



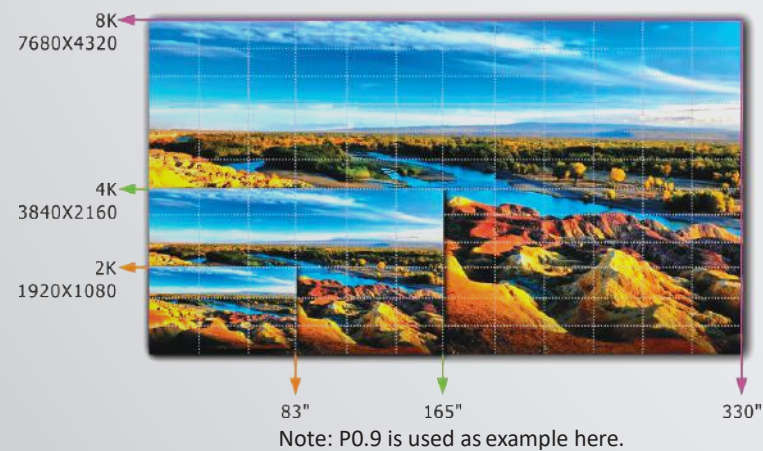
Black Diamond

UHD MicroLED Display

BLACK DIAMOND SERIES FEATURES

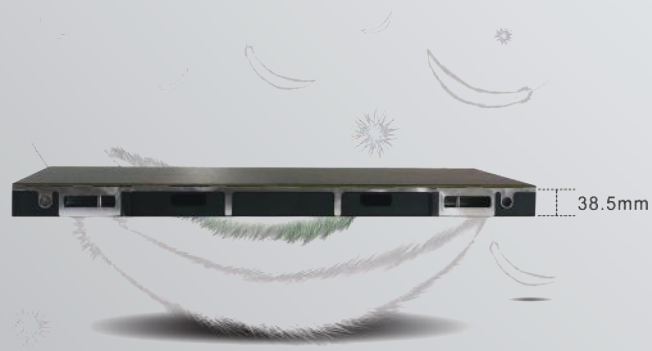
Native 16:9 Resolution

Our 16:9 golden ratio cabinet design allows the LED Display to be easily compatible with the standards FHD, 2K, 4K & 8K resolution without scaling.



Thin & Lightweight Module

Super Thin cabinet design with a thickness of only 38.5mm.



Front Service Design

Front installation and servicable.



All-In-One Mainboard

Combined with our power supply and hub board, the all-in-one main board ensures high integration and reliability.



CNC High-Precision

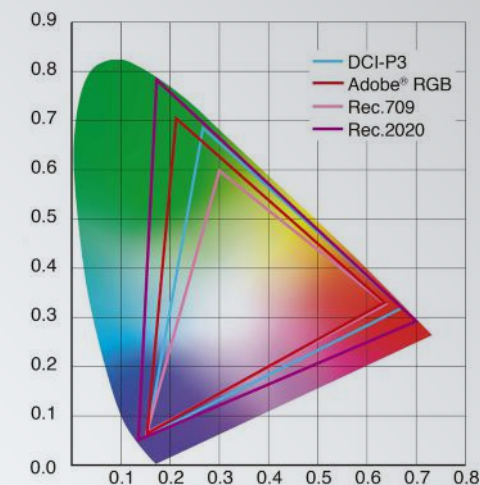
High-precision CNC aluminum profile structure which keeps the joint seams under 0.1mm.



DCI-P3 AVAILABILITY

Pledco is now the first LED display company in the industry to integrate the DCI-P3 Color Gamut at 100% as our new optional standard. We took it upon ourselves to match the DCI-P3 Gamut based on famous brands such as; Apple, Microsoft, Samsung and Google. Our Black Diamond's P1.5-1.9-2.5mm can be equipped using the DCI-P3 at 100% as an optional requirement.

* HDR 10 Media Profile / Dolby vision supported



LOW BRIGHTNESS & HIGH GREY LEVELS

The BLACK DIAMOND Series' Indoor LED Display cabinet has the ability to project high levels of grey while maintaining low brightness. The grayscale comparison can be seen below to prove our technology's pristine imagery. Standard LED display cabinets fail to reach high levels of grey scale due to low quality engineering from their software and calibration, however, Pledco's advanced software, control system and calibration enables us to reach these picturesque levels while maintaining low brightness.

HD BROADCAST COMPATIBLE

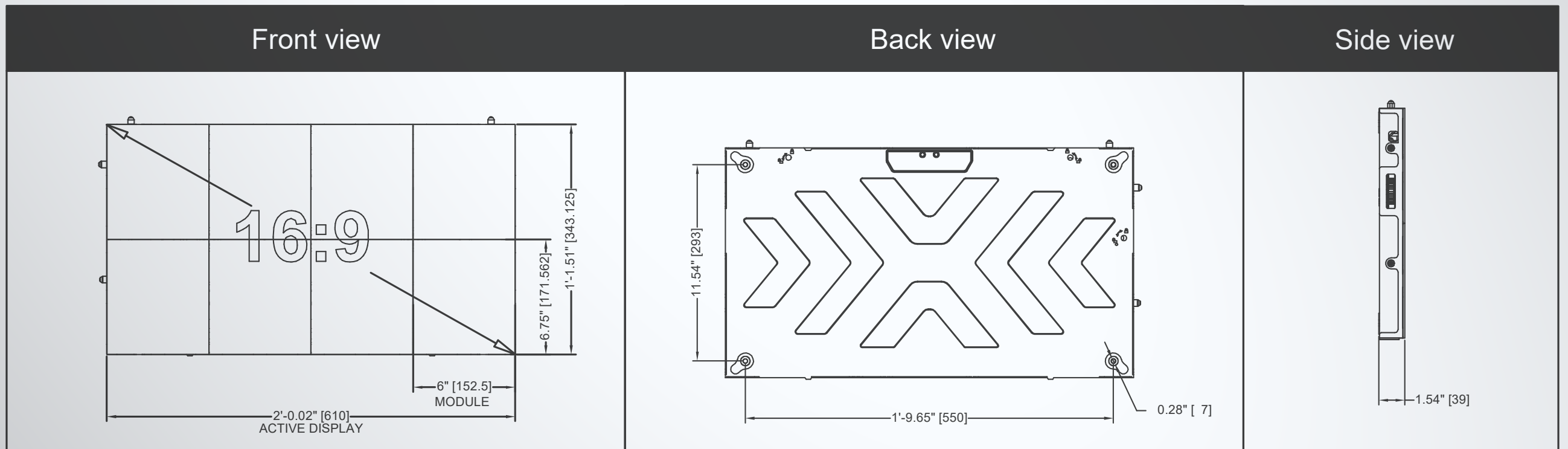
The BLACK DIAMOND Series' Indoor LED Display cabinet is HD Broadcast compatible for television recording. Our ultra-high refresh rates ensure when broadcasting live television the LED display stays flicker free but more importantly continues to project pristine imagery. In addition all our HD LED display are fully equipped with a full redundancy control system to ensure zero downtime during a live event.



MODULE DESIGN

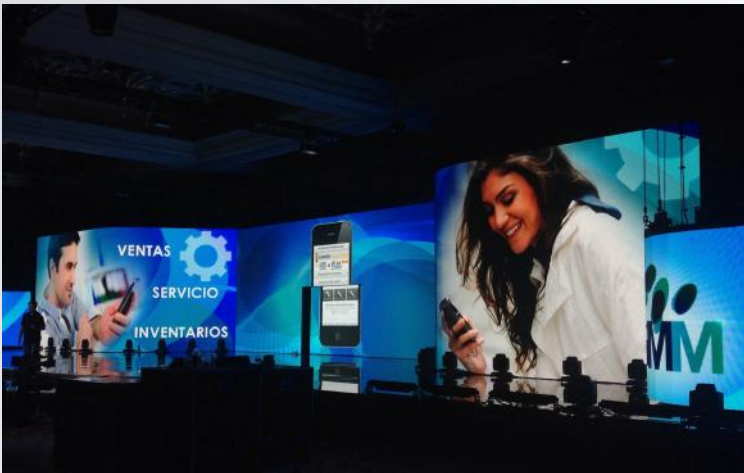


Module Dimension (mm)





AIRPORT



Conference Rooms



FINANCIAL

ULTRA HIGH RESOLUTION



Pledco's cabinets have been specifically designed to match the golden ratio of 16:9 with the intention to easily match industry resolution standards such as Full HD, 4K or 8K.

FULL HD	4K	8K
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LED Display Resolution												
Models	1 x 1	2 x 2	3 x 3	4 x 4	5 x 5	6 x 6	7 x 7	8 x 8	9 x 9	10 x 10	11 x 11	12 x 12
BD-0.9	640 x 360	1280 x 720	1920 x 1080	2560 x 1440	3200 x 1800	3840 x 2160	4480 x 2520	5120 x 2880	5760 x 3240	6400 x 3600	7040 x 3960	7680 x 4320
BD-1.2	480 x 270	960 x 540	1440 x 810	1920 x 1080	2400 x 1350	2880 x 1620	3360 x 1890	3840 x 2160	4320 x 2430	4800 x 2700	5280 x 2970	5760 x 3240
BD-1.5	384 x 216	768 x 432	1152 x 648	1536 x 864	1920 x 1080	2304 x 1296	2688 x 1512	3072 x 1728	3456 x 1944	3840 x 2160	4224 x 2376	4608 x 2592
BD-1.9	320 x 180	640 x 360	960 x 540	1280 x 720	1600 x 900	1920 x 1080	2240 x 1260	2560 x 1440	2880 x 1620	3200 x 1800	3520 x 1980	3840 x 2160
BD-2.5	240 x 135	480 x 270	720 x 405	960 x 540	1200 x 675	1440 x 810	1680 x 945	1920 x 1080	2160 x 1215	2400 x 1350	2640 x 1485	2880 x 1620

LED Display Size												
Feet (ft)	2 x 1.1	4 x 2.2	6 x 3.3	8 x 4.5	10 x 5.6	12 x 6.7	14 x 7.8	16 x 9	18 x 10.1	20 x 11.2	22 x 12.3	24 x 13.5
Millimetre (mm)	610 x 342	1220 x 686	1830 x 1029	2440 x 1372	3050 x 1715	3660 x 2058	4270 x 2401	4880 x 2745	5490 x 3088	6100 x 3431	6710 x 3774	7320 x 4117



PLEDCO HD DISPLAY

Our calibration technology reaches all possible X & Y coordinates ensuring you HD broadcasting experience is crystal clear.

1

COLOR ENHANCING

After calibrating with our Radiant PM-1400F Calibration System in a dark room, the wave length difference for each color will only be less than 0.1nm. Our patented control system allows users to select several different color spaces or create your own color space by using our user-friendly software.

2

COLOR COORDINATION PROCESS

The same batch of LED's with discrete distribution are all moved to PAL Mode Chroma Area through color coordinate calibration Technology.

Since each LED batch produced has different coordinates this requires precise color calibration, which in turn allows:

- ▶ The LED display to show natural and vivid colors.
- ▶ All LEDs have been color rendered consistently.
- ▶ Color Spaces Available: ADOBE RGB, REC-709, and DCI-P3 as optional.

SYSTEM CALIBRATION

All X & Y coordinates are kept in our client project database. When you order new tiles for an existing project we retrieve the original X & Y coordinates. This ensures during calibration all colors are matched properly. Typically, in video mode, no color differences are visible, however, if white has been set at 50% brightness, the user may see a slight difference in color.



3

DIGITAL DATA REVISION

If a single pixel fails, the data will be read-out from the EEPROM and then re-wrote to the replacement chip. After this process the brightness value is calibrated again to ensure the uniformity of the entire system, thus providing easy and fast maintainability.

At the same time, the system records every displays' initial calibration data to avoid uneven brightness caused by led attenuation. The updated screen brightness calibration data and recorded data, both ensure the uniformity of the display's brightness over a period of time.

CONTROL SYSTEM 4K PROCESSING



Input			
Type	Channel	Connector	Details
DisplayPort	1	DisplayPort Standard	Supports DisplayPort 1.2. Max.3840×2160@30Hz
HDMI	3	HDMI Standard	Supports HDMI 2.0 Max.3840×2160@30Hz
DVI	2	DVI-I	Analog inputs not supported. DVI1 Supports dual-link Max.2560×1600@60Hz
SDI	1	BNC	Supports SMPTE 425M-Level A(3G-SDI), SMPTE 292M(HD-SDI), SMPTE 259M-C(SDI)
VGA	1	HD-15	Max.1080P@60Hz
YPrPb	1	3.5mm jack	Max.1080P@60Hz
Genlock	1	BNC	SD bi-level and HD tri-level sync, PAL, NTSC, 720p, 1080i/p, 576i/p, 480i/p
Output			
Type	Channel	Connector	Details
DisplayPort	1	DisplayPort Standard	Supports DisplayPort 1.2. Max.3840×2160@30Hz
HDMI	1	HDMI Standard	HDMI2.0.Supports 12bit deep color
DVI	1	DVI-I	Loop out from DVI2 input
SDI	1	BNC	Loop out from SDI input
Genlock	1	BNC	Loop out from Genlock Input
SPDIF	1	RCA	Supports standard S/PDIF for stereo LPCM or compressed audio up to 192 kHz
Headphone	1	6.5mm audio jack	Stereo Audio Output
LED Datalink	6	Neutrik etherCON	1Gbps/port
Others			
Control Methods	USB, Gigabit Ethernet, IR, HMI on the Font Panel		
Power	Neutrik powerCON connector, 100-240 VAC, 50-60 Hz, Max.25W		
Temperature	-10 ~ +50 °C		
Mechanical	472×375×90 mm		
Optional			
Fiber optical direct output, single mode or multi mode MPU9000 (FM or FS)			

- Integrated with SWITCH Monitor(2x2), Video Processor, Full-HD Media Payer and LED Display Controller
- Supports SD Card and mSATA SSD Mass Storage devices (up to 256GB for SSD and 200GB for SD)
- Available in fiber version with single mode or multi mode direct fiber output
- Supports DisplayPort 1.2, HDMI 2.0, dual-link DVI and 3G SDI Inputs
- Advanced Faroudja® video processing: MADi and DCDi
- Supports daisy chaining of monitors of up to four streams
- 6GB LED Display Data Link(optional fiber output)
- 6-axis color control independent of ACC
- 4K×2K screen resolution support
- Gigabit Ethernet
- Built-in 6.5mm audio jack
- SPDIF Output by coaxial
- Supports Genlock
- Built-in Monitor
- 20 bit Processing



GENERAL PRODUCT CONFIGURATION

Custom designed by an industry leading Canadian engineer, our BLACK DIAMOND Series is equipped with automatic brightness technology to overcome any lighting conditions while delivering HD imagery.



PLEDCO

THE FUTURE of LED technology

From sports stadiums, to spectaculars and beyond, PLEDCO has over 25 years' experience in meeting customers' unique needs. Backed by a talented team of engineers and designers and a robust product line offering, PLEDCO can turn your display dream into a reality.



Technical Specifications		BD-0.9	BD-1.2	BD-1.5	BD-1.9	BD-2.5
Display Technology	Pixel Pitch (mm)	0.953	1.27	1.588	1.906	2.54
	Pixel Configuration	SMD 0808	SMD 1010	SMD 1010	SMD 1010	SMD 1515
	LED Packaging Wire Material	Gold Wire				
	LED Mask Protection	N/A			YES	YES
	Pixel Density (Pixels/M2)	1.1 Million	620 000	396 550	275 267	155 000
	Maximum Calibrated Brightness	3 year warranty 800 cd/m2 or 5 years warranty 600 cd/m2				
	Black Level (Nits)	0.024 cd/m2				
	Static Contrast Ratio	33 333:1 for 800 cd/m2 or 25 000:1 for 600 cd/m2				
	Field Contrast Ratio (Office Light)	>= 5000:1				
	Viewing Angle	160° H, 140° V				
	Refresh Rate	>= 4200 Hz				
	Scan Rate	1/30	1/24			
	DCI-P3 Option	NA	1/12		1/10	
	Color Temperature (°K)	2700-8600 (4 customizable preset)				
	Display Colors	281 trillion (16-bit)				
	Color Gamut Preset	Adobe RGB / REC-709 / Custom / Optional DCI-P3				
	Data Redundancy	Full Redundancy for Wiring & Controller				
	Gamma Handling	Dynamic proprietary technology for HDR10 and Dolby vision				
	Real Time Monitoring	Power, temperature, status, packet lost and PHY reset.				
	UDP Command Supported (RT)	Color Gamut, Gamma, Color temperature and Power.				
Calibration	Color and brightness pixel by pixel stored on module.					
Signal	Inputs	HDMI(2.0) / DP(1.2) / HDS DI / Dual link DVI				
	Max Input Resolution	3840 x 2160 @30fps or 3840 x 1080 @ 30fps				
	Scaling	HD scaler with built in player (up to 256GB storage)				
	Color Depth	True Color (24 bit) or Deep Color (30/36/48 bit)				
	Standard Supported	HDR 10 media profile and Dolby vision				
Power	Input Rating	100 - 240 VAC @50-60Hz				
	Power Consumption By Cabinet	75W Typical / 150W Maximum (800 nits version)				
	Heat Output	Avg = 127 BTU/hr. & MAX = 256 BTU/hr.				
	Power And Heat For DCI-P3 Option	20% more				
	Power And Heat For 600Nits Version	20% less				
Optional Power Distributor (PDU)	10-25-40 KW w/ noise protection and electronic triggering.					
Environment	Operating Temperature	-10 to 45°C (14 to 113°F)				
	Operating Humidity	0-90% non-condensing				
	Storage Temperature	-10 to 55°C (14 to 122°F)				
	Environment	INDOOR				
	IP Rating	30				
	LED Lifespan (50% Brightness)	>=100 000 hrs.				
Physical	Cabinet (Tile) Dimensions (WxHxD - mm)	610 x 343.125 x 39				
	Cabinet (Tile) Resolution (px)	640 x 360	480 x 270	384 x 216	320 x 180	240 x 135
	Cabinet (Tile) Weight	7KG				
	Service Access	Front service maintenance w/ magnetic tool and fixation				
	Cabinet Design	Die-cast aluminum (CNC on 5 axis)				
	Installation Options	Flat or concave (optional sub structure)				
	Module Dimensions (WxHxD - mm)	152.5 x 171.562				
Module Resolution (px)	160 x 180	120 x 135	96 x 108	80 x 90	60 x 67	
Certifications	Electrical	cETLus / CE				
	Electromagnetic	EMIC / FCC / ICES-003				
Warranty	All Parts	3 years or 5 years depending of final brightness requirement				

* Further detailed configuration available upon request.



CUSTOMER SERVICE

At PLEDCO, we strongly emphasize the importance of customer relationships, and their trust in our products. Our key to lasting relationships focuses on delivering world-class LED products, while promising exceptional customer service and reliability, ensuring our clients a relaxing experience. PLEDCO is recognized as an industry leading LED total solution provider, from initial inquiry to after sales, our heavily trained team will guide you step-by-step through the entire process of your LED project.

Installation Support

Our skilled technicians can professionally install your LED Displays without disturbing your projects schedule. Mitigation and problem-solving are inevitable during the installation process, and PLEDCO's installation "Gurus" have the experience, know-how, and technical expertise to handle nearly any situation. We are able to provide you with all the required documents including; specification sheets, system diagrams, complete display and structure elevation drawings, and 3D rendering if required. As your dedicated total solution provider, we promise to be there step-by-step guiding you through your project, from initiation to closing.

24/7 Technical support via online or phone

Our phone and online live support systems enable us to provide 24/7 technical assistance. If you require urgent assistance, our skilled technicians are always ready to help, regardless of difficulty. Technicians are required to pass intensive training and testing to ensure issues are dealt-with professionally and accurately, while emphasizing the importance of your project schedule.

Warranty & Maintenance

With over 20 years of combined professional experience, our internationally exposed engineers have specially designed and developed LED Display solutions to cope with harsh environments and withstand extreme temperatures. However, in the event of a problem, our highly experienced technical support team promises minimal display downtime by utilizing our bullet-proof troubleshooting expertise. Nearly all of Pledco's products include a 5-year warranty, with optional extensions available upon request.

Parts Availability for the Next 15 Years

Our manufacturing facility produces all the parts used to assemble our LED displays. More importantly, we own all the technology, molds and PCB layout designs that are used to develop these parts. This provides us with the reliability of knowing exactly what materials are being used and ensures the quality of our products and can be managed directly from the production level. One of the biggest after-sales issues a client could have is being able to receive replacement LEDs that have been recalibrated exactly the same as the display when first produced. PLEDCO is one of the few companies in the world who utilizes the international HD NTSC REC-709 calibration in LED display, thus making it possible for us to provide our clients the exact same LEDs to match their display by using Radiant's camera technology.



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