

About Samsung Electronics Co., Ltd.

Samsung Electronics Co., Ltd. inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, cameras, digital appliances, medical equipment, network systems, and semiconductor and LED solutions. For the latest news, please visit the Samsung Newsroom at news.samsung.com.

For more information

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

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2019-07

SAMSUNG



Samsung Broadcasting Display Solutions

Engage viewers with precise color and best-in-class picture quality

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

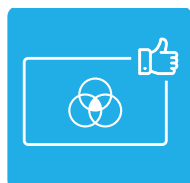
SAMSUNG



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

Upgrade your studio with industry-leading display technology

Broadcasting has undergone major changes in recent years. With never-ending demand for instant updates and audiences tuning in on new devices, broadcasters are expected to deliver engaging content without delay.



Picture quality

As display technology has evolved, Samsung's cutting-edge visual displays have led the way. Samsung displays are able to meet the industry's high color and picture quality requirements to ensure broadcasters can deliver accurate and engaging information with unmatched picture quality.



Creative design

Every studio has a unique layout and design and Samsung's unique modular LED display technology can be customized to enhance studio space of any size or shape.

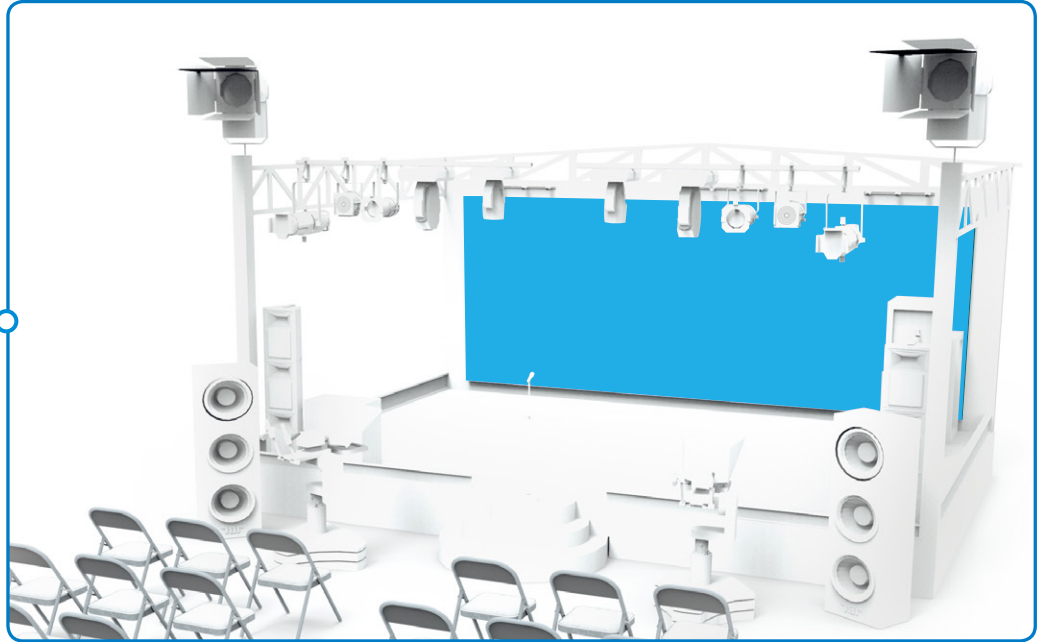
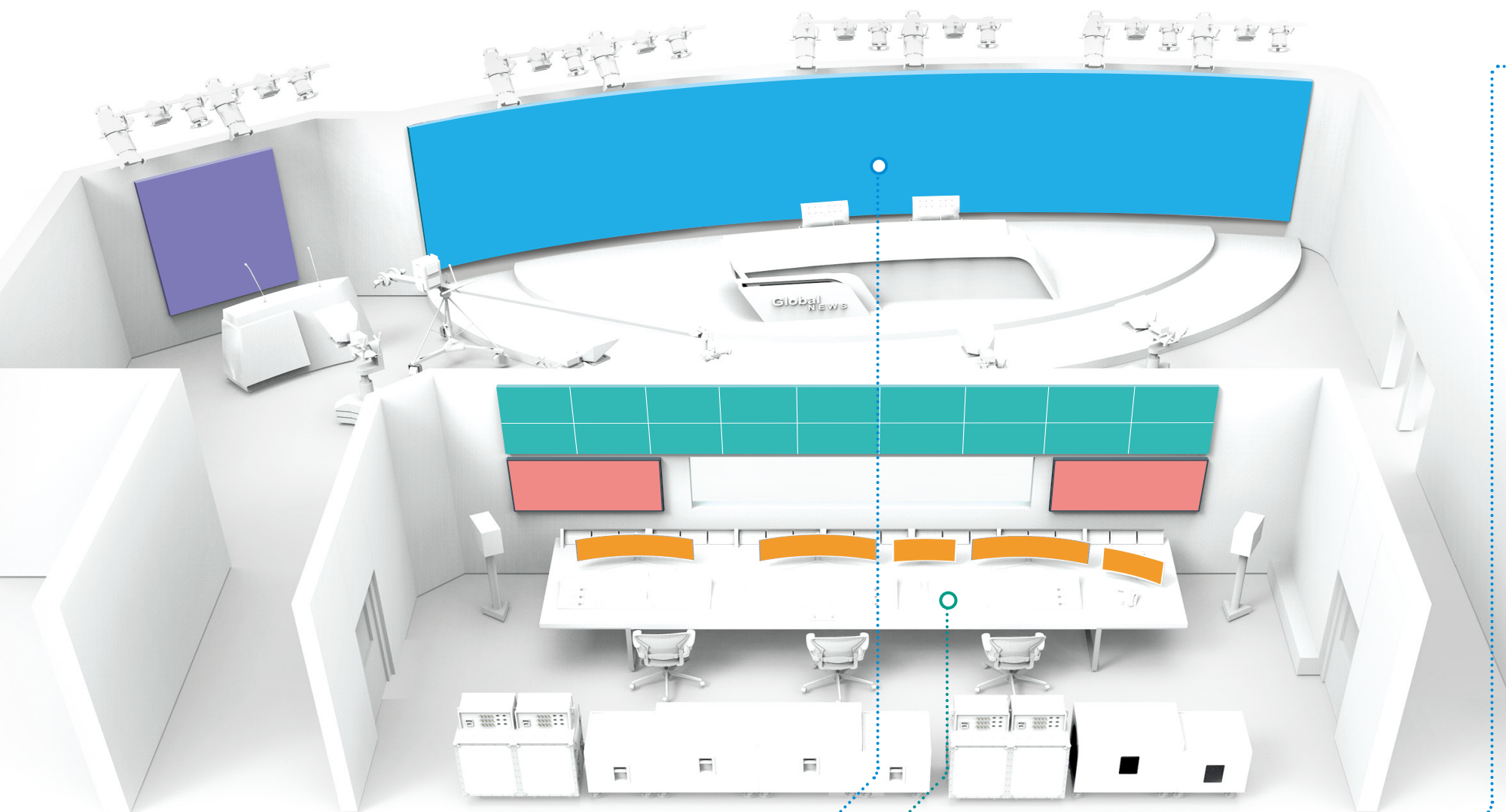


Operational reliability

When dealing with any kind of broadcast you can't afford any technical difficulties. Samsung displays have industry-leading operational efficiency, are designed to be operational 24/7 and include industry-leading lifetime.

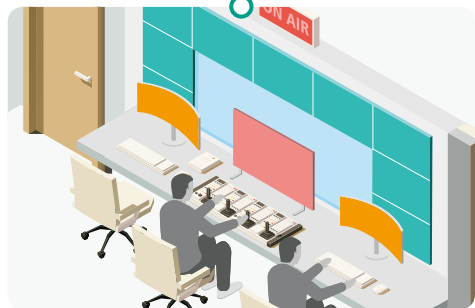
What Samsung offers

Samsung's impressive range of broadcast products ensures from the studio to the editing room, teams have the tools to deliver a premier quality production. Whatever your needs, Samsung's line-up of professional displays for broadcast is the solution.



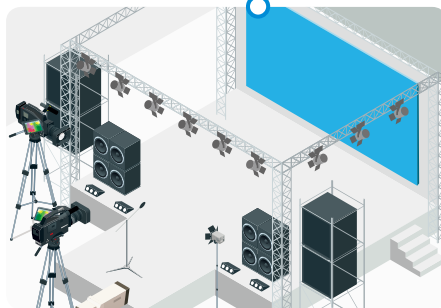
Studio

Samsung's indoor LED products including The Wall and IF Series feature a unique customizable design for any studio size or shape, delivering the industry's best picture quality.



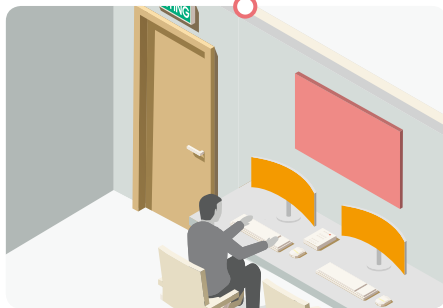
Control Room

Samsung's Video Walls and QLED 8K signage deliver crystal clear picture ensuring producers and staff members are seeing exactly what was intended.



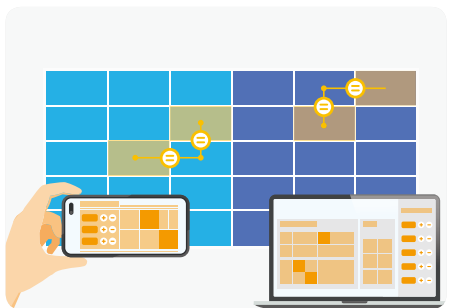
Stage

For live events, Samsung's indoor and outdoor Rental LED series are designed to be versatile and easy to use while delivering the industry's leading visuals.



Editing Room

Samsung's UHD signage and ultra-wide, high resolution monitors feature best-in-class picture quality to ensure the editing room is able to operate efficiently.



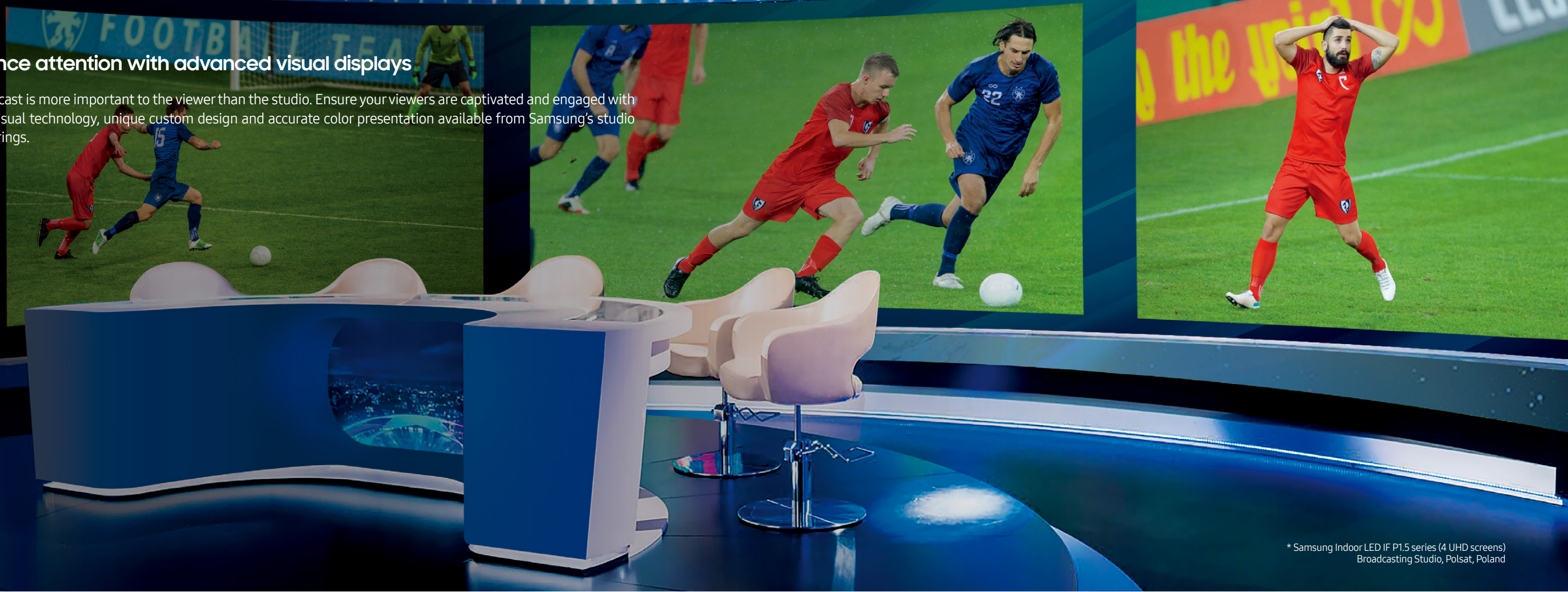
Calibration Solution

Samsung's leading calibration tools, Color Expert LED and Color Expert Pro ensure displays are showcasing color and visuals exactly as intended.

Studio

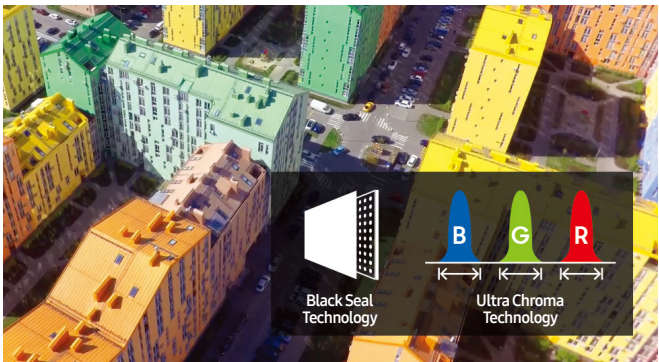
Grab audience attention with advanced visual displays

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

Indoor LED Signage: The Wall



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



Perfect 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

Indoor LED Signage: IF series



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



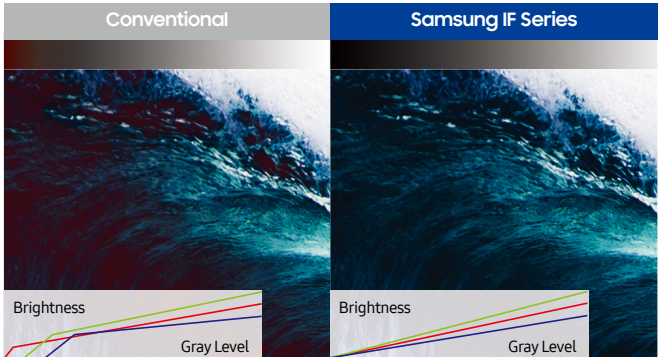
Fine-tune Uniformity



White Balance



18bit Processing



Reinforce accurate low grayscale color expression

A unique grayscale management algorithm helps the IF series deliver consistent red, green and blue hues without distortion, even in low grayscale settings. This ensures optimal and uninterrupted picture quality in broadcast studio environments.



Linear Grayscale



Gamma Correction



Dyanmic Peaking



LED HDR

*Note: "Conventional LED display" refers to displays that do not contain integrated low grayscale correction technology.

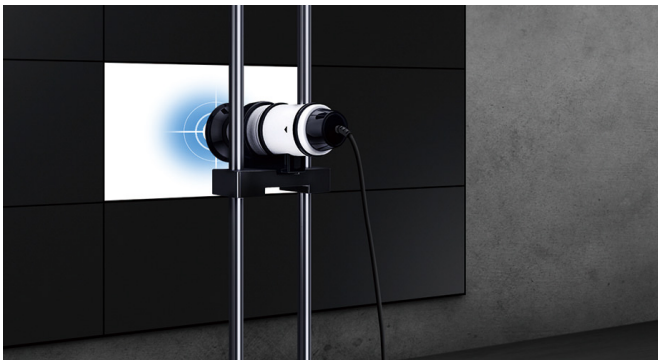
Control Room

24/7 management and efficient control

A fully-functioning, reliable control center is critical to ensure efficiencies when broadcasting content to large audiences. From fine-tuning to displaying uninterrupted content, Samsung allows broadcasters to maximize the viewing experience 24/7.



Video Wall Display: UHF, VMR-U, UDE series



Fine-tune factory calibration

Samsung's multi-step factory calibration process tunes video wall displays to the optimal uniform brightness and color across multiple displays to fit any broadcaster application or environment. Every video wall display presents fine-tuned picture quality whether used as a single display or as multiple screens.



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.



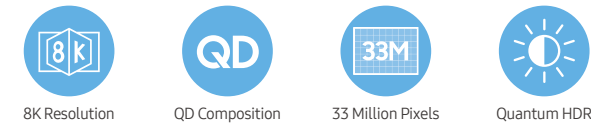
QLED 8K Signage: QPR-8K series



*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/adaptor purchase.

Real 8K resolution

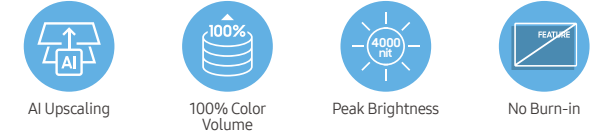
Samsung QLED 8K offers super high resolution with more than 33 million pixels, 4 times higher than 4K UHD content and 16 times higher than FHD. Content creators have a more accurate view and greater control of images through editing tools for multiple videos and projects at once.



*Note: Viewing experience using 8K AI upscaling may vary according to types of content and format. It may not apply to PC connection, and certain conditions of Game Mode.

8K AI upscaling

Samsung QLED's Quantum Processor 8K uses AI-powered machine learning to compare data from millions of images to reduce noise and refine details, delivering improved resolution. With AI-powered upscaling, content creators can preview details more precisely before delivering to audiences.



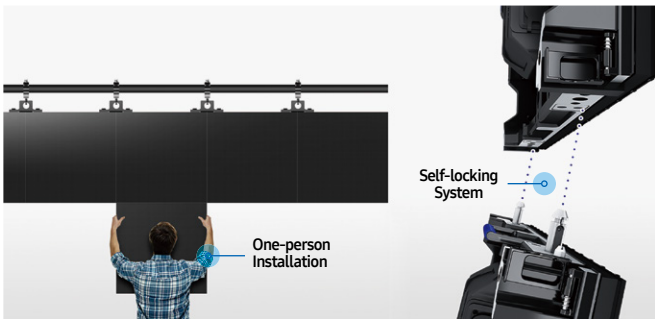
Stage

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.



All Weather Conditions



IP65/65



Full Front & Rear Service



Cableless Design

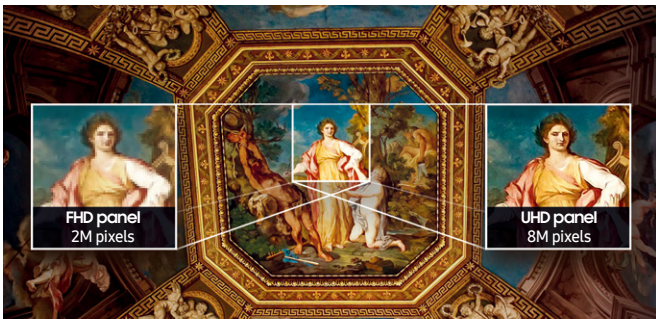
Editing Room

Optimum content delivery with full editing capabilities

The editing room is an integral part of the broadcast process, ensuring that only the best content is delivered to audiences. Samsung's UHD signage and ultra-wide, high resolution monitors allow content creators and editors to see the whole image and edit efficiently.



UHD Signage: QMR, QBR series



Intelligent UHD upscaling

Samsung's cutting-edge intelligent UHD upscaling technology – which is based on Samsung's proprietary intelligent UHD engine – performs edge restoration and noise reduction to deliver UHD-level picture quality for broadcasters, even with lower resolution content.



Intelligent UHD engine



Noise Reduction



Edge Restoration



HDR+

Business Monitor: Ultra-wide & High resolution series



Incredible image detail and multi-tasking

Samsung's ultra-wide and high-resolution monitor increases content creators' work efficiency by showing more content on one screen, ensuring that no details are missed and the whole image is visible. This is all enabled without disruption of using multiple monitors or lower resolution screens.



High Resolution



32:9



Picture-by-picture



Picture-in-picture

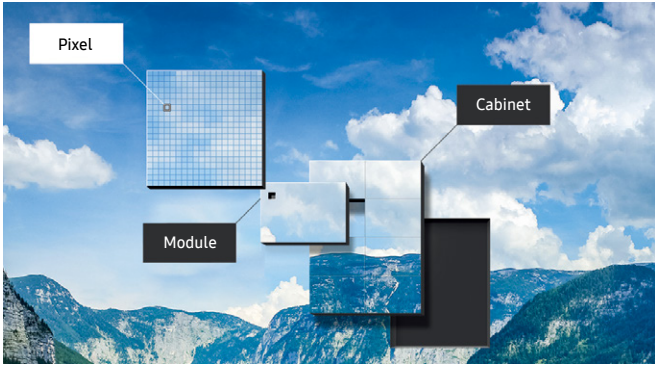
Calibration Solution

Precise and refined picture quality

Samsung's leading calibration tools, Color Expert LED and Color Expert Pro offer full criteria customization and color calibration. Additionally, mobile calibration option offers a simplified tuning process. With uniformity down to the pixel-level, colors and visuals are presented exactly as intended.

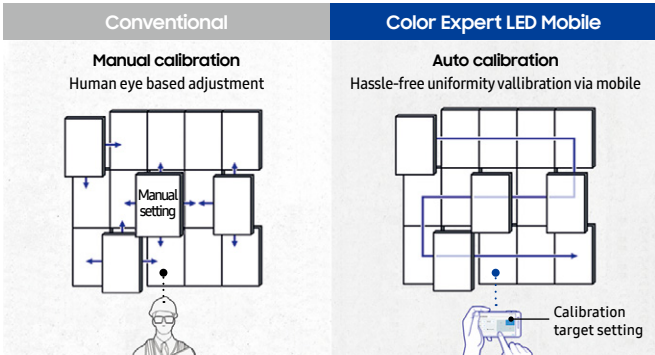
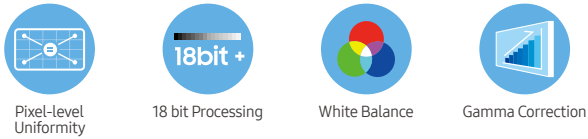


Color Expert LED / Color Expert LED Mobile



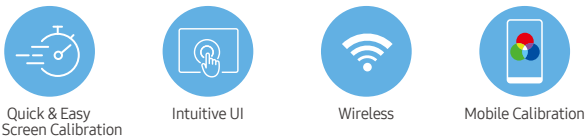
Pixel-level uniformity

Samsung's Color Expert LED provides pixel-level uniformity, resulting in more precise and refined picture quality than module-level calibration. Using professional calibration devices, images are accurate and flawless, enhancing even the subtlest details and catching the attention of audiences with stunning visuals.

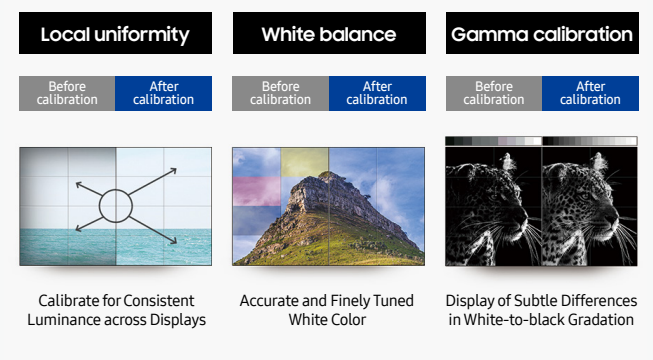


Automatic calibration

Color Expert LED Mobile provides dramatic timesaving capabilities over conventional manual calibration, which can take up to an hour. This simplifies onsite maintenance, ensuring issues are addressed quickly without impacting the production process.



Color Expert Pro / Color Expert Pro Mobile



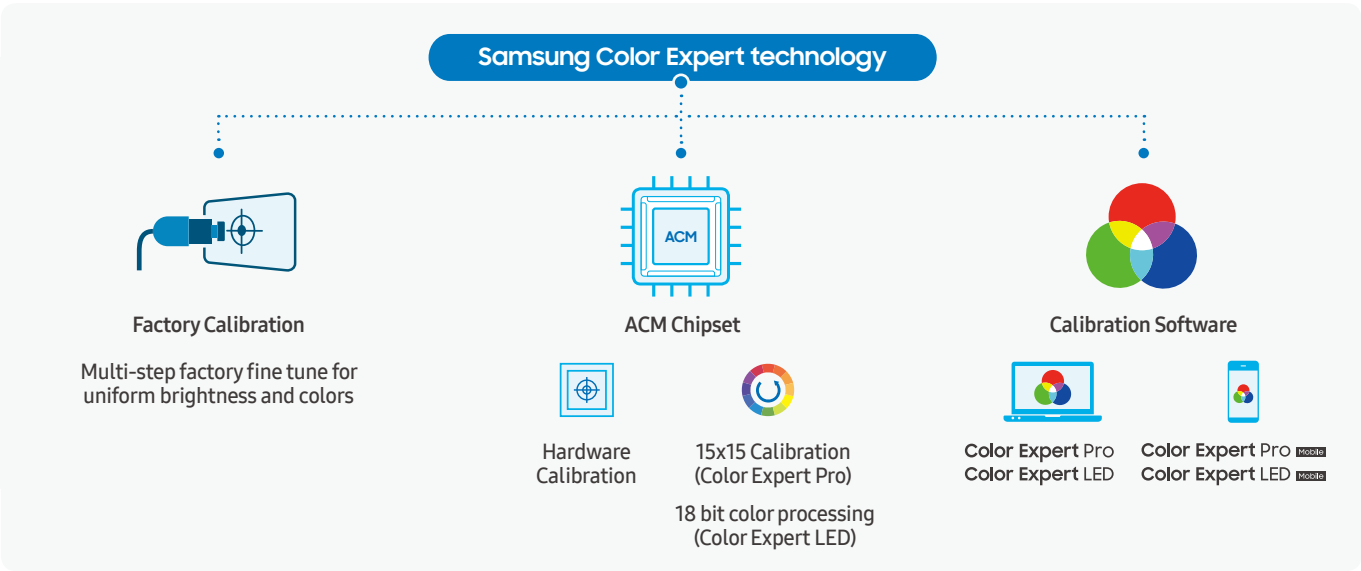
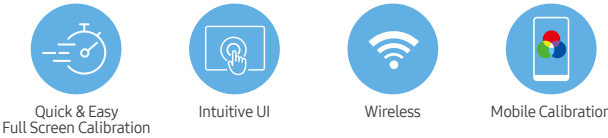
Enhanced picture quality for any setting

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.



Convenient and cost-effective refinement

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.



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

Specification

The Wall

Project	Pixel Pitch	Diode Type	Brightness (Peak/Max)	Contrast Ratio	Certification	Cabinet Size	Weight	Service	IP Rating
IWJ	P0.84	Chip on Board (CoB)	1,600 / 500 nit	10,000:1	EMC Class B, Safety 60950-1	806.4x453.6x72.2mm (LxHxD, per cabinet)	12.5kg/cabinet	Front only ⁽¹⁾	IP20
IWR	P0.84	Chip on Board (CoB)	1,600 / 500 nit	10,000:1	EMC Class B, Safety 60950-1	806.4x453.6x29.9mm (LxHxD, per cabinet)	11.4kg/cabinet	Front only ⁽¹⁾	IP20

⁽¹⁾ Front Service : Modules accessible through the front in groups of six

LED signage

	Project	Pixel Pitch	Diode Type	Brightness ⁽¹⁾ (※ Dynamic Peaking applied)	Contrast Ratio	Certification	Cabinet Size	Weight	Service ⁽²⁾	IP Rating
Indoor	IFJ	P1.2	Surface Mount Device	1,200 nit	4,000:1	EMC Class B, Safety 60950-1	806.4x453.6x76.7mm (LxHxD, per cabinet)	11.8kg/cabinet	Front and Parts Rear	IP20
	IFJ-E	P1.2	Surface Mount Device	1,200 nit	4,000:1	EMC Class B, Safety 60950-1	806.4x453.6x76.7mm (LxHxD, per cabinet)	11.8kg/cabinet	Front and Parts Rear	IP20
	IFH	P1.5, 2.0, 2.5	Surface Mount Device	1,600 nit (P1.5) 2,400 nit (P2.0, 2.5)	5,000:1	EMC Class A, Safety 60950-1	480x540x65mm (LxHxD, per cabinet)	5.8kg/cabinet	Front and Rear	IP20
	IFH-E	P1.5, 2.0, 2.5	Surface Mount Device	1,200 nit (P1.5) 2,000 nit (P2.0, 2.5)	5,000:1	EMC Class A, Safety 60950-1	480x540x65mm (LxHxD, per cabinet)	5.8kg/cabinet	Front and Rear	IP20
	IFH-D	P2.5, 4.0, 6.0	Surface Mount Device	2,400 nit (P2.5) 1,700 nit (P4.0) 1,800 nit (P6.0)	5,000:1	EMC Class A, Safety 60950-1	480x720x65mm (LxHxD, per cabinet)	7.4kg/cabinet	Front and Parts Rear	IP20
	VMR-I	P2.6, P2.9, P3.9	Surface Mount Device	1,000 nit	4,000:1	EMC Class B, Safety 60950-1	500x500x86mm (LxHxD, per cabinet)	8.2kg/panel	Front and Rear	IP20
Outdoor	VMR-O	P3.9	SMD 3-in-1	4,500 nit	4,000:1	EMC Class A, Safety 60950-1	500x500x86mm (LxHxD, per cabinet)	8.4kg/panel	Front and Rear	IP65

⁽¹⁾ Peak Value according to IDMS (Information Display Measurement Standard)

⁽²⁾ Front Service : Front Service to Power Supply and Main Board on a cabinet level / Parts Rear Service : Power Supply and Main Board can be accessed from the rear

Video wall display

Project	Screen Size	Resolution	Brightness	Contrast Ratio	Operation Hour	B-to-B (mm)	Bezel Width	Connectivity
UHF-E/UHN-E	46"(UHN-E) 55"(UHF-E)	1920 x 1080	700 nit	4,000:1	24/7	1.7mm	1.15mm(U/L), 0.55mm(R/B)	In: Analog D-SUB, 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
UMH-E/UMN-E	46"(UMN-E) 55"(UMH-E)	1920 x 1080	500 nit	4,000:1	24/7	1.7mm	1.15mm(U/L), 0.55mm(R/B)	In: Analog D-SUB, 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
VMR-U	46"	1920 x 1080	500 nit	3,500:1	24/7	3.5mm	2.3mm(U/L) 1.2mm(R/B)	In: DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack Out: HDMI, Stereo Mini Jack Ext: RS232C(In/Out), RJ45
UHF5	46"	1920 x 1080	700 nit	4,000:1	24/7	5.5mm	3.4mm(U/L), 2.0mm(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(In)

QLED 8K signage

Project	Screen Size	Resolution	Brightness	Operation Hour	Connectivity	SoC	S/W
QPR - 8K	82"	7680 x 4320	500 nit	16/7	In: HDMI 2.0(4, Including 8K 60p input support1), USB 2.0(3) Out : Optical(Digital Audio Out) Ext: RS232C(In), RJ45	SSSP 7	MagicInfo S7

UHD signage

Project	Screen Size	Resolution	Bright-ness	Contrast Ratio	Opera-tion Hour	Panel Type	IP Rating	Connectivity	SoC	S/W
QHH	55", 65"	3840 x 2160	600 nit	6,000:1	16/7	-	-	In: DP1.2, HDMI 2.0(2), HDCP 2.2, USB2.0(2) Out: HDMI #1 ARC support Ext: RS232C(In/Out), RJ45	SSSP 5	MagicINFO Player S5
QMR	43", 49", 55", 65", 75"	3840 x 2160	500 nit	6,000:1(75") 4,000:1 (43", 49", 55", 65")	24/7	Non-Glare	IP5X Validated	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45	SSSP 6	MagicINFO Player S6
QMN	85", 98"	3840 x 2160	500 nit	4,000:1(98") 3,000:1(85")	24/7	Non-Glare	-	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45	SSSP 6	MagicINFO Player S6
QBR	43", 49", 55", 65", 75"	3840 x 2160	350 nit	5,000:1(43") 4,700:1(49", 55") 4,000:1(65", 75")	16/7	-	IP5X Validated	In: DVI-D, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB2.0(2) Out: Stereo Mini Jack Ext: RS232C(In/Out), RJ45	SSSP 6	MagicINFO Player S6
QEN	82"	3840 x 2160	300 nit	5,000:1	16/7	-	-	In: DVI-D, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB2.0(2) Out: Stereo Mini Jack Ext: RS232C(In/Out), RJ45	SSSP 6	MagicINFO Player S6

Business monitor

	Project	Screen Size	Flat/Curved	Aspect Ratio	Resolution	Brightness	Viewing angle	Connectivity	Eye Saver Mode
Ultra Wide	CJ89	43", 49"	Curved	32:10(43") 32:9(49")	3840 x 1200(43") 3840 x 1080(49")	300 nit	178°(H)/178°(V)	DP1.2, HDMI 2.0, USB Type-C(2), USB Hub(3.0 x 1, 2.0 x 2)	Yes
	CHG90	49"	Curved	32:9	3840 x 1080	350 nit	178°(H)/178°(V)	DP1.4, Mini DP1.4, HDMI 2.0(2), USB Hub 3.0	Yes
High Resolution (UHD/QHD)	CH89	34"	Curved	21:9	3440 x 1440	300 nit	178°(H)/178°(V)	DP, HDMI, USB Type-C, USB Hub(3.0 X1, 2.0 x 2)	Yes
	UH85	32"	Flat	16:9	3840 x 2160	250 nit	178°(H)/178°(V)	DP1.2(1), HDMI(2.0 x 1, 1.4 x 1), USB Hub 3.0	Yes
	SH85	24", 27"	Flat	16:9	2560 x 1440	350 nit(27") 300 nit(24")	178°(H)/178°(V)	DP, HDMI, DP Out(Daisy Chain), USB Type-C, USB Hub 2.0	Yes

Color Expert LED

Model	Technology Type	System Requirement	LED Signage Compatibility	Calibration Feature
Color Expert LED	PC softwareCalibration with ACM chipset	Windows 7 32bit/64bit, Windows 8 32bit/64bit, Windows10 32bit/64bitA calibrator is required to use the Samsung ColorExpert LED software. Customers must purchase thecalibrator separately.	The Wall Pro 0.84 IFJ 1.2 IFH1.5, 2.5	White balance, Gamut mapping, Color temperature, Pixel-level uniformity
Color Expert LED Mobile	Mobile applicationCalibration with mobile camera	Samsung Galaxy phone only - Samsung Galaxy S7/S8/S9/S10, Galaxy Note8/9	The Wall Pro 0.84 IFJ 1.2 IFH1.5, 2.5	White balance, Module & screen-level unniformity

Color Expert Pro

Model	Technology Type	System Requirement	Video Wall Compatibility	Calibration Feature
Color Expert Pro	PC softwareCalibration with ACM chipset	Windows 7 32bit/64bit, Windows 8 32bit/64bit, Windows10 32bit/64bitA calibrator is required to use the Samsung Color Expert Pro software. Customers must purchase the calibrator separately.X-Rite i1 Display Pro is recommended.	UHN-E, UMN-E, UHF-E, UMH-E, UDE-A,UDE-B, UHF5	White balance, Gamma correction, Local uniformity
Color Expert Pro Mobile	Mobile applicationCalibration with mobile camera	Samsung Galaxy phone only - Samsung Galaxy S7/S8/S9, Galaxy Note8/9	UHN-E, UMN-E, UHF-E, UMH-E, UDE-A,UDE-B, UHF5 (with PC) 2019 video wall models (PC-less)	White balance