multiCAM
S Y S T E M S

SPIRIT

Let Spirit moves you

FULL RANGE OF ROBOTIC SYSTEMS
FOR BROADCASTING AND VIRTUAL PRODUCTION

DOLLY   **SLIDE**   **LIFT**   **HEAD**

wwww.multicam-systems.com

SPIRIT DOLLY

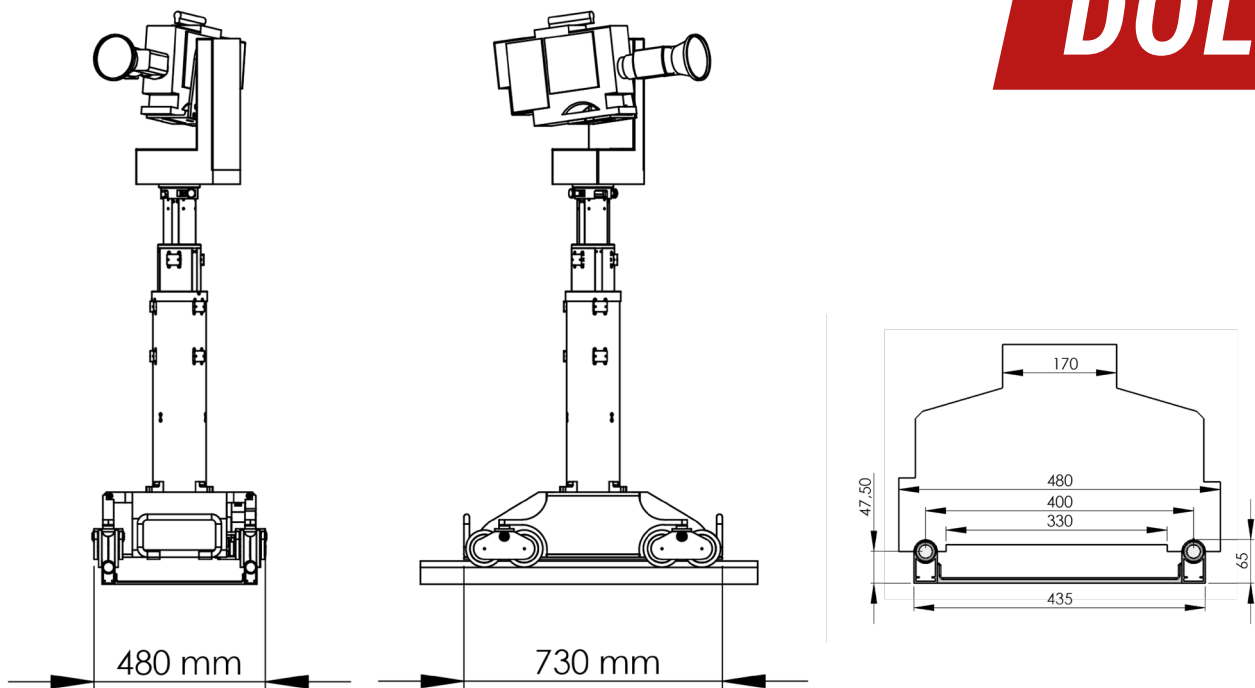## Push the limits of creativity

VP ready

SPIRIT Dolly is a robust travelling system able to carry heavy loads such as a motorized column **(SPIRIT Lift)** as well as a robotic head **(SPIRIT Head)** and a broadcast camera.

With our versatile, flexible rail based configurations Dolly can be used with rigid rails (straight or curved) or a flexible rail which attaches directly to the ground.

All speed, acceleration, and travel parameters are adjustable depending on your needs.
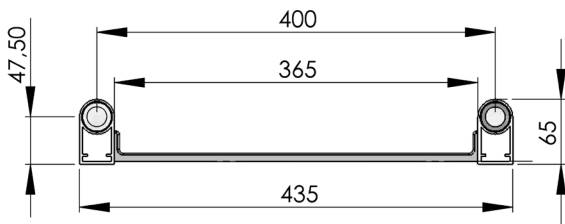
SPIRIT Dolly is a fully remote-controlled system that produces impactful, immersive crane-like movements, but with limited human resources.

480 mm   730 mm

170
480
400
330
435
47.50
65

Technical specifications

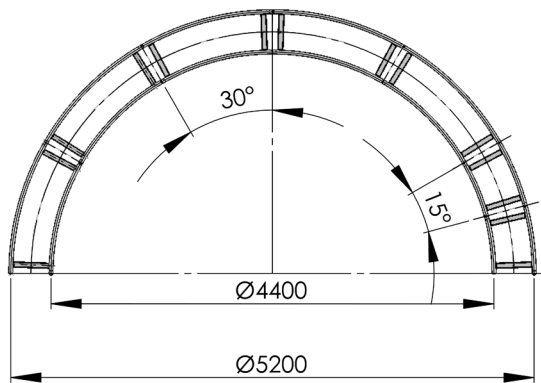|	
Encoder	Incremental / Track Encoded
Resolution	1505 counts/cm
Accuracy	0.000664 cm
Travel	14 Km
Max Velocity	1.33 m/s
Torque	9.77 Nm
Remote control	IP with Web interface, SPIRIT Joystick, multiCAM Suite, UDP (SPIRIT protocol)
Genlock IN	Black Burst / Tri-Level
Genlock OUT	SDI Loop
Compatibility	SPIRIT Lift / SPIRIT Head
Tracking	Free-D (encoding data with AR pack)
Network	2x RJ45 (Dolly/Lift+Head)
Power IN	24Vdc 15A
Power OUT	12Vdc 5A (XLR 4 points for camera) 24Vdc (XLR 3 points for HEAD) 220Vdc (PC)
Power OUT	12Vdc 5A (XLR 4 points for camera) 24Vdc (XLR 3 points for HEAD) 220Vdc (PC)
Dimensions	73 cm (W) x 48 cm (D) x 21 cm (H) On rails: 26.5 cm (H) Cabling margin to add: 30 cm
Weight	35 kg

RAILS

Straight sections

Standard straight rail sections: 90cm and 180cm

Curved sections

Curved rail sections are available in different diameters, on a 30° or 15° curve.

The standard range includes:

- 260-300cm
- 340-380cm
- 420-460cm
- 500-540cm
- 1500-1540cm

You would like to order components with customized length or diameter?

Contact us for all your custom rail production needs.

MOTORIZED TELESCOPIC COLUMN

SPIRIT LIFT

Elevate your perspective

VP ready

SPIRIT Lift is a motorized column that raises the level of your productions.
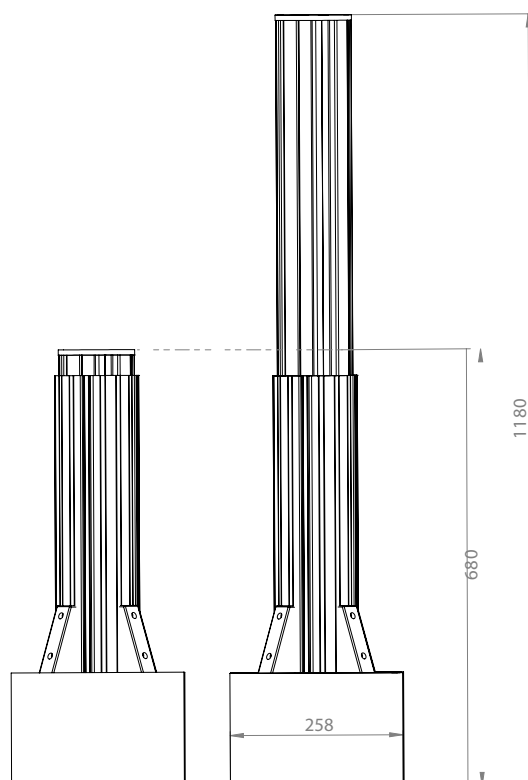
With a maximum extension of 110cm, the column expands the range of your shooting capabilities and re-energizes a classic PTZ device.

Coupled with a **Dolly** and a **Head**, it brings the creativity of a crane with a small footprint on the ground!

Technical specifications

Models	Head / PTZ
Encoder	Incremental
Resolution	1 638 counts/cm
Accuracy	0.00061 cm
Travel	44 cm
Max Velocity	0.086 m/s
Torque	100-150 Nm
Elevation	70-112 cm
Remote control	IP with Web interface, SPIRIT Joystick, multiCAM Suite, UDP (SPIRIT protocol)
Genlock IN (*)	Black Burst / Tri-Level (External box or through Dolly XLR connection)
Compatibility	SPIRIT Dolly / Head
Tracking	Free-D (encoding data with AR pack)
Network (*)	1x RJ45 (External box or through Dolly XLR connection)
Power IN	24Vdc 5A
Power OUT (*)	24Vdc (External box: XLR 7 points for HEAD or PTZ)
Dimensions	24 cm (W) x 12cm (D) Height: 38 cm (M) / 48 cm (L)
Weight	6.5 kg / 7.2 kg

(*) A direct connection between Lift and Dolly includes Genlock, Power and Network when combined. If Lift is used without Dolly, an external box is dedicated for connections.

SPIRIT HEAD

Broadcast camera with PTZ control

VP ready

SPIRIT Head our line of robust, precision designed remote heads that support a camera/optics pair weighing up to 12 kg (26 lbs).
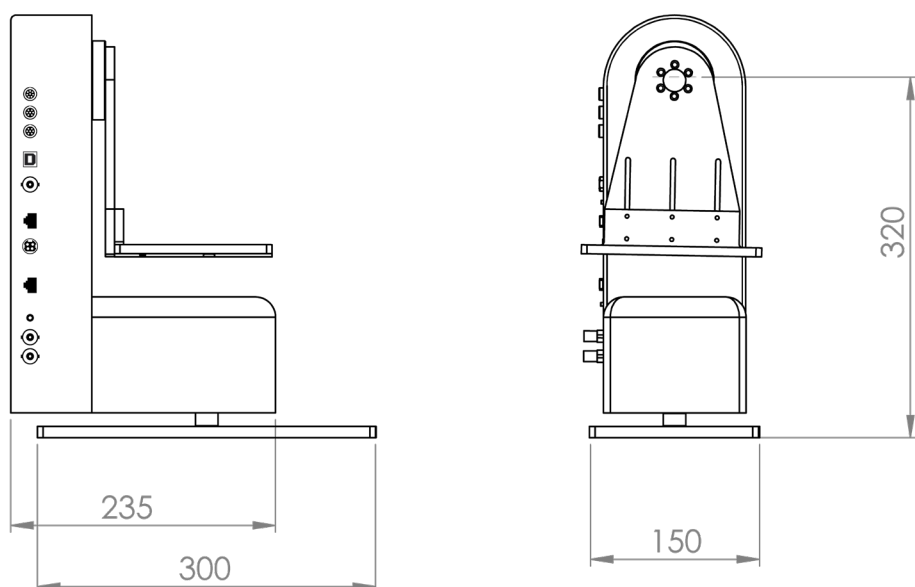
All the camera and optical unit hardware is contained in one area of the unit with a variety of connector options available.

SPIRIT Head comes in different sizes to fit various camera units.

(SPIRIT HEAD M Version)

Technical specifications

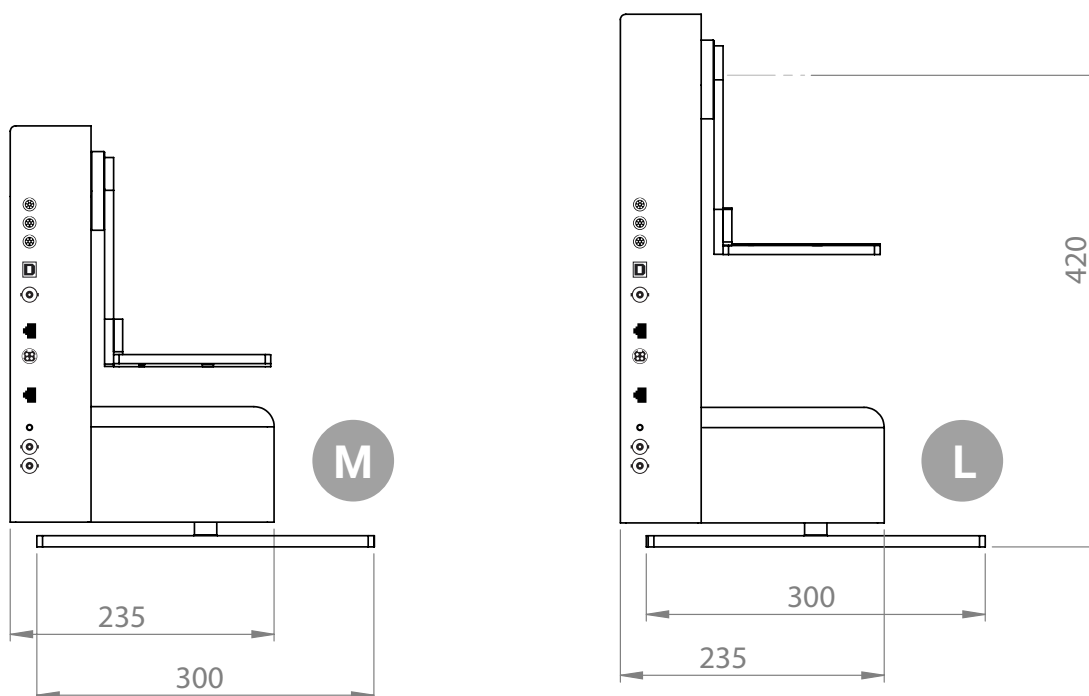| Models	M / L
Encoder	Incremental with Automatic Homing
Resolution	300 000 counts/rev
Accuracy	0.0012°
Pan Travel	720° (Software limited)
Tilt Travel	67.2° (M) / 109.2° (L)
Max Velocity	120°/s
Torque	9.6 Nm
Payload	12kg
Optical Axis Height	320 mm (M) / 420 mm (L)
Remote control	IP with Web interface, SPIRIT Joystick, multiCAM Suite, UDP (SPIRIT protocol)
Blackmagic	SDI in/out + RJ45 (Control)
Genlock IN	Black Burst / Tri-Level
Genlock OUT	SDI Loop
Compatibility	SPIRIT Dolly / Lift / Slide
Tracking	Free-D (encoding data with AR pack incl. lens data for Canon or Fujinon lenses)
Network	1x RJ45 (Head)
Power IN	24Vdc 5A
Dimensions	240 cm (W) x 12 cm (D) Height: 38 cm (M) / 48 cm (L)
Weight	6.5 kg (M) / 7.2 kg (L)

Multiples connections

1. Canon or Fujinon digital optical control (lemo 8 pts)

2. Analog zoom control and coder (lemo 7 pts)

3. Analog focus control (lemo 7pts)

4. USB port for maintenance

5. Genlock SDI IN + LOOP

6. IP address reset

7. Head command data

8. DC in (XLR 3 pts)

9. Blackmagic camera control data

10. IP address reset

11. Blackmagic camera control via SDI OUT

12. Blackmagic camera control data (SDI IN)

Two sizes: M, L

SPIRIT HEAD comes in two different sizes depending of camera systems to mount on it.
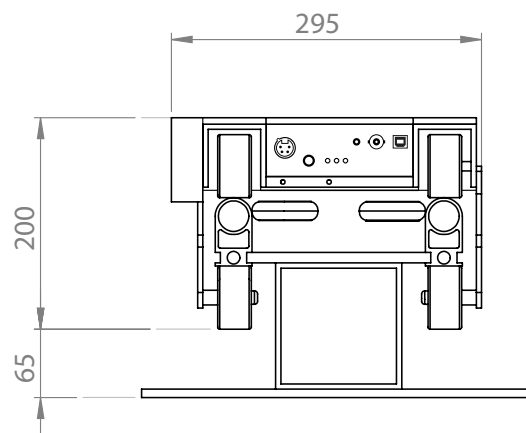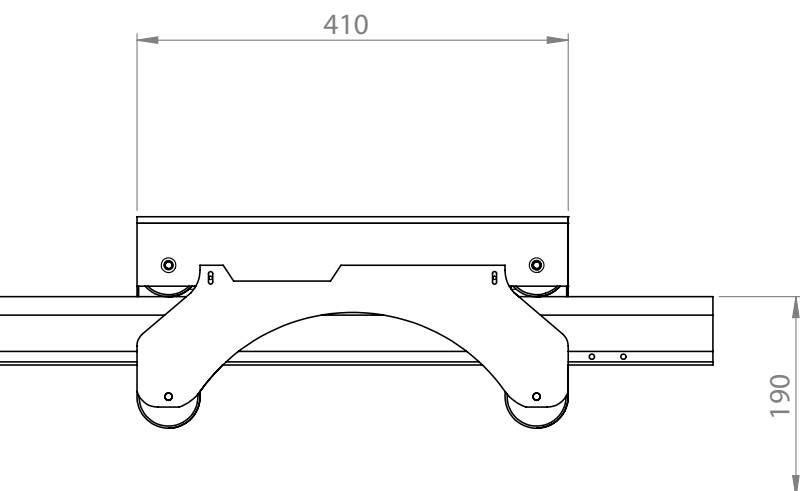
SPIRIT SLIDE

Enhance your PTZ shots

VP ready

SPIRIT Slide is a motorized travelling system on straight rails.

Compact in size, it offers a center distance of only 200mm. Discreet, light, and quiet, it can nevertheless accommodate a robotic head and any load up to 12kg!

A variant of the Slide is available for a ceiling attachment. The rails are variable in length and interlocking. A single rail can go up to 15 meters in length!

Technical specifications

Encoder	Incremental / Track Encoded
Resolution	1 185 counts/cm
Accuracy	0.000844 cm
Travel	18 Km
Max Velocity	1.55 m/s
Torque	6.5 Nm
Optical Axis Height	320mm (M) / 420mm (L)
Remote control	IP with Web interface, SPIRIT Joystick, multiCAM Suite, UDP (SPIRIT protocol)
Genlock IN	Black Burst / Tri-Level
Genlock OUT	SDI Loop
Compatibility	SPIRIT Head / PTZ Cameras
Tracking	Free-D (encoding data with AR pack)
Network	2x RJ45 (Slide, Head)
Power IN	24Vdc 8A
Dimensions	41 cm (W) x 30 cm (D) x 20 cm (H) On rails: 26.5 cm (H) Cabling margin to add: 20 cm
Weight	9.3 kg

PTZ CAMERA AND ROBOTICS CONTROL

PILOT

Master your camera movements and become a smooth operator

multiCAM PILOT is an ergonomic and intuitive interface that allows you to **control up to 6 robotic cameras and program extremely accurate movement sequences**.

This is the ideal solution to minimize operating costs because an operator can control more than one camera at a time. So during a motion recall on a **Dolly**, a **Lift** column will move up and down continuously and the operator can manually pilot a third camera on a robotic head.

multiCAM PILOT lets you use different models of cameras under a single interface, avoiding the complexity of multiple joysticks and remote controls.

With our **Control Panel**, you benefit from an ultra-precise controller whose ergonomics allow operators flexible and accurate movements with lightning-fast response times.

Three control modes

PILOT

PRESETS

This is the basic mode. Click on a thumbnail to quickly recall a camera position. Any changes are detected and a button allows you to quickly update and save the stored position.
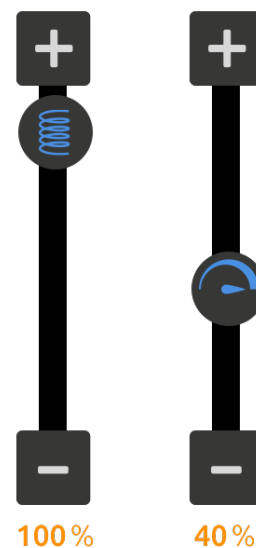

You get 6 presets per page per camera, which means 12 total presets per camera!
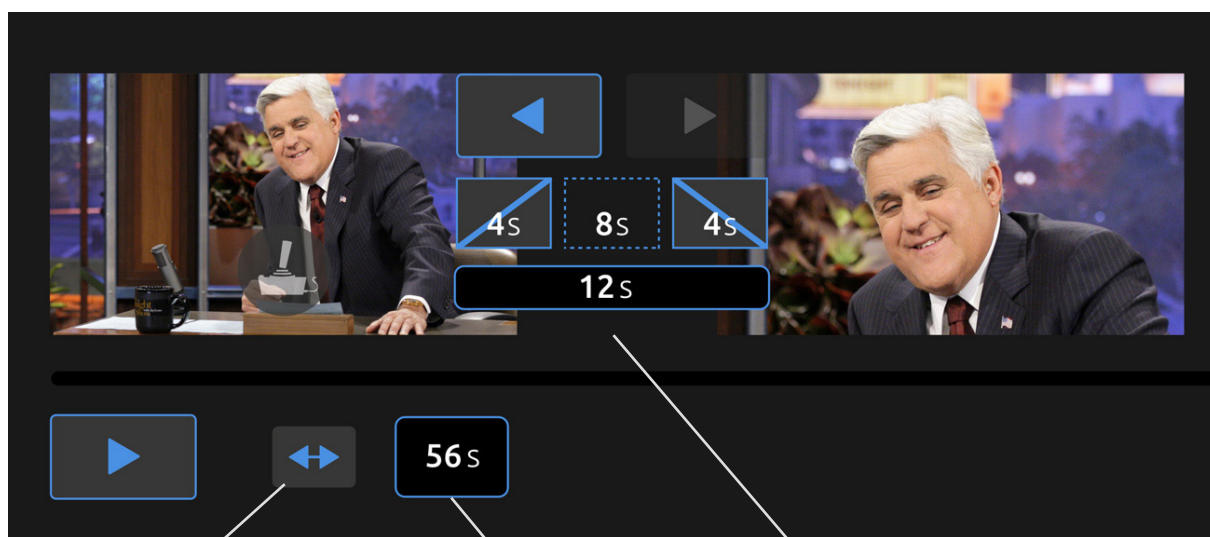
TRANSITION

Define a transition interval with a damping percentage so that every preset calls can be controlled and always ready to go on air.

100 %   **40 %**

▶ SEQUENCE

This mode is used to program motion sequences between several key positions. Thanks to the transition timings, you control each step of the the sequence.
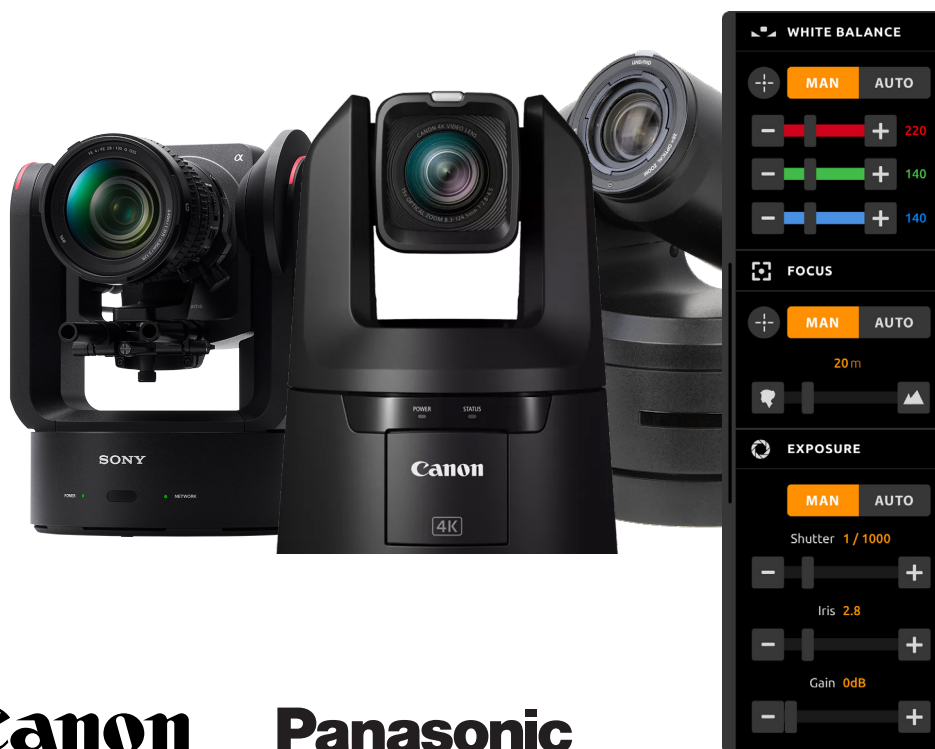

«ping-pong» activation mode   sequence total duration   transition time including fade-in fade-out

Unified control of PTZ cameras

With its unified camera controls, multiCAM PILOT adapts to all camera models, and your operator works with a single common interface.

Presets can exclude optical data so that DIT can operate color profiles separately.

SONY   **Canon**   **Panasonic**

Technical specifications

The PILOT software is installed in a multiCAM server.

In 3U format, the server contains a video ingest card that can monitor up to 6 sources in SDI 4K.

Video I/O
Up to 6 x 3G-SDI

User interface
Up to 2 x écrans (DP or HDMI)

Network
Up to 2 ports Gigabit

Data/Peripherals
- 1x 128GB SSD Hard Drive (System)
- 1x 1TB 7200rpm Hard Drive (Records)
- 2x USB 2.0
- 4x USB 3.0
- 1x 1/4" Headphones Jack

The solution comes with 1 or 2 touch screens depending on the number of cameras to be controlled.

A USB Joystick is included in the package. For the most precise control, we strongly recommend the **SPIRIT Control Panel**.

CONTROL PANEL

We have designed control surfaces that allow operators precision control along with unparalleled ergonomics.

SPIRIT Control Panel offers a large choices of controllers to be assigned to any type of SPIRIT configuration.

6x Knobs-buttons + Digital screen:
For adjusting precisely at any time the speeds (Dolly, Slide, Pan, Tilt, etc...)

7x Presets buttons:
For assigning 6x «preset recall» buttons + 1 «save preset» button

12x Function buttons + 2x Digital screens:
For assigning any feature required (Homing, Camera selection, etc...)

2x Joysticks:
Left Joystick for X/Y axis (Horizontal and Vertical movements)
Right Joystick for HEAD or PTZ (Pan, Tilt and Zoom)

1x Jog:
Focus precize adjustment

And since an operator has only two hands, pedals can be added. The assignment of controls can be fully customized in PILOT.
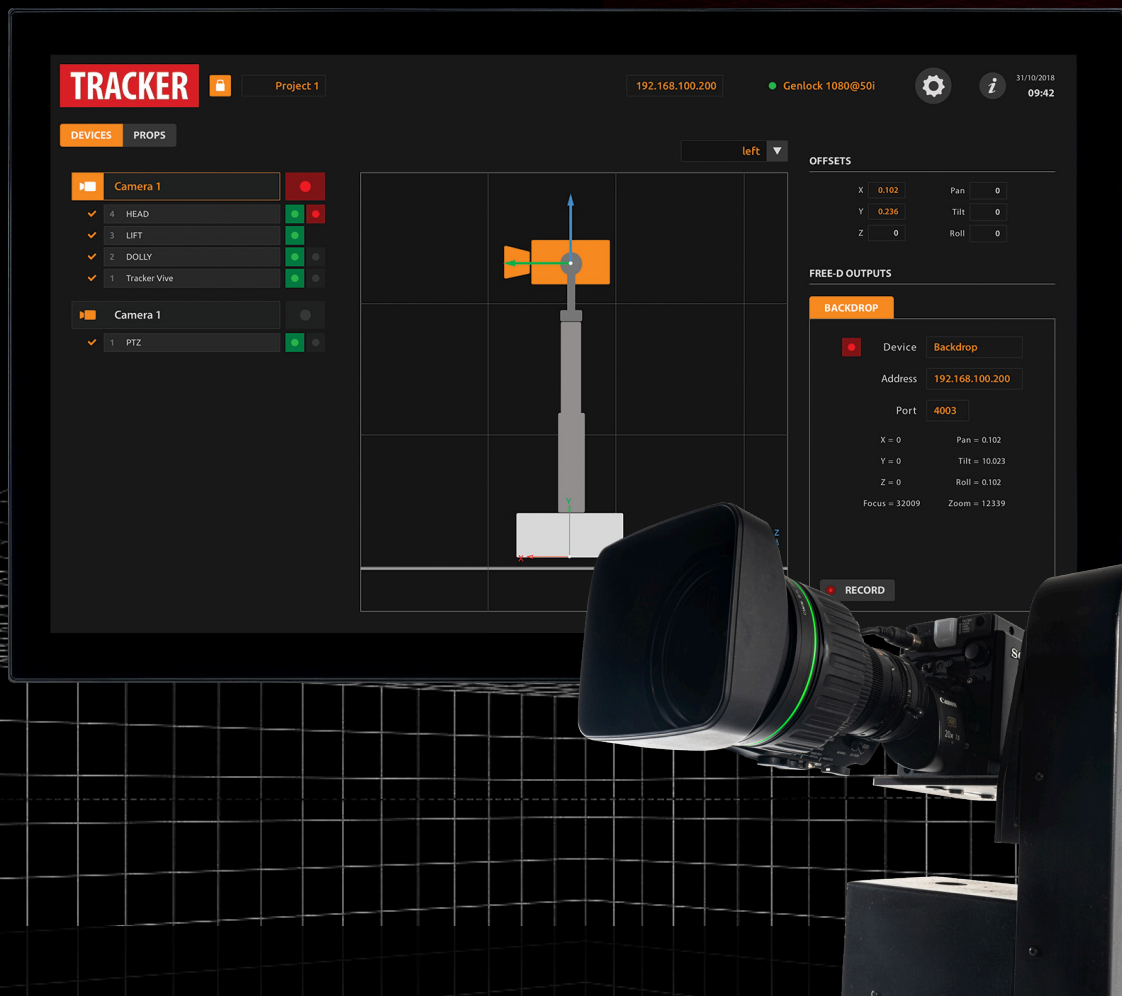
With the Pan Bar option, the camera operator has the same feel as if they were actually behind the camera.

Control Panel can be purchased individually to control one or multiple SPIRIT robotics. It can be combined, as an option to PILOT to offer the perfect control interface to operators.

TRACKING DATA CALIBRATION

TRACKER

Easily calibrate virtual tracking

VP ready

multiCAM TRACKER is an intuitive interface that compiles tracking data from different SPIRIT robotics to **generate a single Free-D signal per camera for virtual production engines**.
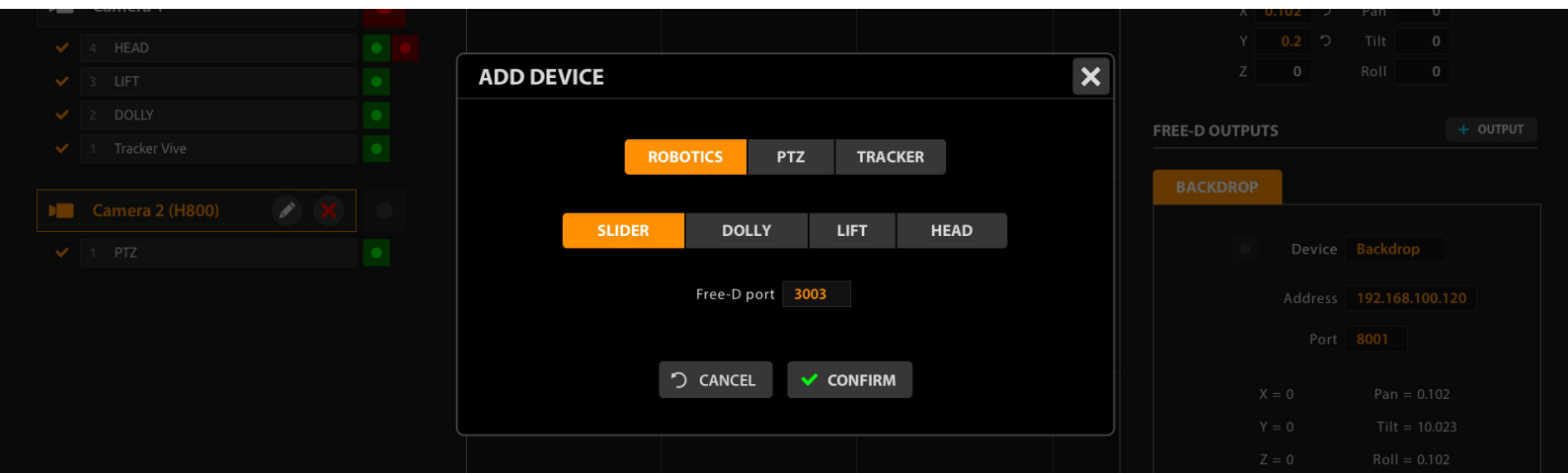
TRACKER is the simplest and most effective solution for using tracked robotics in a virtual environment.

The SPIRIT Slide, Dolly, Lift, and Head robotics systems are self-tracked, each delivering their XYZ and rotation motion data into space.

Because they can be combined into a "camera object," TRACKER handles signal aggregation to provide a single FreeD data to the virtual production engine.
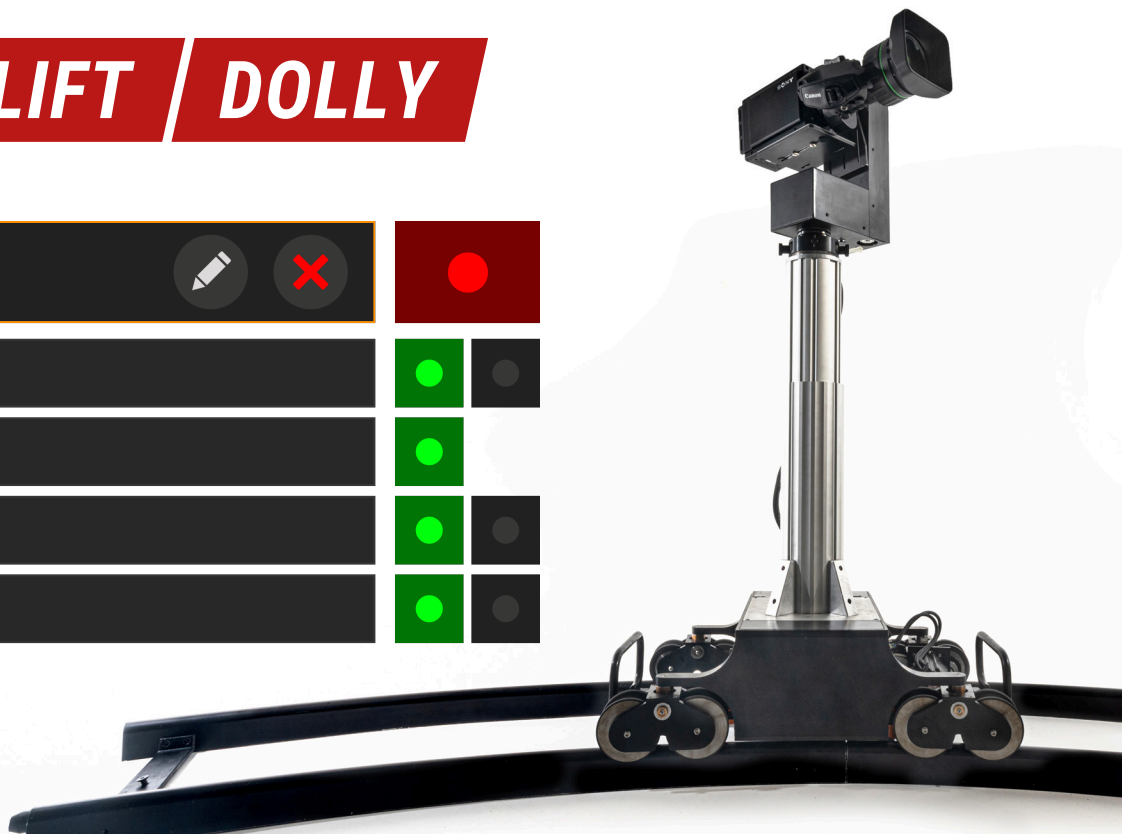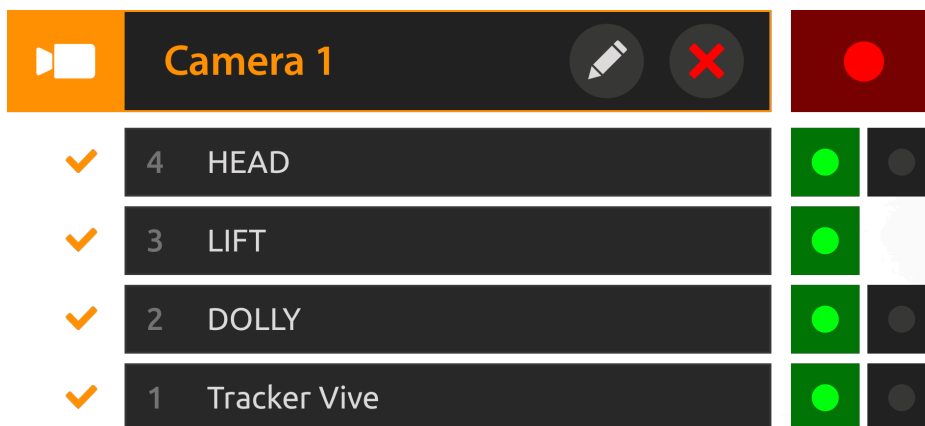
Free-D is a standard used by the most common solutions: Backdrop, Disguise, Pixotope, Zero Density, etc...

Here is a concrete example with a Head / Lift / Dolly combination.

HEAD / LIFT / DOLLY

SPIRIT Robotic Solutions are used in various Virtual and Augmented Reality productions.

Contact us for a turnkey solution!

SPIRIT

Contact us to receive our pricing list
and live demo invites!

sales@multicam-systems.com

multiCAM
systems