SAMSUNG

SAMSUNG

Broadcasting Display Solutions

Studio reimagined, realized.

The Wall | LED Signage | Video Wall | QLED 8K Signage | Business Monitor | Color Expert

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions. For the latest news, please visit the Samsung Newsroom at http://news.samsung.com.

For more information

For more information about Samsung Display Solutions, visit
www.samsung.com/business orwww.samsung.com/displaysolutions

Samsung Electronics Co., Ltd.
416, Maetan 3-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-772, Korea

2021-04

* Samsung Indoor LED IF P1.5 Series and LCD signage solution
News Studio, MediaCorp's Channel News Asia, Singapore

Visual displays at the heart of the studio

The broadcasting industry is evolving rapidly, discovering the latest ways to deliver compelling content to its audiences. As the heart of this transformation is the broadcast studio, the center of the action. Visual display technology can take any transformation to the next level, providing the studio and its staff with all the requirements needed. From premium picture quality, to versatile design, robust reliability and a variety of innovative options, the right display technology can take any studio to the next level.

Engage viewers with life-like images

It is critical that any studio delivers refined, realistic picture quality to its viewers, bringing every broadcast to life in the most engaging way possible.

Transform studio as imagined

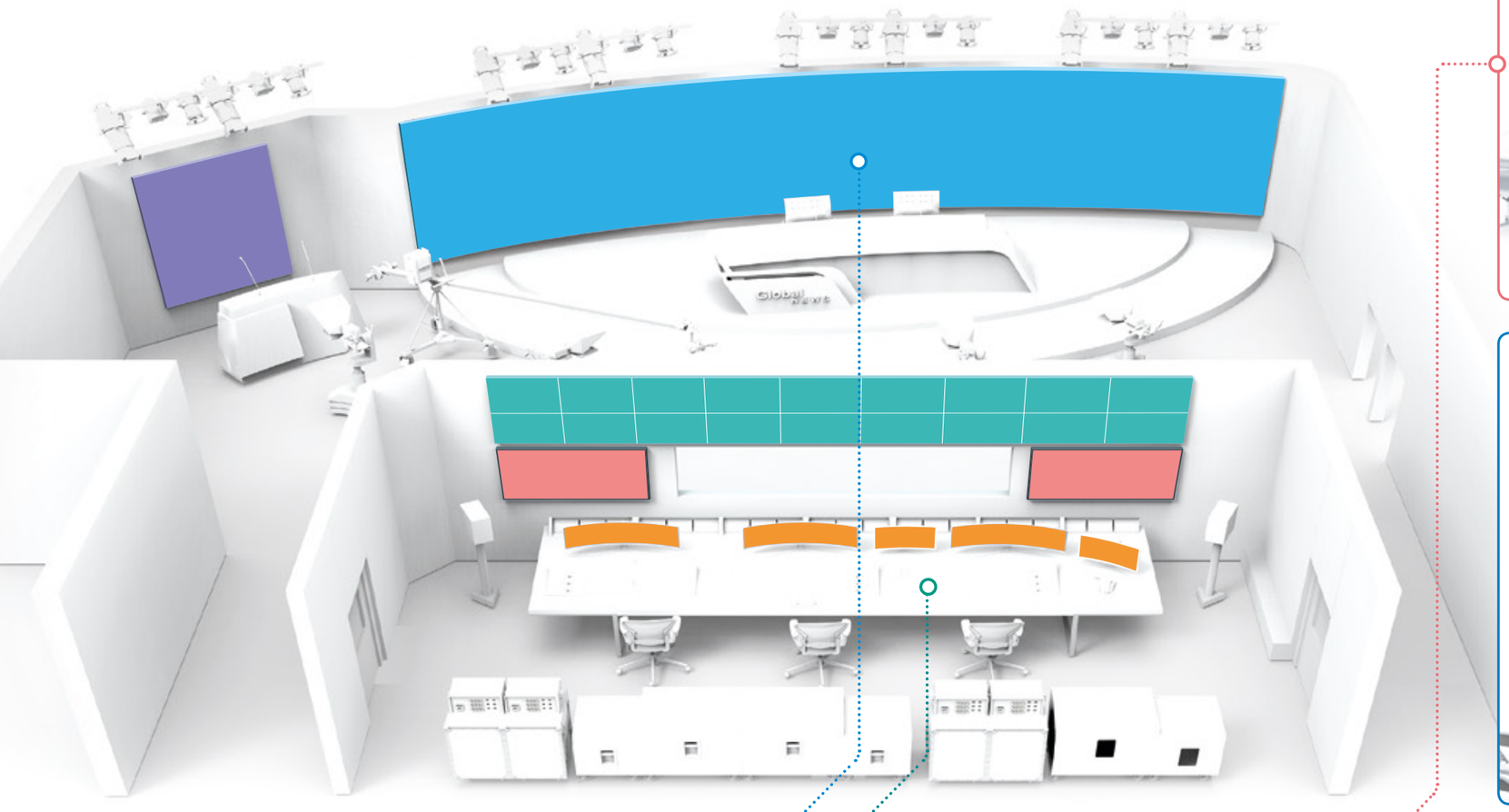
With flexible design and installation options, any studio can realize its transformation vision and create a space optimized to best suit their needs and deliver the best broadcasting possible.

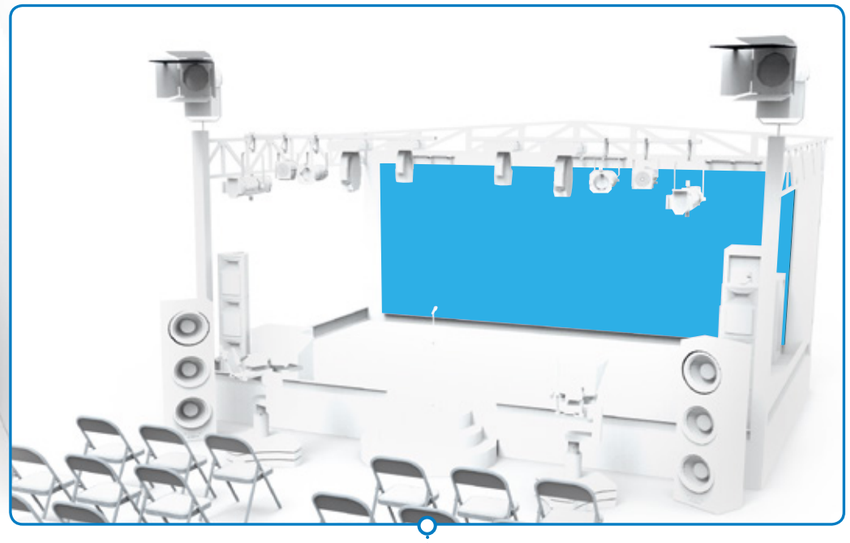
Unfold your creative work efficiently

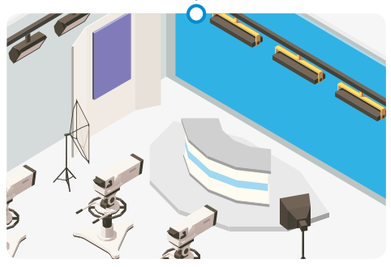
At the heart of any efficient and engaging broadcast is visual display technology, ensuring creative content is delivered seamlessly without disruptions.

What Samsung offers

Samsung’s comprehensive portfolio of visual display products enable a variety of applications that can be directly adopted to accelerate innovation and transformation.







Studio

Studios are continuously evolving. Indoor LED signage is the most advanced technology that replaces traditional back wall or video wall technology with incomparable picture quality.

Related products

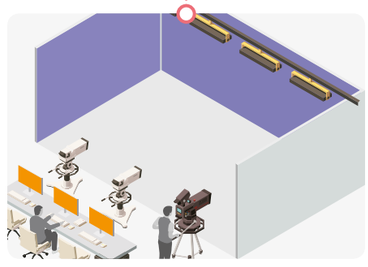
The Wall, The Wall Remote Power, Indoor LED signage

Control Room

A control Room is the main command center of broadcasting, where all the information is gathered, and real-time decisions are made. That’s why it’s critical to be able to monitor various screens separately, as well as together.

Related products

Video wall, QLED 8K signage, business monitors

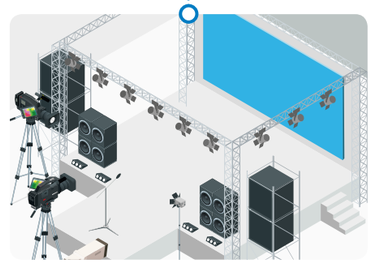


Virtual Production Studio

Modern video production demands more and more post-production work, such as computer graphics. With the newest display technology which replaces traditional features such as chroma key, time and effort are dramatically reduced.

Related products

The Wall

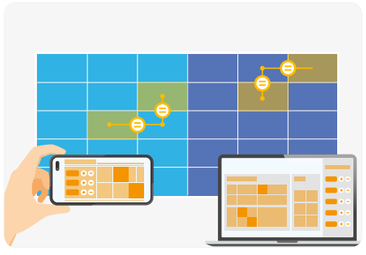


Stage

Large and eye-catching displays attract a larger audience. At the same time, installation and disassembly should be simple and easy due to time constraints when setting up a stage.

Related products

Indoor/Outdoor LED signage



Calibration Solution

Accurate color and image quality are critical values of a broadcasting display, and how these elements are seen through the camera should also be checked. Powerful and easy calibration tools can help to ensure optimal uniformity.

Related products

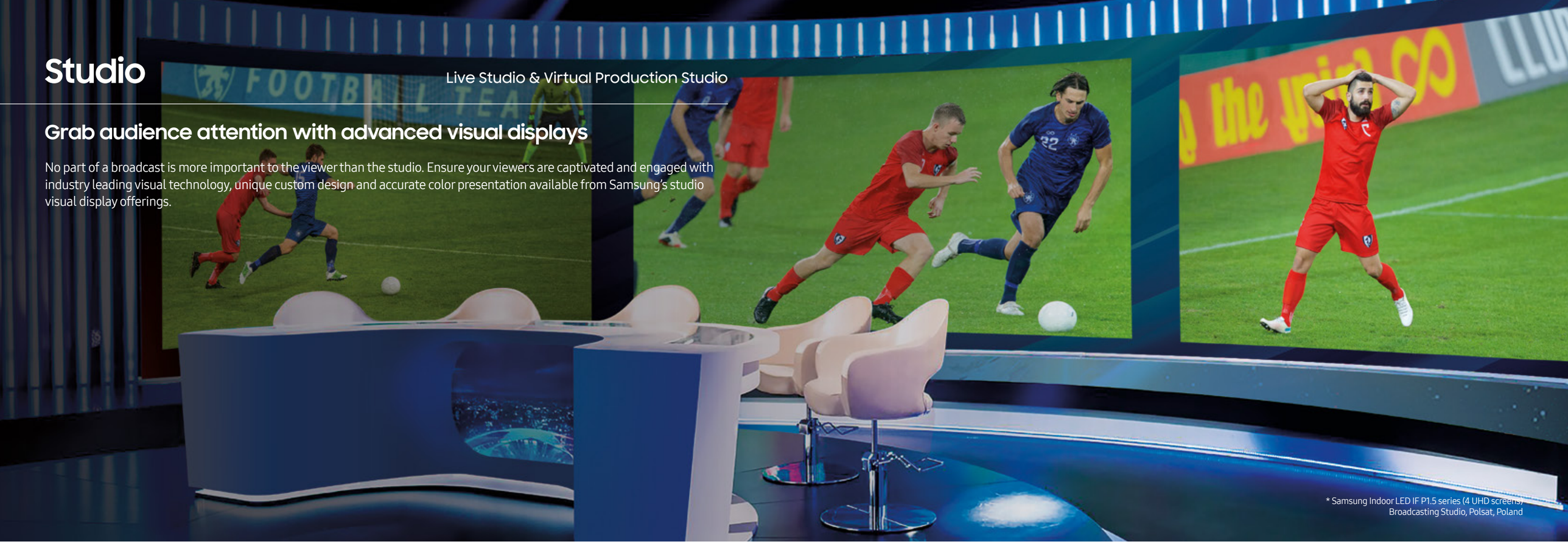
Color Expert

Studio

Live Studio & Virtual Production Studio

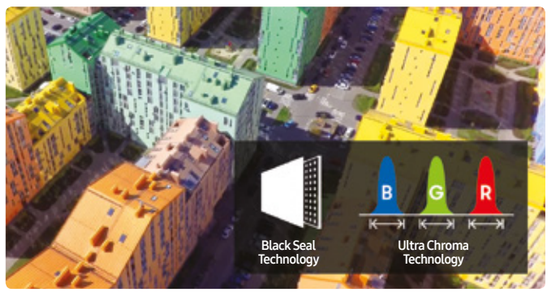
Grab audience attention with advanced visual displays

No part of a broadcast is more important to the viewer than the studio. Ensure your viewers are captivated and engaged with industry leading visual technology, unique custom design and accurate color presentation available from Samsung's studio visual display offerings.



* Samsung Indoor LED IF P1.5 series (4 UHD screens)
Broadcasting Studio, Polsat, Poland

The Wall: IWJ, IWA* series

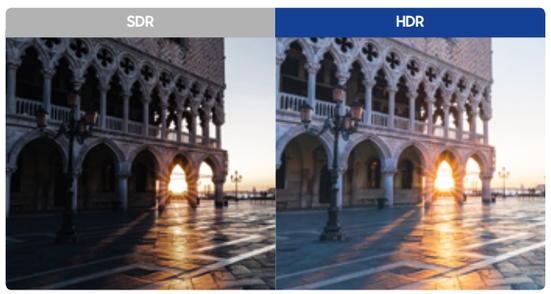


*IWA is available from 2Q, 2021

Black Seal & Ultra Chroma technology

The Wall helps broadcasters find the ideal color presentation. Black Seal technology showcases unparalleled contrast and immaculate detail. Ultra Chroma technology produces vibrant and natural colors. The Wall's narrower wavelength of color results in higher color purity, approximately twice that of conventional LEDs.

Black Seal Technology | Ultra Chroma Technology | Deep Black & Color | Non-glare

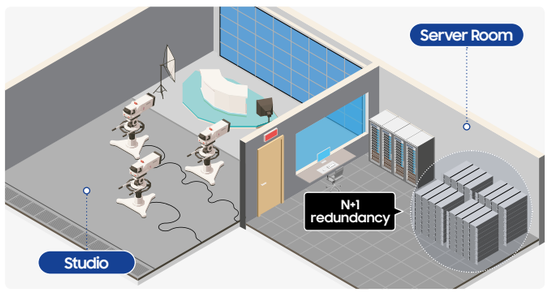


Quantum HDR technology

The Wall renders true-to-life imagery optimized for broadcasting. Advanced HDR technologies, including LED HDR and HDR10+ support, optimize picture quality, while an extremely accurate grayscale expression allows for more precise and natural imagery.

Quantum Processor Flex | Quantum HDR Technology | LED HDR10+ | Multi-link HDR

The Wall: IWJ-R series



Operational safeguards

The Wall features multiple operational safeguards intended to minimize screen failures including off board hot swap power supply and power/signal redundancy. These redundant systems help to ensure content interruptions are reduced as much as possible, keeping your message front and center.

Off-board power supply | Power redundancy | Signal redundancy | NEC Class for cable

Indoor LED Signage: IFJ, IFA*, IFR, IEA series

*IFA is available from 2Q, 2020

Customized color presentation

Detailed color management functionalities allow IF series users to select, store and deploy the RGB color gamut shades that best fit their own color standards and content requirements. This helps broadcasters quickly deploy content at high clarity across multiple screens.

Color management | Fine-tune uniformity | White balance | 18 bit processing

Why Samsung's The Wall for virtual production?

Groundbreaking Micro LED technology enables content creation to go beyond the limits of creativity

To deliver realistic images and immersive content, the broadcasting and film industries have always developed new and innovative filming technologies. The most reliable and effective way was to shoot with real physical objects at a physical location, but this is too time-intensive and costly. For decades, computer graphics have been the most popular method to overcome these practical obstacles. It's one of the most compelling, creative solutions but also is unable to deliver the natural, vibrant picture quality required. Therefore, there is growing demand for Micro LED technology – such as Samsung's The Wall – offering versatile background options for a range of scenes, environments and atmospheres. The Wall's high-resolution picture quality makes every scene appear as the creator intended – ultimately saving time and cost, while enabling greater flexibility.

Case Study

How The Wall transforms the film making process?

Kropac Media, a German filmmaker, adopted Samsung's The Wall to overcome the limitation of location shooting during the pandemic, and innovate their post-production process. With The Wall, the creativity and flexibility of actors and crew staff has been increased to achieve a better overall quality of results.

- **Customer :** Kropac Media
- **Industry :** Media, Entertainment
- **Product :** The Wall(IWJ) P1.2
- **Usage :** Virtual Production

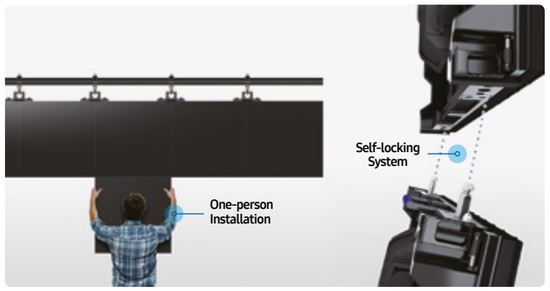
Chroma Key	The Wall
Additional computer graphics required	Minimized post production
Unnatural acting & light reflection	Natural acting & light reflection

Stage

Capture audience imagination with real-time content

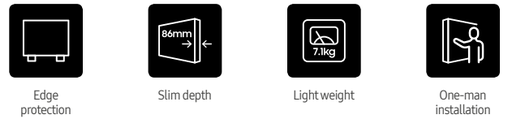
Digital signage is now critical to creating an impactful experience at live events. Audiences expect content that enhances each performance and provide crystal clear images from any location in the venue, indoor or outdoor, offering a memorable experience.

Indoor Rental LED Signage: VMR-I series



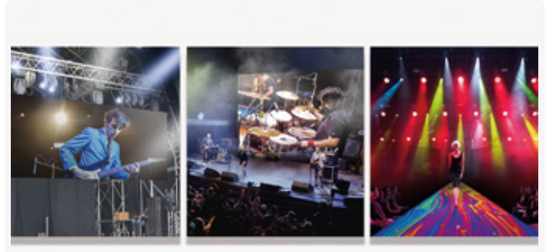
Real-time content delivery and rotation support

Samsung's VMR-I Series enables the delivery of real-time content with reduced frame latency, critical for live concerts and events. The display's ability to rotate freely also helps to effortlessly create customized designs while ensuring content is played regardless of the layout, no matter how unique.



Edge protection | Slim depth | Light weight | One-man installation

Outdoor Rental LED signage: VMR-O series



Optimum performance in any environment

All components of the VMR-O Series undergo strict testing to ensure optimum performance at all times. The series has full outdoor IP65/65 validated design, protecting it against water, dust and all outdoor elements, ensuring continuous operation regardless of the environment.

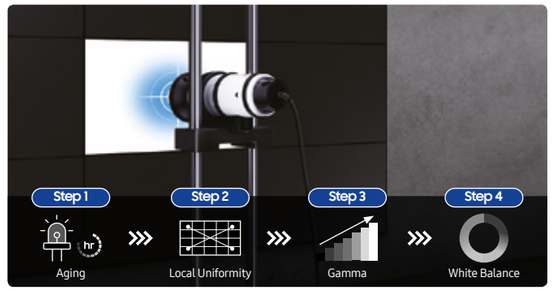
Various weather conditions | IP 65 rating | Full front & rear service | Cableless design

Control room

Empower efficient and effective decision making with display technology

Behind every live broadcast is an engaged and efficient control room, making critical decisions in real-time. Samsung display technology delivers the information needed in 8K resolution for crystal clarity, with flawless uniformity, all supported by long-term performance for peace of mind.

Video Wall Display: VHR-R, VHT-E, VMT-E, VMT-U series



Flawless uniformity

To ensure outstanding picture quality, all Samsung video wall displays are fine-tuned with a strict multi-step calibration process. Users may also adjust detailed settings to suit their individual needs using Samsung's free powerful software, Color Expert Pro. For businesses needing a simpler solution, Color Expert Pro Mobile makes for quick and easy calibration using a mobile device camera.

- Factory calibration
- ACM chipset
- Samsung Color Expert software
- White balance & gamut mapping

* ISTA: International Safe Transit Association

Long-term performance

To provide consistent display clarity and uninterrupted content in any operational environment, Samsung's video wall panels undergo rigorous performance testing. Samsung's superior panel prevents screen darkening, light leakage or any deterioration, ensuring long-term delivery of brilliant content.

- Dust protected (IP5X Rating)
- 24/7 operation
- Non-glare panel
- ISTA-certified packaging*

QLED 8K Signage: QPR-8K, QPA-8K* series

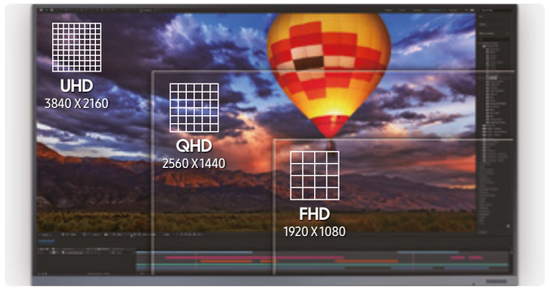
*Note: Native 8K content based on current 8K streaming, connectivity and decoding standards. Future and certain third-party standards not guaranteed or may require additional device/adapter purchase.
* QPA-8K is available from 2Q, 2021

Real 8K resolution

Samsung QLED 8K offers super high resolution with more than 33 million pixels, 4 times higher than 4K UHD content and 16 times higher than FHD. Content creators have a more accurate view and greater control of images through editing tools for multiple videos and projects at once.

- 8K resolution
- QD composition
- 33 million pixels
- Quantum HDR

High resolution monitor: TU87F / S80UA / S80A



Detailed clarity

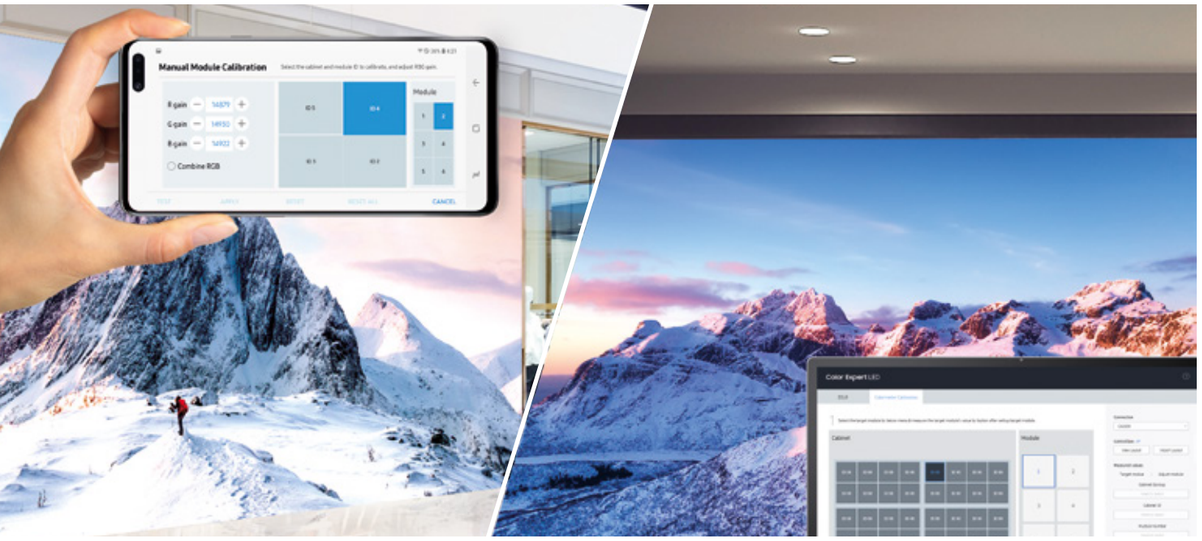
Samsung's UHD monitors display crisp, clear images and text with much greater sharpness. So the staffs can enjoy higher readability with reduced eye strain in control room environments that require long work hours.

- UHD resolution
- 1 billion colors
- UHD upscaling
- Wide viewing angle

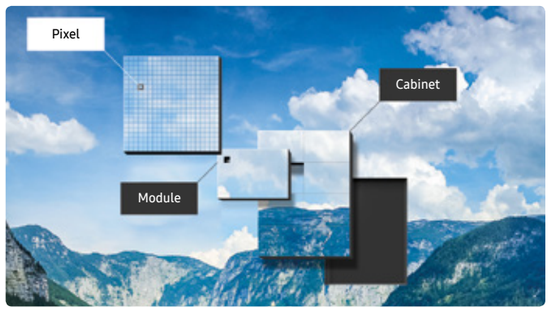
Calibration solution

Powerful calibration tools to optimize picture quality

Samsung's leading calibration tools – Color Expert LED and Color Expert Pro – offer full criteria on color calibration. Mobile calibration also offers a simplified tuning process and uniformity down to the pixel-level, meaning visuals are presented exactly as intended.



Color Expert LED

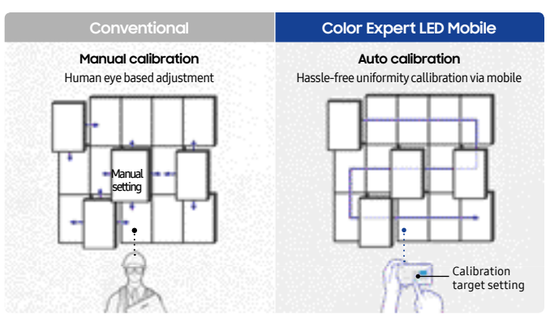


Pixel-level tuning

PC

Samsung's Color Expert LED provides pixel-level uniformity, bringing more precise and refined picture quality to life, when compared with module-level uniformity. Using professional calibration devices, the uniformity is accurate and flawless, enhancing even the subtlest details.

Gamma correction | Pixel uniformity | White balance | 18 bit processing



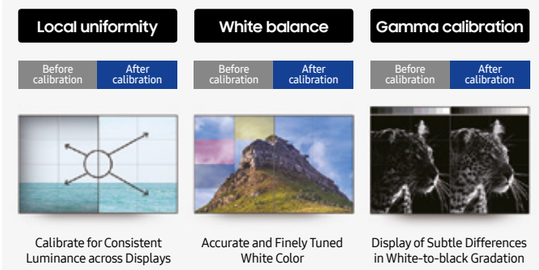
Automatic calibration

Mobile

Using just a mobile phone camera and Wi-Fi network, calibration can be done without the need for additional, expensive professional devices. Color Expert LED Mobile calibrates automatically based on a target area ensuring it does not miss any subtle differences in color and brightness.

Mobile calibration | Quick & easy full screen calibration | Intuitive UI | Wireless

Color Expert Pro



Calibrate for Consistent Luminance across Displays | Accurate and Finely Tuned White Color | Display of Subtle Differences in White-to-black Gradation

Enhanced picture quality

PC

Color Expert Pro delivers stunning before-and-after results. White balancing options enable accurate white color. Users can calibrate for consistent luminance and color uniformity across displays. Gamma and gray scale calibration brings out subtleties, detail and depth in white-to-black gradation.

15x15 calibration | Local uniformity | Gamma correction | White balance

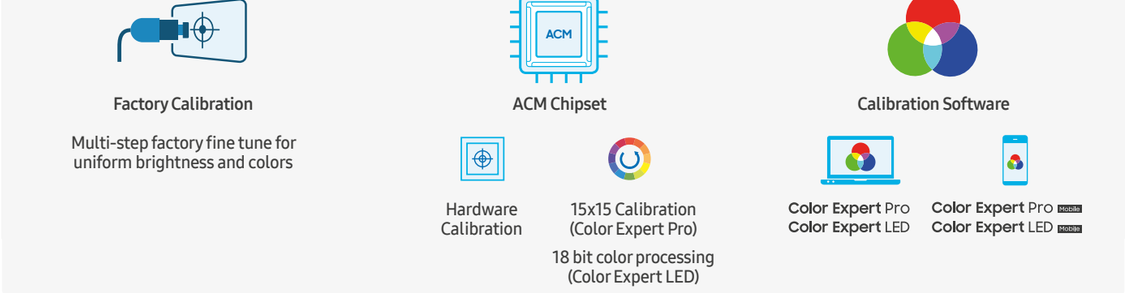
*Color Expert Pro Mobile supports white balance calibration only.
Local uniformity and gamma and gray scale is not supported.

Convenient refinement

Mobile

Color Expert Pro Mobile uses the smartphone camera to quickly and easily calibrate without a professional calibrator physically connected to the video wall. This highly cost-effective solution can calibrate up to 25 sets (5x5) of displays at once – dramatically faster than one-by-one calibration methods.

Mobile calibration | Quick & easy full screen calibration | Intuitive UI | Wireless



Expert's consulting

Do you need expert's consulting?

Every studio has its own brand identity and picture quality standard. Samsung understands the unique needs of individual broadcasters and has experienced professionals available for consultation.

For more information speak with your regional sales representative or visit displaysolutions.samsung.com

Specifications

LED signage

Project		Pixel pitch	Diode type	Brightness (Peak*/Max)	Contrast ratio**	Certification	Cabinet size (LxHxD, per cabinet)	Weight (per cabinet)	Service***	IP rating
The Wall	IWJ / IWJ-R	P0.8, P1.2, P1.6	Flip-chip RGB LED	1,600 nit / 500 nit (P0.8), 1,600 nit / 800 nit (P1.2), 1,400 nit /1,000 nit (P1.6)	24,000:1 (P0.8, P1.2), 21,000:1 (P1.6)	EMC Class B, Safety 60950-1	806.4 x 453.6 x 72.2 mm (P0.8, P1.2), 806.4 x 453.6 x 72.8 mm (P1.6)	12.5 kg (P0.8, P1.6), 12.2 kg (P1.2)	Front	IP20
	IWA****	P1.2, 1.6	Flip-chip RGB LED	1,600 nit / 800 nit (P1.2), 1,400 nit /1,000 nit (P1.6)	24,000 : 1 (P1.2, TBD), 21,000:1 (P1.6, TBD)	EMC Class B, Safety 62368-1 /60950-1	806.4 x 453.6 x 36.6 mm	11.2 kg (TBD)	Front	IP20
Indoor	IFJ	P1.2	Surface Mount Device(SMD)	1,200 nit / 600 nit	8,000:1	EMC Class B, Safety 60950-1, FCC, UL, CB, KCC, RoHS	806.4 x 453.6 x 76.7 mm	11.8 kg	Front and parts rear	IP20
	IFA****	P2.1, P2.5, P4.2	Surface Mount Device (SMD)	1,600 nit / 1,000 nit (P2.1) 2,400 nit / 1,200 nit (P2.5) 1,700 nit / 1,200 nit (P4.2)	7,200 :1 (P2.1, TBD) 10,000 :1 (P2.5, TBD) 7,000 :1 (P4.2, TBD)	EMC Class B, Safety 62368-1 /60950-1, TUV (TBD), EN13823 Class B (TBD)	806.4 x 453.6 x 37.9 mm	14.0kg (TBD)	Front	IP20
	IFR/IFR-F	P1.5, P2.0, P2.5, P4.0	Surface Mount Device(SMD)	1,600 nit / 800 nit (P1.5) 1,600 nit /1,000 nit (P2.0) 2,400 nit /1,200 nit (P2.5) 1,500 nit / 900 nit (P4.0)	12,000:1 (P1.5) 7,200:1 (P2.0) 10,000:1 (P2.5, P4.0)	EMC Class A, Safety 60950-1, FCC, UL, CB, KCC, RoHS	960 x 540 x 79.5 mm (IFR), 240 x 540 x 81 mm (IFR-F)	11.8 kg (IFR P1.5), 12.4 kg (IFR P2.0, P2.5, P4.0), 3.2 kg (IFR-F)	Front	IP20
	IEA/ IEA-F	P2.5, P4.0	Surface Mount Device (SMD)	1,000 nit / 500 nit (P1.5) 800 nit / 500 nit (P4.0)	5,000:1	EMC Class A, Safety 62368-1 /60950-1	960 x 540 x 79.5 mm (IEA), 240 x 540 x 81 mm (IEA-F)	10.8kg(IEA), 3.2kg(IEA-F)	Front	IP20
	VMR-I	P2.6, P2.9, P3.9	SMD 3-in-1	≥1,000nits	4,000:1	EMC Class B, Safety 60950-1	500 x 500 x 86mm (LxHxD, per cabinet)	8.0±0.3Kg/panel (P2.6) 7.8±0.3Kg/panel (P2.9) 7.4±0.3Kg/panel (P3.9)	Front and rear	IP30
Outdoor	VMR-O	P2.9, P3.9	SMD 3-in-1	≥ 4000nits (P2.9) ≥ 4500nits (P3.9)	4,000:1	EMC Class A, Safety 60950-1	500 x 500 x 86mm (LxHxD, per cabinet)	11.8kg(IERP1.5), 12.4 kg (IERP2.0), 10.8 kg (IERP2.5,P4.0), 3.2 kg(IER-F)	Front and rear	IP65

* Peak value according to IDMS (Information Display Measurement Standard)
** Contrast Ratio: Measured under10lux light. Contrast in darkroom exceeds 1000000:1
*** Front service: Front service to power supply and main board on a cabinet level
**** IWA, IFA's specification is preliminary and subject to change without notice at the time of release.

Video wall display

Project	Screen size	Resolution	Brightness	Contrast ratio	Operation hour	B-to-B (mm)	Bezel width	Connectivity
VHR-R	55"	1,920 x 1,080	700 nit	1,100:1	24/7	0.88mm	0.44mm (Even)	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack Out: DP1.2(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
VHT-E	55"	1,920 x 1,080	700 nit	1,200:1	24/7	1.8mm	0.9mm (Even)	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack Out: DP1.2(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
VMT-E	55"	1,920 x 1,080	500 nit	1,200:1	24/7	1.8mm	0.9mm (Even)	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack Out: DP1.2(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
VMT-U	46", 55"	1,920 x 1,080	500 nit	1,200:1	24/7	3.5mm	46": 2.25mm(U/L), 1.25mm(R/B) 55": 2.3mm(U/L), 1.2mm(R/B)	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack Out: DP1.2(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45

QLED 8K signage

Project	Screen size	Resolution	Brightness	Contrast ratio	Operation hour	SoC	S/W	Connectivity
QPR-8K	82"	7,680 x 4,320	500 nit (peak 4,000 nit)	1,850:1	16/7	SSSP 7.0	MagicINFO S7	In: HDMI 2.0(4, Including 8K 60p input support 1), HDCP 2.2, USB 2.0(3) Out : Optical(Digital Audio Out) Ext: RS232C(In), RJ45
QPA-8K*	65", 75", 85"	7,680 x 4,320	500nit (peak 2,000 nit)	1,200:1	16/7	SSSP 9.0	MagicINFO S9	In: HDMI 2.1(HDMI4), HDMI 2.0 (HDMI1,2,3), HDCP 2.2, USB 2.0(3) Out : Optical(Digital Audio Out) Ext: RS232C(In), RJ45

* QPA-8K's specification is preliminary and subject to change without notice at the time of release.

Business monitor

Type	Project	Screen size	Flat/Curved	Aspect ratio	Resolution	Brightness (Typ./Peak)	Refresh rate	Connectivity
High resolution	TU87	32"	Flat	16:9	3840 x 2160	250 nit	60 Hz	Thunderbolt 3(2), HDMI 2.0, DP1.2, USB 2.0(2)
	S80UA	27"	Flat	16:9	3840 x 2160	300 nit	60 Hz	DP1.2, HDMI 2.0, USB Type-C, USB3.0(3)
	S80A	32", 27"	Flat	16:9	3840 x 2160	300 nit	60 Hz	DP1.2, HDMI 2.0, USB3.0(3), USB2.0

Color Expert solution

Project	Technology type	System requirement	Display compatibility	Calibration feature
Color Expert LED	PC software calibration with ACM chipset	Windows 7 32bit/64bit, Windows 8 32bit/64bit, Windows10 32bit/64bit A calibrator is required to use the Samsung Color Expert LED software. Customers must purchase the calibrator separately.	IWJ (The Wall) P0.8, P1.2, P1.6 IFR P1.5, P2.0, P2.5, P4.0 IFJ P1.2	White balance, Gamut mapping, Color temperature, Pixel-level uniformity
Color Expert LED Mobile	Mobile application calibration with mobile camera	Samsung Galaxy phone only	IWJ (The Wall) P0.8, P1.2, P1.6 IFR P1.5, P2.0, P2.5, P4.0 IFJ P1.2	White balance, Module & screen-level uniformity
Color Expert Pro	PC software calibration with ACM chipset	Windows 7 32bit/64bit, Windows 8 32bit/64bit, Windows 10 32bit/64bit A calibrator is required to use the Samsung Color Expert Pro software. Customers must purchase the calibrator separately. X-Rite i1 Display Pro is recommended.	VHR-R, UHN-E, UHF-E, UMN-E, UMH-E	White balance, Gamma correction, Local uniformity
Color Expert Pro Mobile	Mobile application calibration with mobile camera	Samsung Galaxy phone only	VHR-R (PC-less), UHN-E, UHF-E, UMN-E, UMH-E (with PC)	White balance