



## How a Tennessee Utility District Uses WindoWall™ to Improve Operations

Two years ago HB&TS, the Hillsboro, Burwood & Thompson's Station Utility District, began the planning process for a new command and control center. The utility district is charged with keeping drinking water safe for 6,300 customers in Williamson County, TN. "The district wanted a dramatic look for its command and control center, and that, in itself, meant they needed a display larger than could be done typically with LCDs or plasma screens," says Tom Semmes, Design Engineer with Multi-Media Solutions, designer and integrator for the project. "Therefore, it was decided early on that the only way they could achieve this impact was with projection, and the Extron WindoWall™ was the natural solution."

### Design Goals: Multiple Sources, One Large Screen

The WindoWall is a scalable multi-graphic videowall processor system that employs proven Extron video processing technologies to deliver a fully optimized, high quality video output. It is ideal for the utility district for a number of reasons. First, it gives them the widescreen capability they need. "We wanted to use the two projectors at their native resolution and we wanted the input, which was a map, to be the background image. And we wanted it to be as large as possible and at the highest resolution," Semmes says.

The command and control center uses two WindoWall processors, two edge-matched projectors, and a 60"x160" screen to enable the display of two 1400x1050 images side by side. The display background shows a map of the county's equipment and water supply, often the most important image, across the entire screen. In addition to the background image, each WindoWall processor allows for the display of up to four windows per projector, each of which can show video, HDTV, or high resolution computer-video content.

To ensure that vital information is available at all times, the utility district had very specific goals in mind for its A/V system. First, the system had to fully support the district's SCADA, or Supervisory Control



Operators at the command and control center need to see critical information at a glance, including a topographic map and disaster- and weather-related news local TV stations.

and Data Acquisition system, which continually monitors and reports the condition of all utility district devices in the field. In addition, they wanted a videowall system that could handle a wide range of video formats and enable operators to see, at a glance, other critical information, including a topographic map and disaster and weather-related news from local TV stations. With this information, the utility district could then address any issues identified, including equipment problems and potentially dangerous conditions. Finally, the district wanted a presentation system that could support in-service training materials from DVD and other sources.

Because they would be using so many different sources and signal types,

the district decided to use the Extron CrossPoint 450 Plus 128 HVA Ultra-Wideband Matrix Switcher [now the CrossPoint Ultra 128] for all signal routing, including audio, from the district's satellite television receivers and DVD-VCR. The CrossPoint 450 Plus provides the performance required to maintain signal integrity with the demanding, high resolution signals used in the command and control center.

### WindoWall Fits the Bill

"In a command and control center, when you put something new up on a screen, you don't want to lose sight of what's already there," Semmes says. "You might have windows that display disaster or weather-related items, another window with the SCADA data, and another with a

map that shows the entire area covered by the district. And that's where the Extron WindoWall has been so useful. Each processor has four open windows in addition to the full-screen background."

With so many different sources and signal types to manage, WindoWall's Auto-Image function has streamlined system operation and reduced set-up time for the command and control center. With Auto-Image, each WindoWall processor automatically optimizes the settings for each input signal, saving time and effort when crisp, high resolution images are needed.

### System Setup and Configuration

The entire WindoWall installation, setup, and configuration process was user-friendly, according to Semmes. During the configuration phase, the intuitive Wizards in the WindoWall Console software guided the integrator with a step-by-step process, simplifying system layout configurations. The Wizards provided easy to understand instructions on setting up the system, and enabled the integrator to complete the entire configuration in less than five minutes without any help. In addition, the short SIS™ - Simple

Instruction Set command protocol allowed for easy third-party control and programming.

Various window presets were created for recall by a third-party control system, and the different layouts make it possible for operators at the command and control center to view sources collectively and at the same time. This improves efficiency and optimizes time, enabling quicker responses by the operators.

### Practical Room Layout

The command and control center has a console with space for three operators. The console faces the large screen, and there are six additional 22" monitors on the console itself, so that the operators can view important information on the big screen or on the monitors in the console. The WindoWall is fully flexible, enabling the operators to size and position each image independently in any way they want.

"We view this project as a total design," Semmes says. "Anyone could have put in a few panels and equipment, but it wouldn't have the look, the feel, or the capability that this room has. It really does look like a command and control center."



WindoWall Console Software Virtual Canvas

### WindoWall Console Software


WindoWall Console Software is the user-friendly application designed for fast, easy setup of the WindoWall System. The software simplifies setup with a series of intuitive Wizards that take the user step-by-step through the process of configuring a videowall. A virtual canvas for on-screen visualization enables the user to size and position windows just as they would be shown on the videowall. Operation of the WindoWall System is further simplified with 100 customizable presets that enable users to quickly save and recall window configurations.

#### Features:

- Wizard-based graphical user interface for videowall system set-up and configuration of all input sources and the matrix switcher to be used in the system
- Brings WindoWall Processors and matrix switcher together via TCP/IP
- Virtual canvas for on-screen videowall visualization and dynamic window placement and sizing
- 100 memory presets for videowall layout configurations



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Each window of the WindoWall can show video, HDTV, or high resolution computer-video content.

a pre-installation design review and system optimization and customer training following the installation, but prior to the system going into full operation.

“The Product Commissioning Service was essential,” Semmes says. “Extron has been very helpful.”

The Product Commissioning process for the utility district took about a day and a half, and included full integration of third-party programming, testing, and optimization of the display’s alignment and color balance. “It was an enjoyable experience that yielded a satisfied integrator and end-user,” says Steve Kolta, Systems Design Engineer at Extron.

### Plenty of Room for Growth

George Gates, CTS, Sales Engineer for Multi-Media Solutions, says the A/V system was designed for future growth. The area served by the utility district is growing rapidly, which means that the utility district customer base is growing. As the district expands, the fully scalable WindoWall System can be expanded as well. Because the WindoWall uses a distributed video processing architecture, dedicating one discrete, real-time processor to each display, the district can easily expand the WindoWall System to support additional display requirements. The WindoWall enables a wide variety of display layouts from 1x2 to 3x4 and larger.

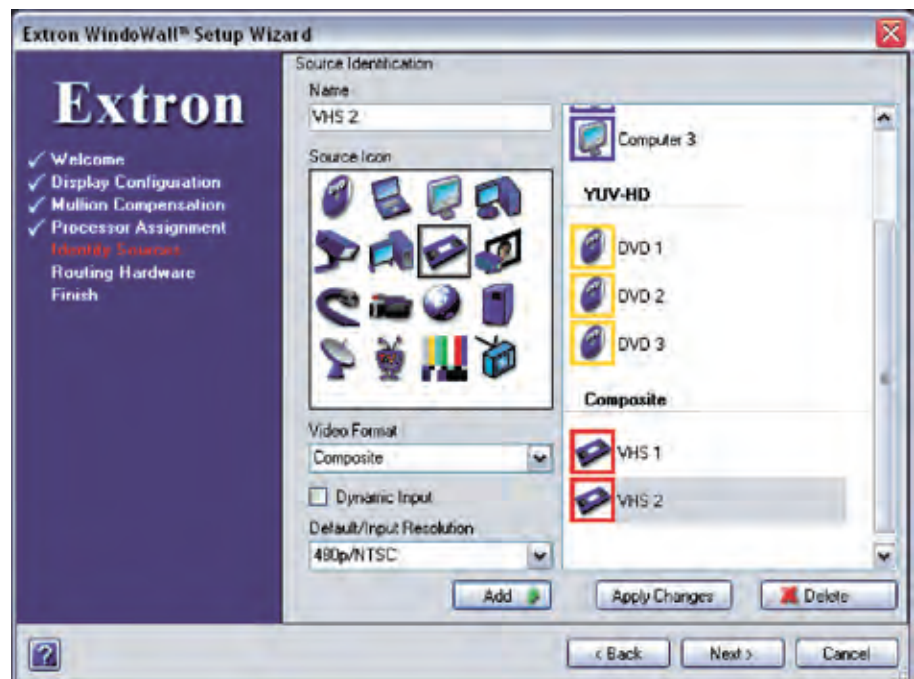
Troy Watkins, System Operator for the utility district, says that because of its mapping system, the command and control center could eventually be used as a war room where strategic decisions are made in the event of a major emergency. In addition, cameras will be installed on all water towers and sites so operators at the command and control center will be able to view the actual tanks and water pumps and be alerted when unauthorized individuals have entered the area. The WindoWall's ability to display real-time, full

frame rate video in each window is ideal for this type of surveillance application.

### Product Commissioning Service

Semmes feels that the Extron WindoWall Product Commissioning Service was a major benefit. This setup and calibration service ensures optimum performance in A/V presentation systems utilizing the WindoWall System. The service includes

Watkins adds that the utility district is very happy with the WindoWall System, and they are only beginning to explore the full range of capabilities available to them. ➤



WindoWall Console software includes a series of step-by-step Wizards that walk the installer through the process necessary to expedite videowall system setup.