



Onyx
Cinema LED Technology

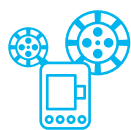
Samsung Onyx

The World's First Cinema LED Screen

HIGHLIGHTS

- Elevated contrast creates realistic and deep black color expression
- Enhanced luminance and low tone expression truly delivers High Dynamic Range (HDR) picture quality
- Reinforced screen achieves 10 times the peak brightness of standard projector-based alternatives
- Uniform, distortion-free presentation surpasses the quality of standard cinema screens
- Specialized emissive LED technology upholds exceptional picture quality even at low ambient lighting levels, producing a consistently brilliant content engagement environment.

Today's theaters strive to expand their customer base by promoting themselves as a destination for an unparalleled viewing experience. Samsung is prepared to play a starring role in helping these theaters welcome audiences into the "cinema of the future" with its new Samsung Onyx Cinema Screen. Samsung Onyx takes theater technology to the next level by bringing 4K LED picture quality to the big screen, delivering a more powerful and captivating picture that makes viewers feel as if they are part of every scene. This also includes peak brightness (146fL), accurate color presentation and distortion-free uniformity to bring content to life. As the world's first cinema-ready LED display, Samsung Onyx offers the versatility and premium visual environment necessary to redefine the theater experience, extend usage opportunities and wow even the most entertainment-savvy consumers.



Film Projector

1900

INNOVATION



Lamp Projector

2000

EVOLUTION



Laser Projector

2015

INNOVATION

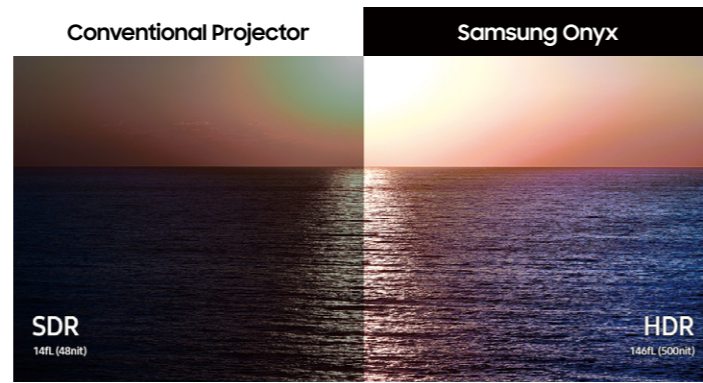


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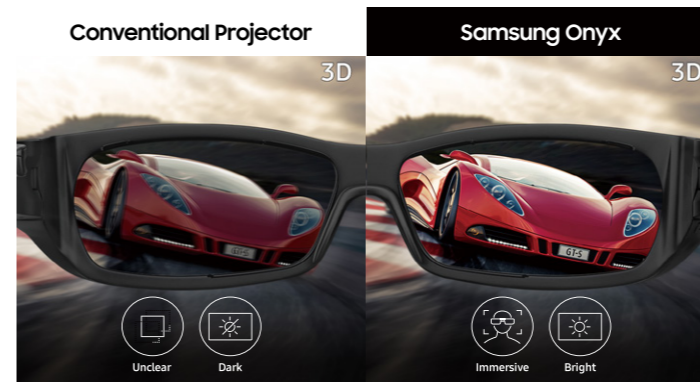
SHOWCASE TRUE, REALISTIC BLACKS THROUGH ULTRA CONTRAST

Samsung Onyx Cinema LED display leverages a unique Ultra Contrast setting to improve viewers' perceptual resolution and deliver onscreen content with greater accuracy and precision. In particular, the Onyx screen can display true black colors, offering a superior visual experience to the distorted or grayed-black hues commonly offered by legacy theater technologies. This accurate representation is furthered by 18-bit processing that maintains consistently authentic low-tone grayscale effects, as well as an infinite contrast ratio that maintains visual integrity in darkroom settings.



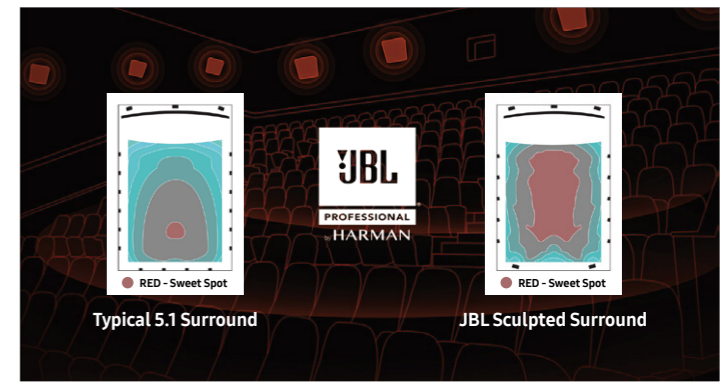
DELIVER BRILLIANT, HDR-SUPPORTED CONTENT

The Onyx screen's composition infuses the benefits of High Dynamic Range (HDR) technology into the theater for added visual value. Through this HDR integration, cinemas can amplify content presentation through a 146fL (500nit) peak brightness level. In comparison, this elevated brightness level represents an improvement nearly 10 times greater than that offered by standard theater technologies, which often achieve a maximum 14fL (48nit) brightness.



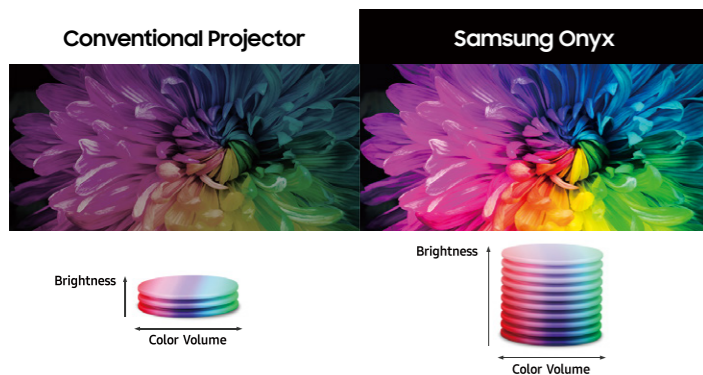
TAKE CINEMA CONTENT TO ANOTHER DIMENSION

Through enhanced brightness and consistent color representation, Samsung's 3D Onyx screen accomplishes a feat previously considered impossible – making 3D movies even more realistic. The 3D Onyx makes subtitles easier to read and visuals more detail-rich and brilliant, further making viewers feel as if they are part of the content. Glass-wearing viewers also can enjoy their film without the dark, blurry shadowing and potential dizziness that often come with the traditional 3D movie experience.



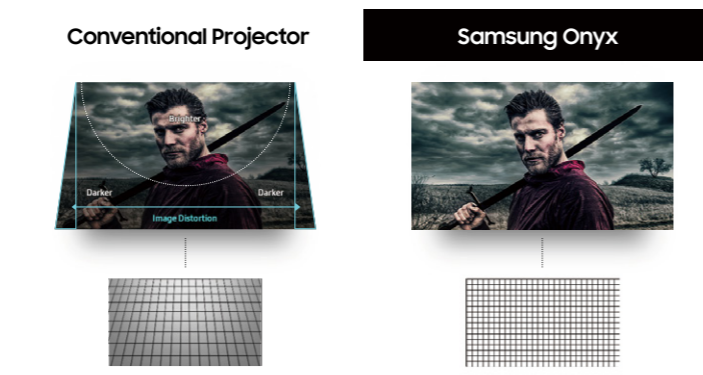
PAIR CONTENT WITH CLEAR, CRISP SOUND

By pairing the Onyx display with HARMAN's JBL Sculpted Surround audio system, Samsung invites movie-goers into an unparalleled multi-sensory presentation. The state-of-the-art JBL speakers accommodate inclined theater configurations to deliver uniform, consistent sound to guests. This broader audio coverage prevents rearward bias, aligns the customer experience, and ensures that films can be enjoyed at the highest quality and as the producers intend.



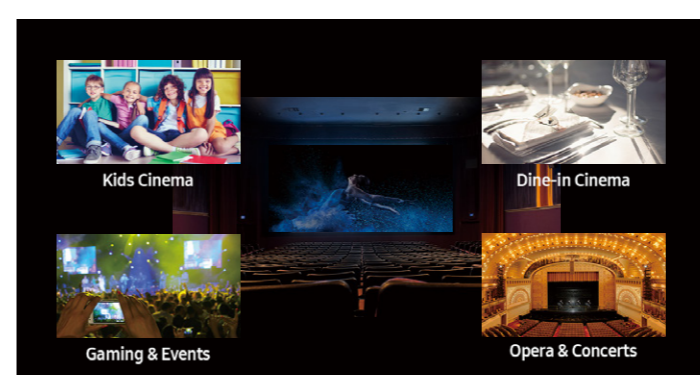
ALIGN PEAK BRIGHTNESS WITH ACCURATE COLOR REPRESENTATION

Through a fully-aligned picture, Samsung Onyx prevents theater operators from having to choose between brightness and color quality. The display achieves this optimal balance by maintaining perfect color accuracy for a range of hues even at peak or near-peak brightness.



MAINTAIN A CONSISTENT, DISTORTION-FREE CONTENT PRESENTATION

Through a distraction-free presentation, Samsung Onyx keeps audiences focused on featured content rather than the display itself. These screens eliminate distortion through high content uniformity, an improvement on projector-based technologies. As a result, the Onyx screen allows viewers to take note of visual details and intricacies that otherwise might be hidden or lost on standard theater or at-home displays.



EXPAND POTENTIAL ENGAGEMENT OPPORTUNITIES

The modern theater has emerged as a cultural space that welcomes various types of non-movie events, ranging from corporate events and concert viewings to interactive gaming tournaments. As the use demands for theater space evolve, Samsung Onyx offers the needed versatility to satisfy varying audiences and generate new sources of revenue. The screen maintains its visual settings regardless of the featured on-screen content, and accommodates a range of needed ambient light conditions without visual disruption. Theaters in turn can transition seamlessly between events without requiring extensive maintenance or external equipment.

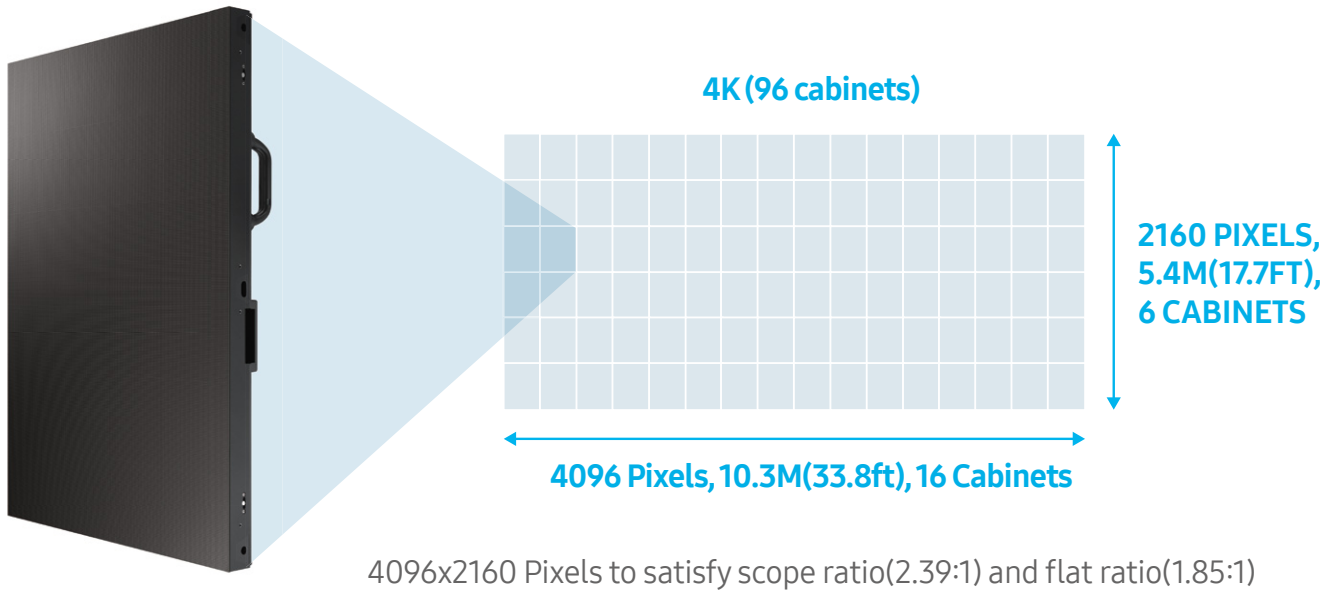


ESTABLISH THE THEATER OF THE FUTURE

Samsung Onyx is just the latest addition to its ever-expanding lineup of theater-ready technologies. From the moment consumers approach the theater to the moment they depart, Samsung's displays guide their complete cinema journey, ranging from self-ticketing kiosks and interactive movie posters to informative concession signage. As a total solutions provider for the theater industry, Samsung continues to explore new and exciting ways to improve the customer experience and drive greater operational efficiency for operators.

SPECIFICATIONS

Specification	Samsung Onyx		
	Per Cabinet	Per Screen (96 Cabinets)	Remarks
Size (WxH, mm)	640 x 900	10,240 x 5,400	
Weight (kg)	14.2 kg	1,440 kg	Support frame not included
Resolution (WxH, pixel)	256 x 360	4,096 x 2,160	
Aspect ratio	0.71:1	Flat (1.85:1) / Scope (2.39:1)	Flat: 3,996 x 2,160 / Scope: 4,096 x 1,716
Cabinet Construction	All aluminum construction	All aluminum construction	
Brightness (Normal/Max)	14fL(48nit) / 87.56fL(300nit)	14fL(48nit) / 87.56fL(300nit)	Support up to 146fL(500nit) at custom mode
Power Consumption - Max/Typical	120 / 39 W	11.52 / 3.74 kW	Cabinets only
Heat Generation - Max/Typical	66.1 / 21.5 (BTU/SF per hour)	66.1 / 21.5 (BTU/SF per hour)	
Working Temperature	0~40 °C (32~104 °F)	0~40 °C (32~104 °F)	
LED Lifetime	100,000 hours	100,000 hours	
Bit Depth (Gray Scale Intensity)	16 bit		
Color Processing	18 bit per color (54 bit total)		
Refresh Rate	3,072 Hz		
Input Power Range	100~240 VAC, 50/60 Hz		
Power Consumption - Max/Typical	120 / 39 (W/Cabinet)		
Heat Generation - Max/Typical	66.1 / 21.5 (BTU/SF per hour)		
ESD (Electro-Static Diode)	Applied to bottom row of screen		
Certification	DCI (Digital Cinema Initiatives)		
Service	Rear service		



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For more information about Samsung Onyx, visit www.samsung.com/business or www.samsung.com/displaysolutions

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