

# FURIO

Furio+  
| The Smart Evolution  
of Camera Robotics.



## **ROSS**

## | Make your move.

Since its introduction in 2008, the Furio has revolutionized not only studio robotics, but also the way productions are created. With the ability to produce silky smooth, sweeping on-air dolly shots, which can then be precisely repeated at the push of a button, Furio has allowed producers to create a more dynamic look – while at the same time delivering higher quality and repeatability, and lowering operating costs. Unlike jibs or other specialty camera systems, Furio also has the payload capacity to support full-sized cameras and teleprompters, giving it the flexibility to deliver spectacular beauty shots, while also serving as the primary production camera.

Already the market leader as the only mass-produced, high performance robotic dolly system available, the Furio lift and dolly were completely redesigned in 2017 when the Furio SE was introduced, providing even more dramatic moving shots, while also safer, more robust and more reliable. With the addition of the economical S2 Lift, the Furio lineup includes a more affordable option enabling an even wider spectrum of productions to enjoy the practical and creative benefits that have made Furio so successful.

In 2023, we introduced Furio+ with further enhancements to our dolly to include our unique StableTrac technology, providing superior performance, especially in environments with uneven track surfaces.

As a modular system, Furio+ is available in a wide variety of configurations, with multiple bases, lifts and heads to choose from. Choose between the Furio+ dolly system or the manual BlackBird base. Select the towering height and unbeatable range of the SE 3-stage lift, the more economical S2 2-stage lift, or a fixed column – or mount the head directly on the Furio+ dolly. The system can then be paired with either an X350, or VR600 pan & tilt head, depending on payload requirements.

### **PERFORMANCE & FLEXIBILITY**

- Unmatched combination of speed, smoothness and accuracy.
- Unique StableTrac technology to further enhance Furio stability and traction, even in the presence of uneven track surfaces.
- All Furio+ systems have the payload capacity to support a teleprompter, allowing them to be much more than just a specialty camera.
- Stable and accurate virtual tracking data make Furio+ the perfect tool for Virtual and Augmented Reality.

### **ROBUSTNESS**

- Integrated diagnostics, fault tolerant circuits, and field replaceable electronics modules make Furio+ even easier to operate and maintain.
- Minimal exposed components, embedded linear rail technology, and advanced carbon fiber construction ensure longterm reliability and performance.
- 100% designed, manufactured and installed by Ross Video. No 3rd party OEMs. Backed by our legendary global support teams, and lifetime phone and email support – no contract required.

### **SAFETY**

- Remote and on-board E-stops ensure that the system is quickly and safely brought to a halt in case of emergency.
- Motion indicator lights warn of robotic movement.
- Anti-tip features on wheel assemblies ensure the dolly cannot derail.



**FURIO**  
SMART EVOLUTION

Evolved

### LIFT OFF

Furio lifts provide smooth, linear elevation for industry-leading payloads, enabling silky-smooth on-air movement while providing stable and accurate camera positioning. Based on unique designs that ensure superior performance, robustness and reliability, with minimal regular maintenance, both Furio lifts can be counted on to deliver reliably for years to come.

- Internal Linear Guides provide superior linearity, rigidity and stability when compared to traditional designs, while maintaining column alignment over the life of the system –with zero maintenance.
- Superior Lift Linearity results in greater pan accuracy and repeatability across the entire lift range – particularly important for virtual and augmented reality.
- Non-pneumatic design eliminates the need for pressurized gases, and along with it the risk of blown seals, corrosion, etc., offering improved reliability and lower maintenance.
- Blind mate electrical connection between lift and dolly simplifies installation and protects cables and connectors from damage.

### ELEVATE PERFORMANCE

The Furio SE Lift is the most advanced, highest performance camera elevation system in the industry. Its Carbon Fiber design enables a taller lift without adding weight or sacrificing strength or rigidity - ensuring a low center of mass and maintaining system stability for even better moving shots across the entire elevation range. Meanwhile, a long list of design features guarantees the lift is easy to setup, operates flawlessly, and requires minimal servicing over its lifespan.

- Max. Height of 2.2 m (7' 3"), and Elevation Range of 87 cm (34") provides an impressive range of shots and perspectives for unleashing artistic freedom and creativity.
- High Speed lift smoothly travels at up to 15 cm/s (6"/ sec), enabling Furio to get into position faster and create more dynamic on-air movements.
- Internal magnetic encoder silently and accurately tracks absolute lift position with millimeter precision, ensuring repeatable preset recalls and accurate tracking data.
- Ergonomic top and bottom handles facilitate lift installation, where the exterior profiles have been carefully sculpted to ensure that cables never snag as the head or lift are repositioned.
- A rocker switch on the dolly permits the lift to be raised and lowered locally, without requiring a control system or joystick panel.
- Integrated cable management features permit cables to be neatly and safely secured to the lift.

### TAKE 2

The S2 Lift is based on the same core technologies used in the SE lift, but with a simpler, more cost-effective design. This enables a more affordable option for applications where the higher performance SE lift is not required, or where budgets are more constrained.

- 2-stage design uses the same linear guide technology and non-pneumatic design as the SE lift for superior linearity with high reliability and zero maintenance.
- Slip-free drive train eliminates need for external encoders while still providing accurate, repeatable positioning, and delivering reliable tracking data for virtual and augmented reality productions.





## | Smart

### **DOLLY SHOTS**

Packed with clever design ideas, including StableTrac technology, the Furio+ dolly is easier to setup and maintain, more robust, and safer to operate than any other robotic camera system on the market.

All electrical circuits are contained in a single Field Replaceable Unit (FRU), featuring blind mate connections. The FRU can be quickly replaced in minutes, minimizing downtime.

- Dual-switched DC power supplies automatically detect and switch between 110V and 220V, offering global compatibility without reconfiguration.
- 24V and 48V DC outputs power X350 and VR600 heads, eliminating the need for external power bricks.
- Integrated power bar neatly distributes mains power for cameras, prompters, monitors, clocks and more.
- Complete array of status LEDs accelerate fault detection and diagnosis.
- The same Dolly can now be configured for both Furio+ Studio (formerly known as Robo) and Furio Live (RC) applications.

## | Fast-Track

### **RUN IT DOWN**

The Furio+ dolly rides on precision extruded aluminum rails that are custom built to your exact specifications. Available in curved or straight sections, their narrow 36 cm (14") track width makes them perfect for small sets where space is at a premium, and there simply is not enough room for a camera operator.

- A collision avoidance module permits two Furio+ dollies to safely share the same track for increased flexibility.
- Dolly position is tracked by an absolute wiredraw encoder that avoids any errors caused by wheel slip or other momentary disturbances, ensuring that Furio+ always knows exactly where it is.
- Combined with absolute encoders in the lift, head and lens, Furio+ provides accurate and reliable 7-axis tracking data in multiple formats, making it the perfect solution for Virtual Sets and Augmented Reality.
- Integrate with an existing third party render engine or enjoy the peace of mind with a complete Ross environment - the industry's only single provider for Virtual and Augmented Reality solutions.

## | Safe

### **SAFETY FIRST - Industry's Safest Rail System**

Safety is designed into all aspects of the Furio+, from eliminating pinch points, simplifying high voltage connections, and preventing derailments, to adding motion indicators and Electronic Stops (E-Stops).

- On-board Front and Rear E-Stop Buttons on dolly and optional remote E-stop immediately cut power to the dolly, lift and head in order to ensure maximum safety.
- Failsafe brake keeps lift in position during power loss (or when e-Stop triggered), ensuring the camera does not drop if on-air (SE Lift only).
- When power is cut, dolly comes to a rapid controlled stop, thanks to unique constant current regenerative braking.
- Stability wheels prevent the dolly from tipping without introducing any additional rolling resistance or noise during normal operation.
- Gently flashing front and rear light bars provide visible indicator that system is in motion.



SmartShell CONTROL SYSTEM

All Ross Robotic studio solutions can be controlled from a flexible, intuitive user interface that can be scaled to suit both large and small installations.

The SmartShell Control System combines a touchscreen interface with an ergonomic joystick control panel. So, whether you have Furio+ dollies, free-roaming CamBot pedestals, Pan & Tilt heads or BlackBird pedestals, all of your Ross Studio Robotic Camera systems can be controlled by a common control system using a centralized Ethernet-based architecture.

Each SmartShell control station communicates with the robots using native IP-based protocols over an Ethernet infrastructure. To minimize latency, the joystick panel communicates directly with each Robotic system, providing a responsive and natural feel.

FURIO MotionDirector (incl. in SmartShell v5 or higher)

Unlike most robotic systems that force you to choose between programmed motion and remote manual (joystick) operation, MotionDirector gives you the best of both worlds: the precision and predictability of a naturally smooth and synchronized pre-programmed trajectory, combined with the flexibility to make manual corrections while a programmed movement is in progress. Because the real-world can be unpredictable, and you need a robotic system that gives you the flexibility required to adapt to everything it can throw at you. Unique features include:

- In-Flight Bumping: Trim a shot from the joystick panel while the camera is in motion
- Time Dilation: Stretch or Compress the length of a Movement (Preset recall or Move) before or while in motion.
- Recorded Moves: Record manual (joystick) movements overtop of keyframes -recording and re-recording one or more axes at a time, to create the ultimate signature moving shots.

FURIO PRE-CONFIGURED PACKAGES.

Furio+ is available with a variety of configuration options :

- Pan/Tilt heads: The compact X350 is perfect when it's just a camera and lens. The VR600 can handle much larger payloads, including full-sized teleprompters, and offers a special bracket for mounting a talent monitor.
- Lifts: the cost effective 2-stage S2 lift and the 3-stage carbon-fiber SE lift for spectacular beauty shots.

Specifications

FURIO+ SPECIFICATIONS	FURIO S2+ / X350 DOLLY + LIFT	FURIO S2+ / VR600 DOLLY + LIFT	FURIO SE+ / X350 DOLLY + LIFT	FURIO SE+ / VR600 DOLLY + LIFT
Max. Net Payload	6.8 kgs (15 lbs)	30 kg (66 lbs)	6.8 kgs (15 lbs)	30 kg (66 lbs)
Max. Prompter Size	N/A	Max. 19"	N/A	Max. 19"
Min. - Max. Pan / Tilt Speed	0.01- 45 deg/s	0.001 – 90 deg/sec	0.01- 45 deg/s	0.001 – 90 deg/sec
Max. Track Speed	1 - 2.5 m/s on straight track / 0.5 - 1 m/s on curved track (depends on payload and track length)			
Max. Lift Speed	12.5cm/s (5"/sec)		15cm/s (6"/sec)	
Max. Track Length	40m (131 ft)			
Min. & Max. Radius Curved Track	Min. 3.00m (9.8 ft) centerline external rail / unlimited Max. : - Corresponds with min. 2.64m (8.6 ft) centerline internal rail - Any radius and section can be custom built			
Pan/Tilt Repeatability	< 0.02 deg			
Track Or Floor Repeatability	<1 cm (absolute positioning)			
Lift Max. Height Optical Center	1581mm (62.2")	1808 mm (71.2")	1997mm (78.6")	2228 mm (87.7")
Total Lift Range	483 mm (19.0")		871 mm (34.3")	
Dolly Track Width	36 cm (14.17")			
Dolly / Base Length x Width x Height	89 cm x 46 cm x 23 cm (34.9" x 18.0" x 9")			
Tracking For VS / AR	Yes			



# FURIO

Ross Video has a complete range of technical services available to ensure that your Furio SE+ installation is a success.

Operational Training can be provided at Ross Video, on-site or on the web. Experienced Ross operators will teach your staff to get the most out of your new system, and enhance your productions.

Commissioning is a service to help get your robotics system properly configured, connected and installed. This service is performed by factory trained Ross technical staff.

Technical Training can be provided at Ross Video, on-site or over the web. Technical training will teach your engineering staff the technical details of the system you have purchased. System configuration, interfaces, databases, and routine maintenance procedures are some of the topics covered.

Furio SE+ comes standard with a 1 year comprehensive warranty. Extended Warranties on hardware and software maintenance are available for an annual fee.

Technical advice is available on-line, by telephone, or email to Ross Video – Included for the life of your system.

## Contact Us

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## Technical Support

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## ROSS VIDEO LIVE PRODUCTION EXPERTS

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