Superior Visual Performance and Mission-Critical Reliability
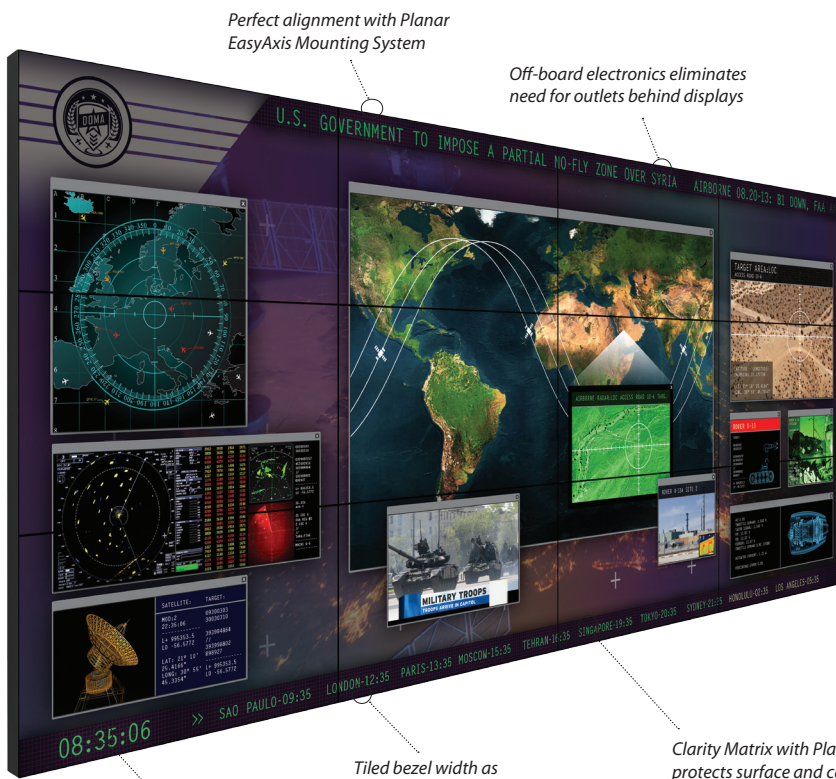
The Clarity® Matrix™ LCD Video Wall System is the ultimate video wall solution for applications seeking the very best visual performance and flexibility to accommodate the most mission-critical needs.

Planar's unique design approach optimizes the thinnest bezel LCD in the industry for 24x7 operation, minimizes installation depth and simplifies design, installation and service of the video wall. With a tiled bezel width as small as 1.7mm, the LCD video wall system includes the integrated Planar® EasyAxis™ Mounting System and off-board electronics and power supply architecture, reducing total-cost-of-ownership while delivering the most reliable LCD video wall.

Unique Architecture and Benefits by Design

The Clarity Matrix LCD Video Wall System was designed and developed by display industry experts to address 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 Clarity Matrix is a distributed design that takes heat, complexity and potential points-of-failure off the LCD display and places it with a centrally located, easily accessible and highly reliable rack-mounted system.

Most Comprehensive Line-up

The Clarity Matrix family is a complete line up of LCD video wall sizes and options to suit the needs in a wide variety of video wall applications.

Clarity Matrix
- 46" and 55"
- Two brightness levels available
- Tiled bezel width as small as 1.7mm

Clarity Matrix with Planar® ERO™ (Extended Ruggedness and Optics™) technology
- Optically-bonded, vandal-resistant protective glass for increased ruggedness and durability

Clarity Matrix MultiTouch
- Turn-key modular touch kit adds interactivity and collaboration
- Choice of 6 or 32 simultaneous touch points
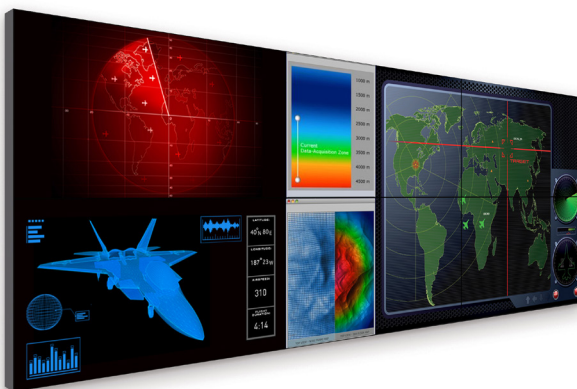- Incorporates Planar ERO technology

Clarity Matrix 3D
- Spectacular 2D and 3D viewing experience for professional 3D visualization applications
- Flicker-free stereoscopic visualization with passive glasses

Perfect alignment with Planar EasyAxis Mounting System

Off-board electronics eliminates need for outlets behind displays

Now supports cable lengths of 500ft with no additional hardware

Power supply module can drive as many as 8 displays

Tiled bezel width as small as 1.7mm

Clarity Matrix with Planar ERO technology protects surface and can be touch enabled

Fanless LCD module for whisper-quiet operation

Flexible built-in windowing capability

Big Picture Plus Processing

Clarity Matrix supports a wide range of processing options to display sources on the video wall. Planar® Big Picture Plus™ Video Wall Processor 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 set-up of Planar Big Picture Plus, Clarity Matrix has position sensors built into the LCD that determine where it is located within the array and scale the sources across the video wall automatically, saving hours of set-up. Planar Big Picture Plus processing also allows for ultra-high resolution content, up to 4K, to be 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® Indisys™ Video Wall Processor and Clarity® Visual Control Station™ (VCS™) Video Wall Processor.

Superior Visual Performance

You know when you see a Clarity Matrix video wall because it looks stunning, is perfectly aligned and has the thinnest mounted depth. Clarity Matrix provides the very best visual performance of any LCD video wall available with smaller bezels, higher brightness, better uniformityand better alignment. Updated connectivity and 10-bit processing combined with Planar Big Picture Plus processing enables Ultra HD 4K sources to be tiled across the video wall.

Perfect Alignment

The Clarity Matrix Video Wall System includes the Planar EasyAxis Mounting System that features built-in precise alignment capabilities, in-wall service position and a super slim depth as thin as 3.6" (93mm). As a result, Clarity Matrix has the thinnest footprint of any LCD video wall, making it compliant with the Americans with Disabilities Act (ADA) requirement for protruding objects of less than four inches. Planar EasyAxis adjustment cams facilitate precise 6-axis alignment ensuring uniform, minimized image-to-image gap.

Planar EasyAxis Mounting System simplifies and minimizes the time required to install and maintain a perfectly aligned video wall

Mission Critical Design

Planar's unique architecture provides a mission-critical design with redundant power supplies, reduced thermal stress and health and status monitoring capabilities. Clarity Matrix adds SNMP LAN control, extra TIR prevention and ambient light sensing to extend the life of the video wall. For further reliability, Clarity Matrix power supply units include an n+1 redundant design so if any one power supply in the unit fails, the LCDs maintain uninterrupted operation.

Redundant power supply means greater up time

Fiber Video Extension Option

For government and military customers delivering highly sensitive information, the Clarity® Matrix™ Fiber Video Extension option provides a more secure and longer distance option for extending the video signal from Clarity Matrix off-board electronics to Clarity Matrix LCD video wall displays. The Fiber Video Extension provides integrated video extension over standard multi-mode or single-mode fiber optic cable. The Fiber Video Extension also incorporates an embedded USB extension in the fiber optic cable, eliminating the need for a third party USB extender.

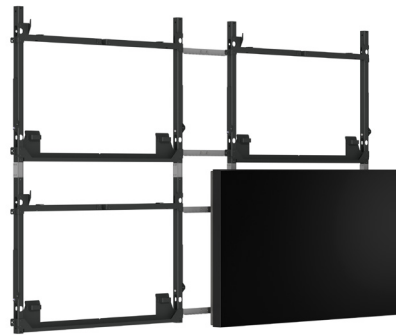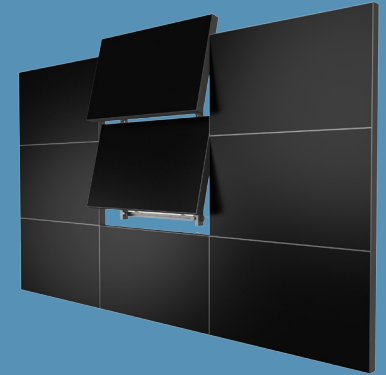# Simplified Design, Installation and Service

Designing, installing and servicing a video wall with Clarity Matrix has never been easier. Clarity Matrix incorporates Planar's EasyAxis Mounting System delivering the industry's thinnest profile LCD video wall, built-in alignment and service capabilities. The architecture supports integrated video and power extension up to 500 feet (150m) eliminating compatibility and integrity worries and costs associated with long distance cable extenders and AC power outlets behind the video wall. Fewer cables are necessary to run to the video wall, simplifying and reducing the cost of the system.

Clarity Matrix service mode for in-wall service

Clarity Matrix Architecture Advantages:

- Rack-mount components placed in easy-to-service location with no disruption at the video wall

- Co-location of the rack-mount components with sources or additional processing equipment for easy access

- No 3rd party long distance extenders or cables needed

- Entire video wall is controlled with a single remote control, RS232 or LAN device, including 3rd party control systems

- Fewer long distance cables run to the video wall with on-wall, loop-out capabilities

- No AC outlets required behind the displays

- Automated brightness, color and gamma balancing tools

CLARITY MATRIX LCD VIDEO WALL SYSTEM SPECIFICATIONS

Model	MX55HDX	MX46HDU	MX55HDU	LX46HDU	LX55HDU	LX46HDS	LX55HDS	LX46HDU-3D
Diagonal	55"	46"	55"	46"	55"	46"	55"	46"
Brightness (optimal)	800 nits	800 nits	800 nits	500 nits	500 nits	500 nits	500 nits	500 nits
Contrast ratio (full field typical)	4000:1	4000:1	4000:1	3500:1	3500:1	3500:1	3500:1	4000:1
Power consumption (typical)*	214 watts	163 watts	219 watts	124 watts	163 watts	143 watts	176 watts	124 watts
Heat load at LCD (typical)	730 BTU/hr	520 BTU/hr	628 BTU/hr	376 BTU/hr	520 BTU/hr	440 BTU/hr	557 BTU/hr	326 BTU/hr
Resolution	1920 x 1080							
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							
Display module position sensing	Auto-sensing integrated							
MOUNTING								
EasyAxis Mounting System	1 per display included. Optional VESA hole pattern available.							
Orientation	Landscape and Portrait Options							
Floor standing mount bases	Optional							
In-wall service	Front and rear							
Display module position adjustment	6-axis integrated							
Regulations	Complies with EN60950, FCC Class A, CISPR22/85, EC, EU RoHS, TAA Compliant							

POWER SUPPLY MODULE		QUAD CONTROLLER MODULE	
Type	1U rack mount controller drives up to 3-6 panels	**Type**	1U rack mount controller drives up to 4 panels
Redundancy	n+1 redundant power supplies (optional)	**Inputs**	4 single link HDMI with HDCP; DisplayPort 1.1 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
Maximum distance from LCD	500 ft/150m max backlight	**Control**	RS-232, IR remote control, Clarity WallNet (LAN) (optional)
		Controller status	Diagnostic LED's, health monitoring and alerts
		Maximum distance from LCD	200ft/60m standard; 500ft/152m with long distance option

FIBER VIDEO EXTENSION MODULE OPTION	
Type	1U rack mount module drives up to 4 panels.
Fiber Optic Connection Type	SFP multi-mode transceivers supports distances up to 1000 ft (300m) from video wall. Compatible with single-mode tranceivers supporting up to 10k from the wall. (Single-mode transceivers not provided)
USB Extension	USB-B @sp module; USB-A @sp panel
IR Remote Extension	Embedded
Power	AC Power Adapter; 100-240V AC ± 10%, 47 to 63 Hz; 50W

CLARITY MATRIX LCD VIDEO WALL SYSTEM DIMENSIONS

Model	MX55HDX-L	MX46HDU-L	MX55HDU-L	LX46HDU-L	LX55HDU-L	LX46HDS-L	LX55HDS-L	LX46HDU-3D
Diagonal	55"	46"	55"	46"	55"	46"	55"	46"
Cabinet dimensions (WxH)	47.7"x 27.0" (1211.3mm x 682.2mm)	40.3"x 22.8" (1022.1mm x 576.6mm)	47.8" x 27.0" (1213.6mm x 686.4mm)	40.3" x 22.8" (1022.1mm x 576.6mm)	47.8" x 27.0" (1213.6mm x 686.4mm)	40.3"x 22.8" (1024mm x 578.6mm)	47.8" x 27.0" (1215.3mm x 686.1mm)	40.3" x 22.8" (1022.1 mm x 576.6 mm)
**Installed depth with mount	3.6"/90mm	3.6"/91mm	3.6"/90mm	3.6"/91mm	3.6"/90mm	4.2"/107mm	4.2"/107mm	3.6"/90mm
Installed depth ERO with mount	3.8"/94mm	3.7"/95mm	3.8"/94mm	3.7"/95mm	3.7"/94mm	4.4"/ 111mm	4.3"/110mm	N/A
LCD module depth with VESA Option (Display Only)	3.3"/85mm	3.4"/86mm	3.3"/85mm	3.4"/86mm	3.3"/85mm	4"/101.7mm	4"/101.7mm	N/A
ERO LCD module depth with VESA Option	3.4"/88mm	3.5"/89mm	3.4"/88mm	3.5"/89mm	3.4"/88mm	4.1"/ 105mm	4.1"/ 105mm	N/A
Total weight (includes LCD & mount)	59 lbs (26.8 kg) 74 lbs (33.6 kg) with ERO	42lbs (19 kg) 55 lbs (24.9 kg) with ERO	59 lbs (26.8 kg) 74 lbs (33.6 kg) with ERO	42lbs (19 kg) 55 lbs (24.9 kg) with ERO	59 lbs (26.8 kg) 74 lbs (33.6 kg) with ERO	48 lbs (21.8 kg) 58 lbs (26.3 kg) with ERO	59 lbs (26.8 kg) 74 lbs (33.6 kg) with ERO	45 lbs (20.4 kg)
Tiled bezel width	1.7mm	3.7mm				5.5mm		3.7mm

*Power consumption can vary with configuration and backlight setting **Complies with US ADA regulations for installed depth <4"

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