

Marriott Theatre  
*Hello, Dolly!*



**Our experts. Your scenery. Let's get moving.**

creativeconners.com // info@creativeconners.com // 401.289.2942  
20 Avery Road // Cranston, Rhode Island 02910

**2024 CATALOG**





Gareth Conner

Twenty years is a pleasantly round number and a big milestone. For two decades I've been building on the idea of democratizing automation. But it hasn't been a straight path.

When I started Creative Conners in my basement workshop, I was convinced that the nascent Stagehand controller should power old DC winches that were strewn around traprooms everywhere. But our customers wanted to fire up new machines with modern motors. So we changed course.

I founded the company to make stock products that can be put together like Lego bricks to suit your show. For years I dogmatically pursued generalized solutions and eschewed custom work. But we said "no" too often to projects that wanted the approachable power of Spikemark software but needed custom gear. So we changed course.

Stagehand and Spikemark were born and bred to run shows. But theatres wanted a better solution for their permanent rigging that matched the elegance of the experience during performance. So we changed course.

Each time we change course, we get better. It's been five years since our last catalog, and this latest edition is packed with new products and services that will make you smile.

The new **Stagehand** is a huge advance. Split accel/decel (finally!), a glorious new status screen, integral brake testing, and optional support for absolute encoders are some big highlights.

**Stagehand Pro 5** and **Stagehand Apprentice 2** are phenomenal new controllers, but you can also upgrade old equipment to get these features. Factory-installed upgrades are a great way to preserve your investment and protect our planet.

**Stagehand Lineset** is a slick retrofit for existing batten hoists. Use

it with our extensive array of permanent wiring solutions to create a flexible venue that automates linesets during load-in and runs cues at show time.

**Spikemark 5** has been radically enhanced to handle big shows and permanent installations running over 100 machines. A new cue sheet, filters, tags, dedicated jog screen, and presets can automate monster-sized performances without sacrificing user friendliness on smaller shows.

**Spotline v2** & **Spotline Mini v2** have more travel, more capacity, and more safety sensors — more everything except the price. **Gearmotor**, **Pivot**, and **Turntable Template** enable automation enthusiasts to easily create their own effects.

**Season Subscription** is a total re-think on rentals. You can budget the cost of automation even before the shows are designed. One monthly payment covers all your automation needs.

Roughly one out of three projects we tackle are **custom creations**. If you need something special, just say the word. We're here to help however we can.

These days I spend less time building machines and more time building the machine to build machines. Like any good fabricator, I start with a blueprint. But I modify, adapt, and improve the plan as we listen closely to you. Creative Conners keeps evolving to meet your needs through the incredible talent of the best, most-friendly, automation junkies in the business. Let's keep moving!

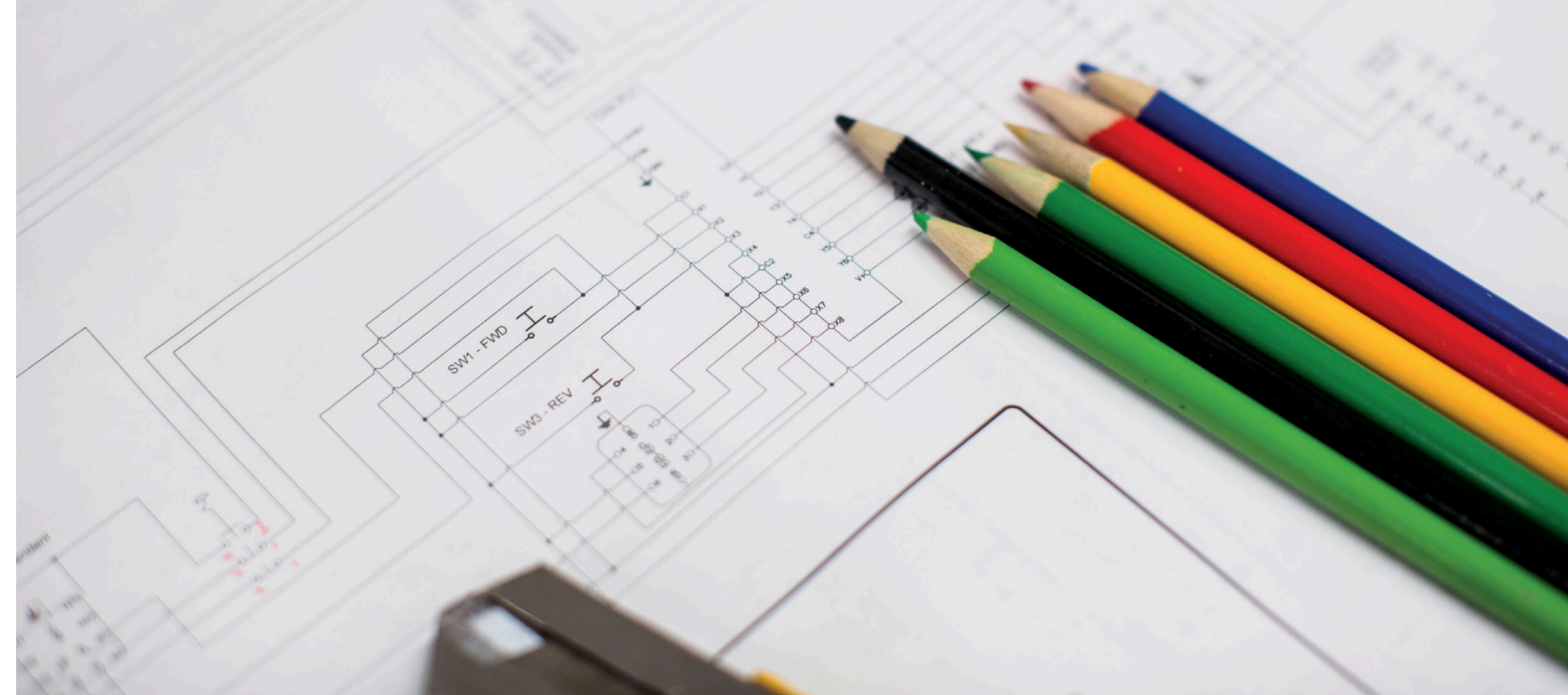
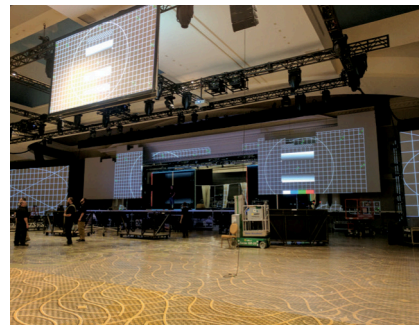
Warm wishes,

Gareth Conner

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# WHAT WE DO



## Creative Connors...

... makes highly sophisticated **products**.

- products made for bright, enthusiastic, budget-conscious customers
- products whose inner complexity results in elegant simplicity for the user
- products for which the easiest way to use them is also the safest way
- products we ourselves want to use

... offers unbridled **support** to the people using our products.

- for *any* automated project of our customers
- by sharing knowledge

... is **transparent** in technology and business dealings.

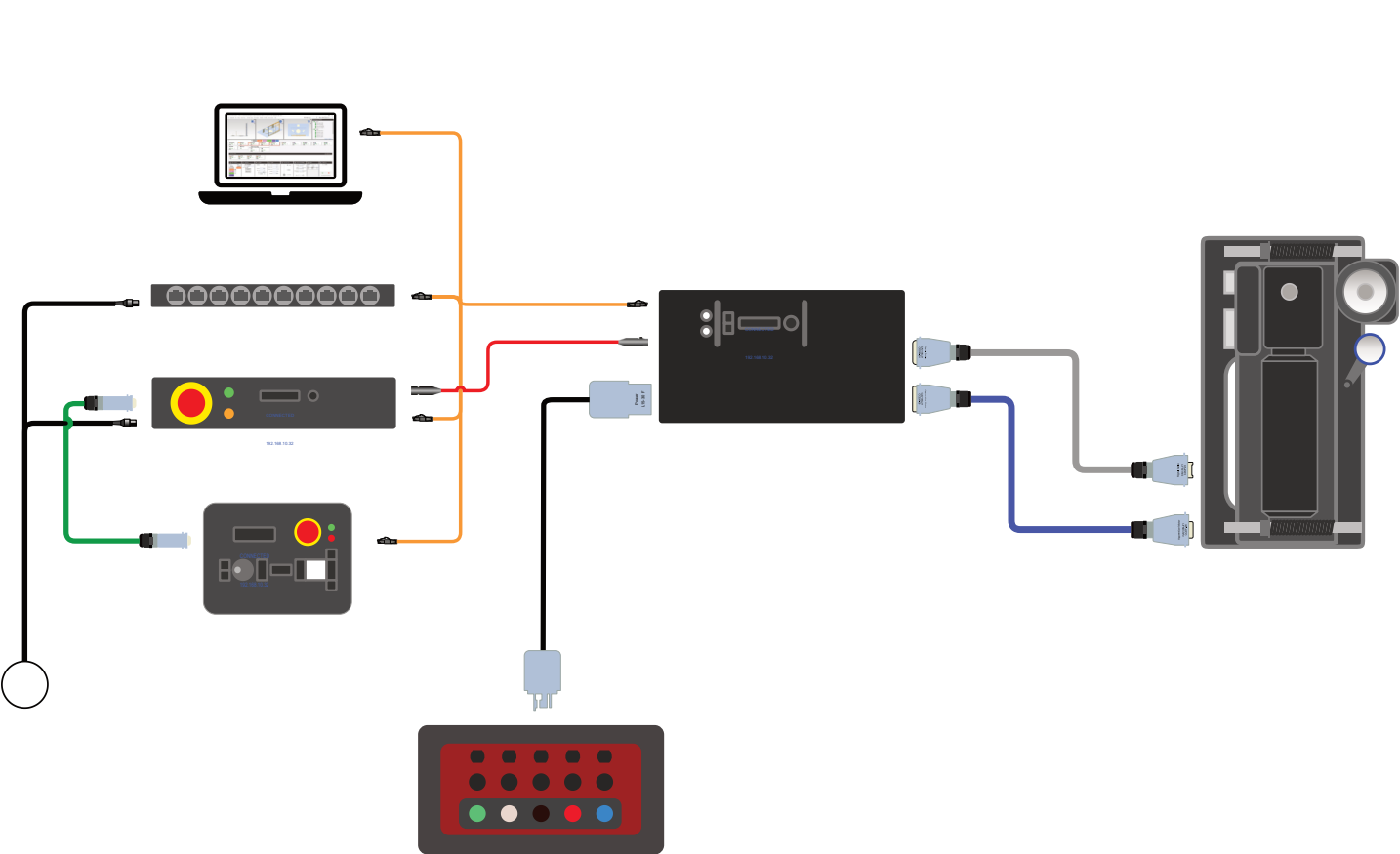
- pricing (our prices are always published)
- business operations
- technical information

... **makes it move.**

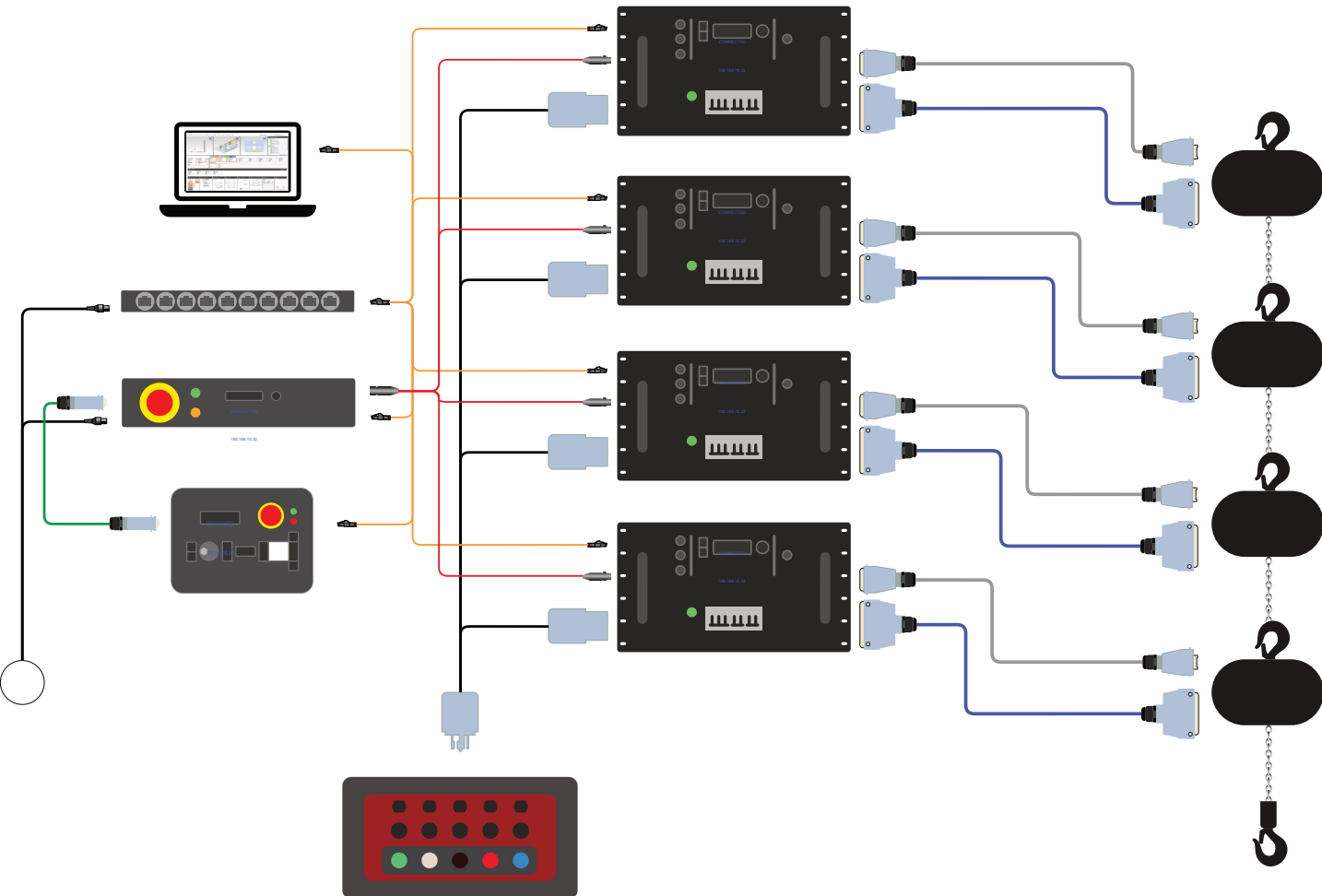


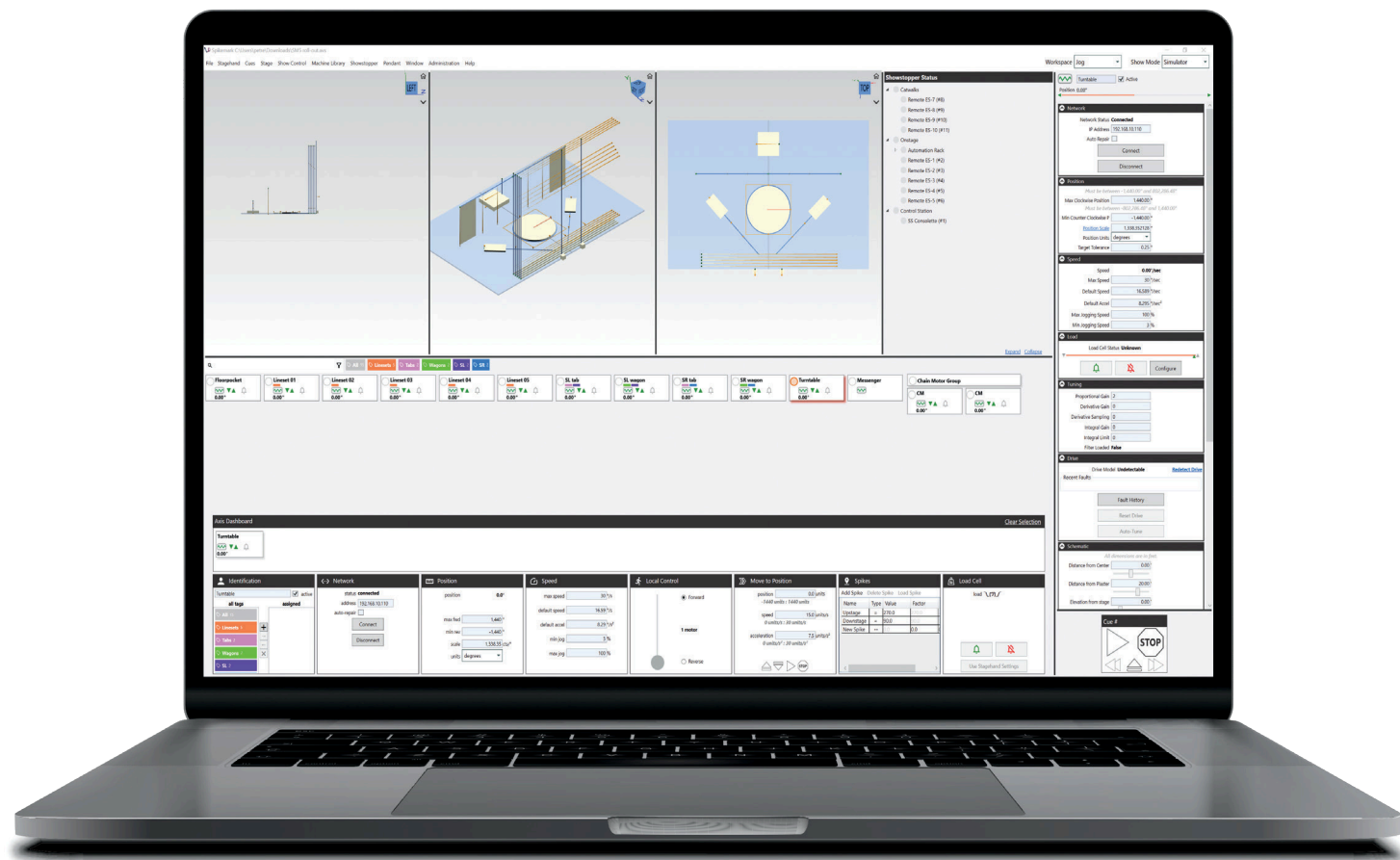
# SYSTEM DIAGRAMS

## SINGLE AXIS



## MULTI AXIS





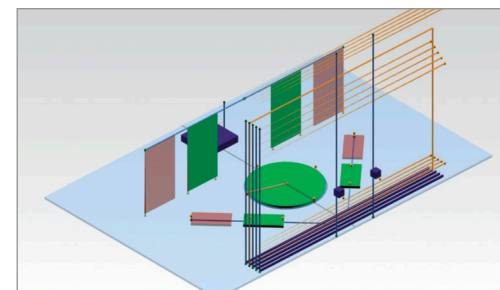
# SPIKEMARK

Translate your automation ambitions into automated motion with Spikemark. It is intuitively powerful and powerfully intuitive. At its core is a control program to design stage motion based on speed, timing, acceleration, and position. An elegantly simple user work space ensures every feature is at your fingertips and critical information is in clear view.

With Spikemark, you'll be orchestrating well-designed scenic automation in no time! Features like Group Motion, Asymmetrical acceleration and deceleration, and Show Control Integration help you add sophisticated motion to your show quickly.

Presets move your facility machinery, like motorized linesets, to positions like working height with the push of a re-programmable touchscreen button.

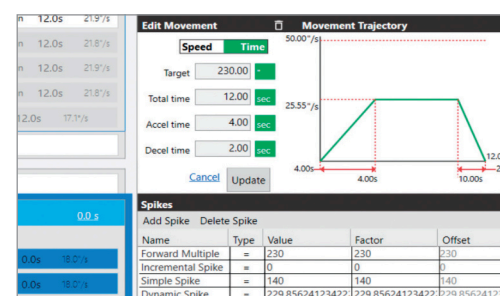
Whether you are controlling dozens of axes or just one, Spikemark effortlessly commands any size show with ease. Best of all, Spikemark is not just affordable, but completely free to use.



## SIMULATOR & VISUALIZER

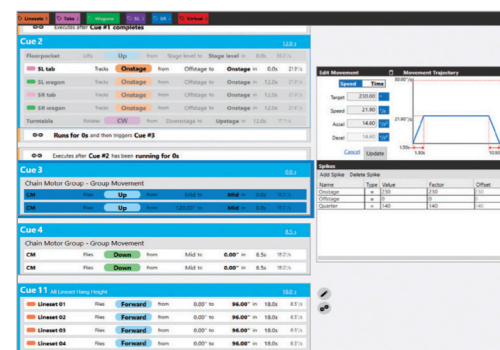
Experiment with scenic automation on a virtual stage. Your entire show can be cued and run in real-time within the software long before load-in, reducing lengthy tech rehearsals by identifying and fixing cueing problems in advance.

When your show is up and running the Visualizer serves as a Heads Up Display to know the status of every motor on stage.



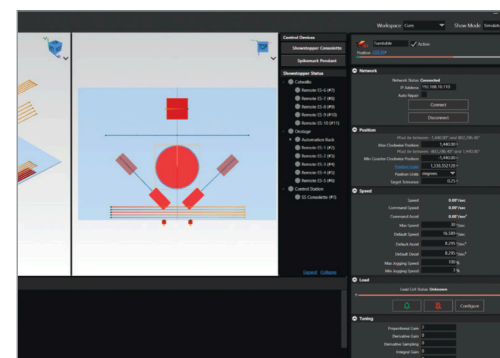
## SIMPLE & DYNAMIC SPIKES

Spikes are a great way to keep track of each motor's playing positions. The Spikes window speeds up cue creation by showing you all of your stored positions. Need to shift a scene 3 inches to the left throughout the performance? Just enter the new position and Spikemark will track the change through the entire show. Dynamic Spikes move effects to a calculated position based on simple formulas.



## CUE LIST CREATION

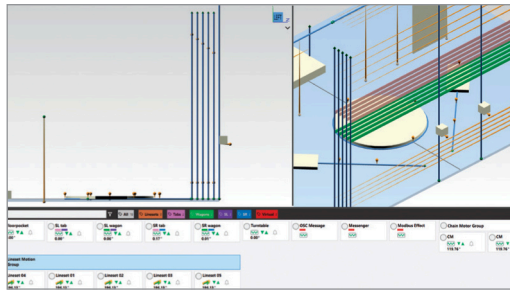
Drag and drop your motors to build your Cue List. Each cue displays what will move and describes the action in clear words ('Deck Winch Tracks to 250" at 20"/ second). Build fancy cues with links, triggers, concurrent cues. The movement editor let's you easily program the speed of the effect using either velocity & acceleration/deceleration, or time.



## DARK MODE

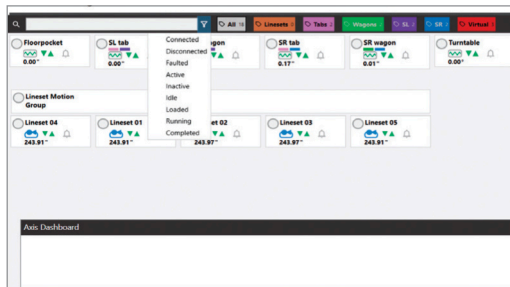
Turn the lights down on your automation console. Switch to Spikemark's dark theme to reduce light bleed backstage while maintaining focus on your show.

Dark mode uses a high contrast near black background and adjusts the work space color palette to maintain quick glance identification of the cue list, settings, and visualizer. Color blind users can adjust colors to ensure they never miss a cue.



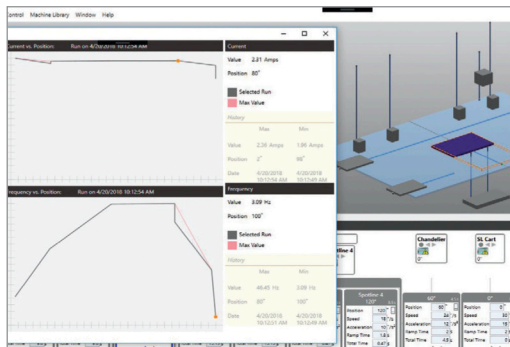
## GROUP MOTION

Group any number or type of motors together into a Motor Group. All grouped motors move together but can be programmed with distinct speeds and position targets. Any fault from a single motor in the group will halt motion for the entire group, preventing dangerous over-travel or load conditions.



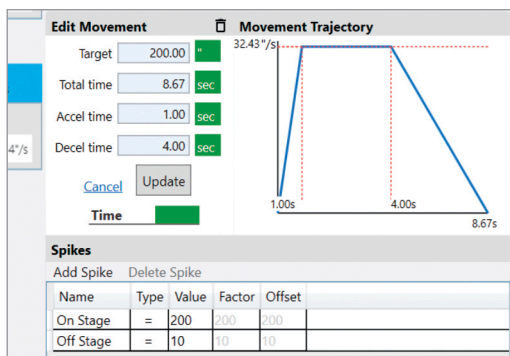
## FILTERS & TAGS

Find the machine you need in a flash with Tags, Filters, and Search. Tags organize your effects for quick recall. Tag your flies and deck machines, or effects on stage right and left, or even by scene. Filters display machines based on connection, cue status, or fault status.



## MOTION ANALYTICS & DRIVE COMMUNICATION

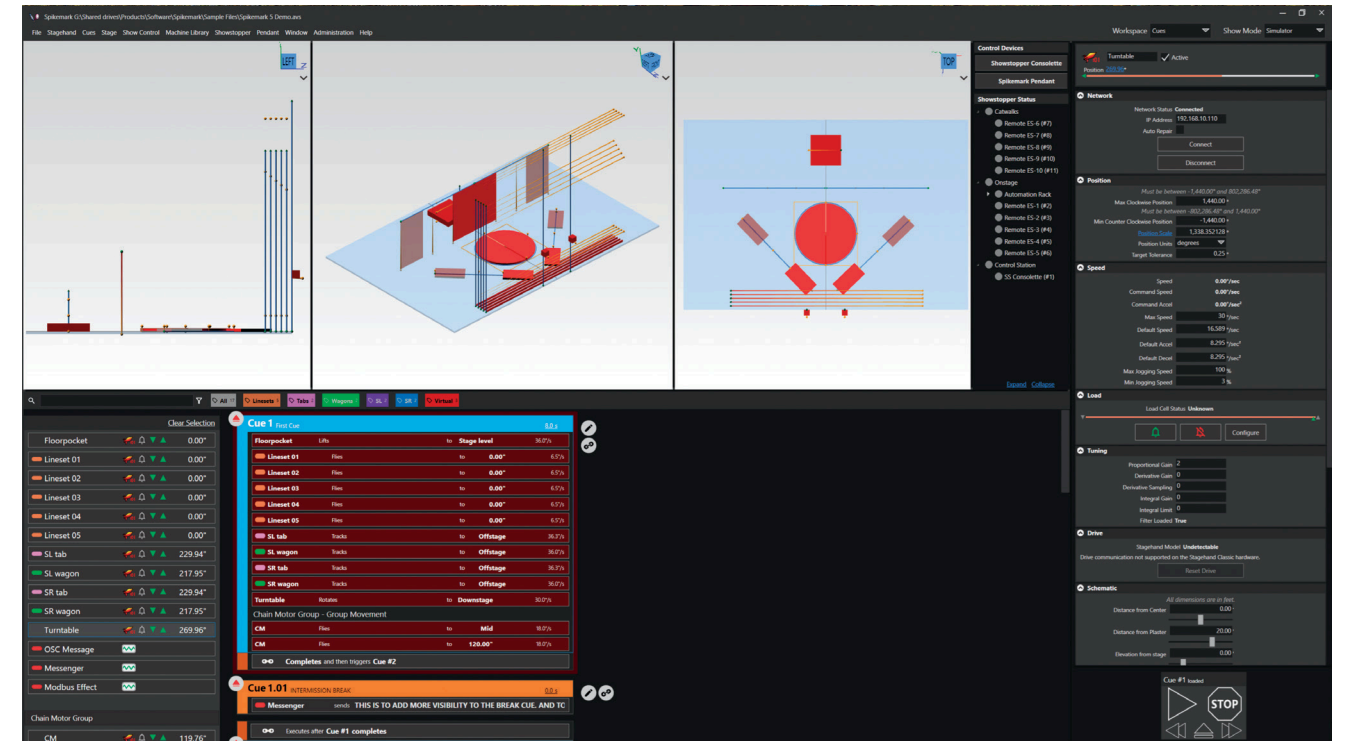
Get a complete diagnostic picture of each axis. View amperage and frequency values of each move as well the fault history of any axis. If a motor is acting "funny" you can analyze why and how. Remotely auto-tune drives for smooth predictable motion. Reset drives when a fault occurs and adjust drive parameters.



## ASYMMETRICAL ACCELERATION & DECELERATION

Write cues with different acceleration and deceleration rates. Accel and decel can independently change midmove. Start a move with a quick speed ramp up then glide to a long slow gentle stop.

A dynamic motion graph intuitively displays the motion as the user adjusts parameters of the cue (distance, speed, acceleration, deceleration). See the changes on the screen before hitting the Go button.



## SYSTEM CAPACITY

Built from the ground up to handle any number of Stagehand controlled motors. Whether you are spinning a single turntable or flying hundreds of automated linesets Spikemark remains responsive, easy to program, and safe to operate. Write hundreds of cues and store an unlimited number of positions without getting bogged down. Cues can be linked based on timing or position. Trigger the playback of single cues or stack cues with a momentary Go button push or Hold To Run for added safety.

## OSC, UDP, POSISTAGENET & MODBUS

Spikemark integrates with any show controller or other system that can listen to UDP or OSC data. Media servers like Figure 53's QLab, Dataton Watchout, disguise, and Isadora integrate seamlessly with your automation for synchronization of scenery and video. Your video can track with moving scenery with just a few clicks in Spikemark!

## LOAD SENSING

Monitor & protect against unexpected load changes. User definable over and under load limits are monitored by compatible Stagehand controllers and reported on the Spikemark screen. If loads fall outside of the expected range a fault halts all motion and the operator clearly see an alert.

## AND TONS MORE...

## PRICE

Free. Zero. Gratis. Zilch.

# STAGEHAND PRO

Our most advanced motion control card paired with a versatile VFD ensures safe, precise, and efficient operation for even the heaviest and fastest machinery (5HP or 10HP).

Create intricate movements with asymmetrical motion profiles, extensive sensor monitoring, and built-in interlocks for detailed control and absolute peace of mind.



## OVERHEAD SAFETY

Stagehand Pro is built to meet all industry standards for overhead lifting – dual brake control and testing, overspeed monitoring, load monitoring, and redundant E-stop circuitry.

## SPLIT ACCELERATION / DECELERATION

Create complex cues with asymmetrical acceleration and deceleration. Ramp times can be preset or changed mid-move with Spikemark. Time or speed based cue acceleration graphs make writing the perfect cue fast.

## MORE LIMITS & INTERLOCK

With support for forward, reverse, and ultimate limit inputs, Stagehand Pro is chock full of redundant safety sensors to make sure your machine never moves farther than you intend. Stagehand Pro also includes three interlock inputs to restrict movement forward, reverse, or both when tied to external sensors.

## HIGH TORQUE + LOW SPEED

The Stagehand Pro creates smooth motion, regardless of load or speed, using a closed-loop vector variable frequency drive (VFD). Get the full torque out of your machine at zero speed.

## LOAD CELL INPUT

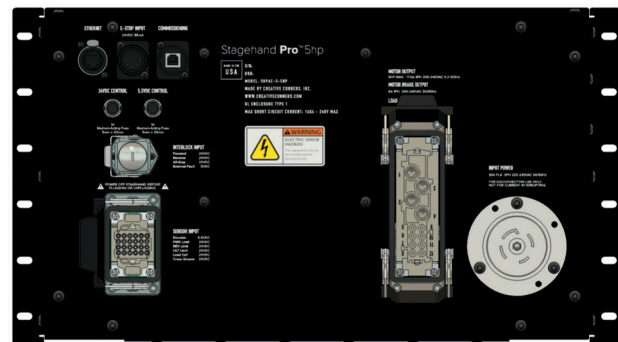
Don't "guesstimate" how much is hanging from your hoist. Stagehand Pro supports load cells so you know the load on your rig. Set load limits to halt motion in case of overweight or underweight conditions.

## INCREMENTAL OR ABSOLUTE ENCODERS

Handles both incremental encoders, ideal for temporary effects that change show to show, and absolute encoders, perfect for permanent installations, for maximum project flexibility. Stagehands can be configured to sense the best type of encoder for your project.

## TECHNICAL HIGHLIGHTS

- 5 HP or 10 HP capacity
- Outputs for redundant brakes when hoisting
- Redundant, self-monitoring emergency stop circuit
- Large OLED status display
- Closed-loop vector drive for precise speed control
- Drive status reporting
- Forward, reverse, and ultimate limits
- Dual encoder inputs for speed and position
- Cross Groove detection



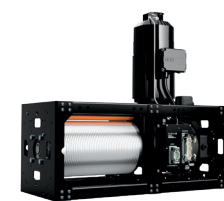
## 5 HP SPECIFICATIONS

<b>Dimensions</b>	19" w x 16" d x 10.5" h
<b>Input Voltage</b>	200-240VAC three-phase or 380-480VAC three-phase
<b>Max Input Current</b>	30A
<b>Max Output Voltage</b>	230VAC or 480VAC
<b>Brake Output Voltage</b>	200VAC single-phase
<b>E-Stop Input Voltage</b>	24VDC
<b>Rack Units</b>	6 RU

## 10 HP SPECIFICATIONS

<b>Dimensions</b>	19" w x 16" d x 10.5" h
<b>Input Voltage</b>	200-240VAC three-phase or 380-480VAC three-phase
<b>Max Input Current</b>	40A
<b>Max Output Voltage</b>	230VAC or 480VAC
<b>Brake Output Voltage</b>	200VAC single-phase
<b>E-Stop Input Voltage</b>	24VDC
<b>Rack Units</b>	6 RU

## WORKS WITH



Spotline or Spotline Mini



Smart Chain Hoist



Revolver or Rotator



Pushstick

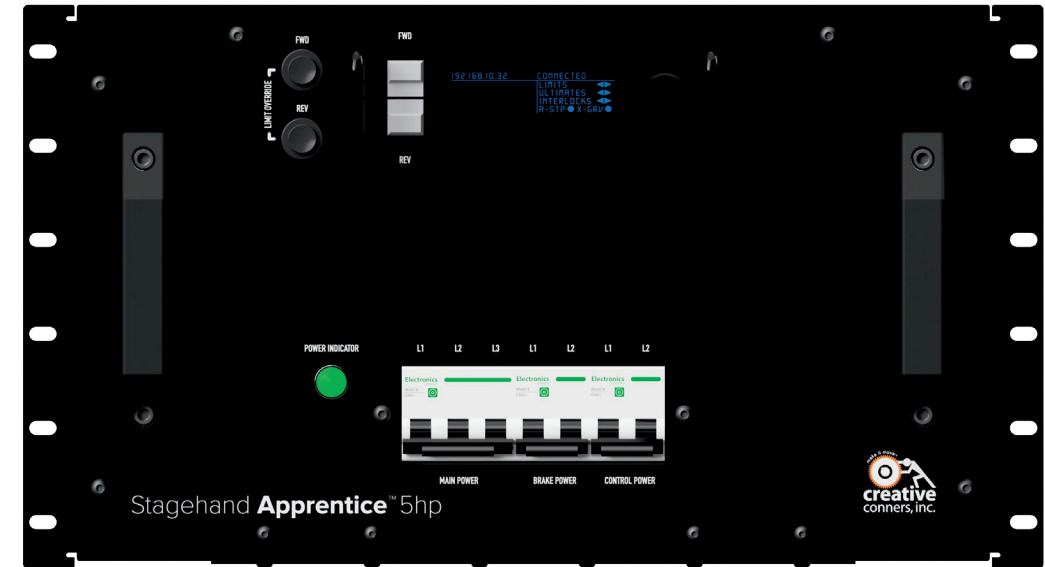


Floorpocket

# STAGEHAND APPRENTICE

Bring the excitement of automation to theatres of all sizes. Combining the motion controller and motor drive into a compact package, Stagehand Apprentice let's anyone spin a turntable, move a winch, or push a linear actuator with Spikemark.

There are models that operate from **120V Single Phase** to **480V Three Phase power** depending on your needs. They are perfect for automating lateral moves such as Turntables, Deck Winches, and Curtain Track.



## EXCEPTIONAL POWER RANGE

Our smallest Stagehand Apprentice operates on 120V power so it can be plugged directly into any non-dim 120V outlets that are already in your theatre. When you need more muscle, our 3 phase models are up for the challenge – move more and move faster with more power from the Stagehand Apprentice.

## SPLIT ACCELERATION / DECELERATION

Create complex cues with asymmetrical acceleration and deceleration. Ramp times can be preset or changed mid-move with Spikemark. Start a move with excitingly fast acceleration and end the same cue with a gentle deceleration as your scenery glides into place.

## SIMPLE CABLING & SETUP

Two cables connect the Apprentice to your machines. Two more cables connect the Apprentice to your Showstopper and Spikemark. Setup couldn't be easier.

## PERFECT FOR LATERAL MOVES

The Apprentice is your gateway to seamlessly integrate with a wide range of equipment. Easily take control of a Revolver, Pushstick, Rotator, or even your own home-built machine. Control non-hoisting stage machinery in a snap.

## INCREMENTAL OR ABSOLUTE ENCODERS

Seamlessly works with both incremental encoders, offering easy setup and versatility for temporary applications, and absolute encoders, guaranteeing accurate feedback for permanent installations. Factory configurable for plug and play setup when it arrives on your stage.

## SPECIFICATIONS

<b>Dimensions</b>	19" w x 12" d x 10.5" h
<b>Input Voltage</b>	120V single-phase, 200-240V three-phase, or 380-480V three-phase
<b>Max Input Current</b>	20A or 30A
<b>Max Output Voltage</b>	240VAC or 480V VAC
<b>Brake Output Voltage</b>	120VAC or 200VAC single-phase
<b>E-Stop Input Voltage</b>	24VDC
<b>Rack Units</b>	6 RU

## WORKS WITH



Revolver



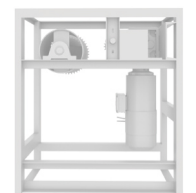
Rotator



Pushstick



Gearmotor



Your Own Machine



# STAGEHAND CARD UPGRADE

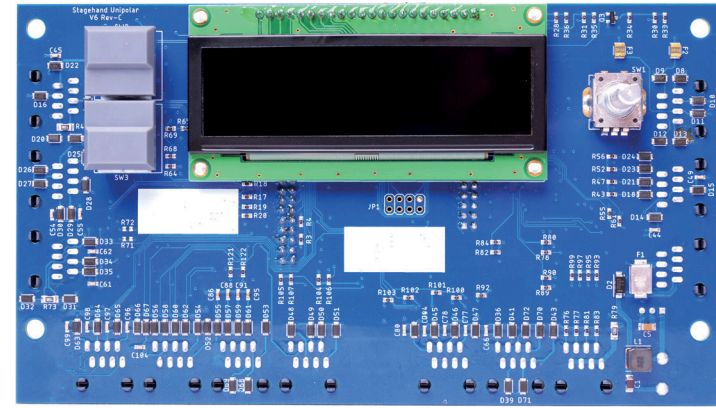
Revitalize your automation investment with our latest upgrade option! Elevate your Stagehand Classic, Stagehand Pro, or Stagehand Apprentice with our new control card to access cutting-edge features.

Experience the blazing fast performance of the latest Stagehand control card designed around an ARM microprocessor and a powerful new motion controller. This new architecture replaces a two-decade-old design that once defined the Stagehand motion controller. This innovative architecture sets a new standard.

Unlock a world of possibilities with seamless VFD communication and advanced motion capabilities, including asymmetric acceleration and deceleration.

## COMPREHENSIVE UPGRADE SERVICE

- Round trip shipping
- Factory functionality testing
- Control circuit protection addition
- Integral mechanical brake testing
- Improved load cell reading



## SPLIT ACCELERATION & DECLARATION

More complex cues can be executed with differing ramp up and ramp down times. Ramp times can be preprogrammed, or changed mid-move with Spikemark.

## LARGE OLED DISPLAY

See the name, address, and status of every Stagehand with a bigger, clearer multi-line display. View more information at a glance rather than cycling through fault codes or running back to your Spikemark PC.

## LIMIT OVERRIDE BUTTONS

Instead of using a limit jumper, get new momentary buttons to override the limits when needed. The limit override status displays on the Stagehand Display as well as in Spikemark!

## SPIKEMARK DRIVE COMMUNICATIONS

Write parameters and auto-tune your Classic right from Spikemark.

## INCREMENTAL OR ABSOLUTE ENCODERS

With upgraded Stagehand cards, you have the power to choose between incremental or absolute encoder sensing. Configurable during factory service.

## WORKS WITH



Stagehand Classic



Stagehand Apprentice



Stagehand Pro



Stagehand Pro 3



Stagehand Pro 4

# STAGEHAND FX

The Stagehand FX is a network-enabled input/output controller that can be used with Spikemark to add simple mechanical effects, such as pneumatic valves, to your show. It's as simple as turning on a light switch. Now you never need to program a PLC or use Ladder Logic again.

## CONTROL

The Stagehand FX makes it easy to add a snow tumbler, solenoid kabuki drop, or any on/off device to your Spikemark automation cues.

## INTEGRATION

With Stagehand FX, you can coordinate both simple switched devices and other machines controlled by other Stagehand controllers.

## MONITOR & TRIGGER

Use the output signal to activate an effect or use the input signal to trigger the next cue.

## STRESS-FREE

Just give it 120V power, Ethernet, and a Showstopper connection and you can add four effects into Spikemark.

## TECHNICAL HIGHLIGHTS

- Operates 4 relay outputs (rated for 3A at 30VAC/42VDC)
- Can sense 4 dry-contact inputs.
- Ethernet-connectivity for easy expansion and modular installation
- Rack-mountable for versatility
- Uses pluggable terminal blocks for easy connections to any device.



# STAGEHAND HYDRAULIC

Bring Spikemark programmable control to hydraulic machines. Your scissor lifts can move to pinpoint positions with precise timing. The Stagehand Hydraulic is 3 devices in one – a hydraulic valve power supply, safety interlock system, and motion controller packed into a small 3 rack unit enclosure..

## CONTROL SIGNAL

Finally take control of your hydraulics automation. Control a single proportional valve connected to a fixed speed hydraulic pump.

## SAFETY INTERLOCK

Safety relay support for any 4 wire safety sensors (e.g. bumper switches and pressure mats) in both the Forward and Reverse directions.

## POWER ON BOARD

Power and speed signal are sent to a valve amplifier or the valve On Board Electronics (OBE).

## JOG-ABLE

Manually jogged hydraulic effects to fine-tune positions. Limit override buttons let you move past limits during set up and troubleshooting.

## TECHNICAL HIGHLIGHTS

- Valve Power Output : 24VDC / 2.5A
- Valve Speed Control Output Voltage: +/- 10VDC
- Supports Differential, incremental encoders for speed and position control. 5VDC with differential line driver
- Forward & Reverse Limit Input
- Forward & Reverse Safety Interlock Input



# DECK CHIEF

The Deck Chief is the simplest way to manually control any motorized effect. Deck Chief is perfect for repetitive motion. It is an excellent fit for quick and temporary exhibits (car show turntables) or permanent installations (bi-part curtains). It can be used with the Revolver, Pushstick, linear actuators, or roll drops.

The Deck Chief is a variable speed motor controller with just enough brains to make it exceptionally useful without complicating operation.

## SIMPLE CONTROLS

Two buttons control your machine. Forward and Reverse buttons can be configured as momentary or latching. A soft stop button is optionally available.

## VARIABLE SPEED

Deck Chief allows for speed adjustments with the turn of a knob – from 0 to 100%. Dual limit switches allow for a slow down trigger to ramp down the speed just before the end of travel.

## LOCKOUT

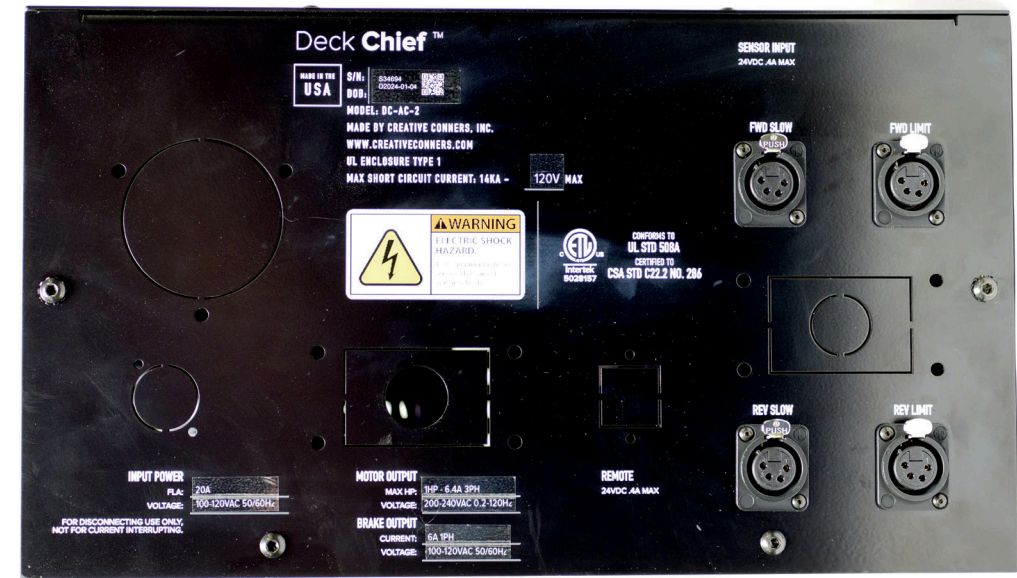
A key switch locks out unauthorized user from the panel. Simply turn the key switch to OFF and remove the key for safe keeping.

## E-STOP

Built in e-stop circuit, the ubiquitous red mushroom button, and integrated branch circuit protection come standard.



Deck Chief takes advantage of two set of limit switches, an initial switch, that marks the spot where your machine should slow down before the final stop switch is triggered. These slow down switches make it possible to drive your machine at any speed, and always hit the same spike on stage, every time.



## SPECIFICATIONS

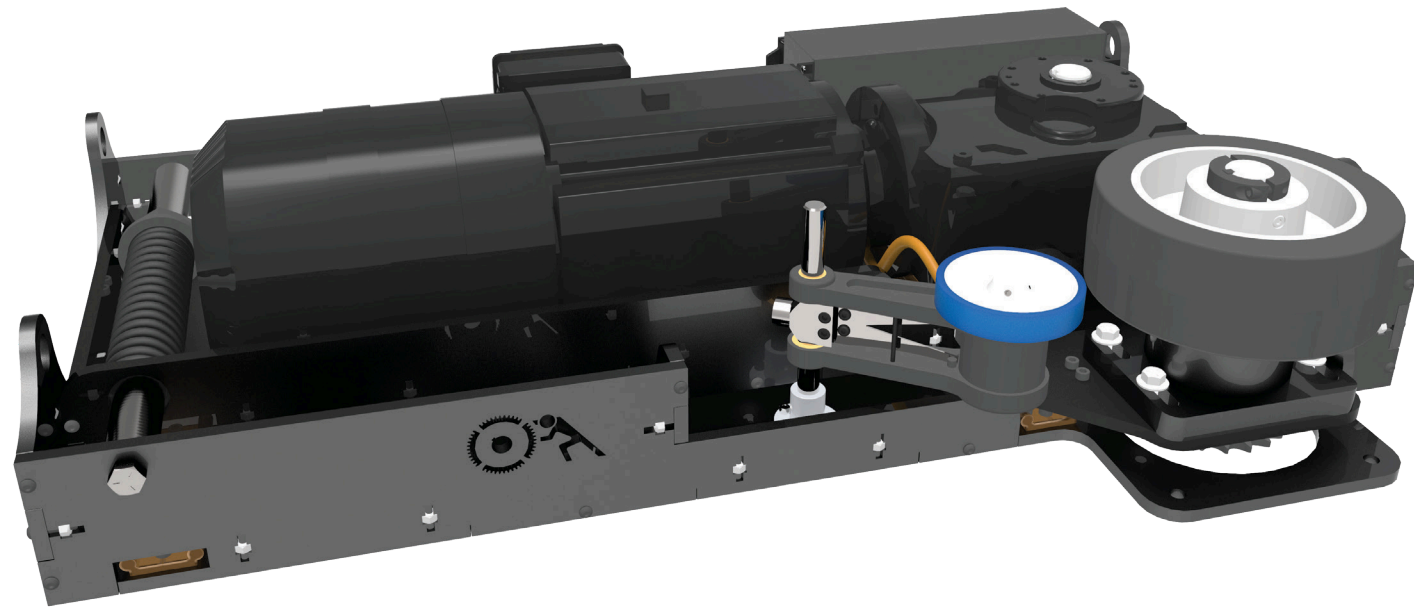
<b>Dimensions</b>	14" w x 8" d x 16" h
<b>Input Voltage</b>	120V single-phase, 200-240V three-phase, or 380-480V three-phase
<b>Max Input Current</b>	20A or 30A
<b>Max Output Voltage</b>	120VAC, 240VAC or 480VAC
<b>Brake Output Voltage</b>	120VAC or 200VAC single phase
<b>E-Stop Voltage</b>	24VDC

## TECHNICAL HIGHLIGHTS

- Removable front panel for field wiring
- Knockouts for flexible field installation or connectorized for plug and play operation
- Four Limit switch inputs - Forward stop, forward slow, reverse stop, reverse slow
- Optional Hoisting Module available for overhead lifting applications
- Dial operated speed control
- Optional Hold to Run operation
- Wall-mountable for versatility
- Streamlined power and data cabling with industrial clamping connectors

# REVOLVER

Revolver is a friction-drive machine capable of spinning any turntable platform with a circular edge. Bolt it to the floor and press it into the edge of your turntable to instantly motorize your turntable.



## SIMPLE & SECURE

The drive wheel is held against the edge of your platform with as much as 1200 lb of force.

## ACCURATE

The independently-mounted, spring-loaded encoder wheel compensates for any slippage due to an uneven or slick edge.

## COMPACT DESIGN

Revolver is less than 8.5" tall. It does not matter how you've built your turntable – wheels up or wheels down – the Revolver mates seamlessly.

## POWERFUL

It can spin a 20 ft turntable at a brisk 2.9 rpm and it comfortably turns a 24 ft diameter turntable with a 6000 lb. load with no problems.

## SPECIFICATIONS

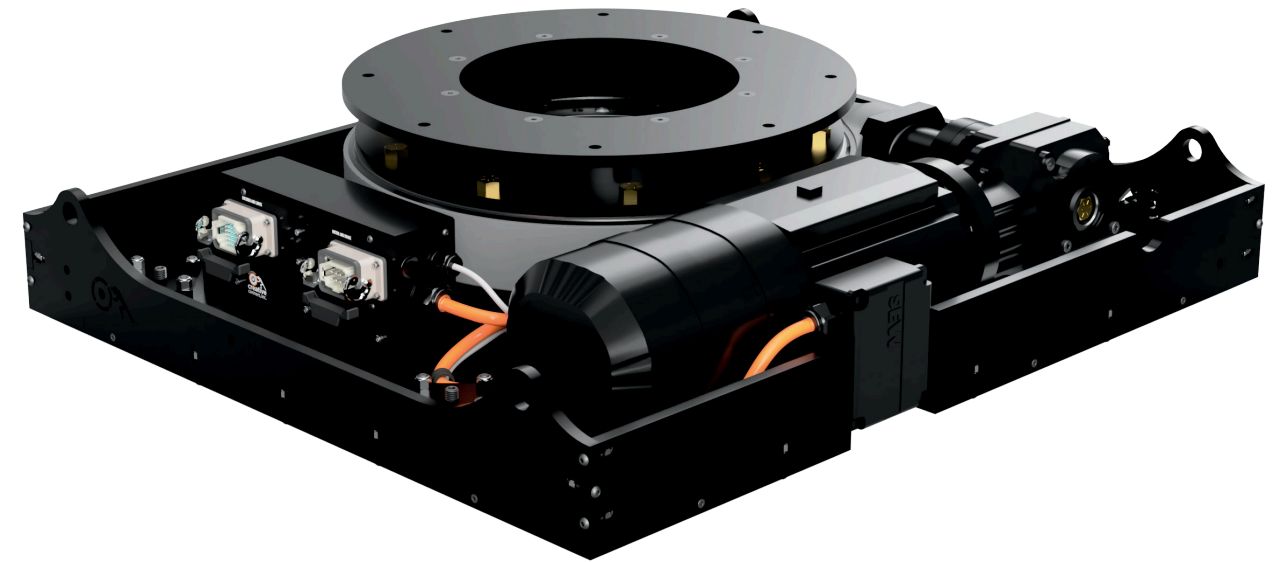
<b>Dimensions</b>	38" w x 28.28" d x 8.5" h
<b>Weight</b>	235 lb
<b>Horsepower</b>	5 HP
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Motor Max Current</b>	13.6 A
<b>Brake Voltage</b>	200VAC 1-phase

## TECHNICAL HIGHLIGHTS

- 36"/second at 60 Hz (72"/second at 120 Hz)
- 5 HP gearmotor with spring-set brake
- 8" rubber drive wheel on spring-loaded suspension compensates for less-than-perfect turntable
- High-resolution encoder is mounted on an independent suspension for precise positioning

# ROTATOR

Rotator is a motorized, programmable pivot. It produces two unique styles of motion: spin a platform like a turntable (spinning around the center point) or pivot a platform with the point of rotation off center. Perfect for donut turntables or use it to "jack knife" platforms and swing them into place.



## COMPACT & CONVENIENT

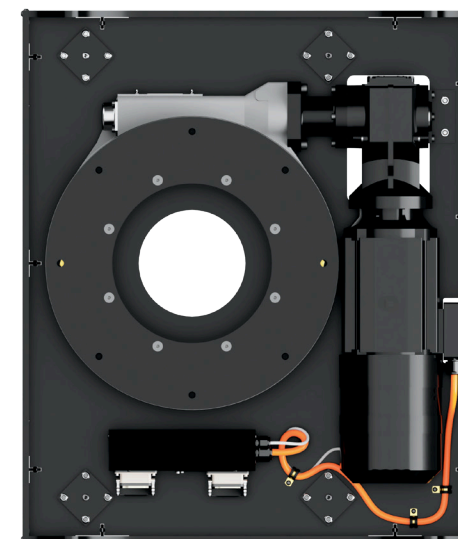
The Rotator stands under 9 inches tall, easily fitting under your show deck or into scenery. Attach your scenery directly to the mounting plate with 5/8" fasteners. Just two cables provide power and position data for streamline setup.

## TORQUE & PRECISION

Move impressive loads with gentle acceleration or exciting speeds while generating up to 8140 ft-lb of torque. No slipping, no tensioning, just precise rotation at up to 1.5 RPM. Encoding from the Rotator delivers precise position feedback regardless of your scenic size or weight.

## SPECIFICATIONS

<b>Dimensions</b>	36" w x 36"d x 8.25"h
<b>Weight</b>	445 lb.
<b>Stock Speed</b>	1.5 RPM
<b>Max Speed</b>	2.75 RPM
<b>Max Axial Load</b>	10,000 lb
<b>Max Torque</b>	8140 ft-lb
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Motor Max Current</b>	14.3 A
<b>Brake Voltage</b>	200VAC 1-phase



# PUSHSTICK

Your scenery can glide across the stage during scene changes or become a part of the action for a concert. The Pushstick is a deck winch designed for smooth lateral movements – fast, quiet, and simple to set up.



## STRONG

It is strong enough to move thousands of pounds of casted scenery and precise enough to stop on its spike every time.

## PUT IT WHERE YOU NEED IT

It can be positioned immediately next to the deck track or in a trap room below the stage.

## EASY TO SET UP

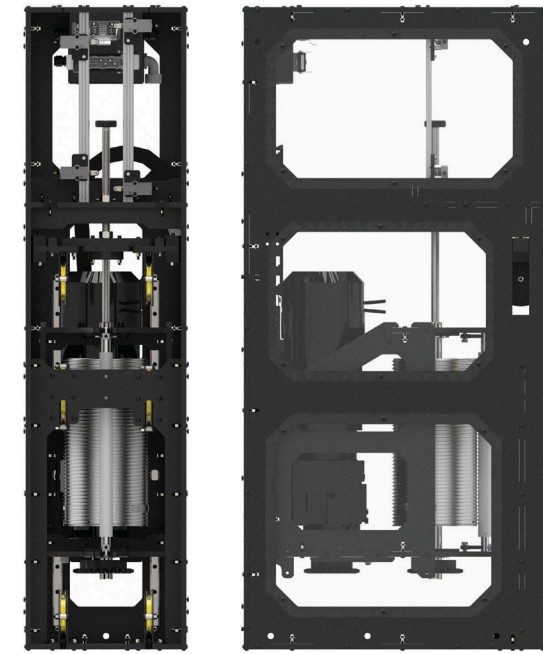
Wherever it lives, there is no need for diverter pulleys and fleet-angle calculations. The Pushstick uses Zero-Fleet drum technology that allows the winch to be positioned directly at the end of the deck track – eliminating extraneous backstage clutter. The Pushstick's integrated mechanism maintains taut tension along the haul line without any additional hardware or hard-to-reach parts.

## CONDENSED DESIGN

Pushstick has a tiny footprint so you can pack more automation into a smaller space (you can pack three Pushsticks in the space of a traditional deck winch).

## TECHNICAL HIGHLIGHTS

- 15" x 29" footprint maximizes precious wing space
- 700 lb. line pull moves tons of scenery
- 36"/second at 60 Hz (72"/second at 120 Hz) for quick movement
- 90' drum capacity for 1/4" wire rope accommodates long tracks
- Powerful SEW gearmotor operates quietly
- High-resolution encoder positions scenery precisely
- Rugged, lightweight aluminum construction for easy handling
- Integrated safety cover
- Spring-set motor brake to hold the scenery still
- Built-in cable tensioner is essential for rigging deck tracks
- Streamlined power and data connections for Stagehand Pro
- Spring-loaded, Delrin roller keeps cable wound neatly on the drum
- Ergonomically positioned limit switches are quick to adjust



## SPECIFICATIONS

<b>Dimensions</b>	15" w x 29" d x 60" h
<b>Weight</b>	430 lb
<b>Horsepower</b>	5 HP
<b>Max Line Pull</b>	700 lb
<b>Total Travel</b>	90 feet
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Motor Max Current</b>	13.6 A
<b>Base Speed/ Max Speed</b>	36" per second/ 72" per second

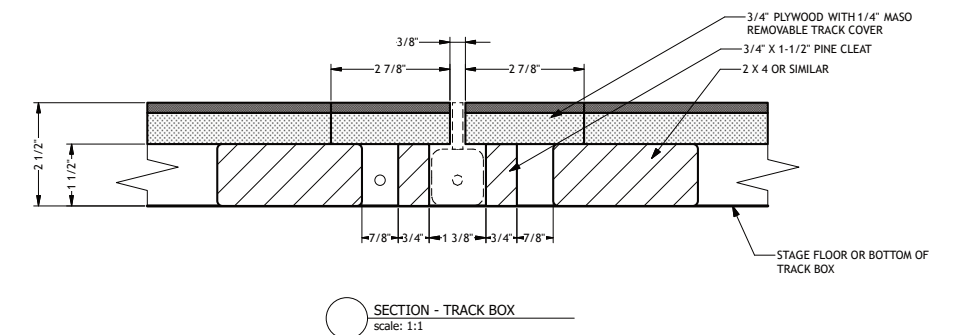
## FLEET ANGLE DEFINED

The angle between the stationary entry point into the deck track and the moving exit point of the wire rope from the drum as it spins.

## ZERO-FLEET DEFINED

Methods or components incorporated into a winch design to compensate for the changing exit point of wire rope from the drum to allow the wire rope to exit the drum at a consistent position, relative to the entire machine.

## SIMPLE TRACK BOX



## Common Accessories



# PUSHSTICK mini

A small lightweight winch that crams even more automation backstage. With an on-board motion controller and 120V input power, Pushstick mini can be used on stage, in the classroom, or banquet hall.

## CONCENTRATED FOR EXTRA STRENGTH

Utilizing a servo motor to reduce size and weight without sacrificing capabilities, Pushstick mini is perfect for pulling small wagons, curtains, or scenic flats. Move 1000 pounds of scenery at up to 36 inches per second.

## PUT IT ANYWHERE

Pushstick mini is not only small and light, but it only requires 120V power. Perfect for banquet halls, classrooms, rehearsal stage, and touring productions without three phase power.

## FLEXIBLE

Is it a deck winch or a curtain machine? Why not both? Pushstick mini can be mounted in any orientation and bolted to the floor. With the addition of the hanging bracket, it can be suspended from a batten or truss.

## INTEGRATED STAGEHAND

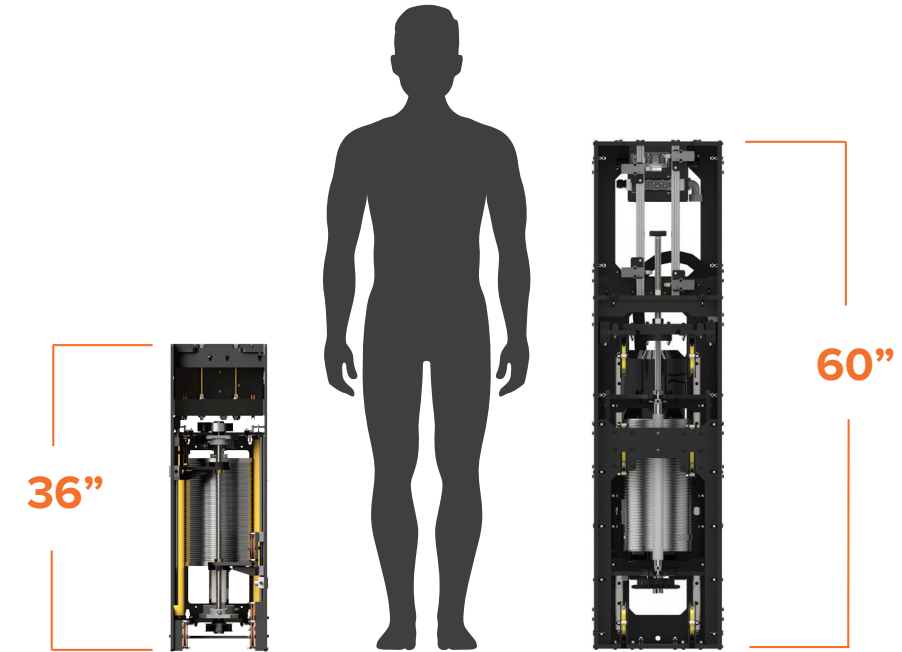
Pushstick Mini is a smart machine; the Stagehand controller is built into the frame. Simply connect the 120v input power, Ethernet and Showstopper cables and you'll be ready to Make It Move!



### SPECIFICATIONS

<b>Dimensions</b>	11.5" w x 22" d x 36" h
<b>Weight</b>	150 lb
<b>Power</b>	400W Servo Motor
<b>Input voltage</b>	120V 50/60Hz 1-phase 10A
<b>Max line pull</b>	90 lb
<b>Max speed</b>	36 in/sec
<b>Drum Capacity</b>	85 feet

# PUSHSTICK mini vs PUSHSTICK



## PUSHSTICK mini

- Integrated Stagehand controller
- 120V input power
- Can be suspended from truss or batten
- Capable of hauling 1000 lb. wagon

## PUSHSTICK

- Capable of hauling nearly 3.5 tons of scenery
- 5HP SEW gearmotor
- 230V 3-phase input power
- Can be oversped to 72 inches per second



## BOTH MACHINES

- Zero-fleet angle mechanism. Don't think about where the cable comes off the drum
- Programmed and controlled with Spikemark software
- Built-in cable tensioner and safety shields
- Compatible with Creative Conners deck hardware
- Whisper quiet
- 3ft per second keeps your show zippy.

# SPOTLINE V2

Spotline V2 takes your flying scenery to new heights. With exceptional lifting capabilities, you can raise and suspend a wide range of objects, from scenery and props to LED screens and even people!

Spotline V2 flies loads up to 750 lb at 36" per second with travel distances up to 100 feet. Packed with an array of impressive features, this machine is truly a game-changer. The integrated load cell ensures precise and accurate weight monitoring, while the redundant brakes, limits, and built-in cross groove detection provide an added layer of safety and reliability.

## SAFE

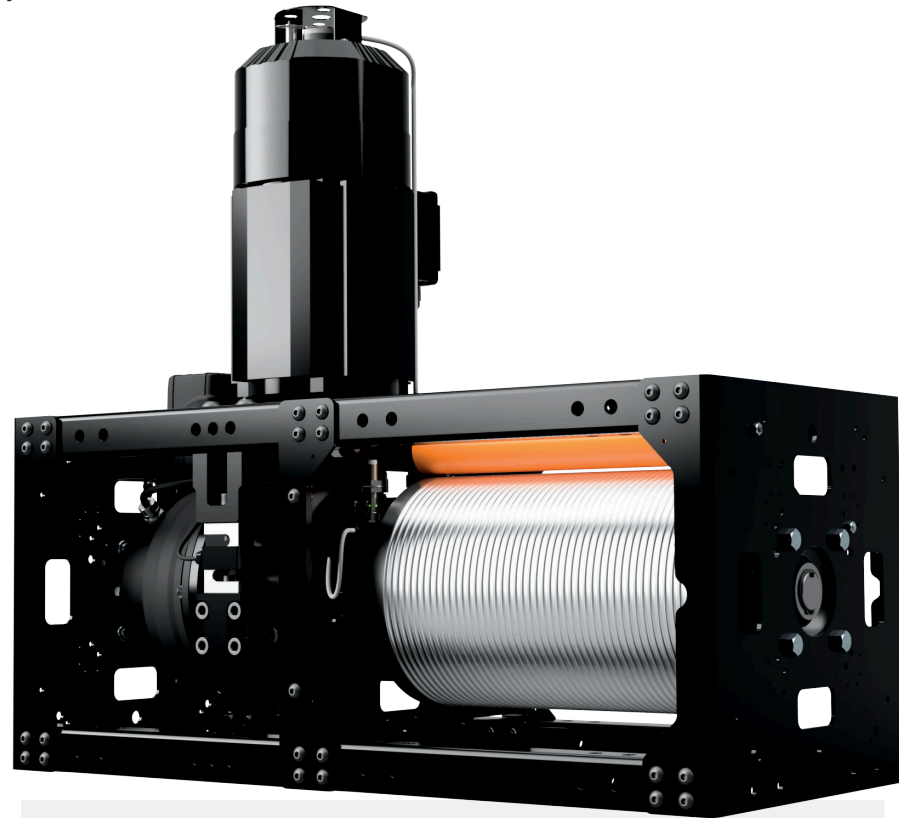
Confidently lift heavy loads with an integrated load cell and top-notch safety features! Plus, enjoy total peace of mind thanks to redundant brakes, limits, and built-in cross groove detection.

## STRONG & FAST

Its 5 HP motor easily lifts 750 lb at 36" per second. Overspeed up to 72" per second to zip above the stage.

## FLEXIBLE

Fit up to four lift lines on the drum. It can be used as a counterweight assist hoist for the heaviest of loads. And with the addition of the Spotline Tensioner it can be used as a deck winch.

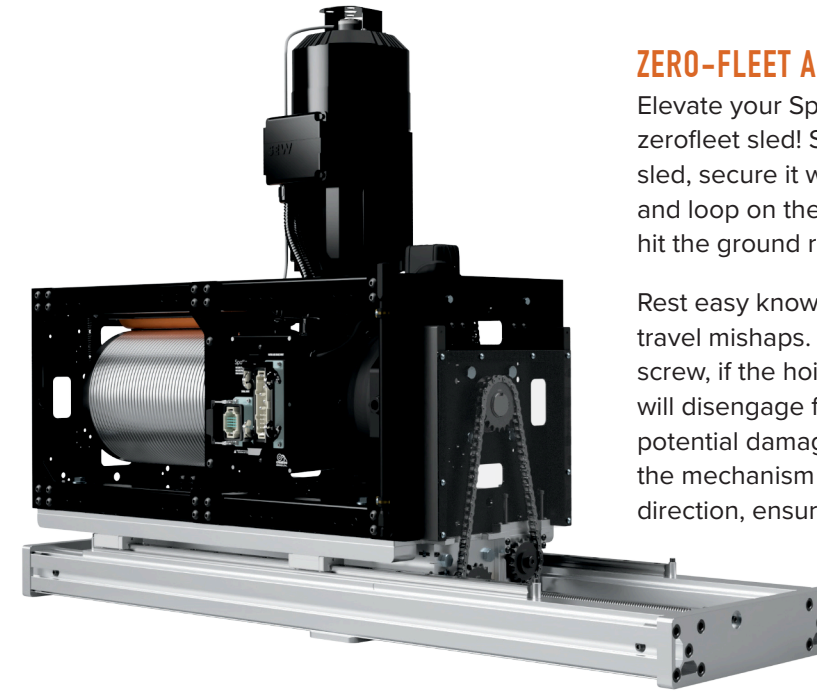


## TECHNICAL HIGHLIGHTS

- Conforms to ANSI E1.6-2021 Entertainment Technology – Powered Hoist Systems
- Conforms to ANSI E1.43-2016 Entertainment Technology – Performer Flying Systems.
- Overspeed up to 72" per second with 375 lb capacity
- Integrated Load Cell
- Cross-groove detection
- Fits up to three cable keepers

## SPECIFICATIONS

<b>Dimensions</b>	38 1/4" wide x 17 7/8" d x 34.25" h
<b>Weight</b>	390 lb
<b>Horsepower</b>	5 HP
<b>SWL</b>	750 lb
<b>Total Travel</b>	100 feet
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Motor Max Current</b>	14.6 A
<b>Max Speed</b>	36"/ second



## ZERO-FLEET ADD-ON

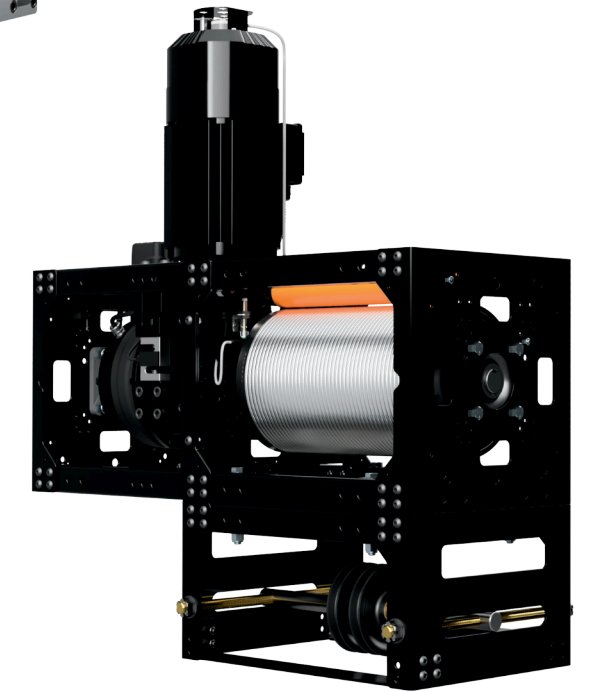
Elevate your Spotline V2 experience effortlessly with our add-on zerofleet sled! Simply drop your Spotline V2 onto the top of the sled, secure it with bolt connections, attach the Spotline sprocket and loop on the chain, adjust the chain tension, and you're all set to hit the ground running.

Rest easy knowing that your equipment is protected from over-travel mishaps. Thanks to the smooth ends of the sled's lead screw, if the hoist is accidentally driven too far, the ACME nut will disengage from the lead screw threads, preventing any potential damage to your machine. Springs seamlessly re-engage the mechanism and the threads when operated in the opposite direction, ensuring smooth and reliable operation every time.circuit.

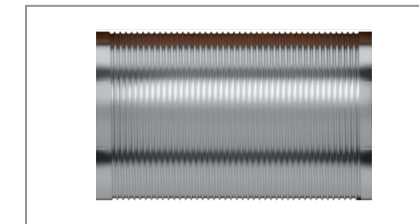
## DECK WINCH TENSIONER

Transform your hoist into a versatile deck winch by adding the optional Spotline Tensioner! With this addition, your Spotline can pull double duty, expanding both your investment and your automation capabilities in one fell swoop.

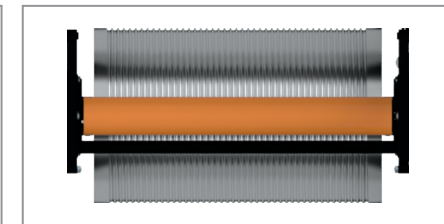
Crafted with an all-steel frame boasting flat sides and abundant mounting holes, the Spotline Tensioner offers unparalleled versatility. Attach it to the floor, the grid, or a truss - wherever your project demands.



## Common Accessories



DRUM GROOVE FOR 1/8 WIRE ROPE



ADDITIONAL CABLE KEEPERS



SPOT BLOCK

# SPOTLINE mini V2

Fits anywhere, tackles any hoisting challenge. Spotline Mini is a compact hoist stuffed with plenty of power and packed with safety features.

Powered by Spikemark software, it's the sweet spot of power and simplicity.

## CONCENTRATED DESIGN

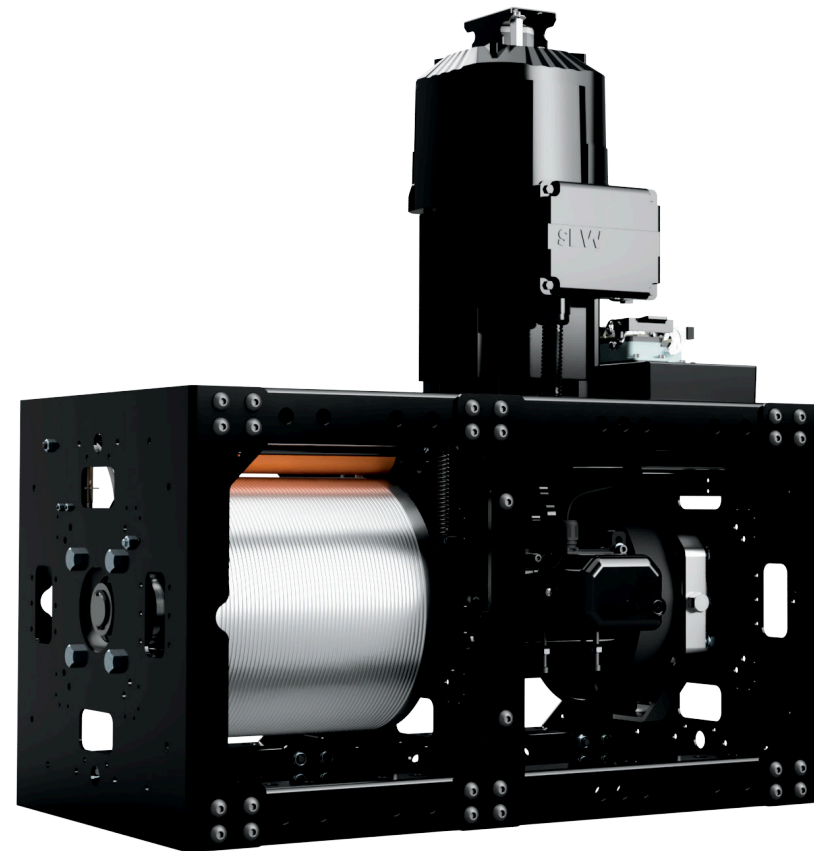
Spotline Mini v2 does not take up a lot of room in your grid. Designed to fit in the tightest grid spaces and nontraditional venues. At only 28 5/8" w x 32" h x 16" d and able to install in multiple orientations, it'll fit nearly anywhere.

## BIG PERFORMANCE

Fly 250 lb of scenery up to 127 feet with Spotline Mini v2. Terminate up to four lift lines on the drum with 1/8" wire rope for multiple pick points on your scenery.

## PLUG AND PLAY CONTROL

Your Stagehand inventory goes even father with Spotline Mini v2. Spotline Mini v2 uses a Stagehand Pro motion controller. With the latest Stagehand and Spikemark you're able to program intricate cues with split acceleration and deceleration rates.



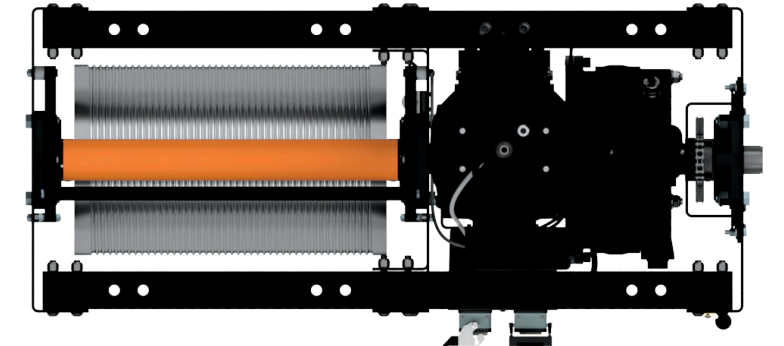
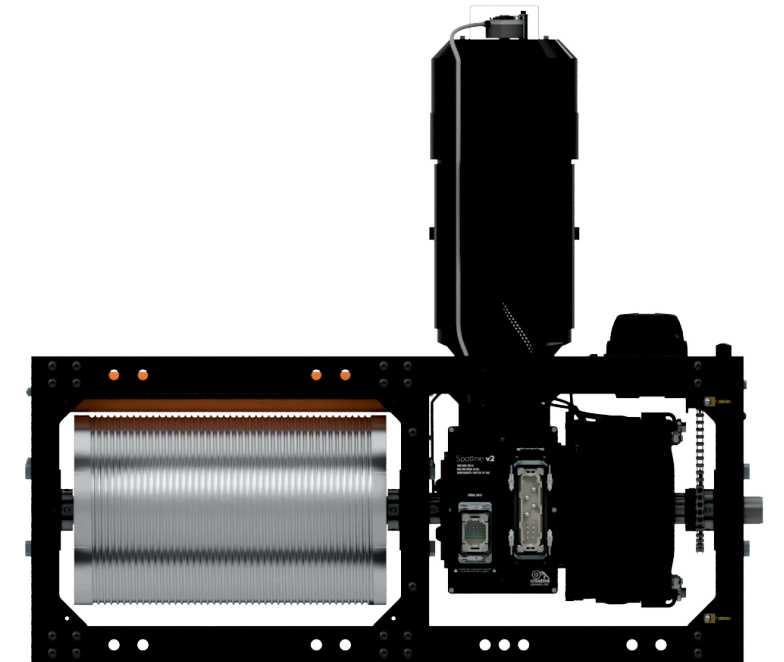
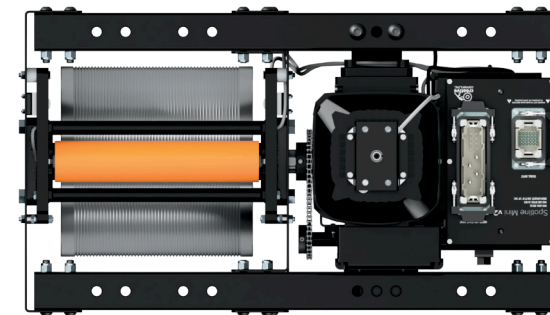
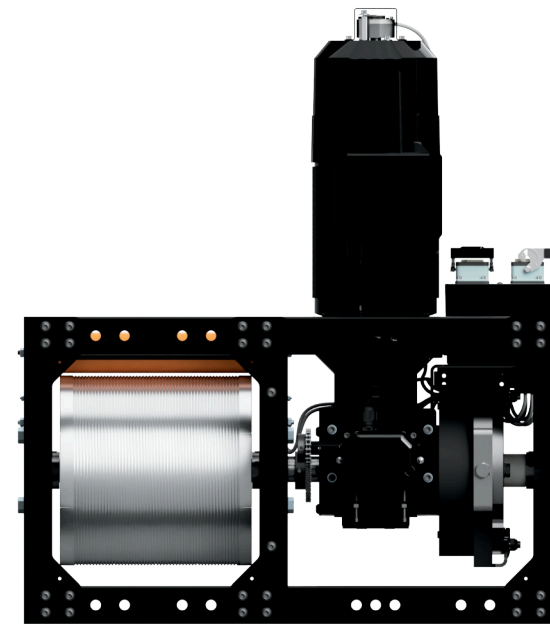
## SPECIFICATIONS

<b>Dimensions</b>	28 5/8" w x 16 1/8" d x 32" h
<b>Weight</b>	250 lb
<b>Horsepower</b>	2 HP
<b>SWL</b>	300 lb
<b>Total Travel</b>	127 feet
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Max Speed</b>	36"/ second

## TECHNICAL HIGHLIGHTS

- 127' drum capacity for 1/8" wire rope
- Overspeed to 72" per second with 125 lb capacity
- Integrated load cell
- Cross-groove detection
- Supports up to 4 lift lines terminations on drum
- Motor & load brake
- Forward, reverse, and ultimate limits
- High-resolution encoder

# SPOTLINE mini v2 vs SPOTLINE V2



## KEY DIFFERENCES

<b>Dimensions</b>	28 5/8" w x 16 1/8" d x 32" h
<b>Weight</b>	250 lb
<b>Horsepower</b>	2 HP
<b>SWL</b>	300 lb
<b>Total Travel</b>	127 feet

<b>Dimensions</b>	38 1/4" wide x 17 7/8" d x 34.25" h
<b>Weight</b>	390 lb
<b>Horsepower</b>	5 HP
<b>SWL</b>	750 lb
<b>Total Travel</b>	100 feet

# SMART CHAIN HOIST

Do more with a chain hoist than ever before. With the power of Spikemark you can make your chain hoist a part of the show. Smart Chain Hoists come in capacities up to 2 tons and are capable of group motion for coordinated large-scale lifting.

Using industry-leading chain motors, Smart Chain Hoists are specifically engineered to run smoothly and quietly for performance automation.

When your flying needs are heavy but you also need high precision and smooth acceleration, Smart Chain Hoists deliver. Perfect for massive video walls, giant scenic pieces, and dynamic lighting rigs.



## FROM ARENAS TO HOUSES OF WORSHIP

Do more in every venue with Smart Chain Hoists and optional load cells to monitor loads of each pick point. When Smart Chain Hoists are equipped with load cells, Spikemark alerts users of over and under load conditions to meet C1 standards.

## QUIET

We work with the most popular hoists manufacturers to ensure quiet operation when the chain is moving and when the brakes are triggered. Finally a chain hoist quiet enough for use during a performance.

## EASE OF INSTALLATION

Using a beam clamp, round slings, or any other industry-approved method of attachment, rigging Smart Chain Hoists is comfortably familiar.

## INTEGRATION

Add the Smart Chain Hoist to Spikemark and start programming in seconds. Spikemark can set the speed and position of your hoist in groups or individually.

## TECHNICAL HIGHLIGHTS

- 1/2T, 1T, and 2T capacities available
- Up to 20" per second
- Available with integrated load cells
- Dual brakes
- Forward, reverse, and ultimate limits
- High-resolution encoder
- Plug and play compatible with Stagehand Pro & Spikemark
- Meet D8+ and C1 standards

# FLOORPOCKET

Make the most of your trap room with a purpose-built automated stage elevator. Because the platform only requires a single column, the other three sides are open for easy loading and unloading of the lift in the trap room. The 3 foot square lift platform can be used singly for smaller loads, or multiple Floorpockets can be grouped together to create a larger platform with greater capacity.

Melt the wicked witch, raise of the Ghost of Marley as he haunts Scrooge, or lift a drum riser from the trap to stage level. Floorpocket protects it's passengers and load with crush prevention bumper switches, load monitoring, and a pressure mat.

## STRONG

Whether it's scenery or actors, Floorpocket can lift them with its load limit of 1000 lb on Floorpocket's 3ft x 3ft lifting table. Or build a topper up to 3ft x 6ft with a reduced capacity.

## FAST

Keep your show flowing smoothly with seamless scene changes powered with Floorpocket's max speed of 14" per second.

## SAFE

Integral pinch-point protection keeps your performers and staff safe. It also has a built-in redundant brake for safe stopping and load cell monitoring.

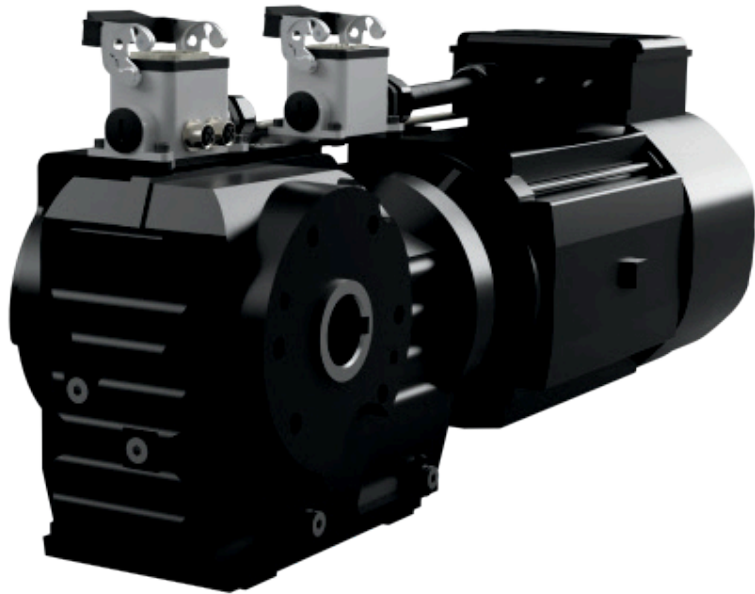
## SPECIFICATIONS

<b>Maximum Travel</b>	17'-6"
<b>Platform Dimensions</b>	36" w x 36" d x 15.25" h
<b>SWL</b>	1250 lb
<b>Max Speed</b>	18"/ second
<b>Horsepower</b>	5 HP
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Motor Max Current</b>	14.6 A





# GEARMOTOR



Gearmotor can be the key component to your new, custom-built stage effect. Or use Gearmotor to breath new life into non-functioning legacy machinery. It is the prime mover, the spinning bit, the muscle, the core.

Gearmotor is a smart shortcut for the mechanically adept technician to create their machine without laborious electrical details. Gearmotor eliminates the time consuming selection of thousands of options and dozens of manufacturers – it's a proven motor with the essential details already sorted out.

Wired for immediate connection to a Stagehand Apprentice, Gearmotor will have you moving in no time.

## STAGEHAND READY

Plug-and-play with Stagehand Apprentice using standard Motor and Signal cables. Stagehand connectors eliminate fussy wiring tasks and delicate terminations.

## QUIET FAIL SAFE BRAKE

The integrated brake is designed for theatrical performances and live events. It engages and releases with minimal noise without sacrificing stopping power.

## FEEDBACK

A motor-mounted encoder sends feedback to Stagehand Apprentice for pinpoint positioning. Gearmotor is equipped with M12 connections for compatibility with common limit switches.

## SPECIFICATIONS

<b>Dimensions</b>	11" w x 30"d x 7 7/8" h
<b>Weight</b>	139 lb
<b>Horsepower</b>	5 HP
<b>Gear Ratio</b>	24:1 with 73 RPM output
<b>Motor Voltage</b>	230VAC 60 Hz 3-phase
<b>Brake Voltage</b>	200VAC 1-phase
<b>Encoder</b>	Incremental 1024 ppr

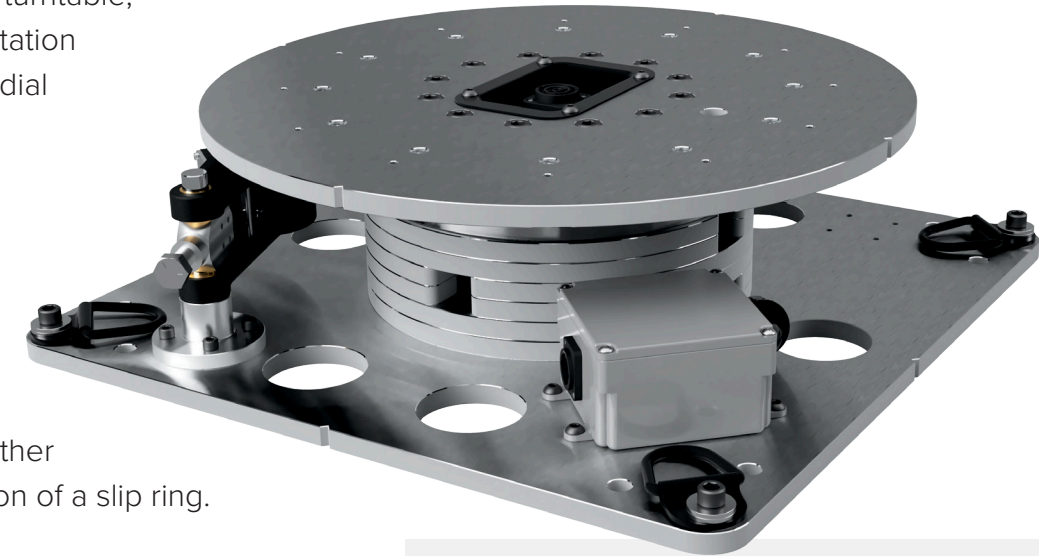


# PIVOT

Pivot is the center bearing of a turntable; ensuring low friction smooth rotation and providing high axial and radial load capacity.

Pivot supports heavy spinning loads and provides resistance for external drive mechanics like friction wheels or chain.

Deliver power to lighting and other practical effects with the addition of a slip ring.



## SMOOTH & STRONG

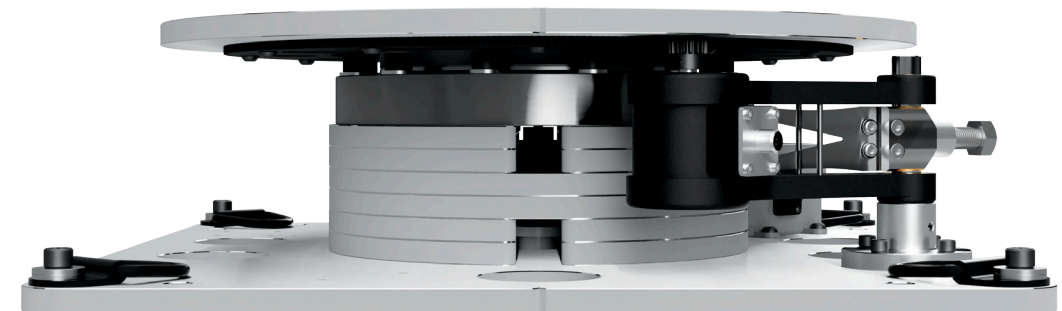
Pivot is rated for over 11000 lb of thrust and 5000 lb of radial force. Silky smooth rotation for your largest turntable. When driven with Revolver, Pivot solves the most difficult challenges of turntable design and motion.

## INCREASE POSITION ACCURACY

Measure motion from the center hub with a slip-free, fine-pitch gear mated to the TR3 encoder from a Revolver. Center-encoding allows the same position scale and accuracy regardless of the turntable diameter.

## SLIP RING

Make it easy to provide power with continuous rotation. A three-circuit slip ring conducts up to 20A of power to the top of the Pivot with a PowerCon True1 connector.



## SPECIFICATIONS

<b>Dimensions</b>	20" w x 20" d x 5 7/8" h
<b>Weight</b>	62 lb
<b>Max Axial Load</b>	11,600
<b>Max Radial Load</b>	4900 lbf
<b>Slip Ring Voltage</b>	600 VAC
<b>Slip Ring Ampacity</b>	6x 10A (16AWG conductors, doubled for 3x contacts)



# SHOWSTOPPER BASE

Showstopper Base is where it all starts and STOPS. It is the heart of our safety monitoring system. This rack-mountable device can power the emergency-stop contactors of up to 10 Stagehands and is the center for all other Showstopper accessories.

### QUICK

With lightning quick response times, any fault or E-stop activation will halt all your stage automation in as little as 3 milliseconds.

### EASY TO TROUBLESHOOT

Get immediate insight into hazards that could easily go undetected by a visual inspection. Quickly know if our automation is ready and safe to use. Simple indicator lights tell you all you need to know at a glance.

### REDUNDANT

Base uses a SIL-rated safety relay. Integrated monitoring detects a failure in either redundant safety channel and prevents unsafe motion. Both safety channels must operate in unison before any motion is allowed. The failsafe circuitry ensures any malfunction will safely stop movement on stage.

### EXPANDABLE

Showstopper Base provides E-stop services for up to 10 Stagehands. It has 3 accessory connectors for integrating the Consolette, a Hub, or a Remote without using one of the e-stop ports. With a Showstopper Hub, 10 more E-stop connections can be made. Daisy-chain multiple Showstopper Hubs for limitless expansion.



Small enough not to get in the way backstage. Powerful enough to control all the effects onstage.

# SHOWSTOPPER CONSOLETTA

Our Showstopper Consolette is the cue-control accessory for the Showstopper system. With it connected to your Showstopper Base and to Spikemark, you have full control of your show and your gear. The Consolette ensures that your operator has the best sight lines to your moving scenery.

Powered from the Showstopper Base, and connected to Spikemark over Ethernet, the Showstopper Consolette is easy to move to front of house, to the booth, or up on stage.



### EMERGENCY STOP BUTTON

When the Consolette is plugged into the Showstopper Base, you have an additional emergency stop button that becomes a part of the complete Showstopper E-stop loop. Any red emergency stop button will stop the show.

### STRAIGHTFORWARD CONTROLS

The Consolette includes the controls necessary to run your show. Full-size buttons eliminate mouse fumbling during a show.

### JOG CONTROLS

Jog motors into place either by speed or position using the joystick or dial. With a rugged industrial joystick, motors smoothly glide across the stage at your command. Incrementally tweak the position of any machine with the dial, giving you effortless precision.

### CUE CONTROL

You'll love the feel of physical buttons when running a show. The cue control buttons are Cherry MX Blue mechanical key switches for that satisfying click. Subtle backlighting makes it easy to see backstage. And the giant Go button pulses when you're ready to roll, glows steadily while cues are running, and dims when nothing is moving on stage, keeping you informed at a glance.

# STAGE MANAGER

For venues that need rigging control and production automation, Stage Manager packs intuitive, powerful, and flexible tools in a single elegant operator station. Powered by Spikemark, Stage Manager is an automation desk that anyone can use to move between Presets or an automation pro can program and run intricate shows smoothly and safely.

## CONTROL HUB

You now have a home base for programming, rehearsing, performing, and troubleshooting. Stage Manager is more than the sum of its parts, its the most comprehensive automation user interface.

## PRESETS

Simplify moving from one scene to the next with Presets. Easy to understand visual "cards" show the final position of your stage for each Preset. Now any authorized user can configure your automation to the correct look.



## JOYSTICK. JOG WHEEL. TOUCH SCREEN.

Take control of your show however you want. Stage Manager includes a keyboard, touch screen, jog wheel, joystick, and cue control buttons. Use the method that works best for you and the task at hand.

## USER AUTHENTICATION

Protect performers, scenery, and the facility with user authentication. Show mode limits changes to the show file while still allowing cues and presets to be triggered. Administrators can unleash the full power of Spikemark – adding machines, creating cues, & adjusting parameters. When not in use, lock out all users with a physical key to ensure no unauthorized access to the system.



# SPIKEMARK PENDANT

## SPIKEMARK IN YOUR HANDS

Pendant is the ultimate Spikemark accessory. Pendant communicates with Spikemark so you can manipulate any axis, cue, or spike that you've programmed. No longer are you tied to the tech table or the automation corner backstage. Plug in to any Automation Control Point around your stage, on the grid, or in the trap room and run your show from anywhere.

## GROUP MOTION

Take advantage of Spikemark's Group Motion feature to move multiple axes at the same time. Gang groups of Smart Chain Hoists, Pushstick deck winches, or Revolvers together to move even your biggest show.

## LAYERED SAFETY

No accidental triggers. With Hold-To-Run your machines only move when you want them to. Plus the mobility of Pendant ensures that the operator can be within line of sight of the action on stage. If needed the e-stop mushroom button can stop all automated motion on stage safely and quickly.

## MANUAL CONTROLS

A variable speed joystick lets you quickly jog each axis into its rough position. A click wheel with coarse or fine sensitivity dials in positioning. With its 7-inch touchscreen Pendant offers an elegant and simple interface.

It's what users have been asking for; a hand held Spikemark "mini me". You can take it anywhere & always be in control.

Pendant puts the power of Spikemark in your hand for remote operation. Need to stand onstage while you jog a motor into position? Want a better line of sight as you run a cue or move hoists to preset? Pendant is perfect for load-in, rehearsals, and tech week. When paired with Smart Chain Hoists you'll have more power and versatility than any pickle ever before.

Works with Showstopper 4 Base and Spikemark – Pendant can command your stage.



# CUSTOM PROJECTS



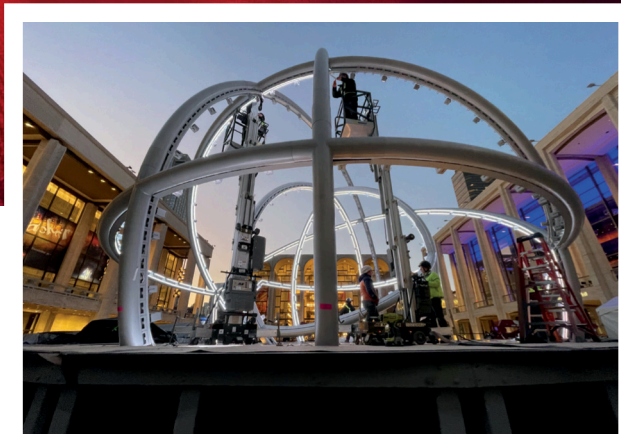
## SBI: MOET ACTIVATION

36' TURNTABLE  
NEW YORK, 2022

We pioneered the idea of accessible automation by developing stock solutions to the most common automation problems. But we LOVE working with unique projects and solving tricky challenges.

Come to us with your difficult, impossible, crazy ideas and let's work together to make it happen. We help you say Yes!

Your custom project may be as simple as a modification to a pre-engineered product or a start-from-scratch development of a one-of-a-kind machine. We work with you to find the solution that is in budget, simple, and effective.



## LAS VEGAS RESIDENCY

DUAL/REDUNDANT ELEVATOR  
PERMANENTLY INSTALLED, 2021



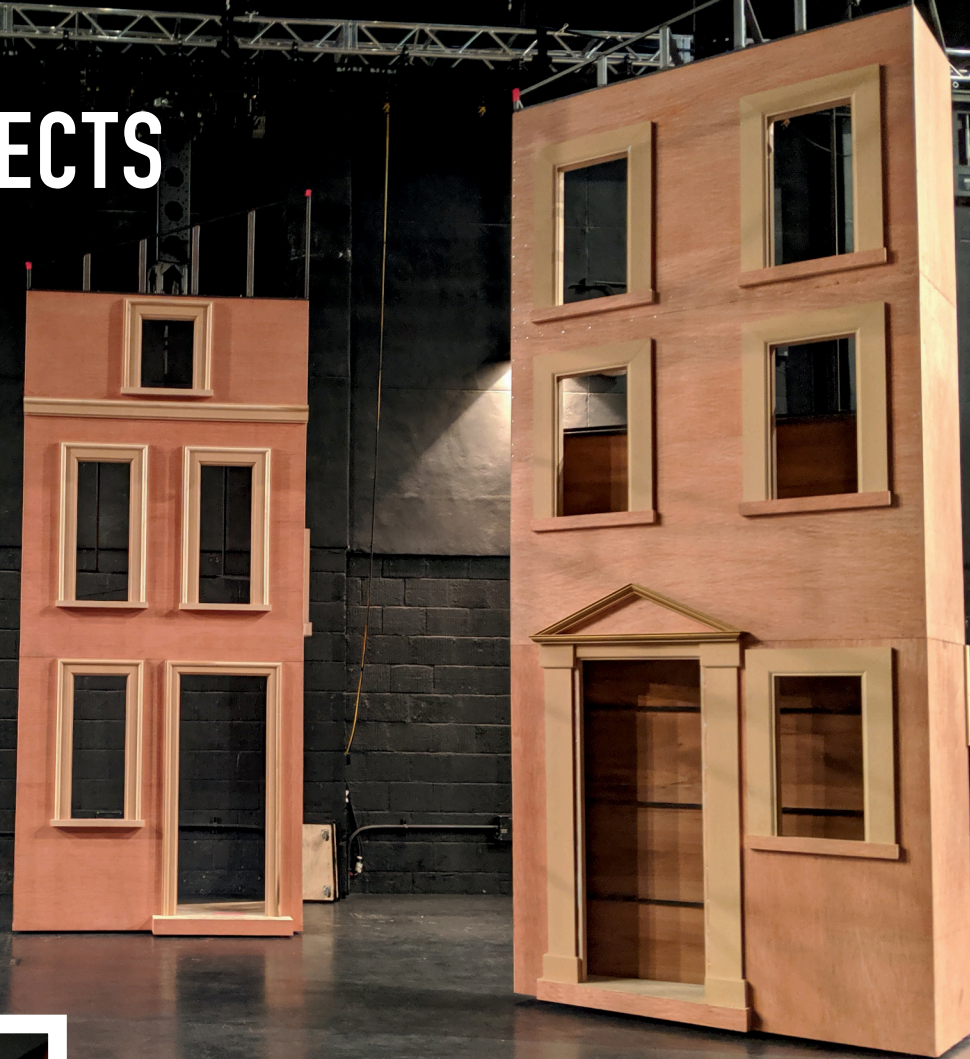
## LUCY RAVEN: CASTERS

KINETIC LIGHT SCULPTURE  
ART INSTALLATION, 2021

# CUSTOM PROJECTS

When Theatre Calgary set out to update their annual production of Christmas Carol, their design team envisioned an imaginative scenic world of choreographed set pieces. A flying bridge, an upgraded stage lift, and four giant tracking, spinning, dancing scenic walls.

The rotating and tracking walls led to the development of the "Sky Turtle" - a combination of custom machinery, off the shelf components, and system specific rigging hardware.



## CHRISTMAS CAROL

THEATRE CALGARY  
CALGARY, CANADA 2019

### PROJECT HIGHLIGHTS

- Four heavy-duty scenery tracks & truss spine
- Pushstick Mini motivated tracking
- Custom trolley carriage
- Servo-powered rotator integrated into trolleys
- Maximum rotation speed of 3 RPM
- Custom cable management festoon
- Solenoid triggered pneumatic brakes

*The week went off without a hitch.  
You guys certainly do pretty amazing work!*

- Adam Schrader



### PROJECT BRIEF

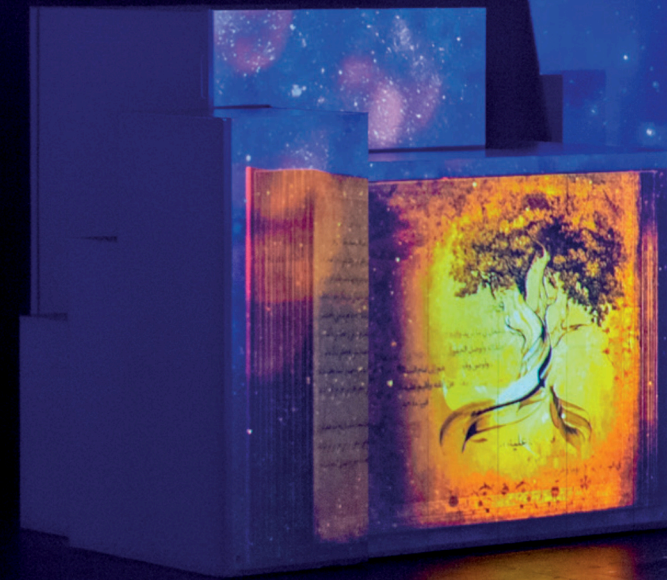
Four individually controlled scenic panels needed to track 24' and rotate 720 degrees (360 in either direction from "0") at a maximum speed of 3 RPM. Each unit weighed 1500 lb with overall dimensions of 21' h x 9'-6" w.

# CUSTOM PROJECTS

From an initial request for 'something like a turntable' to a colossal spinning cube masterpiece! With innovative design and collaboration, Creative Conners brings to life a custom rotating cube weighing 5 tons.

Our expert team crafted a unique pivot system while ensuring seamless power transmission using a slip ring for internal electronics. Controlled effortlessly with Spikemark software and Showstopper Consolette, it's a blend of precision cues and manual finesse.

Spikemark synchronized scenic movement with projection mapping for a truly immersive experience.



## 1001 NIGHTS, THE LAST CHAPTER

A PRODUCTION OF THE AL MAJAZ AMPHITHEATER  
DEVELOPED BY MULTIPLE INTERNATIONAL IN  
PARTNERSHIP WITH THE 7 FINGERS AND AIM

### PROJECT BRIEF

A motorized center pivot rotated a 2-ton scenic cube at speeds over 3 RPM. Spikemark software monitored auxiliary encoder feedback for opening "wings" while Stagehand FX controller triggered brakes to halt motion. Spikemark transmitted position data to a video server for projection synchronization.



### PROJECT HIGHLIGHTS

- 10 HP Custom Rotator
- Max Speed 3.5 RPM or 21 degrees per second
- Integrated Slip Ring for 20 amps of 3 Phase Power
- Electricity, horsepower, and motor sizing
- Auxiliary Brake Controller for pneumatic brakes
- Multiple Interlocks for safety and 3rd party effect integration

# ARCHITECTURAL PRODUCTS



## PERMANENTLY INSTALLED CONTROL FOR AUTOMATION

Our Architectural Products bring the benefits of Creative Conners automation to permanent installations. By permanently installing the wires that connect control devices, machinery, and operator stations, performance venues can reduce, or even eliminate, temporary runs of flexible cable. Rather than deploying a dedicated, separate rigging control system, Stagehand Lineset can be used with hoists (either new or retrofit) to integrate rigging cues with other automated effects.

Stagehand and Spikemark are conceived as an easily expandable platform, so new machinery can be added anytime without lengthy commissioning steps.

## INTEGRATION

The automation network connects with the stage machinery in your venue to form a unified control “backbone”. Existing machinery can be retrofit with compatible electrical connections and upgraded sensors.

## CONNECTION

Distributed drive and control connection points simplify installation and commissioning, while also providing flexibility for future expansion. Raceways make it easy to hot swap components.

## OPERATION

Control surfaces powered by Spikemark software are easy to learn yet powerful to use. Touchscreen re-callable Presets move automated equipment to pre-defined locations. Handheld Pendants jog individual or groups of motors.

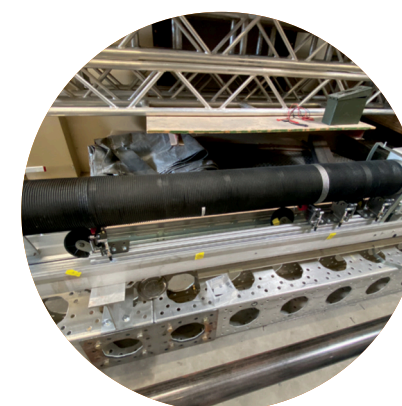
# CLIENTS

Whether it is a new venue designed with automated linesets or a theatre with outdated stage machinery and obsolete controls, our architectural products and system expertise **Make It Move.**



## UNITED THEATRE WESTERLY, RI

- Multiple OEM machine integration.
- Rack mounted e-stop & network.
- Crestron integrated user control surface.
- Multiple Deck Chief FWD/REV/STOP controllers.



## GEFFEN PLAYHOUSE LOS ANGELES, CA

- Retrofit Vortek hoists.
- Replace MCC with Stagehand Pro controllers.
- Add load sensors & update other feedback devices.
- Installed multiple Control Connections for operator positions.



## MULTIPLE ESPN STUDIOS NEW YORK, NY

- Developed custom machinery.
- Permanently installed Stagehand Pro & Showstopper system.
- Led automation rigging and installation.
- Provided annual maintenance service contract.

We have over three dozen permanently installed systems in universities, regional theatres, television studios, and corporate venues across the United States.

# TYPICAL SCOPE

Since 2004, we have been building entertainment automation controls for theatre, television, film, and corporate events. Our team develops your project from submittals to fabrication to install and handover.



## PROJECT MANAGEMENT

Project managers deliver drawings for contractors, submittals for consultants and architects. They meet regularly to keep your system installation on schedule.

## SYSTEM COMMISSIONING

Field technicians set physical limits of all machinery, test signal communication at each connection point, perform site acceptance testing of all machinery, and store soft limits and position Spikes for all axes.

## USER TRAINING

Automation experts conduct on-site training of end users and other stakeholders on operation, maintenance and troubleshooting of Spikemark software and all physical components of installed system.

## RISER DEVELOPMENT

Working with your architectural drawings, our automation designers develop a riser diagram for approval by the client and to guide other trade contractors.

## MACHINE RETROFIT

Field technicians replace electrical junction boxes for AC induction motors and brakes of existing machinery.

## SENSOR UPGRADE

Field technicians add or replace encoders, limit switches, and other feedback sensors of existing machinery to allow compatibility with the automation network.

## ON-SITE LOW VOLTAGE TERMINATION

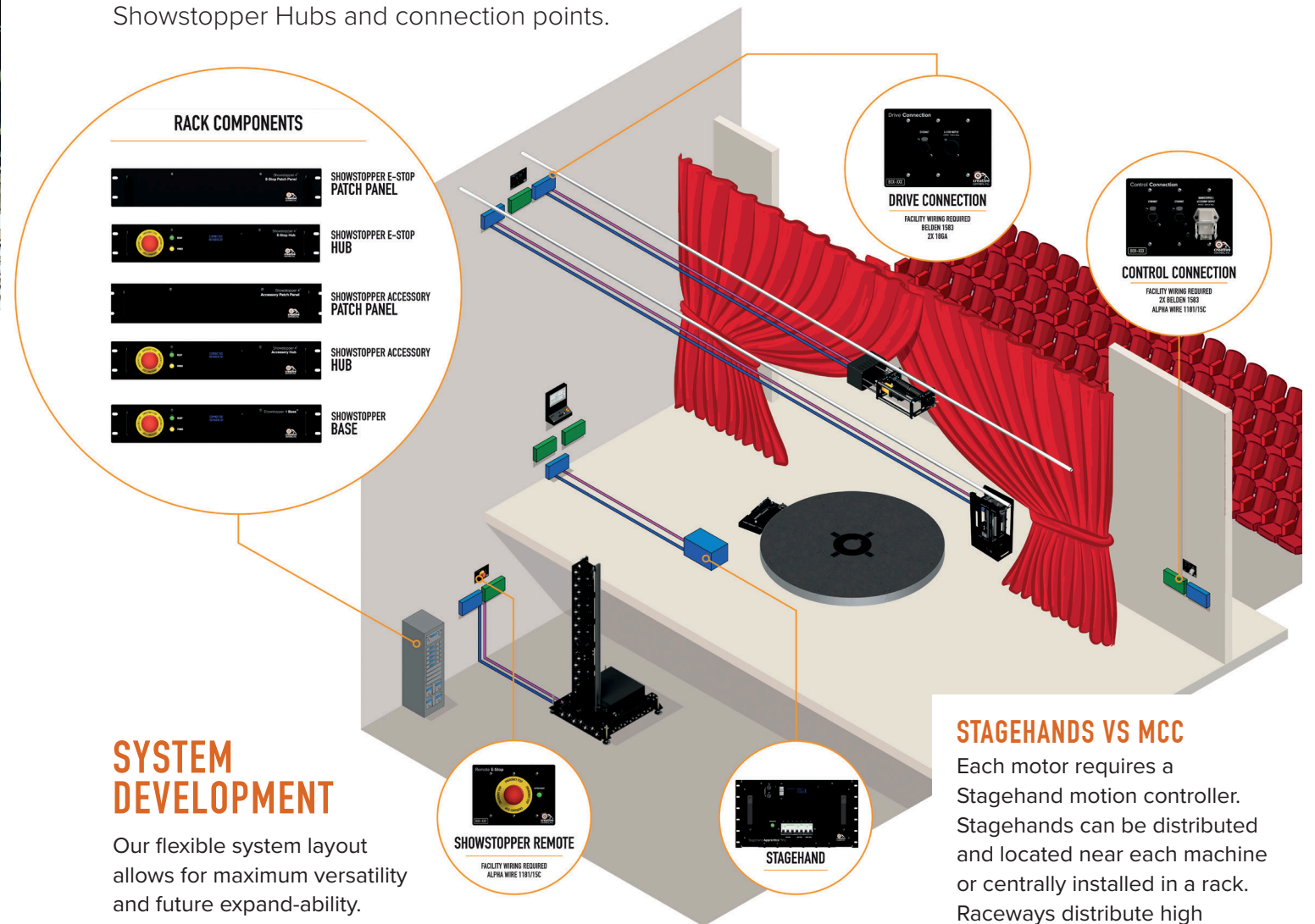
Field technicians terminate communication and emergency stop components. Distributed connection points are patched to rack installed components.

## SERVICE CONTRACT

Field technicians conduct annual inspections, provide maintenance logs, and perform routine service to keep the entire automation system performing safely and reliably.

# TOPOLOGY

Creative Conners system layout is based on a distributed “star” topology. The “core” of the system is a Showstopper Base and Ethernet switch with branches distributed throughout the facility connected via Showstopper Hubs and connection points.



## SYSTEM DEVELOPMENT

Our flexible system layout allows for maximum versatility and future expand-ability.

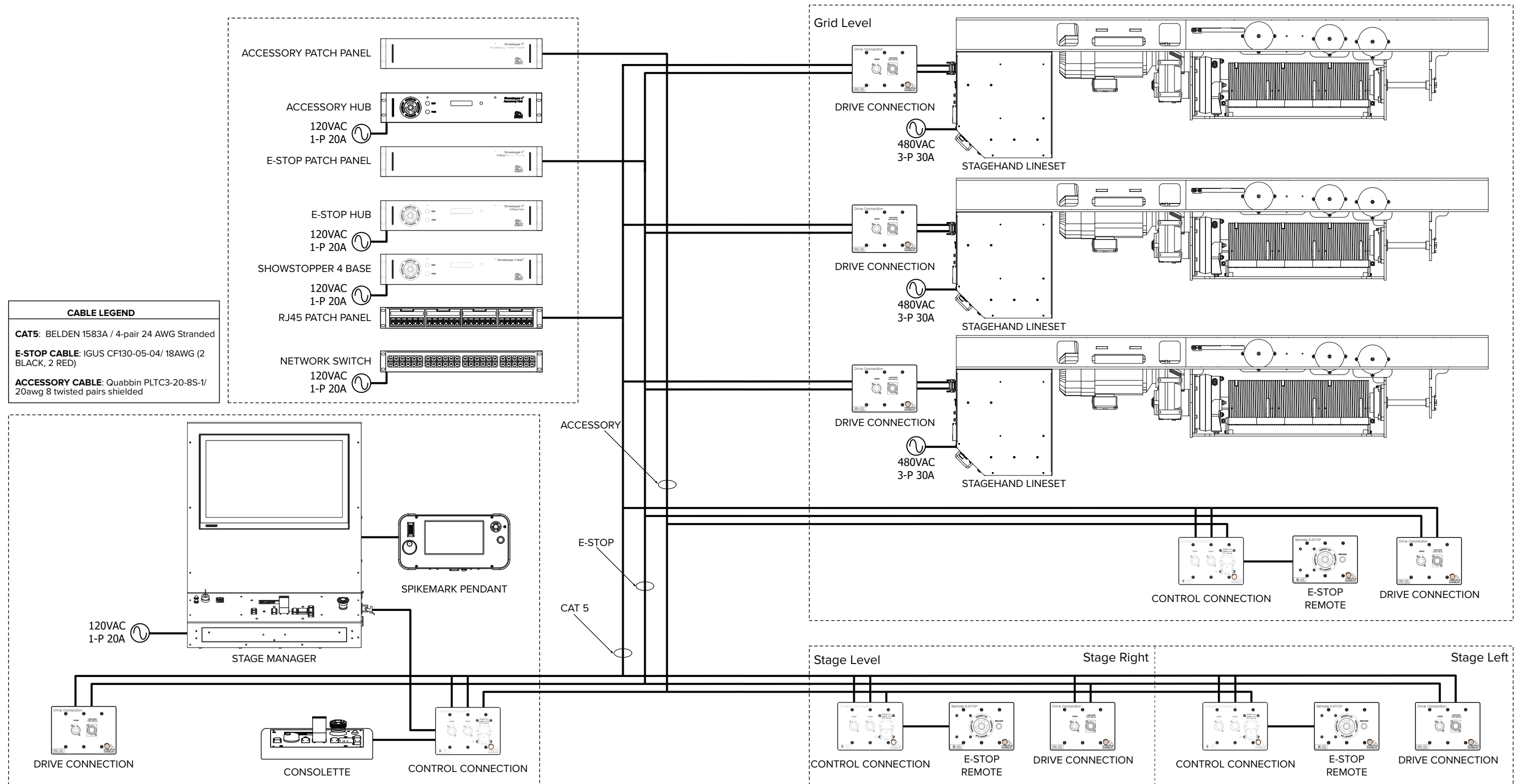
Based around the Showstopper Emergency Stop and Ethernet network, control and drive connections branch, extend, and daisy chain based on your needs.

Critical components are connectorized to allow hot swapping for troubleshooting or maintenance.

## STAGEHANDS VS MCC

Each motor requires a Stagehand motion controller. Stagehands can be distributed and located near each machine or centrally installed in a rack. Raceways distribute high voltage power and low voltage data between centrally located Stagehands and machines.

# RISER





# COMPONENTS



## STAGE MANAGER

Combines an industrial touchscreen PC and Showstopper Consolette in a wall-mounted package. Spikemark is pre-installed and network connectivity preconfigured for plug-and-play installation. It is wall mountable, but with simple keyhole slots so that it can be easily repositioned to adapt to different shows.

All electrical connections are made with industrial locking connectors so you can unplug the Stage Manager, move it to another location, and plug it back in.



## SPIKEMARK PENDANT

A handheld automation console that empowers technicians to operate any machine from the most convenient spot on stage during load-in and work calls. It brings the control surface to the performance space rather than tying the operator to a console inconveniently located in the wings or on a jump. Spikemark Pendant presents every machine on a 7" touchscreen for selection. Variable speed control is possible with a physical enable button and joystick, or a spiked position can be selected on-screen and then run with a button press.



## SHOWSTOPPER BASE

Showstopper 4 is the emergency stop system. It outputs a simple 24VDC e-stop signal and uses industrial safety relays to guarantee the integrity of that critical signal. Showstopper 4 supports input accessories for remote emergency stop buttons and operator stations. An automation system requires one, and only one, Showstopper Base to function.



## STAGEHAND PRO - LINESET

Stagehand Lineset has all the features of Stagehand Pro 5, but in an enclosure that directly mounts to a lineset hoist for distributed control in the fly loft. It can be used either with new machinery, or retrofit onto existing hoists to protect the previous investment in expensive gear. Stagehand Lineset uses latching industrial receptacles for all connections for easy troubleshooting, maintenance, or replacement. To adapt existing machinery, an additional junction box may be installed.



## SHOWSTOPPER ACCESSORY & E-STOP HUBS

There are hubs for both e-stop outputs and accessory inputs. Each base or hub acts as a CAN Master for any downstream nodes to support the addressable e-stop feature. An Ethernet connection converts the CAN network activity so it can be sent to Spikemark.

Showstopper Base and Hub are conveniently mounted in standard 19" racks and require 2U in height.



## SHOWSTOPPER ACCESSORY & E-STOP PATCH PANELS

To bridge the gap between hardwired conduit runs and flexible cords, Showstopper 4 Patch Panels transition from hard-wired field terminations to locking connectors. Typically placed adjacent to a corresponding Showstopper 4 Base or Hub with wire terminal connections on top and inlets below. These devices are the linchpin for maintaining the easy flexibility of Showstopper 4, while accommodating the electrical needs of permanent installations.



## DRIVE CONNECTION

Drive Connection makes it easy to add more machinery to the automation system after the initial installation or renovation is complete. Hardwired connections for network and emergency stop transition to standard connectors allowing any Stagehand motion controller to jack into the system.



## CONTROL CONNECTION

Control Connection makes it easy to add either more operator stations, or additional Showstopper 4 Hubs after the initial installation or renovation work is complete. Hardwired connections for network and Showstopper 4 Accessories transition to standard connectors allowing any Showstopper 4 Hub or operator console to jack into the system.

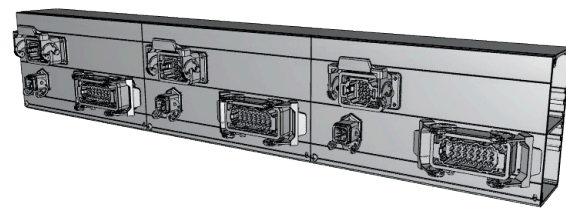


## REMOTE E-STOP

Showstopper 4 Remotes extend the Showstopper 4 system and place emergency stop buttons within easy reach wherever required. Each button has LED indicators to view the status of the button locally, and an addressable ID so the button status can be displayed on any Spikemark operator station. Showstopper Remotes can be hardwired or connected with flexible cords with locking connectors. For hardwired installations, the Showstopper 4 Remote can be mounted onto a standard 3-gang box for flush-mount. In surface mount installations, a black powder-coated back box is provided.



Spikemark powers the the industrial PC in the Stage Manager console, but it runs on any high-tier Windows PC.



## RACEWAY

When there are many machines in close proximity with distributed controls Raceways can be used in place of multiple individual Drive Connections to distribute emergency stop signals and Ethernet. A common example is a fly system with packaged hoists. Each hoist will be fitted with a Stagehand Lineset and each will need connectivity to the system. A continuous Raceway with ports is more convenient to install than dozens of discrete boxes.

Raceways can also be used as “dry lines” or permanently installed extension cords to transmit power and data from remote machinery to a central rack with Stagehand controls. In this case one Raceway is located near the rack, and another may be located near the machinery. Both Raceways are fitted with locking bulkheads. The Raceway near the rack has inlets, and the Raceway near the machine is fitted with receptacles. The final hop from Raceway to device is done with short, factory-made flexible cables. This merges the best of both worlds: cables for easy swapping, hard-wire for durability and tidiness.

# RENTALS

Any component of the Creative Conners system may be rented in 1-week increments. We can help ensure that you have all the components you need for whatever effect you'd like to achieve. Discounts are available for rentals of 12 weeks or longer.

1. Get a rental estimate
2. Sign and return the Rental Agreement
3. Provide a 50% deposit to lock in your gear
4. We coordinate with you for the outbound shipping
5. Provide the balance payment when your kit is set up
6. Use your gear
7. Receive a standing ovation
8. We coordinate with you for return shipping
9. If you loved your kit and want to own one yourself – 50% of your rental cost can be applied to your purchase of new equipment

## RENTAL TEST DRIVE

After your rental is complete, you have 30 days to decide to purchase any of the components of the rental kit and have 50% of your rental cost\* applied as a discount to the purchase.

**We will apply 50% of your rental cost for that component as a discount to a new purchase.**



### TEST DRIVE EXAMPLE

Your Rental Cost*	\$5,000
Regular Purchase Price	\$30,000
Your Discount	-\$2,500
Your Purchase Cost	\$27,500

\*Excluding freight or on-site technician cost

# SEASON SUBSCRIPTION

Step into a world of effortless production enhancements with our Season Subscription service! Gone are the days of wrestling with tight budgets, worrying about lead times, or scrambling for available rentals. With our subscription, you'll enjoy a hassle-free experience as you integrate state-of-the-art automation into your theatrical productions.

Picture this: you can bring your most ambitious stage effects to life without a second thought about cost constraints or logistical headaches. Plus, with our flexible payment options, you can spread the expense comfortably over the course of a year with predictable monthly payments or lock in a discounted annual rate for additional savings.

## + GUARANTEED AVAILABILITY

Rest assured that whenever the design drawings are complete and the show needs are locked in your automation will be delivered to your stage in time for load-in. Give us only two weeks notice and know that your gear will arrive on-time.

## + PRIORITY SUPPORT

Subscribers always receive a fully-prepped rental package reducing load-in time and setup hassle. In the event you hit a snag, a support technician is an email or phone call away to get you moving.

## + ADDITIONAL DISCOUNT

You've got a hit on your hands and your show is being extended. No worries! With the most popular plans additional rentals or extensions are discounted to keep your budget in tact and the show running.

## WHAT'S INCLUDED

- + AUTOMATION MACHINERY
- + STAGEHAND CONTROLLER
- + SHOWSTOPPER E-STOP SYSTEM
- + ESSENTIAL DECK/RIGGING HARDWARE
- + ALL NEEDED CABLES (IN 50FT LENGTHS)



## DITCH THE CAPITAL CRUNCH. ACCESS STAGE AUTOMATION WITH AN ANNUAL SUBSCRIPTION.

Pick the right plan for your organization based on the number of shows in your season and number of axes per show. Subscription plans not only cater to theatres but also commercial event companies and scenic fabricators. So whether you're a seasoned theatre professional or a newcomer to the stage, our subscription service provides access to the top-notch kits and resources you need to shine.

Embrace the future of theater automation budgeting today with a Season Subscription.

	<b>ATD Plan</b> Perfect for Community Theatre or Educational Institutions	<b>TD Plan</b> Great for Regional Theatres	<b>PM Plan</b> Ideal for Scene Shops and Rigging Companies
Pick the right plan to cover whatever automation needs arise.			
Choose between monthly or annual payments.	\$895 / month	\$2495 / month	\$6495 / month
Number of Shows per year	2	3	4
Number of Axis per year	1	2	4
Round Trip Freight	✓	✓	✓
Discount Extension Rental Rate	✗	10%	15%
Additional Rental Discount	✗	10%	15%
Priority Technical Support	✗	✗	✓
Discount Pre-Paid Pricing	\$9,900	\$28,900	\$76,900
<i>Rental Pricing w/o Subscription</i>	<i>\$12,840</i>	<i>\$38,520</i>	<i>\$102,720</i>

## FAQ

### What if i need more gear?

Additional rentals are available à la carte (discounted for TD/PM plans)

### How long is the subscription duration?

All subscriptions have a 12 months term – 365 days from contract signature

### What if i already own some creative conners gear?

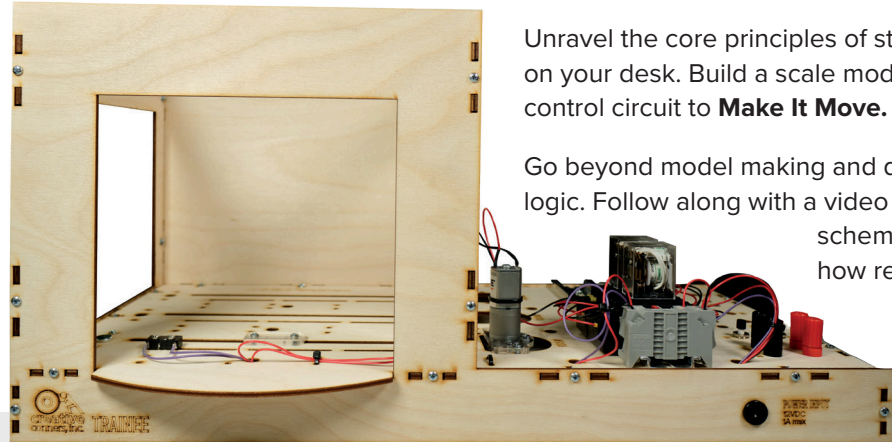
All subscription rentals come with machine, stagehands, showstoppers, etc.

### How long is each rental?

Every subscription rental is 6 weeks.

# TRAINEE & SCENIC AUTOMATION HANDBOOK

## TABLETOP STAGE AUTOMATION



Unravel the core principles of stage automation with an automation kit that fits on your desk. Build a scale model theatre with a mini deck winch and simple control circuit to **Make It Move**.

Go beyond model making and deep dive into the basics of control circuit logic. Follow along with a video tutorial series to learn how to read a control schematic, understand limit switches, and dig into how relays switches work.

Perfect for novice students or professionals brushing up on the basics. Trainee delivers hands-on stage automation training in a pint-size package.

Each Trainee kit comes complete with everything you need to build a miniature deck winch at your desk or in a classroom.

- Scale model box
- DC Gearmotor
- Timing Belt
- 2x limit switches
- 2x 3PDT Relays (DIN Rail mountable)
- Detailed assembly and wiring schematics

## TOPICS COVERED

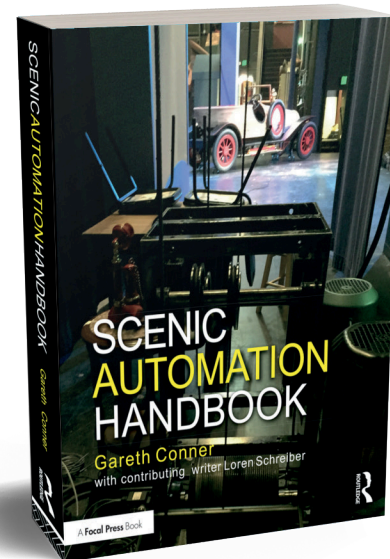
- + BASIC CONTROL SCHEMATICS
- + SWITCHES: TERMINOLOGY & FUNCTIONALITY
- + LIMIT SWITCHES FUNDAMENTALS
- + RELAY SWITCHES ESSENTIALS
- + INTEGRATING SPIKEMARK WITH A PLC AND MODBUS

## SCENIC AUTOMATION HANDBOOK

Take your expertise to new heights with the definitive manual on designing, building, and operating scenic automation. Overflowing with seasoned wisdom, this indispensable handbook delves deep into the inner workings of automated effects, providing priceless knowledge on mechanics, electrics, and control.

Scenic Automation Handbook fast-tracks your journey to mastery in the ever-evolving realm of stage automation.

Save time and frustration by sidestepping costly trial-and-error with the most comprehensive reference for the live entertainment automation technician.



# SEMINARS & TRAINING



We love automation. We love geeking out about machines, controllers, electronics, and code. Most importantly, we love sharing our expertise and passion – and helping you to geek out about automation too.

Our one or two-day seminars are a great way to learn about scenic automation, from basic theories through hands-on training. With the guidance of a Creative Conners expert, you will gain deep insight into both general automation techniques and the inner workings of our machines, Stagehands and Spikemark products. Whether you are a novice at moving scenery or an advanced technician looking to expand your skill set, a seminar conducted in your theatre will supercharge your understanding of automation quickly. We tailor our seminars to your needs; we'll only cover topics that are useful to your crew, saving you time and money.



## POPULAR SEMINAR TOPICS INCLUDE:

- Construction techniques for building scenery that moves
- Constraining motion with bearings, guides, and rollers
- Electricity, horsepower, and motor sizing
- Measuring motion with encoders and other sensors
- Automating motion with motion controllers and PID theory
- Creating cues with automation software
- PID theory and tuning procedure for smooth, accurate motion
- Reducing position error and protecting against encoder failure
- Building intricate motion with cue links
- I/O cues with the Stagehand FX
- Using Simulator as a pre-visualization tool
- Networking with projection and other show systems

We also regularly visit high schools and universities to conduct short one-hour **Intro to Automation Classes**. There is no cost for the intro class, but travel expenses may be incurred.

Contact us to see when we will be in your town next.