# PLANAR

# CLARITY MATRIX
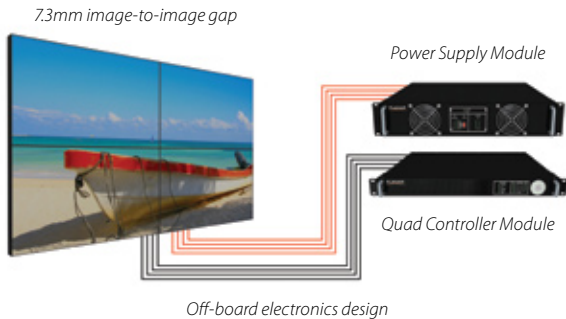## LCD Video Wall System



# CLARITY MATRIX
## LCD Video Wall System

For control room and public venue video wall customers who need a thin 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. The key components of the Clarity Matrix Video Wall System include the following.

*7.3mm image-to-image gap*

*Power Supply Module*

*Quad Controller Module*

*Off-board electronics design*

- Choice of Clarity Matrix LCD Modules for high ambient light environments (Clarity Matrix MX) or lower power consumption (Clarity Matrix LX).
- 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 wall and facilitate uninterrupted operation.
- Clarity Matrix configuration, management and processing software makes set-up and management of the wall easier and accommodates 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 4.5 inches in depth, screen-to-wall, as opposed to other designs that require 60% more clearance.
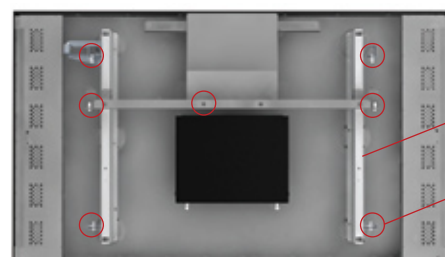
*Mounting System 4.5" Installed Depth*

### 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

Built-in bracket pairs precisely with Matrix Mount

6-axis EasyAxis adjustment cams

*Clarity Matrix LCD Module*
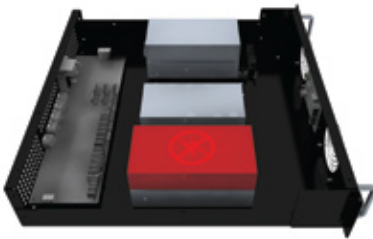
# 24x7 OPERATION & SIMPLIFIED MAINTENANCE



*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



*n+1 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.
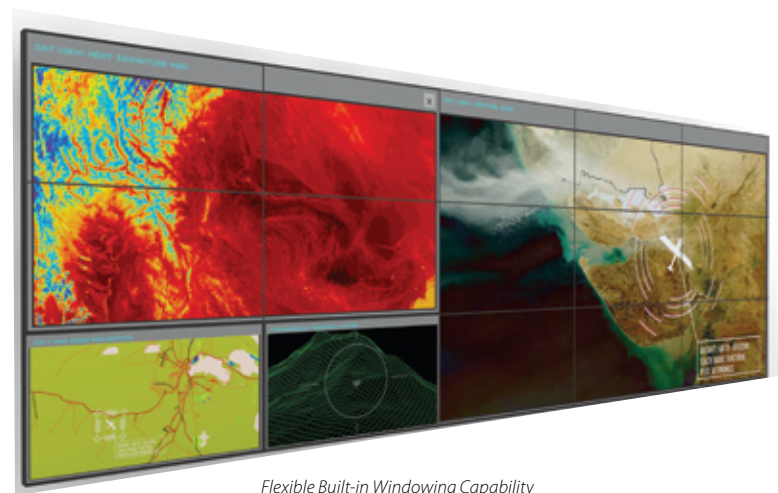
For even further reliability, the Matrix power supply unit includes an n+1 redundant design so if any one power supply in the unit fails, the remaining 4 will continue to power 4 LCD's with uninterrupted operation.

# FLEXIBLE VIDEO PROCESSING

Once the Clarity Matrix LCD Video Wall is cabled together, a start-up utility allows the LCD modules to automatically discover their position in the wall and display the position within the wall on the front of the panel itself. This discovery process greatly reduces the complexity of configuration and is designed to be highly flexible in terms of physical cabling schemes.

LCD module control can be accomplished via IR and on-screen menu or via RS-232 or LAN control software.

The video wall supports Planar's Big Picture Plus built-in processing which can scale a source across the entire video wall or any section chosen by the operator. For more complex configurations, the video wall can be driven by Planar's Indisys™ image processing solution or any leading image processor or digital signage software solution.



*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*

**Front**

[40.380"]
1025.65mm

[22.829"]
579,84mm

**Side**

[4.14"]
105.04mm

[4.5"]
114.2mm

MODULE W/O
MOUNT

MODULE W/
MOUNT

**LCD PANEL**

| | |
|---|---|
| Diagonal Size | 46" |
| Resolution | 1366 x 768 |
| Aspect ratio (W:H) | 16:9 |
| Technology | Commercial-grade direct view LCD |
| Screen dimensions (active area) | |
| Diagonal | 46" |
| Width by height (inch/mm) | 40.1" x 22.5"/1018.3mm x 572.5mm (active) |
| Cabinet dimensions (inch/mm) | |
| Width by height | 40.4" x 22.8"/1025.7mm x 579.8mm (module) |
| Installed depth with mount | 4.5"/114.2mm |
| Display module depth without mount | 4.14"/105mm |
| Weight | 48 lbs. |
| 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 |
| Mounted depth | 4.5" wall to front of screen |
| Accoustic 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 | 14 lbs. |

**SAFETY REGULATIONS** — Complies with EN60950, FCC Class A, CISPR22/85, CE, EU RoHS

*Specifications are subject to change.

## PLANAR

When image experience matters.

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