

# Stagehand Apprentice™

## Quick Start Guide v1.0

### Start Here

The Stagehand Apprentice is the newest addition to the Stagehand motion controller family. It is designed with the physical space limitations often encountered backstage – it is only 4U (7”) tall. The Stagehand Apprentice effortlessly controls deck winches, curtain tracks and revolves while seamlessly integrating with Spikemark to *Make It Move!* All Stagehand Apprentice version incorporate Mitsubishi D700 series VFDs.

The Stagehand Apprentice is not intended to control overhead lifting.

### What's in the box

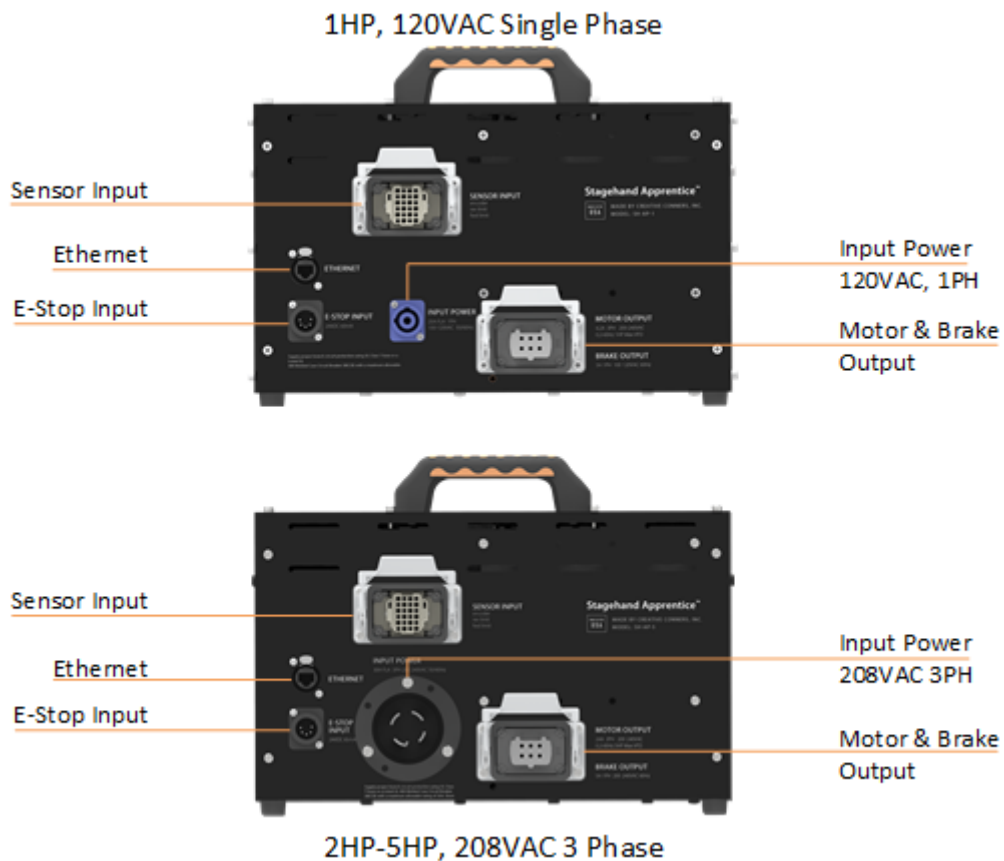
You will find the Stagehand Apprentice and rack mount ears. Contact us immediately if anything is damaged or missing. The reference manual can be found at [creativeconners.com/resources](http://creativeconners.com/resources)

### Mounting Options

The Stagehand Apprentice comes standard with rubber feet and handles and can be placed on a table, shelf or the floor. It can also be rack mounted with the included rack ears. Whether in a rack or free-standing the Stagehand Apprentice should always be mounted vertically.

### Connections and the Back Panel

The Stagehand Apprentice is available in two stock configurations: 1HP, 120VAC single phase and 5HP, 208VAC 3PH. With either option, there are five electrical and data connections that need to be made on the back of the Stagehand before you can begin using it

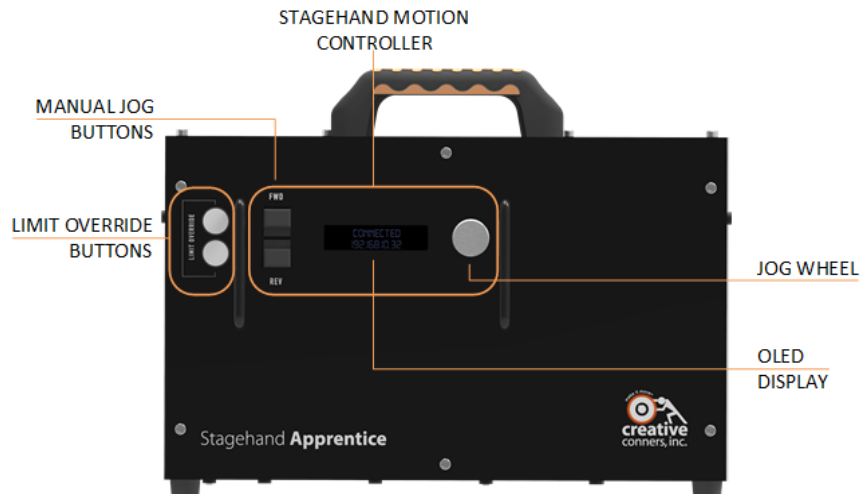


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### The Front Panel & Testing Movement

Once all the cable connections are made, release the E-Stop. The OLED display should read "NOT CONNECTED" and show the default IP Address. *If the screen is showing "Set IP" use the jog wheel to scroll to OK and press the wheel in.*

A new feature of the Stagehand Apprentice are the two LIMIT OVERRIDE buttons, located to the left of the Jog Buttons. These are momentary buttons and are there to allow the operator to jog the machine during load in, before the hard limits are set.



Jogging the motor from the face of the Stagehand Apprentice follows the same easy to use procedure of all Stagehands. Press and hold the FWD jog button and slowly turn the jog wheel clockwise. The machine should be moving FORWARD and the encoder counts, displayed on the face of the Stagehand Apprentice should be counting positively. Turn the wheel counter clockwise until the motor stops moving and release the FWD button. Follow the same procedure with the REV button, confirming the encoder counts are counting negatively.

- *If the encoder counts are not counting correctly, you will need to swap any 2 hot legs on the motor cable to reverse the motor direction*

Once the motor has been jogged from the face of the Stagehand and the encoder counts are confirmed, you are ready to *Make It Move!*

### Setting the IP Address

Although the Stagehand Apprentice can manually control your machine directly, the real power comes once the Stagehand is connected to Spikemark through the Network. Any device on the Network is required to have a unique IP address, including Spikemark, a Console, and each Stagehand.

- To set the IP address, first release the E-Stop and confirm the Stagehand Apprentice display is showing "Not Connected" and an IP Address.
  - Click (depress) the jog wheel, "Set IP" will be displayed along with the current IP Address.
  - Turn the wheel to the desired part of the IP Address you need to change and click the wheel.
  - Turn the wheel until the desired number is displayed. Click the wheel to set.
  - Select any additional parts and set those numbers.
  - Once all parts of the IP Address are set use the wheel to highlight "OK" and click the wheel.

NOT CONNECTED  
192.168.100.100

SET IP: OK CANCEL  
192.168.100.100

### Connecting to Spikemark

Once the Stagehand Apprentice IP Address is set, open Spikemark and add your motor to the Cue Grid. Once the motor is added highlight it in the cue grid and update the IP Address on the right-hand side of the screen and

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press the Connect button. You are now ready to write your first cue. Please refer to the Spikemark reference manual for further details.

### VFD Settings

The keypad for the VFD is located inside the Stagehand Apprentice box. To access the keypad to change any parameters or run the auto-tuning procedure you will need to remove the top cover. Use caution while the cover is removed, line voltage is present.

### Troubleshooting

Below is a list of the most common issues encountered with the Stagehand Apprentice. Our full reference manual is available for download at <http://creativeconners.com/resources/manuals>

PROBLEM	SOLUTION
Stagehand will not connect to Spikemark	Confirm E-Stop is released Confirm IP Address is set correctly at the Stagehand and in Spikemark
Status display is cycling <i>Brake Fault, Drive Fault, E-Stop</i>	Release the E-stop Confirm the Stagehand is connected to the Showstopper 3 Base or Hub with a Showstopper cable
Status display shows "SET IP"	Turn the knob until CANCEL is highlighted and press the knob.
When jogging forward, the encoder position decreases. When jogging in reverse, the position increases	Swap any 2 power legs going to the motor Swap the encoder signal: A with B and /A with /B
Motor runs roughly or makes strange noises when jogging manually	Run the auto-tuning procedure outlined in the Reference Manual
Drive faults when the motor tries to move	There are several reasons the drive may be faulting. Below are the most common fault codes which will be displayed on the VFD keypad:
ETHN	overload caused either by too much load, or failure of the brakes to release. Make sure the brake(s) are wired correctly and plugged in.
ELF	output phase loss caused by the motor being disconnected. Make sure the motor is properly wired and plugged in.
EOSD	speed deviation error. Caused by a mismatch between encoder feedback and command motor speed. Make sure the Speed Encoder is properly wired and plugged in.
EECT	encoder signal loss. The Speed Encoder is disconnected, make sure it's wired up and plugged in.
EOS	over speed. The motor was running faster than the maximum value programmed for the drive. This usually means the motor was in free fall. Remove the load from the motor and begin testing in a controlled environment to determine if the machine is healthy.

If you need further assistance we are available on the phone at 401-289-2942 during normal business hours, or via email at [support@creativeconners.com](mailto:support@creativeconners.com).