PLANAR

Clarity Matrix
LCD VIDEO WALL SYSTEM

The ultimate video wall tiling solution

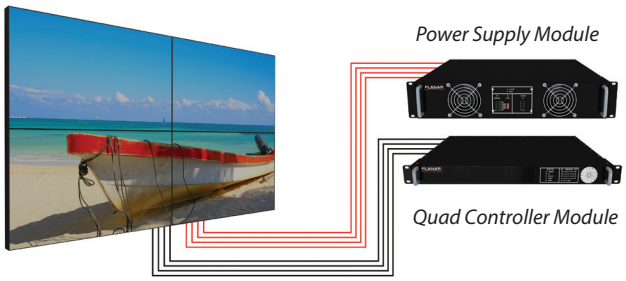
For an immersive, flexible video wall solution that can be configured in many ways and appears nearly seamless, the Clarity™ Matrix LCD Video Wall System is the ultimate display solution for control room or digital signage applications.

Optimized for 24x7 operation, the Clarity Matrix delivers outstanding visual performance and requires minimal installation space. The Clarity Matrix utilizes cutting-edge ultra-narrow bezel LCD's that when tiled result in image-to-image gaps as small as 5.7mm. Featuring a unique mounting system and mission-critical off-board electronics design, the Clarity Matrix is the slimmest and most reliable LCD video wall available.

UNIQUE ARCHITECTURE & BENEFITS BY DESIGN

The Clarity Matrix Video Wall System was architected and developed by video wall industry experts in a way that specifically addresses the challenges faced by all video wall installations: mounting and alignment, reliability and extended operation, service and maintenance access and simple, effective image processing and management. At the heart of the Clarity Matrix architecture is a distributed design that takes heat, complexity and unreliability out from behind the LCD panel and replaces it with a centrally located, easily accessible and highly reliable rack-mounted system.

Tiled bezel width as small as 5.5mm



Off-board electronics design

Choice of Clarity Matrix LCD Panels

- Clarity Matrix MX46HD and MX55HD for higher ambient light environments
- Clarity Matrix LX46HD and LX55HD for standard brightness and lighter use applications.
- Clarity Matrix with ERO™ for extended ruggedness and optics for public spaces and interactive touch applications

Clarity Matrix Key Components

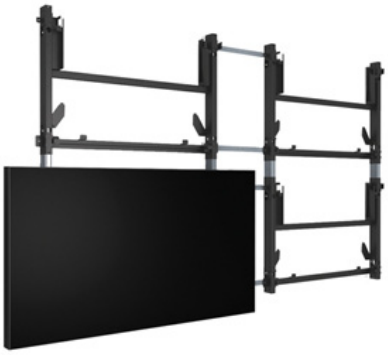
- Clarity Matrix EasyAxis™ mounting system simplifies the task of installing and perfectly aligning LCD modules while allowing for efficient servicing
- Clarity Matrix Quad Controller Module and Power Supply Module drive the video wall and facilitate uninterrupted operation
- Clarity Matrix configuration, management and processing software simplifies set-up and management of the video wall, accommodating a range of image processing solutions
- One price, one complete video wall system

UNCOMPROMISING IMAGE QUALITY

EasyAxis Mounting System

The Clarity Matrix Video Wall System includes the EasyAxis mounting system. The EasyAxis mounting system is designed to be attached to a wall, used with optional free-standing bases or secured overhead in a flying configuration. The single mount supports all these configurations. When used in wall-mount configuration, horizontal and vertical connection brackets ensure that each mount is perfectly spaced from its neighbor in the video wall. The mount system also incorporates a service mode to accommodate front and rear in-wall repair of any LCD module in the video wall.

EasyAxis mounts are designed to facilitate the thinnest profile LCD video wall in the market. The combination of the mount plus the Clarity Matrix LCD Modules "blade" design result in video walls that measure a mere 3.6 inches in depth, screen-to-wall, as opposed to other designs that require 60% more clearance.

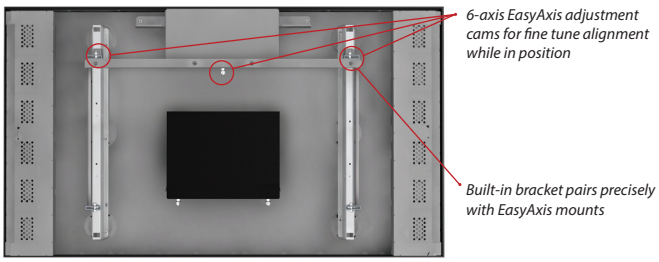


Mounting System 3.6" installed depth complies with the American's with Disabilities Act (ADA).

Precise Panel Alignment

Clarity Matrix LCD modules incorporate a single simple interface board designed to distribute off-board power, video and control signals to the LCD panel keeping depth, weight, heat and points of potential failure to an unprecedented minimum. The LCD blade-style module incorporates a bracket that is perfectly paired with the EasyAxis mount. The LCD module includes EasyAxis adjustment cams that facilitate precise 6-axis alignment ensuring uniform, minimized image-to-image gap. The lighter design of the Clarity Matrix LCD module means that handling, installation, alignment and service are all easier to accomplish.

- 6-axis easy adjustment cams
- Lighter weight
- Fewer points of failure
- Reduced heat load
- Perfectly quiet



Clarity Matrix LCD Module

24x7 OPERATION & SIMPLIFIED MAINTENANCE

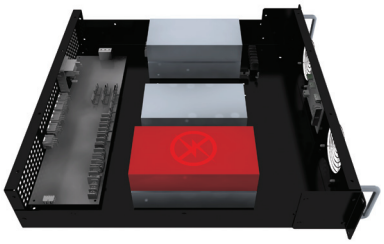
The unique Clarity Matrix architecture provides for 24x7 operation with optimized thermal design, high-MTBF components and redundant power supply option. Because of the streamlined design of the Clarity Matrix LCD modules, fewer repairs are required at the panel itself. When the panels do need to be accessed or removed, this can be accomplished without removing other panels in the wall. Starting at the top of the wall, panels can be pulled up and out into Service Mode, allowing the panel below to be accessed.

Clarity Matrix Service Mode for in-wall service

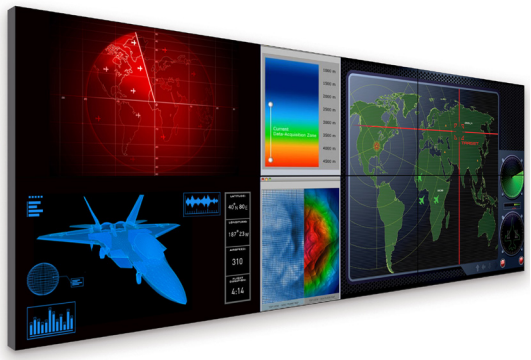
Also built into each Clarity Matrix LCD display are service and troubleshooting aids that minimize downtime in the event of a failure. Power, backlight and fan monitoring are all built into Clarity Matrix to provide failure notification. Clarity WallNet™ enables health and status monitoring over a customer network to proactively provide health status or send an email or text message to a service technician alerting them of a failure.

Redundant Power Supply

The rack-mount video processing and power supply units each support 4 LCD modules, incorporate their own cooling and make configuration, maintenance and upgrades easily accessible and unobtrusive to the video wall itself. For even further reliability, the Clarity Matrix power supply unit includes an n+1 redundant design so if any one power supply in the unit fails, the remaining 4 will continue to power 4 LCD's with uninterrupted operation.



n+1 Redundant Power Supply



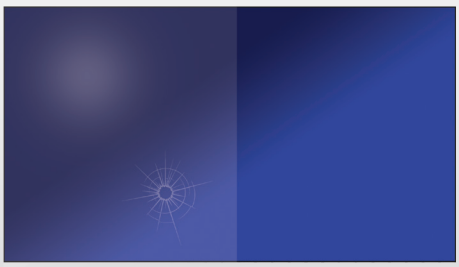
Flexible Built-in Windowing Capability

FLEXIBLE VIDEO PROCESSING

Clarity Matrix supports a wide range of processing options to display sources on the video wall. Planar's Big Picture Plus processing is built into Clarity Matrix and allows sources to be scaled across the entire video wall or any section of the video wall. To simplify the set-up process of Big Picture Plus, Clarity Matrix has position sensors built in the LCD that determine where it is located within the array and scale the sources across the video wall automatically. Big Picture Plus processing also allows for ultra-high resolution dual link DVI signals to be input and spread over multiple displays at native resolution. For more complex configurations, Clarity Matrix supports all leading image processing and digital signage software solutions including Planar's Indisys™ image processing.

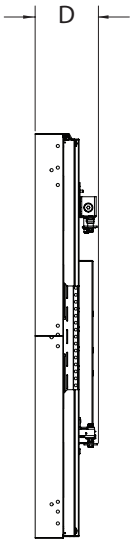
CLARITY MATRIX WITH ERO

Clarity Matrix with ERO features a glass front to provide increased ruggedness and optical performance for applications in public spaces or interactive touch. The glass surface is optically bonded to the front of the LCD with a proprietary construction and technique which maintains the narrow bezel spacing and creates a continuous surface when tiled together in a video wall. Clarity Matrix with ERO also provides improved optical performance in high ambient light by providing additional ambient light rejection and increased contrast.

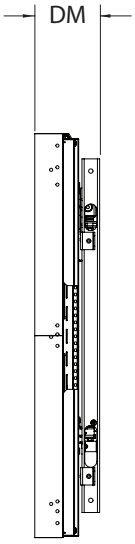


Without ERO *With ERO*

Planar's ERO technology features an optically-bonded glass front for increased ruggedness and optical performance



MODULE
without
MOUNT



MODULE
with
MOUNT

CLARITY MATRIX LCD VIDEO WALL SYSTEM SPECIFICATIONS

Model	LX46HD	LX55HD	MX46HD	MX55HD
Diagonal	46"	55"	46"	55"
Brightness (optimal)	450 nits	450 nits	700 nits	700 nits
Contrast ratio (full field typical)	3500:1	3500:1	3500:1	3500:1
Power consumption (typical)*	157 watts	179 watts	144 watts	185 watts
Heat load at LCD (typical)	535 BTU/hr	610 BTU/hr	490 BTU/hr	630 BTU/hr
Resolution	1920x1080			
Backlight type	LED			
Full viewing angle	178 degrees			
Technology	Commercial-grade SPVA LCD			
Acoustic noise	Fanless operation			
Operating temperature	5 - 40º C			
Operating humidity range	20-90% RH non-condensing			
Backlight sensing and reporting	At display level			

MOUNTING	
Clarity Matrix mount	1 per display included
Orientation	Landscape and Portrait Options
Curved wall brackets	Optional
Floor standing mount bases	Optional
In-wall service	Front and rear
Clarity Matrix display moduleposition adjustment	6-axis integrated
Safety Regulations	Complies with EN60950, FCC Class A, CISPR22/85, EC, EU RoHS

POWER SUPPLY MODULE		QUAD CONTROLLER MODULE	
Type	2U rack mount controller drives up to 4 panels	**Type**	1U rack mount controller drives up to 4 panels
Redundancy	n+1 redundant power supplies (optional)	**Inputs**	4 single link DVI with HDCP Dual link DVI in and out
Line voltage	100-240 Volts AC, 50/60Hz auto switching	**Image scaling**	Clarity Big Picture Plus 32x32 maximum
Power status	Diagnostic LED's, health monitoring and alerts	**Mullion compensation**	Integrated Clarity WallNet (LAN) (optional) RS-232 IR remote control
Maximum distance from LCD	200 ft/60m max backlight	**Frame lock**	49-61 Hz
		Controller status	Diagnostic LED's, health monitoring and alerts
		Maximum distance from LCD	125ft/38m standard 500ft/150m with extenders

CLARITY MATRIX LCD VIDEO WALL SYSTEM DIMENSIONS

Model	LX46HD-L /MX46HD-L	LX55HD-L/MX55HD-L
Diagonal	46"	55"
Cabinet dimensions (WxH)	40.3" x 22.8" 1023.9 mm x 578.6 mm	47.8" x 27.0" 1215.3 mm x 686.1 mm
Display depth without mount (D)	3.4"/86 mm	3.5"/89 mm
Installed depth with mount (DM)	3.6"/90mm	3.6"/93 mm
Installed depth ERO with mount (DM)	3.7"/93mm	3.8"/96mm
Total weight (includes LCD & mount)	48 lbs (21.8 kg) 58 lbs (26.3 kg) with ERO	59 lbs (26.8 kg) 74 lbs (33.6 kg) with ERO
Tiled bezel width	5.5mm	5.5mm

*Power consumption can vary with configuration and backlight setting

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