Application Story

Sound Transit - Light Rail Line

This Link Control Center provides 24/7 monitoring of each of the 15 trains that operate daily

Seattle light rail system opens for service with a Christie® display wall

Sound Transit designed, and now operates, the light rail commuter system in King County, Seattle, Washington. The first phase of the project was complete with service available to commuters in July 2009. When the entire line is complete, it will include 15 miles of line with 13 transfer stations. The 17 trains utilize the lines with connector services for buses within the downtown core. Ridership is expected to reach 21,000 riders daily.

The Link Control Center (LCC) operators watch over movement of the cars on the line. The LCC is the nerve center for the system, ensuring timetables are kept and passengers are safe. A Christie display wall utilizes a Supervisory Control and Data Acquisition (SCADA) system to ensure that the two operators have a complete view of the rail system.

The challenge

One of the most challenging aspects for the designers was to create a comfortable and functional environment for the operators at the LCC. The center is located in a small 20' x 25' room that has a full bank of floor to ceiling windows along one wall. There is a great deal of ambient light in the room even with the shades drawn. With the room layout, there were few options for placing the display wall and two LCD panels that present content from closed circuit television cameras for monitoring security and two operator stations. There was no way around exterior light falling on the screens. The light could wash out the content on the screen and cause eye strain for the operator.

Customer:
Sound Transit

Location:
Seattle, Washington, United States

Industry/Market:
Transportation

Partners:
- General Electric (GE)
- Avidex

Requirements:
- At-a-glance high resolution display wall that is viewable from all angles
- 24/7 reliability
- Compatible with SCADA software system

Summary:
A critical consideration in this display wall set up is that operators would be able to see the content from both standing and sitting positions in the room and ensure that wall content is clear and easy to read even when scaled to a smaller size.

Products:
Display wall is 1 cube high x 3 cubes wide located in a 20' x 25' room.

Link Control Center display wall
- 1 x 3 array on a 15.5' x 6' wall
- Three Christie RPMSP-D132U DLP® rear screen projection engines with SXGA+ resolution (1400 x 1050)
- 3 CK75 custom cube enclosures
- High contrast Black Bead screens
- The wall is utilizing SCADA software

Results:
- Viewable from all angles within the Link Control Center, from standing and seated positions
- Able to see the position of all trains on the system at a glance
- Seamless imaging of several projection devices creating one continuous display wall
- Proven 24/7 reliability for peace of mind and lower total cost of ownership

CHRISTIE®

Decision making factors

Content had to be visible to all operator positions, both standing and sitting. Pixel density was also critical to ensure that wall content is clear and easy to read even when scaled to a smaller size. Balancing the ideal pixel count to the size of the SCADA image with the needs of the operator can be challenging. Operators need an at-a-glance view of the 15 trains at all times. They can use their individual monitors for more detailed views if necessary.

Reliability of the display wall system was also important in the design of the LCC. The overall cost of ownership including lamp replacement was a concern. Ultimately ensuring the system would operate 24/7 with minimal disruption or maintenance was the most critical factor.

The reliability of Christie products is well known within the industry. "Christie products are up there on the top for reliability," says Keith Sherry, LCC Chief.

"GE's mandate is to source out the best products available for our projects. When it comes to projection, Christie is considered the best" said Ron Chow, Project Manager at GE.

Project solutions

Christie RPMSP-D132U projectors, have a native resolution of 1400 x 1050 pixels (SXGA+). High contrast Black Bead screens further enhance the pixel density. These rear screen projection technologies give Sound Transit operators the ability to view the display wall from a range of viewing angles. In addition, Sound Transit reports that the Christie display is able to handle the high amount of ambient light caused by the bank of windows in the room. The custom 1 x 3 Christie display system effectively eliminates operator eye strain caused by a challenging room layout.

"Christie products are up there on the top for reliability"
Keith Sherry, LCC Chief

Working with Christie

Light rail projects typically span many years. The original specifications changed many times over the nearly four years this design project spanned. Christie sales representative Ken Hartling had to revise the product requirements many times to ensure an installation with the most current projection technology. "Christie was flexible enough to work with all partners over a long period of time and through several technology changes," stated LCC Chief Keith Sherry. Overall, Sound Transit is very happy with the Christie display wall. According to Michael Clark, Executive Vice President of Avidex, the audio video integration company involved with the project, including the final installation, "Christie showed both creativity and flexibility in working with Avidex, ensuring the overall design met the needs of the client beautifully."

Contact Christie

Christie has been manufacturing 24/7 rear projection display wall solutions for over 30 years. We are the worldwide leader in projection display equipment.

Contact us today at sales-US@christiedigital.com to find out how you can benefit from a Christie rear projection display solution.

Corporate offices

Christie Digital Systems USA, Inc
USA – Cypress
ph: 714 236 8610

Christie Digital Systems Canada, Inc.
Canada – Kitchener
ph: 519 744 8005

Worldwide offices

United Kingdom
ph: +44 (0) 118 977 8000

Germany
ph: +49 2161 664540

France
ph: +33 (0) 1 41 21 44 04

Eastern Europe and Russian Federation
ph: +36 (0) 1 47 48 100

United Arab Emirates
ph: +971 (0) 4 299 7575

India
ph: (080) 41468941 – 48

Singapore
ph: +65 6877 8737

China (Shanghai)
ph: +86 21 6278 7708

China (Beijing)
ph: +86 10 6561 0240

Japan (Tokyo)
ph: 81 3 3599 7481

Korea (Seoul)
ph: +82 2 702 1601

Independent sales consultant offices

Spain
ph: +34 91 633 9990

Italy
ph: +39 (0) 2 9902 1161

South Africa
ph: +27 (0) 317 671 347

ISO 9001 QMI REGISTERED ISO 14001 QMI REGISTERED

For the most current specification information, please visit www.christiedigital.com

CHRISTIE®