



# CLARITY MATRIX

## LCD Video Wall System



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For control room and public venue video wall customers want the thinnest profile LCD video wall and uninterrupted operation, Clarity™ Matrix LCD Video Wall System is the ultra-narrow bezel LCD video wall family that provides outstanding tiled visual performance, supports 24x7 operation and requires minimal installation space.

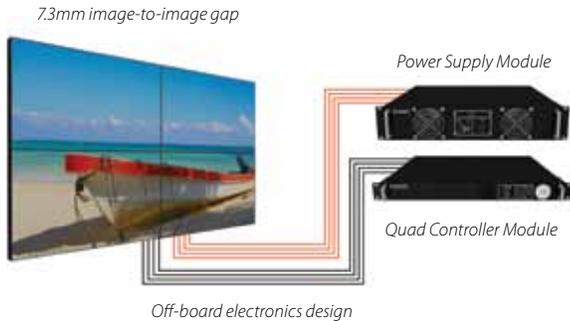
Unlike other LCD video walls, Clarity Matrix combines an ultra-thin profile and unique tiling optimization features in an integrated, mission-critical system design. Clarity Matrix utilizes commercial-grade 46" LCD panels with breakthrough narrow-bezel characteristics resulting in just a 7.3mm pixel-to-pixel gap between images on adjacent panels in the video wall.

The Clarity Matrix LCD Video Wall System makes the most of LCD technology's slim profile and vibrant visual performance while easing the difficulties in achieving perfect alignment, optimal cooling, simplified service and extended operation.

## 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.



### Choice of Clarity Matrix LCD Panels

- Matrix MX for higher ambient light environments
- Matrix LX for lower power consumptions
- Matrix 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 the LCD modules while allowing for efficient in-wall service.
- 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 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.



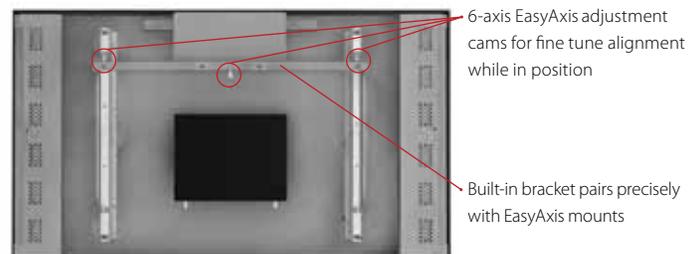
Mounting System 3.6" installed depth complies with the American's with Disabilities Act (ADA).

### Precise Panel Alignment

The 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



Clarity Matrix Service Mode for in-wall service

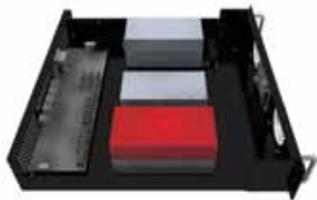
The unique Clarity Matrix architecture provides for 24x7 operation with optimized thermal design, high-MTBF components and redundant power supply option. Because of the streamlined design of the Matrix LCD modules, fewer repairs are required at the panel itself. When the panels do need to be accessed 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.

Within each panel, the simple interface board can be disconnected and replaced using thumbscrews with access from either the front or the back of the wall. Panels can also be completely removed and replaced very quickly. Because of their streamlined design, they weigh less than typical LCD displays, are more easily handled, and produce no noise.

### 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 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 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.

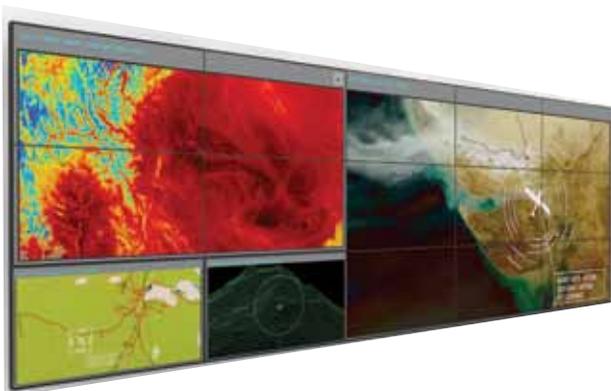
For more complex configurations, Clarity Matrix supports all leading image processing and digital signage software solutions including Planar's Indisys™ image processing.



Extended Ruggedness and Optics™

## 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.



Flexible Built-in Windowing Capability

MODEL	Clarity Matrix MX	Clarity Matrix LX
Brightness (maximum)	700 nits	450 nits
Contrast ratio (full field typical)	3000:1	3000:1
Uniformity	>75%	>75%
Power consumption	Max. 350 watts	Max. 290 watts
Heat load (maximum backlight)	938 BTU/hr	698 BTU/hr

## CLARITY MATRIX LCD VIDEO WALL SYSTEM SPECIFICATIONS\*

### LCD PANEL

Diagonal Size	46"
Resolution	1366 x 768
Aspect ratio (W:H)	16:9
Technology	Commercial-grade direct view LCD
<b>Screen dimensions (active area)</b>	
Diagonal	46"
Width by height (inch/mm)	40.1" x 22.5"/1018.3mm x 572.5mm (active)
<b>Cabinet dimensions (inch/mm)</b>	
Width by height	40.4" x 22.8"/1025.7mm x 579.8mm (module)
Installed depth with mount	3.6"/90mm
Display module depth without mount	3.5"/89mm
Installed depth with ERO	3.7"/93mm
LCD Weight	48 lbs./55 lbs. with ERO
Tiled image-to-image gap (minimum)	7.3 mm
Response time (typical)	8ms
Full viewing angle	178°
Colors	16.7 million
Color gamut	72% NTSC, 100% EBU
Backlight type	CCFL
Backlight life (1/2 brightness)	50,000 Hrs
Acoustic noise	Fanless operation
Operating temperature range	5°-35°C
Operating humidity range	20-90% RH non-condensing
Backlight control	Individual and wall control
Backlight sensing and reporting	At display level
Display module position sensing	Auto-sensing integrated

### POWER SUPPLY MODULE

Type	2U rack mount unit powers up to 4 panels
Redundancy	n+1 redundant power supplies (optional)
Line voltage	100-264 Volts AC, 50/60Hz autoswitching
Power status	Diagnostics LEDs, health monitoring and alerts
Power circuit	20A/115V or 10A/240V circuit per module
Maximum distance from LCD	200ft/60m max. backlight

### QUAD CONTROLLER MODULE

Type	1U rack mount controller drives up to 4 panels
Inputs	4 single link DVI with HDCP Dual link DVI in and out
Image scaling	Clarity Big Picture Plus - 32 x 32 maximum
Mullion compensation	Integrated
Control	Clarity WalNet™ (LAN) (optional) RS-232 IR remote control
Frame lock	49-61 Hz
Controller status	Diagnostic LEDs, health monitoring and alerts
Maximum distance from LCD	125ft/38m standard 500ft/150m with extenders

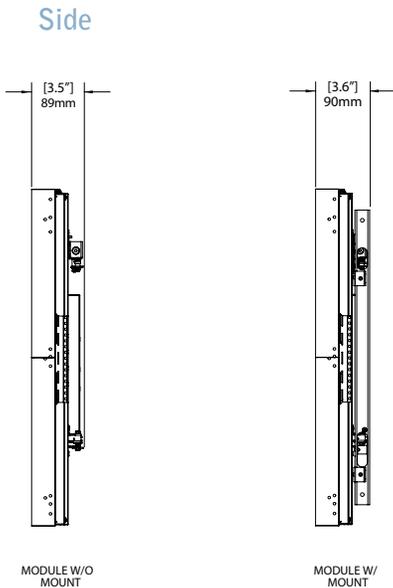
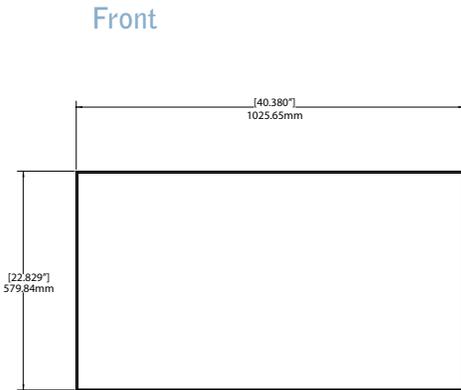
### MOUNTING

Clarity Matrix mount	1 per display included
Curved wall brackets	Optional
Floor standing mount bases	Optional
In-wall service	Front and rear
Matrix display module position adjustment	6-axis integrated
Weight	10 lbs.

### SAFETY REGULATIONS

	Complies with EN60950, FCC Class A, CISPR22/85, CE, EU RoHS
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\*Specifications are subject to change.



MODULE W/O MOUNT

MODULE W/ MOUNT