

Contractor's Specifications

Planar® DirectLight™

LED Video Wall System

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This document is to be used by an integrator, designer, consultant, or end user to develop specifications to a project utilizing a Planar DirectLight LED Video Wall. Below you will find a table of product specifications for the Planar DirectLight and unique specifications that can be used when designing and writing specifications. The table lists the feature category and the detailed specs. There is also a description of the main benefit which usually does not appear in the bid but offers background and explanation on the requirement purpose.

Planar DirectLight Specifications

Planar DirectLight LED Display Modules		
Feature	Requirement	Benefit
Specification List: Applies to DL1.6, DL1.9, DL2.5 and DL3.1 Display Modules	Bezel width: Zero (seamless) LED Type: Commercial grade 3-in-1 Black SMD LED surround: MicroGrid™ shader, black LED Display Module Size: 400 x 300 x 66.8mm LED Display Module diagonal: 19.7" / 500mm LED Display Module area: 1.3 sq ft / 0.12 sq meter Total installed depth: 3.5" min, 4" max LED Display Module weight: 11.5 lbs / 5.2 kgs Total install weight DM and mount: 15.8 lbs / 7.1 kgs Brightness: 1200 nits uncalibrated; 900 nits calibrated Brightness uniformity: ≥ 97% Viewing angle, horizontal: ≥ +/-80 degrees, (≥90% brightness) Viewing angle, vertical: ≥ +80/-75 degrees (≥80% brightness) Color gamut: ≥97% NTSC Color uniformity: ≥97% Colors: 16.7 million Color temperature: 3,200 – 9,300, adjustable Color processing: 16 bits Contrast ratio: ≥5,000:1 Input frame rate: 50, 60 Hz	

	<p>Adjustable mount: EasyAlign™ mounting system included Installation, Service: Front LED Display Module adjustment: 6-axis integrated Mounting: Fixed, wall Regulatory: NRTL, FCC Class A, CE Class A, WEEE, RCM, PSE, REACH, EN60950 and CISPER22/2010, RoHS Americans with Disability Act (ADA) Compliance: Yes TAA Compliance: Yes Power supply type: 1U rack mount Power redundancy: n+1 Redundant Power Supplies (optional) Line voltage: 100-240 Volts AC, 50/60Hz auto switching Maximum distance from LED Display Module: 200 ft / 60 meters Video input type: HDMI v1.4 with HDCP compliance Video input max resolution: 1920 x 1200 @ 50, 60 Hz Video signal extension: CAT6 (HDBaseT), Fiber Optic Video signal redundancy: Optional Video extension redundancy: Optional Display control: DirectLight Control Software (included) Control input: RS232 or Ethernet</p>	
<p>Specification List: DL 1.6</p>	<p>Pixel Pitch: 1.67mm Resolution per LED Display Module: 240 x 180 Pixel Density: 33,445 / sq ft, 360,000 / sq meter</p>	
<p>Specification List: DL 1.9</p>	<p>Pixel Pitch: 1.92mm Resolution per LED Display Module: 208 x 156 Pixel Density: 25,121 / sq ft, 270,400 / sq meter</p>	
<p>Specification List: DL 2.5</p>	<p>Pixel Pitch: 2.50mm Resolution per LED Display Module: 160 x 120 Pixel Density: 14,864 / sq ft, 160,000 / sq meter</p>	

Specification List: DL 3.1	Pixel Pitch: 3.13mm Resolution per LED Display Module: 128 x 96 Pixel Density: 9,513 / sq ft, 102,400 / sq meter	
Architecture	The video wall must be made up of 4 pixel pitches 1.6, 1.9, 2.5, 3.1 with a single display module size and architecture easily divisible into 16:9 walls and including slim LED modules with an integrated mounting system, off board power, distributed video connections and redundant power supplies.	This architecture allows customers to select wall size and vary pixel pitch depending on needs, get a perfectly aligned video wall, use less room, gain reliability and increase reliability while simplifying service.
Mounting System		
Mounting System	Display must come standard with its own mounting system, designed exclusively for the LED video wall product.	Guaranteed exact compatibility and optimized design for the LED video wall.
Wall Mounting	Display must mount directly to a wall without the need for additional mounting structure.	Simplifies installation. Eliminates time, cost and uncertainty associated with separately sourced mounting structure.
6-Axis Adjustable Mount	The LED display module must include an integrated mounting system that allows for 6-axis of adjustments to achieve a perfectly aligned LED video wall.	Minute adjustments allow for precise alignment from module to module; particularly where the corners of four LED modules come together.
2 levels of Z-axis adjustment	The LED video wall must include 2 levels of Z-axis adjustment; one at a larger adjustment level and one for fine-grain adjustments.	Z-axis flatness is one of the most critical and difficult alignment challenges in LED video walls. 2 level Z adjustment facilitates this perfect alignment.
Installed Depth	The installed depth of the LED video wall must be less than 4"mm. The install depth must be compliant with the Americans with Disabilities Act (ADA) for protrusion under 4".	Thin profile allows for legally compliant installations in US public spaces, reduces the real estate footprint and associated cost, allows for installations in space-constrained environments.
Front Installation	LED video wall must be able to be fully installed and aligned from the front with no rear access.	Allows for shallow, wall-mounted installations. Eliminates the need for 2 installers to work simultaneously on the installation of each LED module.
Full Front Service	All replaceable video wall components must be accessible and replaceable from the front of the wall with no need for rear access.	Allows for slim, wall mounted video walls that can still be fully serviced. Reduces space and downtime.

Weight	The LED display module must have weight less than: 11.5 lbs / 5.2 kgs The LED display module with mounting structure must have combined weight less than: 15.8 lbs / 7.1 kgs	Allows for easier handling, faster installation, less damage from installation and lower structural requirements for wall strength.
Curved Walls	The display mounting structure must be capable of supporting concave curved walls.	Allows for curved wall installation that is preferred in certain control room and conference room designs.
Environmental		
Quiet operation	The video wall must operation without fans.	Fanless operation ensures less noise at the wall and in the room allowing for conference room or control room installations requiring a quiet environment.
Operating Temperature	The display must be able to operate in a 0-40°C (32-104°F) environment.	The video wall operates properly in a range of environmental conditions.
Operating Humidity	The display must be able to operate in a 10-80% RH non-condensing environment.	The video wall operates properly in a range of environmental conditions.
Electronics		
HDCP Compliance	The display must be HDCP compatible allowing an HDCP source to be displayed on the wall.	Ensures that HDCP protected content can be displayed on the video wall.
Seam correction software	The video wall must include seam correction software to electrically compensate for any visible mechanical dark or bright lines.	Corrects even very slight mechanical line imperfections so that the wall looks perfectly uniform.
RS232 Control	The video wall must be capable of accepting and passing through RS-232 control commands to a wall.	Allows for programmatic control of the video wall.
LAN Control	The video wall must have a built-in option for control off LAN.	Allows for programmatic control of the video wall over a network.
Color Temperature adjustments	The video wall must be able to be adjusted to a range of color temperatures between 3200 and 6500.	Allows for customers to hit color temperatures desirable for their environments.
Redundant video cabling	The video wall must be configurable to support redundant video cabling.	Increases uptime for mission critical environments by eliminating potential failure point
Long distance signal transport	Must support long distance video signal connection to the video wall via standard protocol HDBaseT and standard cabling CAT6.	Allows video sources to be located in the rack room with easy access and full climate control.
Fiber optic signal transport	Must support long distance video signal connection to the video wall via fiber optic cables	Allows for long video runs with the security provided by fiber optic interconnect.

Windows-based control software	Includes Windows based control software that allows the user to configure the video wall and optimize its visual performance.	Allows for fast set-up and image adjustment through an intuitive interface.
LED Display Module		
Commercial grade LED Display Module	The LED and LED Display Module must be designed for 24/7, extended operation	Provides around-the-clock operation with excellent visual performance.
Viewing angle	The video wall must support horizontal viewing angle $\geq \pm 80$ degrees at $\geq 90\%$ brightness, and vertical at $\geq +80/-75$ degrees at $\geq 80\%$ brightness.	Provides extended exposure in digital signage installations and more comfortable viewing in control rooms.
Consistent Display Module dimensions	All pitches in the family of video wall display must have exactly the same physical dimensions.	Gives customer ability to define exact wall size and choose between 4 different pitch sizes later without impacting wall dimensions.
LED Display Module serviceability	An LED Display Module must be capable of being replaced without changing the power supply module or electronics module.	Makes service faster and easier
Low reflectance	The surface of the LED display must be low reflectance in well lit environments.	Provides better visual performance and perceived contrast in brightly lit environments.
Black LEDs	SMD LEDs in the Display Module must be black variety.	Provides deeper blacks and higher perceived contrast.
Power Supply		
Remote Power Module	The LED video wall must be powered by a remote power supply module up to 200 feet away from the wall.	Reduces weight, heat and points of failure at the video wall. Eliminates the need for power at the wall. Allows power supplies to be placed in well ventilated rack space for better cooling and reliability.
No AC power behind the displays	There can be no AC power requirement behind the video wall.	Simplifies and reduces the cost of video wall installation since there is not expensive electrical work required.
Redundant Power Supply Option	The LED video wall must have a redundant power supply module built in that will allow for continuous operation in the case of a power supply failure.	Ensures continuous operation in the case of a power supply failure.
Other		
24-hour advanced exchange policy	The display manufacturer must offer a service policy that allows a replacement LED Display Module to be shipped out within 24 hours.	Allows the Planar partner to be responsive to customer support needs.
5 year warranty	The video wall must be covered by warranty for up to 5 years	The video wall is a significant investment and

	including extensions.	should offer warranty coverage beyond a standard 2 or 3 year coverage span.
Zero-Defect Installation	The manufacturer must offer installation assistance and with that a policy of leaving the completed wall installation with zero defects.	Partner knows they will be able to deliver a perfect wall if they use Planar's installation assistance services.