modulo KINETIC

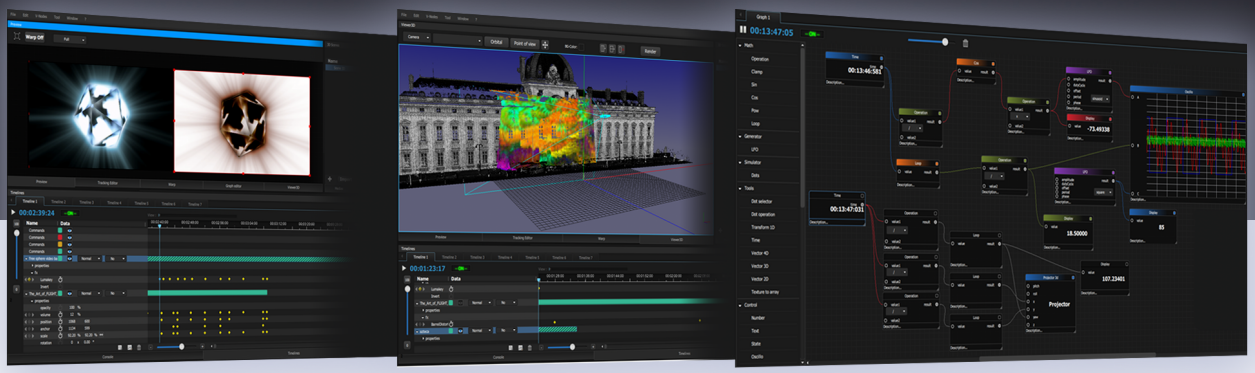
BY DEVELOPERS, FOR CREATIVE PEOPLE

Our high-end advanced toolbox for real-time video and interactivity.

Modulo Kinetic is our flagship video solution and helps you merge different video approaches into one coherent environment.
User-friendly Modulo Kinetic Designer is the perfect tool for creative agencies, technicians, and technical providers.
Use Modulo Kinetic across your complete workflow: study, simulation, media creation, encoding and playback.

- Non-linear, real-time timelines editing with key frames.
- Low-latency live real-time mixer.
- Advanced real-time 3D engine.
- Projection study and simulations in 3D.
- Interactivity with easy-to-use nodal programming.
- Advanced 2D warping with our innovative X-Map feature.
- 3D projector calibration.
- Easy-to-use show control : devices, tasks, digimap.
- Design your own user interface.
- Easy-to-use automatic master/slave backup switch.

Hardware conceived and manufactured for the highest performance.



Our product line has a wide range of applications and perfectly suits both permanent installations, such as shows, museums, outdoor video projections, exhibits, theme parks, as well as live events, such as corporate events, theatre, opera, concerts, tours, dance shows and musicals.

modulo KINETIC

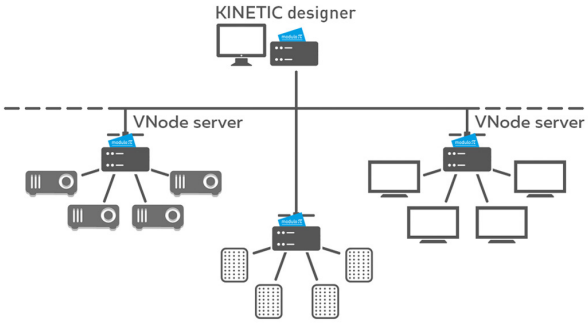
BY DEVELOPERS, FOR CREATIVE PEOPLE

Kinetic Workflow

Modulo Kinetic is a complete solution for video with an easy to use workflow. Modulo Kinetic Designer allows you to prepare and distribute media from a unique interface to all your Modulo VNode servers connected to the same network.

Encode your show on Kinetic Designer: add media contents, 3D scenes, prepare your composition, add interactivity. You need after that to add VNodes in your show and you can control seamlessly all the VNodes connected.

Modulo Kinetic Designer allows you to prepare your show offline without any VNode connected. You can easily prepare a 3D simulation to previsualize the result for your customers.



Intuitive Designer Interface

We took a particular attention to the design of the graphical user interface. We created a user friendly and modern environment, to help you effortlessly find all the features, without spending time on a chancy and complex software.

Encode your show smoothly thanks to the quick access of informations and monitor them during playback.

The 2D compositing engine takes the classic behaviour of non linear editing solutions to ensure a fast learning path for creative people.

We have created several themes to adjust to the ambient lighting conditions and help you to work smoothly with your environment: for example a light theme when you work at your office, and a dark theme for rehearsal and show.

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

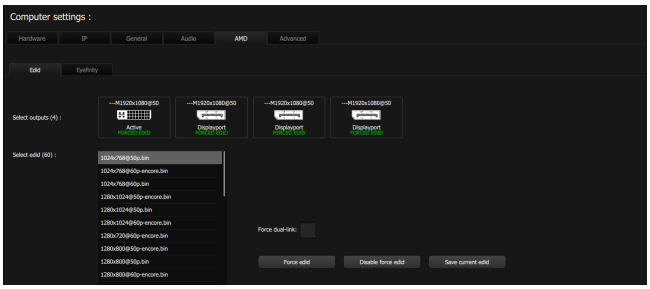
Easy Setup

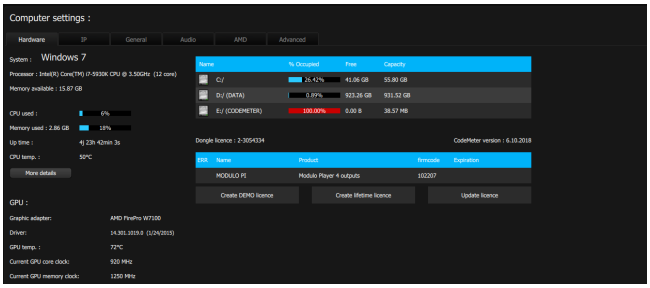
Easy to use, the Kinetic Designer application allows you to setup your server outputs remotely in one click. Force EDID to your outputs, save incoming EDID of your displays. Once your resolution set, you can work with an extended desktop (Eyefinity) for more than one outputs.

From the remote settings you can configure every parameter directly on the VNode servers, such as modifying IP address, audio outputs, cache folder, etc.

In the Hardware panel of the Kinetic Designer you can find all necessary information concerning your VNode servers: System, directories, FAN speed, temperatures, CPU and RAM usage as well as graphics card driver and BIOS version, to ensure a total hardware monitoring to prevent any trouble.

In order to protect your system against power failure, you can lock your server's OS.





Reliability

Modulo Kinetic is build on top of the powerful and stable Modulo Core Engine already available since years in the Modulo Player solution.

We work closely with some key hardware manufacturers (graphics cards, live capture cards) and we benefit a direct support from the driver developers.

Using an embedded Windows Seven X64, Modulo Kinetic is designed to highly resist in case of power failure which makes it especially trustworthy. We pay due attention to our hardware and software reliability and have it tested regularly.

Master / Slave: Auto Backup Switch

Our Master / Slave feature allows you to quickly switch from the master Kinetic Designer to the backup Kinetic in case of issue. The Backup Kinetic Designer replicates any manual show command and the integrated watchdog triggers a task in case of failure on the main system.
Add a spare VNode on your show : The spare will automatically and instantly replace another VNode in case of failure and switch your matrix switcher accordingly.

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

Media

Modulo Kinetic can play smoothly up to 4K H.264 sequences. It also supports MPEG2 files up to 4K.
Playback HAP, HAP Alpha and HAP Q files to allow very big resolutions with low CPU overhead.
It handles most common still-image file formats such as .png, .jpg and .tiff files.
You can also playback Apple ProRes to ensure the maximum quality and have a direct worflow.

Import directly multilayer Photoshop files and drag & drop as separate layers in your timeline.

Play audio embedded with your video or uncompressed audio (aiff, wav). You can affect each audio channel and assign it to one or several outputs in order to control audio rendering in the finest way.

Add and customize text (scrolling or still) as media.

Generate timecode, countdown media in real-time with easy to use editors.

Capture media streams from Spout sender, NDI source, etc.

As an option, you can playback uncompressed TGA still-image sequences to ensure a perfect quality and the best user experience.

To help you organise your project, you can arrange media in virtual folders.

Low Latency Live Capture

Combined to a specific capture card HDSDI or HDMI/DVI, Modulo Kinetic enables you to add live capture with low latency in your events.

Auto detect your inputs, force EDID on HDMI card directly from the user interface.

Monitor your incoming streams, in a separated Monitoring display. Arrange all your inputs in custom mosaic presets.

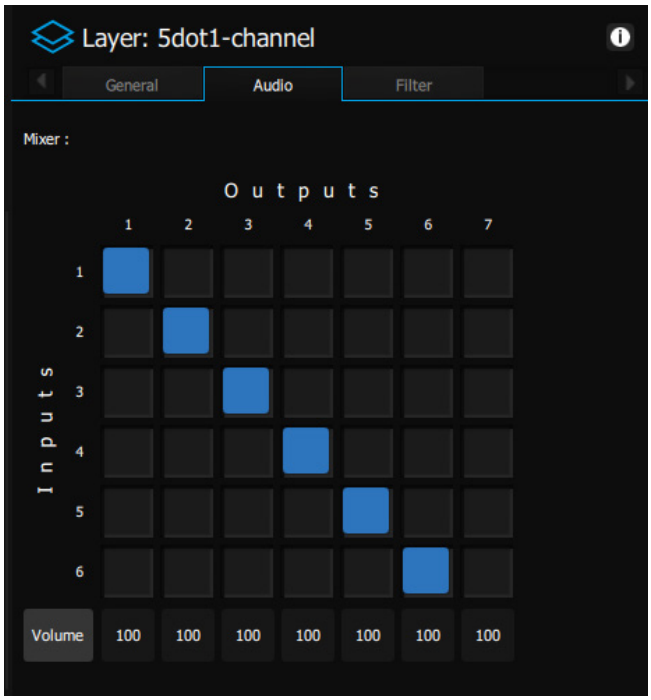
modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

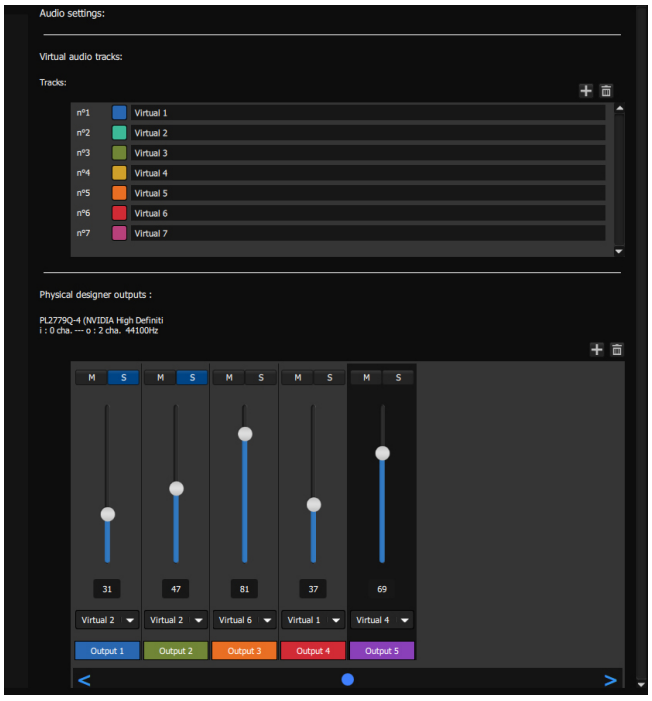
Audio

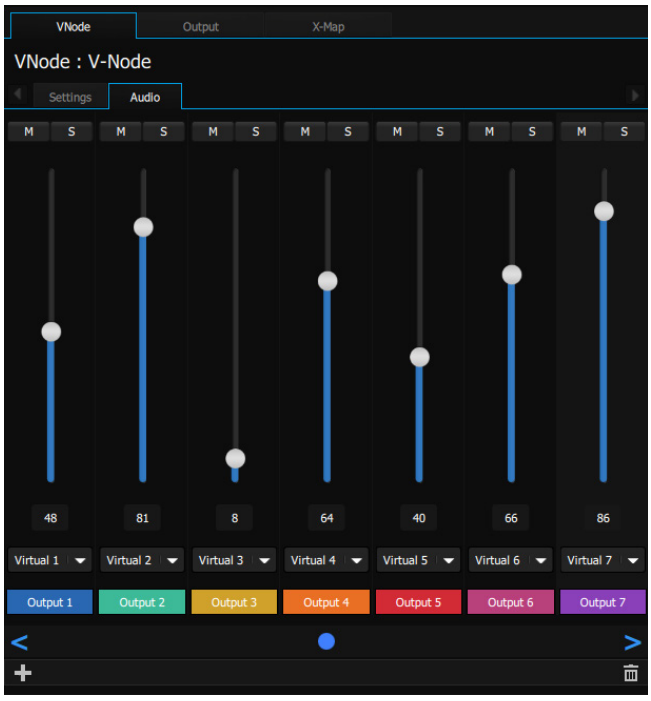
We took special consideration for audio: you can use our advanced patch feature with level control for each channel in the timelines. An easy and versatile virtual audio mixer system allows you control and automate the level of each channel.

Patch any virtual audio channel to a real audio output of the Kinetic Designer and/or of the Kinetic VNode.

Thanks to ASIO protocol support, Modulo Kinetic allows you to play multichannel audio with any professional soundcard.







modulo KINETIC

BY DEVELOPERS, FOR CREATIVE PEOPLE

2D Real-time Compositing

Unlimited independent timelines with unlimited layers.

Drag & drop media in the timelines and animate them.

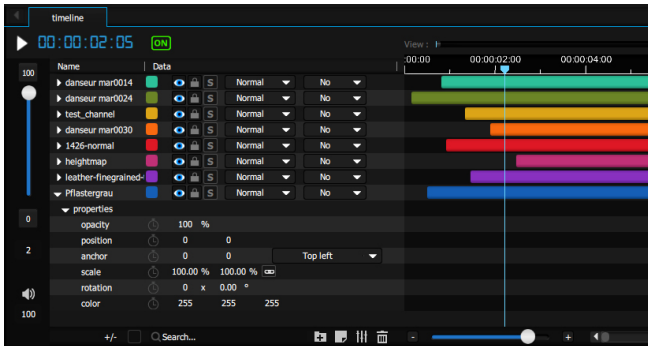
Full control on all parameters including: position, scale, rotation, advanced color control, soft crop, sharpness, border/drop shadow, warping, GPU Fx (more than 50 Fx). You can animate all of them using key frames.

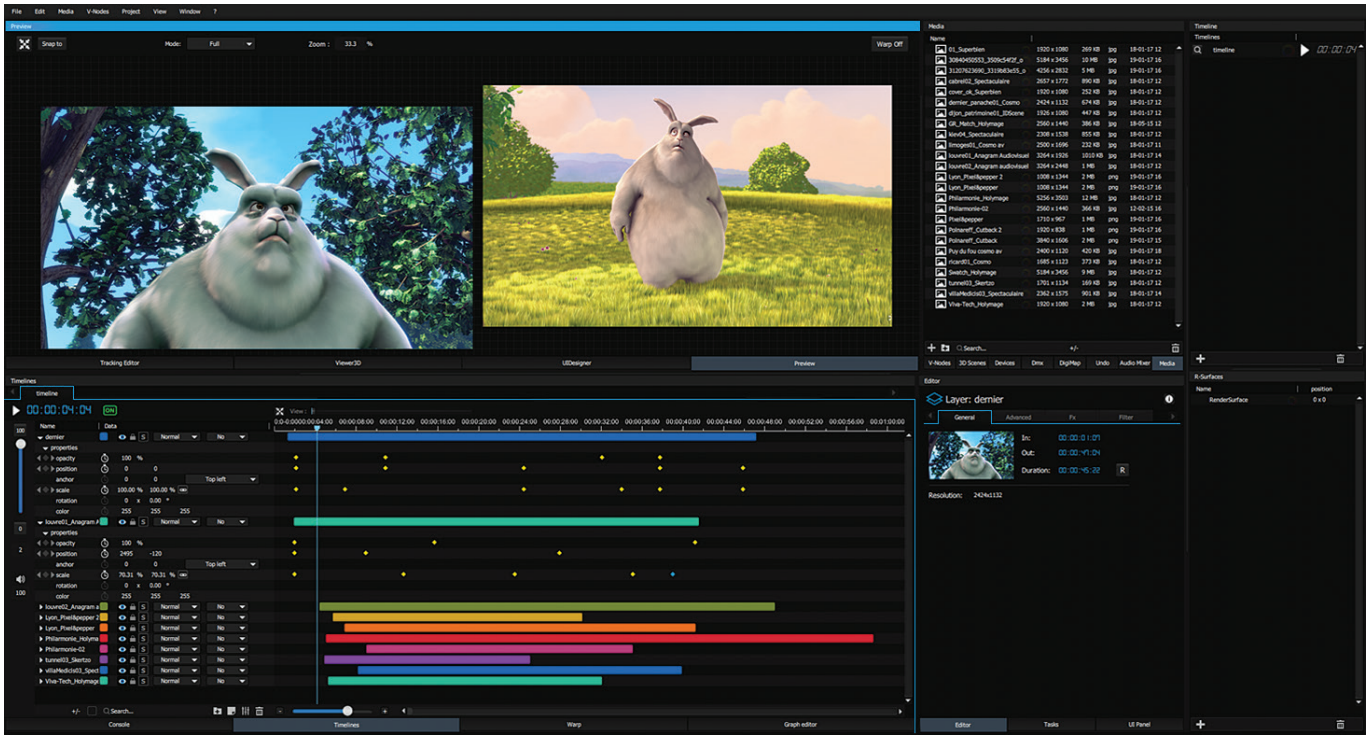
The Preview panel allows you to display the content of your timelines.

Create any number of render surfaces to render the compositing. Use them in our 3D engine (as texture, or stream for a virtual projector) as a real-time composition in the timeline.

Drag & drop devices on the layers to interact with them and add control commands (Loop/Pause/Stop) in one click.

Drag & drop cameras/projectors from the 3D scene in your timeline.





modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

3D Engine

Kinetic Designer is the perfect tool for simulation and visualisation.

Create as many 3D scenes as you want.

Import complete scenes or meshes (Collada DAE, FBX, Obj, ...)

Import directly point cloud files and add virtual projectors to help you for your study.

Create in Kinetic human prefabs, cube, sphere and various 3D objects.

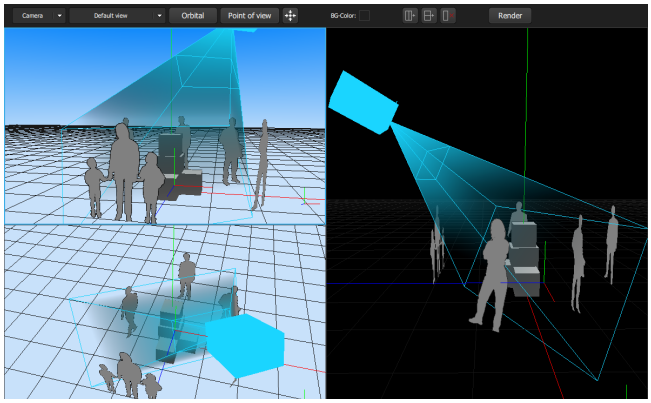
Create and save as preset virtual cameras and projectors to simulate the real point of view.

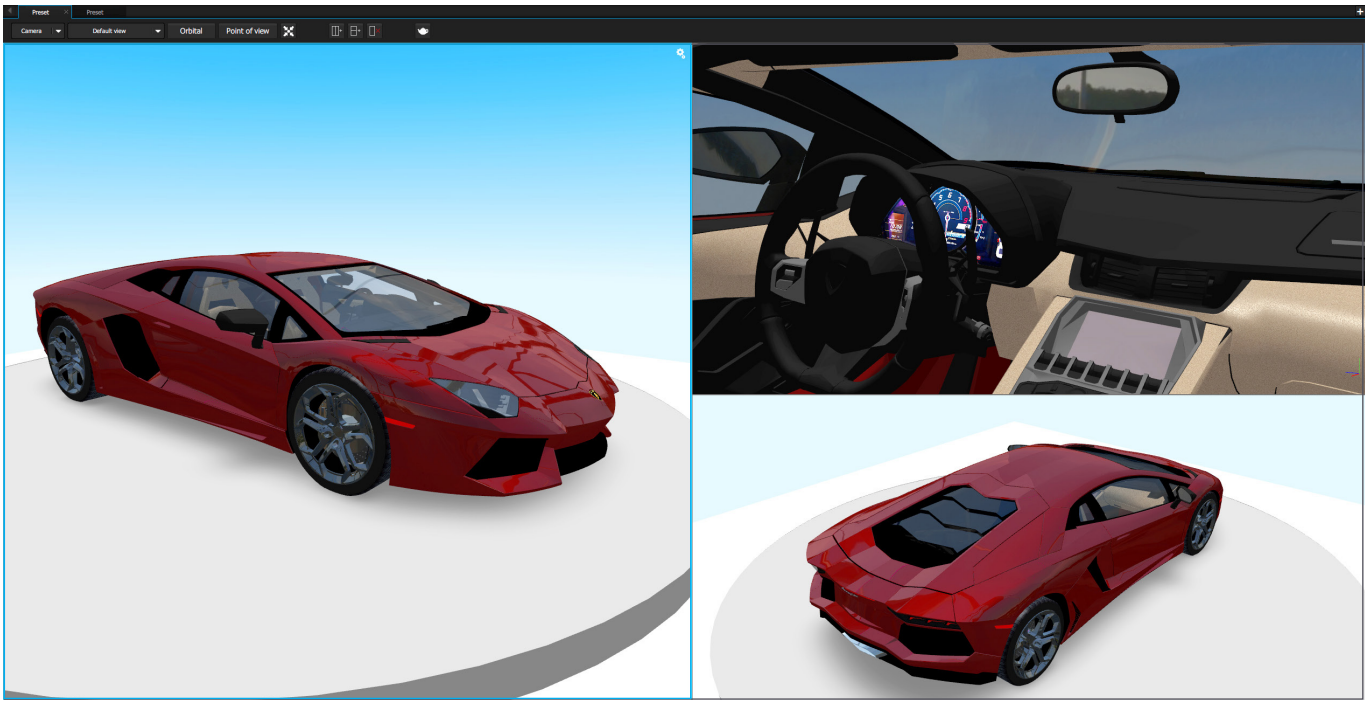
Display beam of the virtual projectors or drag & drop a render surface to simulate a projection from the virtual projectors.

Render directly a 2D surface through a virtual projector or as a UV Map on a mesh.

Automatic dynamic softedge blending between projectors.

Auto calibrate your projectors with a 2D/3D correspondence points.





modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

3D Materials

Via our 3D engine, visualize in real-time 3D models with multi-texture materials. Add diffuse, specular, height map, shininess, opacity, reflection, normals, ...

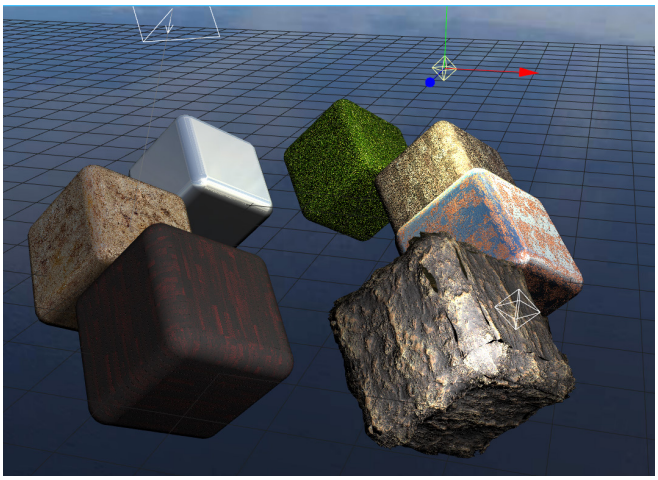
Use them to render more realistic scenes for client presentations, or as a camera/projector view in timeline for interactive mapping.

Replace any texture material with one render surface to dynamically change texture via our 2D compositing engine (timelines).

Import Substance Designer & Painter asset from Allegorithmic as a 3D material and interact with the parameters in real time for more advanced and realistic 3D materials.

Lights

Add 3D lights (point light, spotlight, directional light) and interact with them using the nodal programming.



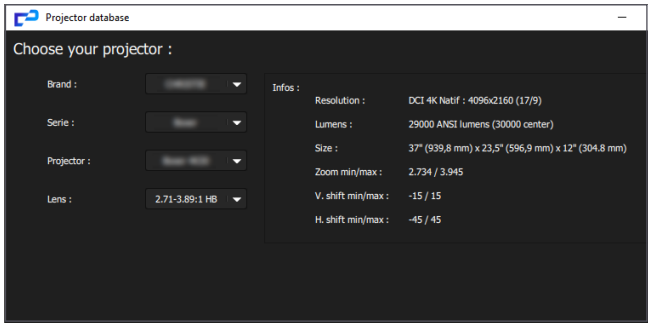
modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

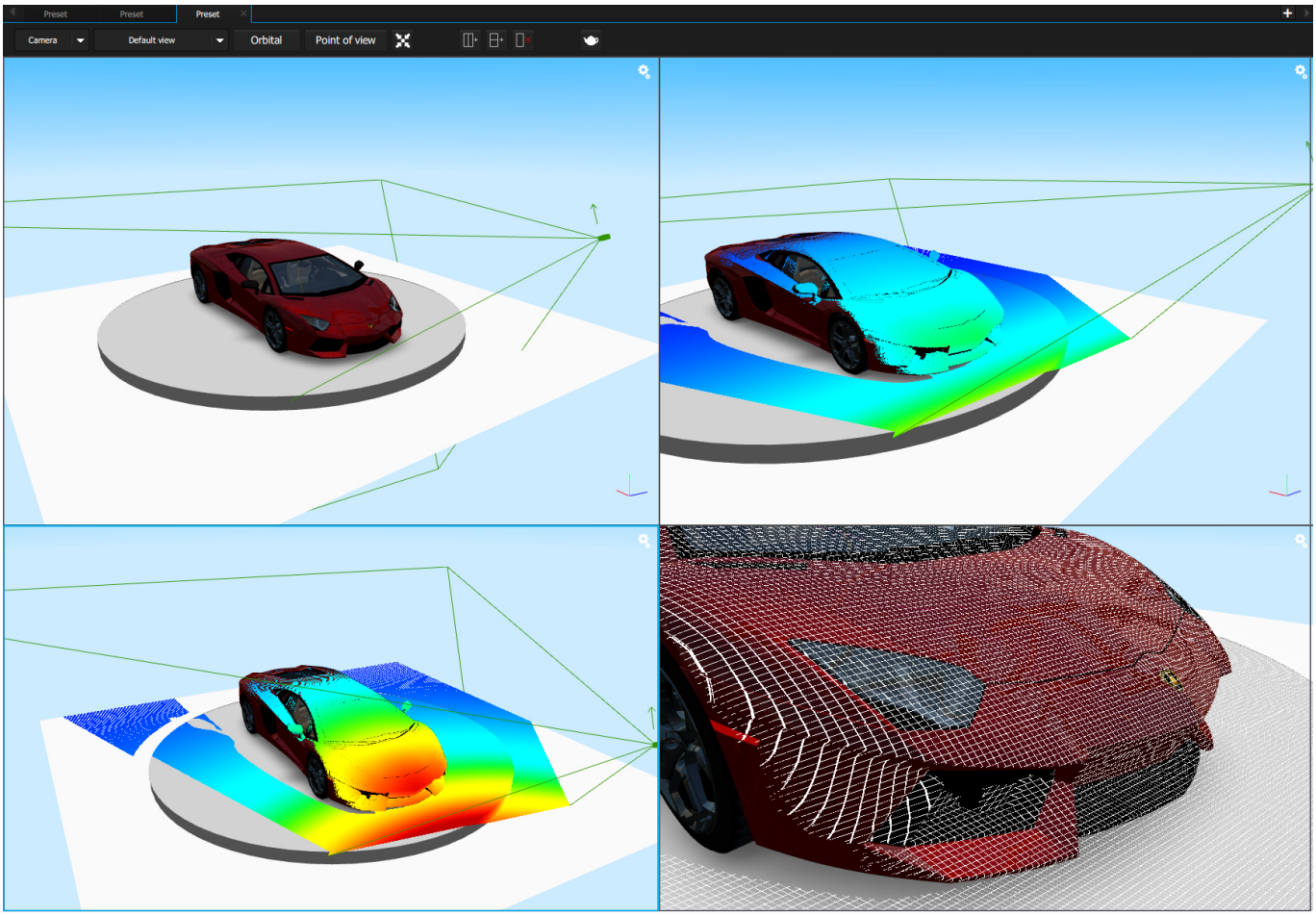
Projectors Simulation

Add virtual video projectors to your 3D scene or real ones using our internal database. Affect a compatible lens and adjust all other parameters like throw ratio or shift in their respective range according to the manufacturer's specifications.

Projectors database includes 5 brands, more than 200 projectors and over 190 lens with all their characteristics (shift, throw lens, resolution, lumens...) for simulation/projector study.

Switch from standard view to study mode and display projector intensity as a heat map (Lux), estimate the pixel density on the surface and display the projector pixel grid to help you in your implantation.





modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

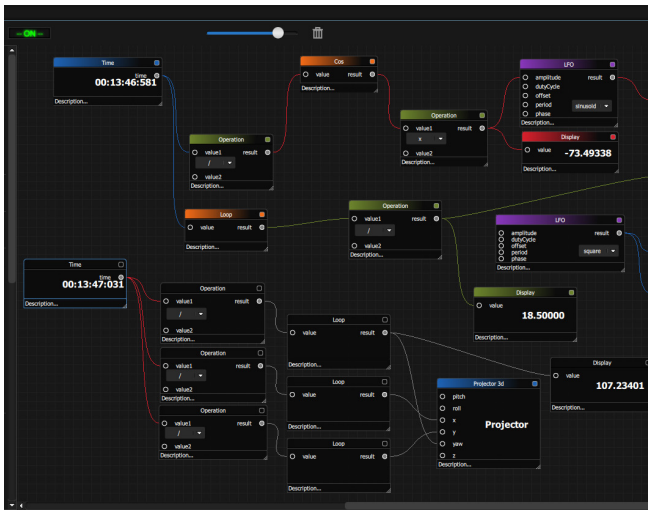
Interactivity and Nodal Programming

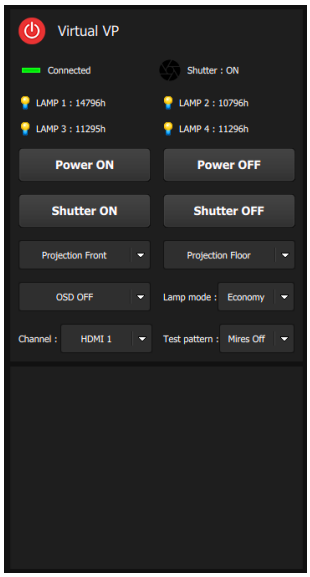
Use our nodal panel to create amazing interactive things.

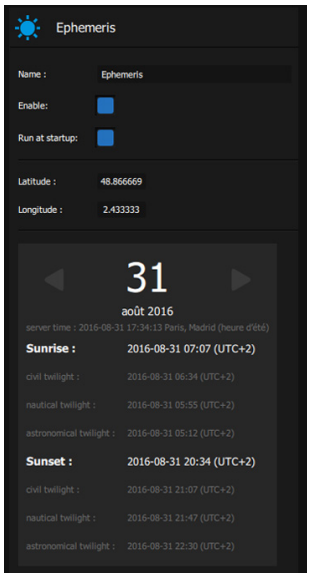
Drag & drop parameters from timeline and/or 3D engine in the Nodal Editor to control them real-time.

Drag & drop Devices to receive or send data from the nodal panel.

Track the position of a moving object and control your 2D compositions or 3D scenes from the nodal panel.







Device Show Control

Kinetic can work in pairs perfectly with an external show control however it includes an embedded one.

This way you can specify automation of tasks related to the projectors, monitors, servers, auto start, etc... directly in Modulo Kinetic.

Modulo Kinetic allows you to control a large number of devices (projectors, video controller, matrix switcher, GPIO, power switcher) using a dedicated interface.
You can monitor the status of your Projectors.

Modulo Kinetic supports the following protocols (non exhaustive list):

- DMX Art-net,
- Midi,
- OSC,
- LTC Timecode,
- MTC Timecode,
- Ethernet TCP/IP
- UDP, Serial...

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

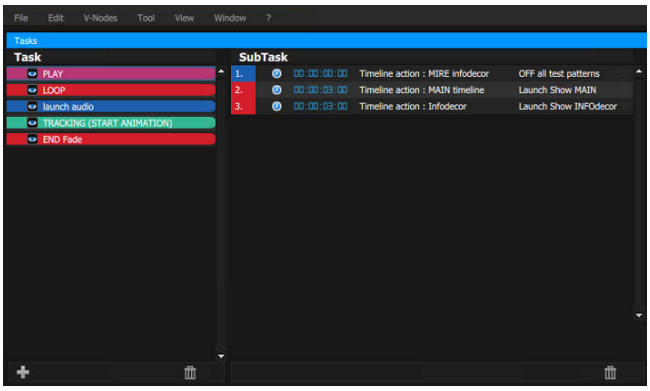
Task show control

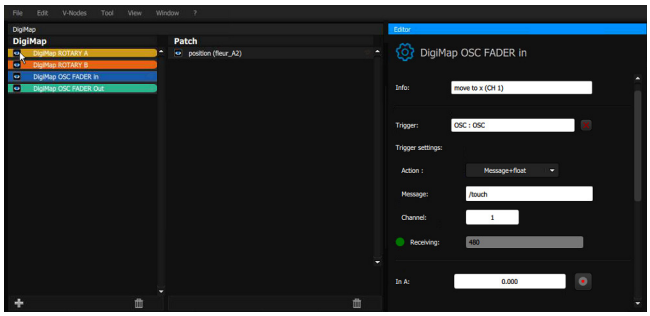
Create tasks to control your show and automate actions.

You can launch tasks automatically via the kinetic interface, by using a midi device or by enabling other devices as triggers.

Launch tasks manually or drag and drop them to timelines.

You can also launch tasks from your tablet or Smartphone, using the Modulo Kinetic Panel application.





Digimap

Control parameters of the Timelines from the DigiMap panel.

Add a device as trigger (such as OSC, Rotary IP, midi, etc) and drag & drop parameters from the Timelines or 3D Scenes in the Patch tab.

Select an action and calibrate the patch.

This way you can create your own patches, to add interactivity or automations to your show.

You can enable JavaScript to enter your own scripts for a more advanced DigiMap patch.

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

Outputs

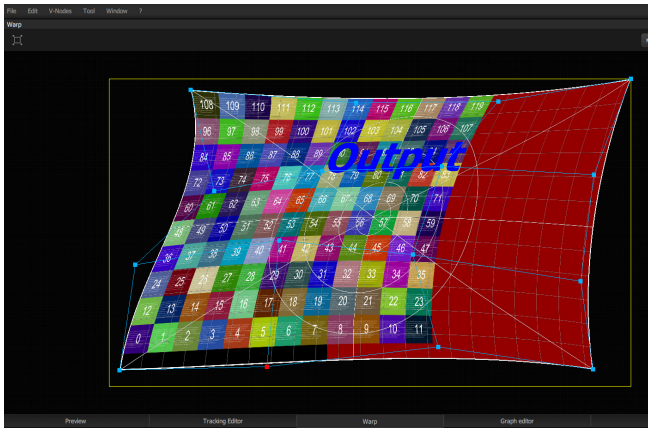
You can mix both 2D and 3D ways for warping and blending:

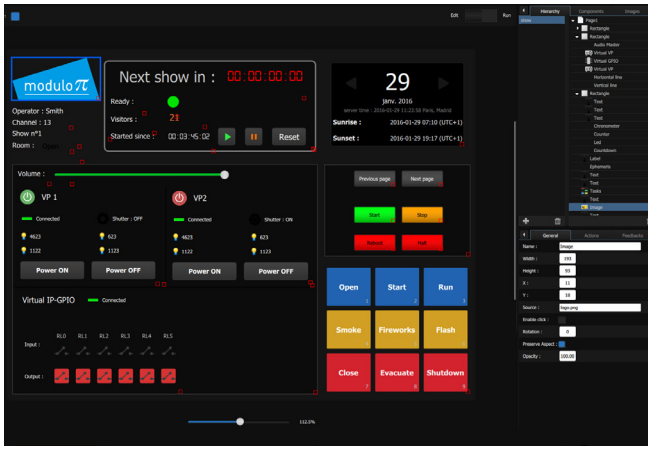
2D X-Map: Modulo Kinetic has a unique and innovative advanced warping feature that allows you to perform accurate advanced warping on your projects. This feature enables you to set up a Photoshop file, split in several layers and masks. Each layer contains a part of the scene with a non rectangular shape. Once you have imported the Photoshop file into Modulo Kinetic, you can warp and blend on each layer or masks apart from the others. Create your own masks using X-Map.

3D Calibration: Auto calibrate your projector with a 2D-3D correspondence points.

Thanks to our multi user warp remote, you can use your notebook to perform accurately in situ 2D warping or 3D calibration process. Several operators can work together to speed up the calibration process.

Add Led Mapping DMX Screen: You can easily playback video content as DMX to control Led stripe using our accurate pixel perfect real-time GPU video to Art-net converter.





Custom User Panel

Create your own user panel and deploy it on Mac / PC / Android / iOS!

You can create as many custom user interfaces as you want.

Drag & drop your tasks, add buttons, text, image,...and configure their appearance, behaviour and actions.

Drag & drop your devices in the interface panel to control and monitor them.

modulo KINETIC

BY DEVELOPERS, FOR CREATIVE PEOPLE

FEATURES

TIMELINES: Infinite number of independent timelines, infinite number of layers per timeline.

SETTINGS PER LAYER: Position, rotation, scale, opacity, color, fade in/out, in/out video, media (movie, still image, sound), loop, transition, drop shadow, border, fx, advanced colorimetry, soft crop, progressive mask, clip, sharpness, warp.
Audio mixing.
All parameters can be animated using keyframes.

SYNCHRONIZATION: Designer/VNodes synchronization.
Optional genlock and framelock synchronization.
Optional synchronization with LTC[1] timecode, internal timecode or MTC[1] timecode.

3D ENGINE: Import 3D files: Collada .dae, .fbx, .obj, point clouds.
Create internal prefabs.
Simulate your projectors beam. Multiple presets of view.
Projectors database for simulation (shift, throw lens, resolution, ...) for the projector study.
Display Light intensity heatmap (Lux), pixel density heatmap and pixel grid on the 3D scene.
support Multi textured materials animated using the timelines.

SHOW CONTROL: Device control powered by automated tasks (Midi[1], video projectors, internal control, TCP/IP GPIO[1], counter, OSC, Art-Net DMX, matrix switcher, ...).
Trigger task launch: manually, from the timeline, from devices (TCP/IP GPIO[1], Midi[1], calendar, chronometer, countdown, counter).
Control your Modulo Kinetic with an easy TCP/IP protocol.

INTERACTIVITY: Advanced Nodal programming. Drag & drop devices, drag & drop timelines or 3D scene parameters in the Nodal panel to interact with them.

MEDIA

SUPPORTED MEDIA[2]: H.264(4.2.0); Mpeg2 (4.2.2); HAP, HAPQ, HAP Alpha
Resolution up to 4K or more depending on codec.
Framerate : 25P, 30P, 50P, 60P.
Multiplexed audio with video in H.264 and Mpeg2.

Apple ProRes

Uncompressed images sequence[3]: TGA, RGB.
Still images .png, .jpg, .tiff.

Multichannel audio files[4] (.wav, .aiff).

Optional low latency capture card[1] (HDSDI, DVI/HDMI).

OUTPUTS

RESOLUTIONS: Up to 2K or WUXGA on each output.

Optional 4K output.

OUTPUT TOOLS: Warp grid: keystone or curve, advanced soft-edge generation, test pattern, advanced color adjustment, still alpha mask per output, advanced X-Map for complex projection mapping. Brightness contrast saturation, sharpness / output.

Auto-calibration using 2D-3D correspondence points.

CUSTOM USER PANEL

Create your own user panel, deploy it on Mac / PC / Android / iOS !

[1]: subject to add an optional card/ interface
[2]: refer to the document 'Media Creation', downloadable from our site at Customer Area
[3]: available only on Ultra versions
[4]: 7.1 asymmetric audio output by default

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

VERSIONS

Modulo Kinetic offers differents type of hardware in order to perfectly correspond with clients' requirements.
We are listening to our clients' needs, so it is possible to customize our versions described below by adding a timecode card, a live capture card, additional storage capacity, etc.

CONTROLLER

This hardware is dedicated to the Kinetic Designer Interface. This powerful configuration allows you to control, simulate in 3D and pre-visualize your show. You can have up to 4 monitors connected to display your user friendly interface.

PRO

Modulo Kinetic Pro version supplies a powerful configuration with additional storage capacity. This hardware is perfect to handle events like corporate events or live. As an option you can add up to 3 dual inputs low latency capture cards.

ULTRA+

Modulo Kinetic Ultra version meets the most specific needs: uncompressed TGA still image sequences.

DESCRIPTIONS

Reference	Outputs	SSD	Processor	RAM	Graphics	Edid	Optional Capture Card	Uncompressed TGA
Kinetic Controller								
KI -CON		120 GB + 2 x 1 TB	i7-6 cores	4 x 4 GB	FireproWX7100	✓		
Pro								
KI-PRO-1	1	120 GB + 2 x 1 TB	i7-6 cores	4 x 4 GB	Firepro WX7100	✓	✓	
KI-PRO-2	2	120 GB + 2 x 1 TB	i7-6 cores	4 x 4 GB	Firepro WX7100	✓	✓	
KI-PRO-3	3	120 GB + 2 x 1 TB	i7-6 cores	4 x 4 GB	Firepro WX7100	✓	✓	
KI-PRO-4	4	120 GB + 2 x 1 TB	i7-6 cores	4 x 4 GB	Firepro WX7100	✓	✓	
KI-PRO-5	5	120 GB + 2 x 1 TB	i7-8 cores	4 x 4 GB	Firepro W9100	✓	✓	
KI-PRO-6	6	120 GB + 2 x 1 TB	i7-8 cores	4 x 4 GB	Firepro W9100	✓	✓	
Ultra +								
KI-UX-1+	1	120 GB + 8 x 1 TB	i7-8 cores	4 x 8 GB	Firepro W9100	✓	✓	✓
KI-UX-2+	2	120 GB + 8 x 1 TB	i7-8 cores	4 x 8 GB	Firepro W9100	✓	✓	✓
KI-UX-3+	3	120 GB + 8 x 1 TB	i7-8 cores	4 x 8 GB	Firepro W9100	✓	✓	✓
KI-UX-4+	4	120 GB + 8 x 1 TB	i7-8 cores	4 x 8 GB	Firepro W9100	✓	✓	✓

modulo KINETIC
BY DEVELOPERS, FOR CREATIVE PEOPLE

SPECIFICATIONS

Frame:	19-inch Rack 4U	
Dimensions:	with handles:	485mm x 176.80mm x 530 mm (WxHxD)
		19.10" x 6.96" x 20.87"
	without handles:	427mm x 176.80mm x 480mm (WxHxD)
		16.81" x 6.96" x 18.90"
Weight:		~18Kg/ ~40lbs
Packing:		545mm x 285mm x665mm (WxHxD)
		21.46" x 11.22" x 26.18"
		~20Kg/ ~44lbs

OPTIONS

Ref :	
SDI-3G-2	Live Card Capture 2 inputs HDSDI-3G
SDI-3G-4	Live Card Capture 4 inputs HDSDI-3G
SDI-3G-8	Live Card Capture 8 inputs HDSDI-3G
HDMI-4K-2	Live Card Capture 2 inputs HDMI
TC-PCIE-R	Timecode Card Reader Pcie
AMD-SYNC	AMD Genlock & Framelock Synchronisation Card