

# Hudson Scenic Studio, Inc.

## Make Believe Gets Real as Galil Moves Those Fabulous Hudson Scenic Broadway Sets

Entertainment set producer Hudson Scenic Studio, Inc is responsible for some of the most spectacular sets on Broadway, and they make it all synchronize flawlessly using Galil motion controllers behind the scenes.

Hudson Scenic has built the sets for some of the top shows on Broadway, including *Man from La Mancha*, the *Full Monty Tour*, and *Movin' Out*. In these sets, Hudson provides real time repeatable control of a myriad of effects.

Some of these effects are stunning. In *Man from La Mancha*, for example, one set is a curved wall 30 feet high that is lifted and appears to break in half. It's all done using a Galil controller and a 30-horsepower motor. In *Full Monty*, tables and chairs move about, all synchronized by a Galil controller.

Scenery production is big business. The average cost of sets for a big musical runs between \$500,000 and \$1,000,000.

The biggest challenges in the business are large sets and sets with multiple pieces. Some sets are so large they cannot be moved manually and must be moved automatically. Others involve numerous pieces that need to move in perfect synchronization to create a special effect.

To make this happen, Hudson typically uses Galil's four-axis DMC-2140 and DMC-2240 Ethernet controllers. With Ethernet, Hudson can easily network with other Ethernet devices. Ethernet hubs are used in a star configuration so that failure of a given controller won't bring down the whole network.

One of the most critical features for Hudson is Galil's ability to electronically synchronize multiple axes. Positioning, profiling, and the variety of motion modes offered by Galil allow for precise positioning and coordination of sets. Galil's master/slave and gantry modes are especially useful here. For one production, Hudson used 28 axes of motion controlled by seven four-axis Galil controllers.

Galil's onboard memory and multitasking features are also important to Hudson. The average person in charge of sets during a production

is unfamiliar with motion control. With Hudson sets, the operator merely pushes a button on a console and a Galil controller automatically executes the program.

Typically, sets are divided into props that roll on stage and props that "fly." Props also range in size, which require different size motors to move. Hudson likes Galil's flexibility to run any size motors. Galil's universal  $\pm 10$  volt range output is accepted by a wide variety of drivers, even for hydraulics and large servo motors.

Galil's ease of use is important in an industry that must produce quickly. From start of construction to opening night is typically only eight weeks.

Safety and reliability are also important. Built-in features include e-stop, infrared safety curtains, and over-speed safety features. For these, Hudson uses Galil's limit switches looped to the main program. ■

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*Broadway production of  
"The Adventures of Tom Sawyer",  
scenery designed by Heidi Ettinger.  
Photograph by Hudson Scenic Studio, Inc.*