PLANAR DIRECTLIGHT X LED VIDEO WALL SYSTEM

Product Overview – January 2020

PLANAR®

Introducing Planar® DirectLight® X

The Next Generation of the DirectLight LED Video Wall System

Planar DirectLight X adds advanced video processing to the award-winning DirectLight® family:

- Advanced video wall processing with the Planar® Video Controller
- User friendly and powerful web based control with Planar® WallDirector™ Software
- Valuable video wall features like Planar® Big Picture Plus™ processing and Planar® WallSync™
- Wall-mounted, full front access video wall with <4” depth
- Planar® Remote Power Supply with hot swappable power modules and optional redundancy
- Planar® DriveSense™ architecture for low power consumption
- Select models available with Planar® ERO-LED™ protective technology
- Select models available with Planar® LED MultiTouch

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System Components

1

Planar DirectLight X LED Cabinets

- 27” LED Cabinets
- Available in 0.7, 0.9, 1.2, 1.5 and 1.8mm pixel pitches
- Slim, lightweight design
- DirectLight® Interface (DLI) per each Full HD (1920 x 1080) section
- Includes Planar® EasyAlign™ mounting and alignment system

2

Planar Video Controller (VC)

- 1U rack-mountable controller drives up to 9 Full HD (1920 x 1080) sections
- Embedded video and control extension
- Planar Big Picture Plus Processing with Planar WallSync genlock technology

3

Planar Remote Power Supply (RPS)

- 1U rack-mounted power supply powers complete system including LED Cabinets & Video Controllers (1.5U 220V Optional)
- Hot-swappable redundant supply option

4

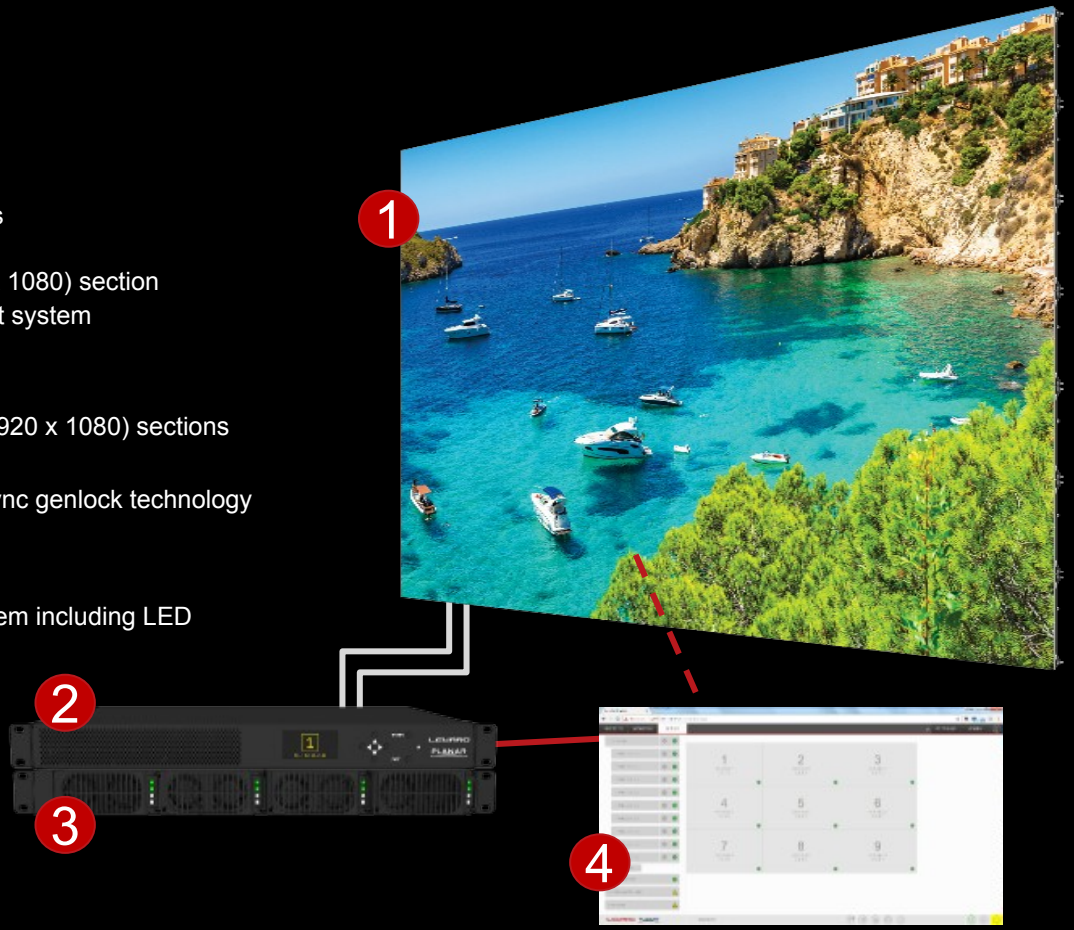
Planar WallDirector Software

- Tool for setup, monitor and operate your video wall
- Web-based browser interface

5

Planar® LED Control Software

- Tool for setup and configuring LED’s



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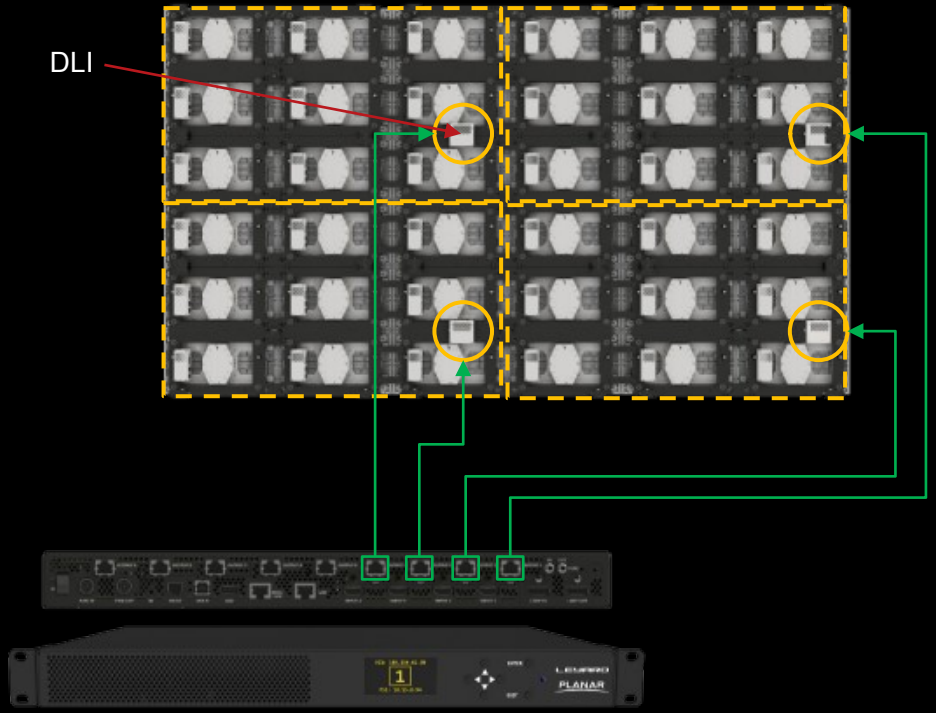
Off-Board Electronics Architecture

Key Features

- Advanced off-board video wall processing with Planar Video Controller:
  - Windowing, scaling, picture-in-picture, layout storage and recall
  - HDMI 2.0 and DisplayPort 1.2 inputs (4K@60Hz)
  - DisplayPort 1.2 loop output
  - Drives non-standard resolution and aspect ratio output
  - Drives up to (9) Full HD (1920 x 1080) display sections
  - Up to 200ft (61m) transmission distance
- Built-in video and control extension - eliminating the need for 3rd party video extension
- Planar Remote Power Supply:
  - Redundant, hot-swappable power supply modules to maintain operation in the case of a power supply failure (Optional)
  - Compact power density
  - Low power standby mode

Built-in Extension with Planar DirectLight X



Planar Video Controller

- On Planar DirectLight X (DLX), the VC and DLI replace 3rd Party HDBT extenders formerly needed with past DirectLight products
- DLX and Clarity Matrix G3 use the same Fiber Extension Module for fiber extension—which replaces other extenders formerly needed with DL2:

Fiber Extension Option

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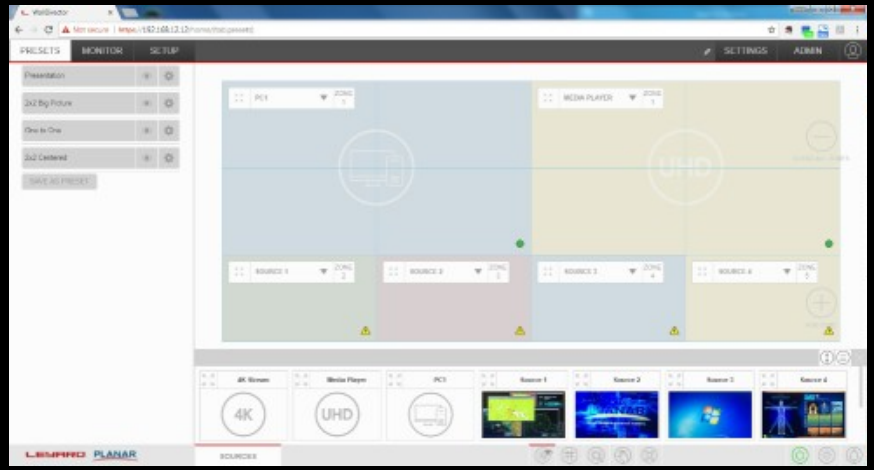
Planar WallDirector Software

Intuitive Software Simplify Configuration, Servicing, Monitoring & Operating



- Cross-platform web browser based software locally hosted on the Video Controller
- Modern, user-friendly interface
- Intelligently detects components in the system
- Remote monitoring and control
- Administrative privileges and control
- Alternative end user control interface
- Touch-friendly

Introducing Planar WallSync

Industry's First Fully Integrated Synchronized Video Wall Technology

- Supports video wall synchronization to a range of customer selectable internal and external sync sources
- Ensures perfectly synchronized video display without misalignment or tearing
- Includes unique Smart Genlock feature that works in concert with Planar Big Picture Plus scaling technology

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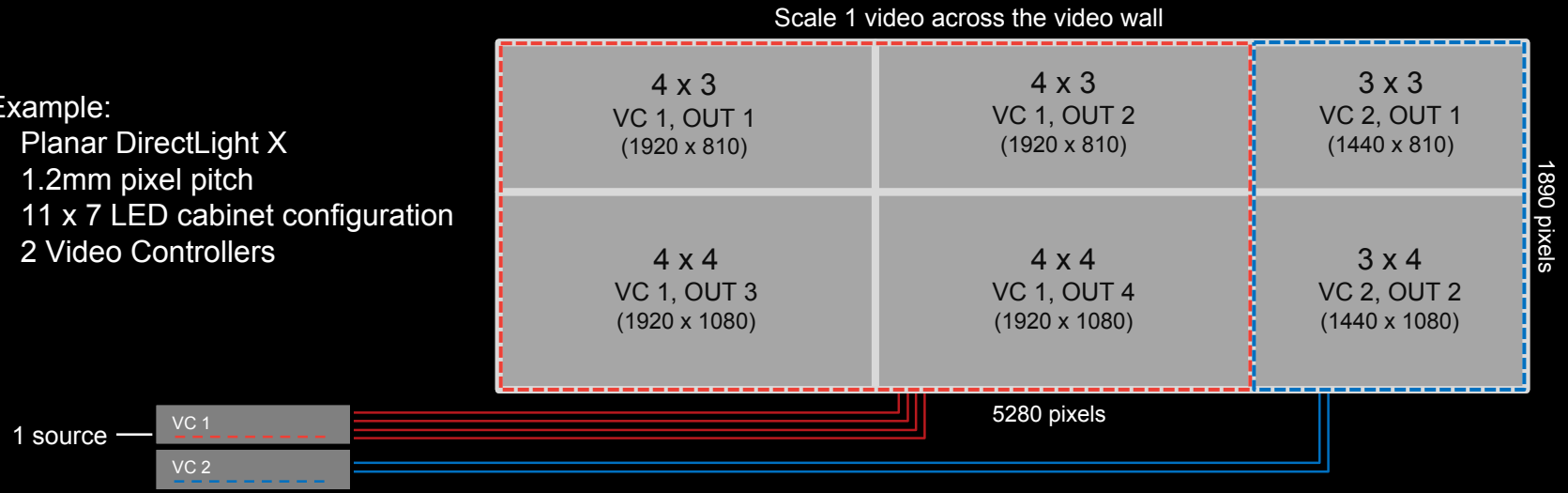
Addressing Challenges of LED with Planar WallSync

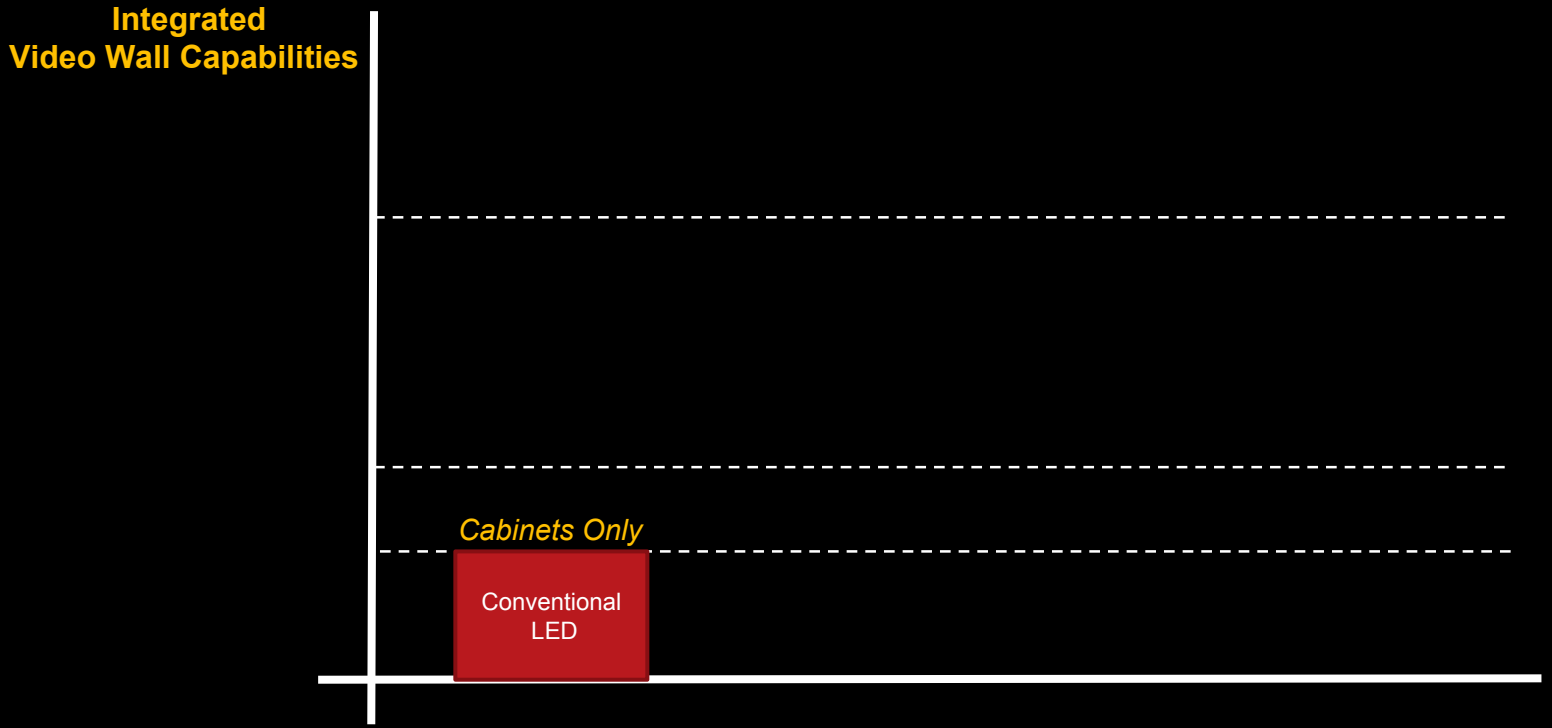
Accommodating Uncommon Resolutions

- Sync or genlock to 1 source
- Sync multiple VCs
- > 4K video wall with perfectly synchronized video playback and no tearing between Full HD bezel-less sections

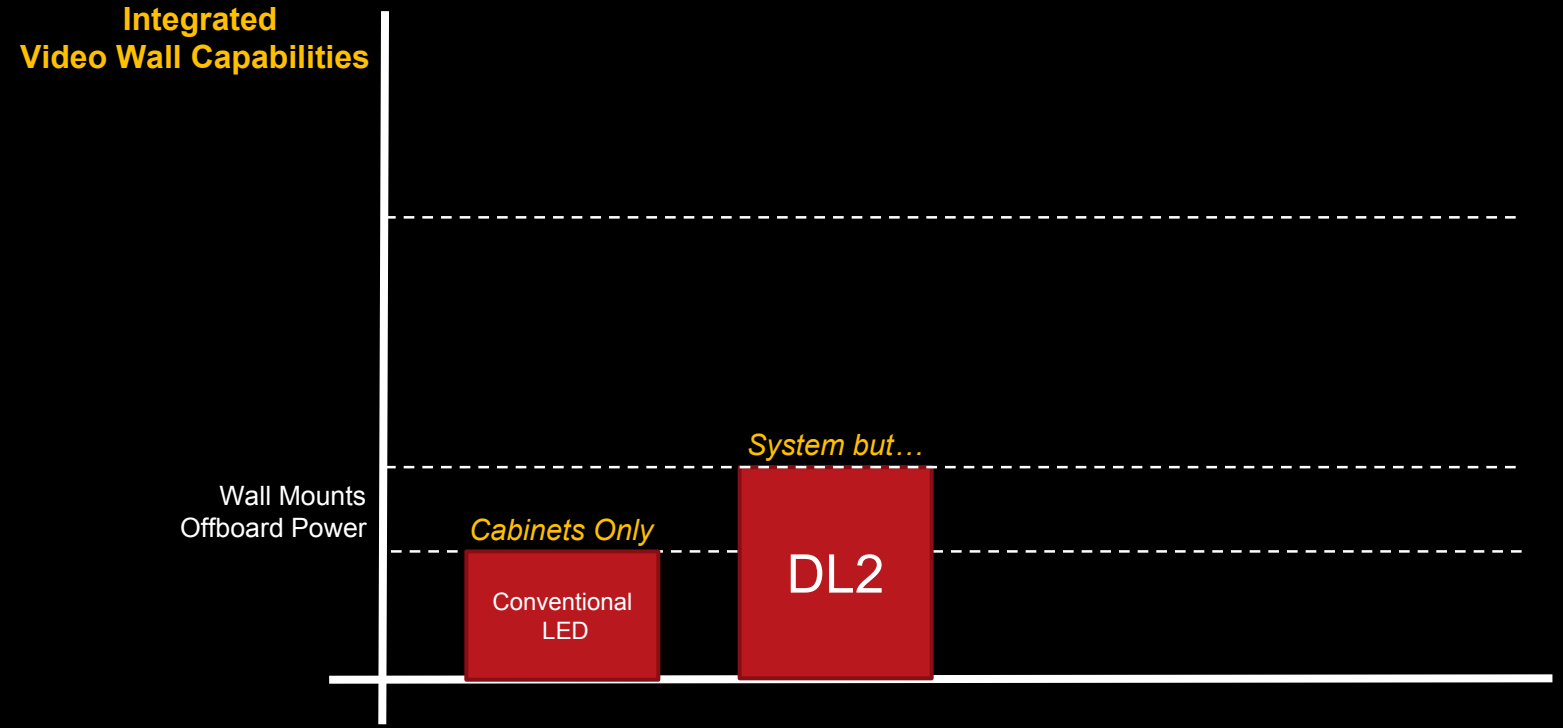
Example:
- Planar DirectLight X
- 1.2mm pixel pitch
- 11 x 7 LED cabinet configuration
- 2 Video Controllers



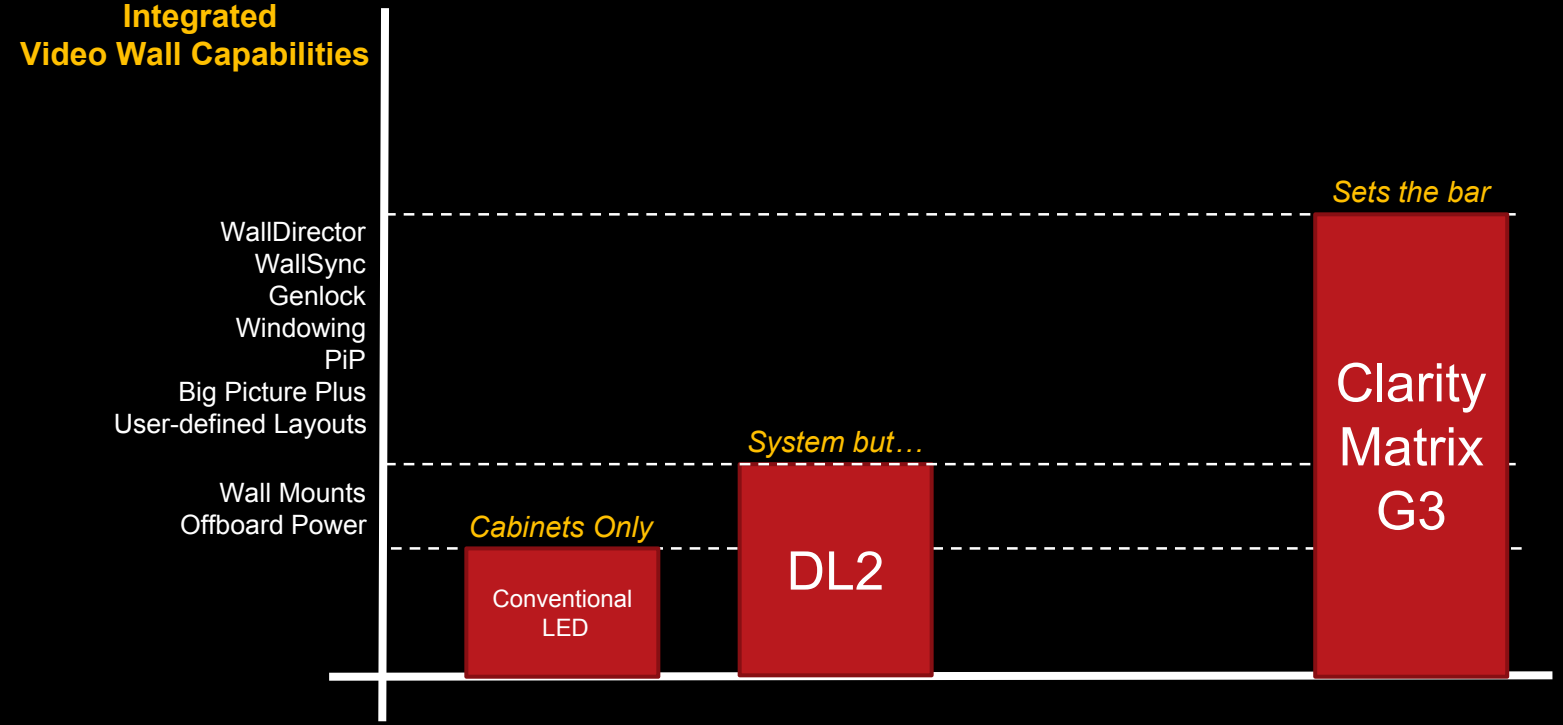
Planar DirectLight X Video Wall System



Planar DirectLight X Video Wall System



Planar DirectLight X Video Wall System



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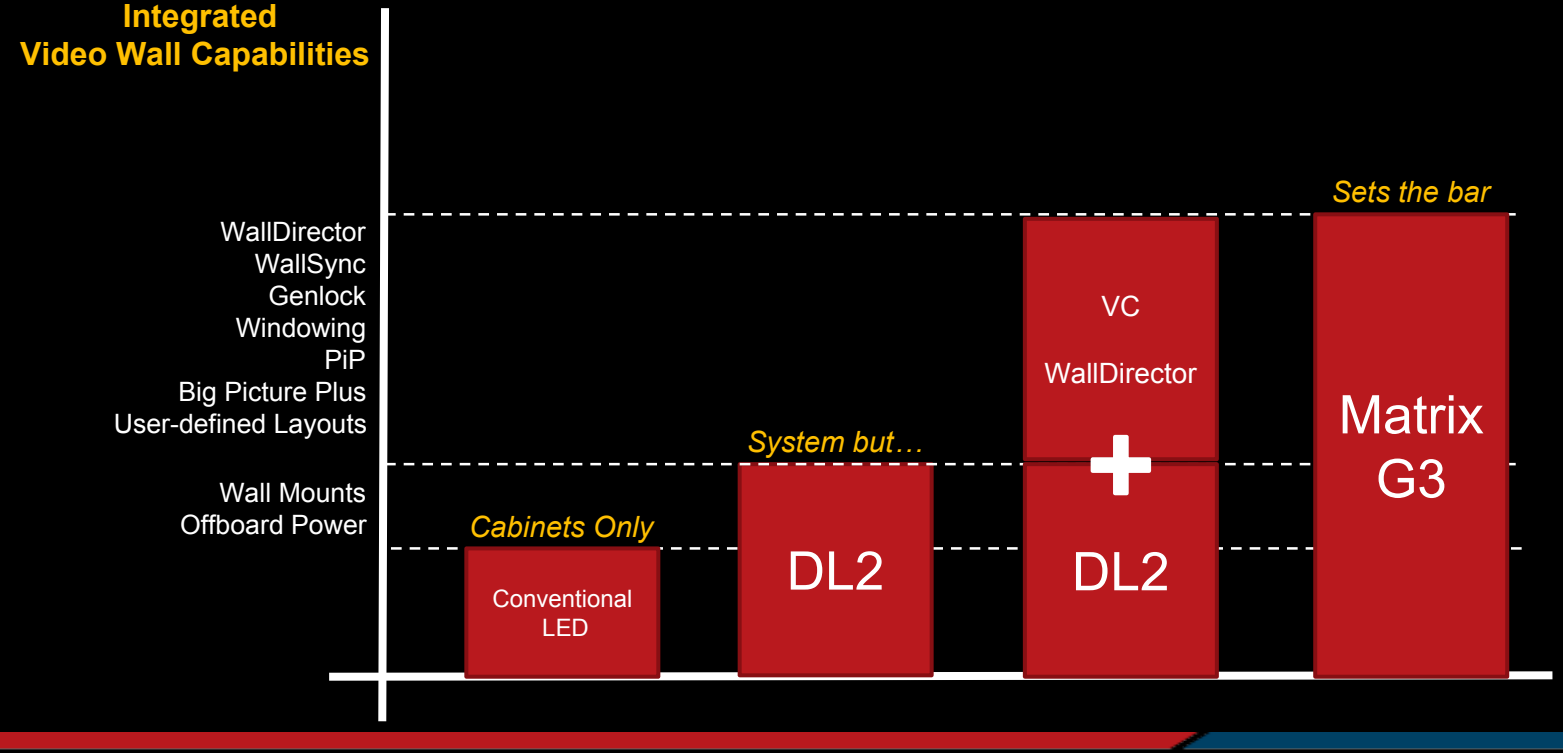

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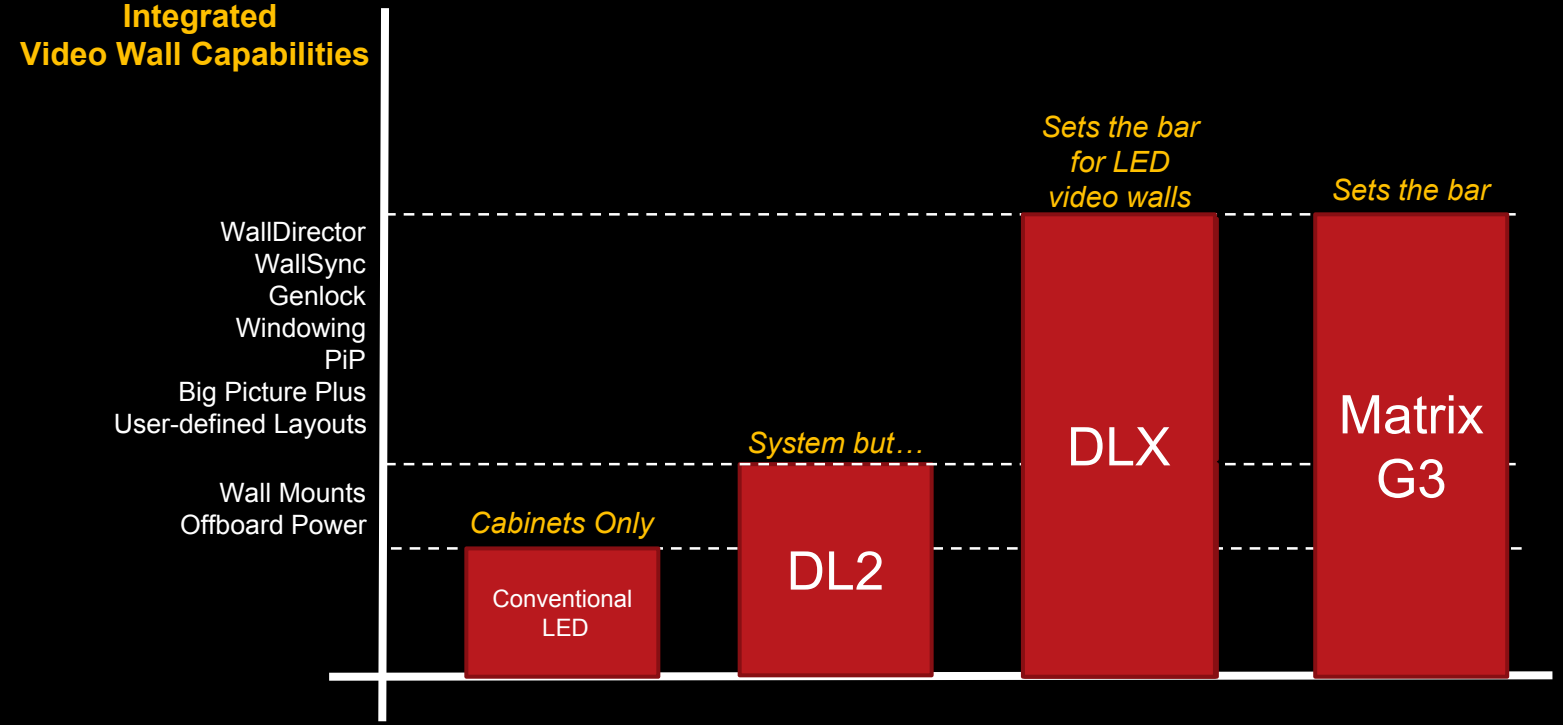


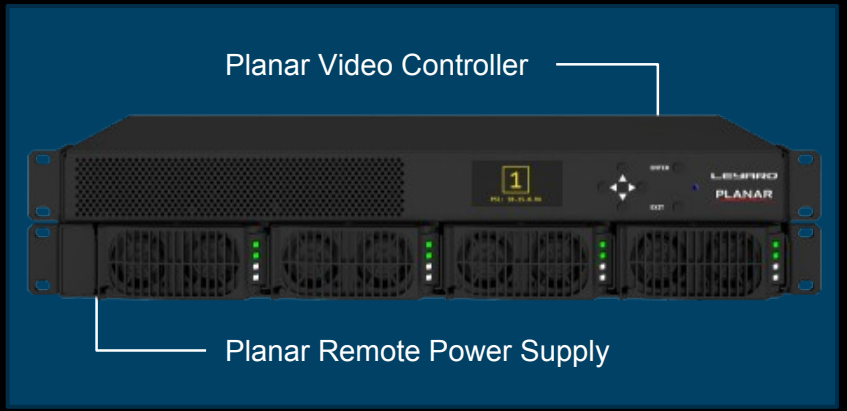
OFF-BOARD RACK COMPONENTS

Planar DirectLight X

Off-Board Electronics Architecture

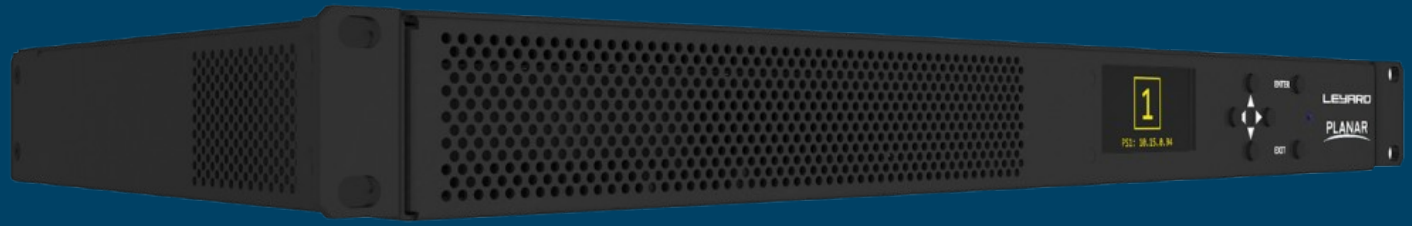
Key Benefits

- Components fit in standard racking units
- Removes heat, weight, depth, noise and points of failure from the video wall
- Rack can be co-located with sources and processing for convenient cabling, security, and climate control
- Maintenance is easy to access and does not interfere with video wall
- Redundant power supply option maintains operation in the case of a power supply failure



Planar Video Controller (VC)

Key Features

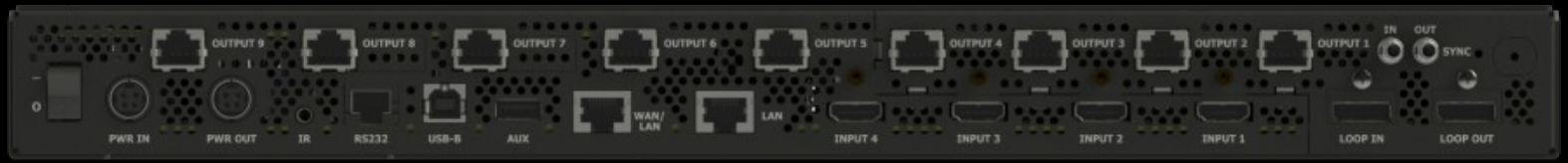


Available Models: 9-Output Model (VC9H-BP+) & 4-Output Model (VC4H-BP+)

- Purpose built, OS-agnostic video wall processing platform
- Built-in video and control signal extension
- Works with Planar Remote Power Supply
- Monitor system status and easily troubleshoot with status LED and front-panel status display
- Configuration storage and recall
- Sync to external signals – i.e. house sync in Broadcast environments
- Sync Video Controllers by cabling Sync Out and In
- Genlock to any single input within the video wall
- Mini-BNC connector with adapter to BNC
- Available in 4-Output or 9-Output configurations

Available Video Controller Models

2 options available



VC9H-BP+

9-Output VC

VC4H-BP+

4-Output VC

Video Controller Models

Choosing the Right Model

VC9H-BP+ 9-Output Unit

Best for applications where:

- Rack space is a concern
- Planar Big Picture Plus is used
- Relatively small number of sources are required
- Matrix switcher is used
- Video processor with 4K outputs is used

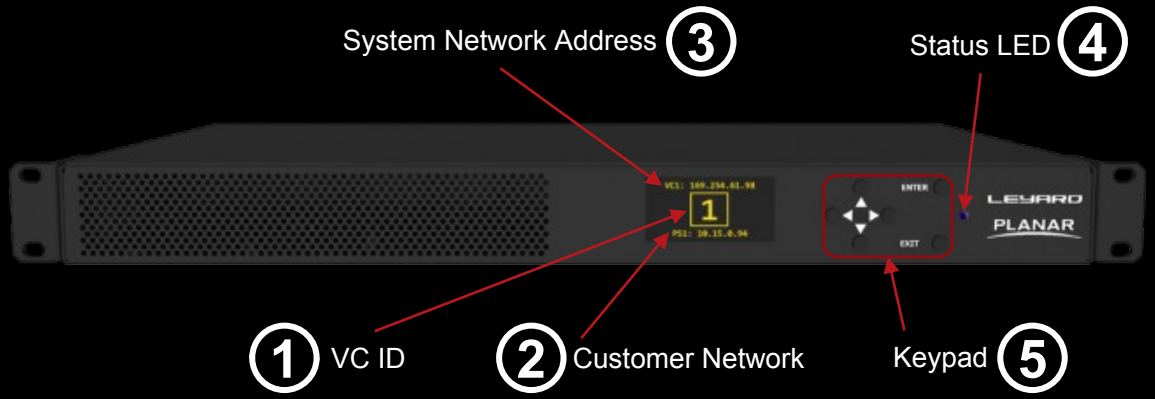
VC4H-BP+ 4-Output Unit

Best for applications where:

- Rack space is not a concern
- Larger number of directly-attached sources are required
- More content zones or windows on the video wall are desired

Planar Video Controller

Front Panel View

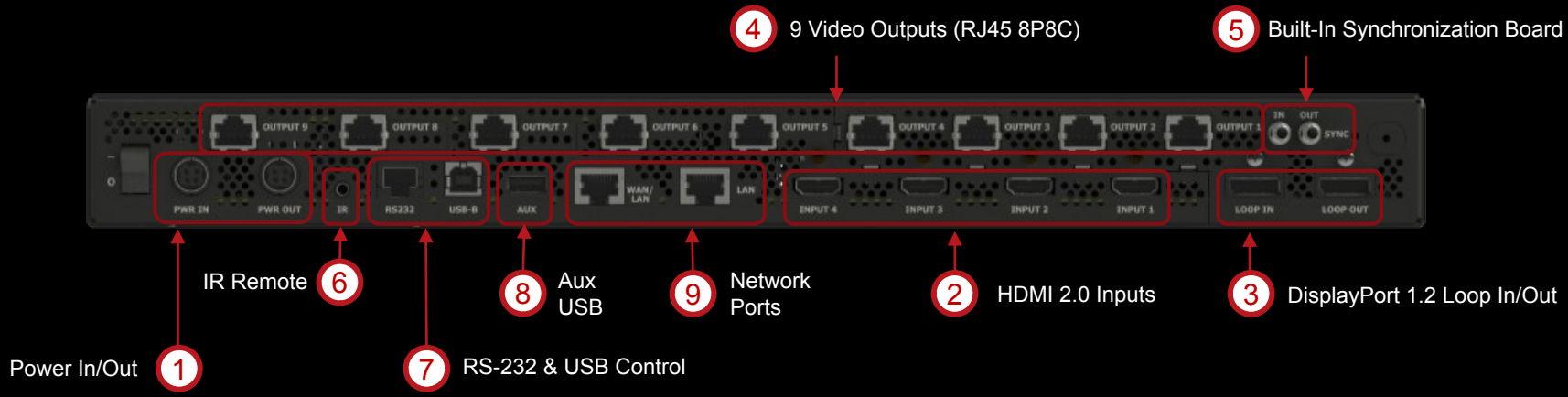


Front of Video Controller is the same for 9-Output and 4-Output models.

1. **Video Controller ID**
2. **Customer or Direct Connection Network Address –** Default Address is 196.168.12.12
3. **System Network Address –** for that VC
4. **Status LED –** Blinks when receiving a command
5. **Keypad Menu**
   - System On/Off
   - Factory Reset
   - System Reset
   - Set IP for VC

9-Output Planar Video Controller

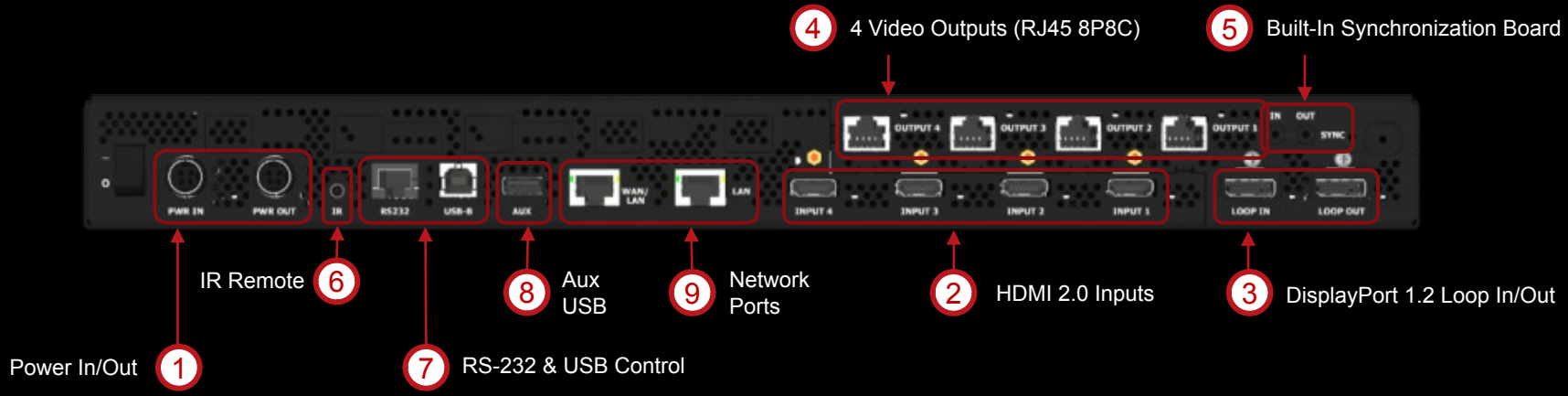
Back Panel View - VC9H-BP+



1. **Power In/Out** – Can loop up to 2 additional VCs
2. **HDMI 2.0 Inputs** – Each input capable of up to 4K at 60Hz
3. **DisplayPort 1.2 Loop In/Out** – Input capable of up to 4K at 60Hz
4. **9 Video Outputs (RJ45 8P8C)**–
   - Shielded CAT6 or greater
   - Up to 200ft / 60m
5. **Built-In Synchronization Board**
6. **IR Remote** - Used when VC is the Master
7. **RS-232 and USB Control** - Used when VC is the Master
8. **Aux USB-** Used for firmware download
9. **Network Ports**
   - Internal system communication
   - WAN/LAN is used for customer network when Master

4-Output Video Controller

Back Panel View - VC4H-BP+



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2. **HDMI 2.0 Inputs** – Each input capable of up to 4K at 60Hz
3. **DisplayPort 1.2 Loop In/Out** – Input capable of up to 4K at 60Hz
4. **4 Video Outputs (RJ45 8P8C)** –
   - Shielded CAT6 or greater
   - Up to 200ft / 60m
5. **Built-In Synchronization Board**
6. **IR Remote** - Used when VC is the Master
7. **RS-232 and USB Control** - Used when VC is the Master
8. **Aux USB-** Used for firmware download
9. **Network Ports**
   - Internal system communication
   - WAN/LAN is used for customer network when Master

Video Controller Models

Key Differences

	VC9H-BP+ 9-Output Unit (Standard)	VC4H-BP+ 4-Output Unit (Optional)
		
Video Outputs *(Full HD sections)*	9	4
Inputs	4x HDMI, 1x DP	4x HDMI, 1x DP
Zones	9	9
Rack Space	1 RU	1 RU

Planar Remote Power Supply (RPS)

Efficient, Reliable and Mission-Critical Off-Board Power Solution

- 24x7 Operation
- Hot swappable power supply modules
- Redundant power supply module option available
- Redundant AC input circuitry
- Health and status monitoring
- Ultra-low standby power mode (< 3 Watts)
- 110V or 220V support to reduce circuits used
- 220V option for higher power density
- Same physical design as Remote Power Supply (RPS) for Clarity Matrix G3 LCD Video Wall System

Planar Remote Power Supply Models

Two Form Factors, Configured Per Installation

RPS110

100-240V. Maximum 3,600 Watts out. 1 RU – ***Standard***

RPS220

200-240V. Maximum 7,200 Watts out. 1.5 RU - Greater power density - ***Optional***

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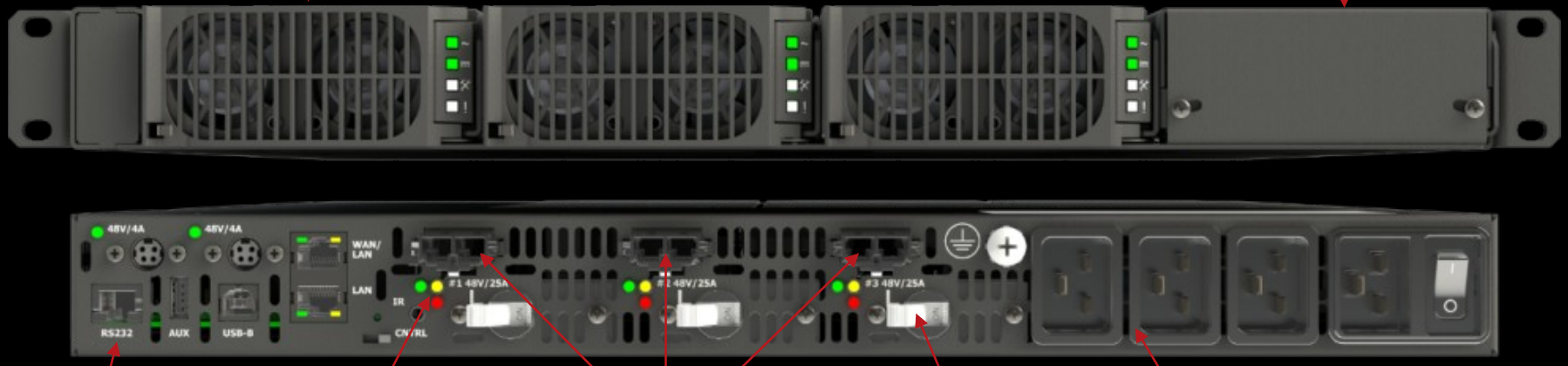
Planar Remote Power Supply Models

RPS110

1 RU. 19” Rack

RPS module

Redundant module bay



RS-232 control

Diagnostics lights

(3)1200w output

Switch per module

Circuit redundancy
Each plug requires 20a
circuit (or 2 on 30a)

Planar Remote Power Supply Models

RPS220

1.5 RU. 19” Rack

Fiber Video Extension Module

USB 2.0 input
(Type-B connector)

SFP fiber transceiver connection output to the DLI

Fiber module
power switch

DC Power
(4-pin mini-DIN)
for Fiber module
powered by RPS
or separate AC
supply

Input from the Video Controller

Fiber Extension Module used in Planar DirectLight X & Clarity® Matrix® G3 Video Walls

Supported Cable Lengths

Planar Video Controller

Standard length
200ft / 60m

Fiber Extension Module

Cat 6 Cable Lengths

Bulk cables and connectors support field-terminated lengths

25ft / 7.6m | 50ft / 15.2m | 75ft / 22.8m | 100ft / 30.4m | 200ft / 60m

Planar Remote Power Supply

Standard configuration support – 500ft / 152m

Power Cable Lengths

Bulk cables and connectors support field-terminated lengths

25ft / 7.6m | 50ft / 15.2m | 75ft / 22.8m | 100ft / 30.4m | 200ft / 60m

Fiber Extension Module

Multi-Mode 1000ft / 300m

Single Mode 10km
(Requires customization)

Fiber Cable Lengths

Bulk cables and connectors to support field-terminated lengths available

65.6ft / 20m | 98.4ft / 30m

Planar DirectLight X

The Next Generation of the DirectLight LED Video Wall System

- Advanced video wall processing with the Planar Video Controller
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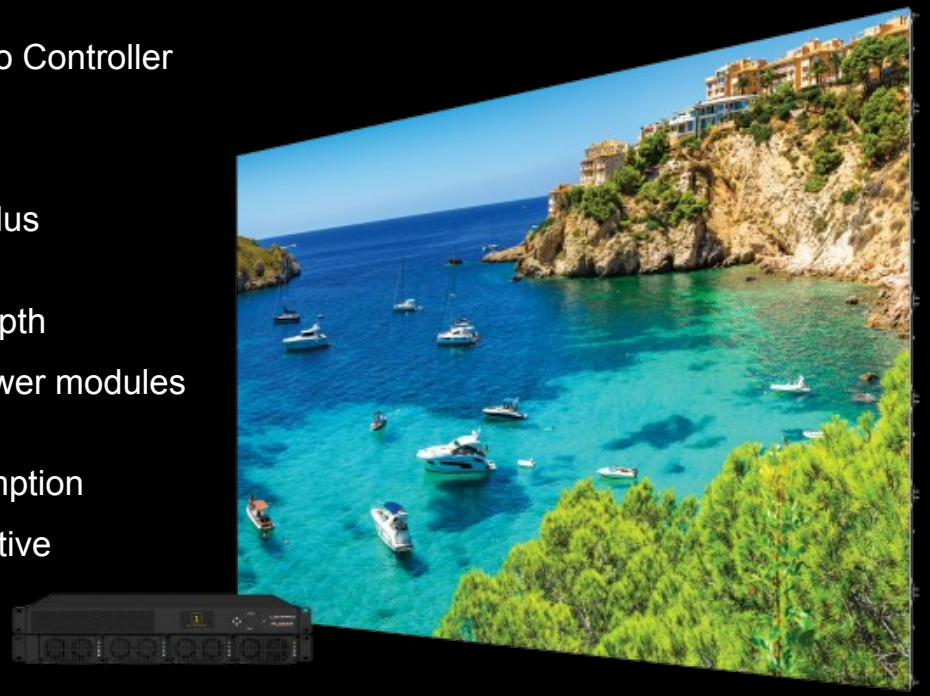

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NAMING AND SPECIFICATIONS

Planar DirectLight X

Planar DirectLight X Components

Product Components	
Public name	Planar® DirectLight® X LED Video Wall System
Internal name	DirectLight X (DLX)
Power	Planar® Remote Power Supply (RPS)
Controller	Planar® Video Controller (VC)
Software	Planar® LED Control Software Planar® WallDirector™ Software
Mounting	Planar® EasyAlign™ Mounting System

Available Models:
DLX-0.7 | DLX-0.9 | DLX-1.2 | DLX-1.5 | DLX-1.8

Planar DirectLight X Specifications

Full Range of Pixel Pitch Models	0.7, 0.9, 1.2, 1.5, 1.8mm
Full Front Service	Yes
ADA-Compliant	Yes
Mounting	Planar EasyAlign Mounting System
Power	Planar Remote Power Supply (RPS)
Video Controller	Planar Video Controller (VC)
Software	Planar WallDirector Software
CAT6 cable extension	Standard
Fiber cable extension	Option
4K Input Support	4K @ 60Hz
HDMI 2.0 compliant	Yes
DisplayPort 1.2 compliant	Yes
HDCP 2.2 compliant	Yes
CAT6 cable extension	Standard
Downscaling 4K to Full HD	Yes
Upscaling Full HD to 4K	Yes

Planar DirectLight X Specifications

Full screen and partial screen scaling	Yes – Planar Big Picture Plus
Arbitrary resolution upscaling and downscaling	Yes
Picture-in-Picture (PiP)	Yes
Source windowing - Limited	Yes
Source switching	Yes
Preset layouts and recall	Yes
Create content Areas on video wall	Yes
Drag and drop source control	Yes via Planar WallDirector Software
Synchronization and genlock	Yes via Planar WallSync
Modern UI design	Yes
Browser-based, cross-platform	Yes
Graphical tablet-based control	Yes via browser
On-screen menu (OSD) and remote control	Yes
VC and RPS monitoring	Yes via Planar WallDirector Software
Simplified cabling	Yes
Ambient light sensor	Option via DLI

THANK YOU