Application Story

Washington Metropolitan Area Transit Authority

This integrated solution delivers perfect edge-blending, multi-windowing and screen processing in the Command Center and Rail Operation Center.

Christie chosen to help synchronize rail transit system

Numerous one-way streets, traffic circles and security issues make driving in America's capital a challenge. However, thanks to the Washington Metropolitan Area Transit Authority, thousands of commuters and tourists travel in safety throughout Washington, D.C. every day. And, thanks to Christie® projectors and video processors, they are doing it more efficiently than ever.

With 86 stations, 106 miles of track and 1,116 rail cars, the Washington, DC Metro is the second largest rail transit system in the United States. To help synchronize the entire system, the Metro selected 12 Christie HD10K-M 3-chip DLP® projectors and four Christie Vista Spyders for its Command Center and Rail Operations Center (ROC). With the Christie technology in place, Metro staff can now react immediately to any emergency or slowdown.

"The Command Center is the heart of the Metro and its team needs an effective way to communicate with the Metro Transit Police and other agencies," noted Eric Choucroun, audio-visual account executive for Washington Professional Systems Engineering Group (WPS). "Command Center staff also views rail-specific content called traction power maps, communicates via HD videoconferencing, and monitors local news and DC sports events in order to anticipate train traffic flow. The Spyders manage the processing of the analog and digital high-resolution images and video, and support a variety of resolutions from multiple sources.

"The Metro didn't want the Command Center and Rail Operations Center to be dim; they wanted the lights on. They wanted another solution, but there would have been huge maintenance issues and it would have been expensive for lamp replacement, high power consumption and heat loads," continued Choucroun.

Three flat-panel displays, two Christie HD10K-M projectors and a Spyder 344 are in the Command Center. Spyder video processors are the most powerful in the world, capable of supporting up to 32 independent windows, 16 mixers, 2048 x 1200 resolution on each output, and unrestricted window and Picture-in-Picture (PIP) placement.

Customer:
Washington Metropolitan Area Transit Authority

Location:
Washington, D.C.

Industry/Market:
Transportation

Partner:
Washington Professional Systems Engineering Group

Requirements:
- High resolution, brightness, clarity and flexibility in a high ambient light environment
- Quality, high-performance, 24/7 reliability
- Support of multiple computers and integration from various sources and resolutions
- 50ft x 20ft concave screen with up to 13 windows of content displayed simultaneously

Summary:
The Washington Professional Systems Engineering Group and Christie collaborated for the successful implementation of two video wall systems at the Washington Metropolitan Transit Authority. The technology enhances the safety, security and efficiency of the rail system's five lines (with a sixth under construction).

Products:
- 12 Christie HD10K-M projectors
- One Spyder 344 video processor
- One Spyder 380 video processor
- One Spyder 359 video processor
- One Spyder 365 video processor

Results:
- Christie projectors and Spyder video processors perform flawlessly 24/7
- Stacked Christie HD10K-M projectors deliver 20,000 ANSI lumens and provide high resolution and clarity
- Spyder technology makes it easy to monitor all areas of operations with numerous, interchangeable windows

CHRISTIE®

The Christie HD10K-M digital projectors deliver superior brightness at 10,000 ANSI lumens, 1920 x 1080 native resolution, multi-windowing and screen processing – perfect for the 24/7 Metro operation.

"The projectors, mounted on the ceiling in front of the screen, are edge-blended and the imagery is excellent," added Choucroun. "Since the traction power content – which is similar to flowcharts – consists of detailed graphical maps, low-quality scalers were never an option."

> "This has been so successful that I am using the same Christie projectors and Spyder video processors for many other similar installations."
>
> *Eric Choucroun, Audio-Visual Account Executive, Washington Professional Systems Engineering Group*

Located 15 feet above and directly behind the Rail Operations Center with a large glass wall in front, the Command Center continually shares data with the ROC. The rail map "ribbon" image is so large in size and high in resolution that it is clearly viewable through the glass wall of the Command Center, which was the design intent.

On the ROC wall are three projection surfaces with the concave center 'screen' measuring 50ft x 20ft. Blended both vertically and horizontally, three sets of stacked Christie HD10K-M projectors and Spyder 380 and Spyder 359 video processors display content from Metro security cameras, news sources, and traction power maps. A rail map displays trains, destinations and switches in use.

"The Metro wanted to see up to 13 images on the screen simultaneously, to control the location of each, and to be able to zoom in case of an emergency," said Jason Wines, technical sales and support engineer at Christie. "The transitions are smooth because the Spyder is a hardware-based processor. You can do border-type treatments, drop shadows, change or crop images and much more."

To the left of the center screen, two Christie HD10K-M projectors display a second traction power map on a 12ft x 8ft screen. "The traction power maps are used by rail operators to make sure the trains have enough power to move, among other things," explained Choucroun.

To the right, on a similar 12ft x 8ft screen, another Christie HD10K-M displays scrolling text and communications between the Metro operators and the ROC. A Spyder 365 controls the smaller screens and all projectors in the ROC are ceiling-mounted and front projection. The final Christie HD10K-M projector, located at the rear of the operations center, is for a future rail-system simulation area.

"It was a very smooth project and it all came together well," Wines added. "The only challenge was getting content configured to an applicable resolution and fitting it on the wall seamlessly. We had to make resolution adjustments in the Metro's program to accommodate this."
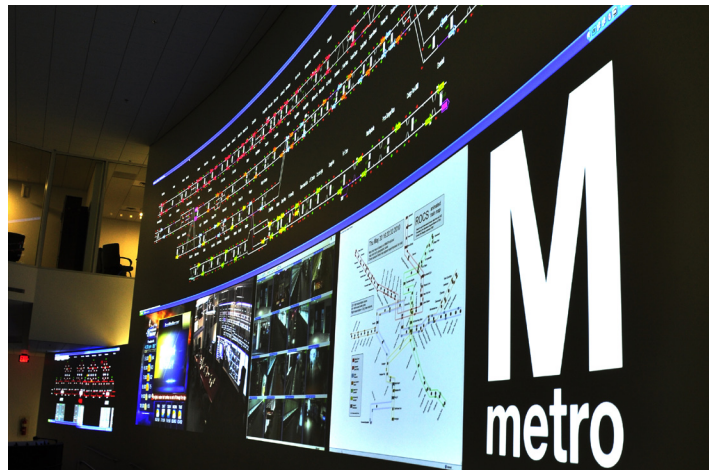
Choucroun agreed and added, "What everyone noticed is that even with the lights on full, the images from the Christie projectors are still bright and clear."

Christie HD10K-M projectors and Spyder video processors are performing 24 hours a day with brilliant colors and high resolution, enhancing the safety and security of Washington Metro riders.

"The Metro Authority now has the ability to see in real-time their rail map and any emergencies that come up. It also allows each department to communicate with each other via these images so they can collaborate on any problem," concluded Wines. "That is a very powerful thing to do."

Eric Choucroun noted the reaction of the Metro staff: "We overheard them say, 'Wow, it is so clear.' It is just perfect; everyone is impressed and happy. Choosing the Spyder was a no-brainer for this 24/7 application. This has been so successful that I am using the same Christie projectors and Spyder video processors for many other similar installations."

Photo credit: Michael Platt

Christie projectors and Spyder video processors perform flawlessly 24/7.

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