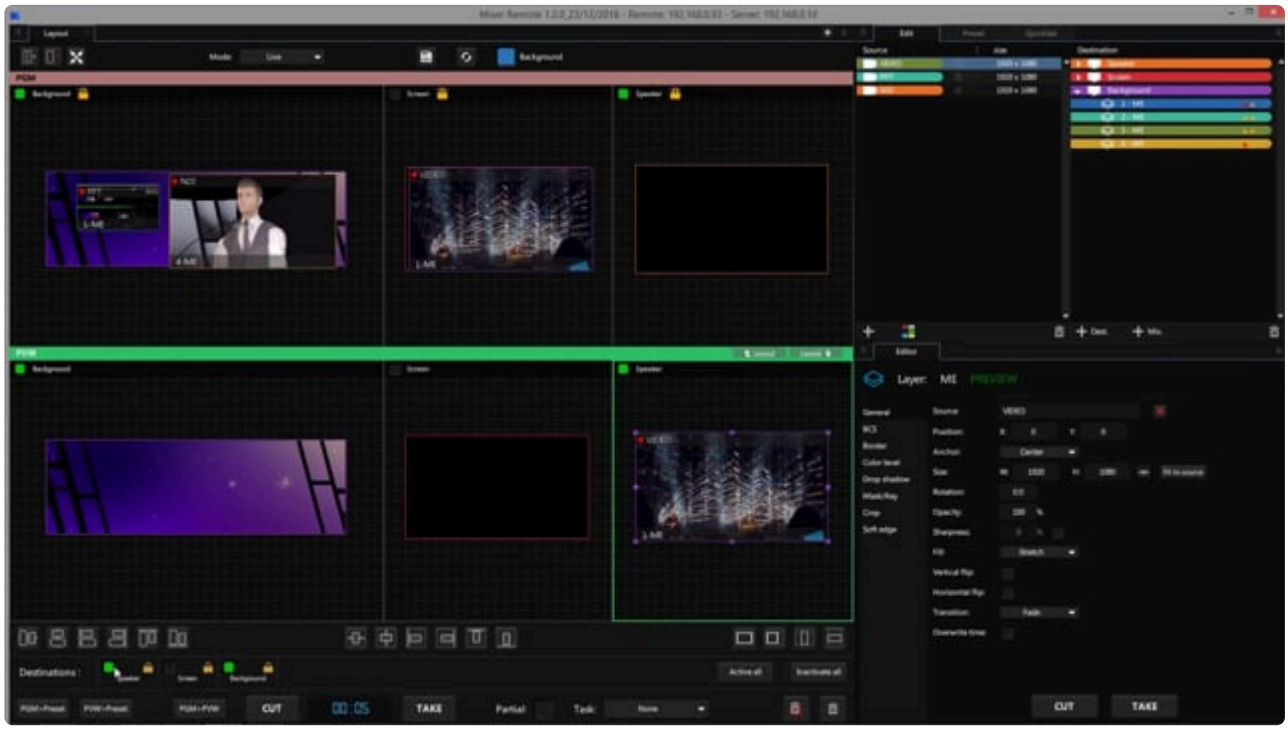


Si vous voulez imprimer le modèle 3D, voici le lien vers le modèle STL.

Vous pouvez télécharger le pack de média ici

Live mixer (Partie 1)

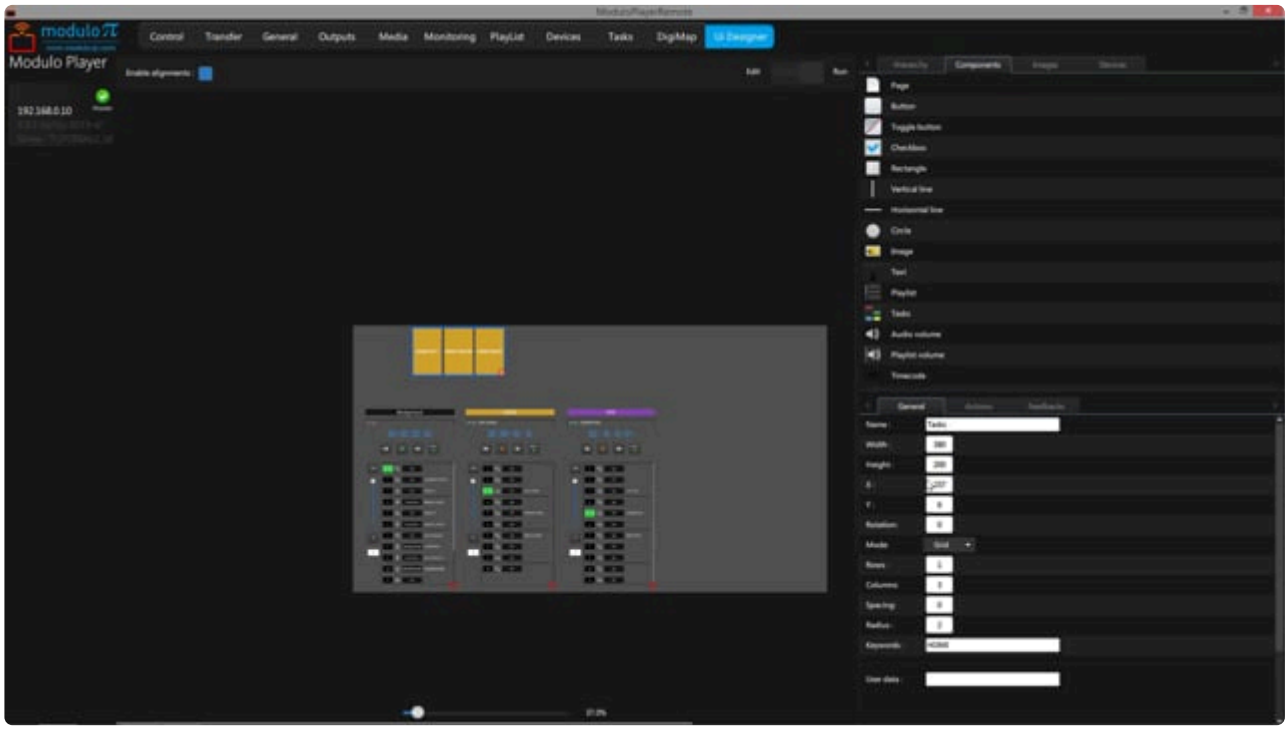
Live Mixer



Vous pouvez télécharger le pack de média ici

UI Designer

UI Designer :



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Webinars – English

Modulo Player, the webinars

Discover a series of webinars highlighting some specific topics on Modulo Player.

Intro to Modulo Player and Modulo Kinetic

An introduction to Modulo Player and Modulo Kinetic:

This webinar offers an introduction to our media servers: Modulo Player and Modulo Kinetic.

To easily navigate through the video, see the menu below:
0:00 – Introduction
1:50 – Modulo Pi in brief
3:31 – Introduction to Modulo Player
5:34 – Demo of Modulo Player
35:00 – Demo of the live mixer (embedded in Modulo Player + Modulo Kinetic)
40:18 – Introduction to Modulo Kinetic
44:00 – Demo of Modulo Kinetic
1:08:22 – Useful links

Access the presentation: **An introduction to Modulo Player and Modulo Kinetic**

Presentation + demo of Modulo Player

Presentation + demo of Modulo Player:

This webinar offers a presentation of Modulo Player, our cost-effective media server solution.

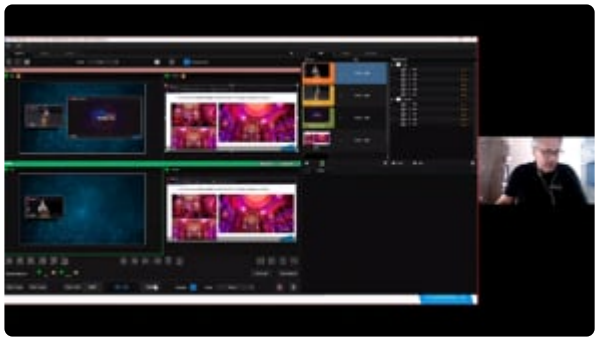
To easily navigate through the video, see the menu below:
0:00 – Introduction
1:45 – Modulo Pi in brief
3:16 – Introduction to Modulo Player
4:34 – Demo of Modulo Player
5:50 – Transfer tab
10:04 – General tab
11:42 – Outputs tab: outputs creation, classic warping, X-Map function
28:32 – Media tab
30:06 – Monitoring tab
33:22 – Playlist tab
43:00 – Devices tab for automation
46:23 – Tasks tab for automation
49:56 – Embedded live mixer
1:06:00 – Digimap tab for simple interactivity
1:11:45 – UI Designer to create user panels
1:16:06 – EShop and useful links

Access the presentation: **Presentation + demo of Modulo Player**

Embedded Live Mixer and Stream Deck

Presentation and demo of Modulo Pi's embedded Live Mixer and Stream Deck:

This webinar offers a presentation and demo of the low-latency live mixer embedded in Modulo Player and Modulo Kinetic.
It also presents how the full integration of Stream Deck provides easy presets management.



To easily navigate through the video, see the menu below:
0:00 – Introduction
1:20 – Modulo Pi in brief
2:29 – Introduction to the embedded Live Mixer
4:42 – Live Mixer – Demo on Modulo Player
28:18 – Presets management using Stream Deck control pads
33:55 – Live Mixer – Quick demo on Modulo Kinetic
35:39 – EShop and useful links

Access the presentation: **Presentation + demo of Modulo Pi's embedded live mixer**

Webinaires – Français

Modulo Player, les webinaires

Découvrez une série de webinaires pour vous accompagner sur des points d'utilisation spécifiques de Modulo Player.

Devices DMX et consoles lumières

Modulo Player, devices DMX et consoles lumières :

A travers ce webinaire, découvrez comment travailler avec Modulo Player, des devices DMX et des consoles lumières.

Pour naviguer plus facilement dans cette vidéo, retrouvez le sommaire minuté :
0:00 – Introduction
2:14 – Protocole IP
3:34 – TCP/UDP
4:27 – Le DMX
6:15 – Le Art-Net
7:12 – Réglage réseau de Modulo Player
12:54 – ModuloDmxTool
14:10 – Envoi de DMX : valeur, presets, recorder
30:15 – Le Timecode Art-Net
33:20 – Réception DMX : Task, Digimap et Auto-Digimap
46:11 – Liens utiles

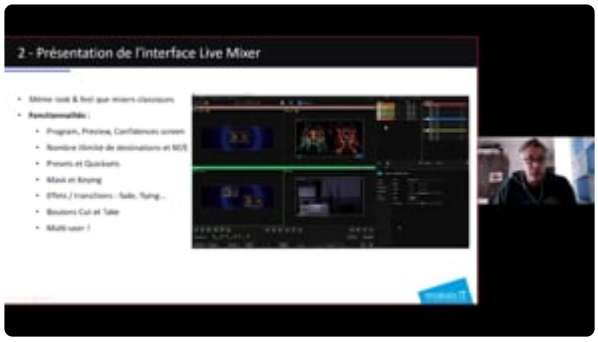
Accédez à la présentation du webinaire : **Modulo Player – Devices DMX et consoles lumières**

Live mixer embarqué et Stream Deck

Modulo Player, Live mixer embarqué et Stream Deck :

A travers ce webinaire, découvrez comment utiliser Modulo Player et son live mixer embarqué.

Vous verrez également comment utiliser le Stream Deck pour une gestion simple et rapide des presets.



Pour naviguer plus facilement dans cette vidéo, retrouvez le sommaire minuté :
0:00 – Introduction
1:03 – Live Mixer – Introduction
4:36 – Présentation de l'interface Live Mixer
5:58 – Présentation de l'intégration Stream Deck
7:05 – Création de sources live et background + réglages
16:28 – Création de destinations
20:18 – Création de M/E
22:50 – Utilisation des quicksets
24:10 – Presets et effets de transitions
29:20 – Utilisation du mode background
34:01 – Rappel de presets
34:45 – Effet de transition : Flying
38:10 – Modes d'affichages et layouts
39:32 – Gestion des presets via le Stream Deck
47:10 – Liens utiles

Accédez à la présentation du webinaire : **Modulo Player – Live Mixer embarqué et Stream Deck**