

Control Room Display Solutions

Always on. Always performing.

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



About Samsung Electronics Co., Ltd.

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Deliver a clear and confident visual experience

For many years, control rooms have acted as critical information hubs for various organizations around the globe. A crucial element of any properly functioning control room is the latest display technology. To monitor multiple information streams efficiently, decision makers must be equipped with crisp and clear information, delivered with the finest level of detail for optimum outcomes. It is also critical that any display operates without any downtime, providing the reliability and operational efficiency that can make all the difference in a mission-critical environment.



Capture all detailed information in critical scenarios

When making important decisions in the moment, control room staff need all information to be delivered in perfect detail, giving them the confidence to make the best decision every time.



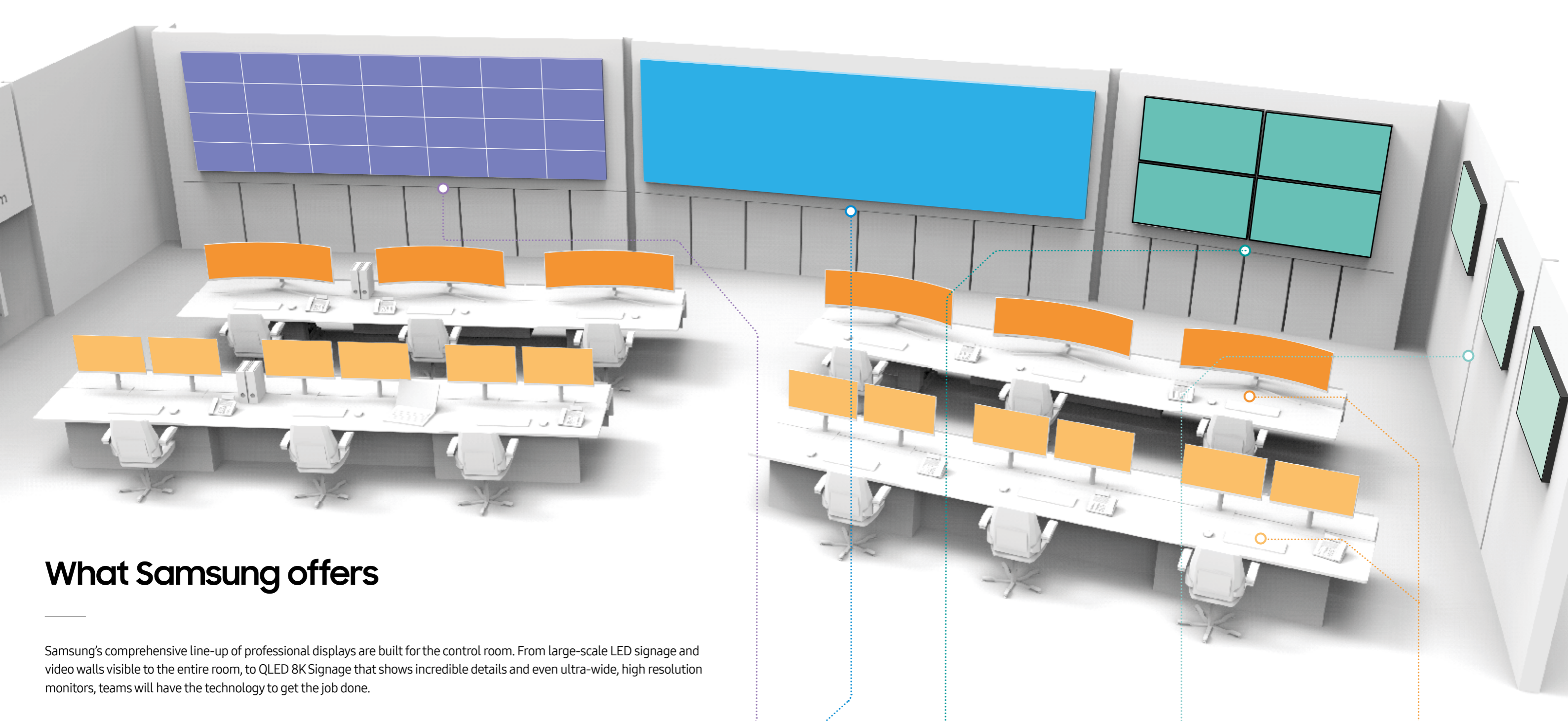
Empower the workforce to make better, faster decisions

Crisp picture quality not only helps to make better decisions, but by consolidating and providing information in one place across a range of displays, staff can continually improve and make better decisions each time.



Secure, simple and reliable

In a mission-critical environment, staff do not have the time to worry about security and reliability so require a display that is built for 24/7 use with power redundancy and security features for total peace of mind during everyday operations.



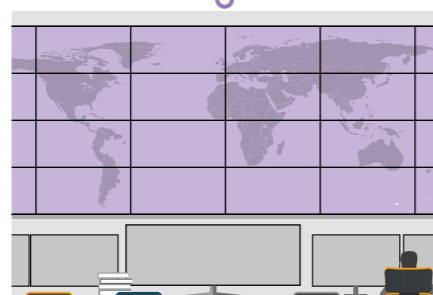
What Samsung offers

Samsung's comprehensive line-up of professional displays are built for the control room. From large-scale LED signage and video walls visible to the entire room, to QLED 8K Signage that shows incredible details and even ultra-wide, high resolution monitors, teams will have the technology to get the job done.



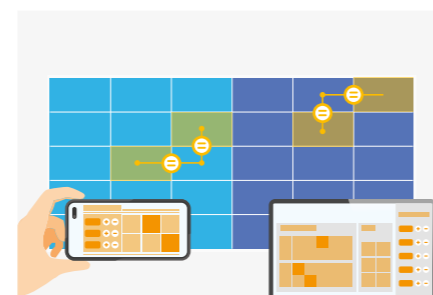
LED Signage

Samsung's large-scale indoor LED display options including The Wall and IF series ensure optimal and uninterrupted picture quality in any mission-critical control room, enabling reliable and efficient operations with no downtime.



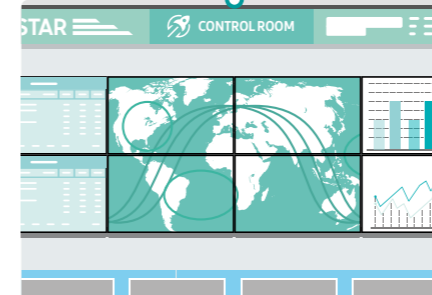
Video Wall

With extremely narrow bezels, Samsung's video walls are a versatile solution to seamlessly enhance any control room, ensuring the delivery of important information around the clock in a variety of formats based on the needs of the team.



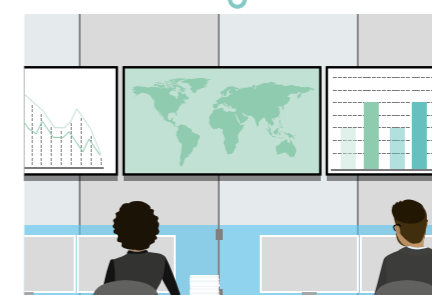
Calibration Solution

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



QLED 8K Signage

An innovative breakthrough in display technology, Samsung's QLED 8K signage delivers an unmatched, crystal clear picture with AI upscaling technology ensuring all content is showcased in 8K resolution for optimal user experience in any control room.



Crystal UHD Signage

Samsung's premium UHD signage are displays that deliver exceptional picture quality, featuring high-brightness and non-glare panels for a clear picture regardless of ambient light within control room environments.



Business Monitor

Samsung's monitors provide more workspace for control room teams without sacrificing picture quality, while also reducing distractions to ensure team members are fully engaged when real-time decisions require optimum focus.

The Wall

Unmatched image detail and contrast that's built to last

The Wall is the ultimate centerpiece of any control room, offering industry leading picture quality and long-lasting quality to meet the demands of any control room environment.



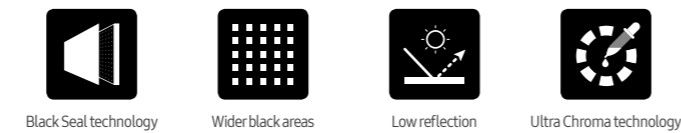
The Wall: IWJ, IWA* series



*IWA is available from 2Q, 2021

Pristine black & color expression

The Wall supports every control room builds its display walls as intended. The fusion of an exceptionally black base with specialized Black Seal technology, delivers deep black levels for intense contrast and immaculate detail. Ultra Chroma technology produces vibrant and natural colors.



Pin-sharp clarity in every scene

Boasting the industry's best picture quality engine, The Wall utilizes advanced HDR picture refinement technologies – LED HDR, HDR10+ support and Multi-link HDR – rendering optimum peak brightness and contrast in every single scene for precise, true-to-life imagery.

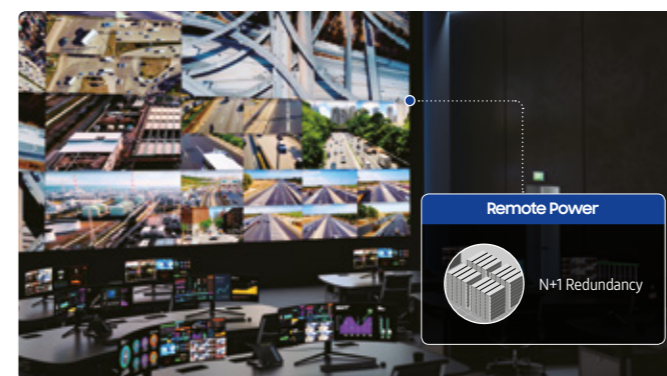
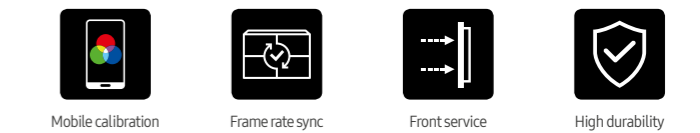


The Wall: IWJ-R series



Total display solution

The Wall is not just a screen but provides a total display solution for control rooms. Requiring nothing more than a mobile phone and a Wi-Fi connection, calibration can be done instantly. Front access to critical signage components ensures a tidy activation free of catwalk space.



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.



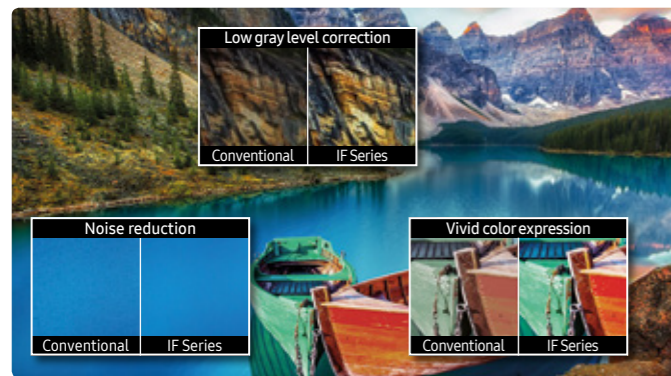
LED Signage

Taking a panoramic view of the situation

Large-scale indoor LED display options from Samsung provide a perfect view of critical information and guaranteed performance to keep the control room operational at all times.



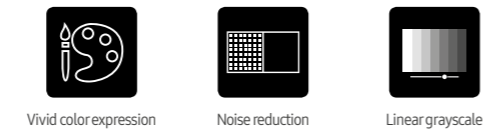
IFJ, IFA*, IFR, IEA series



*IFA is available from 2Q, 2020

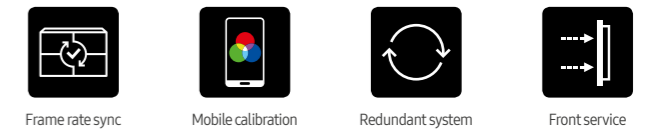
Best-in-class LED picture quality

Samsung's IF series ensures optimal and uninterrupted picture quality for precise information in control room environments. IF series provides best-in-class picture quality for LED, producing images with exact color expression, reduced noise and a full range of grays and blacks.



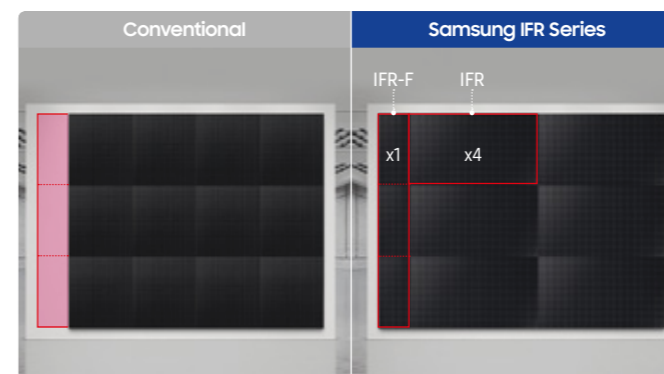
Seamless, smooth content playback

Frame rate synchronization guarantees smooth content playback without screen tearing when multiple S-boxes are connected – even when combining or splitting content across cabinets. Requiring nothing more than a mobile phone and a Wi-Fi connection, calibration can be done instantly.



Clearly refined visuals

Utilizing a propriety algorithm, LED HDR creates true-to-life images, turning any content into HDR-level quality without requiring any special metadata. The IF series supports HDR10+ which optimizes brightness and contrast ratio scene-by-scene to ensure each frame looks exactly as intended.



* This feature is only available on IFR series.

Easy and efficient installation*

To provide more flexibility in design, IFR series features two cabinet types. One, a larger and lighter version compared to conventional cabinets to simplify installation, and the other about a quarter of that size to create displays of varying dimensions.



Video wall

Immersive, uninterrupted viewing around the clock

A video wall is often at the heart of a control room, providing clear visibility for efficient monitoring and maintenance. Samsung's video walls offer optimal brightness and long-lasting performance in any environment.



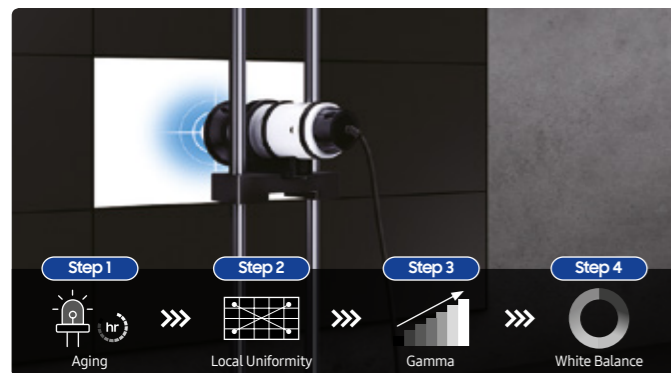
VHR-R / VHT-E / VMT-E / VMT-U series



Immersive viewing experience

Extreme narrow bezels enables content to be delivered as one seamless image, minimizing the visual distraction. A non-glare panel evenly distributes light throughout the screen, eliminating glare while maintaining content vibrancy and accuracy. Samsung's powerful picture enhancement technology ensures all content is vibrant and clear.

- Various bezel options
- Non-glare panel
- Wide viewing angle
- Picture enhancement technology



Screen uniformity all the time

Samsung's complete and comprehensive calibration tunes video wall displays to the optimal uniform brightness and color across multiple displays to fit any control room requirements. Every video wall display presents fine-tuned picture quality whether used as a single display or as multiple screens.

- ACM chipset
- Factory calibration
- Color Expert Pro
- Color Expert Pro Mobile

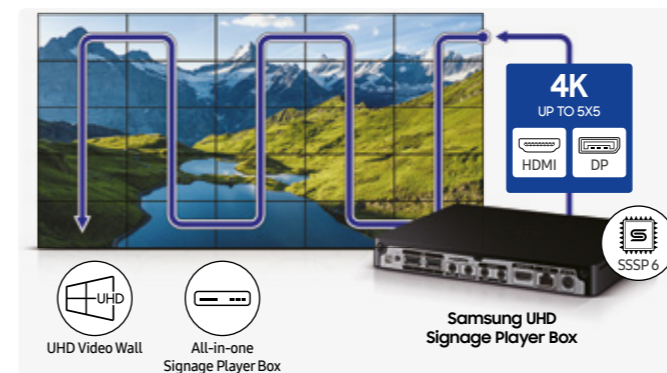


* EMC: Electromagnetic compatibility
 ** EMC Class B certification varies by video wall model
 *** ISTA: International Safe Transit Association

Long-term performance

Samsung's video wall displays allows control rooms to deliver clear information 24/7. The panel prevents screen darkening, ensuring long-term delivery of brilliant content. EMC* Class B compliant displays and ISTA-certified packaging keep both environment and delivery safe.

- 24/7 operation
- No panel darkening
- EMC Class B**
- ISTA-certified packaging***



* The Signage Player Box must be purchased separately.
 ** Samsung's special wall mount accessories must be purchased separately.

Advanced presentation, simplified operation

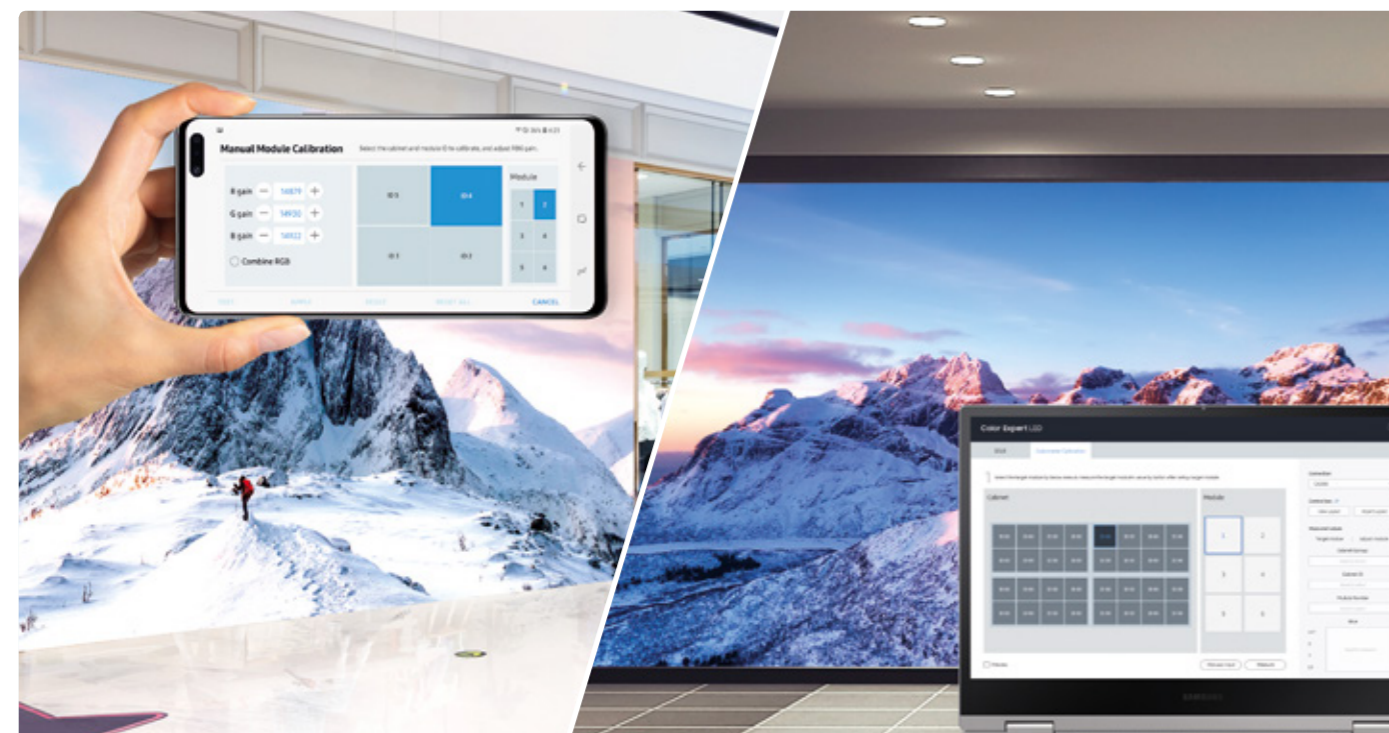
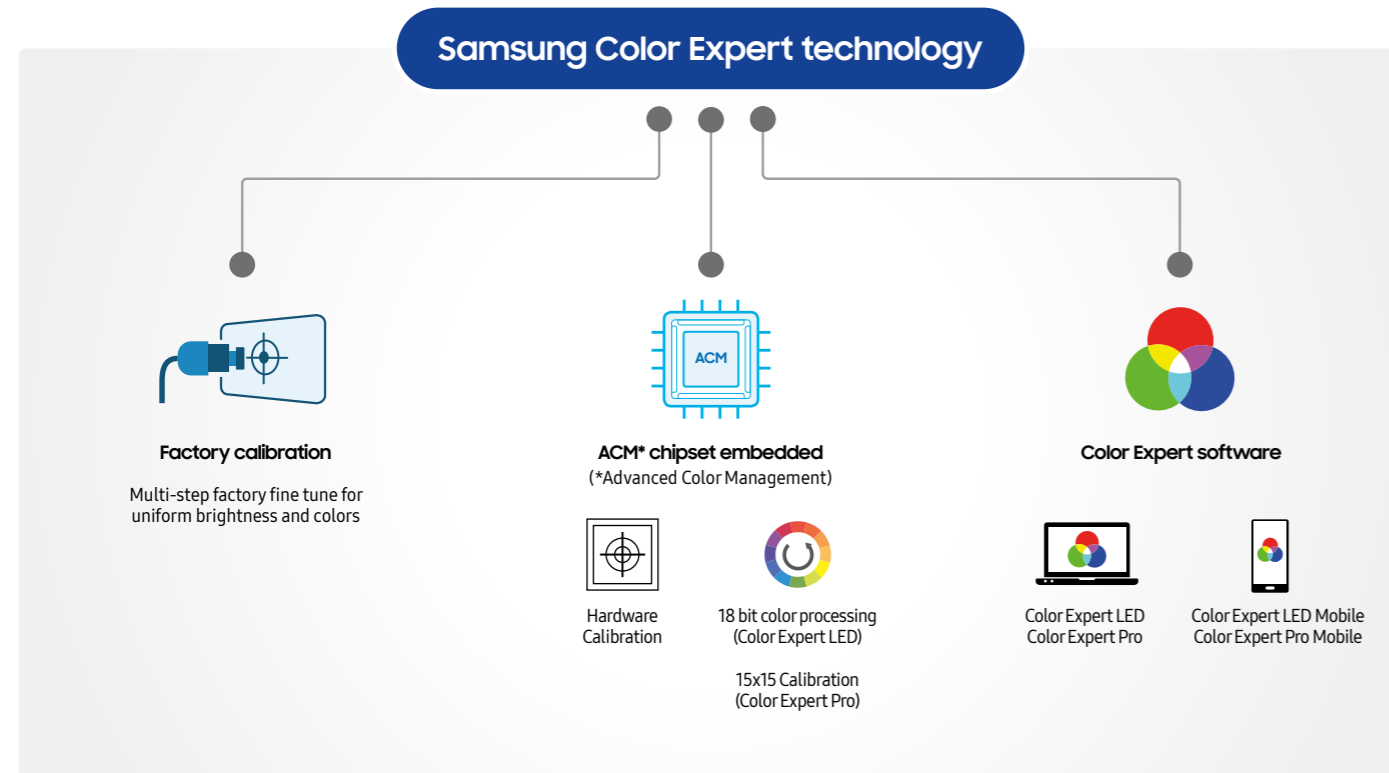
Utilizing daisy chain design through DisplayPort 1.2 or HDMI ports enable Samsung video wall displays to present UHD content on multiple screens without an external graphic card. Samsung's UHD Signage Player Box streamlines functionality by combining the media player and content management software.

- UHD resolution by daisy chain
- All-in-one operation*
- Easy installation**

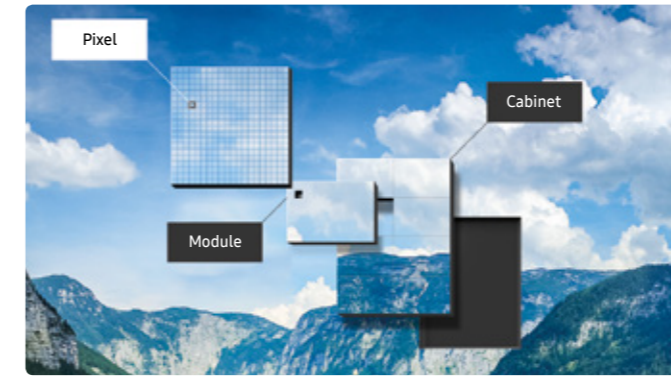
Calibration solution

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.



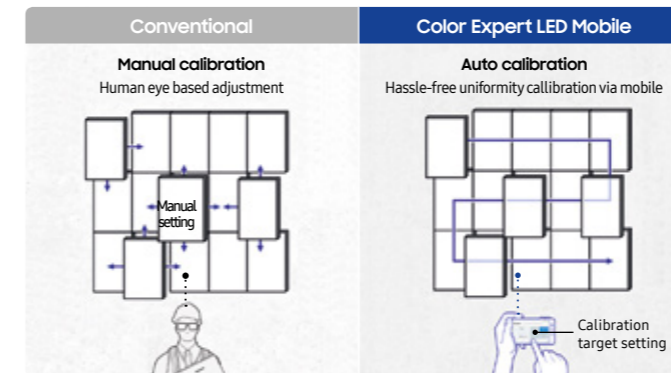
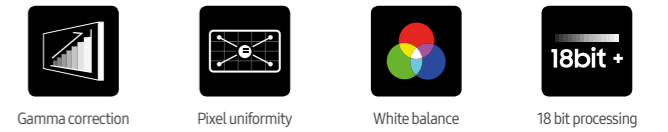
Color Expert LED



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.



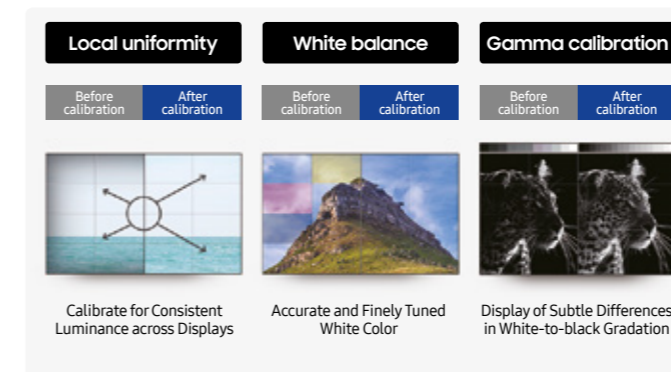
Automatic calibration

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.



Color Expert Pro



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.



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.



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

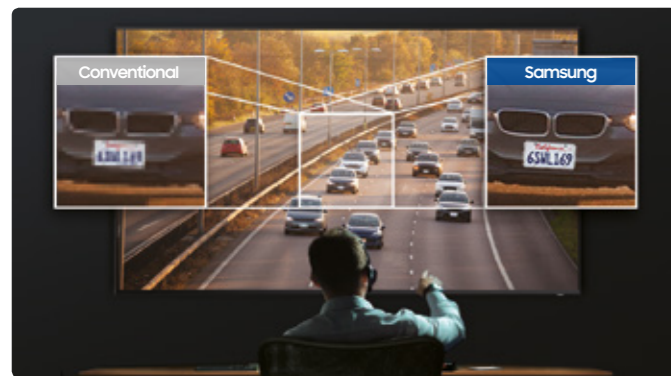
QLED 8K Signage

Capturing all the subtle differences

Samsung's QLED 8K Signage delivers extremely accurate imagery ensuring control room staff are seeing all the details they need to on one, uniform screen, in the highest resolution.



QPR-8K / QPA-8K* series



* 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. * 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. * QPA-8K is available from 2Q, 2021



Incredible 8K resolution

Samsung QLED 8K Signage offers super high resolution with more than 33 million pixels, 4 times higher than 4K UHD content and 16 times higher than FHD. With AI-powered upscaling, control room staff are able to recognize precise detail even in low resolution.

- 8K resolution
- 8K AI upscaling
- 8K media player embedded
- 8K content playback through single HDMI

Brilliant picture quality

Samsung's QLED technology ensures the delivery of 100% color volume, based on over a billion colors. Together with a peak brightness of 4,000 nits and 8K resolution, scenes appear more dynamic and impactful, bringing every detail to life in total clarity.

- QLED technology
- 100% color volume with Quantum Dot
- 4,000 nit peak brightness
- No burn-in

Crystal UHD Signage

Clear delivery of critical information

Samsung's Crystal UHD Signage delivers crystal clear picture, keeping control room staffs from missing any detailed information in critical scenarios.



QHR / QMR / QMT / QBR / QBT / QET series



Real 4K resolution

Samsung's UHD Signage showcases intricate details thanks to 4K UHD resolution. Samsung's cutting-edge intelligent UHD upscaling technology performs edge restoration and noise reduction to deliver UHD-level picture quality for control room's use, even with lower resolution content.

- UHD resolution
- Intelligent UHD engine
- Noise reduction
- Edge restoration



High visibility at all times

Samsung's UHD Signage delivers clear information 24/7, ensuring critical information is always visible. Using 10-bit processing, the displays are able to showcase a wider spectrum of colors — up to a billion different shades — capturing subtle differences for flawless color expression.

- 24/7 operation
- Non-glare panel
- High brightness
- Dynamic crystal color

Business monitor

Optimal productivity during extended work hours

Monitors are an important part of any control room. With ultra-wide screen and high resolution, Samsung's monitors can be used for extended periods of time, ensuring accurate and efficient work from all team members.

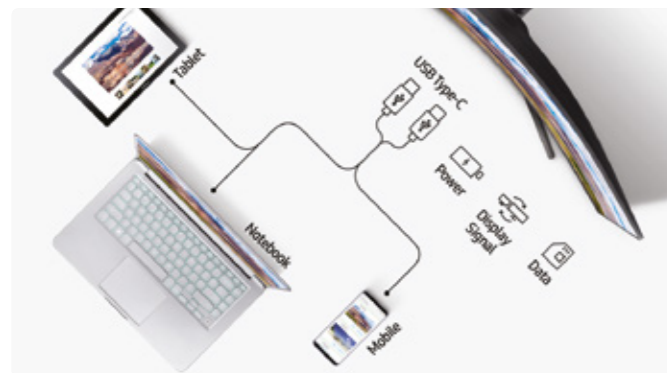


Ultra-wide: CRG9 / CJ89 / S65 series



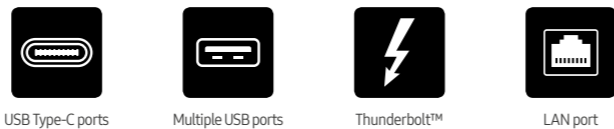
A better way to multi-task CRG9 / CJ89 / S65UA

The ultra-wide screen supports a number of open windows without scroll or zoom, while eliminating the clutter and inconveniences of the traditional dual monitor setups. Multi-tasking features – PIP, PBP and Easy Setting Box – allows staffs to work on more documents and applications simultaneously.



Ultimate connectivity CJ89 / S65 series

Samsung's ultra-wide monitors let staffs multitask more efficiently, saving their desk space. USB Type-C ports transmit both power and data. The built-in KVM switch lets them control two computers connected to the monitor using just one keyboard and mouse.



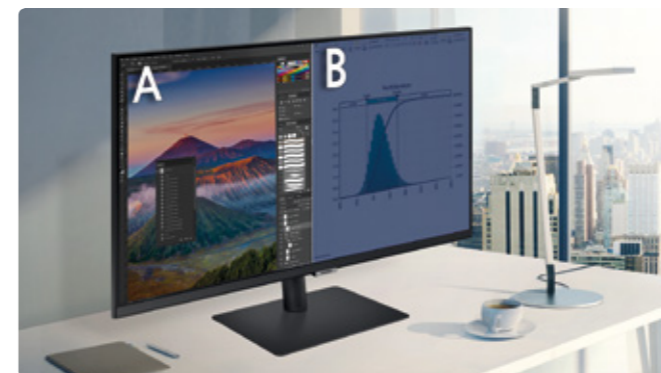
* The features may differ by model

High resolution: TU87 / S80 / S60 series



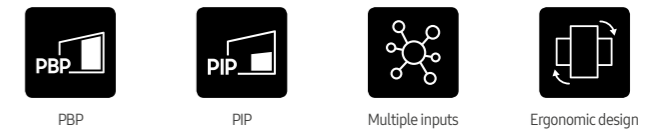
Detailed clarity TU87F / S80UA / S80A

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.



Multi-productive displays S60UA / S60A

PBP transforms a single monitor to a dual-view monitor by displaying content from two sources side by side on one screen. With PIP, staffs can see and organize multiple apps and programs exactly how they want to.



Specifications

LED Signage

Type	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 379 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

* Peak value according to IDMS (Information Display Measurement Standard)

** Contrast Ratio: Measured under 10lux 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

Project	Screen size	Resolution	Brightness	Contrast ratio	Operation hour	B-to-B	Bezel width	Connectivity
VHR-R	55"	1920 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"	1920 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"	1920 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"	1920 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	MagidINFO S7	In: HDMI 2.0(4), including 8K 60p input support 1), USB 2.0(3) Out: Optical(Digital Audio Out) Ext: RS232C(In), RJ45
QPA-8K*	65", 75", 85"	7,680 x 4,320	500 nit (peak 2,000 nit)	1,200:1	16/7	SSSP 9.0	MagidINFO 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.

Crystal UHD Signage

Project	Screen size	Resolution	Brightness	Contrast ratio	Operation hour	SoC	S/W	Panel type	IP rating	Connectivity
QHR	43", 50", 55", 65", 75"	3,840 x 2,160	700 nit	4,000:1	24/7	SSSP 6.0	MagidINFO S6	Non-glare	IP5X	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
QMR	43", 50", 55", 65", 75", 85"	3,840 x 2,160	500 nit	4,000:1	24/7	SSSP 6.0	MagidINFO S6	Non-glare	IP5X	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
QMT	98"	3,840 x 2,160	500 nit	1,200:1	24/7	SSSP 6.0	MagidINFO S6	Non-glare	-	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
QBR	43", 50", 55", 65", 75", 85"	3,840 x 2,160	350 nit	4,000:1	16/7	SSSP 6.0	MagidINFO S6	-	IP5X	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
QBT	98"	3,840 x 2,160	350 nit	1,200:1	24/7	SSSP 6.0	MagidINFO S6	Non-glare	-	In: DVI-D, DP1.2, HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0(2) Out: HDMI 2.0(Loop-out), Stereo Mini Jack Ext: RS232C(In/Out), RJ45
QET	43", 50", 55", 65", 70", 75", 82"	3,840 x 2,160	300 nit	4,000:1 (43", 50", 55", 75", 82") 1,200:1 (65", 70")	16/7	-	MagidINFO Lite	-	IP5X	In: HDMI 2.0(2), HDCP 2.2, Stereo Mini Jack, USB 2.0 Out: Stereo Mini Jack Ext: RS232C(In), RJ45

Business monitor

Type	Project	Screen size	Flat/Curved	Aspect ratio	Resolution	Brightness (Typ./Peak)	Refresh rate	Connectivity
Ultra-wide	CRG9	49"	Curved (1,800R)	32:9	5,120 x 1,440	600 nit / 1,000 nit	120 Hz	HDMI 2.0, DP1.4(2), USB 3.0(4)
	CJ89	43", 49"	Curved (1,800R)	32:9 (49") 32:10 (43")	3,840 x 1,080	300 nit	144 Hz (49") 120 Hz (43")	49": DP1.2, HDMI 2.0, USB Type-C(2), USB3.0(3) 43": DP1.2, HDMI 2.0, USB Type-C(2), USB3.0, USB2.0(2)
	S65UA	34"	Curved (1,000R)	21:9	3,440 x 1,440	300 nit	100 Hz	DP1.2, HDMI 2.0, USB Type-C, USB3.0(3), Ethernet(LAN)
High resolution	TU87	32"	Flat	16:9	3,840 x 2,160	250 nit	60 Hz	Thunderbolt 3(2), HDMI 2.0, DP1.2, USB 2.0(2)
	S80UA	27"	Flat	16:9	3,840 x 2,160	300 nit	60 Hz	DP1.2, HDMI 2.0, USB Type-C, USB3.0(3)
	S80A	32", 27"	Flat	16:9	3,840 x 2,160	300 nit	60 Hz	DP1.2, HDMI 2.0, USB3.0(3), USB2.0
	S60UA	32", 27", 24"	Flat	16:9	2,560 x 1,440	300 nit	75 Hz	DP1.2, DPout, HDMI 1.4, USB Type-C, USB3.0(3), Ethernet(LAN)
S60A	32", 27", 24"	Flat	16:9	2,560 x 1,440	300 nit	75 Hz	DP1.2, HDMI 1.4, 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, Windows 10 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