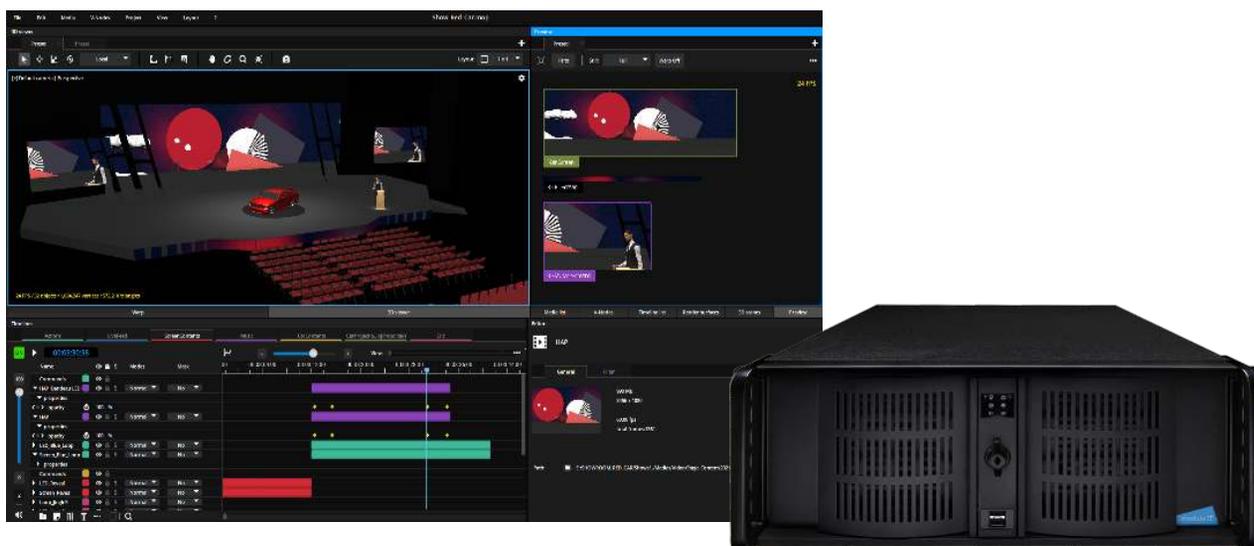


# Modulo Kinetic



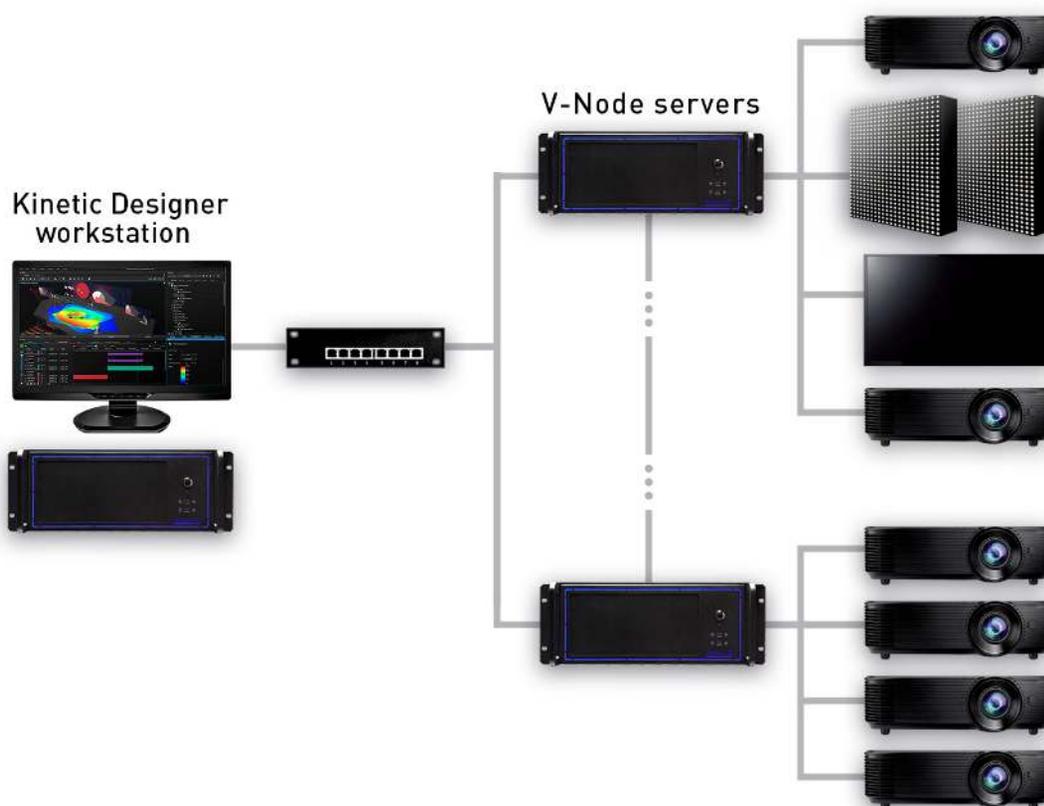
## The super high-end fully-integrated media server solution

Modulo Kinetic is the ultimate video solution tailored for the most challenging projects.

Reliable across the complete workflow, Modulo Kinetic enables study, simulation, show creation, encoding, playback and control,... all of it through one single box.

With its intuitive user interface and advanced innovative features, Modulo Kinetic offers unprecedented real-time 3D, interactivity, and tracking.

The platform relies on **Modulo Kinetic Designer**, a powerful user interface with a dedicated workstation, connected to one or several **Modulo Kinetic V-Node** media servers.



# Modulo Kinetic Designer

REF: KI-DES

## A powerful user interface with dedicated workstation

The Modulo Kinetic Designer is the cornerstone of your workflow. It comes with a dedicated workstation and powerful software. It can be used off-line for show study, simulation, and pre-encoding.

### Versions

#### Reference

KI-DES	2 TB PCIE NVMe SSD	250GB system SSD
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### Options

#### Reference

TC-PCIE-R	Time code reader card - Pcie	TC-USB-R	Time code reader card - USB
TC-PCIE-RW	Time code reader generator card - Pcie	KM-SOFT	KineMotion tracking add-on software

# Modulo Kinetic V-Node

REF: KI-VNO-1, KI-VNO-2, KI-VNO-4, KI-VNO-6, KI-VNO-2x4K, KI-VNO-3x4K, KI-VNO-4x4K

## Versatile media servers

One or several Modulo Kinetic V-Node servers can be connected to your Kinetic Designer. When connected to the V-Node, Kinetic Designer will automatically distribute the media content to the V-Node servers on the network.

### Versions

Reference	Physical outputs	Outputs	Storage Data
KI-VNO-1	4 x DP 1.4	1 output up to WQXGA <sup>(1)</sup>	2TB PCIE NVMe SSD
KI-VNO-2	4 x DP 1.4	2 outputs up to WQXGA <sup>(1)</sup>	2TB PCIE NVMe SSD
KI-VNO-4	4 x DP 1.4	4 outputs up to WQXGA <sup>(1)</sup> or 1 output up to 4K <sup>(2)</sup>	2TB PCIE NVMe SSD
KI-VNO-6	6 x mini DP 1.4	6 outputs up to WQXGA <sup>(1)</sup> or 1 output up to 4K <sup>(2)</sup>	2TB PCIE NVMe SSD
KI-VNO-2x4K	6 x mini DP 1.4	6 outputs up to WQXGA <sup>(1)</sup> or 2 outputs up to 4K <sup>(2)</sup>	4TB PCIE NVMe SSD
KI-VNO-3x4K	6 x mini DP 1.4	6 outputs up to WQXGA <sup>(1)</sup> or 3 outputs up to 4K <sup>(2)</sup>	4TB PCIE NVMe SSD
KI-VNO-4x4K	6 x mini DP 1.4	6 outputs up to WQXGA <sup>(1)</sup> or 4 outputs up to 4K <sup>(2)</sup>	4TB PCIE NVMe SSD

<sup>(1)</sup> 2560 x 1600

<sup>(2)</sup> 4096 x 2160

### Options

#### Reference

DELTA-2x3G	Live Capture 2 x 3G SDI
DELTA-1x12G	Live Capture 1 x 12G SDI + 2 x 3G SDI or 4 x 3G SDI
DELTA-2x12G	Live Capture 2 x 12G SDI + 4 x 3G SDI or 8 x 3G SDI
DELTA-4x12G	Live Capture 4 x 12G SDI or 8 x 3G SDI
DELTA-2xHDMI	Live Capture 2 x 4K HDMI 2.0
DELTA-MIXED	Live Capture 1 x 12G SDI + 2 x 3G SDI + 1 x 4K HDMI 2.0 or 4 x 3G SDI + 1 x 4K HDMI 2.0

#### Reference

AUTOCAL-1-OUT	Multi-projector auto-calibration module
TC-PCIE-R	Time code reader card - Pcie
TC-PCIE-RW	Time code reader generator card - Pcie
TC-USB-R	Time code reader card - USB

## Related products, software, and tools

[KineMotion](#): Real-time tracking module for creative & interactive visual experiences

[Auto-Calibration](#): Multi-projector auto-calibration module for planar, curved, and dome surfaces

[Modulo Kinetic Designer 2D](#): License for offline programming (requires [Modulo Pi key](#))

[Modulo Kinetic Designer 2D+3D](#): Monthly license for offline programming, study, and simulation (requires [Modulo Pi key](#))

[Kinetic Panel](#): Companion app to host and use your custom user panels on Mac, PC, Android or iOS devices

[Warp Remote](#): Companion app for flexible multi-projector edge blending, warping, and 3D calibration from PC/Mac

# Hardware specifications (Hardware Revision 2022-1)

**Operating System:** Windows 10 SAC x64

**RAM:** From 64GB to 128GB

**Storage:** 1 x SSD 250GB OS / DATA: Depending on version

**Processor:** AMD EPYC™

**LAN:** 2 x RJ45 10GbE

**Audio:** Add any USB or PCIE pro sound card

**USB:** 2 x USB 3.2 Gen 1 + 1 x USB 3.2 Gen 2 (C)

**Graphics Card:** AMD Radeon Pro

**Power Supply:** 100-240 VAC / 50-60Hz / 850W

**Average power consumption (high load):** 450W

## Software specifications

### Modulo Kinetic Designer

Dedicated application (PC) to control any number of networked Modulo Kinetic V-Node servers

Reliable across the complete workflow, from show design and simulation, to show encoding and control

Smart easy-to-use user interface

Fully reliable solution with an automatic primary/secondary back-up

### Timelines

Unlimited number of timelines, unlimited number of layers

High flexibility allowing last-minute changes

Command layers with control cue (Pause/loop/device action...)

### Settings per layer

Animate all parameters with keyframes

Position, scale, rotation, opacity, color, fade in/out

Advanced colorimetry, crop, progressive mask, clip, keyframed animation

Advanced chroma keyer for green screen studio

LUT format .cube support: Color grading, creative filter

Database of 2D GPU effects

Support for interactive shader format

Movie: In/out time, loop mode, speed change with frame blending

### 3D engine

Import point cloud, FBX, or COLLADA complete 3D scenes

Build advanced projection study & simulation in 3D & VR

Import video-projectors from a csv file

Clone and symmetry tool for video-projectors distribution

Export video-projectors list and specs in pdf

Create client documentation with dimensions, annotations, Lux and pixel density views

Integrated extensive video-projectors database

3D animation editor

Integrated Prefabs (plane, sphere, cube, torus...)

Lighting including shadows

Advanced materials including PBR, MatCap, and Substance by Adobe

Real-time 3D engine with generative content including CPU & GPU particles

Render camera, projector, or mesh instance in a timeline layer with post-process Reflection, Ambient Occlusion (SSAO), Depth of Field (DOF), Glow and advanced Anti-aliasing

### Virtual studios and Extended Reality (XR)

Compatible with [green screen](#) and [LED screen](#)

FreeD protocol support

Stype protocol support

Integrated FreeD calibration file for the Panasonic AW-UE100 and AW-UE150 PTZ cameras

Pose calibration and intrinsic calibration of a fixed camera  
Multi-zoom camera calibration (intrinsic, nodal, and pose estimation)

Support of SteamVR tracker

Possibility to add a delay through render surface layer

Overscan function for camera and video-projector

### Synchronization

Synchronize any number of Modulo Kinetic V-Node with a unified view from the Modulo Kinetic Designer

Synchronization with MTC or LTC timecode (optional)

Genlock/Framelock: Contact us for more information

### Outputs tools

Warping grid (keystone or curve), advanced soft edge, mask, test pattern generator, advanced color adjustment

Exclusive X-Map feature for complex video mapping

3D video-projector calibration

LED Pixel mapper (Art-Net)

Multi-user warp remote to optimize calibration phase

Multi-projector auto-calibration system (optional)

### Low-latency live mixer

Dedicated multi-user remote application (Mac/PC)

Live Preview/Program/Confidence screens

Unlimited number of destinations and mix engines

Preset and Quickset

Mask & keying

Transition effects: Cut, fade, flying,...

Cut & Take buttons

Sources: Workspace, HDMI 2.0, low-latency SDI 3G/12G, NDI

Full support of Stream Deck and Stream Deck XL control pads

### Medias

MPEG-2 (4:2:2), H264 (4:2:0)

HAP, HAP alpha, HAP Q, HAP R support

Apple ProRes with 10 bits support

GoPro CineForm 10 bits support

Notch Block support

Uncompressed still sequence TGA or 10 bits DPX

QuickTime uncompressed RGB, YUV8 or YUV10bits

Multichannel audio file (wav,aiff)

Still images: png, jpg, tiff

Other media: Text, counter, countdown, clock, web page

Automatic generation of lower resolution proxy in Modulo Kinetic Designer for a full preview

### Show Control

Create, control, and play automated tasks for a wide number of preloaded external devices including video-projectors, matrix switchers, video processors

The devices' main parameters are available in our extensive library to ensure fast and easy control through Modulo Kinetic Designer

Trigger tasks from specific devices such as Calendar, MIDI, OSC, GPIO, Art-Net, DMX, Stream Deck, WebSocket

Possibility to control Modulo Kinetic Designer with ASCII TCP/IP command with an extensive protocol

### Interactivity

Easily control the parameters of your media – including position, rotation, opacity, color,... – using external devices (OSC, Art-Net, MIDI, TCP/IP rotary encoder)

Audio reactive effects using FFT and level from external audio input or virtual channel

Create custom web applications to interact with your Modulo Kinetic projects using WebSocket protocol

Flexible nodal programming including JavaScript block

Send beacon position using PosiStageNet protocol (PSN)

KineMotion: Powerful optical tracking module (optional)

### User Panel

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

## Environmental specifications

Max altitude: 2 700 m

Operation temperature: 10°C ~ 35°C

Non operation temperature: -40°C ~ 70°C

Non operation humidity: 20% ~ 90% (Non condensing)

## Complimentary

EU power cord

1 x active DisplayPort<sup>(1)</sup> to HDMI adapter per output

**Warp Remote:** PC/Mac software dedicated to warping

**Kinetic Panel:** PC/Mac application to host your custom user panels. Also available on iOS and Android

<sup>(1)</sup> MiniDP for KI-VNO-6, KI-VNO-2x4K, KI-VNO-3x4K, KI-VNO-4x4K

### Warranty

**2-year return-to-base**

## Physical specifications

Frame	19-inch rack 4U		
Product	W	H	D
Dimensions without handles	427 mm 16,81"	176,80 mm 6,96"	480 mm 18,90"
Dimensions with handles	485 mm 19,10"	176,80 mm 6,96"	530 mm 20,87"
Weight	~ 20 kg	~ 44 lbs	

Shipping	W	H	D
Dimensions	545 mm 21,46"	285 mm 11,22"	665 mm 26,18"
Weight	~ 24 kg	~ 53 lbs	