

> SPECTATOR: A CONFIDENCE MONITORING SOLUTION

Scalable monitoring for high-resolution video displays

> OVERVIEW

What if you could monitor an entire LED display system in real time—without sacrificing accuracy? High-resolution video feeds are often optimised for efficiency, but at the cost of intelligibility for human operators.

7thSense's Spectator solution, powered by Juggler and Delta Media Server, eliminates this challenge by delivering a scaled-down yet precise view of your live content, ensuring confidence in every pixel.

Optimizing video signals for LED processors often prioritizes efficiency over clarity, making it harder for operators to interpret live visuals. "Pixel packing" can result in visually incoherent images that are difficult to interpret for the people responsible for smooth operation of the video system.

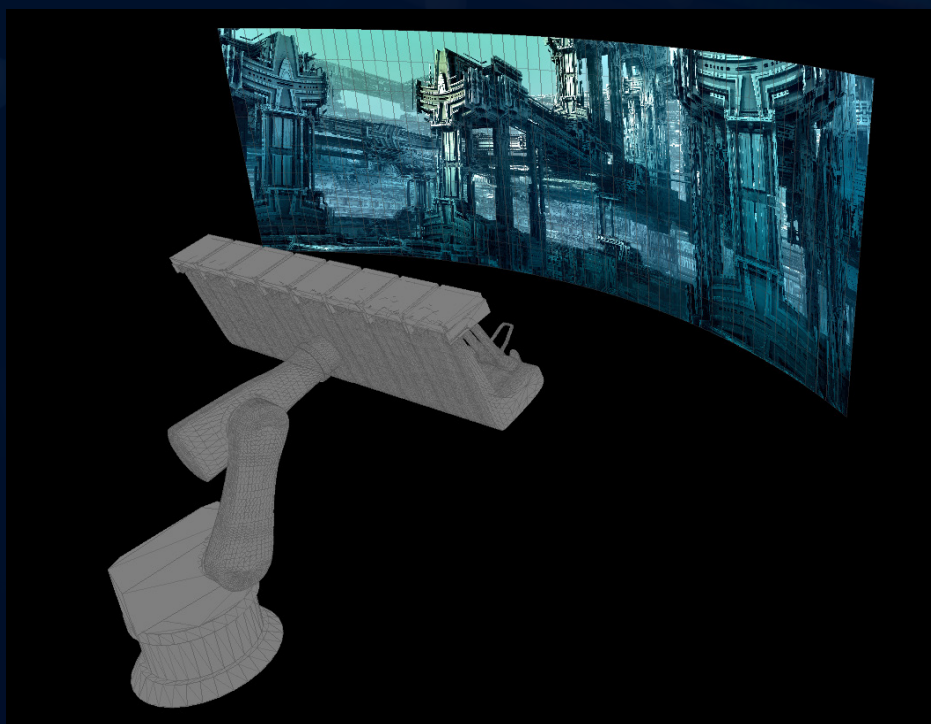
> SOLUTION

Built upon 7thSense Juggler and Delta Media Server platforms, Spectator monitors multiple high-resolution video sources, reconstructing an intelligible, scaled-down live output for real-time confidence monitoring.

Spectator scales down dozens of high-spec video feeds in real time and combines them into information-dense video outputs. Full-quality original streams can also be viewed on demand.

By mapping video onto a geometry that matches the real-world display surface, operators can accurately visualise content in real time on connected displays or with VR goggles over NDI.

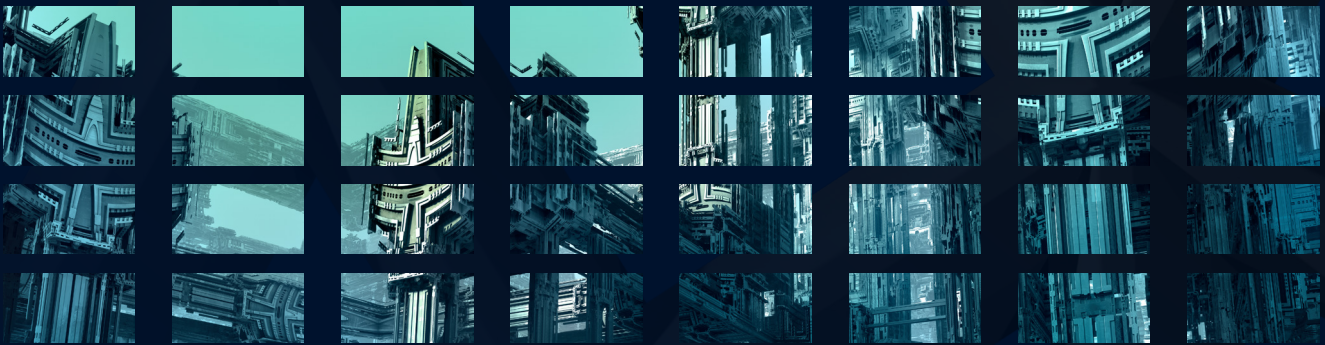
Spectator solutions can accommodate a mix of standard and custom resolutions, as well as mixed frame rates, colour subsampling, and bit depths.



> EXAMPLE APPLICATION

Here's how Spectator can be used to monitor a high-resolution LED display:

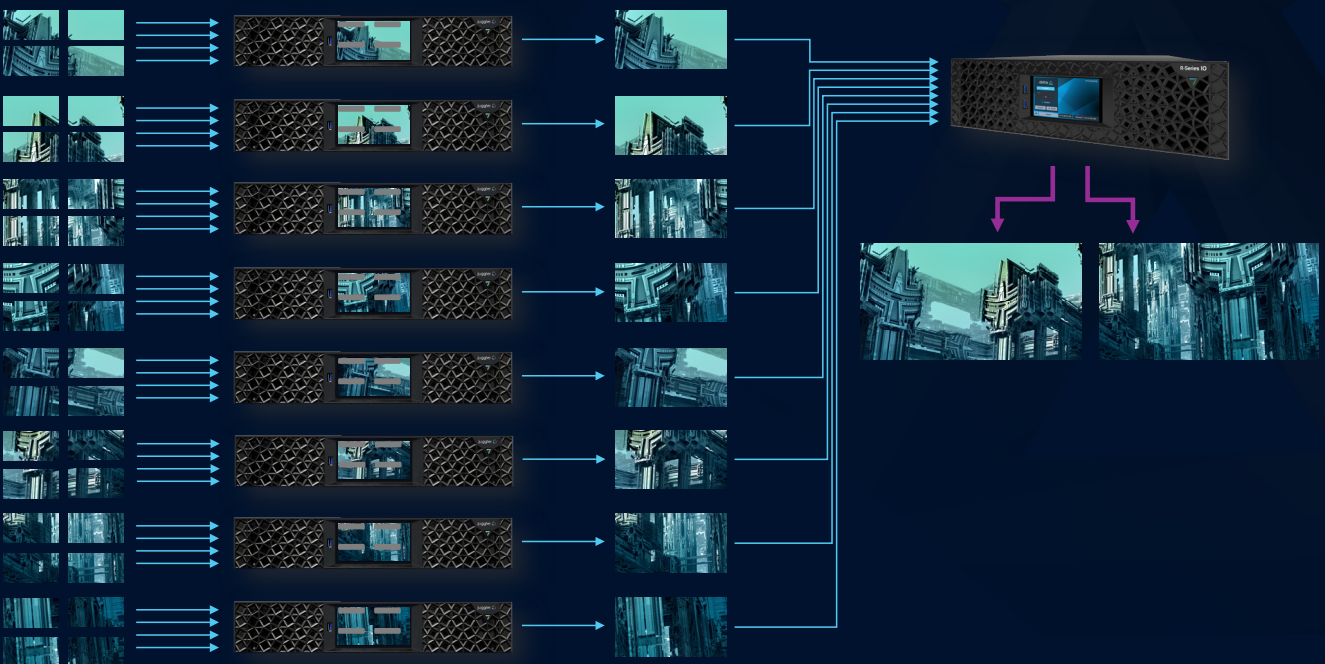
- A large LED display consists of 32 synchronised 4K 60fps 12-bit 4:4:4 video signals.



- Juggler pixel processors capture four source streams each, scaling them down, compositing them into a single image, and reformatting them into 4K 30fps 10-bit 4:2:2 streams.



- Delta Media Server then combines eight of these streams, arranging them onto a single monitoring canvas and further downscaling them. Any of the full-resolution streams can be viewed via Delta Media Server if a zoomed-in view is required.



- The processed output is delivered via two 4K outputs and can also be streamed as NDI to be wrapped onto a 3D object mesh for a digital twin representation.



> CONTEXTUAL MONITORING

Go beyond traditional monitoring. Spectator creates a real-time digital twin of your display, mapping video onto a 3D surface for precise, immersive oversight—viewable even in VR.

Monitoring video sources in rectangular raster views serves an important purpose for troubleshooting but viewing live video in the context of how it is applied on the display provides a clear picture of the output of the system for operators.

Spectator can apply live video inputs as textures wrapping 3D objects and display them from various points of view, providing a digital twin of the built display. Delta Media Server can even send the combined texture to an off-board system such as a VR headset for more immersive contextual system monitoring.



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The original 7thSense media server product line, and the first to bring uncompressed media playback to the world.

P-Series **R-Series**

7thSense's media server hardware platform range. Designed to be the host of Actor®, Conjuror®, and Delta Media Server®. Available as hardware-only for use in generative media applications.

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actor 

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