KineMotion

PROJECTION

VIDEO EFFECTS

LIGHTING

SPATIAL AUDIO

The real-time tracking system by Modulo Pi

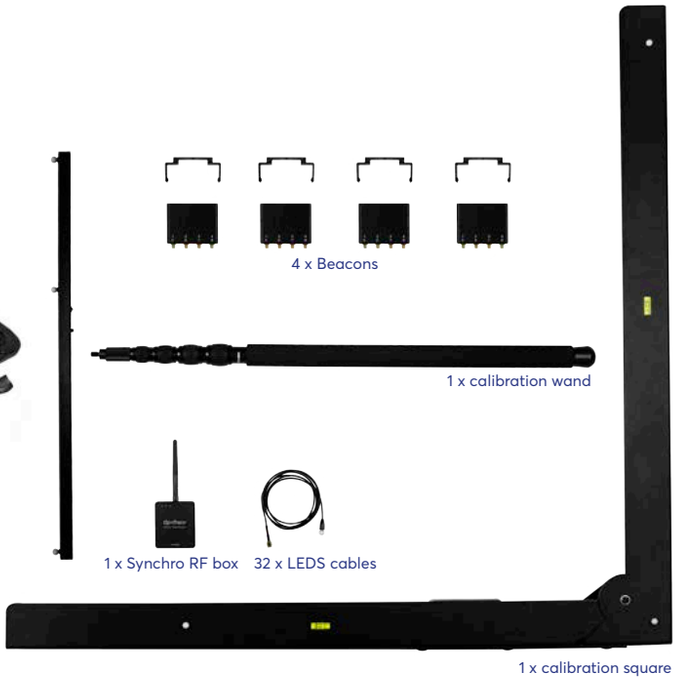
REF: KM-START, KM-SOFT, KM-CALIBTOOL, KM-BEACON, KM-SYNC, KM-TRAIN

The optical tracking module designed for creative & interactive visual experiences

Available as an option for the Modulo Kinetic series of media servers, KineMotion is an optical tracking solution instrumental in creating state-of-the-art visual environments: **Dynamic projection mapping, interactive video effects, automatic follow spot, spatial audio, and more.**

The module consists in an add-on software designed by Modulo Pi, as well as a full calibration kit and beacons.
Based on KineMotion and OptiTrack tracking cameras - not included - Modulo Kinetic masters the whole calibration process.
Fully developed by Modulo Pi, **KineMotion provides a highly simplified workflow paired with unrivaled performance and reliability.**

KineMotion Starter Kit in its travel case



Reference	
KM-START [1]	The KineMotion starter kit is designed to provide the necessary equipment and skills to ensure a successful first experience with Modulo Kinetic's optical tracking module. This required starter kit includes the following: 1 x KM-SOFT 1 x KM-CALIBTOOL 4 x KM-BEACON 1 x KM-SYNC 1 x KM-TRAIN
KM-SOFT	KineMotion add-on software for Modulo Kinetic Designer
KM-CALIBTOOL	KineMotion calibration toolset: A calibration wand, a calibration square, and a travel case
KM-BEACON	KineMotion beacons + 8 LEDS 1.8 meter cable with reflector
KM-SYNC	Active synchro RF box
KM-TRAIN	Starter training: One technician coming on-site to assist in the installation and first steps with KineMotion

[1] Configuration requires at least 1 x Modulo Kinetic Designer (lighting or spatial audio) and 1 x Modulo Kinetic V-Node (video).

Cameras

KineMotion relies on OptiTrack tracking cameras. The KineMotion starter kit does not include the cameras.
To purchase the OptiTrack cameras, please contact directly the manufacturer or distributor/reseller.
Here are the cameras supported:

OptiTrack - Prime^{x} 13

OptiTrack - Slim^{x} 13

A minimum of 3 OptiTrack cameras is required for any project.
For a stage of 20 meters wide by 15 meters deep (65' x 49'), about 5 or 6 cameras will be needed with no occlusion (beacons must remain visible).
A project study is needed for larger or specific venues in order to determine the appropriate set-up.

Software specifications

KineMotion
Fully integrated calibration process for the camera ring
Ground calibration
Fully automatic video-projector calibration
Advanced filtering and prediction filter to compensate video-projector latency
Track single LED, rigid body
Integrated light fixture calibration and follow spot (coming soon)

KineMotion & Kinetic Designer
Dynamic projection mapping on 3D objects in real time
Advanced 3D real-time edge blending
Advanced FX based on nodal programming interacting with beacon position
Real-time 2D FX interacting with beacon position
3D real-time particle engine interacting with beacon position
Automatic follow spot: Beacon position sent to light desk through PosiStage (PSN) protocol
Spatial audio: Beacon position sent to L-Acoustics L-ISA spatial sound system

Physical specifications

Active synchro RF box
Mount: Two M3 x 0.1 holes 3,8mm deep
Power input: Power over Ethernet:
- IEEE 802.3af-2003
- Max power consumption: 3 W
Wireless signal:
- IEEE 802.15.4
- User-selectable RF channels and Pan ID
- Signal band: 2.4 GHz ISM
Transmission range: 30 m - 100 m (max range)

Beacon
8 LEDs 1.8 meter cable with reflector
Battery type: Lithium polymer
Run time: 10-hours at nominal operating conditions
Charge time: 3 hours zero to full charge
USB power:
- 3.3 - 5.0V required depending on system setting
- 100 mA @ 5V with all LEDs illuminating for 500us every frame at 180 Hz frequency
Wireless signal:
- IEEE 802.15.4
- User-selectable RF channels and Pan ID
- Signal band: 2.4 GHz ISM

Batteries (Not included)
Square: 1 x 9 V battery
Wand: 2 x 1.5 V AAA batteries

Physical specifications

Active synchro RF box	W	H	D
Dimensions without antenna	71,6 mm 2,82"	27 mm 1,06"	62,1 mm 2,44"
Dimensions with antenna	102,6 mm 4,04"	87 mm 3,42"	62,1 mm 2,44"
Weight	~ 153,5 g	~ 5,41 oz	

Beacon	W	H	D
Dimensions	30,48 mm 1,2"	3,4 mm 0,13"	45,09 mm 1,78"
Weight	~ 7,2 g	~ 0,25 oz	

Square	W	H	D
Dimensions closed	1003 mm 39,488"	60 mm 2,362"	150 mm 5,906"
Dimensions opened	1003 mm 39,488"	60 mm 2,362"	1003 mm 39,488"
Weight	~ 3 kg	~ 6,614 lbs	

Wand	W	H	D
Dimensions of wand head	621 mm 24,449"	24 mm 0,945"	19 mm 0,748"
Dimensions of folded handle	790 mm 31,102"		
Dimensions of unfolded handle	> 3000 mm 118,11"		
Weight	~ 1,1 kg	~ 2,425 lbs	

Travel case	W	H	D
Dimensions	1176 mm 46.299"	449 mm 17.677"	156 mm 6.142"
Weight	~ 14,5 kg	~ 31,966 lbs	

Complimentary

Warranty
1-year return-to-base