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TEACHING AND TECHNOLOGY

Direct View LED: No Longer Stuck in the Box

by Jeremy Hall

Planners often run into obstacles when designing spaces. After measuring and completing a site visit, planners get back to the workspace to begin creating a concrete plan. Once they take into consideration the room dimensions, they often realize that the best 16x9 display will not fit the space, due to obstacle or height limitations.

Previously, this situation would lead planners to settling for a smaller display, installing the display off center, or even having to choose an entirely different space for the project. While previous formulas for calculating screen size limited available choices in the past, designers can now move away from these design constraints by using customizable and configurable display products. One such technology is the Direct View LED (DVLED) Video Wall.

Hardware

The LCD Video Wall preceded DVLED, long filling the niche because it could be scaled and could use a combination of mounting structures. This technology has

two big complaints: the bezels between the displays and the stock 16x9 form factor. Even though many companies in the LED industry have a preconfigured 16x9 offering, most are built on the same principle of smaller and more configurable cabinets to be able to build out custom sizes with zero separation between the cabinets. The only separation within the image is the pixel pitch itself.

DVLED Technology is comprised of a cabinet that houses a series of LED modules which contain many pixels of actual RGB+ (red, blue, green) LEDs. These modules can be placed directly next to each other, ensuring no gaps in the image. The distance between these LED pixels is known as the pixel pitch.

Pixel pitch is normally selected based on the distance of the participant at the point where they can no longer discern pixels. With this micro-modular design, many factories can custom cut and fit LED modules and cabinets to exact dimensions, filling an entire space.

Content

Consumers who are concerned about content that has already been formatted will be pleased to know that every LED wall is driven by on- or offboard controllers and can be easily paired with video processing units. Some even have windowing and video processing built into the unit.

Just as the display market has massively advanced recently, so has the world of video processing. Every LED Wall needs a component to translate the video information into the LED Language. This translation allows every pixel on the wall to be filled with content. The video processor can also window the content, fill in negative space with backgrounds, or even tile images to create the most optimal content layout for the visual technologies.



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Direct View LED (DVLED) displays have long been considered boutique items, but as the technology has advanced, the cost has dropped. DVLED can now fit into many budgets, offering a wide variety of products to fit anyone's fiscal needs.

Aesthetics

Another advantage of DVLED that adds to its customizability is the ability to achieve beautiful curves and seamless corners. Coming to the edge of a wall doesn't mean that the video data needs to stop. By using the video processing and small LED modules, DVLED is able to bend very tight radiuses to be able to create smooth curves or conform perfectly to an already curved surface. This flexibility can allow the participants to be completely surrounded by video; many people have already gotten used to this format at home. Through the pandemic, curved and extra wide video monitors have become a staple for home offices, and now DVLED technology allows the same options for campus spaces. With flexible mounting and seamless modules, DVLED can also achieve perfect 90-degree corners, in both concave and convex configurations, adding an additional way to surround participants and use all available wall real estate.

Flexible Mounts

Creating these curves and corners can often require some extra help from the world of structures. DVLED has always had its roots in the rental and staging market. Because of these origins, unique mounting has always been at the forefront of DVLED product design, which allows many types of mounting

structures to be used in a single product. Planners are no longer limited by the wall, floor, or ceiling but can easily use a hybrid of all solutions to be able to mount displays however and wherever they are wanted. Mounting also solidifies the other benefits of DVLED. The Z-Axis adjustment ensures that there are no spaces or visible seams between modules as well as helping to engineer curves and corners. With all these features, engineering spaces for DVLED has never been easier.

Shine Brighter

Additionally, DVLED has many optical advantages over its predecessors that should also be weighed when making these decisions. Planners should consider learning more about this technology to see if this technology will be the best choice in future designs. With DVLED, the only limitations are one's budget and imagination. Every LED added just does that much more to make the world shine a little brighter.



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Before his time at Absen, Jeremy worked as both an integrator and live events director. His goal every day is to both learn something and teach something. To learn more about Absen, Inc. and Jeremy visit www.usabsen.com

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