# Motion Controllers Synchronize Stages at Renovated Hanna Theatre

**At a Glance**

- **Project:** Controlling rapid synchronized movement of a multi-axes hydraulic theatre automation system
- **Company:** Atlantic Industries Technology (AIT)
- **Location:** Islandia, NY

- **Challenge:** To keep safety first and foremost while controlling synchronous movement of the stages
- **Solution:** Multiple RMC75P controllers provided programmable and finely tuned control
- **Benefits:** Theatre goers enjoy smooth and seamless stage movement



*"The Delta controller has the flexibility to deliver fast, precise, closed loop motion control plus additional capabilities for sequences typically performed by a PLC."*

## Summary:

Atlantic Industrial Technology, a specialist in fluid power and motion control, used Delta motion controllers in a theatre retrofit project. AIT's goal was to create safe rapid, synchronous independent movement of three stage platforms at the 87 year-old, 14.7 million dollar renovation of the Hanna Theatre in Cleveland's Playhouse Square section.

## Challenge:

Each of the three stage moves using two hydraulic cylinders working in parallel. AIT's challenge was to design a system with numerous safety checks for stage movements; and to smoothly synchronize the multi- axes hydraulic system moving the stages.

## Solution:

The complex motion that safely moves each stage section is controlled by three optimally tuned and programmed Delta RMC75P motion controllers. The AIT designed system communicates with the system's PLC, which performs overall supervisory control for the movable scenery, using Profibus, a high performance, highly-reliable industrial network interface.

## Benefits:

To keep the stages operating reliably, with safety a top priority, the motion controllers are programmed to perform safety checks on the hydraulics prior to stage movement. Another benefit is the controller's ability to smoothly synchronize the motion of multiple axes so the audience can enjoy smooth, seamless stage movement.