

# BENCHMARK BRIEFINGS

**kardex**remstar

## SITE

Christie  
Kitchener, Ontario

## APPLICATION

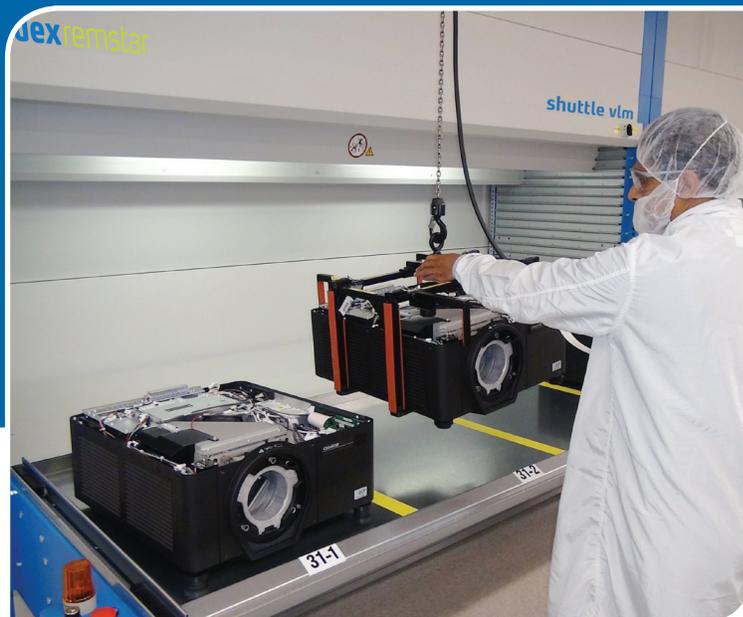
Manufacturing and Distribution of projection systems

## EQUIPMENT

Two Shuttle VLMs with FastPic Inventory Management Software

## SUMMARY

With just two Shuttle VLMs there has been a 70% floor space savings, picking is 90% faster, all while keeping employees out of harms way



The two Shuttle VLMs were installed with ergonomic hoists to protect all employees and projectors from any potential injury or damage.

## Christie Provides Custom Built Solutions In 24 Hours By Improving Manufacturing Efficiencies

If a picture is worth a thousand words, the visual displays created with Christie visual display solutions are immeasurable. Combining innovative engineering, advanced manufacturing and eight decades of experience Christie has a reputation of delivering superior, dependable visual display solutions and providing unprecedented levels of customer service and support.

Christie is a global visual technologies company offering diverse solutions for business, entertainment, visual environments and medical industries. With over 100,000 projection systems installed worldwide, Christie technologies include solutions for cinema, large audience environments, control rooms, business presentations, training facilities, 3D and virtual reality, simulation, education, media and government.

The manufacturing facility in Kitchener, Ontario, Canada is the worldwide center for advanced manufacturing of all Christie DLP® projectors. With over 200,000 sq. ft of production floor space and 600+ employees, the certified ISO 9001:2000 and ISO 14001 facility houses top of the line technology, equipment and employees. The manufacturing process is based on the Kaizen Lean Manufacturing philosophy that focuses on continuous improvement processes and the 5S methodology.

### Meeting Customer Needs

Always looking to the future, Christie has recently started to expand into new markets and new territories. As the number of orders increased, so did production requirements. With production already at capacity and limited room for expansion, Christie installed two Shuttle VLMs from Kardex Remstar; recovering 70% floor space, doubling capacity and cutting labor requirements in half.

All Christie projection systems are configured to order, but customers were also demanding quick delivery times. While increasing capacity, Christie also sought to give their customers the best of both worlds: custom built projectors with 24-hour order turnaround time.

### Room To Grow

With orders increasing, Christie needed to double the number of sub-assembled projectors they kept on hand. Previously, Christie maintained an inventory of 100 sub-assembled projectors, each stored on a cart that was two feet by three feet. "To double inventory with the previous cart system, we would have had to expand the area to make more room for 200 carts on the floor, buy more carts and hire more people," said



"The sub-assembled projectors all look the same, so the operator would need to check each serial number until they found the correct one," said Hibberd.

Philip Hibberd, Sr. Manufacturing Engineer.

Each Shuttle VLM currently holds 100 sub-assembled projectors. Both have room for more capacity, allowing inventory to increase based on sales projections. Including the work aisle, each Shuttle VLM occupies only 180 square feet, compared to the 600 square feet occupied by the previous cart system; provides a 70% floor space savings. Adding another VLM allowed Christie to double capacity and only occupy an additional 180 square feet. "The recovered floor space has been used to expand the sub-assembly process from 6 assembly stations to 9 assembly stations," said Hibberd.

## Ergonomics & Safety

With each projector weighing in at approximately 52 pounds, worker ergonomics and safety is always a concern. "The projectors are very heavy and lifting them puts the employee at risk of injury and the projector at risk of damage," says Hibberd. With the VLM, which has a tray extractor installed, all sub-assembled projectors are accessed with an ergonomic hoist; no lifting, pushing or pulling is required.

## Improving Efficiencies

Previously, four workers were required to pick and finish the sub-assembled projectors. Using a FIFO (first in, first out) picking strategy, it took a worker an average of 15 – 20 minutes to find a projector. "The sub-assembled projectors all look the same, so the operator would need to check each serial number until they found the correct one," said Hibberd. With the VLMs, only two workers are required and the required projector is delivered to the worker in under a minute. Christie is retrieving the projectors over 90% faster with half of the labor.

The VLMs have also allowed Christie to vary labor

requirements based on demand. When orders increase at the end of the month, they can add another person to the VLM area, increasing productivity to meet increased demand.

## How It All Works

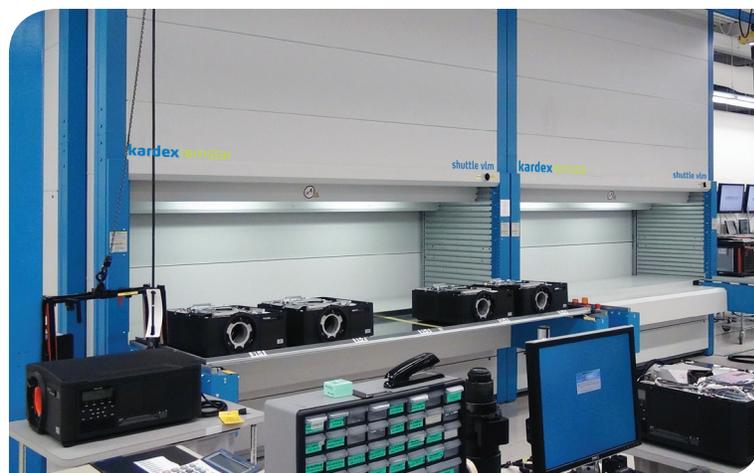
Now, after models are sub-assembled and tested, they are moved into one of the Shuttle VLMs for storage. Customer orders are processed through JD Edwards software and sent to the FastPic inventory management software that manages the VLM workstation.

When ready, the operator processes the order with the click of a button and the VLM automatically presents the projector required. Each projector is stored by serial number and sub-assembly date, allowing the software to pick the projectors in FIFO order.

Upon delivery, the tray is automatically extracted (pushed) out onto a table so that the operator can use an ergonomic hoist to lift the projector from the tray onto an assembly cart. The operator wheels the cart over to the workstation to customize the projector based on the options the customer requires.

The completed projector is then delivered to electrical testing. Once electrical testing is completed, the projector is sent to shipping, where Christie ships custom configured projectors within 24-hours.

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