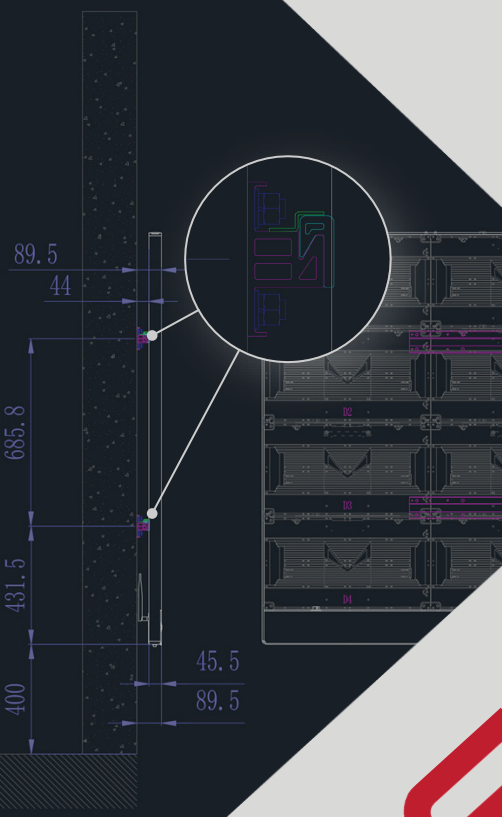
MASTER CATALOGUE 2025



VANGUARD LED DISPLAYS

TAA COMPLIANT

2024 BEST OF SHOW InfoComm AVNetwork.com WINNER Vanguard LED Displays Infinity Controller

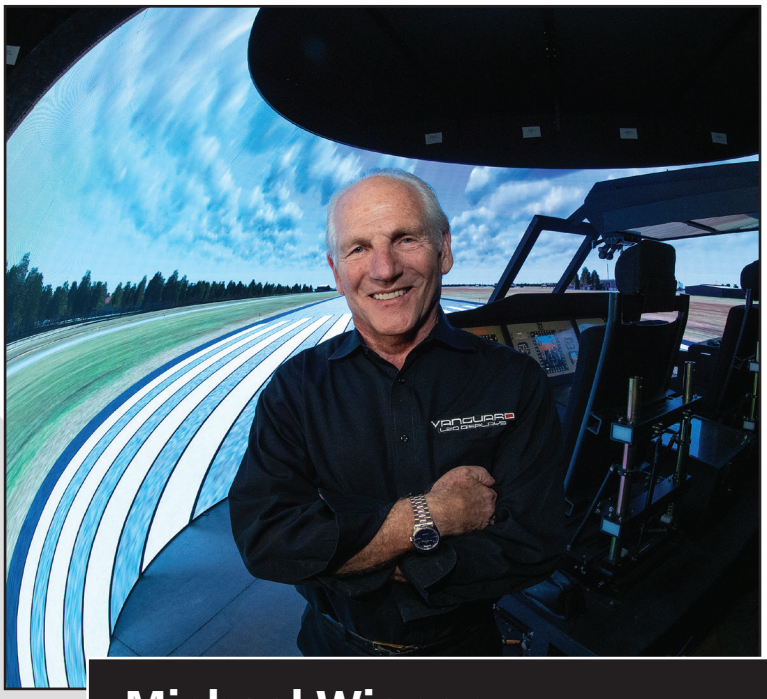
2023 BEST OF SHOW InfoComm AVTECHNOLOGY WINNER

2023 BEST OF SHOW InfoComm SOUND&VIDEO CONTRACTOR WINNER

2022 BEST OF SHOW InfoComm AVTECHNOLOGY WINNER

2022 BEST OF SHOW InfoComm SOUND&VIDEO CONTRACTOR WINNER

2021 BEST OF SHOW InfoComm Winner



Michael Wiener
Founder and CEO Vanguard LED Displays

"The core value that drives Vanguard is stellar customer support.

All our actions are directed at fulfilling this commitment."

Max Perry
Global President Vanguard LED Displays

"At the end of the day, we try to act without ego and just get the job right for the customer.

No job ever goes 100% to plan, but everyone here operates with the goal of satisfying the customer, that's the entire mission."

Happy dedicated team

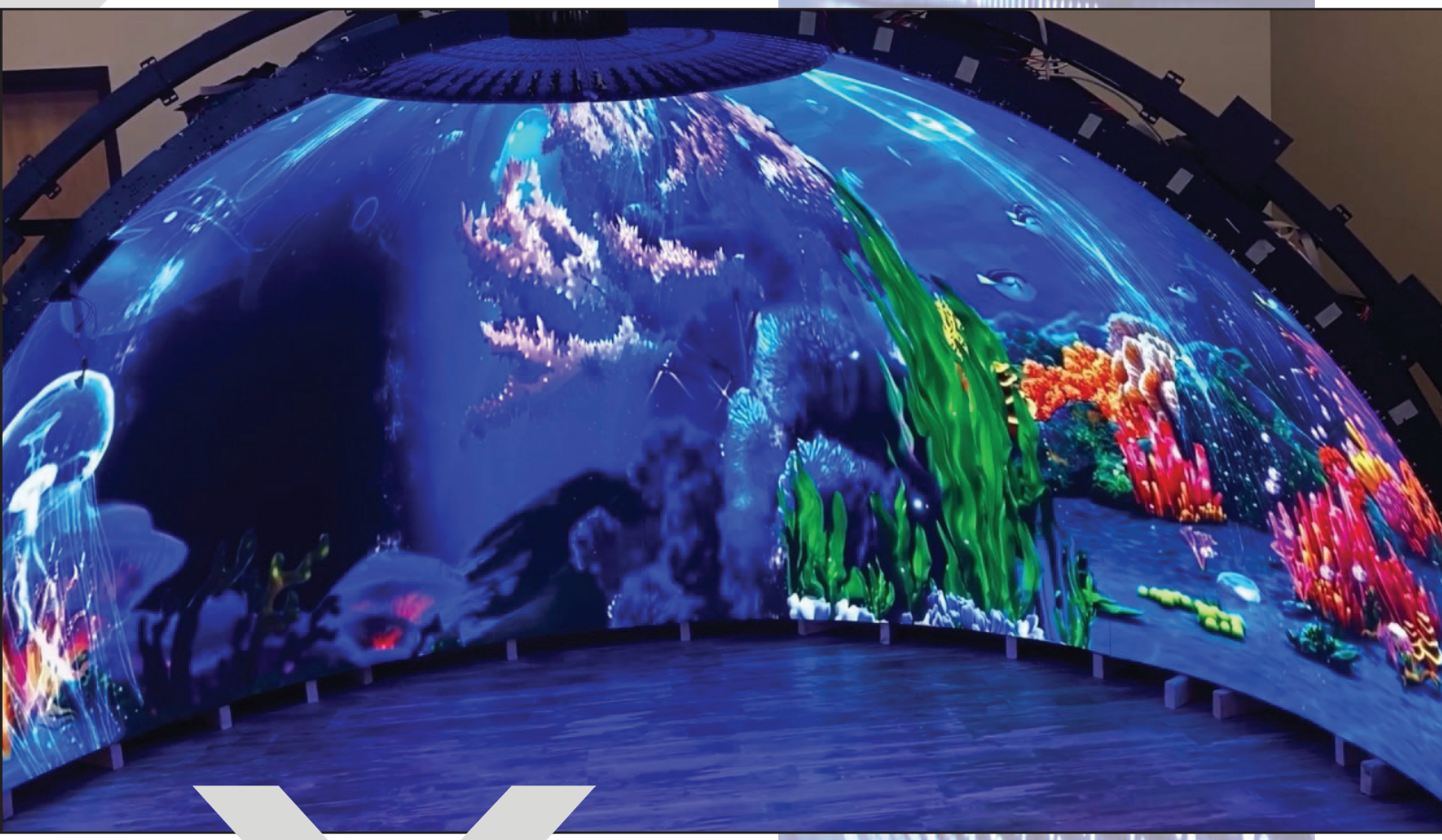
Happy repeat customers

Vanguard LED Displays was founded in 2012 and jumped into the deep waters of dvLED technology. With only our customer in mind, Vanguard has experienced tremendous growth and repeat business. Vanguard LED has proven to be focused on exceeding customer's expectations, not just selling products.

This has been the story of Vanguard over the years. Evolving our product line and evolving our processes to enhance the experience of our customers. Whether it was inventing the first 16:9 native aspect ratio cabinet or prototyping and inventing of the IP66 maritime cabinet for off-shore advertising, or retrofitting over 600 cabinets with the at-time brand new SDI based control system to reduce the latency *(in an already designed system)* by over 80%, Vanguard is always pushing to deliver the best to you, our customers.

The future is extremely bright for Vanguard. Since becoming TAA compliant in 2018 Vanguard has grown exponentially. In 2024 Vanguard launched Vanguard LED Europa to bring our brand and user experience to the European dvLED market. No matter how much we grow there is one thing that you, our customer, can always rely on.

You will always come first.



why Vanguard?

There are significant differences between the companies marketing and selling LED technology. Those differences have a huge impact on how the LED business is conducted.

The first big difference regards the relationship between the manufacturer and factory. There are two primary models into which almost every LED supplier can be categorized, factory-owned and manufacturer OEM factory-partner.

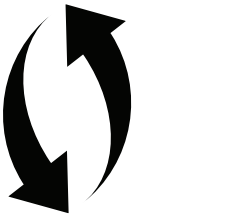
The other guys:

Factory-owned

The factory-owned model is probably the most common. The story begins with a factory that is managed by a leadership group. This group is responsible for the facility, staff, quality control, engineering and design of every product the factory produces. The factory will open subsidiary offices in various regions.

Those subsidiaries are typically the only people you ever hear from at these companies, and their only resource is the factory. The subsidiary is managed by the factory and is beholden to sell only what the factory produces. An LED Supplier that is factory-owned will produce as many different models of LED displays as possible. Therefore, consistency of products is tenuous at best and quality control is impossible to achieve

The local subsidiary is little more than a checkout clerk at a store, leaving you dependent on both the subsidiary and the factory. The subsidiary itself is also entirely dependent on the factory.



ACCOUNTABLE TO FACTORY

NO INFLUENCE OVER PRODUCTS

SINGLE-FACTORY PRODUCT LINE

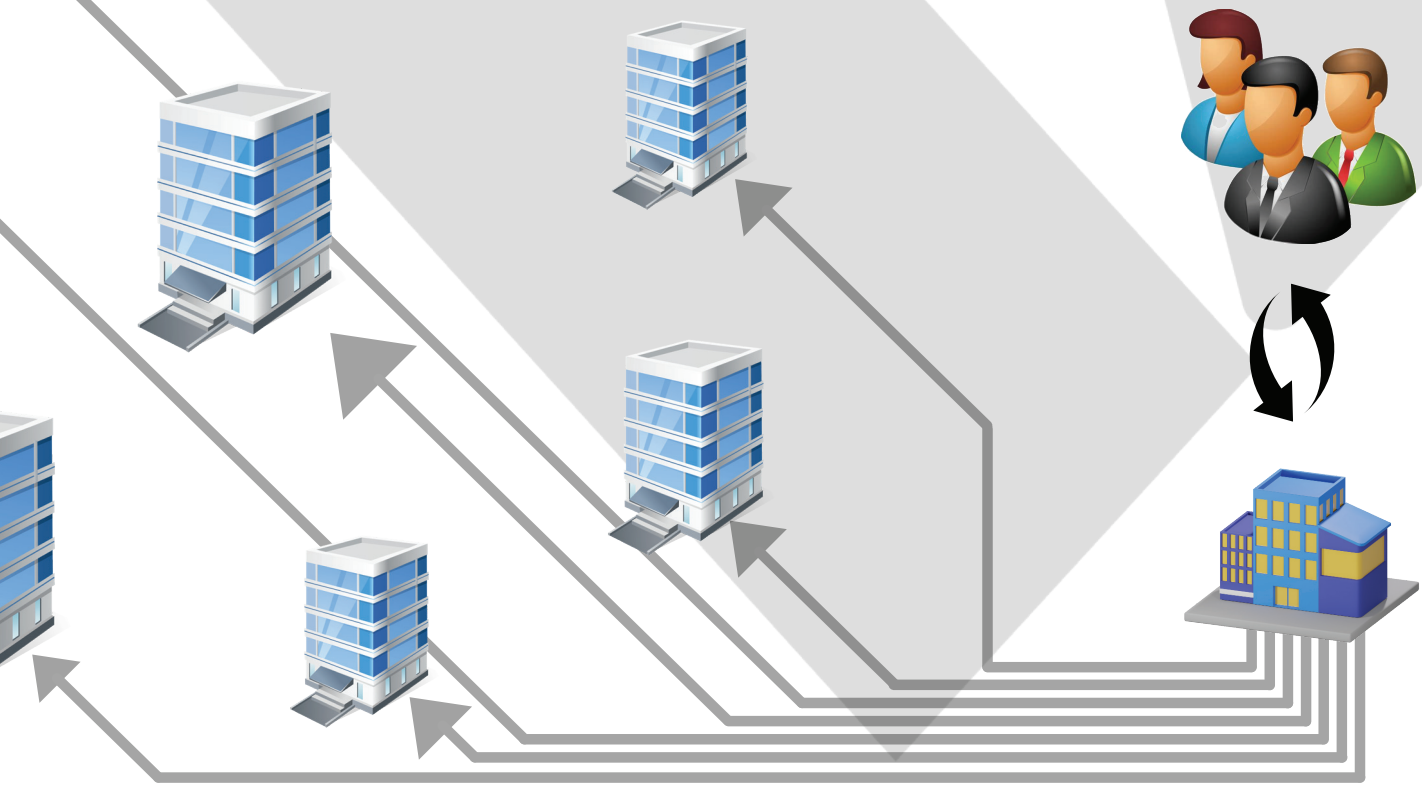
GLOBAL HEADQUARTERS
LAKELAND, FLORIDA, UNITED STATES

Vanguard LED:
OEM Factory-partners

Vanguard carefully selects the best OEM factory in every segment of the market. Therefore fine pixel pitches, medium pixel pitches, outdoor displays, curved and custom displays, cylinders, domes, transparent curtains, etc, are each produced in OEM factories which specialize in each specific product.

Vanguard LED is proudly NOT factory-owned. We work directly with our factories as a partnership. With our knowledge of the technology, combined with our understanding of our customer's needs, we can leverage factory capability's in a much more natural and collaborative way. We define the products we sell by sourcing solutions strategically, then negotiating on the specifics.

Vanguard offers special module and panel configurations to suit any customer's display needs. We have classes for exceptionally high-brightness, economy configurations, TAA compliance, and more. We are able to configure displays at the component level, allowing simple modifications for special needs such as epoxy treatments, upgraded receiving cards, alternate pixel technologies, remote AC>DC power conditioning, data and power redundancy, and anything else a customer specifically needs in an LED display.



At Vanguard we are passionate about exactly two things. How amazingly cool LED technology is, and how great your experience is with it.

our story

13

years old

19

global team

>150

customers

>1,400

installations

While striving to offer the lowest pixel pitches, the highest refresh rate, the lowest latency and the latest technology Vanguard never loses its focus on customer satisfaction. This is why Vanguard is such a unique company. Stellar service is the foundation of the company.

Most companies are beholden to sell certain products as they own the factory while Vanguard selects the best OEM factories in each market segment ensuring the best quality and latest technology. We always have your best interests in mind from everything to budget and design through after-sales service.

We measure success through repeat business. Most of our customers have purchased from us several times, and we look forward to working with them as much as they enjoy working with us.

We've come a long way since our inception in 2012, but we've never wavered in providing a unique and high-quality customer experience.

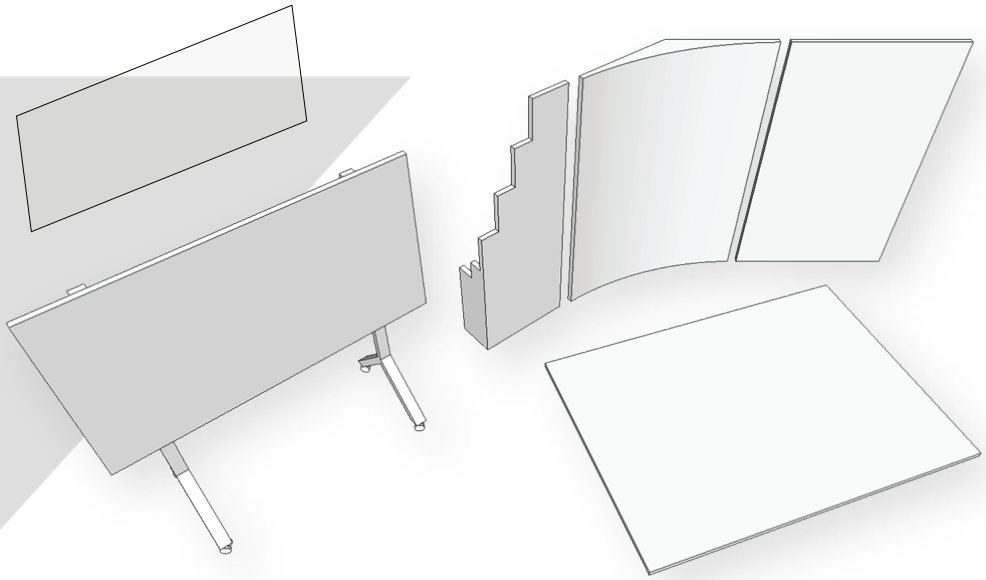
Michael Wiener, our Founder and CEO, sees the opportunities today and into the future with this growing technology. We are excited and proud to be different from the norm. We treasure our partnerships, supporting our customers, and working with the most exciting display technology on the planet today.

Michael Wiener
Founder and CEO Vanguard LED Displays

" We can do this better! "

our range

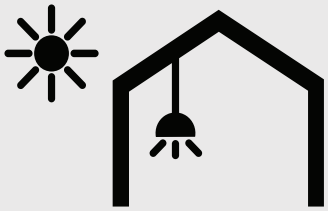
- flat | curved panels
- all-in-one
- 16:9 panels
- creative
- floors
- transparent
- ceiling
- mobile
- rental
- xR Broadcast
- TAA



Deployments

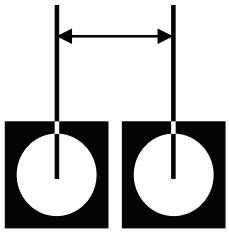
Permanent install
Rental & staging

Environments



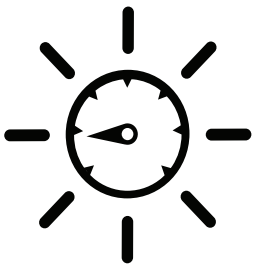
Indoor
Outdoor

Pitch range



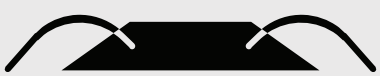
0.6mm - **16.7**mm

Max brightness



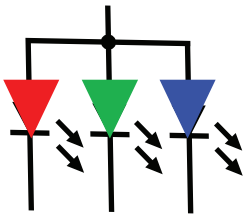
Up to **10,000** nits

Bonding wire



Flip-chip
Gold
Copper

Power handling



Common **Anode**
Common **Cathode**

GLOBAL

Lakeland, Florida, USA

founded in 2012

TEAM | 14 experts

Max Perry
President

max@vanguardled.com

REGION -Global, US direct
LOCATION - Lakeland, Florida

Steve McAfee
Vice President of Engineering

steve@vanguardled.com

REGION -Global, US direct
LOCATION - Lakeland, Florida

Kelly Albano
Vice President of Operations

kelly@vanguardled.com

REGION -Global
LOCATION - Lakeland, Florida

Adam Coleman
Vice President of Technologies

adamc@vanguardled.com

REGION -Global
LOCATION - Denver, Colorado

EUROPA

Barcelona, Spain

established in 2024

TEAM | 4 experts

Christopher Backhaus

Managing Director

christopher@vanguardled.eu

REGION -Europe, Middle East, Africa
LOCATION - Barcelona, Spain

Andre Moreno

Technical Director

andre@vanguardled.eu

REGION - Europe, Middle East, Africa
LOCATION - Malmö, Sweden

LANGUAGES

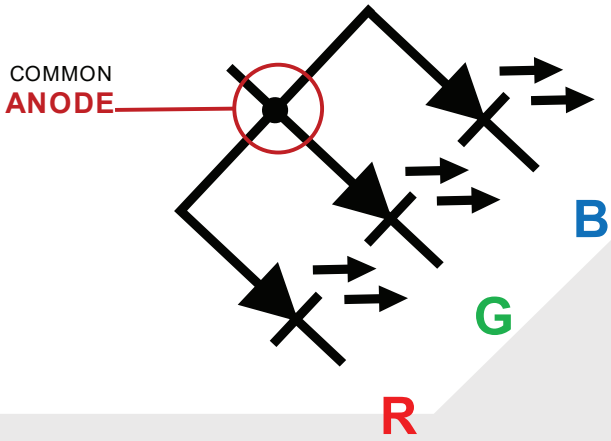
Dutch
English (UK)
English (US)
French
German
Italian
Portuguese
Spanish
Swedish
Tagalog
Yiddish

cathode and anode

COMMON ANODE

Full power into each sub-pixel

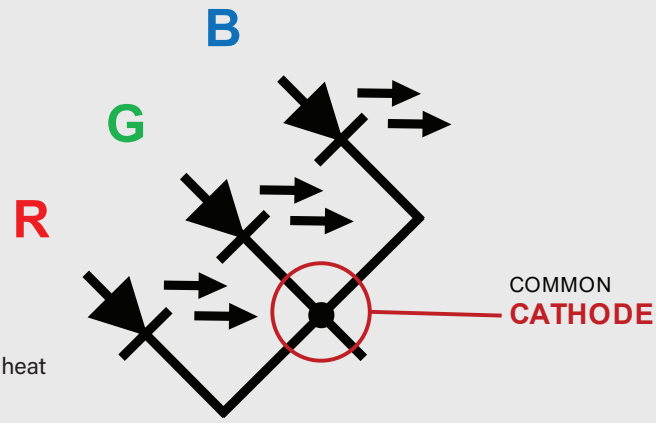
- **PRO** – Full range pixel performance
- **CON** - Significant heat and power inefficiency for G and B



COMMON CATHODE

On-demand power into each sub-pixel

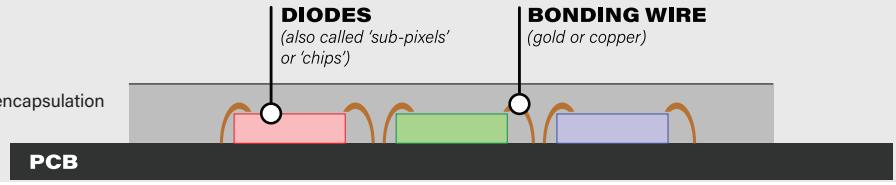
- **PRO** - Eliminated inefficiency for G and B resulting in much less heat dissipation from the display
- **CON** – Slight reduction in high-end range



bonding wire

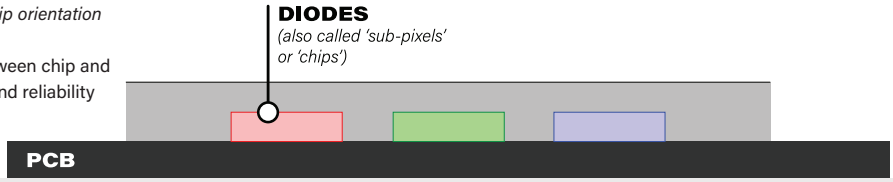
COB | standard configuration

- No pixel-level encapsulation
- Chip mounted directly on PCB
- Gold or copper bonding wire
- Not repairable due to chip size and lack of pixel encapsulation



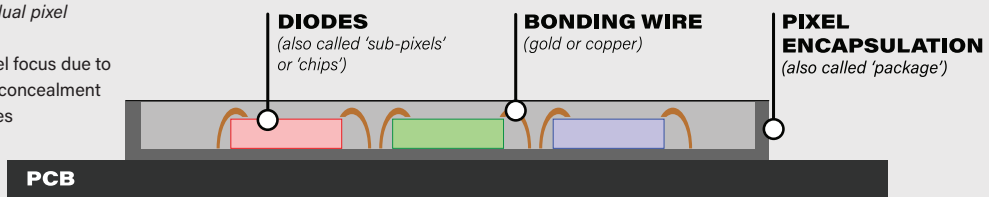
COB | flip-chip

- *Similar to standard configuration COB with the chip orientation flipped, removing bonding wire*
- **Improves** - heat dissipation through contact between chip and PCB, power handling with reduced resistance, and reliability due to removal of bonding wires



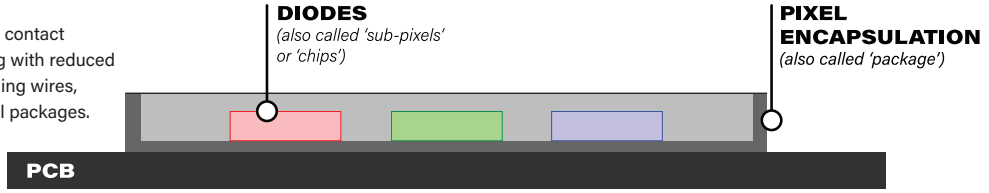
SMD/IMD | standard configuration

- *Similar to standard configuration COB with individual pixel packages*
- **Improves** - repairability due to pixel housing, pixel focus due to sub-pixel isolation within the housing, and seam concealment due to surface texture of SMD/IMD pixel packages



SMD/IMD/MIP | flip-chip

- *Similar to standard configuration SMD/IMD with the chip orientation flipped, removing bonding wire*
- **Improves** - repairability, heat dissipation through contact between chip and PCB, improved power handling with reduced resistance, and reliability due to removal of bonding wires, seam concealment diue to surface texture of pixel packages.

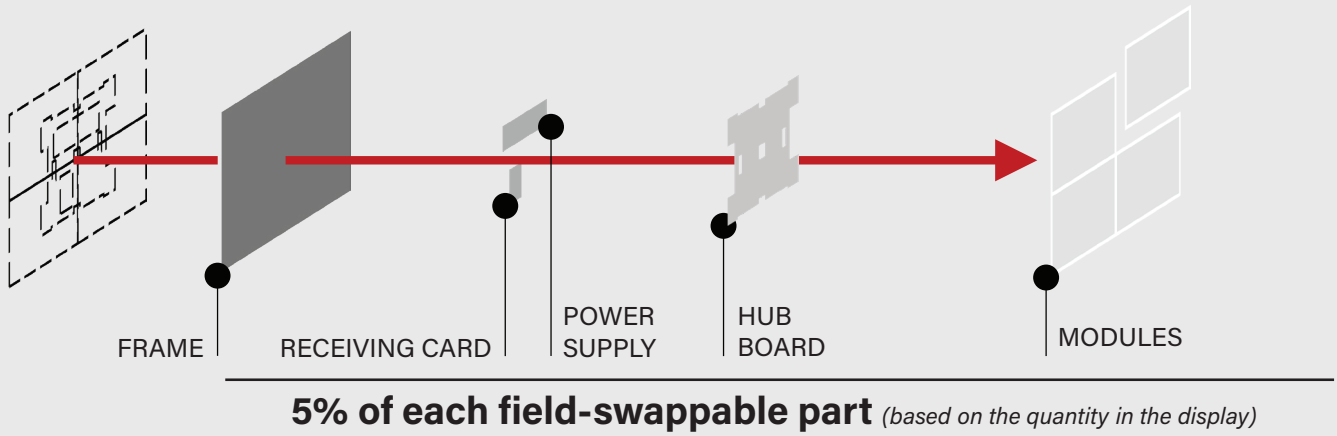


All MIP pixels are common cathode and flip-chip by default

included spare parts

Vanguard LED includes 5% components and spare parts for maintaining the display in operation. Quantities of each part are calculated based on the quantity of that part in the display. Spare parts include modules from the same batch, HUB boards, receiving cards, and power supplies.

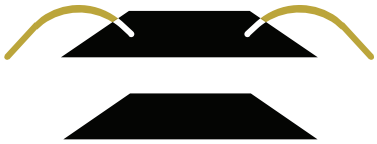
Additional spare parts can be added on request.



5% of each field-swappable part *(based on the quantity in the display)*

warranty

CONNECTOR GOLD | FLIP-CHIP



default | **5-year**
maximum | **7 years total**

CONNECTOR COPPER

default | **3-year**
maximum | **5 years total**

STARTING

Upon delivery of the display

EXTENSION COST

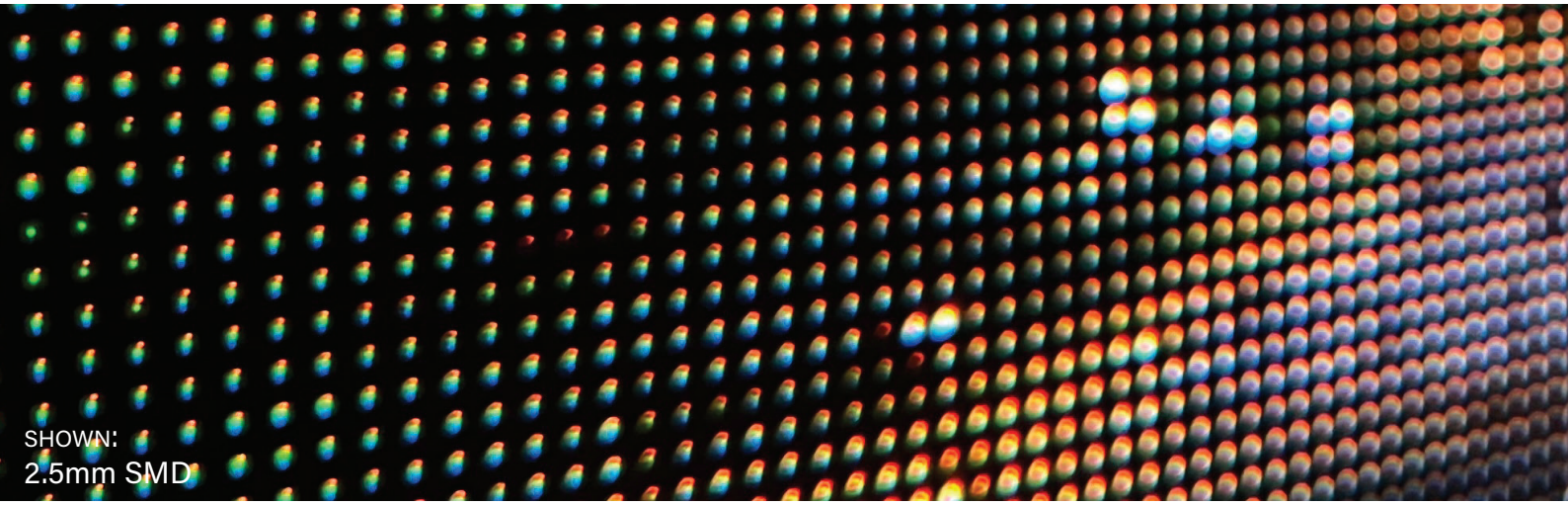
% Percentage of the display cost and additional term

LONGER TERM?

Need a longer warranty? We can discuss!

VANGUARD LED DISPLAYS

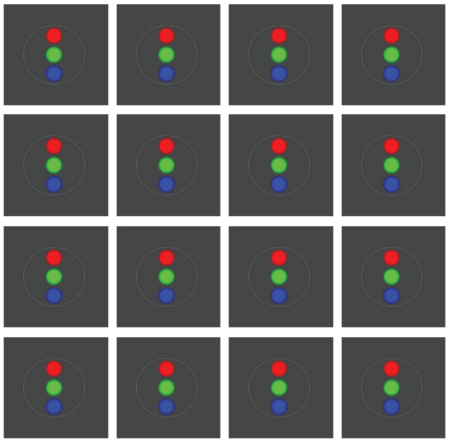
our pixels



SMD SURFACE-MOUNT-DIODE

SMD pixels make up >95% of all dvLED today. Sub-pixel LED chips are arranged within a package which is then mounted to the PCB. Pixel packages are highly durable, rarely experiencing an issue within the package itself. Most SMD issues are the result of physical damage between the pixel package and PCB. SMD is available with gold or copper bonding wire, or in a flip-chip configuration.

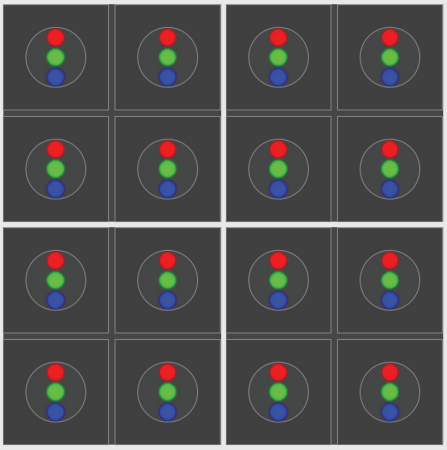
SMD can be fragile at fine pitches, so SMD is an **excellent solution for displays above 1.2mm.** With a protective epoxy treatment, even sub 1mm SMD become durable!



IMD INTEGRATED-MATRIX-DEVICE

IMD pixels have the same physical construct as SMD, combining multiple pixels into a single package. An area where SMD is not ideal is fine pitch applications. As the pixel package gets smaller, so does its connection to the PCB. For fine-pitch, this smaller footprint makes fine-pitch SMD fragile to handling and physical contact.

IMD is an **excellent solution for pitches below 1.5mm** if not using a protective epoxy treatment**.**



One of the most misunderstood aspects of direct-view LED technology regards the technology within the pixels themselves. dvLED technology has matured significantly in recent years, expanding what was once a single option for the technology of the pixel into several options.

Each technology is best-suited for certain applications and needs. Read more to learn which technology your project needs!

COB CHIP-ON-BOARD

COB pixels remove the enclosure (package/encapsulation) used on every other type of pixel. Individual sub-pixel chips are placed directly on the PCB then the module is coated with a protective epoxy. This coating results in significantly more durable pixels, virtually eliminating the need for pixel repair. COB pixels are by default all flip-chip and without bonding wire, improving power handling and viewing angles.

Due to the size of the LED chips and the protective epoxy, pixels of COB modules typically **cannot be repaired.**

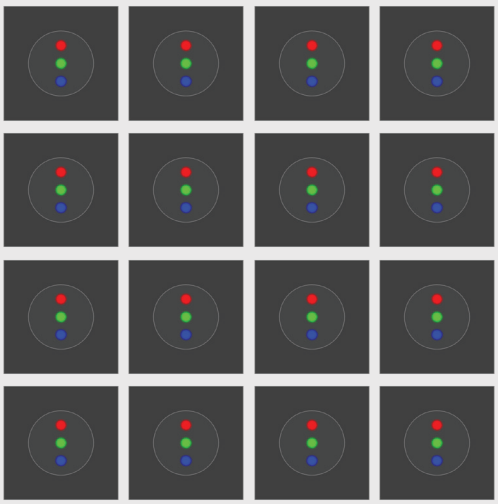
MIP

MICRO-IN-PACKAGE - HIGH **BRIGHTNESS**

MIP is the newest pixel technology. Like SMD, MIP arranges sub-pixel LED chips within a package. Unlike SMD, MIP uses much smaller chips. Using 'micro' chip (smaller than 200µm) adds several benefits.

Depending on the application need, MIP pixels can be configured to provide extreme brightness or extreme contrast.

MIP pixels are an excellent choice for premium displays and displays requiring more contrast or brightness performance than traditional pixel technology can provide.

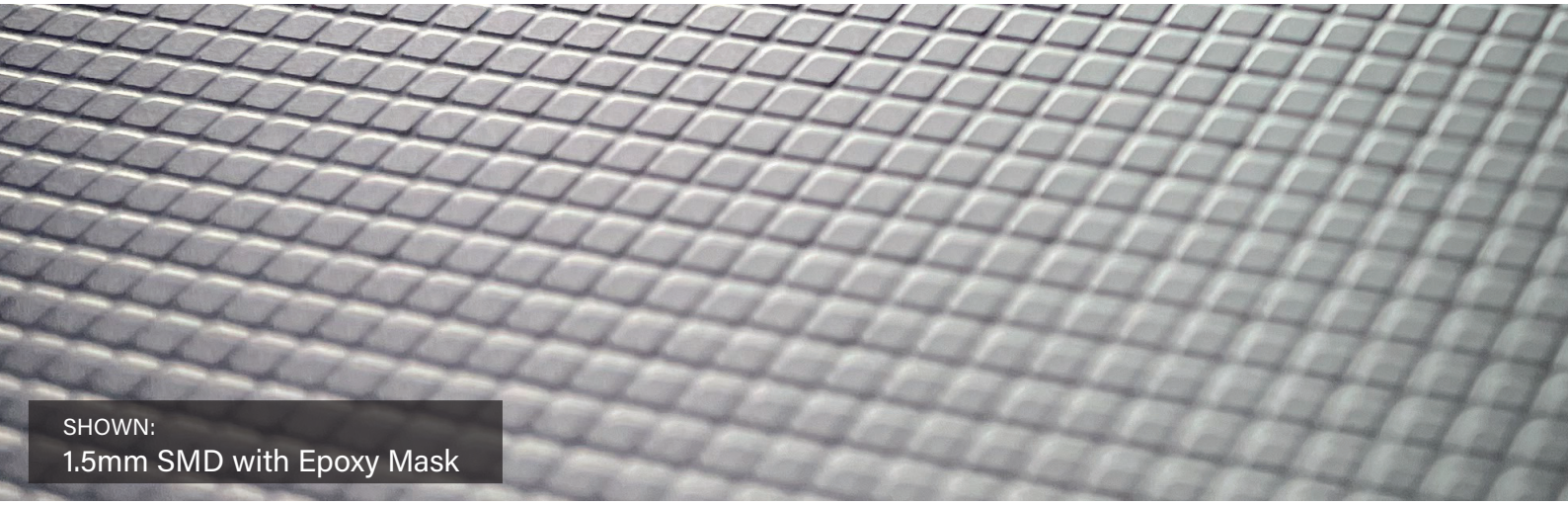


MIP

MICRO-IN-PACKAGE - HIGH **CONTRAST**

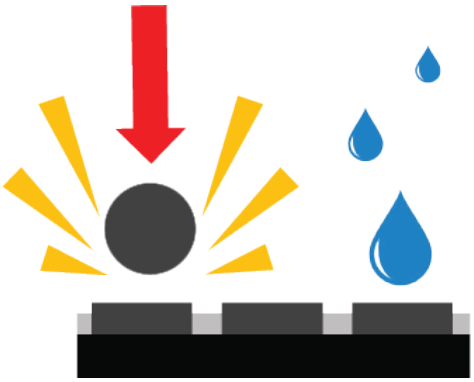
GLUE-ON-BOARD (GOB)

EPOXY RESIN - pixel protection
For SMD, IMD, and MIP LED Displays



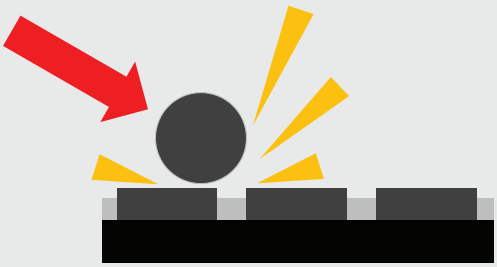
all about epoxy resin...

"GOB", or Glue-On-Board uses an epoxy resin that covers the modules of an LED display cabinet, at the end of the manufacturing process. This produces a strong, smooth finish covering the encapsulated 3-in-1 bulbs. This process has several benefits:



Impact and humidity resistant.

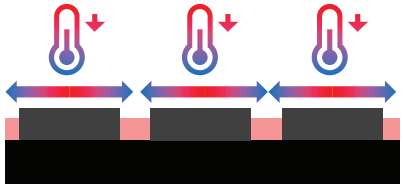
The epoxy resin coating creates a strong, smooth finish over the encapsulated bulbs creating an impact and humidity resistant display, thereby reducing the failure rate of the LED bulbs dramatically.



Restrict lateral movement.

Roughly 75% of dead pixels are the result of physical impact which break the pixels connection to the PCB.

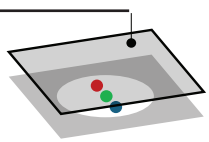
With an epoxy masking between the pixels which is flush to the pixels, versus the slight gap which exists with installed plastic masks, pixels become much more durable. Simply adding this epoxy makes even fine-pitch pixels remarkably durable.

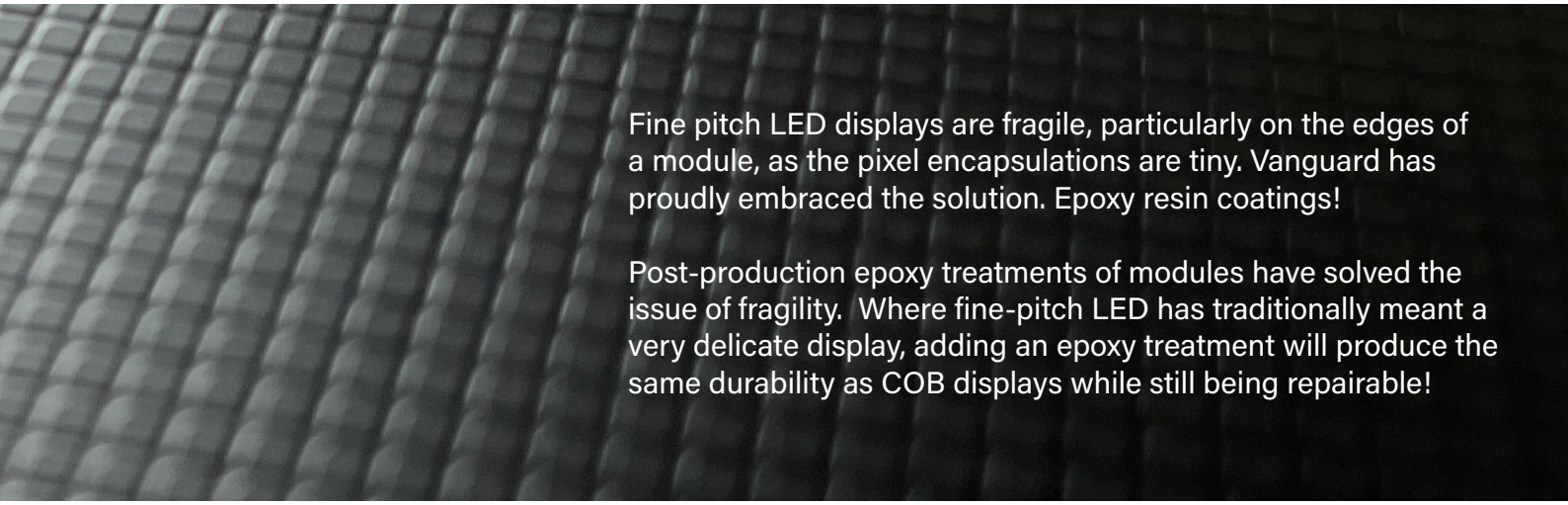


Disperse heat.

Due to the direct contact between the pixel encapsulations and the epoxy, the infill acts as a heat sync drawing heat away from the pixels.

This simple thermal principle reduces the wear on the pixels and extends the life of the display

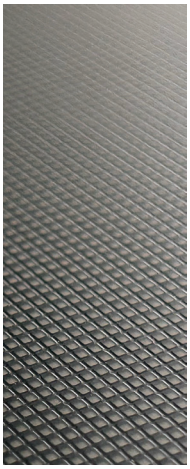




Fine pitch LED displays are fragile, particularly on the edges of a module, as the pixel encapsulations are tiny. Vanguard has proudly embraced the solution. Epoxy resin coatings!

Post-production epoxy treatments of modules have solved the issue of fragility. Where fine-pitch LED has traditionally meant a very delicate display, adding an epoxy treatment will produce the same durability as COB displays while still being repairable!

the treatments



EPOXY **MASK** *(em)*

EPOXY MASK (em) is also referred to as HOB *(half-on-board)*, hGOB *(half glue-on-board)*, sGOB *(shrink Glue-on-board)*. Similar to the epoxy coating process *(GOB)*, epoxy is applied to the module at the end of the manufacturing process.

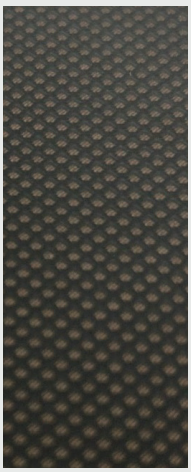
Where epoxy coating *(GOB)* fills the gaps between pixels and adds a layer on top of the pixel encapsulations, the epoxy masking infills between the bulbs, leaving the top of the pixel encapsulations raised.

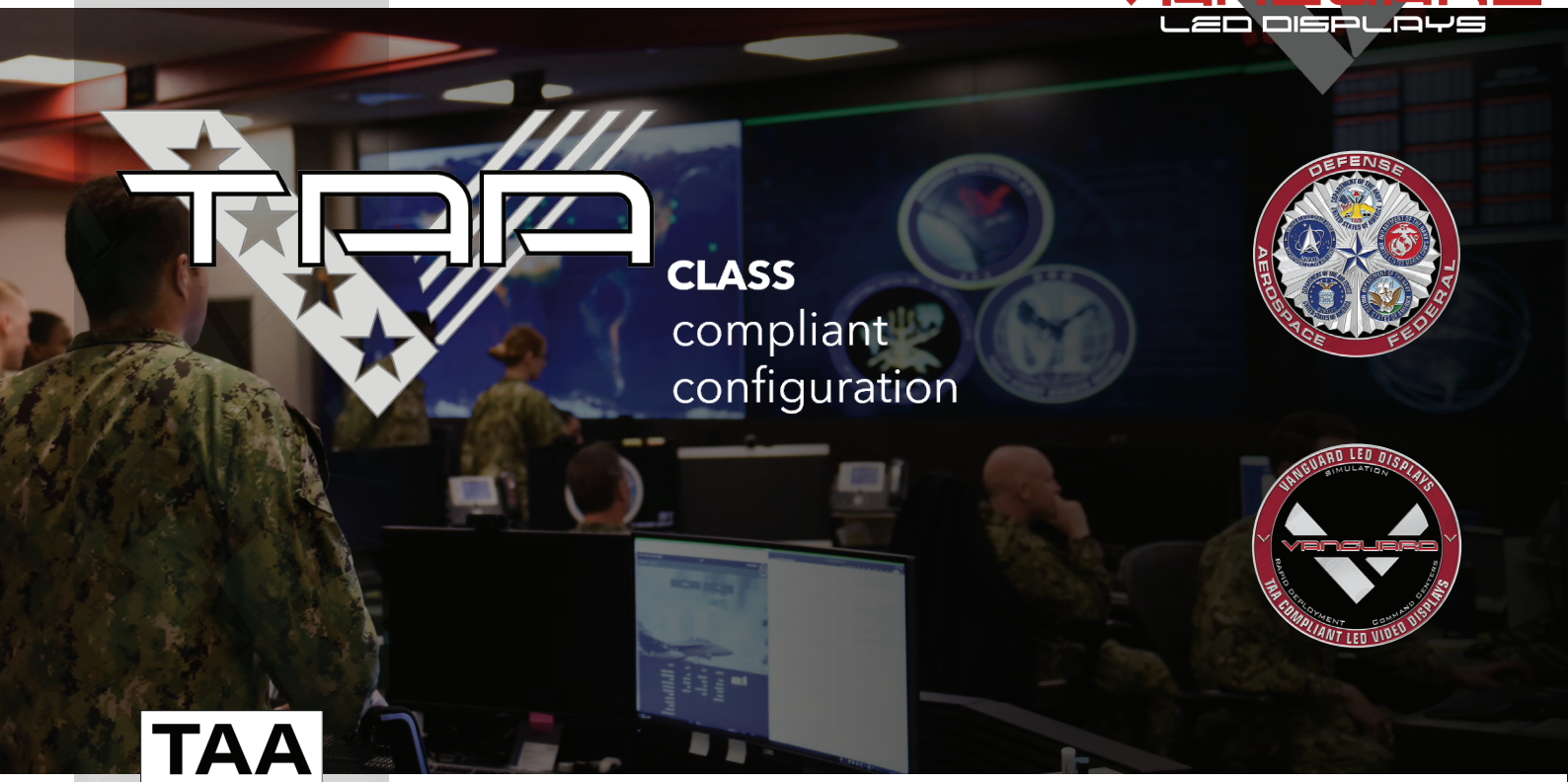
With the pixel texture across the face of Epoxy Mask modules, the module seams are made much more discreet than with COB or Epoxy Coated modules.

EPOXY **COAT** *(ec)*

EPOXY COAT (ec) is also referred to as GOB *(glue-on-board)*. Unlike epoxy masking, epoxy coating not only completely fills the gaps between pixels but also covers the pixel encapsulations.

Epoxy coating produces a smooth surface, similar to COB. Epoxy coating produces an added layer of protection for the pixel encapsulation. This can be beneficial depending on the environment where the display is installed.





TAA COMPLIANT US-MADE END PRODUCTS

There are two **(2)** ways in which Vanguard's LED products qualify as TAA-compliant.

1. Vanguard LED products can be "substantially transformed" in a TAA signatory country, or in a Free Trade Agreement *(FTA)* country to which the United States has unilaterally extended TAA procurement benefits
2. They may also qualify as ***"US-Origin End Products"***, as defined in the Foreign Acquisition Regulations *(FAR)*.

Vanguard LED Displays is TAA-compliant under either scenario.

Vanguard LED sources its TAA-compliant products in South Korea, a Free Trade Agreement *(FTA)* country to which the United States has unilaterally extended TAA procurement benefits. The LED display components are *"substantially transformed"* in South Korea and as a result the LED displays produced in South Korea are TAA-compliant.

Vanguard's LED displays are also considered ***"US-Origin End Products"***, as defined in the Foreign Acquisition Regulations (FAR). All video displays contain a large number of light emitting-diode ***(LED)*** bulbs. The LED bulbs are populated onto a bare printed circuit board and then assembled with a driver Integrated circuit ***(IC Driver)***. At this point the display boards are non-functional.

Next, a HUB board PCBA will be combined with a receiving card, which receives electronic signals and commands from an external sender.

A cabinet will be assembled together with low voltage power supplies, cables and adapters forming frames for the display units (modules) to be fitted into at the appropriate time.

At this point the display units are still not functional.

Regardless of where made or assembled the display modules and *"frames"* are shipped separately. In the United States at Vanguard's Florida facility, the modules are integrated with the frames, with various components being wired together, creating, at that precise moment, video display panels that are capable of receiving of receiving signals and displaying images. Controllers will provide instructions to the displays enabling the system to generate images.

The product's functionality is the result of operations performed in the United States.

THEREFORE, THESE PRODUCTS ARE CONSIDERED "US-ORIGIN END PRODUCTS".

The following Vanguard LED Displays are TAA approved: **Axion**, **Invictus**, **Sirius**, **LA series**, **Beryllium**, **Fusion**, **Janus**, **D-TOC**, and **Cerium**.

VANGUARD LED DISPLAYS US-ORIGIN END PRODUCT

AVAILABLE IN **TAA**-CLASS

CONFIGURABLE

- Axion
- Invictus
- Sirius
- LA Series
- Beryllium

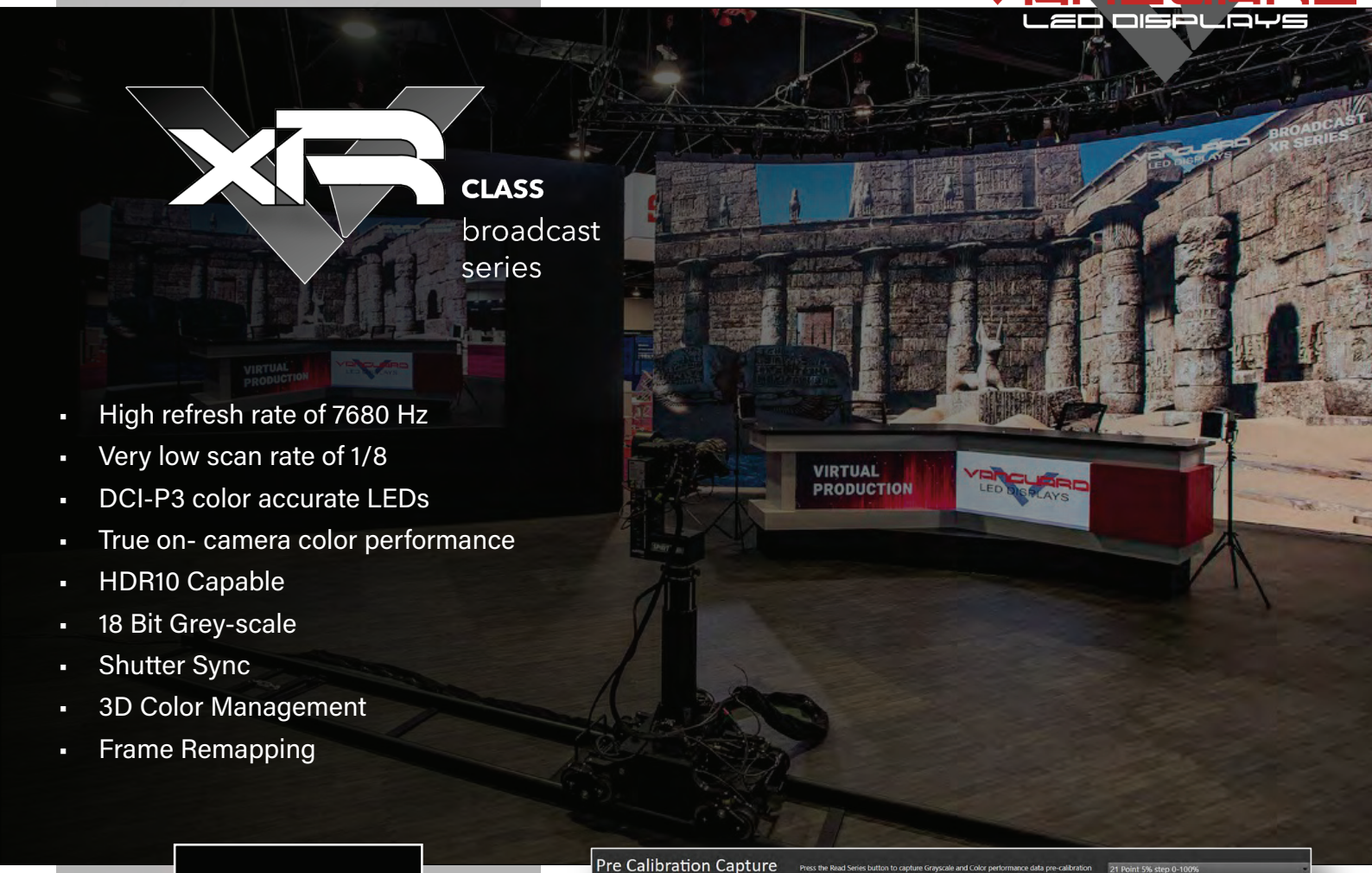
ALL-IN-ONE

- Janus
- D-TOC

SIMULATION

- Cerium

XR CLASS broadcast series



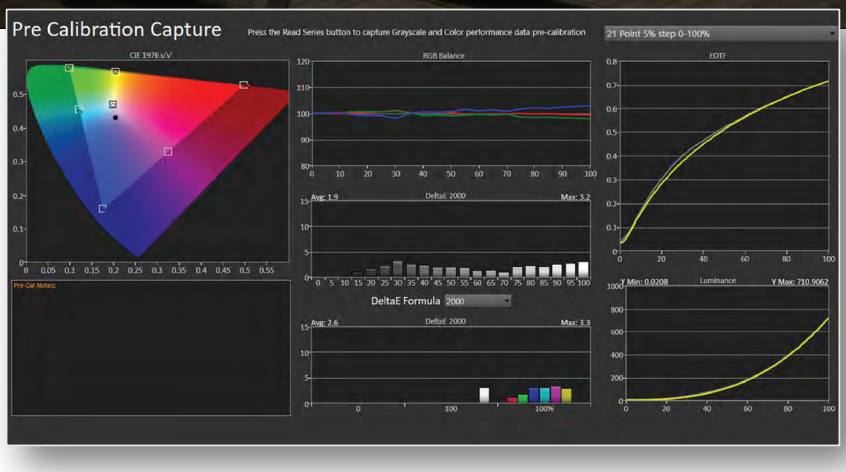
- High refresh rate of 7680 Hz
- Very low scan rate of 1/8
- DCI-P3 color accurate LEDs
- True on- camera color performance
- HDR10 Capable
- 18 Bit Grey-scale
- Shutter Sync
- 3D Color Management
- Frame Remapping

DCI
Digital Cinema Initiatives, LLC

VANGUARD LED DISPLAYS

NOVASTAR

BROMPTON TECHNOLOGY



Vanguard's xR Studio Broadcast Series is designed to take video broadcast and cinema to the **next level of color accuracy**.

Vanguard has revolutionized broadcast technology. The Vanguard xR Studio Broadcast Series has the ability to achieve **exceptionally accurate colors** that exceed the objective standards as defined by the **DCI-P3 Digital Cinema Initiatives Protocol**. Vanguard LED Display's xR Studio Broadcast Series has, in tests, achieved **"exceptional" DCI-P3 native diode accuracy "right out of the box".**

Combine Tungsten flat panels with Cesium flexible panels from the same batch to **create a multi-wall xR space without a sharp 90-degree corner**.

Vanguard's xR Studio Broadcast Series features **HDR clarity** and industry-leading brightness levels of up to 1000 nits. Vanguard's xR Studio Broadcast Series comes in a variety of sizes in order to **meet any studio's exact requirements**.

AVAILABLE IN **XR**-CLASS

- Zirconium
- Tungsten
- Cesium

A solution for every need

ALL-IN-ONE

Indoor, fixed installation

Browse this category on

page 20

16:9 PANELS

Indoor, fixed installation

Browse this category on

page 34

FREEFORM

Indoor, fixed installation

Browse this category on

page 46

OUTDOOR

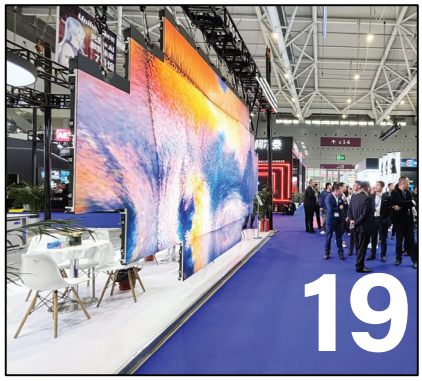
Outdoor, fixed installation

Browse this category on

page 62

RENTAL

Indoor and **outdoor**



Browse this category on

page 68

VANGUARD
LED DISPLAYS

20 ALL-IN-ONE Indoor, fixed and mobile installation

Plug-n-play content from standard sources

Easy to transport

Remote control functionality

ALL-IN-ONE Indoor, fixed and mobile installation

Vanguard LED

All-In-One *series*

- **FullHD** resolution
- Integrated **speakers**
- **Remote control**
- Integrated '**smart TV**' functionality

Janus *series*

- Motorized, collapsing All-in-One mobile display
- Perfect mobility
- Easy operation, transportation, and connection
- Integrated speakers

I-V LED Poster *series*

- **Roll**, **lean**, or **hang**
- Convenient **content management**
- Combine **multiple units** into a single seamless display
- Configurable **2K displays at 135" and 163"**

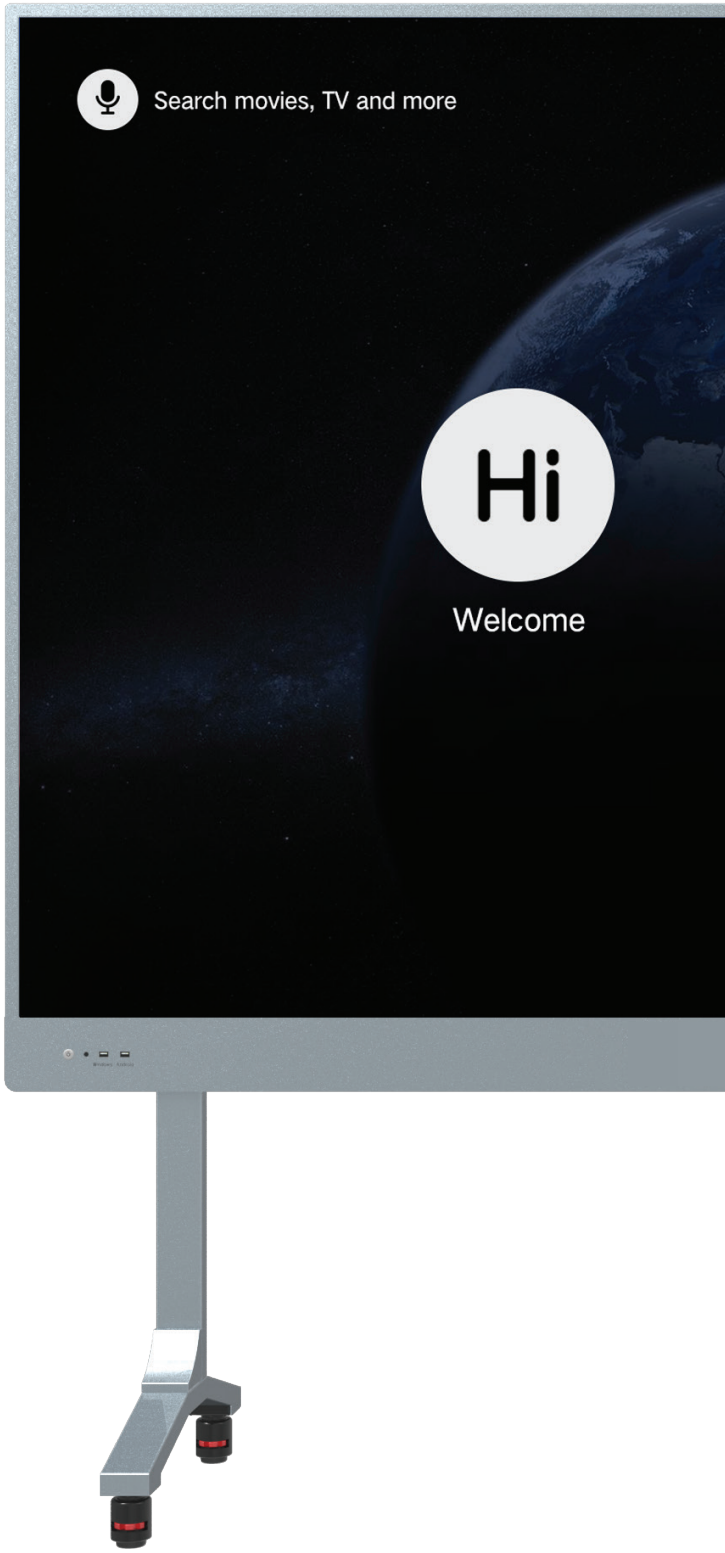
VANGUARD LED DISPLAYS

Scan for a digital copy!

Vanguard LED All-In-One

ideal for

Standalone 2K or 4K displays



summary

Vanguard LED's All-In-One series displays include everything you need for a plug-n-play **Full HD 2K** or **Ultra HD 4K** display. With options from **110" up to 220"**, Vanguard's All-In-One will exceed any needs for an interactive display.

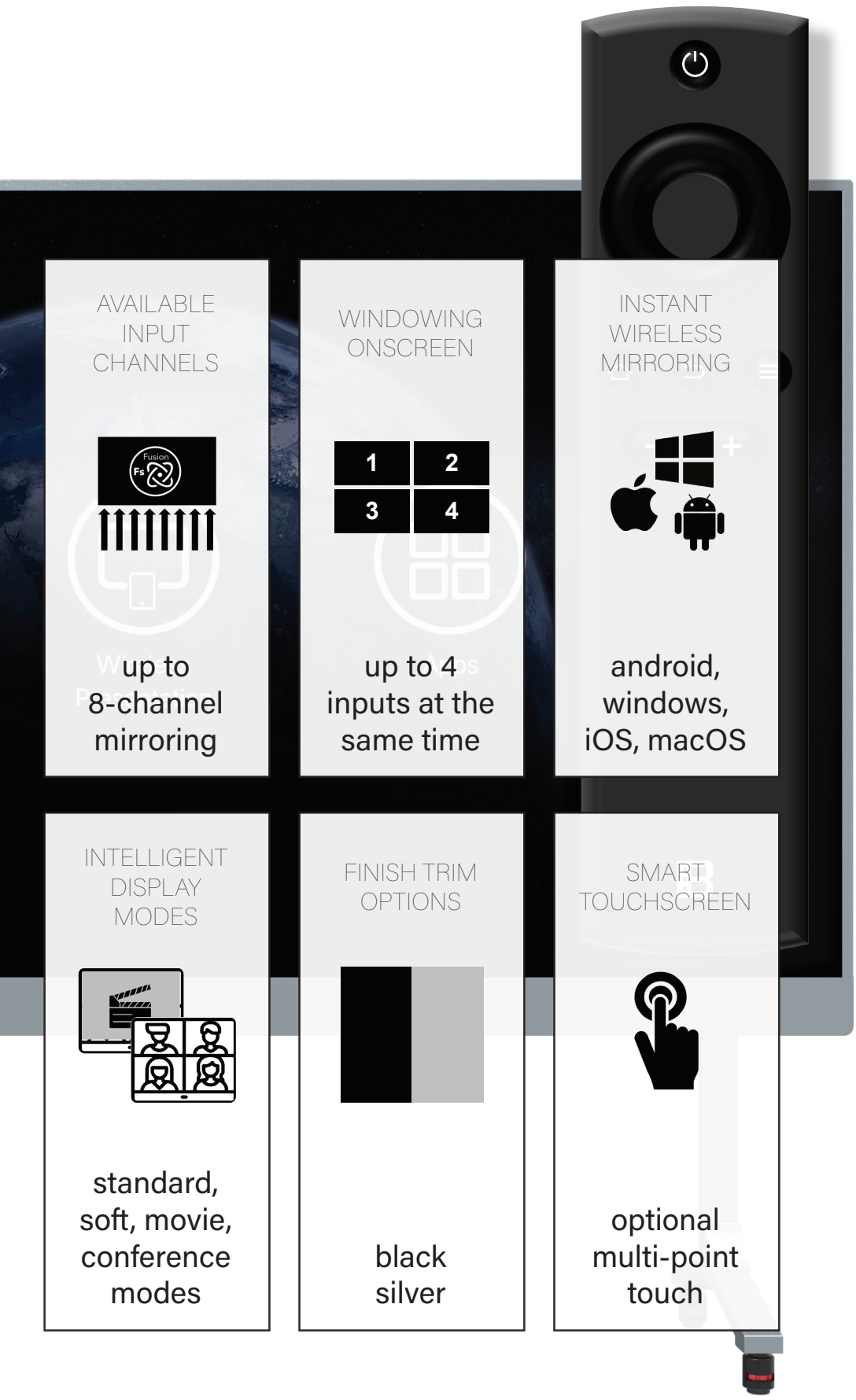
The All-In-One series of displays supports **8-channel mirroring** access and **4-signal split display simultaneously**; Support **Android**, **iOS**, **Windows** & **Mac OS** system mirroring with **<160ms ultra-low latency**; Support **two-way Wi-Fi connection** without signal interference between mirroring and networking.

sizes

2K	110" 1.2mm SMD		138" 1.5mm SMD	
	163" 1.8mm SMD		220" 2.5mm SMD	
4K	163" 1.2mm SMD		220" 2.5mm SMD	

optional

- Protective epoxy masking or coating
- COB pixels at select sizes
- Touch interactivity for select sizes
- Flight cases
- Hydrophobic treatment



AVAILABLE INPUT CHANNELS

up to 8-channel mirroring

WINDOWING ONSCREEN

1 2 3 4

up to 4 inputs at the same time

INSTANT WIRELESS MIRRORING

android, windows, iOS, macOS

INTELLIGENT DISPLAY MODES

standard, soft, movie, conference modes

FINISH TRIM OPTIONS

black
silver

SMART TOUCHSCREEN

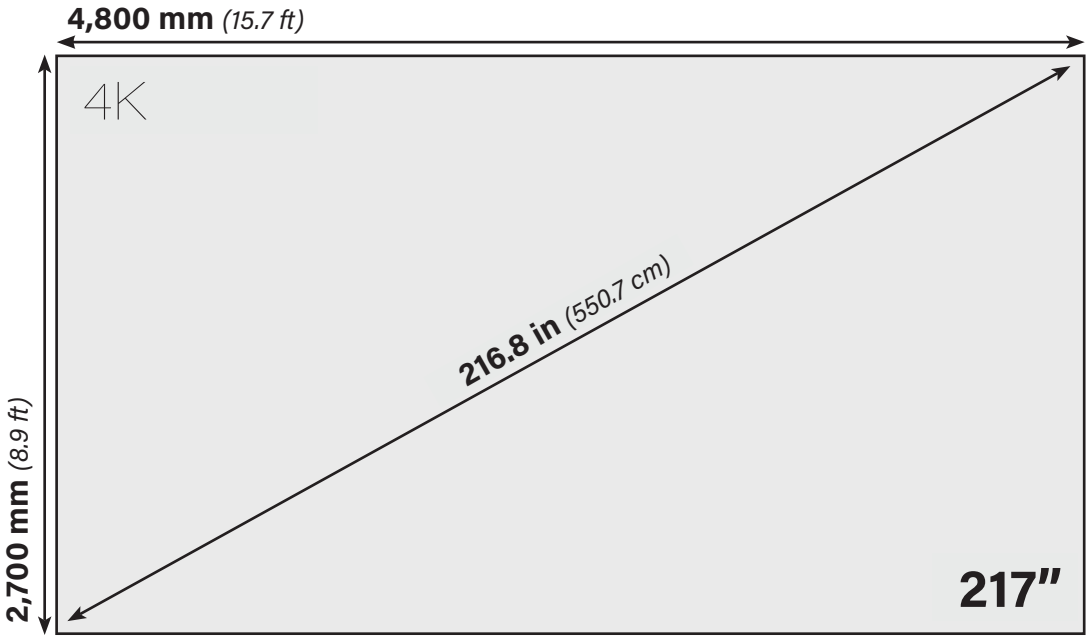
optional multi-point touch

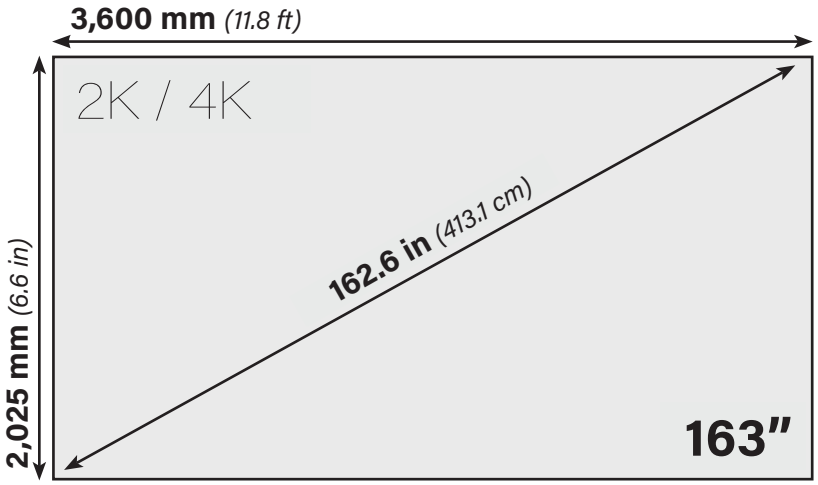
actual size shown

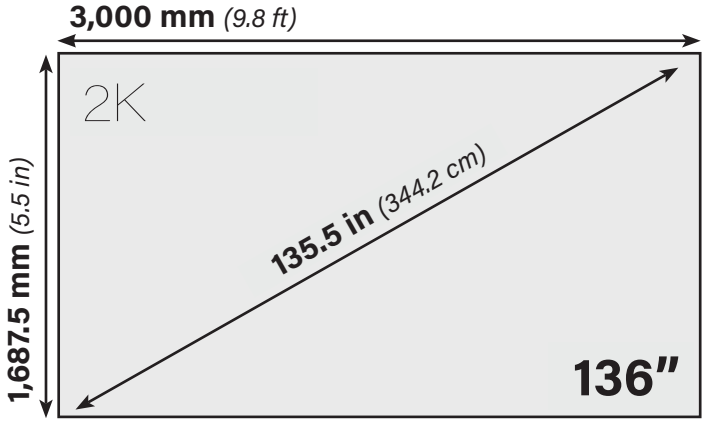
Remote control for easy operation

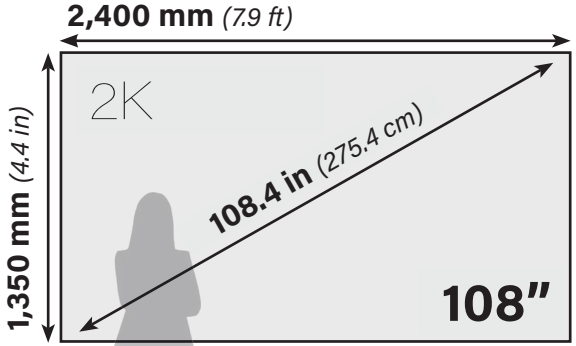
supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G









maximum brightness	450 nits	
environmental rating	Indoor	
resolution	FullHD 2K	1,920 - 1,080 px
	UltraHD 4K	3,840 – 2,160 px
panel ratio	16:9	
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
LED half-life*	100,000 hours	
contrast	8,000:1	
refresh rate	3,840 Hz	
frame rate	50, 60 Hz	
color temperature	8,500K default (2,000 – 10,000 K range)	
processing depth	Up to 16 bits	
scan rate	1/45, 1/48	
temperatures	-20°C - +50°C operating	
operating humidity	10% - 85% RH, non-condensing	
operating voltage	100 - 240V AC, 50/60 Hz	
maximum watts	1,880 – 5,504 W *(depending on model)*	
ip rating	IP30	
maximum heat	1,370 - 4,762 BTU/hr	
service access	Front	
warranty	3-year default (up to 5-year available)	
certifications	ETL, FCC, LVC, EMC	

Pair with our smart lectern!

summary

The VSL *(Vanguard Smart Lectern)* is an all-in-one touch-screen solution for **presenting on Vanguard's All-In-One LED displays** *(and any display with Windows or Android OS)*. An open and upgradeable Windows platform, VSL is a perfect accessory for presentation displays. Connect easily via hotspot or Bluetooth then control the presentation and even annotate in real time!

VSL has (2) **USB** inputs to download content so lecturers can **present without any disrupting cable connections** in the system, as well as **hard-wired HDMI input**. (2) **XLR** inputs built into the lectern connect to a **built-in wireless mic transmitter** which will wirelessly connect to the included wireless receiver.

The smart lectern is **height-adjustable** with an electric motor, with a range from **ADA Complaint** wheelchair height to the highest level which will accommodate a tall person 6'+.

screen type		21.5in FHD 2K IPS-LCD
lectern display resolution		1920 x 1080 px
touch type		PCAP, 10 touch points
operating system		Windows 10 IOT
lectern display dimensions	WIDTH	476 mm (18.7 in)
	HEIGHT	267.8 mm (10.5 in)
	DIAGONAL	546 mm (21.5 in)
system		Intel Core i7-8550U(1.8GHz), 128Gb storage, 8Gb RAM
connections		**2** USB3.0, **1** HDMI, **1** audio
buttons		Power, height up/down, Mic mute
wireless share		Windows, Android
wired microphones		**2** gooseneck
lectern dimensions	WIDTH	788 mm (31 in)
	DEPTH	400 mm (15.7 in)
	HEIGHT	1,000-1,200 mm (39.4-47.2 in)

VANGUARD
LED DISPLAYS

Scan for a digital copy!

Janus

ideal for
mobile
plug-n-play

summary

Vanguard LED introduces the Janus series of **transforming mobile displays**.

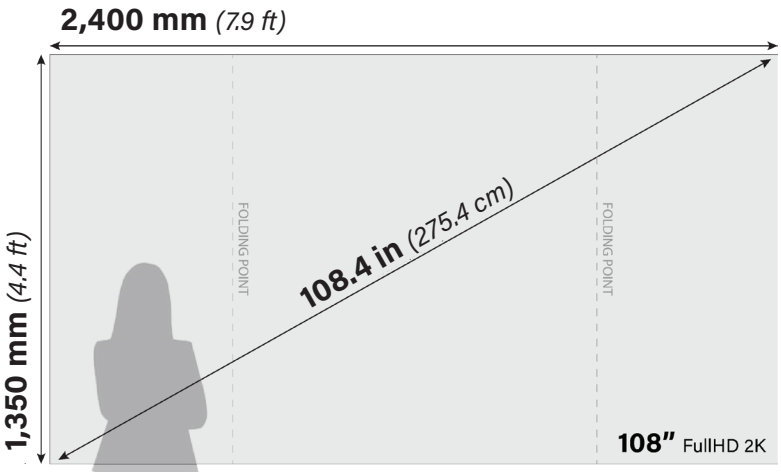
Available at **2K**, **4K**, and with diagonals from **108" and 136"**, Janus displays are the perfect solution for flexible and varying display needs. Featuring **motorized and folding wing columns**, as well as **motorized height**, the entire display will deploy to a fully operational width. The sides will fold in and the unit will lower into the road case with the push of a button. With integrated wheels in the base, Janus is the perfect portable plug-and-play LED display.

Janus displays include **speakers** as well as an integrated controller making the system truly plug-n-play, while also being highly mobile.

ALL-IN-ONE Indoor, fixed installation

special configurations

TAA CLASS compliant configuration



sizes

26

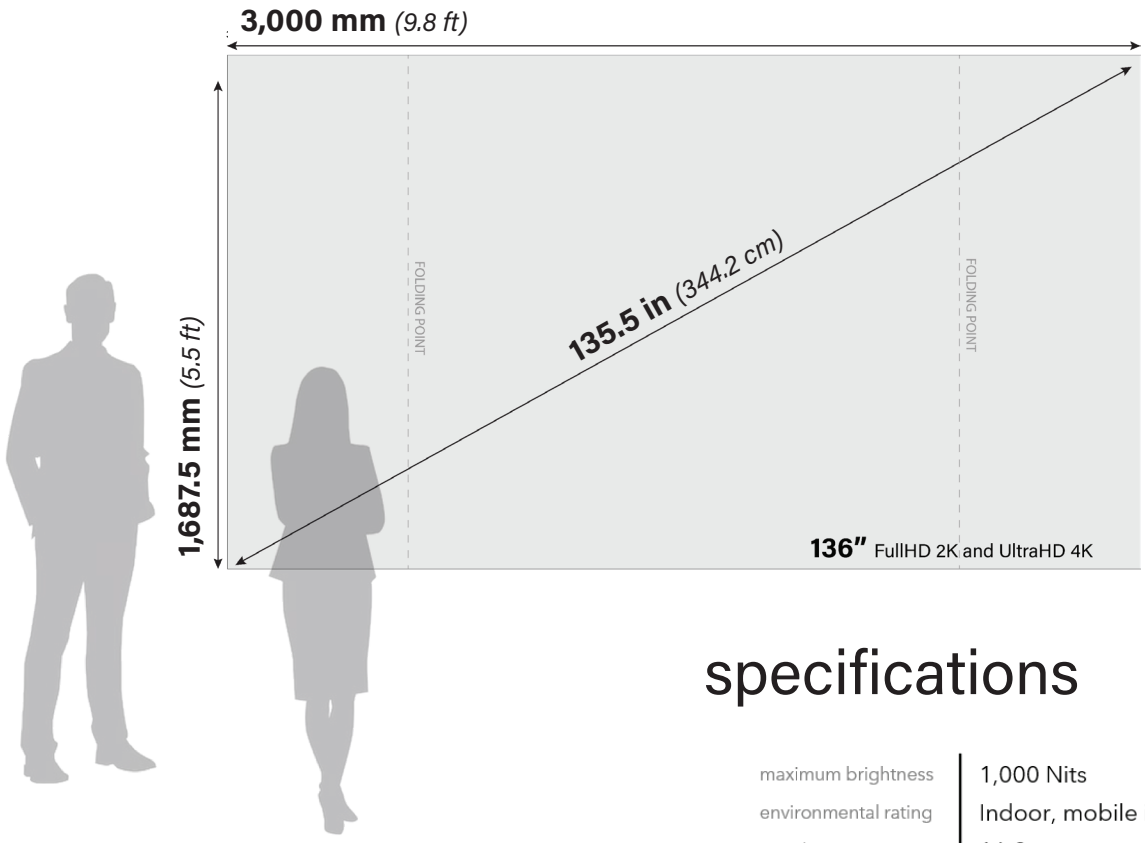
4K

4K - 136"
0.78mm
COB

2K

2K - 108"
1.2mm
COB

2K - 136"
1.56mm
COB

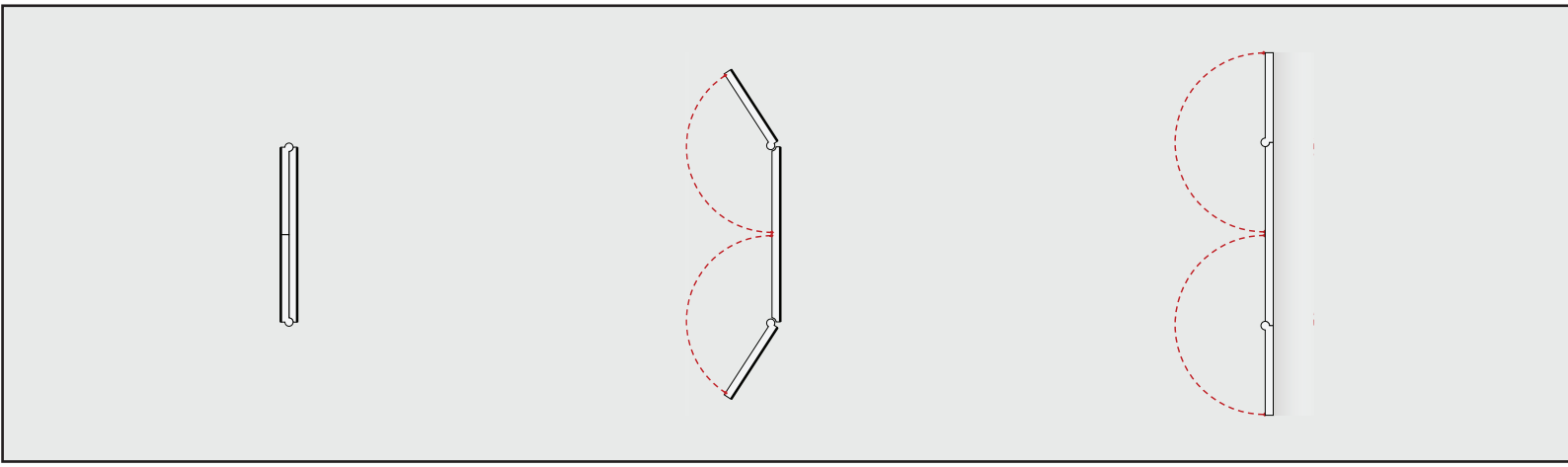


specifications

maximum brightness	1,000 Nits
environmental rating	Indoor, mobile installation
panel ratio	16:9
operating height	Adjustable
LED half-life*	100,000 hours
refresh rate	3,840 – 7,680 Hz
frame rate	50, 60 Hz
color temperature	2,000 – 12,000 K range
processing depth	Up to 16 bit
temperatures	-10°C - +40°C operating
operating humidity	10% - 80% RH, non-condensing
operating voltage	100-240V AC, 50/60 Hz
ip rating	IP30
service access	Front

connections

source connections	(2) HDMI, (1) 3.5mm, (2) USB3.0, (1) USB2.0, (1) RJ45
Wi-Fi modes	5G, 2.4G, Access Point
control	Remote control, touch panel



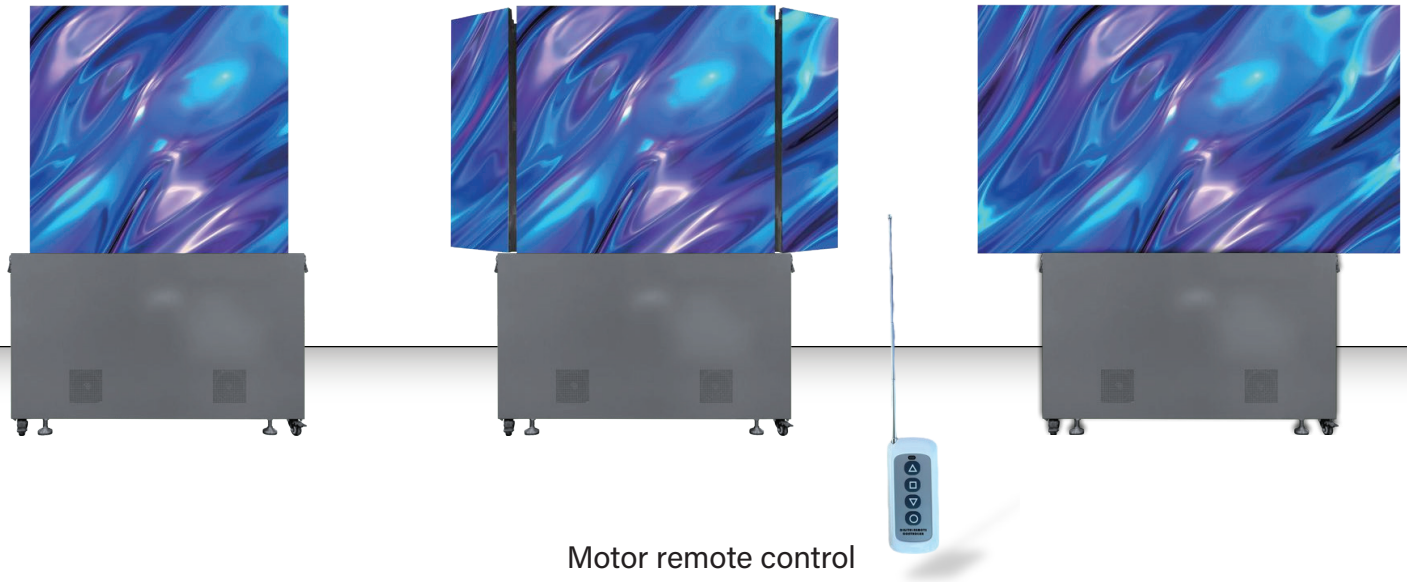
supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

Small footprint for easy transport and storage

Display remote control

Convenient push-button operation

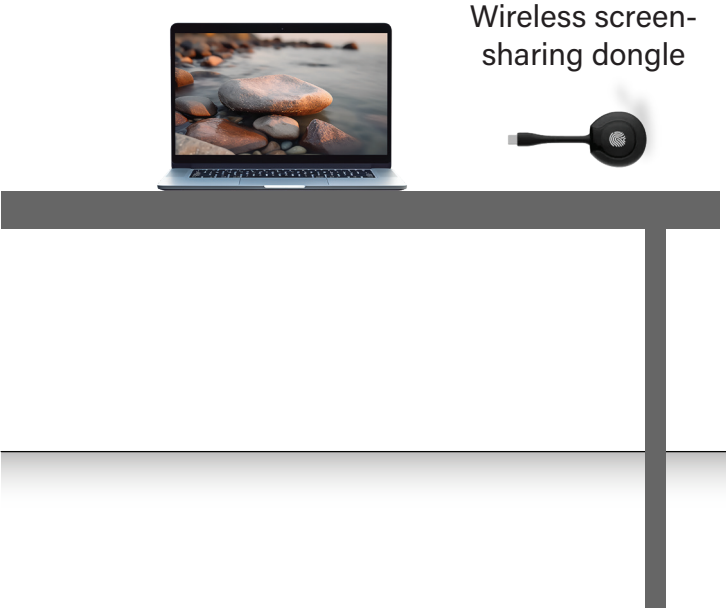


Motor remote control

2K

model	**110" FullHD**	
	1.25mm pitch	
display dimensions	WIDTH	2,400 mm (7.8 ft)
	HEIGHT	1,350 mm (4.4 ft)
weight		470 kg (1,035lbs)
maximum watts		1,458 W
maximum heat		2,985 BTU/hr
storage dimensions	WIDTH	1,650 mm (5.4 ft)
	HEIGHT	1,760 mm (5.8 ft)
	DEPTH	520 mm (1.7 ft)

model	**136" FullHD**	
	1.56mm pitch	
display dimensions	WIDTH	3,000 mm (9.8 ft)
	HEIGHT	1,687.5 mm (5.5 ft)
weight		550 kg (1,212 lbs)
maximum watts		2,278 W
maximum heat		4,664 BTU/hr
storage dimensions	WIDTH	2,050 mm (6.7 ft)
	HEIGHT	2,150 mm (7.0 ft)
	DEPTH	520 mm (1.7 ft)



Wireless screen-sharing dongle

4K

model	**136" UltraHD**	
	0.78mm pitch	
display dimensions	WIDTH	3,000 mm (9.8 ft)
	HEIGHT	1,687.5mm (5.5 ft)
weight		550 kg (1,212 lbs)
maximum watts		2,278 W
maximum heat		4,664 BTU/hr
storage dimensions	WIDTH	2,050 mm (6.7 ft)
	HEIGHT	2,150 mm (7.0 ft)
	DEPTH	520 mm (1.7 ft)

VANGUARD
LED DISPLAYS

Scan for a digital copy!

Five horizontally connected units to make FullHD 2K with a 135" diagonal

I-V LED Poster

pitch	1.5	1.8
pixel tech	SMD	SMD

ideal for

Mobile signage

summary

The Vanguard I-V LED Poster is a powerful **all-in-one solution for digital signage**. The LED Poster can run **locally stored content**, **streaming**, or use a **locally connected source**. Posters utilize a convenient **Android operating system**, enabling easy content maintenance.

Vanguard's I-V LED Poster's can be **suspended** or **sit on the floor** with either **wheels** or a **leg** to lean on. Connect **multiple units** to create a larger **seamless** display! True FullHD 2K displays can be made at 135" using five (5) 1.5mm or 163" using six (6) 1.8mm posters.

optional

- Protective epoxy masking or coating
- Hanging/flying
- Flight cases (2-3 posters per case)
- Reduced magnetism for transit stations
- Hydrophobic treatment

Video:
HDMI-IN
HDMI-OUT
USB3.0

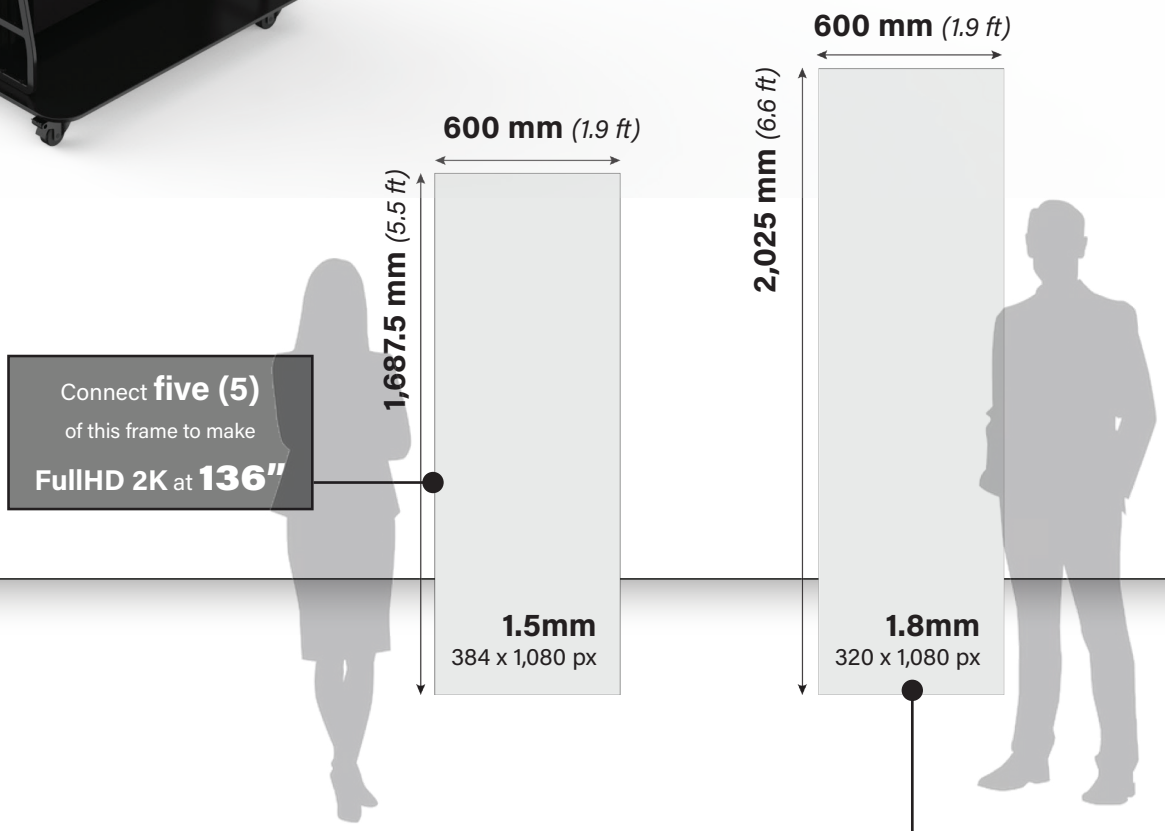
Audio:
Ext audio interface

Control:
RJ45
Wi-Fi
Local AP network
4G network

Sensor:
Brightness
Temperature
Humidity

ALL-IN-ONE Indoor, fixed installation

series name	**I-V LED Poster (LP)**
maximum brightness	600 nits (2.5mm 500 nits)
environmental rating	Indoor, mobile installation
viewing angle	HORIZONTAL 160° / VERTICAL 160°
LED half-life*	100,000 hours
contrast	8,000:1
refresh rate	3,840 Hz
frame rate	50, 60 Hz
color temperature	6,500 K
temperatures	-20°C - +50°C
operating humidity	10% - 80%, non-condensing
maximum watts	420 – 500 W / SqM *(depending on model)*
operating voltage	100-240V AC, 50/60 Hz
maximum heat	1,432 – 1,705 BTU/hr / SqM *(depending on model)*
ip rating	IP30 (IP60 rear)
service access	Front *(display components)*, Rear *(control box)*
warranty	5-year default (up to 7-year available)
certifications	CE ROHS ETL UL



Connect **five (5)** of this frame to make **FullHD 2K** at **136"**

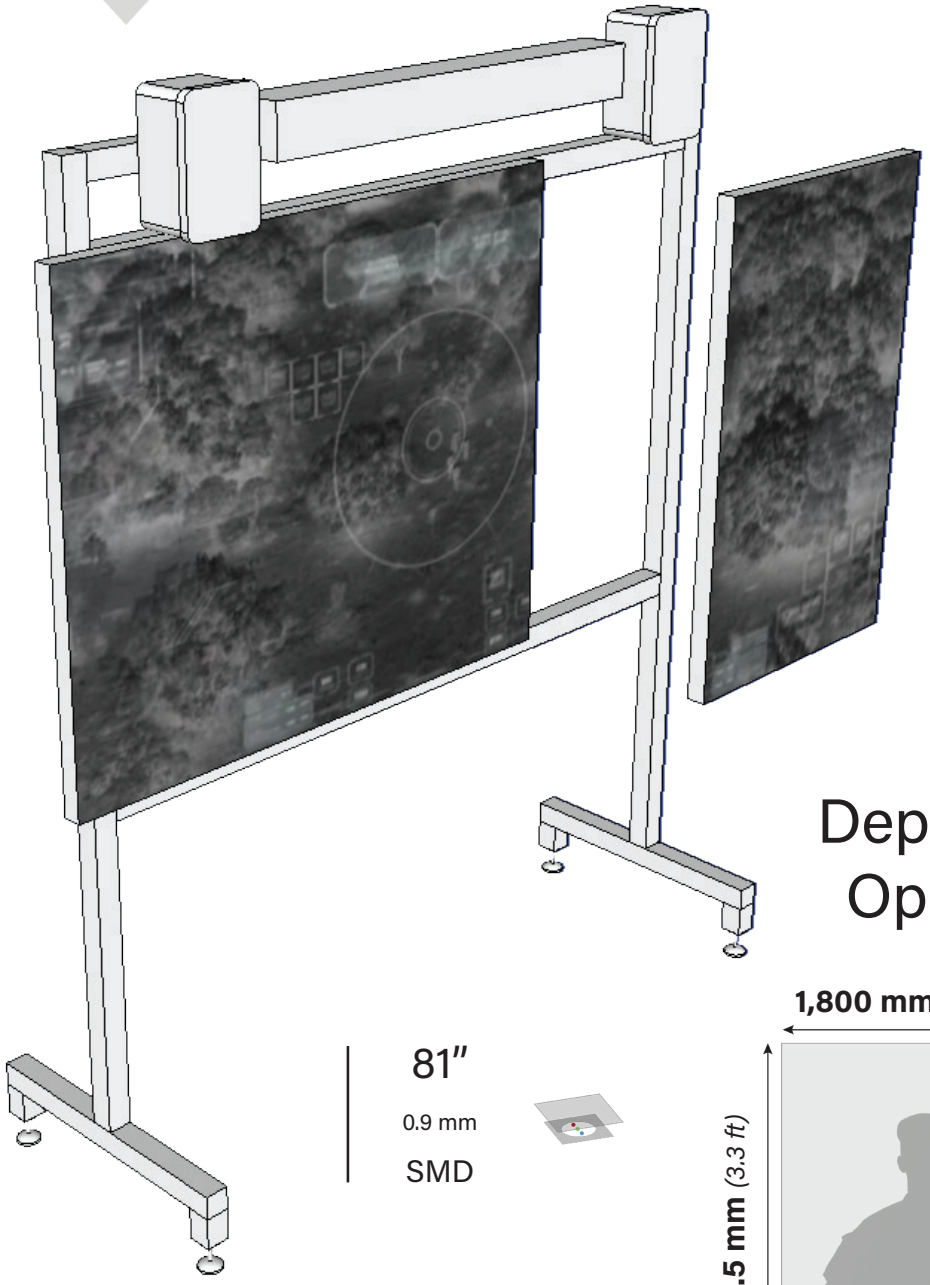
Connect **six (6)** of this frame to make **FullHD 2K** at **163"**

supported controllers

Vanguard LED Displays 1G 5G | NovaStar 1G 5G | Brompton Technology 1G 5G

VANGUARD LED DISPLAYS

Scan for a digital copy!



ideal for

Highly-mobile FullHD displays

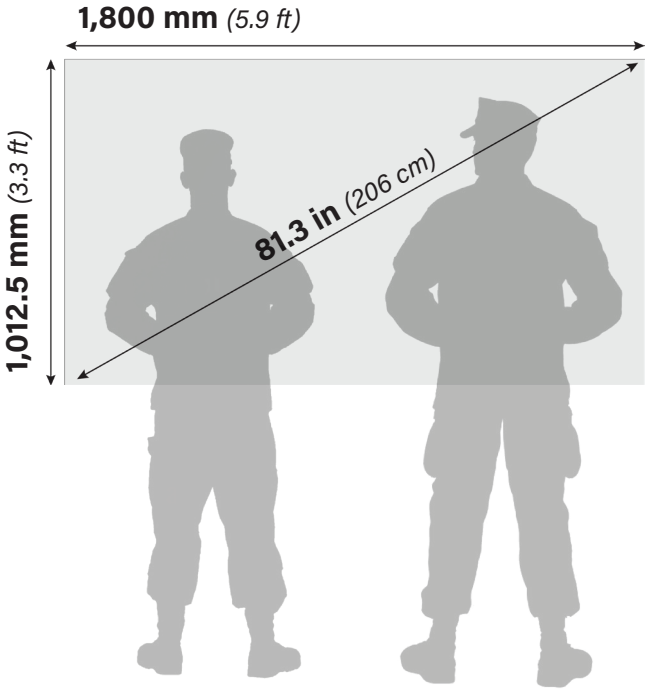
D-TOC

Deployable Tactical Operations Center

81″

0.9 mm

SMD



ALL-IN-ONE Indoor, fixed installation

summary

D-TOC *(Deployable Tactical Operations Center)* is a special type of mobile display which is purpose-designed for tactical military operations. Based on durable Beryllium panels, D-TOC is a FullHD display with a native aspect ratio of 16:9 and a true resolution of 1920x1080. D-TOC has a rugged epoxy coating (GOB) to ensure maximum pixel protection and performance.

Producing an 81″ diagonal display, D-TOC can **quickly disassemble down to convenient carrying cases**, making D-TOC the ideal display solution when mobility and ease are the biggest considerations. Ideal solution for C5ISR applications.

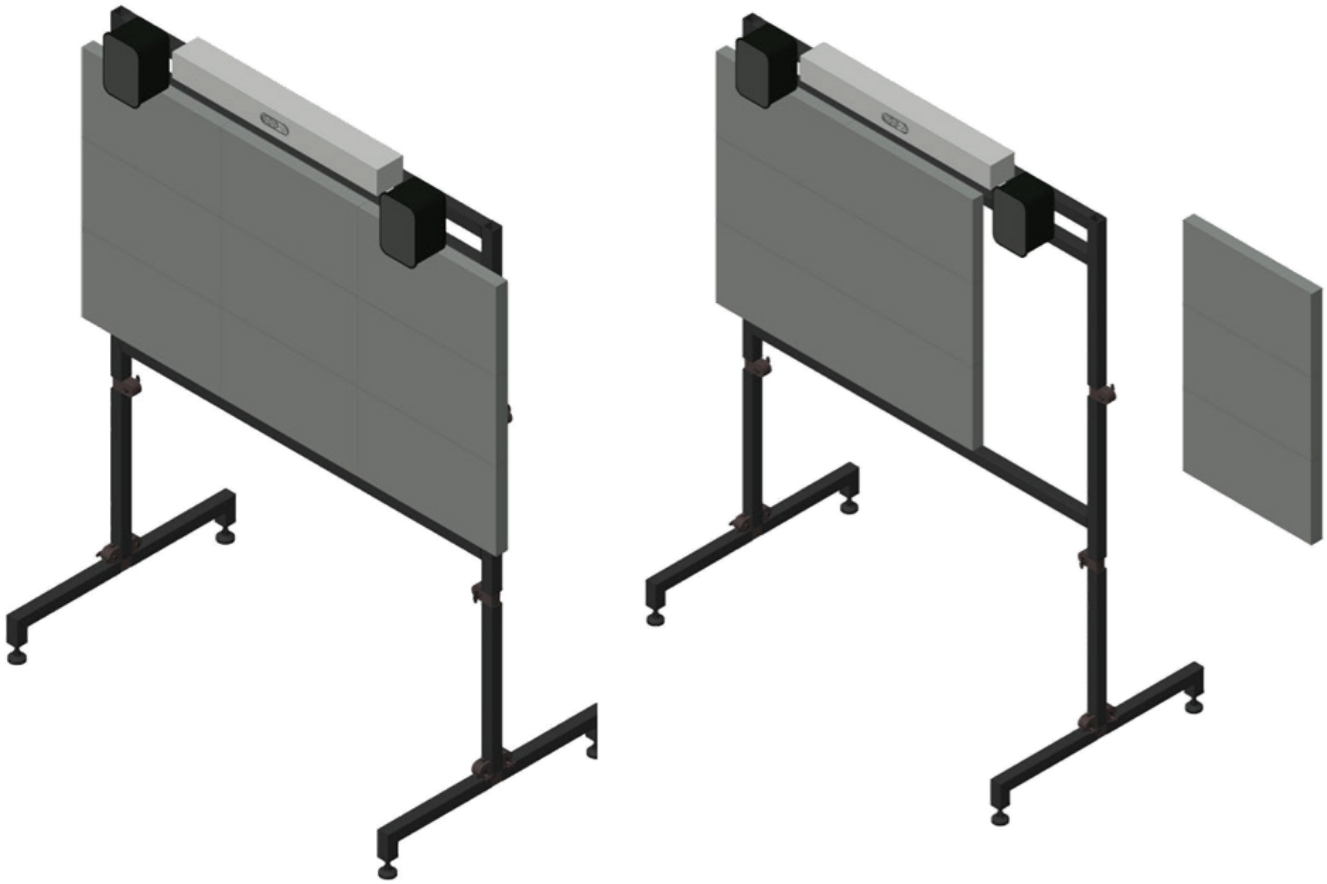
special configurations

TAA CLASS compliant configuration

maximum watts 1,314 W	maximum heat 4,480 BTU/hr
aspect ratio 16:9	weight 275 kg (606.3 lbs)
max brightness 800 nits	IP rating IP50

Built to serve all your **C5ISR** needs.

Command
Control
Communication
Computers
Cyber
Intelligence
Surveillance
Reconnaissance



D-TOC forms a seamless videowall enabling the user to present up to 24 different video and audio sources in support of various operational requirements. The user can define the information to be displayed using several pre-defined and custom layouts. Supplement with a VTC system for complete audio and video conferencing.

The system design includes **NAIP-** and **DoDIN** approved equipment (where applicable). All core equipment is **TAA-compliant** and non broadcasting (radio). These certifications, coupled with our knowledge of **TEMPEST** and other security measures ensures that your system will be accepted and accredited by your command's **Information Assurance Team**.

**IMPORTANT NOTE: The D-TOC system is compliant for the certifications and protocols listed above. A complete NAIP or DodIN system will require additional equipment (such as Extron, Crestron or certain Cisco products) which are not provided by Vanguard LED.*

supported controllers

Vanguard LED Displays
1G 5G

VANGUARD
LED DISPLAYS

16:9 PANELS Indoor, fixed installation

34

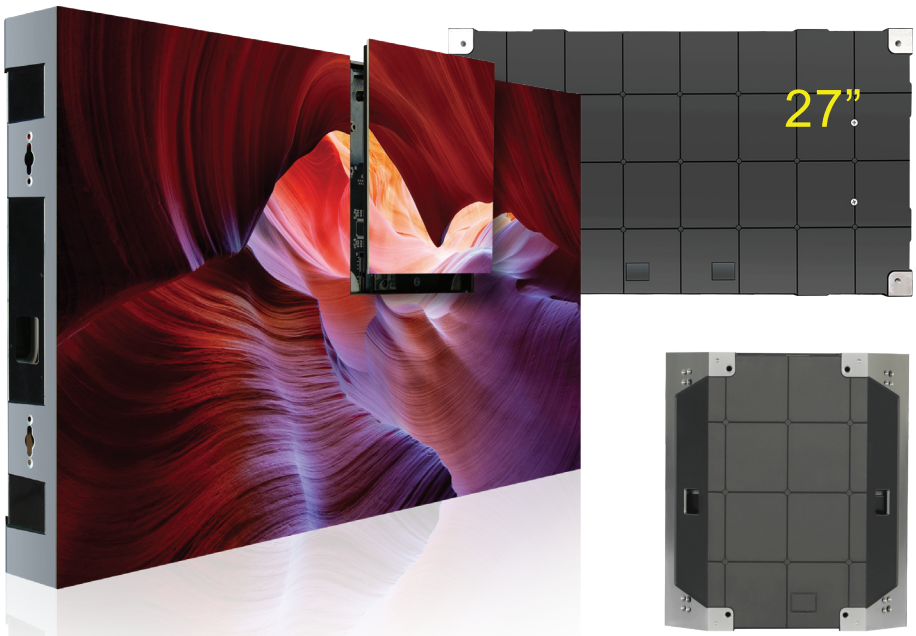
16:9

16:9 and 32:9 native aspect ratio

Satellite, cable, personal computer for content

Replacing existing LCD and OLED videowall

16:9 PANELS Indoor, fixed installation



Axion *series*

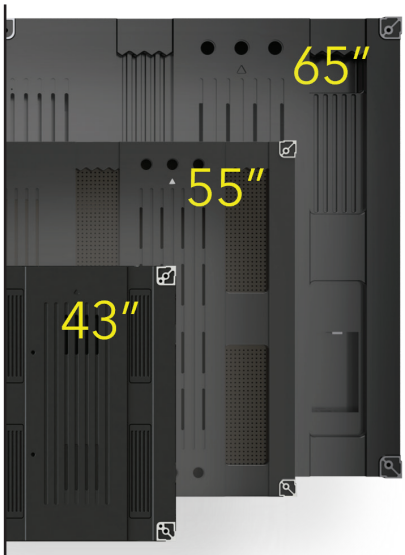
- **27”** diagonal, native **16:9** panel for true aspect ratio and resolution displays
- Compliant with **Trade Agreement Act** (TAA, - USA)
- Dual/**redundant power** and **remote power** options
- Dual/**redundant receiving card** support

Invictus *series*

- **27”** diagonal
- **COB** pixels
- **Flip-chip** cool LED technology

Sirius *series*

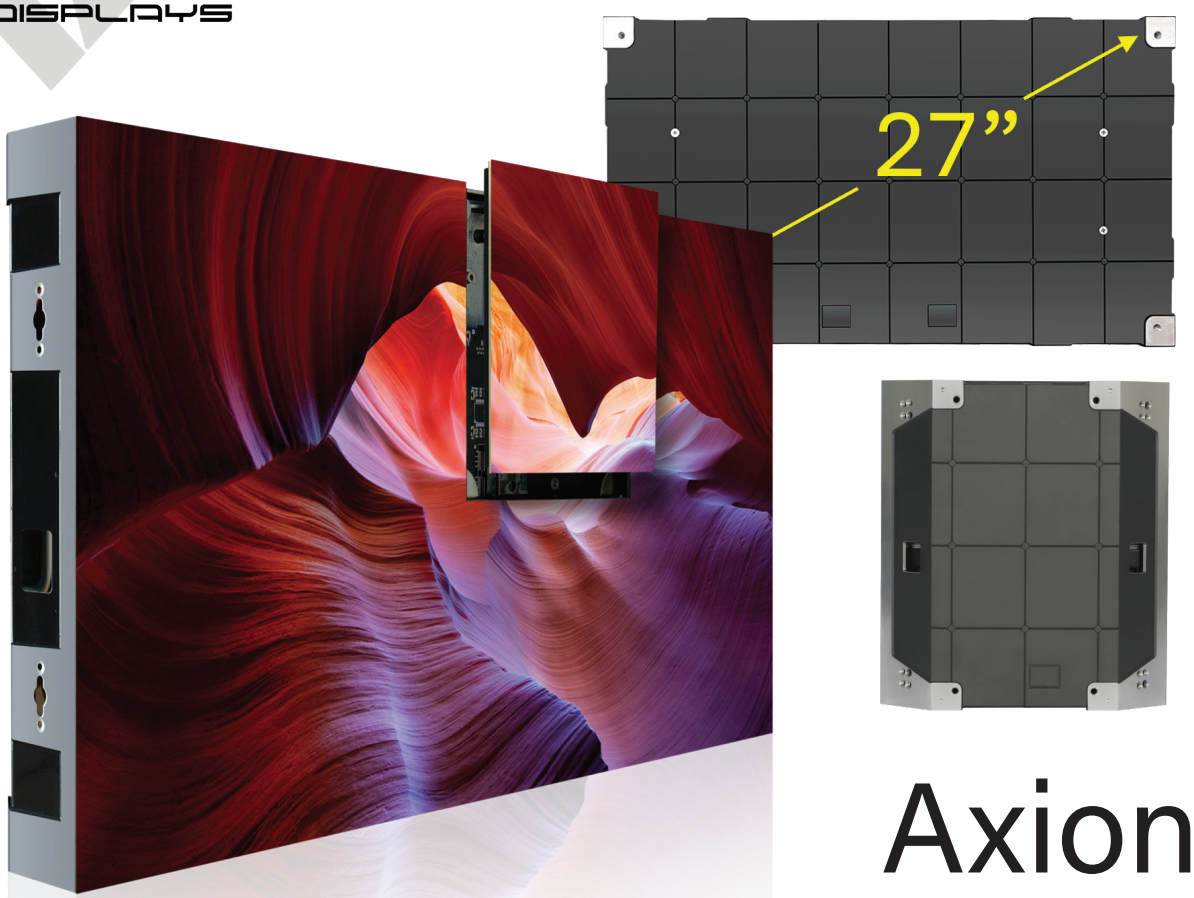
- **54”** diagonal
- **SMD/IMD** pixels
- **GOB** optional



LA *series*

- **LCD Videowall replacement**
- **VESA** mounting
- **43”**, **55”**, and **65”** panel sizes.

VANGUARD LED DISPLAYS



Axion

pitch	0.9	1.2	1.5	1.8	2.5	3.7
pixel tech	SMD	SMD	SMD	SMD	SMD	SMD

Scan for a digital copy!

ideal for

Indoor, fixed 16:9 and 32:9 displays

summary

Axion is the best solution for indoor, fixed 16:9 displays. Covering the industry's most popular pitches for this application, Axion utilizes SMD pixels as standard, and can have an optional epoxy masking or coating applied to provide enhanced durability. Gold bonding wire is also available.

.

Axion is available with standard 600x337.5 panels, and 300x337.5 half-width panels allowing for smaller design units, and narrower facets for curved displays.

special configurations

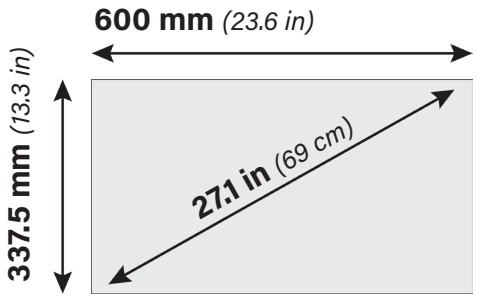
TRA CLASS compliant configuration

ECO CLASS low heat and power

SHINE high-bright configuration

LITE budget configuration

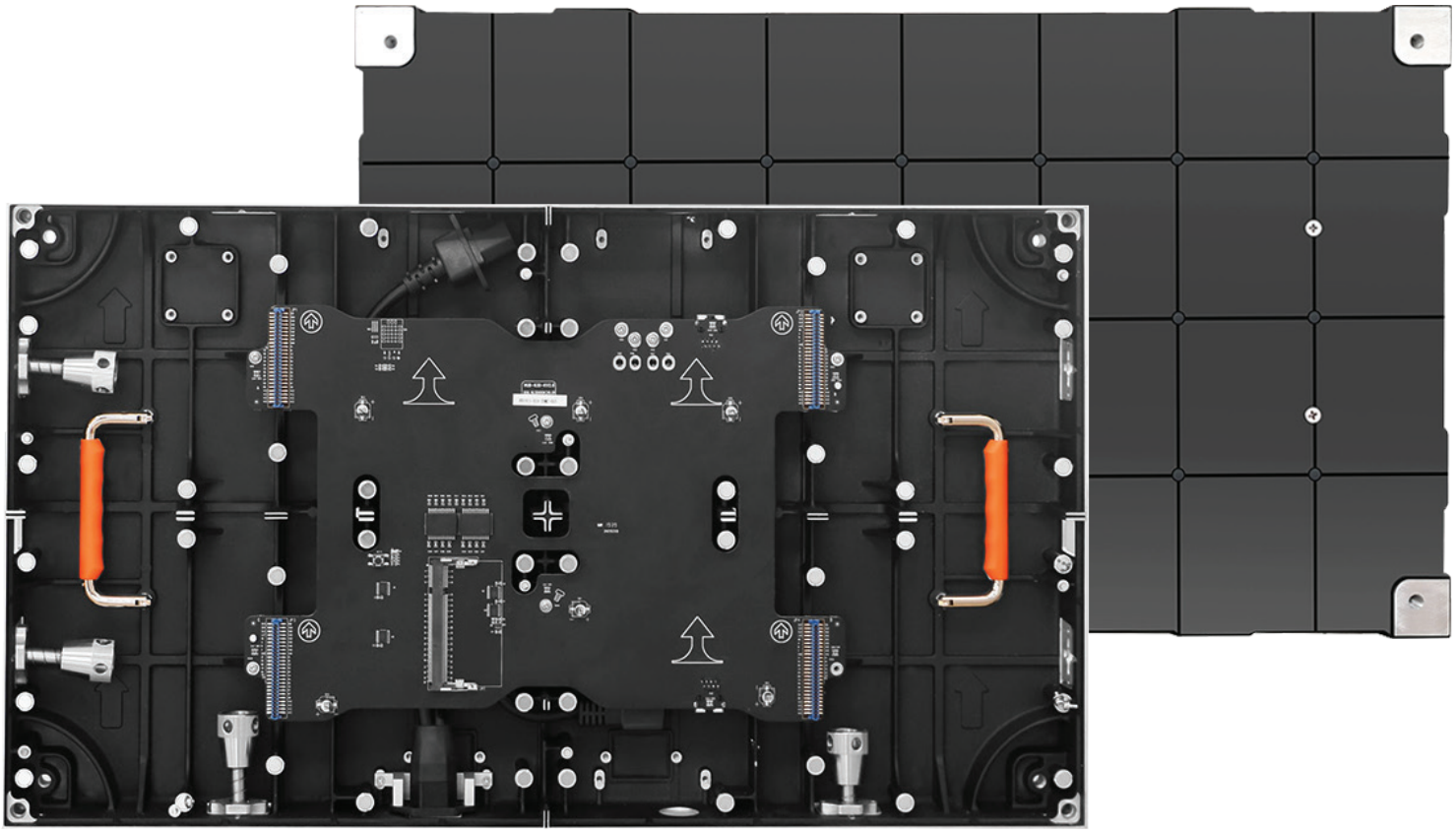
dimensions



aspect ratio	weight
16:9	7.7 kg (17 lbs)
max brightness	**IP rating**
1,200 nits	IP41

optional

- Protective epoxy masking or coating
- IMD or MIP pixels at select pitches
- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- Connecting plates
- Headers for hanging/flying
- Embedded controller
- Mobile cart, up to 5x5 panel array
- Flight cases
- Hydrophobic treatment
- Dual receiving cards for data redundancy
- Dual power supplies for power redundancy
- Remote AC>DC power conversion



maximum brightness (nits)		up to 1,200
dimensions	WIDTH	600 mm (23.6 in)
	HEIGHT	337.5 mm (13.3 in)
	DEPTH	58 mm (2.3 in)
panel aspect ratio		16:9
panel weight		7.7 mm (17 in)
modules per panel		up to 4 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		100,000
contrast		up to 6,000:1
drivers		ICN 2153, ICN1069
scan rate		1/27, 1/30, 1/60
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		N/A

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 295.97 BTU/hr
humidity	10% - 80%, non-condensing
ip rating	IP41
frame material	Die-cast Aluminium
hanging and stacking	15 hanging max | 30 stacking max
rear bolt threading	M8
power connectors	C13/C14
data connectors	RJ45
service access	Front
warranty	5 year (up to 7 available)
certifications	EMC-B, CCC, FCC, ETL, LVD, CE, RoHS, CB, PSE

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS

Invictus

pitch	0.6	0.7	0.9	1.2	1.5
pixel tech	COB	COB	COB	COB	COB

Scan for a digital copy!

ideal for

Cool touch and close audience

summary

Invictus is **durable** by design, creating the strongest dvLED display available. **Chip-on-board** pixel technology allows for super-fine pixel pitch without the fragility associated with standard dvLED pixels at fine-pitch.

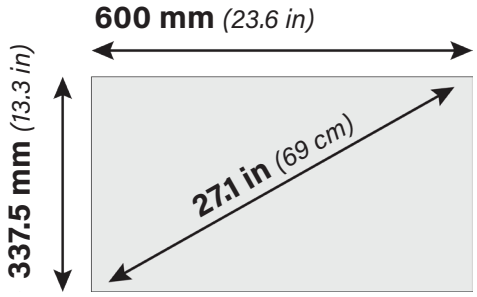
Invictus is **highly power efficient** with flip-chip power handling and common cathode technology. Flip-chip technology eliminates the need for a gold or copper bonding wire, reducing both the power draw and heat generated through operation.

special configurations

TAA CLASS compliant configuration

SHINE high-bright configuration

dimensions



aspect ratio
16:9

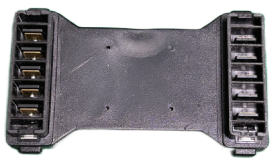
weight
4.7 kg (10.3 lbs)

max brightness
1,000 nits

IP rating
IP31

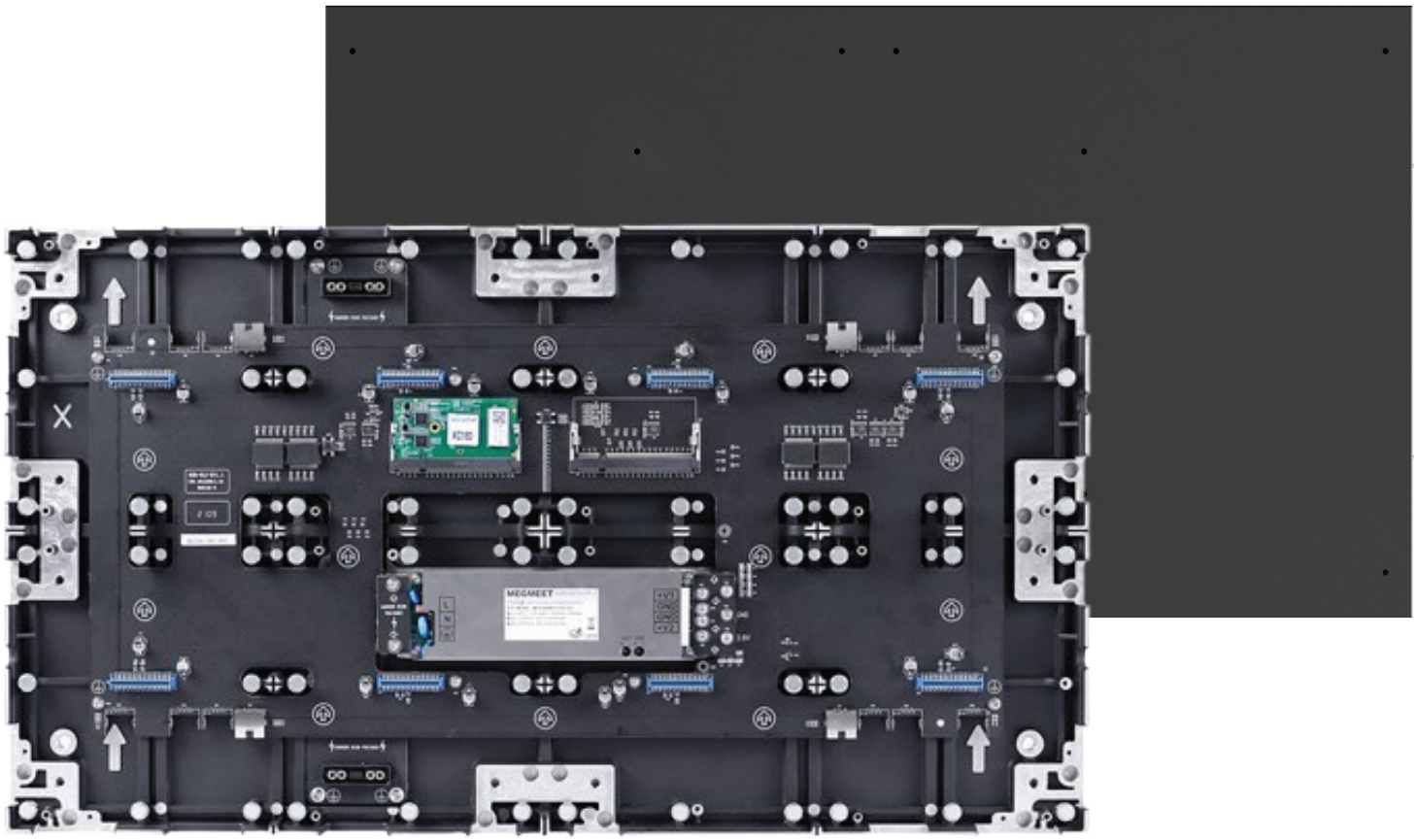
optional

- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- Connecting plates
- Mobile cart, up to 6x6 panel array
- Flight cases
- Hydrophobic treatment
- Remote AC>DC power conversion



Custom power cascade connection

16:9 PANELS Indoor, fixed installation



Invictus (IN)

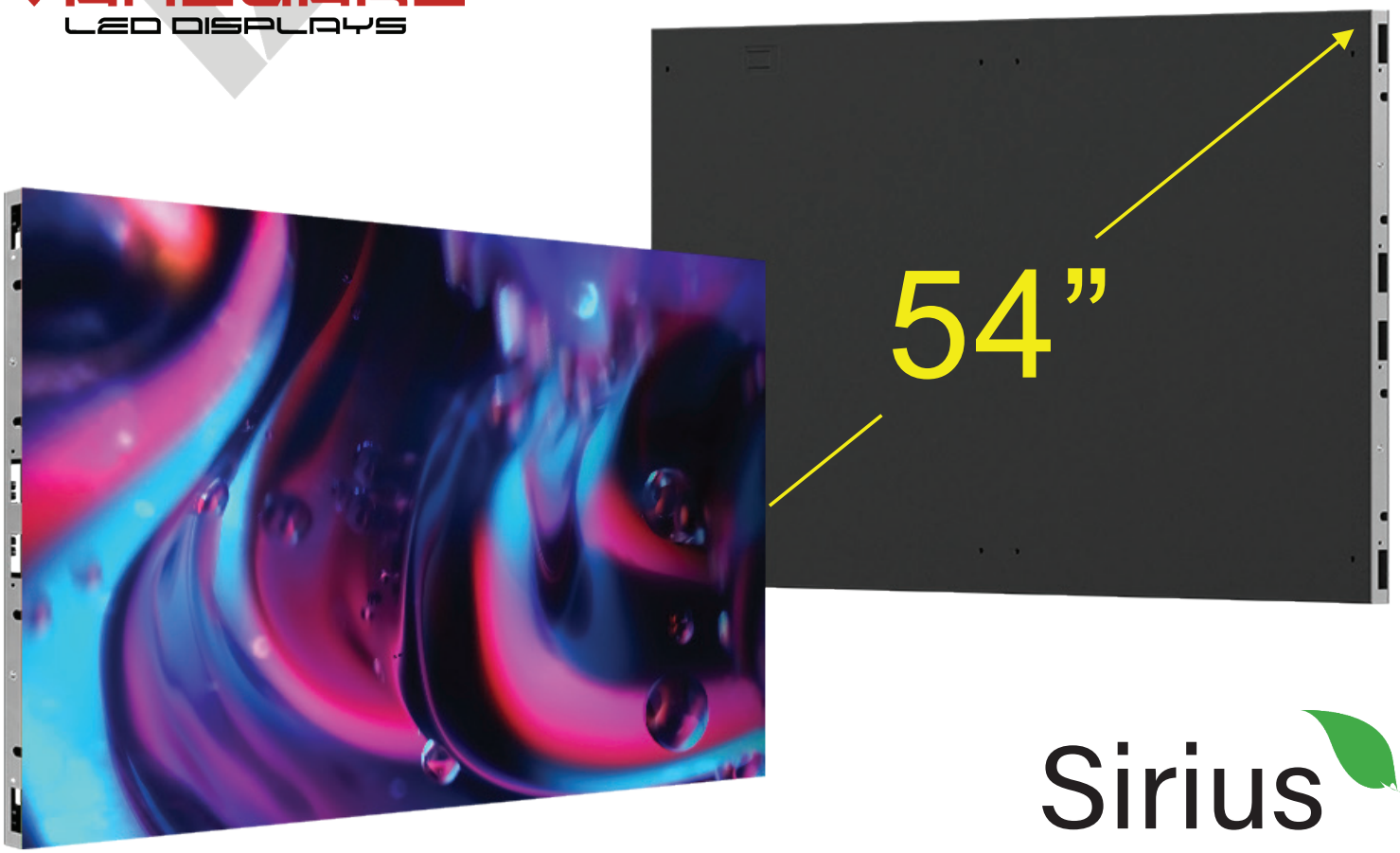
series name		
maximum brightness (nits)		up to 1,000
dimensions	WIDTH	600 mm (23.6 in)
	HEIGHT	337.5 mm (13.3 in)
	DEPTH	28 mm (1.1 in)
panel aspect ratio		16:9
panel weight		4.69 mm (10.3 in)
modules per panel		up to 8 per panel
viewing angle	HORIZONTAL	170°
	VERTICAL	170°
led lifetime* (hrs)		100,000
contrast		20,000:1
drivers		ICN1069, XM11202
scan rate		1/32, 1/40, 1/48
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		95%-97%

bonding wire	Flip-chip
power common	Cathode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	15
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 275.63 BTU/hr
humidity	10% - 80%, non-condensing
ip rating	IP41
frame material	Die-cast Aluminium
hanging and stacking	no hanging | 30 stacking max
rear bolt threading	M8
power connectors	custom
data connectors	RJ45
service access	Front
warranty	5 year (up to 7 available)
certifications	EMC-A, CCC, FCC, ETL, LVD, CE, RoHS, CB

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS



Sirius

pitch	0.9	1.2	1.5	1.8	2.5	3.7
pixel tech	SMD	SMD	SMD	SMD	SMD	SMD

Scan for a digital copy!

ideal for

Large, indoor 16:9 and 32:9 displays

summary

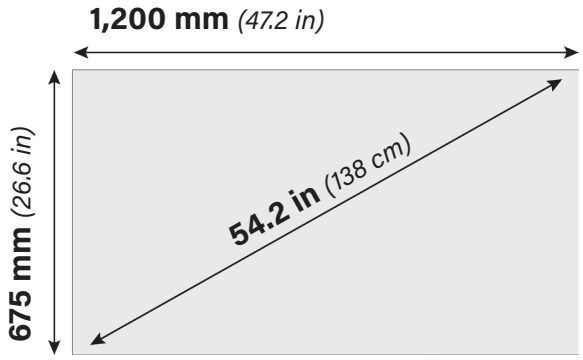
The Sirius series features a 54 inch diagonal panel, exactly double the width and height of the popular 600 x 337.5mm panel size present on Axion and Invictus panels. Paired with the most applicable pitches, Sirius can create the **same displays as average 27-inch panels, but with a quarter of the panels.**

The Sirius frame includes VESA mounting points to enable a broad set of compatible mounting solutions.

special configurations

TRA CLASS compliant configuration

dimensions



aspect ratio
16:9

weight
17.5 kg (38.6 lbs)

max brightness
1,000 nits

IP rating
IP41

optional

- Protective epoxy masking or coating
- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- Connecting plates
- Mobile cart, up to 6x6 panel array
- Flight cases
- Hydrophobic treatment
- Remote AC>DC power conversion

16:9 PANELS Indoor, fixed installation

series name	**Sirius (SI)**
maximum brightness (nits)	up to 1,000
dimensions WIDTH	1200 mm (47.2 in)
HEIGHT	675 mm (26.6 in)
DEPTH	28 mm (1.1 in)
panel aspect ratio	16:9
panel weight	17.5 mm (38.6 in)
modules per panel	up to 16 per panel
viewing angle HORIZONTAL	160°
VERTICAL	160°
led lifetime* (hrs)	100,000
contrast	up to 6,000:1
drivers	ICN 2153, ICN1069
scan rate	1/30, 1/60
processing depth (bits)	14 default (10-16 range)
refresh rate (hz)	3,840 default (3840-7680 range)
frame rate	60 default (50, 60, 120 options)
color temperature	7,500 default (2000-12000 range)
color gamut	N/A

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	20
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 1118.12 BTU/hr
humidity	10% - 80%, non-condensing
ip rating	IP41
frame material	Die-cast Aluminium
hanging and stacking	no hanging | 30 stacking max
rear bolt threading	M8
power connectors	FD20-M/FD20-F
data connectors	RJ45
service access	Front
warranty	3 year (up to 5 available)
certifications	EMC-A, CCC, FCC, ETL, LVD, CE, RoHS, CB

supported controllers

Vanguard LED Displays 1G 5G | NovaStar 1G 5G | Brompton Technology 1G 5G

VANGUARD LED DISPLAYS

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LA series

16:9 PANELS Indoor, fixed installation

pitch

pixel tech

1.2	1.5	1.8	2.5
SMD	SMD	SMD	SMD

ideal for

LCD videowall replacement

summary

The LA series by Vanguard is a purpose-built replacement for existing LCD videowalls.

Featuring three panel sizes at **43”**, **55”**, and **65”** diagonal, LA series is likely to be a **perfect swap-out solution** to get rid of the heavy grid and drifting uniformity which plague LCD technology.

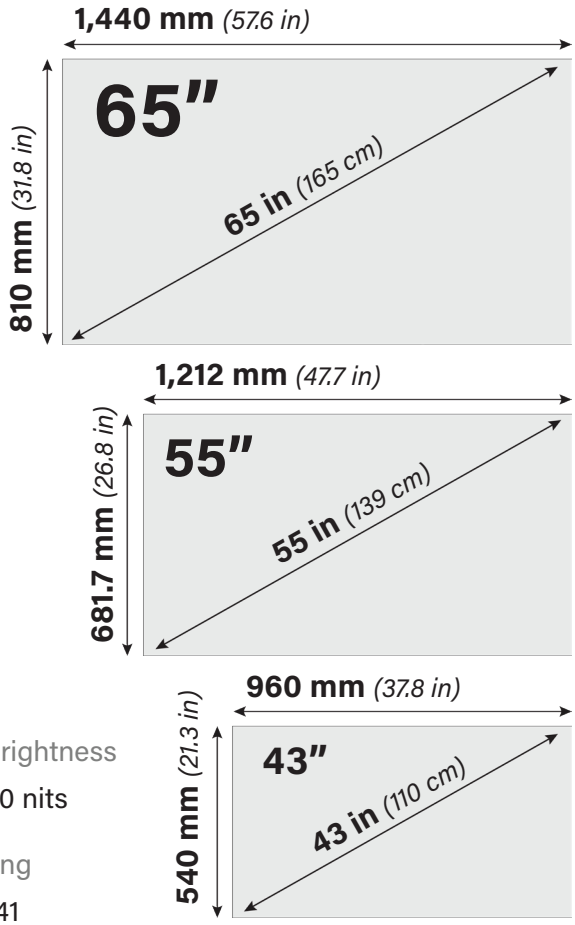
LA series panels **support VESA** mounting so the new technology can directly replace LCD monitors on the same VESA mounts. **Integrate the controller to one of the panels to use existing video cabling too**!

special configurations

TAA CLASS compliant configuration

SHINE high-bright configuration

dimensions



max brightness

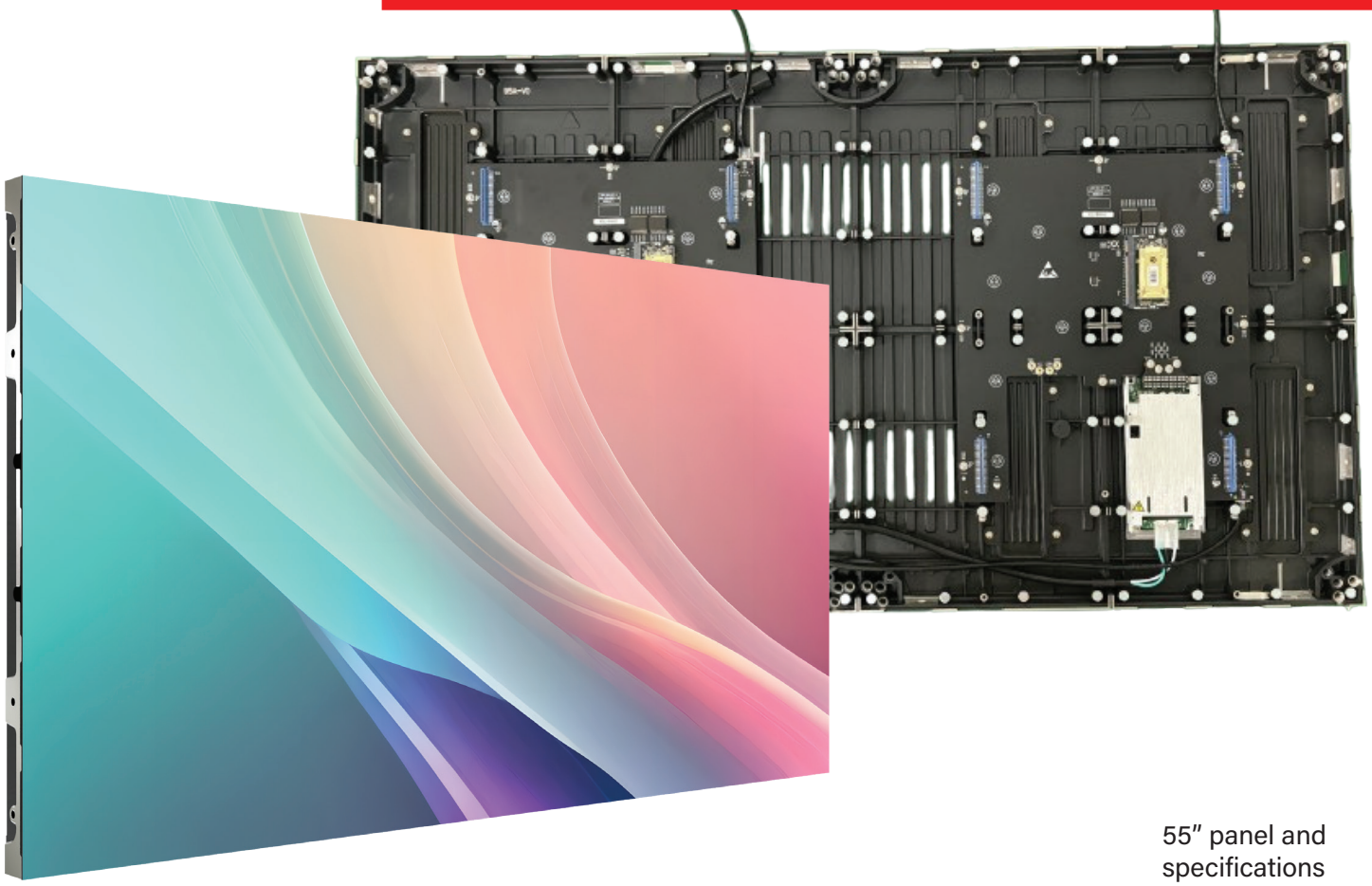
600 nits

IP rating

IP41

optional

- Protective epoxy masking or coating
- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- MIP-High Bright pixels at select pitches
- Connecting plates
- Footers for stacking
- Embeddable controller
- Mobile cart
- Flight cases
- Hydrophobic treatment



55″ panel and specifications shown

LA 55" (LM)

series name		
maximum brightness (nits)		up to 600
dimensions	WIDTH	1212 mm (47.7 in)
	HEIGHT	681.75 mm (26.8 in)
	DEPTH	40 mm (1.6 in)
panel aspect ratio		16:9
panel weight		15 mm (33.1 in)
modules per panel		8 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		100,000
contrast		6,000:1
drivers		ICN 2153
scan rate		1/54, 1/60
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		N/A

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 1006.41 BTU/hr
humidity	10% - 80%, non-condensing
ip rating	IP41
frame material	Die-cast Aluminium
hanging and stacking	no hanging | 30 stacking max
rear bolt threading	M8
power connectors	C13/C14
data connectors	RJ45
service access	Front
warranty	3 year (up to 5 available)
certifications	EMC-0

supported controllers

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VANGUARD
LED DISPLAYS

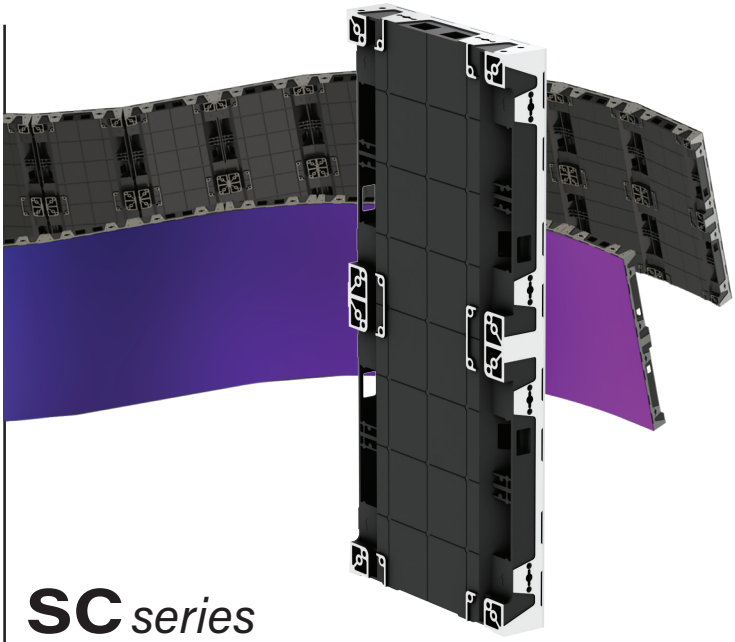
FREEFORM Indoor, fixed installation

Unique shapes and aspect ratios

Non-flat displays

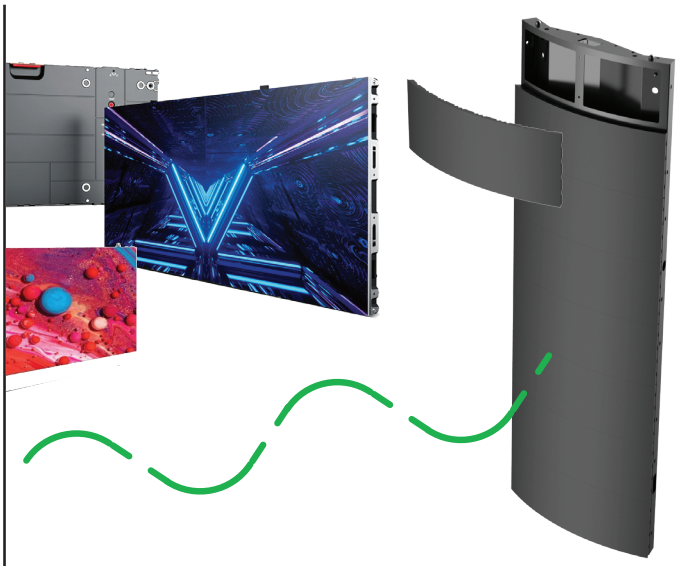
Floor displays

FREEFORM Indoor, fixed installation



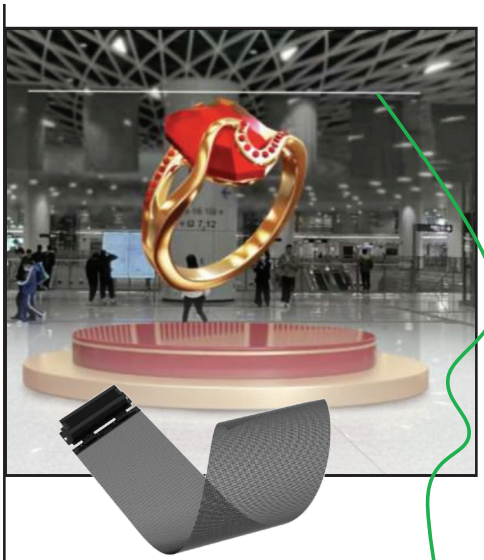
SC *series*

- Configurable smooth curving displays
- **Concave**, **convex**, or **flat**
- Fine-pitch down to **1.25mm**
- Single frame size and module size
- Configurable as true **16:9**, **2K**, **4K**, and more



Zirconium *series*

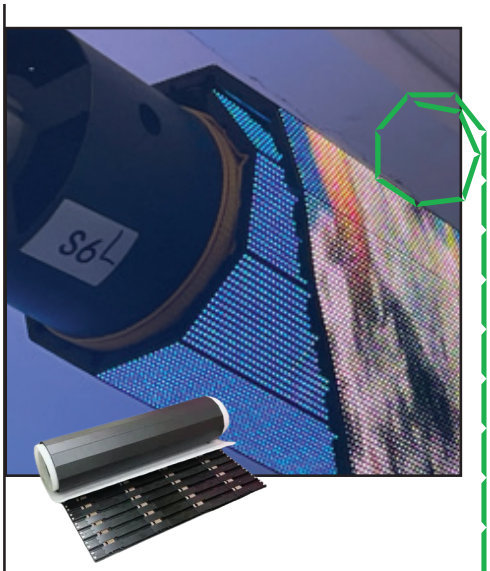
- Design in **250mm** units
- Curving Zirconium up to **30° concave**, **45° convex**
- Create a display with mixed flat and curved sections



Houdini *series*

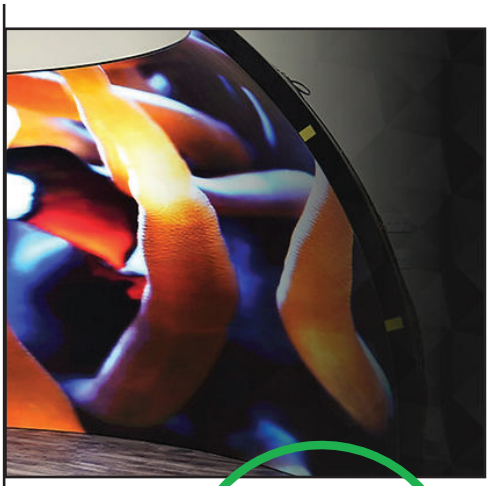
Invisible curtain

- Up to **5000 nits**
- Up to **90% transparency**
- **1.8mm total thickness**
- 2.5 – 6.3mm pitch range
- **Repairable** using same technique as standard SMD



Sidewinder *series*

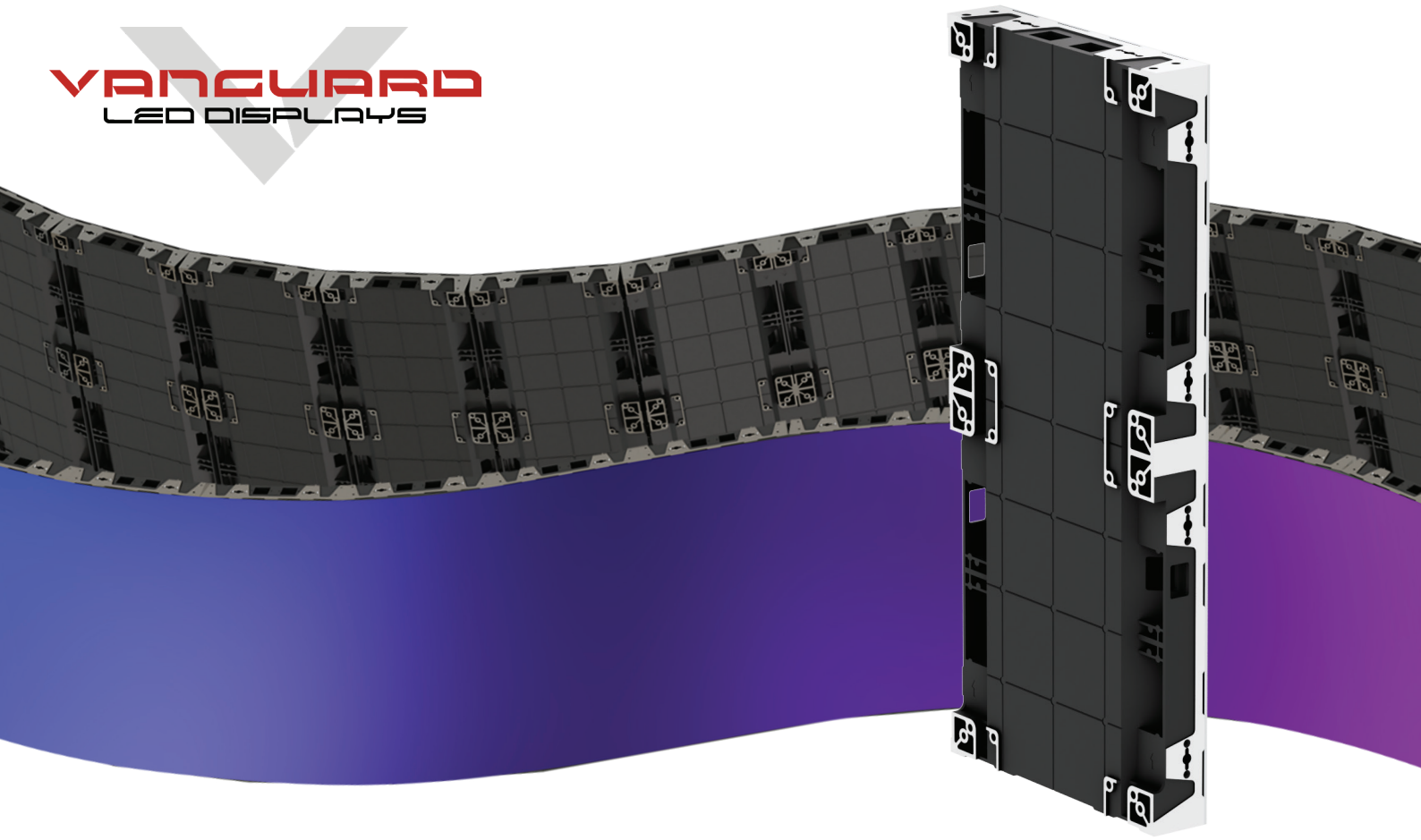
- **Rolling gate** and portable hanging display options (up to 10M x 10M)
- Design in **250mm** units
- **13mm** thick floor solution



Cerium *series*

- **Cylinder** or **dome**
- Ideal for **simulation**
- Up to **360°** field of view
- **Configurable** size

VANGUARD LED DISPLAYS



SC series

pitch	1.2	1.5	1.8	2.5
pixel tech	SMD	SMD	SMD	SMD

FREEFORM Indoor, fixed installation

ideal for

Smooth, curving displays

summary

Creating faceted curves with flat panels will soon be a thing of the past. Introducing SC series, a leap forward in the evolution of curving fine-pitch LED. Design, installation, and service are made easier with a **single panel size** and **universal flexible modules**.

The SC panel has a 4:9 aspect ratio enabling a true 16:9 aspect ratio, which **can be configured to true FullHD 2K or UltraHD 4K** resolutions.

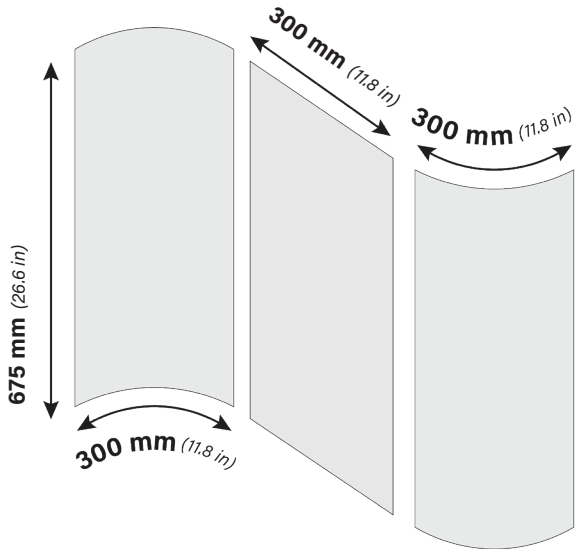
- Axion series, 1,920 x 1,080 px | 4x4, 1.2mm
- SC series, 1,920 x 1,080 px | 8x2, 1.2mm

special configurations

TAA CLASS compliant configuration

ECO CLASS low heat and power

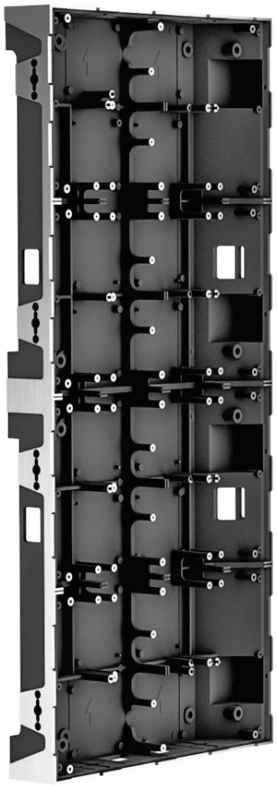
dimensions



aspect ratio	weight
4:9	7.7 kg (17 lbs)
max brightness	**IP rating**
800 nits	IP41

optional

- Protective epoxy masking or coating
- MIP - High-contrast pixels
- Cosmetic/protective edge trim
- Embeddable controller
- Mobile cart
- Flight cases
- Remote AC>DC power conversion



SC (SC)

series name		
maximum brightness (nits)		up to 800
dimensions	WIDTH	300 mm (11.8 in)
	HEIGHT	675 mm (26.6 in)
	DEPTH	58 mm (2.3 in)
panel aspect ratio		0.4:1
panel weight		5.8 mm (12.8 in)
modules per panel		4 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		100,000
contrast		6,000:1
drivers		ICN1065S
scan rate		1/30
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		N/A

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 274 BTU/hr
humidity	10% - 80%, non-condensing
ip rating	IP41
frame material	Die-cast Aluminium
hanging and stacking	15 hanging max | 30 stacking max
rear bolt threading	M8
power connectors	C13/C14
data connectors	RJ45
service access	Front
warranty	3 year (up to 5 available)
certifications	EMC-A, CCC, FCC, ETL, LVD, CE, RoHS

supported controllers

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VANGUARD LED DISPLAYS

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Zirconium

FREEFORM Indoor, fixed installation

pitch

pixel tech

1.9	2.6	3.1	3.9	5.2
SMD	SMD	SMD	SMD	SMD

ideal for

Unique shapes and non-standard aspect ratios

summary

Zirconium is a freeform series that enables **configuration in units of 250mm both vertically and horizontally**. Zirconium has three panel widths and two heights. Panel sizes are used dynamically to get extremely close to any target dimensions. All panels use the same, interchangeable modules.

Zirconium panels can be **edge-chamfered to 45 degrees** on either the left side, right side, or both. This allows Zirconium to make faceted convex curves or **outside 90-degree corners**.

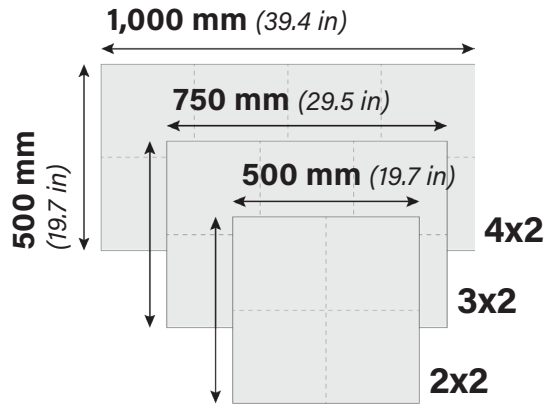
special configurations

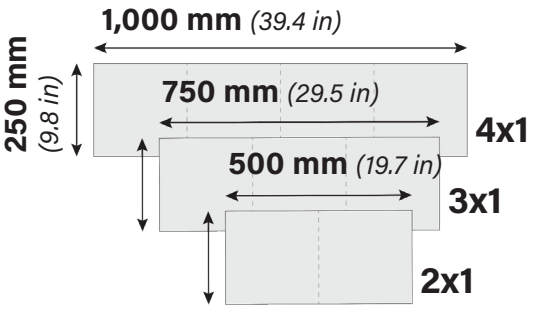
XR CLASS broadcast series

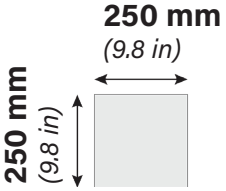
optional

- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- Connecting plates
- Reduced magnets for transit stations
- Dual receiving cards for data redundancy
- Hydrophobic treatment
- Flight cases

panel dimensions



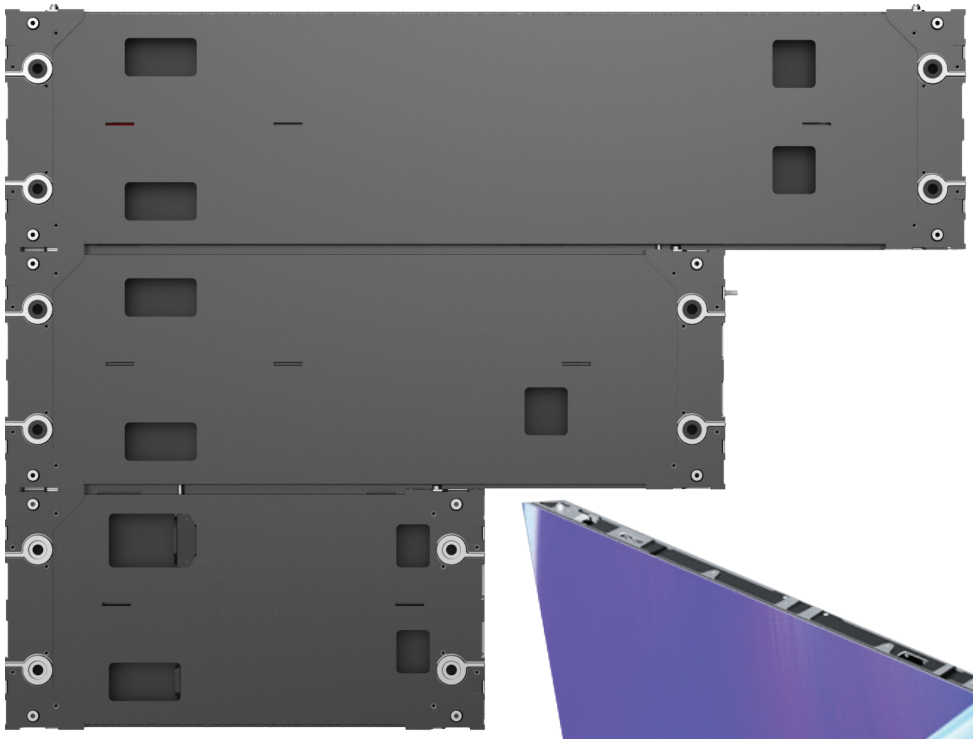


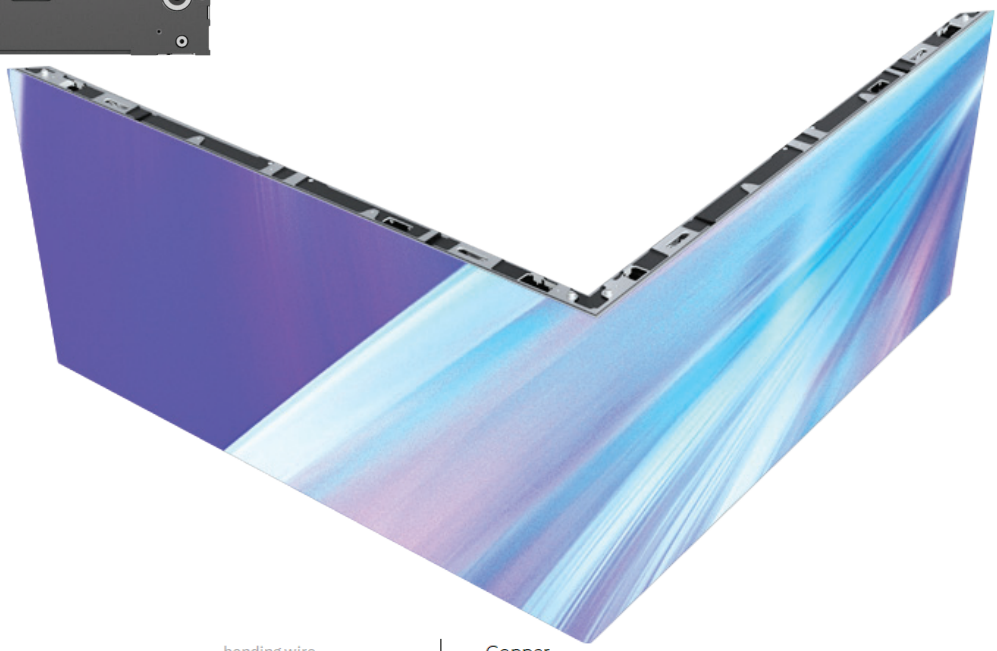


UNIVERSAL MODULES

IP rating
IP30

max brightness
1,000 nits





Zirconium (ZR)

series name	
maximum brightness (nits)	up to 1,000
dimensions WIDTH	1000 mm (39.4 in)
HEIGHT	up to 500 mm (19.7 in)
DEPTH	42 mm (1.7 in)
panel aspect ratio	2:1, 4:1
panel weight	up to 11 mm (24.3 in)
modules per panel	up to 8 per panel
viewing angle HORIZONTAL	160°
VERTICAL	160°
led lifetime* (hrs)	120
contrast	8,000:1
drivers	ICN2055, ICN2150, ICN2165
scan rate	1/32, 1/64
processing depth (bits)	14 default (10-16 range)
refresh rate (hz)	3,840 default (3840-7680 range)
frame rate	60 default (50, 60, 120 options)
color temperature	7,500 default (2000-12000 range)
color gamut	2.8

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 988.9 BTU/hr
humidity	10% - 90%, non-condensing
ip rating	IP30
frame material	Die-cast Aluminium
hanging and stacking	no hanging | no stacking
rear bolt threading	M6
power connectors	C13/C14
data connectors	RJ45
service access	Front
warranty	3 year (up to 5 available)
certifications	EMC-B, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

Vanguard LED Display 1G 5G | NovaStar 1G 5G | Brompton Technology 1G 5G

VANGUARD LED DISPLAYS

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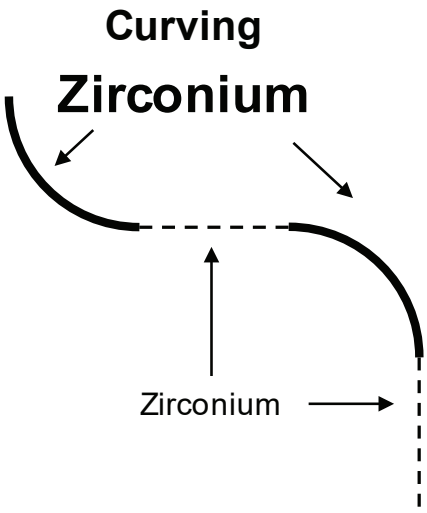
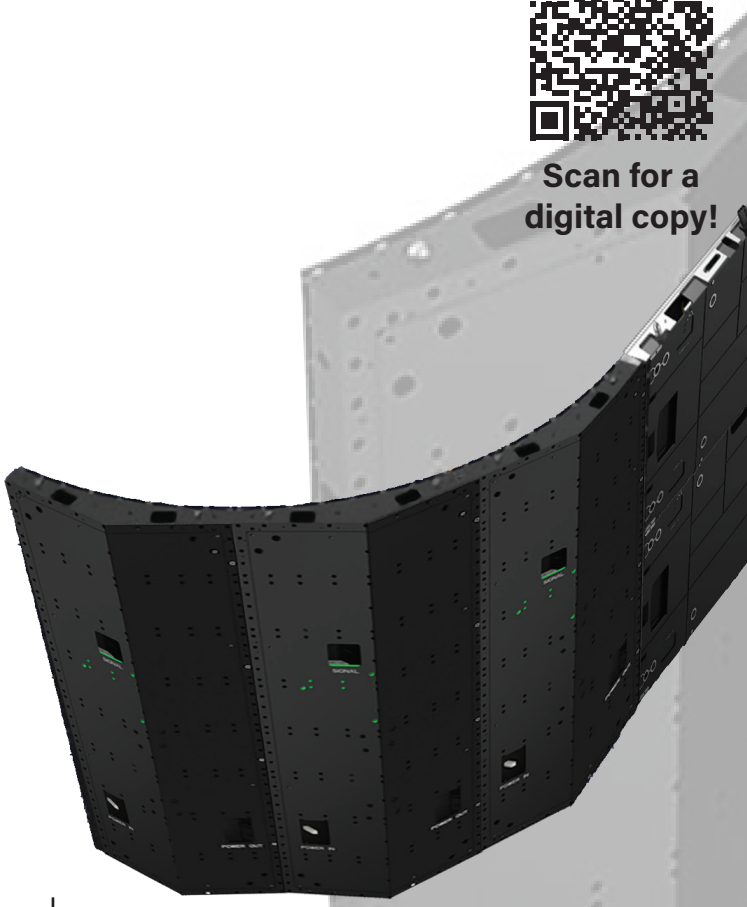




curving

Zirconium

pitch

pixel tech

1.5	1.9	2.6	3.9
SMD	SMD	SMD	SMD

ideal for

Freeform and curving displays

summary

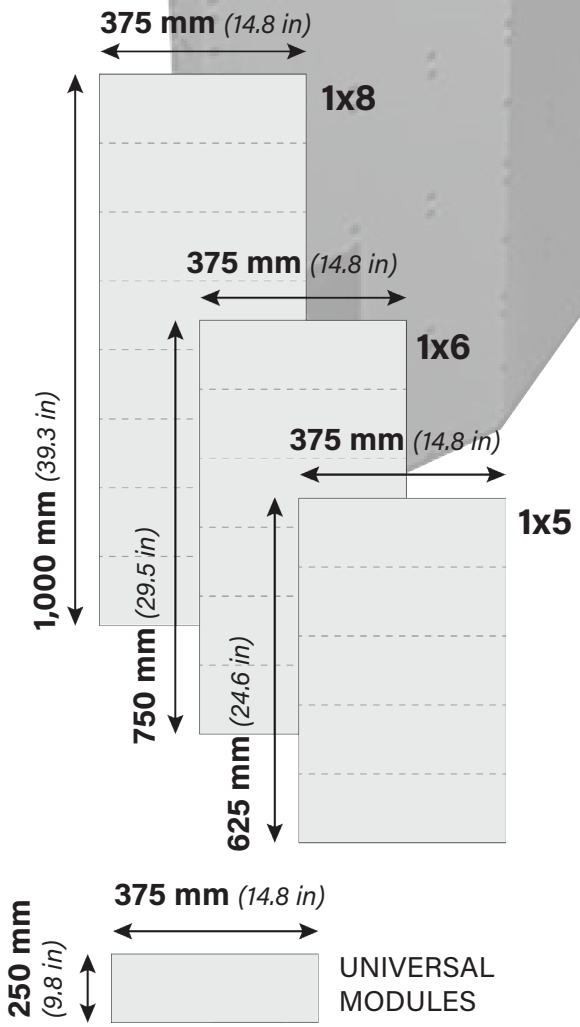
Zirconium series includes a set of **curved-face panels**. Curving Zirconium can be used exclusively if a display has no flat faces, or it can be used in combination with Zirconium to **create both flat and curved surfaces within the same display**.

Curving Zirconium panels are manufactured to the **exact angle needed** for the display, and each panel can **create up to a 90° curve, concave or convex**, in 375mm.

optional

- Cosmetic/protective edge trim
- 45-degree edges for corner displays
- Connecting plates
- Flight cases
- Dual receiving cards for data redundancy
- Hydrophobic treatment
- Reduced magnets for transit stations

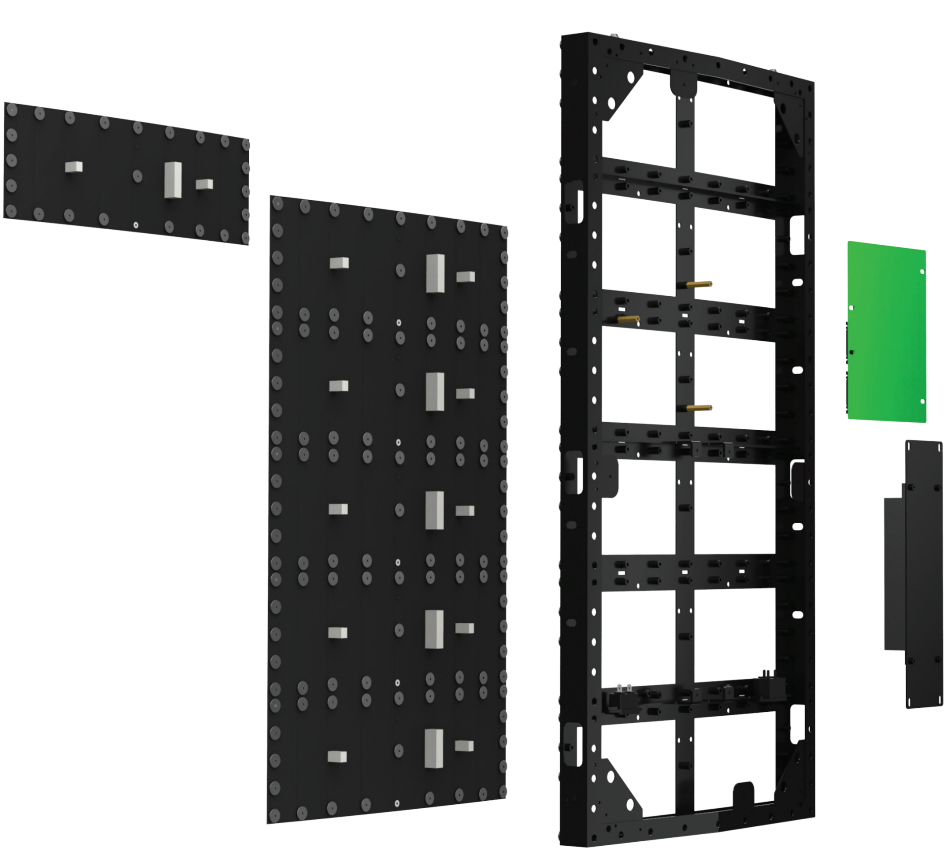
panel dimensions



max brightness
1,000 nits

IP rating
IP30

FREEFORM Indoor, fixed installation



Zirconium Curving (ZC)

series name		
maximum brightness (nits)		up to 1,000
dimensions	WIDTH	375 mm (14.8 in)
	HEIGHT	up to 1000 mm (39.4 in)
	DEPTH	42 mm (1.7 in)
panel aspect ratio		0.4:1, 0.5:1
panel weight		up to 9.5 mm (20.9 in)
modules per panel		up to 8 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		120
contrast		8,000:1
drivers		ICN2055, ICN2150, ICN2165
scan rate		1/32, 1/64
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		2.8

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 741.68 BTU/hr
humidity	10% - 90%, non-condensing
ip rating	IP30
frame material	Die-cast Aluminium
hanging and stacking	no hanging | no stacking
rear bolt threading	M6
power connectors	C13/C14
data connectors	RJ45
service access	Front
warranty	3 year (up to 5 available)
certifications	EMC-B, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS

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max brightness

600 nits

IP rating

IP63 (IP21 rear)

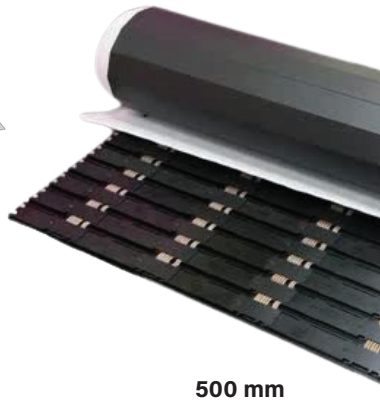
weight

15 kg/square meter

3 lbs/square foot

Sidewinder

pitch	0.7	0.9	1.2	1.5	1.9	2.6	3.9
pixel tech	SMD	SMD	SMD	SMD	SMD	SMD	SMD



FREEFORM Indoor, fixed installation

ideal for

Mobile or fixed hanging, rolling gate, floor

summary

Sidewinder is the innovative application to bring LED where it has never gone before. Featuring **roll-able panels** which are only **13mm thick** in total, Sidewinder panels are comprised of slats. Each slat is only 62.5mm tall, and slats are **hinged at the face**. Panels are combined to produce displays of every size and need.

Sidewinder panels come standard with a **protective epoxy coating**, making it the fine-pitch, high-durability display you can trust. Sidewinder supports several unique applications, including a **rolling gate** which turns a blocked pathway into a rich and immersive display.

special configurations

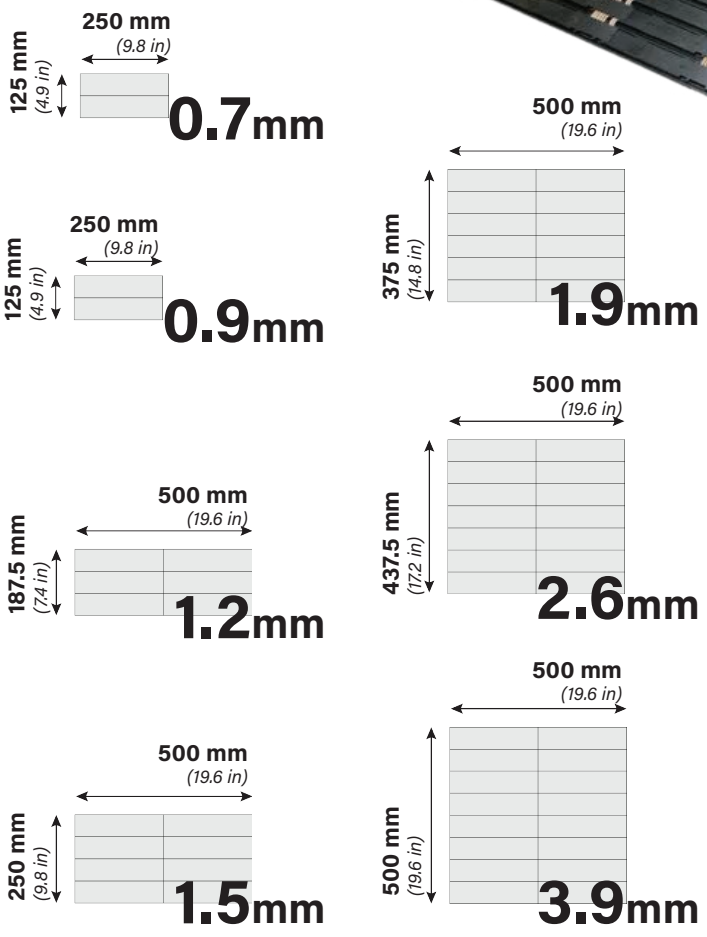
SHINE high-bright configuration

XR CLASS broadcast series

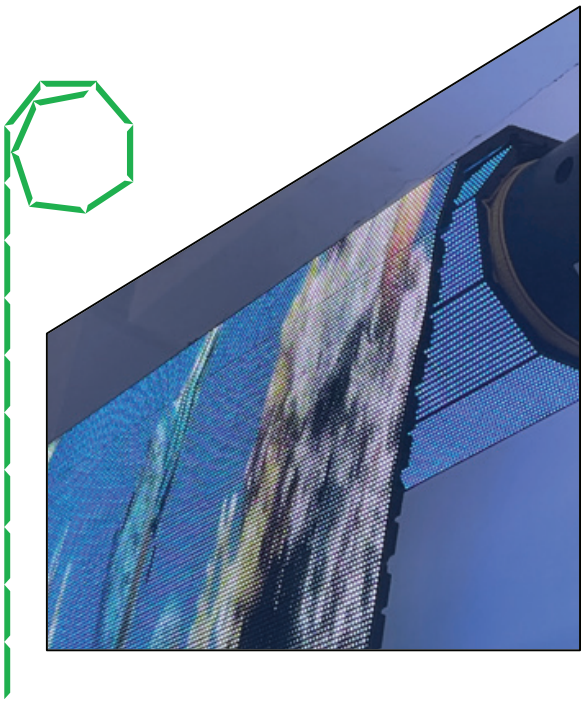
optional

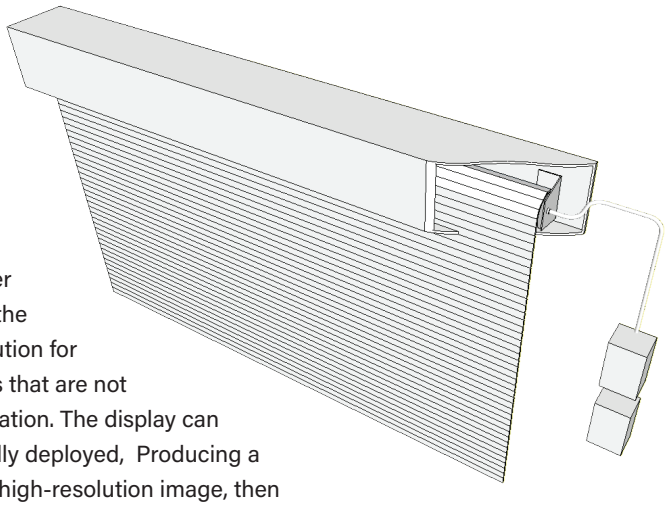
- Motorized spool with housing
- Headers for static hanging *(non-motorized)*
- Wall-mount trim/frame
- Flight cases
- Floor edge trim

dimensions



rolling gate



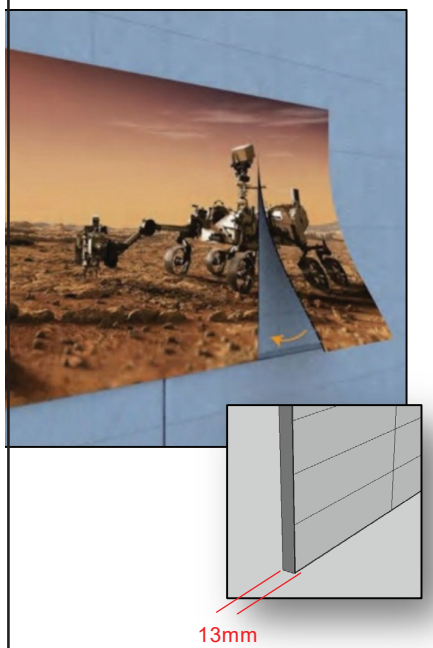


The Sidewinder rolling gate is the innovative solution for public displays that are not always in operation. The display can be electronically deployed, Producing a seamless and high-resolution image, then stored safely when inactive. The rolling gate can be configured up to a maximum width and/or height of 10 meters. The top of the image can be set at any height using blank frames with a cover.

Featuring an impressive durability with a GOB epoxy protective coating, Sidewinder rolling gates can create a display at the entrance of a closed store or to replace the function which used to be filled with projectors and motorized screens.

Rich with all the value of direct-view LED, Sidewinder rolling gates can be used for several applications where you don't want to see the display when it is inactive.

attach to a wall

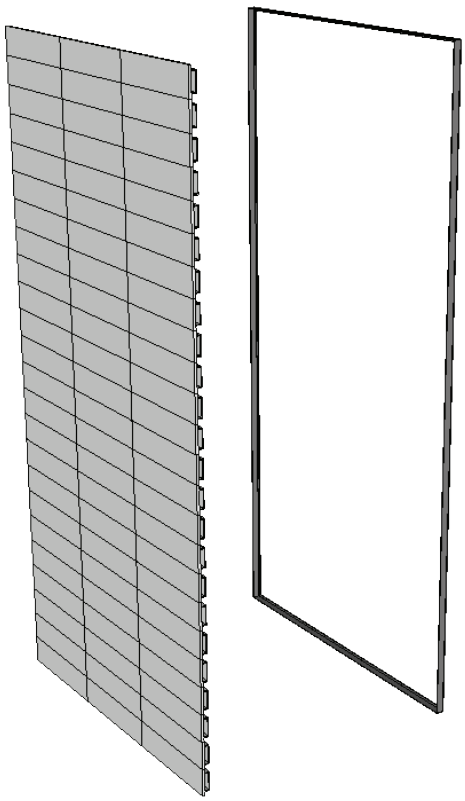


When you want to put a display on the wall with the slimmest profile possible, Sidewinder is the way to go.

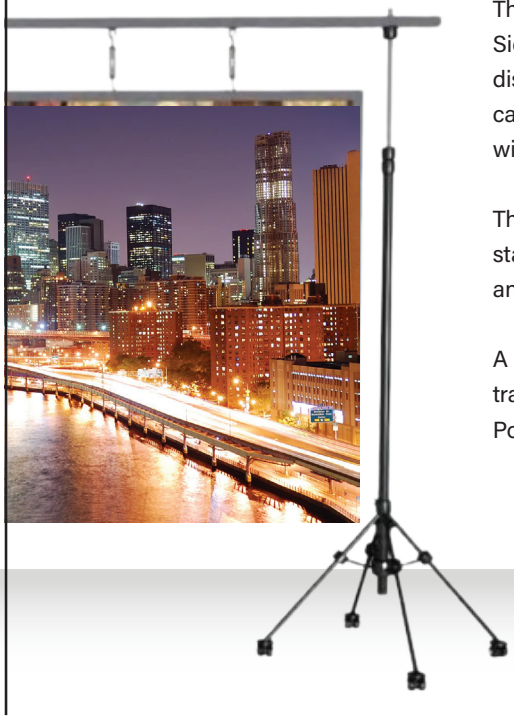
With no need for an expensive and thick wall-mount system, Sidewinder is held into a sleek and thin magnetic frame.

Sidewinder rolls lay flat on the wall. With a total dept of 13mm, Sidewinder is entirely ADA compliant without needing to be recessed into the wall.

A highly-convenient and easy to install solution, Sidewinder can quickly transform any wall into a beautiful digital landscape.



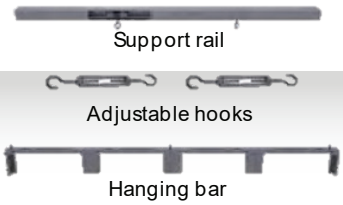
collapsing display



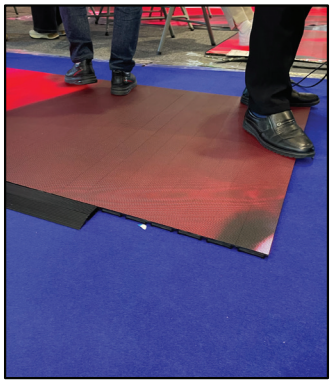
The Sidewinder portable display combines the storage and transportation convenience of Sidewinder rolls with the needs for portable displays. Unlike other mobile direct-view LED displays, Sidewinder quickly disassembles into rolls which are then easily packed into a special case. The collapsing display can be configured to a desired size up to a maximum height and/or width of 10 meters.

The system includes hanging bars the hanging rail and can be paired with any standard speaker stands. Including a Novastar TU20, the system has an onscreen interface which is controller with an included remote control.

A dvLED display you can put in your truck, the Sidewinder portable display is handled and transported as light-weight rolls. Setup and strike are quick and painless, making the Sidewinder Portable Display a solution you can easily take with you on the go!



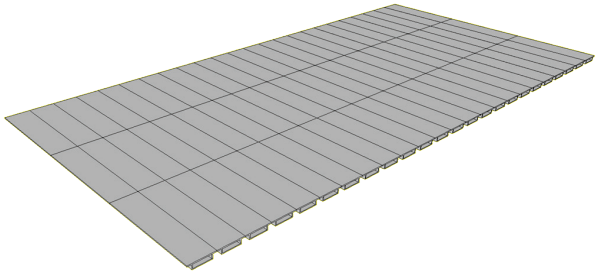
super-thin floor

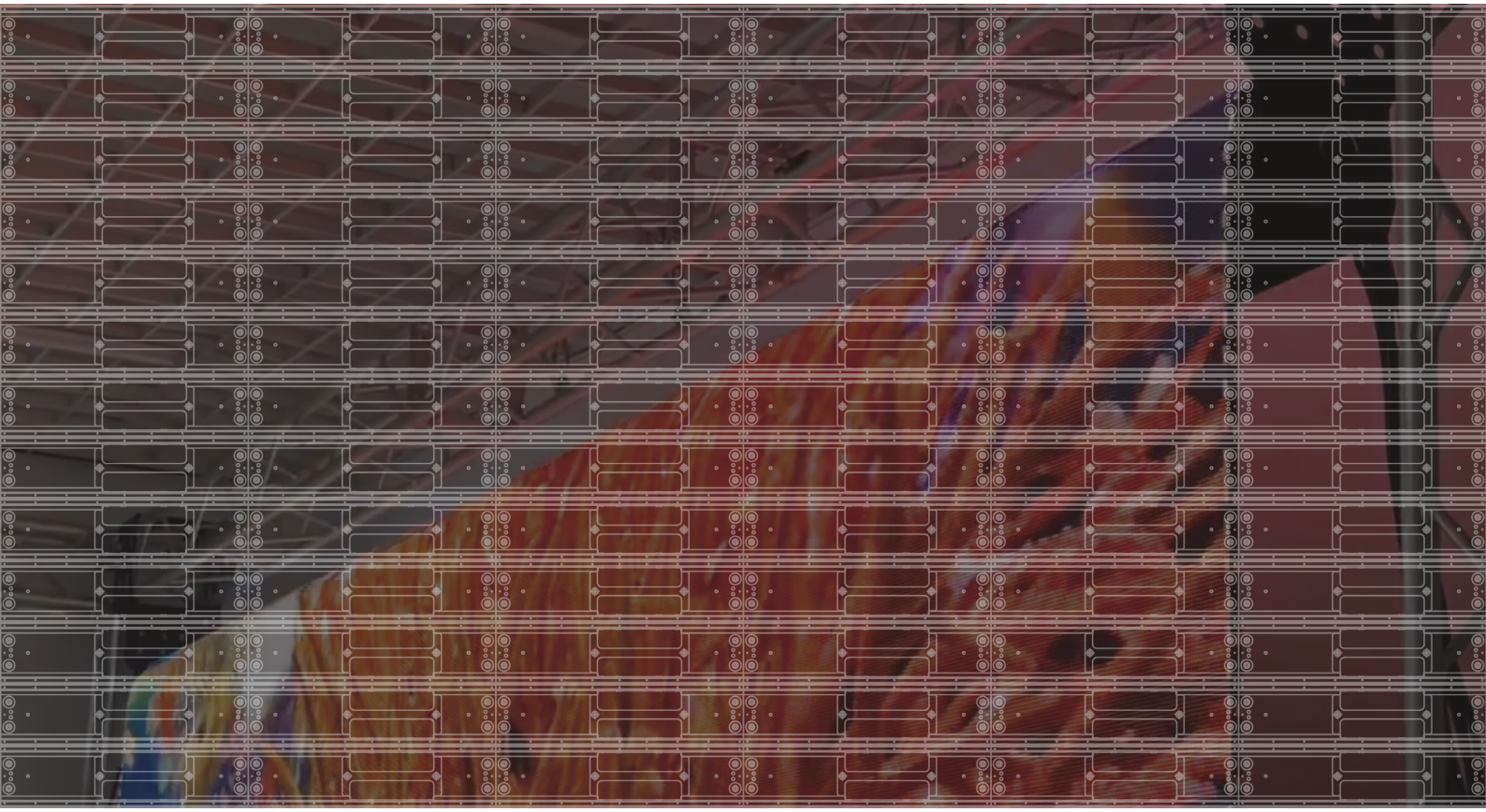


Create a stunning visual effect for audiences with an LED floor. With a total depth of only 13mm, the Sidewinder floor is the thinnest direct-view LED floor solution on the market. Display high-definition video using a product that lays on the floor like a rug. With a tightest pitch of 0.78mm, any viewing distance can be considered.

Sidewinder floors can be easily placed and moved, requiring very little effort for installation and causing almost no disruption to any active space.

With modules featuring a steel internal structure, Sidewinder floors can support the weight of a car making it an exciting prospect for any space.





Sidewinder (SW)

series name	
maximum brightness (nits)	up to 800
dimensions WIDTH	up to 500 mm (19.7 in)
HEIGHT	up to 500 mm (19.7 in)
DEPTH	13 mm (0.5 in)
panel aspect ratio	1.1:1, 1:1, 2.7:1, 2:1, 4:3
panel weight	up to 3.88 mm (8.6 in)
modules per panel	up to 8 per panel
viewing angle HORIZONTAL	140/
VERTICAL	/140
led lifetime* (hrs)	100,000
contrast	5,000:1
drivers	ICN 1065s, ICN2076, ICN2260
scan rate	1/24, 1/32, 1/40, 1/50, 1/64, 1/80
processing depth (bits)	14 default (10-16 range)
refresh rate (hz)	3,840 default (3840-7680 range)
frame rate	60 default (50, 60, 120 options)
color temperature	7,500 default (2000-12000 range)
color gamut	N/A

bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	4.7
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-10°C - +40°C
maximum heat	up to 1304 BTU/hr
humidity	10% - 60%, non-condensing
ip rating	IP63/IP21
frame material	Die-cast Aluminium
hanging and stacking	no hanging | no stacking
rear bolt threading	M1x4
power connectors	XT90
data connectors	RJ45
service access	Rear
warranty	3 year (up to 5 available)
certifications	EMC-B, CCC, FCC, LVD, CE, RoHS, UKCA, BIS, PSE

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS

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Invisible curtain with a high resolution and vibrant display

Houdini

Invisible curtain

FREEFORM Indoor, fixed installation

pitch	2.5	3.9	6.3
pixel tech	SMD	SMD	SMD

ideal for

Transparent hanging or window-mounted displays

summary

Vanguard's Houdini represents the next-generation of transparent LED display. With pitches from **2.5 up to 6.3mm**, Houdini is suitable for viewers near and far. Each pixel contains its own driver so there is no scan rate and no refresh rate!

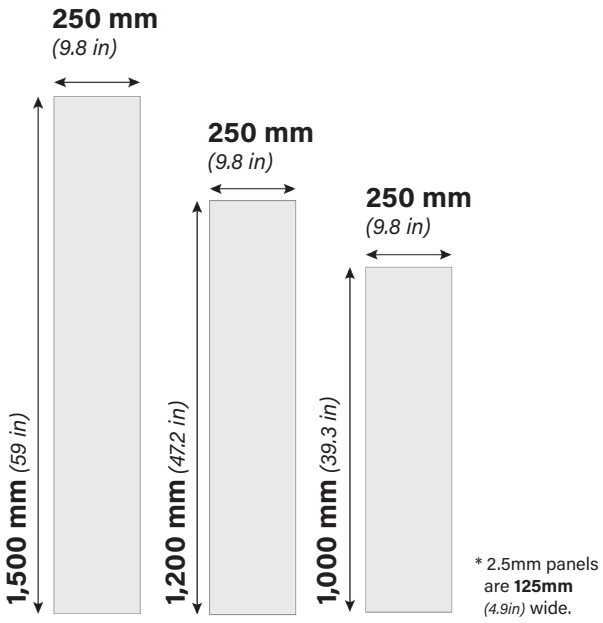
Featuring a soft and flexible **fiberglass PCB**, Houdini panels can be hung or adhered to either side of glass. With up to **90% rated transparency** and no rear supporting structure, Houdini is nearly invisible from behind and allows clear visibility through the display.

Panels can interlock using **invisible splicing** and can be **trimmed to exact size** and so displays can be configured to completely fill almost any size space. With up to **5000 nit maximum brightness**, Houdini is ideal for exterior facing windows.

optional

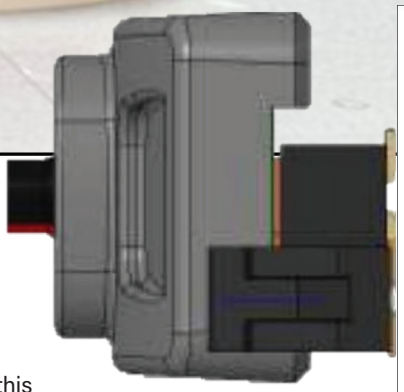
- Vertical or horizontal mounting
- Rear adhesive *(for front of glass mounting)*
- Front adhesive *(for behind glass mounting)*

dimensions



* 2.5mm panels are **125mm** *(4.9in)* wide.

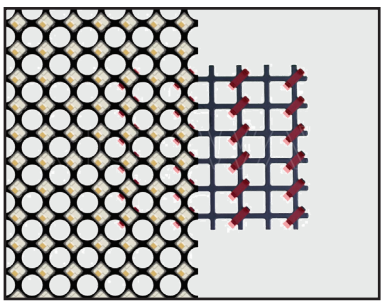
max brightness	IP rating
5,000 nits	IP20



hanging

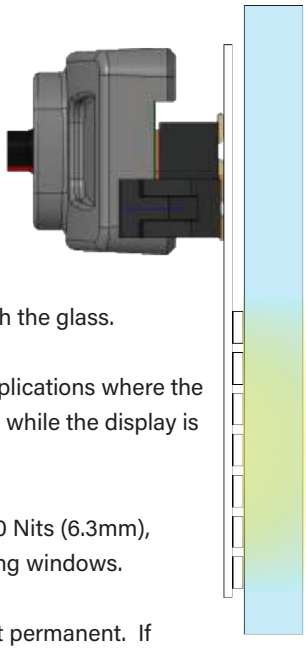
Houdini can be hung and displayed without being mounted to glass. In this application air can pass freely through the display.

Configure a visually stunning open-air display with all the richness of a standard LED display. When configured for hanging, displays can either be a maximum of 3 meters wide or 3 meters tall with no structure of any kind behind the pixels.!



Houdini panels are spliced together using a special connection piece which does not interfere with the transparency of the display. When installed, the splices are nearly invisible, unless viewed from behind the display and only at certain angles.

behind glass



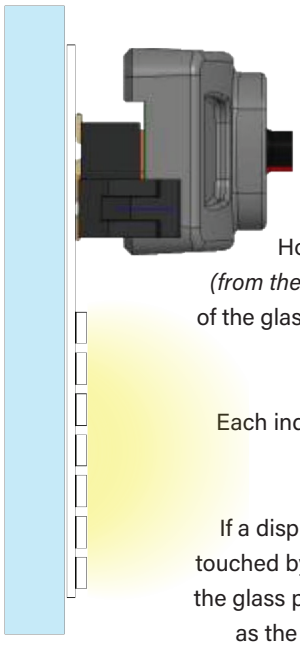
Houdini modules can be directly adhered to the back side of the glass, with the LEDs shining through the glass.

This application is ideal for retail applications where the display is physically inside the store while the display is only visible from outside.

With a maximum brightness of 5000 Nits (6.3mm), Houdini works well for exterior-facing windows.

The film adhesion to the glass is not permanent. If module repair is needed, individual modules can be removed, serviced, and re-installed.

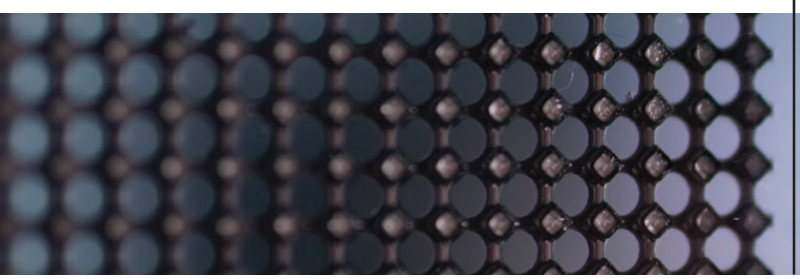
in front of glass

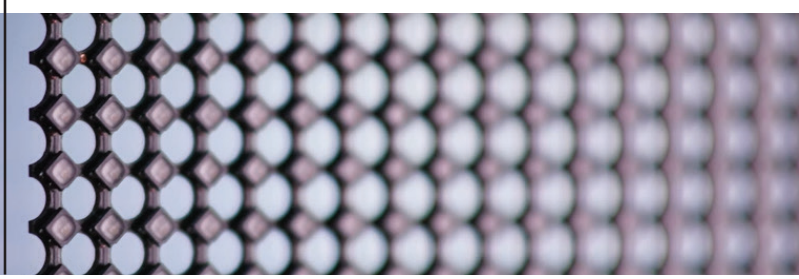


Houdini modules can also be adhered *(from the rear of the module)* to the front side of the glass, having the LEDs shine away from the glass.

Each individual Houdini model has a unique transparency level.

If a display cannot be directly accessed and touched by the public, installing on the face of the glass produces wider clear viewing angles as the audience is not looking through the depth of the glass to see the image.





The above image shows Houdini mounted behind glass (LEFT) and in front of glass (RIGHT).

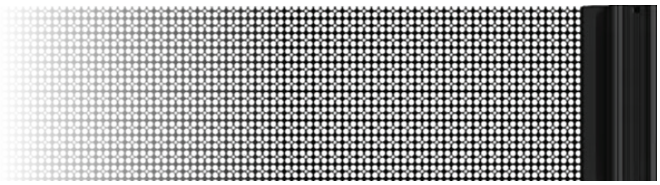
panel configurations

	2.5mm	3.9mm	6.3mm
transparency	70%	80%	90%
max brightness	1200 Nits	3000 Nits	5000 Nits
width	125 mm	250 mm	250 mm
height	1000 mm	1000 mm	1175 mm

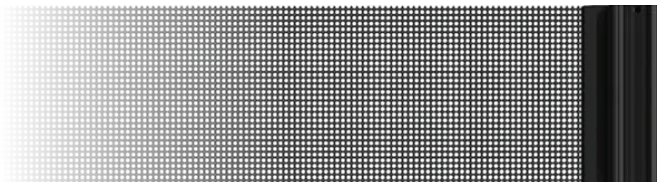
general specifications

LED half-life*	100,000 Hours
refresh rate	**No refresh rate, static drive integrated IC**
frame rate	50, 60, 120 Hz
color temperature	6,500K default (3,000 – 9,000 K range)
processing depth	Up to16 Bit
scan rate	**No scan rate, static drive integrated IC**
temperatures	-20°C - +50°C operating
operating humidity	20% - 85% RH, non-condensing
maximum watts	1,000 W / SqM
operating voltage	100-240V AC, 50/60 Hz
maximum heat	3,410 BTU/hr / SqM
ip rating	IP20
service access	Front and rear
warranty	5-year default (up to 7-year available)
certifications	EMC, ISO, CCC, ICC, CB, FCC, CE, ETL, RoHS

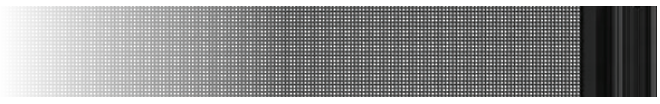
6.3mm



3.9mm



2.5mm



Houdini panels can be cut to the exact length to perfectly fit most applications.

supported controllers

Vanguard 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS

Scan for a digital copy!

Elevate your training programs, empower your professionals, and redefine realism!

Cerium

FREEFORM Indoor, fixed installation

pitch 1.5

pixel tech SMD

ideal for

Immersive simulation display

summary

Cerium represents **the next evolution for simulation technology**. Taking a huge leap from a simple curved display, Cerium can create a cylinder, dome, globe, tunnel, or sphere as an **immersive space** which is ideal for flight, pilot, and driver simulation.

Cerium creates a **seamless display** in a shape which only projection can achieve, but without the edge blending or vulnerability to ambient light or light paths. Cerium displays include a rugged Epoxy Coating (GOB) treatment for advanced pixel protection.

special configurations

TAA CLASS compliant configuration

applications

- Military
- Maritime
- Helicopter
- Airplane
- Aerospace

diameters

- 2m (6.6ft)
- 2.5m (8.2ft)
- 3m (9.8ft)
- 3.5m (11.5ft)
- 4m (13.12ft)
- 5m (16.4ft)
- Custom

In the realm of **immersive** training experiences, the Cerium series simulation display stands as paragon of innovation and excellence. Whether it's aviation, healthcare, or military simulations, Cerium series simulation displays are the driving force behind creating life-like scenarios, enriching training environments, and ensuring optimal learning outcomes.

Cerium series simulation displays transform training from flat and dull to dynamic and immersive.

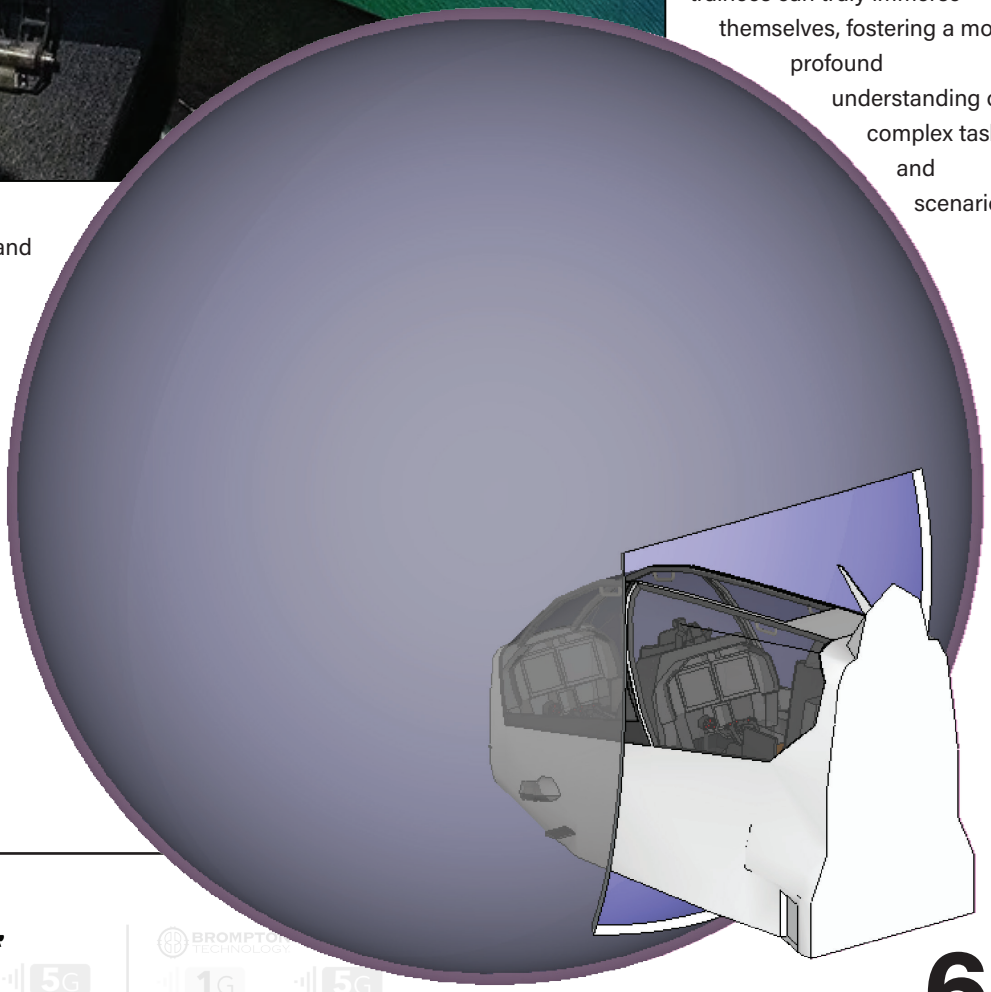
The displays boast **high resolution** and **advanced pixel technology** to ensure crystal-clear visuals that mimic real-world scenarios with exceptional detail. Advanced LED technology ensures vibrant colors, high contrast ratios, and a **seamless** viewing experience, capturing every nuance of the simulated environment.

Cerium series displays incorporate dynamic features such as **high refresh rates** and **low latency**, ensuring that movements and interactions in the simulation are rendered in real time.

This level of responsiveness creates an environment where trainees can truly immerse themselves, fostering a more profound understanding of complex tasks and scenarios.

With aviation's high-demands for precision and responsiveness, Cerium can be custom tailored for your solution and is compatible with various simulation software, providing seamless integration and compatibility fo an array oftraining applications.

Vanguard's Simulation LED Displays emerge as the unparalleled choice to meet the expectation where excellence is non-negotiable. Elevate your training programs, empower your professionals, and redefine realism with Vanguard's state-of-the-art displays.



supported controllers

Vanguard 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD
LED DISPLAYS

OUTDOOR Outdoor, fixed installation

62

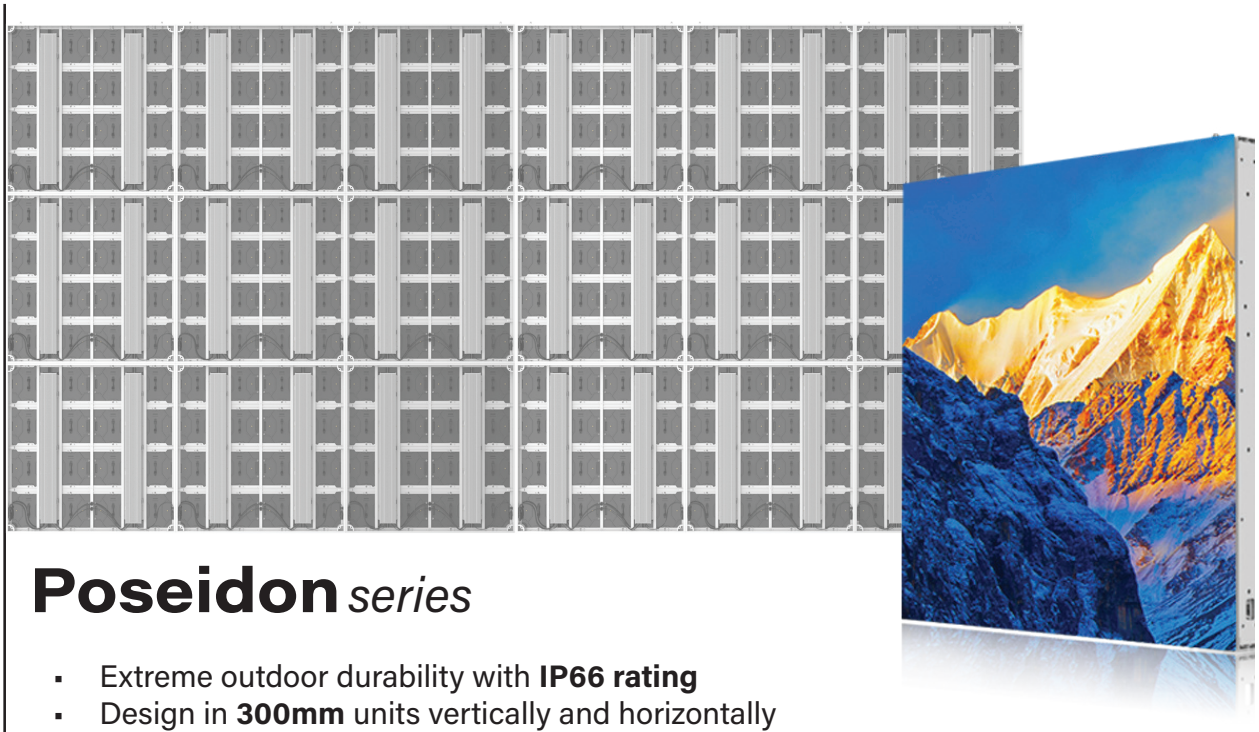
Displays which face direct sunlight

Displays exposed to weather

Displays in ocean or maritime environments

Einsteinium *series*

- As tight a pitch as **2.6mm** for fixed outdoor installation
- Design in **500 x 250mm** units
- **Sun-blocking** louvers



Poseidon *series*

- Extreme outdoor durability with **IP66 rating**
- Design in **300mm** units vertically and horizontally
- **Convex** and **outside corner** support

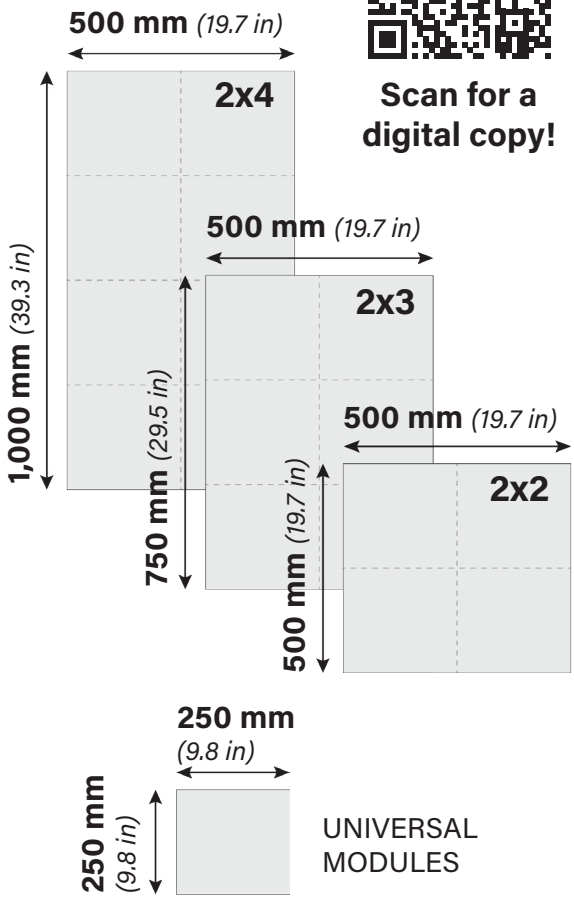
Einsteinium

pitch

2.6	2.9	3.9	4.8	5.9
SMD	SMD	SMD	SMD	SMD

pixel tech

dimensions



Scan for a digital copy!

ideal for

Outdoor, permanent installation

summary

Einsteinium series is a perfect fit for outdoor permanent installations. With **three cabinet height options**, displays and be easily configured with the width to the nearest half-meter (500 mm), and the height to the nearest quarter-meter (250 mm).

Einsteinium has a **fine pitch** range compared to most outdoor dvLED products, creating immersive non-reflective displays with a much closer recommended viewing distance.

UNIVERSAL MODULES

optional

- Protective epoxy masking or coating
- Left and.or right 45-degree edge for corners
- Connecting plates
- Flight cases
- Dual receiving cards for data redundancy
- Dual power suppliers for power redundancy

max brightness

6,000 nits

IP rating

IP65

OUTDOOR Outdoor, fixed installation

Einsteinium (ES)

series name		
maximum brightness (nits)		up to 5,000
dimensions	WIDTH	500 mm (19.7 in)
	HEIGHT	up to 1000 mm (39.4 in)
	DEPTH	up to 92 mm (3.6 in)
panel aspect ratio		0.5:1, 0.7:1, 1:1
panel weight		up to 16 mm (35.3 in)
modules per panel		up to 8 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		140
contrast		5,000:1
drivers		ICN
scan rate		
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		2.8
bonding wire		Copper
power common		Anode
watts per panel		132W max (46W average)
watts per sq m		650W max (228W average)
max amps per cascade		16
operating voltage		100-240V AC, 50/60 Hz
operating temperature		-20°C - +50°C
maximum heat		up to 1230.12 BTU/hr
humidity		10% - 90%, non-condensing
ip rating		IP65
frame material		Die-cast Aluminium
hanging and stacking		20 hanging | 20 stacking
rear bolt threading		M10
power connectors		Seetronics Powercon
data connectors		Seetronics Ethercon
service access		Front and Rear
warranty		3 year (up to 5 available)
certifications		EMC-0, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

Vanguard LED Displays 1G 5G | NovaStar 1G 5G | Brompton Technology 1G 5G

VANGUARD LED DISPLAYS

Scan for a digital copy!

Poseidon

IP66

pitch

6.8	8.3	10	16.7
SMD	SMD	SMD	SMD

pixel tech

ideal for

Outdoor, permanent installation

summary

Poseidon is **designed for the most intense weather** with an **IP66 rating**, making it an ideal choice for coastal or cruise ship applications. Poseidon has **nine panel sizes**, resulting on a **300 mm design integer both horizontally and vertically**.

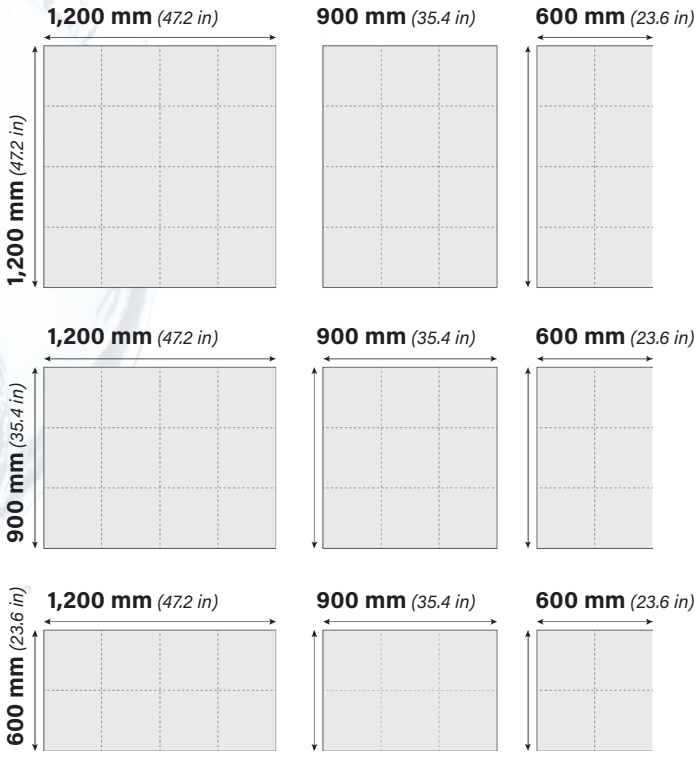
Poseidon features **new dual-channel voltage input** for red, green, and blue sub-pixels, **dramatically reducing power consumption** and **generated heat**, but without the loss of high-end pixel performance associated with traditional common cathode.

special configurations

ECO CLASS low heat and power

SHINE high-bright configuration

dimensions



UNIVERSAL MODULES

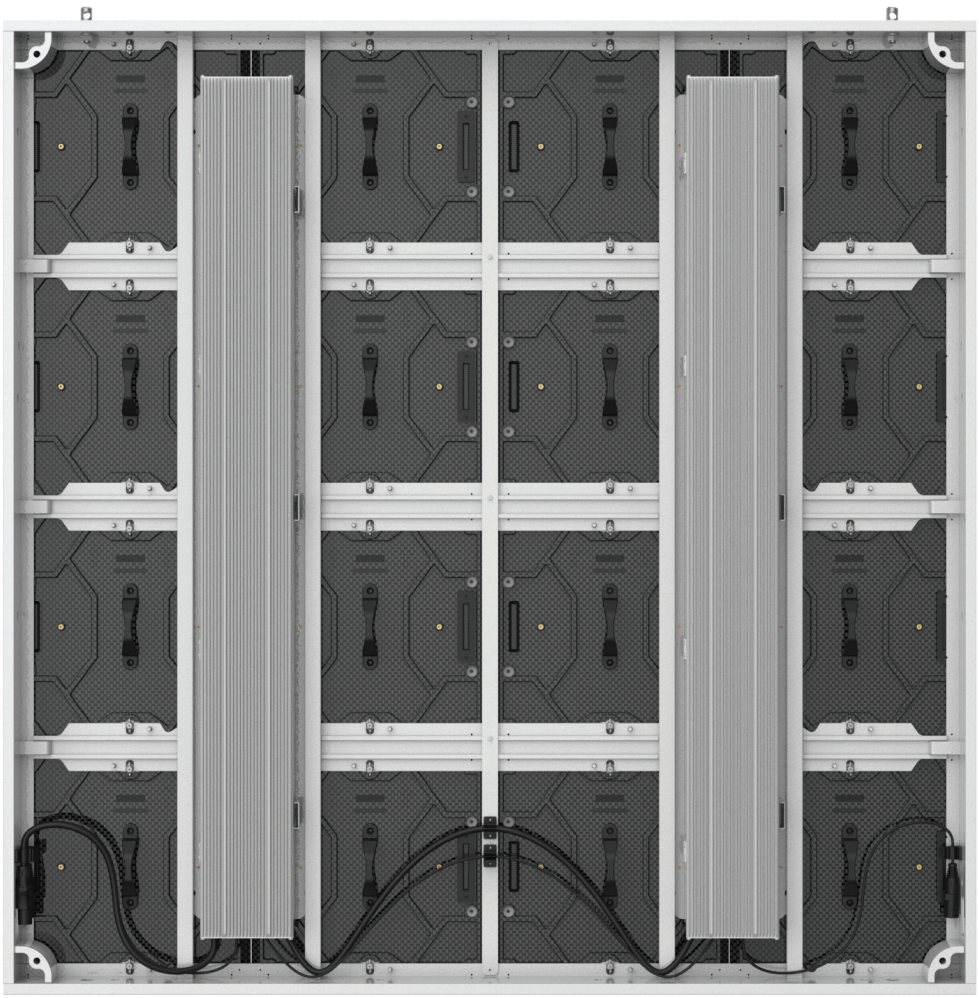
max brightness
10,000 nits

IP rating
IP66

optional

- Protective epoxy masking or coating
- IMD or MIP pixels at select pitches
- 45-degree edges for corner displays
- Connecting plates
- IP66 extreme moisture protection
- Hydrophobic module treatment

OUTDOOR Outdoor, fixed installation



Poseidon (PS)

series name		
maximum brightness (nits)		up to 10,000
dimensions	WIDTH	up to 1200 mm (47.2 in)
	HEIGHT	up to 1200 mm (47.2 in)
	DEPTH	92 mm (3.6 in)
panel aspect ratio		0.5:1, 0.7:1, 0.8:1, 1.5:1, 1:1, 2:1, 4:3
panel weight		up to 38.88 mm (85.7 in)
modules per panel		up to 16 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		100
contrast		7,000:1
drivers		LS
scan rate		
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		2.8

bonding wire	Gold
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	16
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 3542.75 BTU/hr
humidity	10% - 90%, non-condensing
ip rating	IP66
frame material	Die-cast Aluminium
hanging and stacking	20 hanging | 20 stacking
rear bolt threading	M10
power connectors	Seetronics Powercon
data connectors	Seetronics Ethercon
service access	Front and Rear
warranty	5 year (up to 7 available)
certifications	EMC-0, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

Vanguard LED Display — 1G | 5G

NovaStar — 1G | 5G

Brompton Technology — 1G | 5G

VANGUARD
LED DISPLAYS

RENTAL Indoor and outdoor

68

Concerts
trade shows,
events, and
conventions

Fast setup and
strike

No tools
required

Tungsten
series

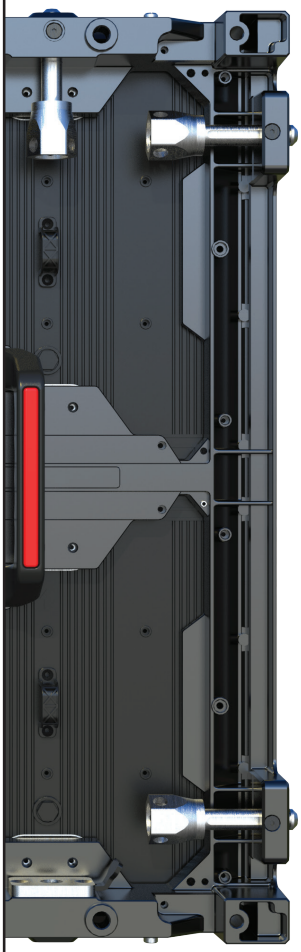
- **500 x 500mm** panel
- **500 x 1000mm** panel
- Panel-to-panel **curving**
- Integrated **corner protection**

Cesium
series

- **Integrated panel curving** up to 45° concave or convex
- **500 x 500 mm** panel
- Compatible with **Tungsten** panels
- Integrated **corner protection**

Beryllium
series

- **600 x 337.5mm** panel
- **16:9** aspect ratio
- **Fine-pitch** options available



Antares
series

- **500 x 500mm** panel
- **Fine-pitch** options available
- **Outdoor** rated

VANGUARD LED DISPLAYS

Scan for a digital copy!

Tungsten

pitch

pixel tech

1.9	2.6	2.9	3.9
SMD	SMD	SMD	SMD

ideal for

Indoor rental and production

summary

Tungsten is an excellent choice for most rental applications with a **stout 500x500mm** and **500x1000 mm** panel, combined with **fine-pitch options** typically only seen with fixed installation products.

Tungsten has column-to-column curving options up to **-6 degrees to +6 degrees.** Column-to-column curving set by a rotating bracket with fixed angles, reducing the need to precisely set an angle for every panel. Panels feature a **flip-out metal shield which protects the corner pixels** during handling, reducing damages.

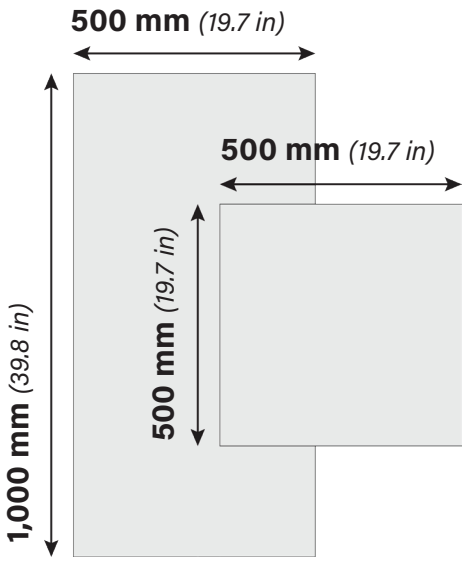
special configurations

XR CLASS broadcast series

optional

- Protective epoxy masking or coating
- Protective/cosmetic edge trim
- Flight cases
- Alternate column-to-column angle brackets

dimensions



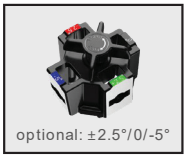
max brightness

1,200 nits

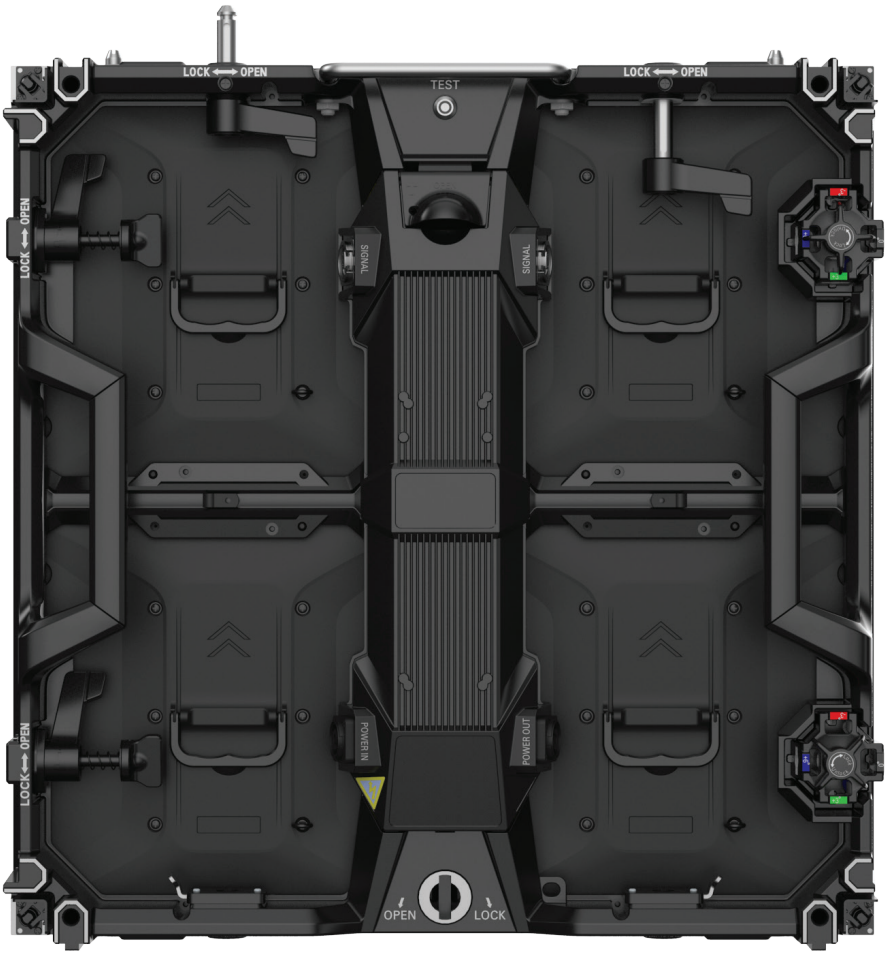
IP rating

IP30

Standard: ±3°/0/+6°



RENTAL Indoor



Tungsten (TU)

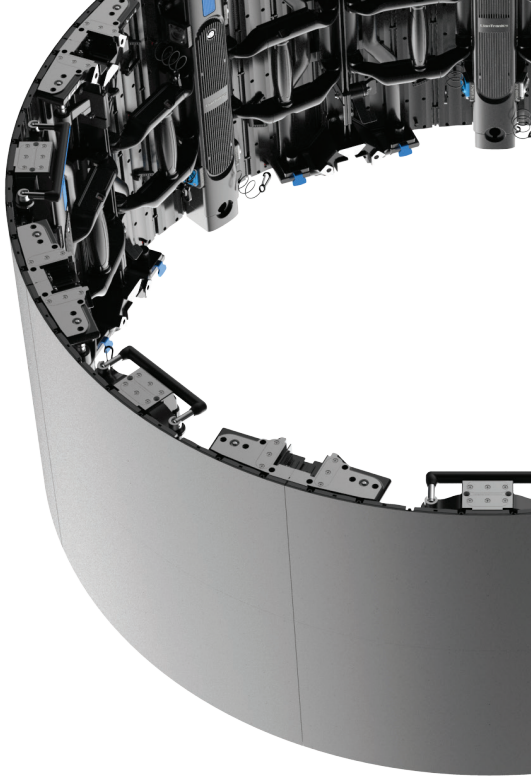
series name		
maximum brightness (nits)		up to 1,000
dimensions	WIDTH	500 mm (19.7 in)
	HEIGHT	up to 1000 mm (39.4 in)
	DEPTH	72.5 mm (2.9 in)
panel aspect ratio		0.5:1, 1:1
panel weight		8 mm (17.6 in)
modules per panel		4 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		160
contrast		8,000:1
drivers		ICN
scan rate		
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		2.8

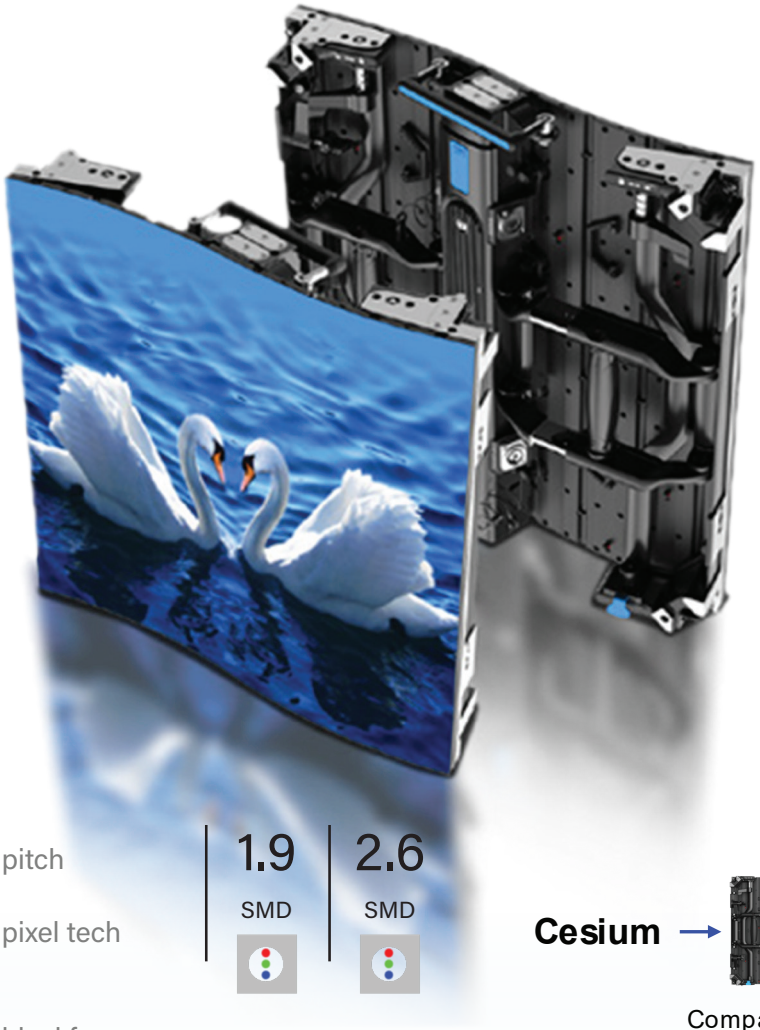
bonding wire	Copper
power common	Anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	20
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 1366.8 BTU/hr
humidity	10% - 90%, non-condensing
ip rating	IP30
frame material	Die-cast Aluminium
hanging and stacking	20 hanging | 20 stacking
rear bolt threading	M10
power connectors	Seetronics Powercon
data connectors	Seetronics Ethercon
service access	Front and Rear
warranty	3 year (up to 5 available)
certifications	EMC-0, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD
LED DISPLAYS





Cesium

pitch | 1.9 | 2.6

pixel tech | 1.9 SMD | 2.6 SMD

Cesium → ← Tungsten

Compatible with Tungsten

Scan for a digital copy!

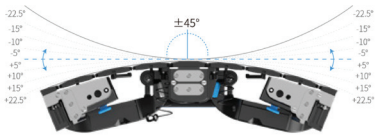
ideal for

Indoor rental and production

summary

Cesium series expands design potential with dynamically curving panels. Integrated **handles on the rear are used for carrying and adjusting the internal curve** of the panel. An individual Cesium panel can achieve up to a 45-degree curve, concave or convex. **Create a perfect cylinder as narrow as 1.3 meters (4.2 ft)**.

Sixteen (16) panels can create a complete 360-degree circle.

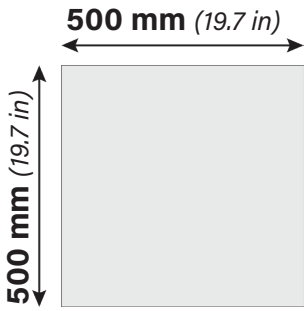


Like Tungsten, Cesium panels feature **metal corner protectors** which fold closed and deploy via spring and push of a button on the rear of the panel.

special configurations

XR CLASS broadcast series

dimensions



aspect ratio
1:1

weight
8 kg (17.6 lbs)

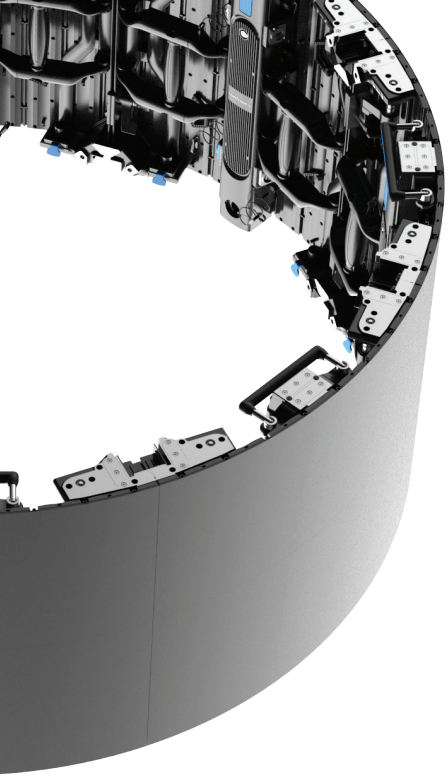
max brightness
1,500 nits

IP rating
IP30

optional

- Protective epoxy masking or coating
- Connecting plates
- Flight cases
- Headers for hanging/flying
- Footers for stacking
- Reuced magnets for transit stations
- Hydrophobic module treatment

RENTAL Indoor



Cesium (CS)

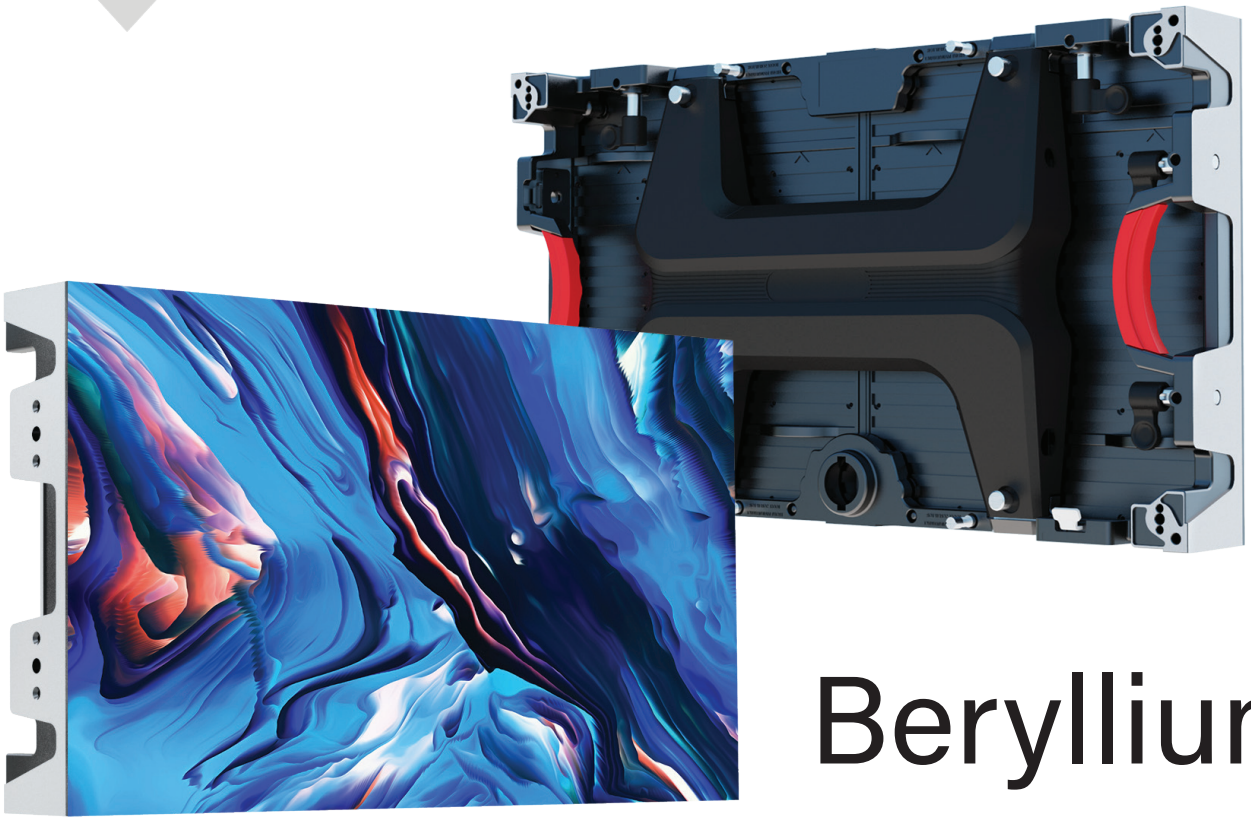
series name		Cesium (CS)
maximum brightness (nits)		up to 900
dimensions	WIDTH	500 mm (19.7 in)
	HEIGHT	500 mm (19.7 in)
	DEPTH	73 mm (2.9 in)
panel aspect ratio		1:1
panel weight		up to 8 mm (17.6 in)
modules per panel		4 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		160
contrast		8,000:1
drivers		ICN
scan rate		1/16
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		2.8

bonding wire	copper
power common	anode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	20
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 683.4 BTU/hr
humidity	10% - 90%, non-condensing
ip rating	IP30
frame material	Die-cast Aluminium
hanging and stacking	20 hanging | 20 stacking
rear bolt threading	M10
power connectors	Seetronics Powercon
data connectors	Seetronics Ethercon
service access	Front and Rear
warranty	3 year (up to 5 available)
certifications	EMC-0, CCC, FCC, ETL, LVD, CE, RoHS, UKCA, CB, BIS, KC, PSE

supported controllers

VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G

VANGUARD LED DISPLAYS



Beryllium

pitch	0.9	1.2	1.5	1.8	2.5
pixel tech	IMD	SMD	SMD	SMD	SMD

Scan for a digital copy!

ideal for

Indoor rental for 16:9 and 32:9 displays

summary

Beryllium offers the ease of **16:9** LED displays in a rental panel. Beryllium panels are the popular size for fixed 16:9 displays at **600 x 337.5 mm**.

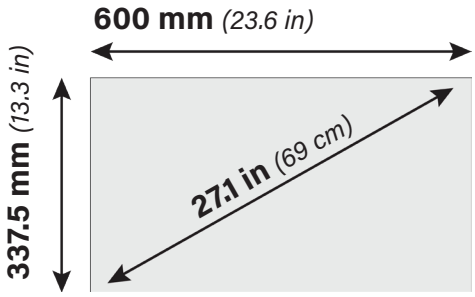
Available in the most popular 16:9 pixel pitches, Beryllium is optimized for native 16:9 displays at **2K**, **4K**, **8K**, and **more**!

Beryllium's 16:9 panel aspect also makes it easy to make dual displays with a **32:9** aspect ratio.

special configurations

TRA CLASS compliant configuration

dimensions



aspect ratio	weight
16:9	7.5 kg (16.5 lbs)
max brightness	**IP rating**
800 nits	IP50

optional

- Protective epoxy masking or coating
- Connecting plates
- Flight cases
- Headers for hanging/flying
- Footers for stacking

series name	**Beryllium (BE)**	
maximum brightness	800 nits	
environmental rating	Indoor, rental and staging	
dimensions	WIDTH	600 mm (23.6 in)
	HEIGHT	337.5 mm (13.3 in)
	DEPTH	73 mm (2.9 in)
panel ratio	16:9	
panel weight	7.5 kg (16.5 lbs)	
modules per panel	4	
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
LED half-life*	100,000 hours	
contrast	6,000:1	
refresh rate	3,840 Hz	

frame rate	50-60 Hz
color temperature	7,500 K default (2,000-12,000 K range)
processing depth	Up to 16 bit
scan rate	1/15, 1/27, 1/30, 1/60
watts per panel	158 W max (63 W average)
temperatures	-10°C - +40°C
operating humidity	10% - 80%, non-condensing
maximum watts	450-720 W / SqM *(depending on pitch)*
operating voltage	100-240V AC, 50/60 Hz
maximum heat	1,535-2,455 BTU/hr / SqM *(depending on pitch)*
ip rating	IP50
service access	Front or rear
warranty	3-year default (up to 5-year available)
certifications	CCC、CB、CE、FCC

supported controllers

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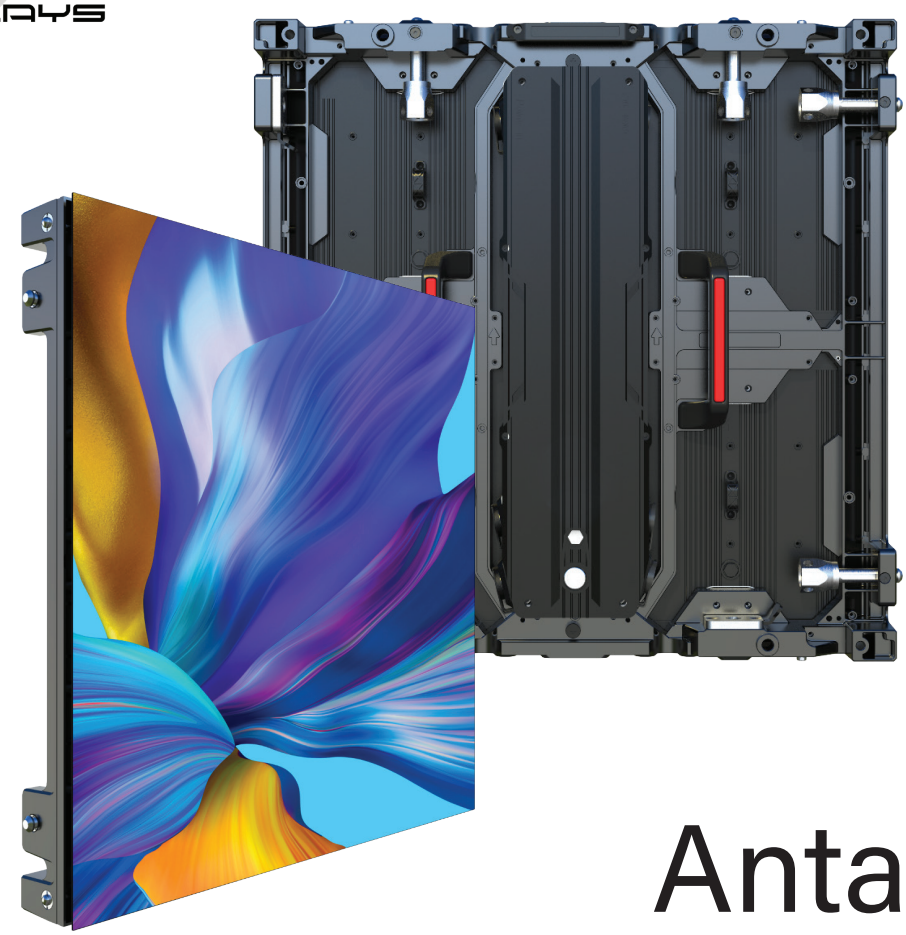
VANGUARD LED DISPLAYS

Scan for a digital copy!



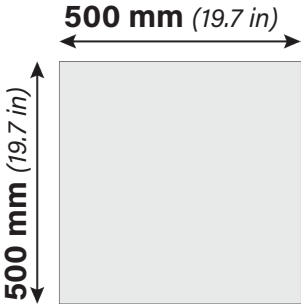
Antares

pitch

pixel tech

1.2	1.5	1.9
SMD	SMD	SMD

dimensions



ideal for

Outdoor fine-pitch rental

summary

Antares combines the design form-factor of traditional rental and staging product (**500x500mm**) with fine pixel pitches that are normally only available for indoor displays.

All Antares is automatically ECO-Class being power efficient and running cool with **flip-chip** and **common cathode** technology.

Antares provides fine pixel pitch down to **1.2mm**, which is an evolution in the capability of rental dvLED technology.

aspect ratio
1:1

max brightness
4,500 nits

weight
9 kg (19.8 lbs)

IP rating
IP65

optional

- Connecting plates
- Headers for hanging/flying
- Footers for stacking
- Flight cases
- IP66 ingress protection

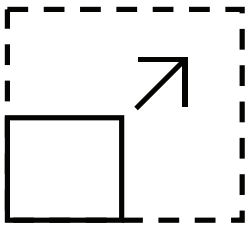
Antares (AN)

series name		
maximum brightness (nits)		up to 3,500
dimensions	WIDTH	500 mm (19.7 in)
	HEIGHT	500 mm (19.7 in)
	DEPTH	50 mm (2 in)
panel aspect ratio		1:1
panel weight		9.2 mm (20.3 in)
modules per panel		4 per panel
viewing angle	HORIZONTAL	160°
	VERTICAL	160°
led lifetime* (hrs)		100,000
contrast		6,000:1
drivers		CFD955
scan rate		1/40
processing depth (bits)		14 default (10-16 range)
refresh rate (hz)		3,840 default (3840-7680 range)
frame rate		60 default (50, 60, 120 options)
color temperature		7,500 default (2000-12000 range)
color gamut		N/A

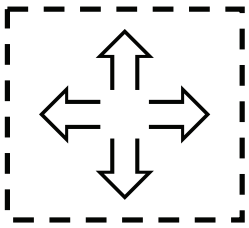
bonding wire	Flip-chip
power common	Cathode
watts per panel	132W max (46W average)
watts per sq m	650W max (228W average)
max amps per cascade	10
operating voltage	100-240V AC, 50/60 Hz
operating temperature	-20°C - +50°C
maximum heat	up to 348 BTU/hr
humidity	10% - 80%, Non-condensing
ip rating	IP65
frame material	Die-cast Aluminium
hanging and stacking	20 hanging max | 20 stacking max
rear bolt threading	M8
power connectors	Seetronic Powercon
data connectors	Seetronic Ethercon
service access	Front and Rear
warranty	5 year (up to 7 available)
certifications	EMC-A, CCC, FCC, ETL, CE, RoHS, PSE

supported controllers

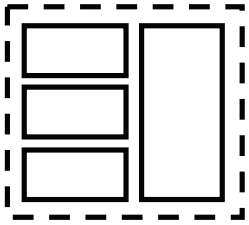
VANGUARD LED DISPLAYS 1G 5G | NOVASTAR 1G 5G | BROMPTON TECHNOLOGY 1G 5G



SCALING
Is the content the exact same resolution of the display?



DISPLAY SIZE
Can the display be supported by a single controller?



SOURCES
Are there several sources? Is windowing needed?

CONTROLLERS

Vanguard
controllers

- Configure a single controller for **very large displays**
- **Powerful control** over sources and multiple displays
- Pair with the Vanguard 4K Encoder to **manage up to 160 workstations**
- Experience the **Infinity series**, which is **TAA** compliant

Novastar
controllers

- Supporting Novastar's diverse product line.
- Series include:
  - **H-Series** *(configurable)*
  - **MCTRL series** *(pixel-to-pixel)*
  - **VX series** *(scaling)*
  - **Taurus series** *(media player)*

Brompton
controllers

- The powerful **TESSERA series** is a popular choice for rental and high-end xR configurations.
- Pair the **v** with the **XD** Distribution Unit to coordinate content and control for multiple displays.

VANGUARD LED DISPLAYS

Scan for a digital copy!

INFINITY

Limitless Capabilities to Create an all-encompassing Data Wall

ideal for

Large displays, complex inputs

CONTROLLERS

summary

Infinity controllers utilize a card/chassis. This allows for the optimal customization to any LED display system. By combining Infinity with Vanguard displays there is no need for expensive switcher/multi-window processors which will result in significant savings.
Ample input and output options guarantee that Infinity controllers can support an ideal data wall, exceeding the requirements of the most complex direct view LED system.

Infinity controllers can also be paired with the Vanguard LED VE4K encoder to enable dynamic screen sharing from a high volume of connected machines.

Three chassis sizes allow for the perfect configuration of inputs, outputs, and optimal functionality.

inputs

HDMI DVI DP SDI IP

special configurations

TAA CLASS compliant configuration

optional

- Light sensor for automatic brightness
- Multi-function card for various sensors
- Back-up power supply
- VE4K encoder

Chassis sizes

model name	**Infinity 4RU**	
input	up to 4 cards, 16 channels	
output	up to 4 cards, 26 million pixels	
output windows	16 x 1080p	
dimensions	WIDTH	483mm (19”)
	HEIGHT	177.8mm (7“)
	DEPTH	406.1mm (16”)
weight	12.5kg (27.5lbs)	

model name	**Infinity 7RU**	
input	up to 8 cards, 32 channels	
output	up to 8 cards, 52 million pixels	
output windows	32 x 1080p	
dimensions	WIDTH	483mm (19”)
	HEIGHT	276.8mm (10.9“)
	DEPTH	406.1mm (16”)
weight	19.3kg (42.5lbs)	

model name	**Infinity 11RU**	
input	up to 16 cards, 64 channels	
output	up to 18 cards, 117 million pixels	
output windows	72 x 1080p	
dimensions	WIDTH	483mm (19”)
	HEIGHT	488mm (19.2“)
	DEPTH	475.2mm (18.7”)
weight	38kg (83.8lbs)	

main board	**2** genlock I/O
	1 RS-232 serial port
	1 USB 3.0
	1 Ethernet/LAN
	1 3D port
preview and monitoring	**1** HDMI1.4 (2K)

Optional input/output cards

input cards	**1** HDMI2.0 (4K)
	1 DP1.2 (4K)
	1 12GSDI (4K)
	1 HDMI2.0 (4K), **1** DP1.2 (4K)
	4 DL-DVI (2K)
	4 HDMI1.4 (2K)
	4 VGA (2K)
	2 VGA (2K), **2** CVBS
	4 3G-SDI (2K)
	2 RJ45 (4K)
output cards	**8** 1G RJ45
	10 1G RJ45
	4 5G RJ45
	2 10G fiber
	1 HDMI2.0 (4K)
	4 DL-DVI (2K)
	4 HDMI1.4 (2K)

VANGUARD LED DISPLAYS

INFINITY ULTRA

Expansive capabilities with secure **command and control** in mind

ideal for

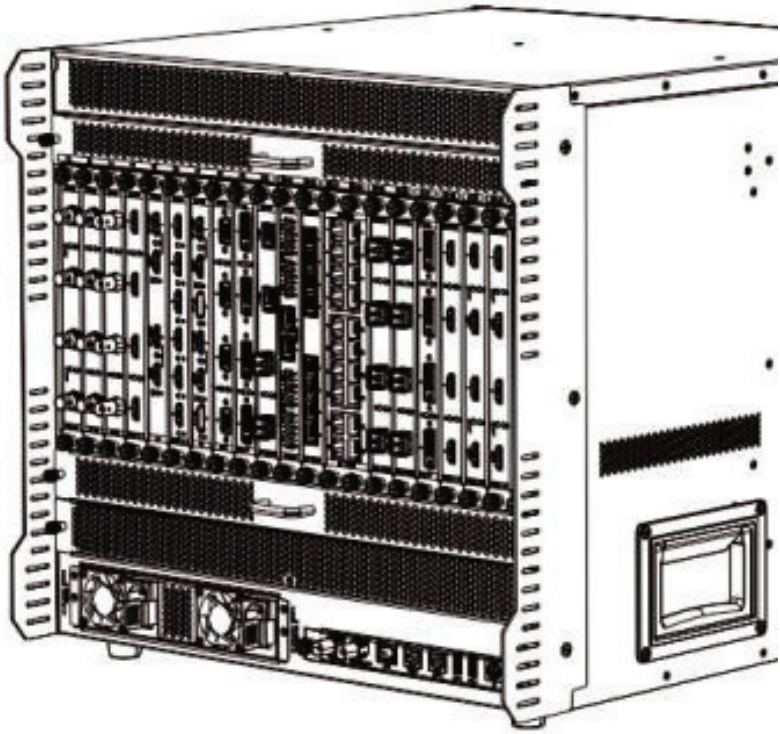
Command and control

summary

Vanguard LED is proud to announce our latest **next generation in video processing LED controllers**, the Infinity Ultra series. Available in three chassis sizes, 9, 15, and 20 RU, Infinity Ultra has expansive options input/output cards to support any application.

Infinity Ultra is managed entirely via a human-friendly and **intuitive web-based** interface enabling a diverse range of compatibility for the operating system of the control computer. The web interface enables easy configuration of a high volume of inputs as well as non-video source elements like background images, subtitles, and logos.

Infinity Ultra supports **dual 4K UltraHD preview and monitoring**. In combination with dynamic system health monitoring with email alert functionality, Infinity Ultra is the processing and control solution which exceeds the requirements of the most demanding applications like secure command and control centers. **Pair Infinity Ultra with the VE4K to centralize up to 160 workstations.**



inputs

HDMI DP BNC DP RJ45 FIBER DB9

special configurations

TAA CLASS compliant configuration

compatible control OS

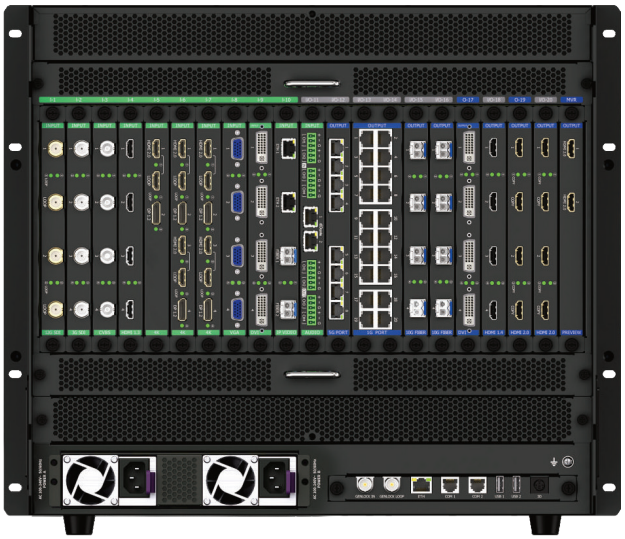
Windows maxOS iOS Android Linux

optional

- Light sensor for automatic brightness
- Multi-function card for various sensors
- Back-up power supply
- VE4K encoder

CONTROLLERS

Chassis sizes



model name	**Infinity ULTRA 9RU**	
input	up to 18 cards (20 total i/o slots)	
output	up to 10 cards (20 total i/o slots)	
output windows	160 x 2K or 40 x 4K (per controller)	
	16 x 2K or 4x x4K (per card)	
dimensions	WIDTH	482.6mm (19”)
	HEIGHT	399.3mm (15.7“)
	DEPTH	535.2mm (21.1”)
weight	27kg (59.5lbs)	

model name	**Infinity ULTRA 15RU**	
input	up to 30 cards (40 total i/o slots)	
output	up to 20 cards (40 total i/o slots)	
output windows	640 x 2K or 160 x 4K (per controller)	
	16 x 2K or 4x 4K (per card)	
dimensions	WIDTH	482.6mm (19”)
	HEIGHT	666mm (26.2“)
	DEPTH	488.2mm (19.2”)
weight	48.6kg (107.14lbs)	

model name	**Infinity ULTRA 20RU**	
input	up to 40 cards (60 total i/o slots)	
output	up to 30 cards (60 total i/o slots)	
output windows	960 x 2K or 240 x 4K (per controller)	
	16 x 2K or 4 x 4K (per card)	
dimensions	WIDTH	482.6mm (19”)
	HEIGHT	889mm (35“)
	DEPTH	488.2mm (19.2”)
weight	66.8kg (147.3lbs)	

main board	**2** genlock I/O
	2 RJ11 RS-232
	2 USB 2.0
	1 Ethernet/LAN
	1 3D port
preview and monitoring	**2** HDMI2.0 (4K)

Optional input/output cards

input cards	**2** HDMI2.0, **2** DP1.2
	1 HDMI2.0, **1** DP1.2
	2 12G SDI
	1 12G SDI
	4 3G SDI
	4 HDMI1.3
	6 HDMI 1.3
	4 VGA
	2 VGA, **2** CVBS
	4 AUDIO
	4 DVI
	4 CVBS
output cards	**20** 1G RJ45
	8 5G RJ45
	4 10G Fiber
	2 HDMI2.0
	1 HDMI2.0
	4 HDMI1.4
	6 HDMI1.3
	4 DVI

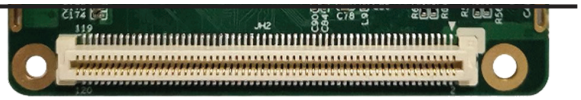
VANGUARD LED DISPLAYS

Receiving cards

The Vanguard LED controller series is paired with our robust line of receiving cards. Covering a broad range of capacity and features, Vanguard receiving cards offer all standard requirements as well as several next generation features to ensure performance and operation of the display are optimized.

- Card initials starting with **N**x *(normal speed)* indicate standard 1G transmission, while card starting with **A**x *(accelerated)* are capable of 5G.
- Card initials ending with x**N** *(normal interface)* utilize the same interface as Novastar receiving cards, while card initials ending with x**D** *(DDR SODIMM)* utilize a DDR interface.
- The AU90 5G receiving card replaces standard ethernet cascade cabling with a slimmer USB-C.

xN
standard interface



xD
DDR SODIMM

	ND NN 25	ND NN 40	ND NN 45	ND NN 50	AN 90	AU 90
transmission rate	1G	1G	1G	1G	5G	5G
loading capacity (px)	512 x 384	640 x 360	640 x 360	768 x 432	256 x 1.024	256 x 1,024
comm port	ethernet	ethernet	ethernet	ethernet	ethernet	USB-C
data group	32	32	32	32	32	32
processing depth (bit)	8	8, 10	8, 10	8, 10, 12	8, 10, 12	8, 10, 12
refresh rate (Hz)	30 - 120	23.98 –240	23.98 - 240	23.98 - 240	23.98 –240	23.98 –240
grayscale refinement	●	-●	●	●		
multi-layer calibration	–	–	●	●	●	●
infi-bit	●	●	●	●	●	●
low latency	●	●	●	●	●	●
HDR	–	●	●	●	–	●
color gamut adjustment	–	●	●	●	●	●
automatic on-screen display	●	●	●	●	●	●
loop backup	●	●	●	●	●	●
receiving card backup	●	●	●	●	●	●
calibration coefficient backup	–	●	–	●	●	-
configure parameter backup	–	●	–	●	●	-
irregular display support	●	●	●	●	●	●
smart modules	●	●	●	●		
panel monitoring	–	●	●	●		
network cable detection	●	●	●	●		
ShutterLock					●	-

CONTROLLERS

Sensors and automation

A smart display is a sensor away! Enable smart brightness, various environmental monitorings, and automation control with a powerful multi-function card.

There is no need to run sensor cables from the display to the controller, as the multi-function card can be conveniently installed with the display, carrying signal to the controller using the display's existing data paths.

SENSORS
- Light
- Noise
- Humidity
- Temperature
- Pollution

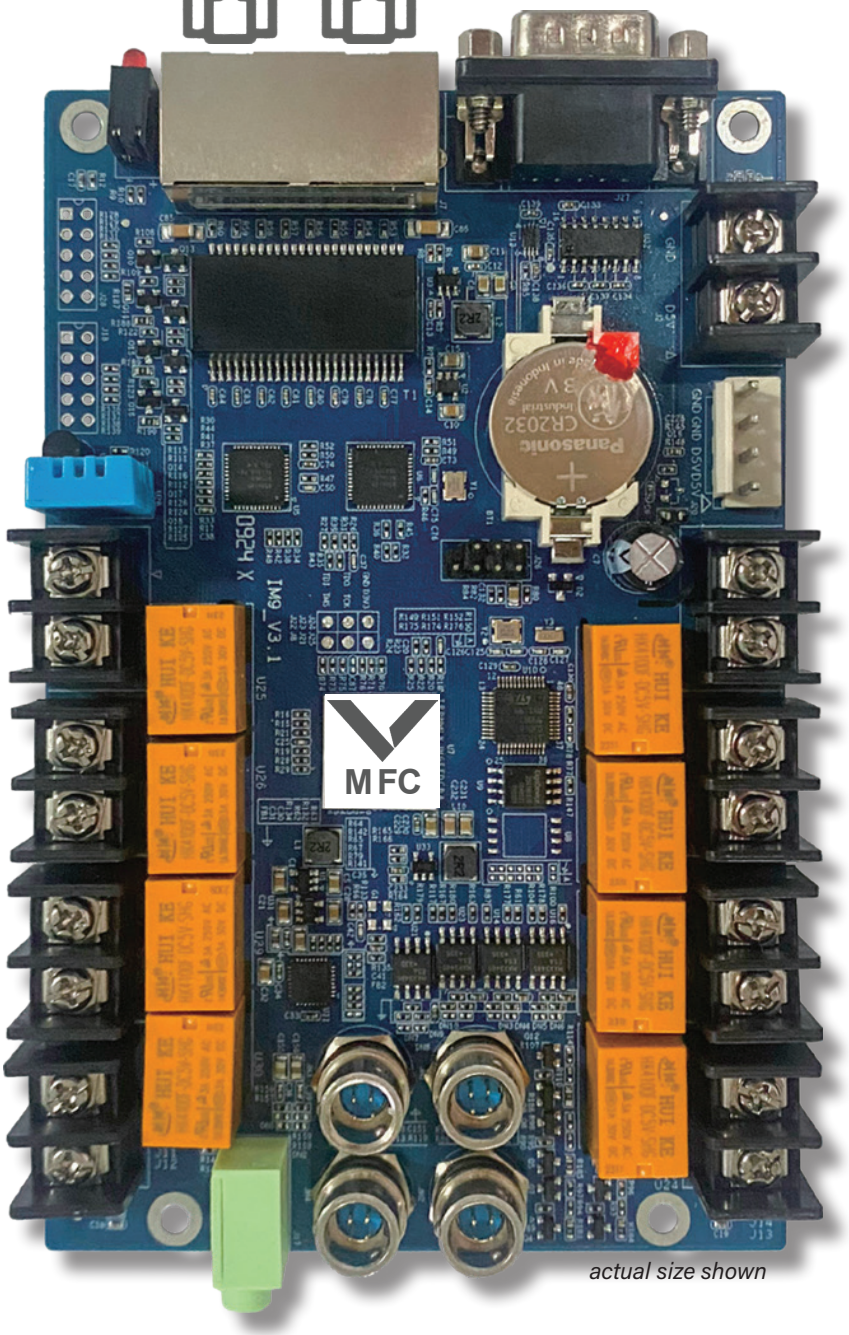
CONTROL
- (8) Relays

OUTPUT
- Audio (3.5mm)

DATA DATA

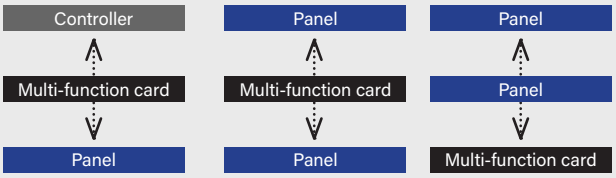
Multi-function Card

for sensor and control integration



actual size shown

INTEGRATION METHODS



Light sensor

for automatic brightness

Temp & humidity sensor

for temperature and moisture monitoring

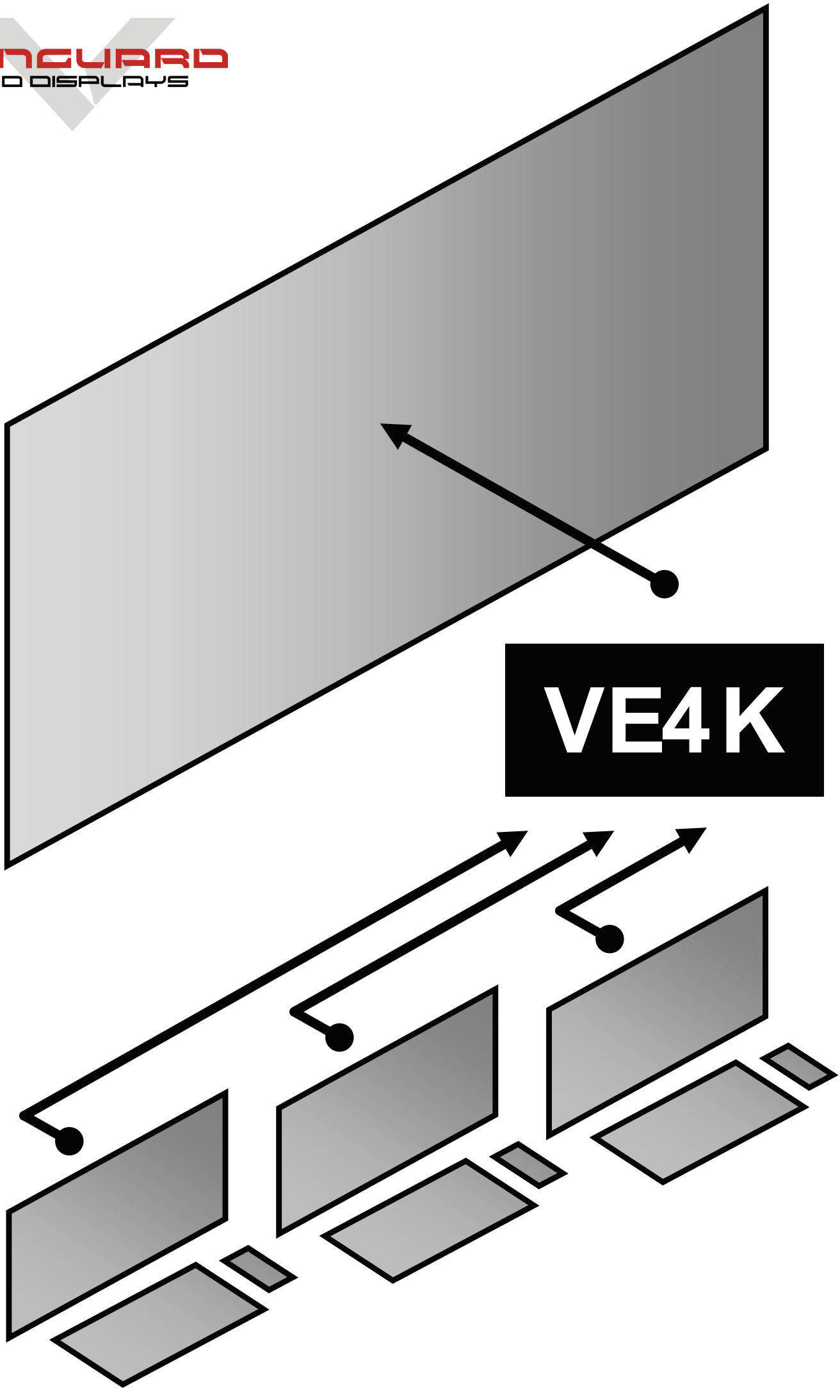
Noise sensor

for ambient noise monitoring

Air quality sensor

for polution monitoring

VANGUARD
LED DISPLAYS



secure and expansive control

actual size shown

VE4K

ideal for

Command and control

summary

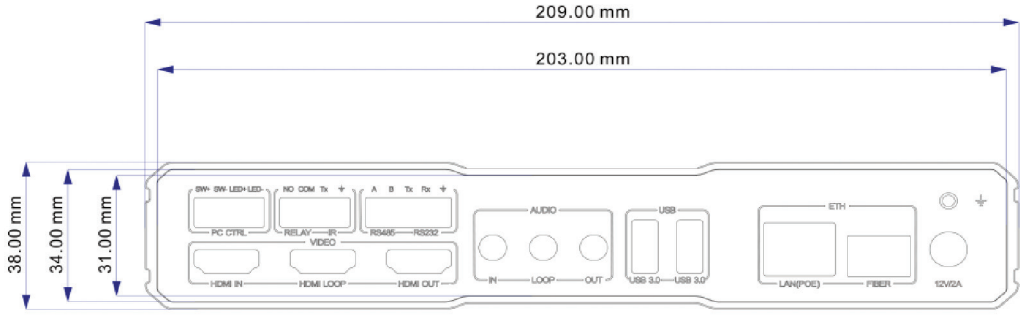
The VE4K *(Vanguard Encoder 4K)* is an optional peripheral for the Infinity and Infinity Ultra controller series.

An IP-based HDMI extender for management of workstations (up to 160) in a SCIF, watch floor, or command center. Coordinate and manage different categories of content. Mirror select stations to the data wall in real time or in combination with defined preset layouts.

The Infinity controller will receive a network cable from the switch and receive the signal from the workstation and apply it to the window of the user's choice on the wall.

connections

- **1** HDMI1.4 (2K) - in | out | loop
- **1** 35mm Audio jack –in | out | loop
- **3** USB3.0
- **1** USB2.0
- **1** fiber
- **1** ethernet
- **1** control for PC, IR, RS232, RS485



VANGUARD LED DISPLAYS

1G

Sentinel

ideal for

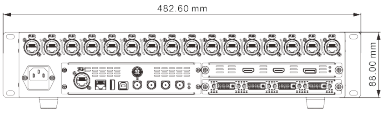
Small to medium displays, simple inputs

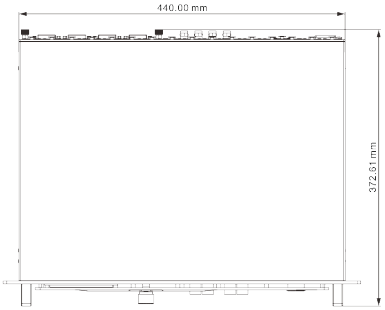
summary

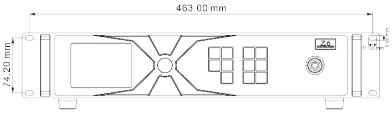
Sentinel controllers by Vanguard LED offer an ideal and refined solution for content and processing support for displays up to 4K resolution.

Offering full 4K input capability and up to 8.8 million pixels out, Sentinel can is a great fit for displays up to a 4K resolution. Sentinel is a video splicer, processor, and controller all in one.

Sentinel has 4K video input capability, supporting up to UltraHD resolution and HDR image processing and transmission.







inputs

special configurations

TAA CLASS compliant configuration

optional

- Light sensor for automatic brightness
- Multi-function card for various sensors

CONTROLLERS

model		**Sentinel**
category		4K
output ports		16 - 1G RJ45
loading capacity		8.8 million pixels
input ports		2 - 3G SDI 1 - HDMI 2.0 (and HDMI loop) 1 - DP 1.2 4 - DL-DVI
control		1 - LAN 1 - USB I/O 1 - Genlock I/O 1 - RS232
scaling		Yes
image rotation		No
genlock		Yes
dimensions	RACK	2 RU
	WIDTH	482.6 mm *(19 in)*
	DEPTH	372.6 mm *(14.7 in)*
	HEIGHT	88 mm *(3.5 in)*
weight		9 kg *(19.8 lbs)*
operating voltage		100 - 240 V AC, 50/60 Hz
maximum watts		70 W
humidity		0 - 90% RH, non-condensing
certifications		CCC, CE, FCC, IC, CB, cTUVus, EAC, RoHS

Display layouts for up to 3 layers with smooth scaling effect.

VANGUARD LED DISPLAYS

Scan for a digital copy!

H5

NOVASTAR 1G

H-Series

ideal for

Large displays, complex inputs

summary

The H-Series by Novastar offers endless flexibility for complex displays. Offering an expansive selection of options for inputs and outputs and with chassis' ranging from 2RU up to an impressive 20RU, H-Series is an excellent option for displays large and small.

Based on a chassis system with customizable input and output cards, H-Series is configured to your exact needs. All models share the same configuration and operation story, so the choice of chassis is determined by how many input and output cards are needed.

Beyond consolidating several controllers into one for large displays, H-Series provides sophisticated control over all inputs via a simple and end-user friendly web-browser interface. Whether a display is extremely large and/or has complicated need for source handling, H-Series

H5

inputs

HDMI DVI DP SDI IP

optional

- Multi-function box
- Light sensor for smart brightness
- Back-up power supply

CONTROLLERS

4K capacity, in each output card

Novastar's flagship video splicing processor introduces several key advantages when designing the processor support for an LED display.

The primary output cards which support the display itself come with 16 or 20 output ports. Each output card supports the capacity on an MCTRL-4K controller. When paired with the processing power integrated in t he series, users can not only support 4K, but also scaling, windowing, and configuration of user presets to switch between active inputs and their layout on the display. The 20-port output card satisfies the need for 18 ports with 0.9mm 4K displays where only two panels can cascade data.

Utilizing the layout flexibility of the system, a single H-Series controller can simultaneously support and control content to multiple screens and with several layouts for each display.

Large and small screens alike can benefit from the dynamic content handling interface. With optional fiber out, an H-Series controller can also centrally manage displays across a large distance.

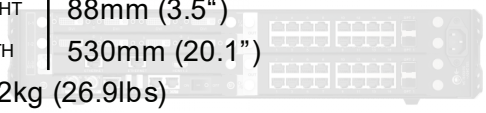
For environments with a mixture of display technologies, H-Series has output options HDMI (up to 4K), DVI, and 3G-SDI. Control all displays using the same easy-to-use interface.

output cards	**4** DVI **4** HDMI (1.4) **2** HDMI (2.0) **16** RJ45 **2** Fiber **4** Fiber **20** RJ45 **4** 3G-SDI **4** RJ45 (LAN)
main board	**1** Genlock (IN) **1** Genlock (OUT) **1** RJ45 (LAN) **2** USB 2.0 **1** RS-232 (IN) **1** RS-232 (OUT)
preview and monitoring	**2** RJ45 (LAN) **1** HDMI (1.3)

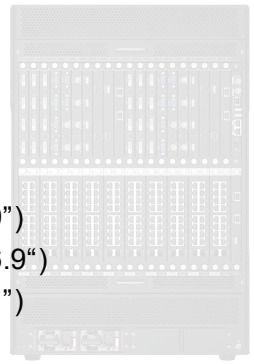
input cards	**4** DVI **2** HDMI (1.3) **2** HDMI (1.4) **2** HDMI (2.0) **2** DP (1.2) **1** HDMI (2.0) **1** DP (1.2) **1** HDMI (2.0) **1** DP (1.2) **2** HDMI (2.0) **2** RJ45 **4** 3G SDI **1** 12G SDI (IN) **1** 12G SDI (LOOP) **2** CVBS **2** VGA **2** DP (1.1) **4** VGA **2** Audio (IN) **2** Audio (OUT) **4** RJ45 (LAN)

operating voltage	100 – 240V AC, 50/60Hz
operating temp	0° – 45°C (-32° – 113°F)

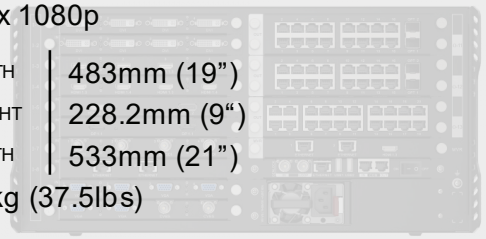
model name	**H2**
input	up to 4 cards
output	up to 2 cards
loading capacity	26 million pixels
output windows	16 x 1080p
dimensions	WIDTH 483mm (19”) HEIGHT 88mm (3.5“) DEPTH 530mm (20.1”)
weight	12.2kg (26.9lbs)



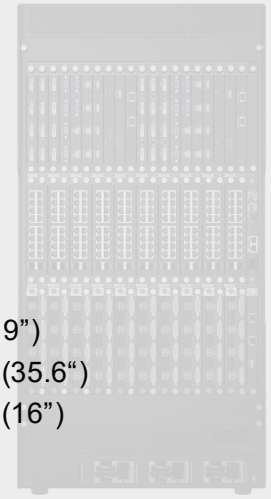
model name	**H15**
input	up to 30 cards
output	up to 10 cards
loading capacity	208 million pixels
output windows	160 x 1080p
dimensions	WIDTH 483mm (19”) HEIGHT 683mm (26.9“) DEPTH 533mm (21”)
weight	41.1kg (90.6lbs)



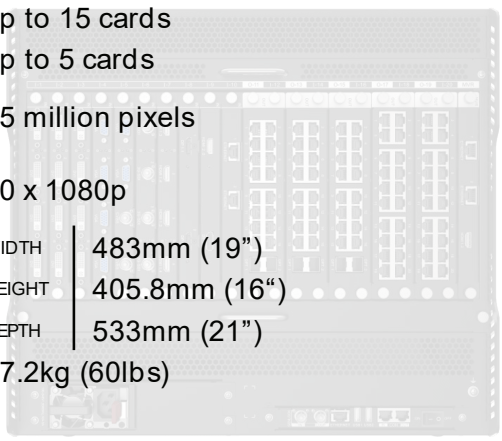
model name	**H5**
input	up to 10 cards
output	up to 3 cards
loading capacity	38 million pixels
output windows	48 x 1080p
dimensions	WIDTH 483mm (19”) HEIGHT 228.2mm (9“) DEPTH 533mm (21”)
weight	17kg (37.5lbs)



model name	**H20**
input	up to 40 cards
output	up to 20 cards
loading capacity	260 million pixels
output windows	320 x 1080p
dimensions	WIDTH 483mm (19”) HEIGHT 905.2mm (35.6“) DEPTH 406.1mm (16”)
weight	47.7kg (105.1lbs)



model name	**H9**
input	up to 15 cards
output	up to 5 cards
loading capacity	65 million pixels
output windows	80 x 1080p
dimensions	WIDTH 483mm (19”) HEIGHT 405.8mm (16“) DEPTH 533mm (21”)
weight	27.2kg (60lbs)



H9

VANGUARD LED DISPLAYS

Scan for a digital copy!

XD

SX40

BROMPTON TECHNOLOGY 1G

TESSERA Series

ideal for

Rentals and high-end production

inputs

HDMI DVI SDI IP

summary

There are four controllers in the TESSERA series: the SX40, S8, S4 and T1. These are designed to meet a wide range of projects, but always delivering world-class quality and superb reliability, backed by 24/7 support.

TESSERA SX40 offers support for full 4K screens at 60Hz with 12 bits per color output. It supports a zero-latency up/down scaler that matches the source to the screen as well as all of TESSERA'S industry-leading processing features. These include HDR and Dynamic Calibration as well as Extended Bit Depth, HFR+ (High Frame Rate), Frame Remapping, and more. Additionally, stacking can be used to control multiple SX40 processors as one.

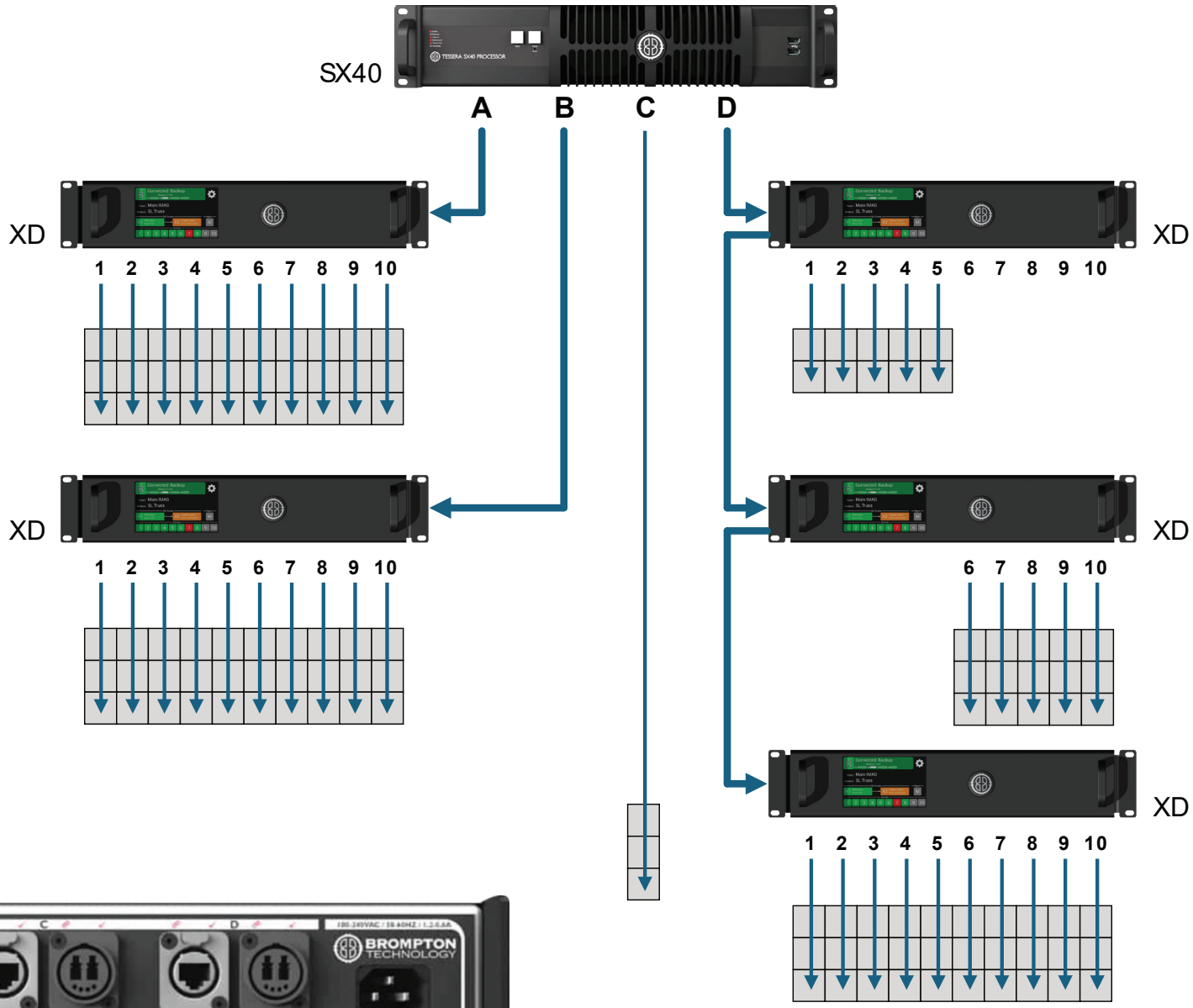
SX40

Used in combination with the TESSERA XD Distribution unit, the SX40 provides a cost-effective and powerful system for supporting the biggest and boldest LED projects.

XD

CONTROLLERS

Intelligent processing and distribution



The SX40 has four (4) 10G output ports which can be used to send source and data to XD distribution units, or to directly support panels.

Configure a complete infrastructure of support for any project by combining the SX40 with the XD Distribution Unit.

SX40

XD

model	SX40	XD
category	4K	
output ports	4 - 10G to XD	10 - 1G RJ45
loading capacity	9 million pixels	5.2 million pixels
input ports	1 - 12G-SDI 1 - HDMI (2.0) 1 - Fiber	Handled by SX40
scaling	Yes	Handled by SX40
image rotation	90°/180°/270° Only	Handled by SX40
genlock	Yes	Handled by SX40
dimensions	RACK 2RU WIDTH 482.6mm (19in) DEPTH 406.4mm (16in) HEIGHT 88.9mm (3.5in)	RACK 2RU WIDTH 482.6mm (19in) DEPTH 209.6mm (8.3in) HEIGHT 88.5mm (3.5in)
weight	7.5kg (16.5lbs)	3.7kg (8.2lbs)
operating voltage	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
certifications	CE, ETL/cETL	CE, ETL/cETL

T1

S4

S8

model	T1	S4	S8
category	2K	2K	4K
output ports	1 - 1G RJ45	4 - 1G RJ45	8 - 1G RJ45
loading capacity	0.5 million pixels	2.1 million pixels	4.5 million pixels
input ports	1 - DVI-D	1 - DVI-D	1 - 12G-SDI 1 - HDMI (2.0)
scaling	Yes	No	Yes
image rotation	Any degree	90°/180°/270° Only	90°/180°/270° Only
genlock	Yes	Yes	Yes
dimensions	RACK 1RU WIDTH 482.6mm (19in) DEPTH 342.9mmm (13.5in) HEIGHT 44.5mm (1.75in)	RACK 1RU WIDTH 482.6mm (19in) DEPTH 342.9mmm (13.5in) HEIGHT 44.5mm (1.75in)	RACK 2RU WIDTH 482.6mm (19in) DEPTH 406.4mm (16in) HEIGHT 88.9mm (3.5in)
weight	3.1kg (6.8lbs)	3.1kg (6.8lbs)	7.5kg (16.5lbs)
operating voltage	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz	100-240V AC, 50/60 Hz
certifications	CE, ETL/cETL	CE, ETL/cETL	CE, ETL/cETL

your LED insiders

VANGUARD LED DISPLAYS

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white glove services

installation

Vanguard LED can help with installation!

Vanguard LED Displays can support pre-installation planning through commissioning of the display.

Vanguard can provide the installation of cabinets and mounts at an additional cost.

training

Training and certification, at a personal level.

Bring your team to our offices or we can come to you at your facility. We will provide all tools needed to train on any specific product or on the technology in general.

Vanguard LED will provide Certificates of Achievement for all individuals who participate and are present for the duration of the training.

repair

Local pixel repair, by the skilled Vanguard LED team!

Vanguard LED has qualified in-house repair technicians. Technicians have received training direct from manufacturing engineers, ensuring both quality and timely repairs.

Track the status and progress of your repairs with our advanced RMA system. Feel secure in knowing that we support you and your Vanguard LED displays!

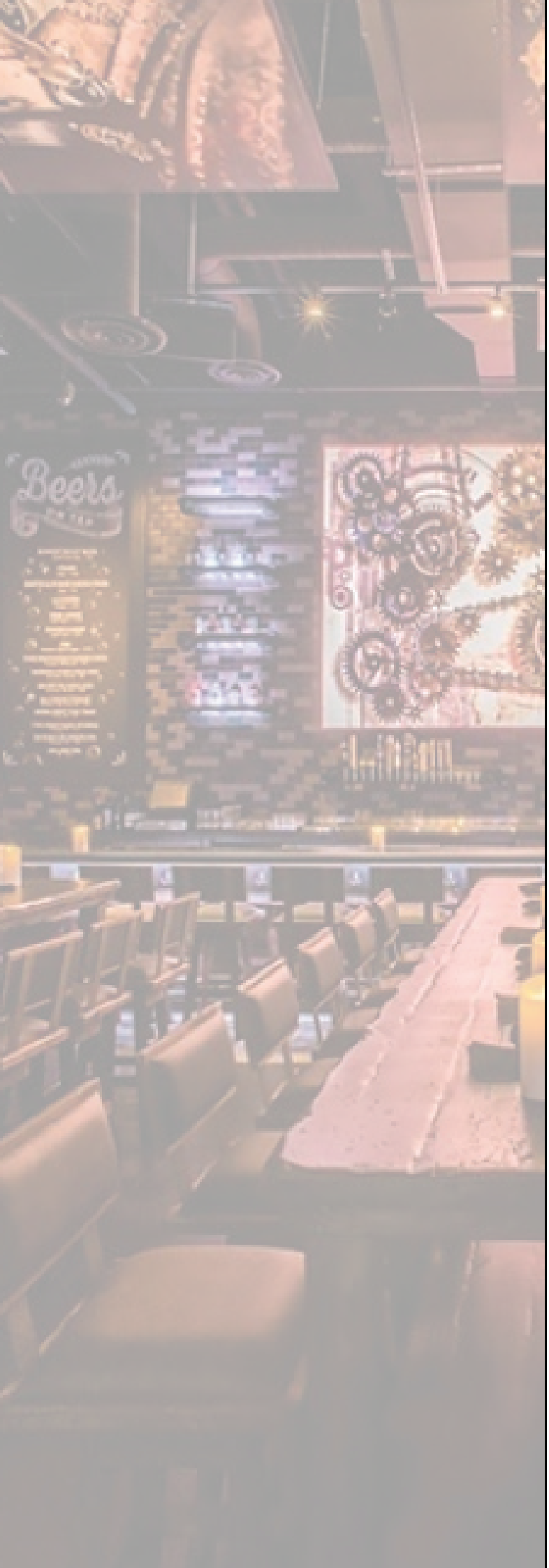
commissioning

Vanguard LED can help with installation!

Our Commissioning Services encompass the supervision of an installation and the training of on-site staff to handle the LED display.

everyday services

- Convenient solution demos
- Selecting the best product for each unique application
- Designing the display the application needs
- Detailed design drawings
- Industry-leading warranty and repair support
- Clear and fast communication with a local resource
- Pre-aging to correct minor issues to ensure a flawless installation
- Prompt troubleshooting and service support



about Vanguard LED

A leader in innovative digital LED display solutions, Vanguard offers an unrivaled range of products, technologies, and support.

Vanguard is an American-owned company, headquartered in Lakeland, Florida. Our mission statement - Complete customer satisfaction, defined by our core values of **expertise**, **integrity**, **responsiveness**, **service**, and **value**.

Our core values take many practical forms including Industry leading new technology, expert design advice at the outset of a project, timely quotes, the quickest lead times in the industry, helpful CADs and electrical drawings, professional commissioning, proficient on-site training, and stellar after-sales services.

VANGUARD
LED DISPLAYS

EXPERTISE | INTEGRITY | RESPONSIVENESS | SERVICE | VALUE