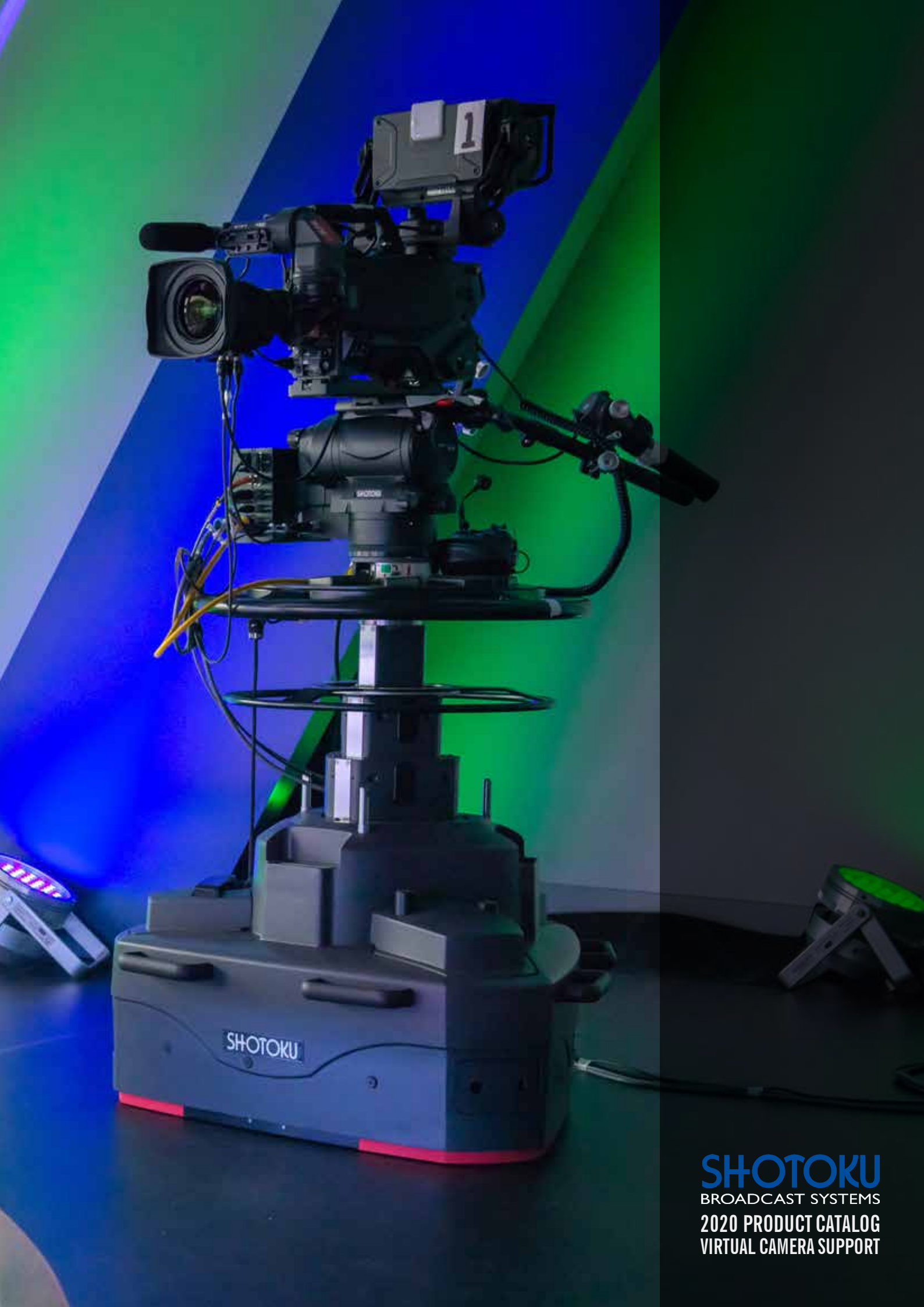


SHOTOKU
BROADCAST SYSTEMS

# 2020 PRODUCT CATALOG
# VIRTUAL CAMERA SUPPORT

## WELCOME TO SHOTOKU!

For our valued customers of Shotoku, I humbly thank you on behalf of our company for your continued support. We celebrate over 75 years in the industry, a milestone that has only been made possible because of each and every single one of you. We plan to continue to provide what we call the Shotoku experience, renowned in our industry for the exceptional quality and world class customer support, which we seek to constantly better.

We are proud to continue to promote our global company concept, Support 360, a concept that has led us to remain successful to this day in our domestic market in Japan. Too often in this industry, a sale is made and the customer is forgotten unless another sale is visible on the horizon. We find this to be a truly disappointing trend. We take pride in not only providing the best-possible product, but also the best overall experience. Simply said, we live to see our customers happy, especially unexpectedly so.

For those new to Shotoku, our culture is one based simply on sincerity and integrity. We see the best customer service we can provide as one where you do not need to contact us because everything works. And if ever you require our support at any time, we look to be there before you expect it and aim to resolve the issue before it becomes a concern. Our customers' experience exemplifies our philosophy – just ask any Shotoku customer!

Warmest regards,

Tony Hanada
Managing Director
Shotoku Corporation

## SUPPORT 360, CHOOSE YOUR POINT OF VIEW.

CUSTOMER

We put custom in customer. Every system precisely configured to exceed technical, financial and operational expectations.

PRODUCT

Built to perform and last. Intelligently engineered to maximize assets, minimize investment and increase production values.

INSTALLATION

Each installation tailored to suit. Skilled engineers commission and deliver seamlessly integrated solutions.

AFTER CARE

Support. Around the clock. Around the world.
Our products and service reflect our dedication to excellence.

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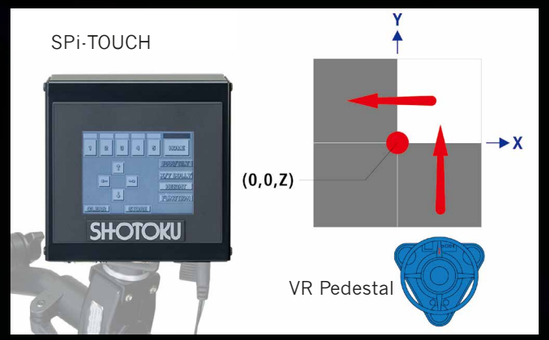
|---|---|

# SHOTOKU VIRTUAL TRACKING

## Simple: Stand-Alone System

No external markers, ultrasonic or infrared sensors or reflectors, cameras or special floor surfaces required.

## Easy: Fast Calibration




Calibrating the X,Y co-ordinates simply requires the pedestal to be passed over the 'Origin Sheet' which can be as simple as a white square on the floor. Each of the other channels (Zoom, Focus, Pan, Tilt, Elevation and Steering) need only to be moved through their respective zero points. Full calibration is achieved in seconds. Our patented SPi-TOUCH makes X-Y origin referencing even easier by using our patented 2-point calibration system. Locally offset VR data for practical, instant fine-tuning.

## Incredible: Real-Time Data Output

The heart of the SHOTOKU VR Tracking is the "SPI". The SPI, or Serial Positioning Interface, monitors data from every encoder and sensor and, using proprietary algorithms, determines the position of the optical center. Using highly accurate wheel rotation measurements as well as steering angle data, the SPI is able to locate the pedestal relative to the origin sheet anywhere in the studio. These measurements also generate pedestal rotation data which is added to the head pan angle to provide true pan angle information. The resultant data is sent out to the graphics system synchronized to video reference using industry standard protocols.

Incredibly, processing of all this information is output in real-time to the graphics system without lag or delay. Our algorithms can even calculate the correct camera position of free-moving crane systems by combining the position of the dolly, boom angle, and elevation.

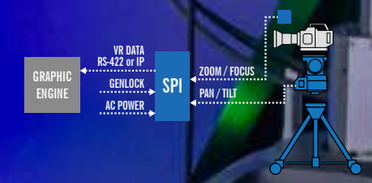


# VIRTUAL SYSTEMS

## Heads, Pedestals, Jibs, and Cranes

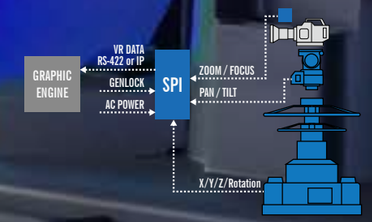
### 01 VR Pan & Tilt Head System

(Head Pan/Tilt/Zoom/Focus)
SPI
+VR Pan & Tilt Head
+Lens Encoder or VR output from lens



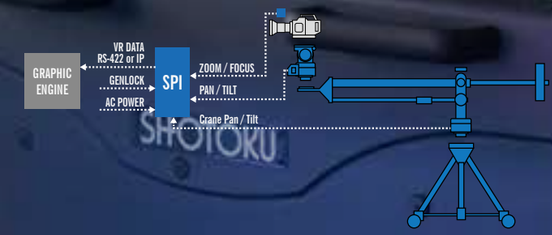

### 02 VR Pedestal System

(Head Pan/Tilt/Zoom/Focus, Pedestal X/Y/Z)
SPI
+VR Pan & Tilt Head
+Lens Encoder or VR output from lens
+VR Pedestal



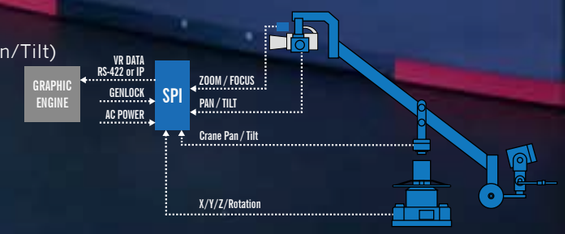

### 03 VR Fixed Crane System

(Head Pan/Tilt/Zoom/Focus, Crane Pan/Tilt)
SPI
+VR Pan & Tilt Head
+Lens Encoder or VR output from lens
+VR Pedestal




### 03 VR Tracking Dolly Crane System

(Head Pan/Tilt/Zoom/Focus, Pedestal X/Y/Z, Crane Pan/Tilt)
SPI
+VR Pan & Tilt Head
+Lens Encoder or VR output from lens
+VR Crane
+3-wheel VR Cane Steering Dolly



# Serial Position Interface

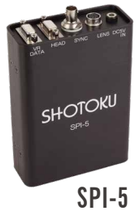
## The Heart of Shotoku VR Tracking

The SPI, or Serial Positioning Interface, monitors data from every encoder and sensor and determines the position of the optical center. Information is processed in under 1msec meaning real-time data output to the graphics system.

| MODEL | SPI-4 IP | SPI-5 |
|---|---|---|
| DIMENSIONS | W150 x H145 x D40mm | W140 xH100 x D40mm |
| INPUT SIGNAL | 4-channel (PTZF) | 4-channel (PTZF) |
| GENLOCK SIGNAL | VBS / Tri-level | VBS / Tri-level |
| OUTPUT SIGNAL | RS-422 1 Port<br>IP Ethernet UDP | RS-422 1 Port |
| INPUT POWER | DC12V (10~18V) | DC5V |
| POWER CONSUMPTION | 12W | 3W |
| WEIGHT | 0.4kg / 0.88lbs | 0.4kg / 0.88lbs |

Back Front

SPI-4 IP




SPI-5

# SPi-TOUCH

## Intuitive Operator-side Origin Point Control

SPi-TOUCH makes it possible to change the position of on-air computer graphics instantly and with ease using a 2-point calibration function right from the camera operator's fingertips. Using intuitive touch-screen user interface controls, operators can now set and re-set the X-Y origin point reference to any position in the studio. Reduce rehearsal and on-air workload and allow for easier fine-tuning of the computer graphics for virtual studios with this simple system.

| | |
|---|---|
| DIMENSIONS | W120 xH120 x D60mm |
| SERIAL PORT | RS232 / RS422 |
| OPERATION | Touch screen |
| SCREEN SIZE | W75 x H55.2mm<br>Diagonal 3.8" |
| INPUT POWER | DC12-24V |
| POWER CONSUMPTION | Less than 5.0W |
| WEIGHT | Touch Screen 580g<br>Mounting Adapter 420g |

Store and quickly recall up to 5 pattern offsets


# SH120VR

## ENG VR Head

| | |
|---|---|
| OPTIMUM PAYLOAD | 12 - 18kg / 26.4 - 39.6lbs* |
| PAN / TILT RANGE | 360° / +75°, -60°* |
| COUNTERBALANCE | Continuously Adjustable Perfect Balance |
| DRAG | Continuously Adjustable Fluid-Leaf System |
| CAMERA FIXING | Sliding Camera Plate |
| PAN BAR | Telescopic (PBR100 x1) |
| WEIGHT | 6 kg / 13.2lbs |
| MOUNT | 100mm Ball |
| RESOLUTION (PAN) | 640,000 counts per 360° |
| RESOLUTION (TILT) | 640,000 counts per 360° |
| DATA BOX CONNECTIVITY | SPI-4 IP or SPI-5 |
| SUITABLE TRIPOD/CRANE | TTH1002C, TTM1002C, TK-59VR mini jib crane |


Use our lens encoder unit (TY-05) on any non-virtual Canon or Fujinon lens!**



* Available in SH100VR option: Optimum Payload of 8 - 15kg / 17.6 - 33lbs, Tilt Range of +75° ,-90°
**TY-05 Zoom / Focus Resolution: 9,600 ~ 15,500 counts (depending on lens), Weight: 0.13kg / 0.3lbs




# SX300VR

## EFP VR Head

Building on decades of experience developing traditional and virtual studio tracking heads, the SX300VR provides high-accuracy, real-time data output with absolutely no loss in manual operation performance. Like all Shotoku VR systems the SX300VR works with the Serial Position Interface (SPI) to provide frame-synchronized high-resolution data tracking, compatible with all leading VR graphics systems through industry-standard data protocols.
Capable of supporting payloads up to 40 kg and available in 4-bolt flat base, M40 Mini Mitchell, or 150mm ball mount the SX300VR is an extremely flexible option for a wide range of studio configurations.


Perfect Counterbalance

Illuminated Bubble Level

TTH1502C Tripod Configuration

| | |
|---|---|
| MAX. PAYLOAD | 40kg / 88lbs |
| OPTIMUM PAYLOAD | 13kg - 38kg / 28.6lbs - 83.6lbs |
| PAN / TILT RANGE | 360° / ±90° |
| COUNTERBALANCE | Continuously Adjustable Perfect Balance |
| DRAG | Viscam Continuously Adjustable Fluid-Leaf System |
| MOUNT | 4-Bolt Flat Base, 150mm Ball,<br>M40 Mini Mitchell, M70 Mitchell |
| CAMERA FIXING | Sliding Camera Plate |
| PAN BAR | TJ-60 Telescopic Pan Bar |
| WEIGHT* | 9.5 kg / 20.9lbs |
| RESOLUTION (PAN) | 640,000 counts per 360° |
| RESOLUTION (TILT) | 640,000 counts per 360° |
| DATA BOX CONNECTIVITY | SPI-4 IP or SPI-5 |
| DIMENSIONS | W288 x H235 x D155mm (Flat Base)<br>W288 x H259 x D155mm (150mm Ball Base) |
| SUITABLE TRIPOD/PEDESTAL | TTH1502C,TP500VR,TP200VR |

* includes pan bar (TJ-60) x2


# TE-23VR

PRODUCT

## Heavy-Duty Studio / OB VR Head

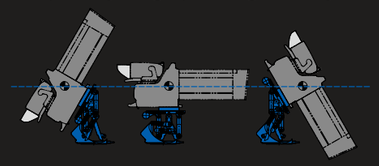

Tilt Drag and Tilt Lock


Pan and Tilt Brake Controls


Integated Carry Handle

State-of-the-art, the TE-23VR studio/OB VR tracking pan and tilt head is capable of perfectly balancing up to 60kg/132lbs and is most suitable for applications requiring camera systems equipped with a heavy box lens.

Along with the Shotoku high performance pan & tilt sensor system and fluid Viscam drag system, TE-23VR provides on-air accurate and stable VR data output to your graphic engine every time.


Reuleaux Counterbalance System keeps Optical Center Constant

| | |
|---|---|
| MAX. PAYLOAD | 60kg / 132lbs |
| PAN / TILT RANGE | 360° / ±60° |
| PLATFORM ADJUSTMENT | Forward: 63mm / 2.48”, Backward: 17mm / 0.67” |
| COUNTERBALANCE | Reulaux Perfect Balance |
| DRAG | Viscam Continuously Adjustable Fluid-Leaf System |
| CAMERA FIXING | V-Wedge (TA-74) with 3/8” screws x2 |
| PAN BAR | 2 included (either TJ-38D,TJ-38E,TJ-59, or TJ-60) |
| WEIGHT | 20 kg / 44lbs |
| MOUNT | M70 Mitchell or 4-Bolt Flat Base |
| RESOLUTION (PAN) | 800,000 counts per 360° |
| RESOLUTION (TILT) | 640,000 counts per 360° |
| DATA BOX CONNECTIVITY | SPI-4 IP or SPI-5 |
| SUITABLE TRIPOD/PEDESTAL | TT-17, TT-64, TP200VR, TP-90VR, TP-80VR |
| DIMENSIONS | W362 x H305 x D281mm |






# SG900VR

PRODUCT

## Heavy Duty Studio / OB VR Head


Pan Drag, Illiminated Level


Counterbalance Adjust


Tilt Drag and Tilt Lock

Building on decades of experience, the SG900VR provides high-accuracy, real-time data output with absolutely no loss in manual operation performance. Like all the Shotoku VR systems, the SPI provides frame-synchronized high-resolution data using industry standard communication protocols compatible with all leading VR graphics systems. The Viscam fluid-leaf drag system supplies smooth, continuously adjustable pan & tilt drag with enhanced torque and unparalleled levels of operator control. The patented Reulaux Perfect Balance System allows for completely stress-free operation of large box lenses and all operation knobs are purposefully arranged at the camera operator side to minimize the workload.

| | |
|---|---|
| MAX. PAYLOAD | 90kg / 198.4lbs |
| PAN / TILT RANGE | 360° / ±60° |
| PLATFORM ADJUSTMENT | Forward: 66mm / 2.6” Backward: 15mm / 0.6“ |
| COUNTERBALANCE | Reulaux Perfect Balance |
| DRAG | Viscam Continuously Adjustable Fluid-Leaf System |
| CAMERA FIXING | V-Wedge (TA-74) with 3/8” screws x2 |
| PAN BAR | 2 included (either TJ-38D,TJ-38E,TJ-59, or TJ-60) |
| WEIGHT | 24 kg / 52.9lbs |
| MOUNT | M70 Mitchell or 4-Bolt Flat Base |
| RESOLUTION (PAN) | 800,000 counts per 360° |
| RESOLUTION (TILT) | 640,000 counts per 360° |
| DATA BOX CONNECTIVITY | SPI-4 IP or SPI-5 |
| SUITABLE TRIPOD/PEDESTAL | TT-17, TT-64, TP-80VR |
| DIMENSIONS | W297 x H250 x D277mm |

Patent-Pending System

# TP500VR / 300VR SYSTEM

## Affordable Fixed-Handle Tracking Pedestal

The TP500VR is our most compact and affordable broadcast-grade pedestal for virtual reality and augmented reality studio applications ever. Using proprietary algorithms and high-resolution mechanical encoders, the TP500VR outputs position data in real-time. Careful attention has been given to the mechanical tracking system in order to make virtual and augmented studio technology more affordable than ever while still maintaining the light, portable footprint of the original TP500.

The TP500VR is an ideal choice in today's industry where increasing demands for captivating content in live sports and news challenge broadcasters to bring their production to the next level.

Dolly Interface Box

X-Y Encoder

| | |
|---|---|
| RESOLUTION (PAN/TILT) | 640,000 counts per 360° |
| RESOLUTION (XY) | 0.1mm |
| RESOLTUION (HEIGHT) | 0.05mm |
| DATA OUTPUT | IP Ethernet UDP and RS422 dual output |
| POWER INPUT | AC85~250V DC12V (10~18V) |
| STANDARD CABLE | Head, B.B., VR Data Cable 10m |
| LENS CABLE* | Zoom/focus data cable for Canon or Fujinon |
| SPI | SPI-4 IP |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Standard) |
| MOUNT | 4-Bolt Flat Base |
| SYSTEM MAX PAYLOAD | 40kg / 88lbs |
| PAN / TILT RANGE | 360° / ±90° |
| SYSTEM MAX. HEIGHT | 1,720mm / 67.7” |
| SYSTEM MIN. HEIGHT | 905mm / 35.6” |
| ON-SHOT STROKE | 405mm / 15.9” |
| TRANSIT WIDTH | 860mm / 33.9” |
| SYSTEM WEIGHT | 48kg / 105.8lbs |
| WHEEL DIAMETER | 125mm / 5” |

Specifications not listed are the same as the TP500


Steering Traveling Mode

Track Lock Mode

The TP500VR is a fixed handle pedestal with two fixed wheels and a single free wheel allowing for smooth dolly shots in both Steering Traveling mode and Track Lock mode.

*Lens encoder unit is available for non-virtual Canon (TY-05C) and Fujinon (TY-05F) lenses.






# TP200VR / 300VR SYSTEM

## Two Stage Studio Tracking Pedestal System

The TP200VR/300VR System* offers industry leading VR tracking without compromise in accuracy or ease of operation and does so in a lightweight, cost-effective package. On-air performance is robust, exceeding the most demanding applications thanks to highly-accurate data output to the VR graphics system precisely synchronized to the camera’s floor position, orientation and height.

Zoom and focus data are gathered directly from VR-ready lenses or Shotoku’s own externally mounted lens encoder units for non-virtual ENG lenses. Pedestal X/Y referencing is initiated using a single, clearly identified hardware push-button and completed by running over a reference tile. Data follows industry standard protocols supported by all leading graphic systems and is sent in a single, combined signal. Minimal user intervention is required, enabling the operator to focus entirely on camera operation.

| | |
|---|---|
| RESOLUTION (PAN/TILT) | 640,000 counts per 360° |
| RESOLUTION (XY) | 0.1mm |
| RESOLTUION (HEIGHT) | 0.05mm |
| DATA OUTPUT | IP Ethernet UDP and RS422 dual output |
| POWER INPUT | AC85~250V DC12V (10~18V) |
| STANDARD CABLE | Head, B.B., VR Data Cable 10m |
| LENS CABLE** | Zoom/focus data cable for Canon or Fujinon |
| SPI | SPI-4 IP |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Optional) |
| MOUNT | M40 Mini Mitchell |
| SYSTEM MAX PAYLOAD | 40kg / 88lbs |
| PAN / TILT RANGE | 360° / ±90° |
| SYSTEM MAX. HEIGHT | 1,754mm / 69” |
| SYSTEM MIN. HEIGHT | 984mm / 38.7” |
| ON-SHOT STROKE | 770mm / 30” |
| TRANSIT WIDTH | 1,015mm / 40” |
| SYSTEM WEIGHT | 114kg / 251lbs |
| WHEEL DIAMETER | 126mm / 5” |

Specifications not listed are the same as the TP200

* Available in TE-23VR Option: M70 Mitchell Mount, Max Payload 60kg, Max. Height 1,525mm/5’, Min. Height 755mm/2’6”

**Lens encoder unit is available for non-virtual Canon (TY-05C) and Fujinon (TY-05F) lenses.

# TP-90VR / 300VR SYSTEM

## Three Stage Studio Tracking Pedestal System

The TP-90VR/300VR System offers industry-leading VR tracking without compromise in accuracy or ease of operation and does so in a lightweight, cost-effective package. On-air performance is robust, exceeding the most demanding applications thanks to highly-accurate data output to the VR graphics system precisely synchronized to the camera's floor position, orientation, and height.

A unique 3-stage design and extremely slim transit width make the TP-90VR/300VR a compact and versatile virtual pedestal system for a wide range of studio applications.


Optional SPi-TOUCH

TP-90VR / 300VR in studio

| | |
|---|---|
| RESOLUTION (PAN/TILT) | 640,000 counts per 360° |
| RESOLUTION (XY) | 0.02mm |
| RESOLTUION (HEIGHT) | 0.2mm |
| DATA OUTPUT | IP Ethernet UDP and RS422 dual output |
| POWER INPUT | AC85~250V DC12V (10~18V) |
| STANDARD CABLE | Head, B.B., VR Data Cable 10m |
| LENS CABLE* | Zoom/focus data cable for Canon or Fujinon |
| SPI | SPI-4 IP |
| MOUNT | M40 Mini Mitchell |
| SYSTEM MAX PAYLOAD | 40kg / 88lbs |
| PAN / TILT RANGE | 360° / ±90° |
| SYSTEM MAX. HEIGHT | 1,781mm / 70" |
| SYSTEM MIN. HEIGHT | 836mm / 33" |
| ON-SHOT STROKE | 945mm / 37" |
| TRANSIT WIDTH | 728mm / 29" |
| SYSTEM WEIGHT | 176kg / 388lbs |
| WHEEL DIAMETER | 130mm / 5" |

Specifications not listed are the same as the TP-90

SPI-4 IP or SPI-5 and Power Supply Unit (TO-26) provide VR data output to the graphics computer via RS-422 or IP for accurate productions in real time

Reliable, accurate mechanical encoders offer versatility over infrared sensors or ceiling/floor targets and zero interference with studio lighting configurations

Three stage perfectly balanced column to effortlessly control smooth shots over a wide height range


Smooth dolly movement

Mechanical X,Y, and Height tracking with unlimited tracking area



*Lens encoder unit is available for non-virtual Canon (TY-05C) and Fujinon (TY-05F) lenses.

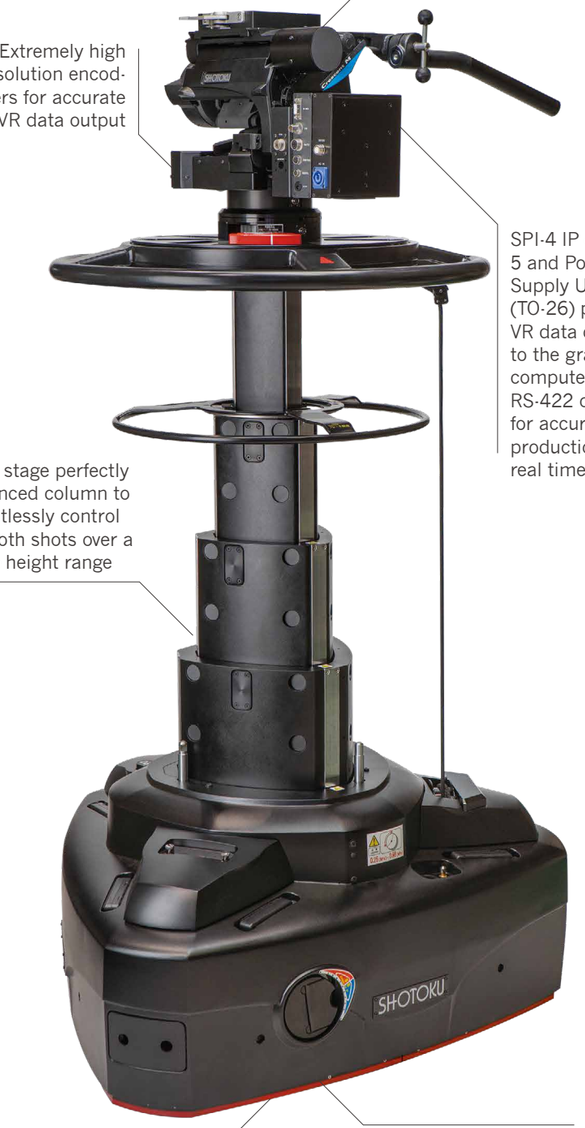


Reliable, accurate mechanical encoders offer versatility over infrared sensors or ceiling/floor targets and zero interference with studio lighting configurations

Extremely high resolution encoders for accurate VR data output

SPI-4 IP or SPI-5 and Power Supply Unit (TO-26) provide VR data output to the graphics computer via RS-422 or IP for accurate productions in real time

Four stage perfectly balanced column to effortlessly control smooth shots over a wide height range




Smooth dolly movement

Mechanical X,Y, and Height tracking with unlimited tracking area

# TP-80VR/23VR SYSTEM

## Four Stage Studio Tracking Pedestal System

The TP-80VR/23VR System* offers industry-leading VR tracking with robust on-air performance exceeding even the most demanding applications.

Pedestal X/Y referencing is initiated using a single hardware push-button and completed by running over a reference tile. Data follows industry-standard protocols supported by all leading graphic systems and is sent in a single, combined signal. Minimal user intervention is required, enabling the operator to focus entirely on camera operation. Zoom and focus data are gathered directly from VR-ready lenses or Shotoku's own lens encoder units for non-virtual lenses.


Optional SPi-TOUCH

Min. height only 857mm / 33.7"

| | |
|---|---|
| RESOLUTION (PAN) | 800,000 counts per 360° |
| RESOLUTION (TILT) | 640,000 counts per 360° |
| RESOLUTION (XY) | 0.02mm |
| RESOLTUION (HEIGHT) | 0.2mm |
| DATA OUTPUT | IP Ethernet UDP and RS422 dual output |
| POWER INPUT | AC85~250V DC12V (10~18V) |
| STANDARD CABLE | Head, B.B., VR Data Cable 10m |
| LENS CABLE** | Zoom/focus data cable for Canon or Fujinon |
| SPI | SPI-4 IP |
| MOUNT | M70 Mitchell |
| SYSTEM MAX PAYLOAD | 60kg / 132lbs |
| PAN / TILT RANGE | 360° / ±60° |
| SYSTEM MAX. HEIGHT | 1,857mm / 73" |
| SYSTEM MIN. HEIGHT | 857mm / 33.7" |
| ON-SHOT STROKE | 1000mm / 39" |
| TRANSIT WIDTH | 848mm / 33" |
| SYSTEM WEIGHT | 223kg / 491lbs |
| WHEEL DIAMETER | 126mm / 5" |

Specifications not listed are the same as the TP-80

*Available in SG900VR Option: Max Payload 90kg, Max. Height 1,842mm/72.5", Min. Height 842mm/33"
**Lens encoder unit is available for non-virtual Canon (TY-05C) and Fujinon (TY-05F) lenses.

Designed jointly with CamMate (purpose-built for VR production)

SPI-6 provides VR data output to the graphics computer via RS-422 or IP for accurate productions in real time

Shotoku high-resolution mechanical tracking encoders

Joystick and pistol grip operation

Graphica 370

# Graphica

PRODUCT

## VR Crane for Studio and OB Applications


Joystick / pistol grip control


Spi-TOUCH calibration system

The Graphica Series is the fusion of superb Shotoku VR technology and the engineering know-how of the prestigious crane maker, CamMate. The result is a product with industry-leading VR tracking capabilities in a package that is portable, scalable, and stable.

Graphica calculates positional data output from embedded jitter-free physical rotary encoders designed specifically for VR applications. This means external markers and area limitations often associated with other positional tracking systems are nonexistent. Shotoku encoders seamlessly process data via the SPI interface to provide real-time data output in studio or on location.

| | |
|---|---|
| SYSTEM OVERAL LENGTH | 7 Models of Varying Length |
| CAMERA PAN / TILT RANGE | Pan: 360° Tilt: +75°~ -60° |
| ARM TILT RANGE* | +60° ~ -45° |
| CONTROL MECHANISM | Joystick and Pistol Grip |
| CONTROL/POSITION CABLES | Standard 12 or 20-pin Interface Cable for Integrated Virtual Encoder Lenses |
| RESOLUTION (HEAD PAN/TILT) | 640,000 counts per 360° |
| RESOLUTION (ARM PAN/TILT) | 640,000 counts per 360° |
| LENS CABLE** | Zoom/focus data cable for Canon and Fujinon |
| SPI | SPI-6 |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Standard) |

| MODEL | Graphica 250 | Graphica 370 | Graphica 490 | Graphica 640 | Graphica 770 | Graphica 960 | Graphica 1240 |
|---|---|---|---|---|---|---|---|
| SYSTEM OVERALL LENGTH | 2.5m (8.2ft) | 3.7m (12.1ft) | 4.9m (16.1ft) | 6.4m (21ft) | 7.7m (25.3ft) | 9.6m (31.5ft) | 12.4m (40.7ft) |
| REACH | 1.5m (4.9ft) | 2.7m (8.9ft) | 3.9m (12.8ft) | 5.1m (16.7ft) | 6.4m (21ft) | 8.1m (26.6ft) | 10.0m (32.8ft) |
| SYSTEM MAX. LENS AXIS HEIGHT | 2.1m | 3.1m | 3.9m | 4.9m | 6.1m | 7.3m | 6.8m |
| SYSTEM MAX PAYLOAD*** | 16 kg / 35 lbs | 16 kg / 35 lbs | 16 kg / 35 lbs | 11.5 kg / 25 lbs | 11.5 kg / 25 lbs | 11.5 kg / 25 lbs | 11.5 kg / 25 lbs |
| TOTAL WEIGHT | 82kg / 180 lbs | 86kg / 189 lbs | 95.7kg / 211 lbs | 102kg / 224 lbs | 147kg / 324lbs | 174kg / 383 lbs | 232kg / 510 lbs |
| ESTIMATED COUNTERWEIGHT | 30kg / 66lbs | 81kg / 178lbs | 138kg / 305lbs | 136kg / 300lbs | 191kg / 420lbs | 270.5kg / 595lbs | 232.7kg / 512lbs |
| DOLLY | 3-Wheel | 3-Wheel | 3-Wheel | 3-Wheel | 3-Wheel | 4-Wheel | 4-Wheel |

* Arm tilt range varies depending on system configuration.
** Lens encoder unit is available for non-virtual Canon (TY-05C) and Fujinon (TY-05F) lenses.
*** Consult your Shotoku representative for payload requirements over recommended max payload.





Cameraman has intuitive hands on control from the camera end

Lightweight and rigid, compact mini jib

VR data output to the graphics computer via RS-422 or IP for accurate productions in real time

Reliable, accurate mechanical encoders offer versatility over infrared sensors or ceiling/floor targets and zero interference with studio lighting configurations

# TK-59VR / SH120VR SYSTEM

PRODUCT

## Mini Jib Crane System for Virtual Applications

The TK-59VR/SH120VR System is a lightweight, portable jib system for virtual applications. Rigid and compact, the jib offers reliable and accurate VR tracking capabilities and data output via RS-422 or IP using industry-standard protocols.

Dynamic low shots

Arm tilt encoder and SPI

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|---|---|
| SYSTEM OVERAL LENGTH* | Approx. 2,400mm / 7'10" |
| SYSTEM HEIGHT* | 450mm / 17.7" |
| SYSTEM MAX. PAYLOAD | 15kg / 33lbs |
| TOTAL WEIGHT | 70kg / 154lbs (including counterweight) |
| CAMERA PAN / TILT RANGE | Pan: 360° Tilt: +75°~ -60° |
| ARM TILT RANGE | +60° ~ -45° |
| HEAD COUNTERBALANCE | Continuously Adjustable Perfect Balance |
| HEAD DRAG | Continuously Adjustable Fluid-Leaf |
| MOUNT | 100mm Ball |
| RESOLUTION (HEAD PAN/TILT) | 640,000 counts per 360° |
| RESOLUTION (ARM PAN/TILT) | 640,000 counts per 360° |
| SPI | SPI-3 |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Optional) |
| TRIPOD | TT-64 OB Tripod |
| DOLLY | TD-13 Studio Dolly (Optional) |

*When jib crane is at its horizontal position


# TK-38VR SYSTEM

## Crane & Dolly System for Virtual Applications

Using our intuitive pan bar control unit, the TK-38VR for studio applications offers unparalleled single operator control in a versatile and compact system. Data is output in real time to the graphic computer via RS-422 or IP.


Head unit

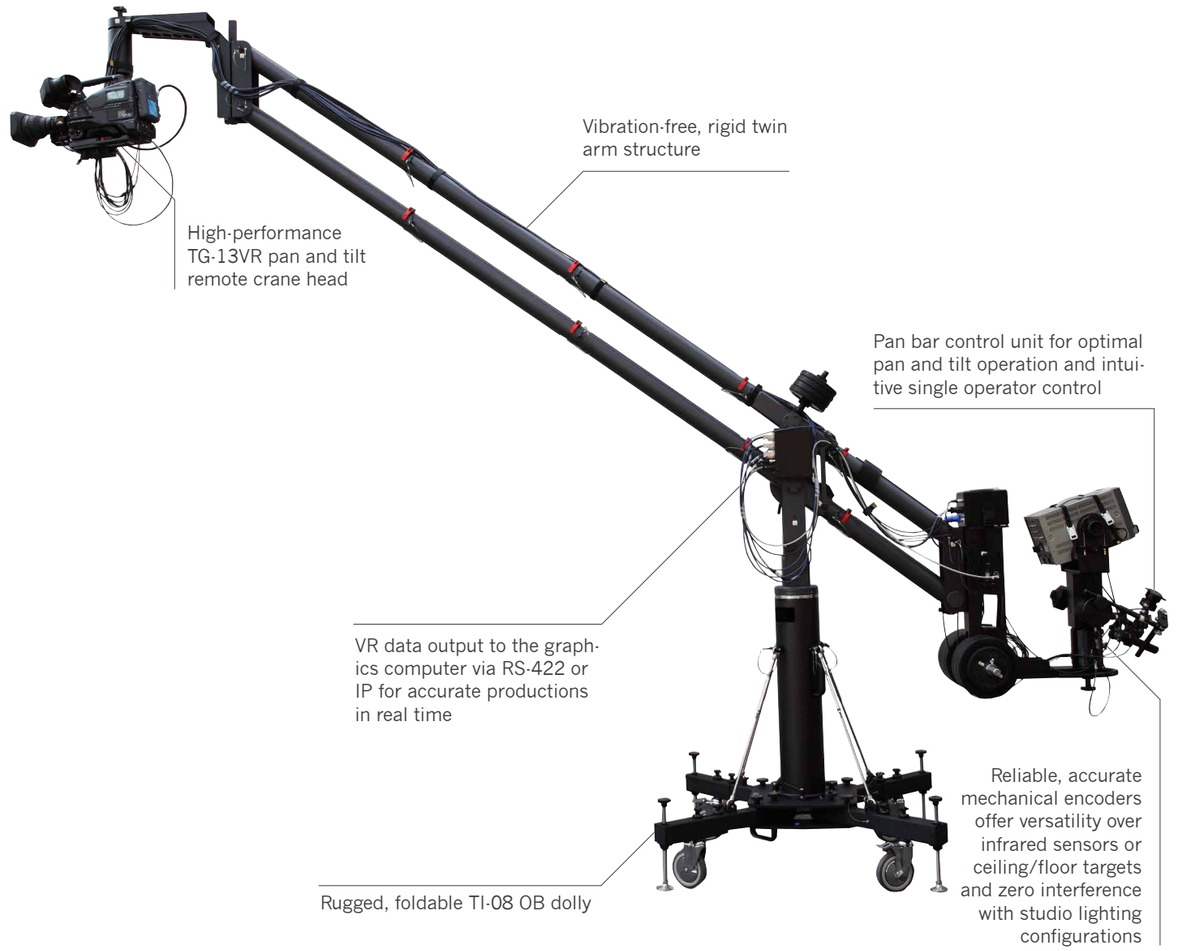

Pan bar control unit

| | |
|---|---|
| SYSTEM OVERAL LENGTH | 3,534mm / 11’7” |
| SYSTEM MAX. LENS AXIS HEIGHT | 2,837mm / 9`4” |
| SYSTEM MAX. PAYLOAD | 10kg / 22lbs |
| TOTAL WEIGHT | 120kg / 264lbs |
| CAMERA PAN / TILT RANGE | Pan: 240° Tilt: +60° ~ -90° |
| ARM TILT RANGE* | +56° ~ -56° |
| CONTROL MECHANISM | Pan Bar Control Unit |
| RESOLUTION (HEAD PAN/TILT) | 86,400 counts per 360° |
| RESOLUTION (ARM PAN / TILT) | 640,000 counts per 360° |
| SPI | SPI-3 |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Optional) |
| TRIPOD | TT-17 OB Tripod |
| DOLLY | TD-13 Studio Dolly |

*Arm tilt range varies depending on system configuration.








# TK-53VR / TI-08 SYSTEM

## Crane & Dolly System for Virtual Applications

Using our intuitive pan bar control unit, the TK-53VR/TI-08VR for studio applications offers unparalleled single operator control in a versatile and portable system. An extended configuration offers over 750mm / 2’5” to the maximum system lens axis height.

Optional SPi-TOUCH


Pan bar control unit

| MODEL | TK-53VR | TK-53LVR |
|---|---|---|
| SYSTEM OVERAL LENGTH | 4,011mm / 13’2” | 4,861mm / 15’11” |
| SYSTEM MAX. LENS AXIS HEIGHT | 3,099mm / 10’2” | 3,850mm / 12’7½” |
| SYSTEM MAX. PAYLOAD | 10kg / 22lbs | 10kg / 22lbs |
| TOTAL WEIGHT | 180kg / 396lbs | 190kg / 418lbs |
| CAMERA PAN / TILT RANGE | Pan: 240° Tilt: +60° ~ -90° | |
| ARM TILT RANGE* | +62° ~ -39° | +62° ~ -26° |
| CONTROL MECHANISM | Pan Bar Control Unit | |
| RESOLUTION (HEAD PAN/TILT) | 86,400 counts per 360° | |
| RESOLUTION (ARM PAN / TILT) | 640,000 counts per 360° | |
| SPI | SPI-3 | |
| 2PT CALIBRATION SYSTEM | SPi-TOUCH (Optional) | |
| DOLLY | TI-08 OB Dolly or<br>TI-04VR Studio Steering Dolly with X-Y Tracking | |

*Arm tilt range varies depending on system configuration.

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