

Industry: **Packaging**

Products: **Modular PLC, Servo/Motion, Inverter, HMI, Software**

# Simple control solution for fully automated paper-processing machine

American company Premier Paper Converting Inc. is one of the market leaders in paper-processing machines. The company responded to the demand for a flexible and powerful system for producing corrugated board and fibre board partitions by producing the Jumbo Assembler. These partitions can be used to protect sensitive products – ranging from wine bottles to cryogenic vials – during transportation and storage.

## The challenge: Intuitive and flexible operation

The latest version of the Jumbo Assembler called for an intuitive operator interface for user-friendly operation. In addition, the automation and control package needed to offer sufficient flexibility for future applications. As a driver of innovation within its sector, Premier Paper is constantly designing faster and more efficient machines while, at the same time, aiming to integrate all its innovations via simple intuitive operator interfaces.

## The solution: An innovative automation and control system

Premier Paper chose an integrated automation and control system from Mitsubishi Electric that met all the requirements of the new Jumbo Assembler.

The automation package includes PLCs, frequency inverters, servo-controls, Simple Motion modules, operating devices (HMIs) and a complete control software package. Starting with their PLC selection, the L Series Modular PLC platform is a simple yet flexible system, but most importantly the control platform offers future expandability that satisfies their complex customization requirements.

The assembler feeds up to 16 partition strips at a time using E-700 frequency inverter connected through CC-Link network. The partitions are then transported to a second platform where another set of partitions is fitted at right angles to the first in order to form a perfect grid pattern. An L-Series Simple Motion controller and MR-J3 servo-drives ensure that these partitions are positioned accurately.

Up to 100 recipes which are used to determine the dimensions of the partitions and the relevant transportation mode can be stored in the L-Series



**“When I design something, I focus on what the customer wants. I also want customers to be comfortable with a well-known brand like Mitsubishi Electric.”**

Bob Lesch, electrical and mechanical engineer  
at Premier Paper Converting Machinery Inc.

PLC. The complex feeding modes are programmed by means of Simple Motion function blocks supplied by Mitsubishi Electric. The operator can select any of these recipes quite easily using the GT12 touchscreen display.

## The result: Future proof machine with optimized production efficiency

Premier Paper successfully integrated the new system using the flexible and modular L-Series PLCs from Mitsubishi Electric and the GX Works2 programming software. Commissioning went smoothly and the speed of the system has increased significantly as a result. Ultimately the overall efficiency of the system has more than doubled following the installation of the integrated automation and control solution.