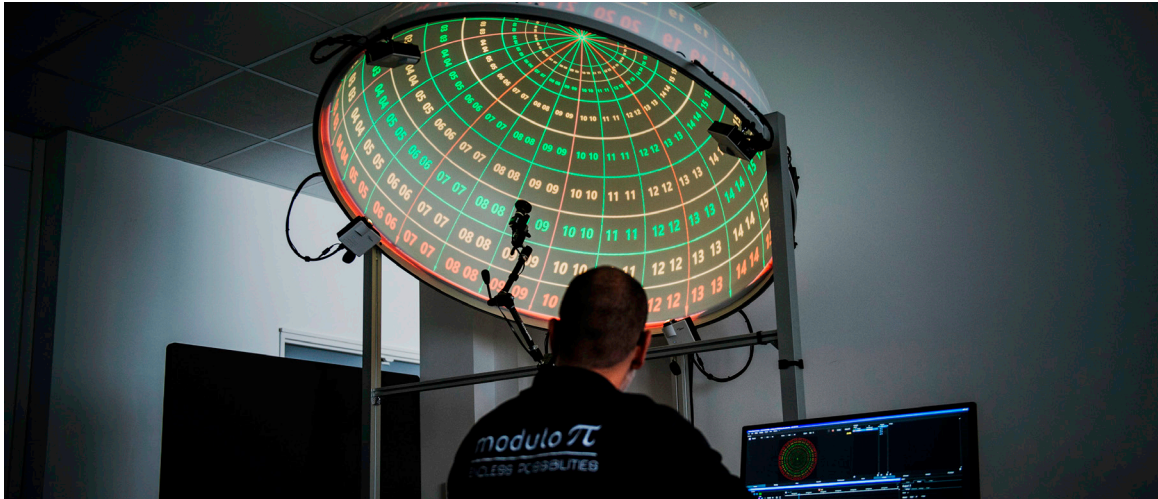# Auto-Calibration

PLANAR

CURVED

DOME

Multi-projector auto-calibration system by Modulo Pi
REF: AUTOCAL-1-OUT

Optional module for automatic multi-projector calibration

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** media servers, the auto-calibration feature allows to automatically align multiple video-projectors on **planar, curved, and dome surfaces** for a pixel-perfect projection.

Developed by Modulo Pi, the auto-calibration module relies on PoE cameras for fast and simplified cabling. Use one camera 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 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: Get a high-precision edge blending, warping, and play your content within minutes, and with zero latency.**

Hardware specifications

Dongle
Dongle-based option for Modulo Player and Modulo Kinetic
Dongle embedded in server or available as stand-alone
Dongle must remain connected to server(s)

Outputs
Support of independent calibration groups
Support of stacked video-projectors (dual, trial, quad...)
Price per output. Contact us for more details.

Travel case with dongle, camera & lense(s)

Model	Media servers	Outputs / Canvas
modulo **PLAYER**	Mono server supported[1]	Up to 6 outputs WQXGA[2] or 4 outputs up to 4K[3]
modulo **KINETIC**	Mono & multi-servers supported Unlimited number of servers	Up to 6 outputs WQXGA[2] or 4 outputs up to 4K[3] in mono-server config. Unlimited number of outputs in multi-servers configuration Unlimited resolution in multi-servers configuration

[1] Compatible with Modulo Player Remote for PC only
[2] 2560x1600
[3] 4096x2160

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Reference

AUTOCAL-CAMKIT	Travel case with 1 x PoE camera, 1 x 15m cable, and room for 1 x auto-calibration dongle + up to 2 lenses
AUTOCAL-1-OUT	Multi-projector auto-calibration module per output
AUTOCAL-FILENS	High resolution fish-eye lens
AUTOCAL-8LENS	High resolution 8 mm lens

Camera specifications

Camera and lens

Power over Ethernet camera for fast and simplified cabling
Compatible with fish-eye lenses
One camera required for each auto-calibration group

References supported below. Available through Modulo Pi, or directly through the manufacturers or resellers.

LUCID - Triton 20 MP

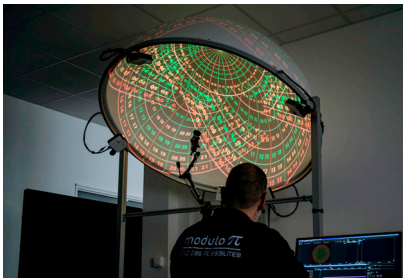FUJINON - FE185

FUJINON - CF8ZA-1S

Software specifications

Software

Auto-calibration wizzard embedded in Modulo Player and Modulo Kinetic for quick and easy calibration
One-click calibration mode

Advanced masking feature for pixel-perfect projection
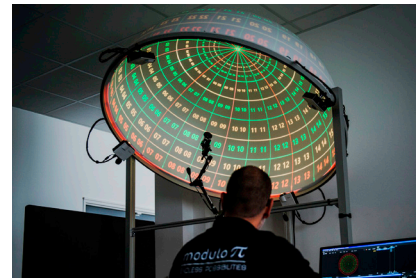Global warping capability
Zero latency

Process

Dome before calibration
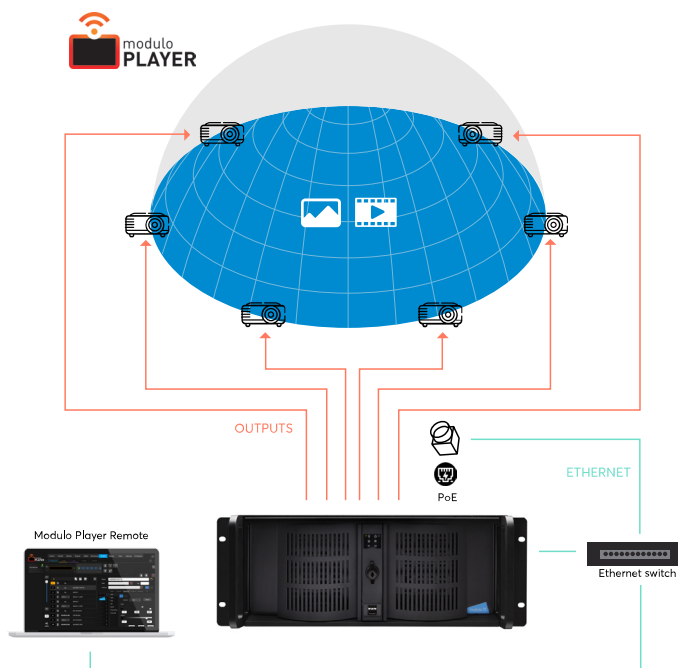5 video-projectors - 1 PoE Camera

Patterns projected during auto-calibration phase

Dome after calibration with automatic blending and warping

Mono-server configuration
Diagram with Modulo Player and a dome screen

Multi-server configuration
Diagram with Modulo Kinetic and a semi-elliptical screen

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