

Samsung OHD Series SMART Signage

All-inclusive outdoor signage solution
for brilliant business messaging



Highlights

- Engage viewers with excellent visibility through 3,000 nit (46") High Brightness, Reflection Cancelling Protection Glass, 5,000:1 contrast ratio, Auto-Brightness Sensor and Polarized Sunglass Support.
- Rely on extra durability for 24/7 operation in any environment from -30°C to 50°C with IP56 Ingress Protection and innovative Steady Cooling System.
- Easily connect and manage the displays and content with HDBaseT connection, Samsung SMART Signage Platform (SSSP) and Samsung MagicInfo® Solution.
- Simplify outdoor signage enclosures with a thin and complete outdoor signage solution that requires no additional parts.
- Reduce Total Cost of Ownership (TCO) with efficient installation, operation and management supported by reliable Samsung service.

Bring outdoor messaging to life with a streamlined signage solution ready for a simple enclosure

Digital signage offers an effective way to communicate important information. However, operating digital signage outside involves more than simple relocation; it is a technical reengineering. Many factors, including visibility and durability under heavy usage and in extreme environments, system and content manageability, and operating costs must be considered.

Samsung OHD Series SMART Signage delivers an all-inclusive outdoor signage solution that is completely equipped for virtually any environment. OHD Series displays integrate every essential component and all the technology required for outdoor signage in a thin display. So, businesses can reach customers without the typical outdoor display mechanical design, installation and management issues.

Built for durability and flexibility, OHD Series displays can withstand extreme temperatures from -30°C to 50°C. The displays include slim and innovative temperature regulation systems for 24/7 operation in outdoor environments. And with 3,000 nit(46") brightness, a 5,000:1 contrast ratio, and anti-reflection glass, businesses can be sure that messages are seen vibrantly almost anytime or anywhere.

Deliver vivid and brilliant viewing reliably, even in extreme conditions

Captivate audiences with excellent visibility

OHD Series displays mesmerize audiences with high brightness that outshines conventional outdoor displays. The displays feature innovative Reflection Cancelling Technology to reduce reflection, an extremely high contrast ratio for vivid images, Auto Brightness Sensor to optimize brightness and Polarized Sunglass Support to optimally convey messaging to virtually any viewer.

OHD Series display viewers experience superior messaging clarity delivered with high 2,500 nit(55") and 3,000 nit(46") brightness that exceeds the brightness level of common outdoor displays that are typically found within the market.

Reflection cancelling technology is pinnacle of optical science that reduces reflection from a typical 12.8% down to approximately 0.5%. OHD Series patent pending Reflection Cancelling Protection Glass in front of the displays' LCD panels removes the protection glass reflection, making the displayed images richer and clearer. A front nano coating layer on the 5 mm protection glass exterior cuts down surface reflection with anti-infrared material that reduces solar radiation. A rear film layer also reduces reflection. When high brightness with lower reflection is combined with high contrast ratio, the result is greater content visibility.

OHD Series displays feature 5,000:1 high contrast ratio that is essential for delivering every detail of outdoor signage content with true and deep blacks. Under high luminance, high contrast ratio combined with high brightness enables the displays to show content with greater vibrancy and sharpness.



Figure 1. High brightness and contrast ratio suited for outdoor environment

The displays' Auto Brightness Sensor automatically adjusts the brightness between around 200 nit to typical brightness to optimally suit the surrounding lighting conditions.

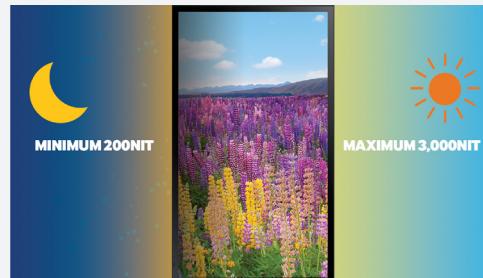


Figure 2. Auto Brightness Sensor adjusts the brightness between 200 nit to 3,000 nit

Because light emitted from an LCD display is polarized, a viewer wearing polarized sunglasses perceives that the display is turned off in either portrait or landscape mode. OHD Series displays feature circular polarizing technology that eliminates display blindness caused by polarized sunglasses.

In addition, OHD Series SMART Signage's image quality performance is substantiated by TUV picture quality master certification with validation of Outdoor Monitor High Visibility and Performance.



Figure 3. TUV certification for visibility

Operate reliably in virtually any environment

High ingress defense level IP56

Outdoor signage is directly exposed to dust, water, temperature changes and many other environmental variables that can damage the panels and impede operation. OHD Series displays ensure a higher level of ingress defense than most conventional outdoor displays with IP56 level protection that extends throughout the waterproof design, covering the fan, drain hole, plug and power outlets.

Deliver vivid and brilliant viewing reliably, even in extreme conditions



Figure 4. IP56 Ingression Protection

High endurance against external impact

Additional display protection is provided through the 5 mm (0.19 in.) tempered Reflection Cancelling Protection Glass that can resist the free dropping of a 0.54 kg (1.19 lb.) metal ball from up to 2.5 meters (8.2 ft.). 2.5meters are Samsung's higher standard of protection glass than industry standard 1.5meters. In addition, a gap between the Reflection Cancelling Protection Glass and the LCD panel prevents LCD breakage when the protection glass is broken (unlike optically bonded panels, which are more easily broken).

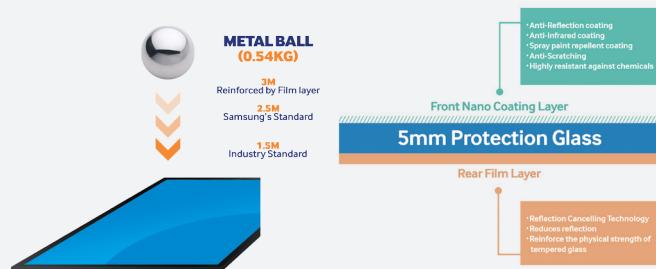


Figure 5. Reflection Cancelling Protection Glass. Protection glass resists high impact on the surface and other attempt to injure.

High endurance against radiation heat

Outdoor signage is exposed directly or indirectly to sunlight, therefore, it must be mechanically designed to endure heat. OHD Series displays feature a TNi 110°C (230°F) panel that is designed to protect it from blackening defects that can occur when the display's surface temperature rises above its endurance level. This protection far exceeds the 75°C or 85°C (158°F or 176° F) endurance of conventional digital signage for high durability and reliability even under strong sunshine.

Wide range of operation temperature

A patent pending Steady Cooling System and heating system ensure stable usage and fast display startup with advanced thermo control. The systems eliminate the need for additional air conditioning or heating equipment, and offer a wide operation temperature range of: -30°C (-22°F) to 50°C (122°F). The advanced Steady Cooling System is a key technology that enables the OHD Series display's slim form factor by combining highly efficient cooling with thin thermodynamic innovation. The system revolutionizes outdoor signage design by eliminating the need for additional air conditioning systems and thick enclosures to accommodate the full display package.



Figure 6. All-inclusive architecture enables the thin enclosure

24/7 durability

Outdoor signage communication with the general public requires the consistent and credible performance provided by the OHD Series 24/7 operation and robust durability. The ability to operate 24/7 also helps reduce TCO and increase ROI for the customer.



Figure 7. Strong 24/7 durability for seamless business communication

Deliver vivid and brilliant viewing reliably, even in extreme conditions

Experience easy connection and management

OHD Series displays deliver simplified, straightforward operation and connectivity with an HDBaseT connection, 2nd Generation SSSP and a platform on which content provider partners can freely develop web-based services..

HDBaseT is a connectivity standard for the distribution of uncompressed HD multimedia content. With HDBaseT, video, audio, Ethernet and control signals are transmitted through a single LAN cable for up to a 100-meter distance. Businesses can leverage HDBaseT to manage outdoor signage remotely from an office, providing a simplified connection at a lower cost.

2nd Generation SSSP features a media player that is embedded inside the display and integrates a capable computer into the display as a System-on-Chip (SoC). This integrated hardware and software solution streamlines digital signage configuration and management by eliminating the need for an additional PC unit.

MagicInfo® is an end-to-end management solution for digital signage networks. By integrating MagicInfo® S Player embedded in the display with MagicInfo Server® businesses can centrally manage and control multiple digital signage displays over the Internet.

SSSP provides a platform for which content provider partners can develop web-based services freely and easily without using an additional PC or media player. Such web-based services can streamline the content management of large-scale outdoor signage networks.

Simplify outdoor signage with an all-encompassing array of pre-assembled features

Outdoor signage need not be complex. OHD Series is conveniently and easily installed, designed and operated with a thin and complete all-in-one solution. The package includes ingress protection, anti-reflection technology, vandalism protection and a highly efficient cooling system, all of which are assembled mechanically and perfectly. The simple OHD Series display enclosure requires no additional parts, so it is completely ready for virtually any enclosure.

At 90.3 mm (including its protection glass), the OHD Series display depth is the slimmest on the market. This slim depth provides a sleeker enclosure design and enables many usage applications. The all-inclusive display design encompasses a wide range of functionality that was previously handled by an enclosure. For example, the OHD Series applies Reflection Cancelling Technology that eliminates the need for additional protection glass and the Steady Cooling System eliminates the need for additional air-conditioning equipment in the enclosure. In addition, the OHD Series IP56 protection chassis and mechanical parts eliminate the design requirement of additional ingress protection. With a display solution that encompasses all the typical outdoor design requirements, business can simplify and shorten the outdoor signage decision making and deployment processes.



Figure 8. Remote management of outdoor signage with simple, low-cost connection through advanced HDBaseT

Streamline outdoor signage for convenience and cost-savings

Reduce TCO

Up to 70% of digital signage costs including power, installation, content, media players and software are hidden expenses. OHD Series displays enable lower TCO by providing control of these hidden installation, operation and management costs.

Simplified construction of outdoor signage and enclosures enhances its serviceability. The use of minimal outdoor signage components facilitates easy issue detection and troubleshooting. Plus, the all-inclusive OHD Series signage design as a single display with compatible parts optimizes performance and reduces failures from interactions between components.

Samsung's experienced and professional business service supports customers for reduced downtime and longer equipment usage. A 3-year commercial usage warranty minimizes the customer's expenditures for unexpected display failure and recovery.

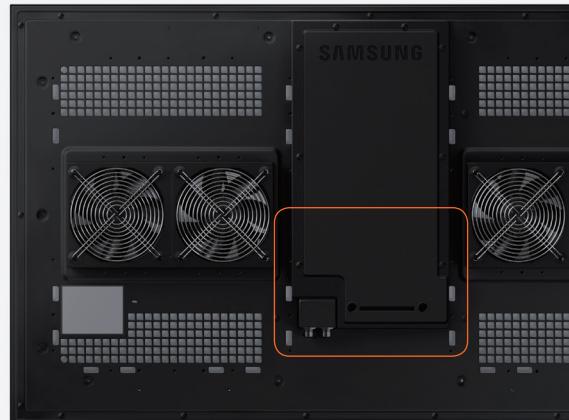
Samsung OHD Series SMART Signage

OHD

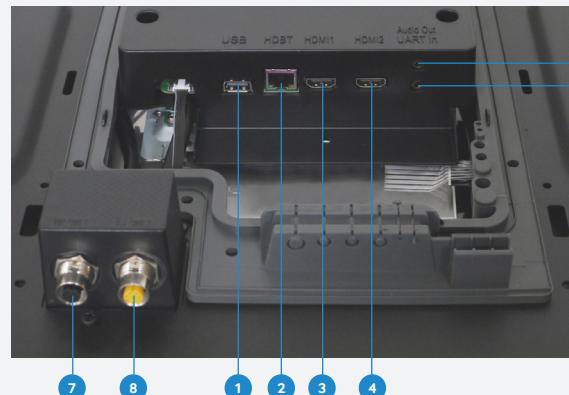
46"/55"



Connectors



1. USB
2. HDBT
3. HDMI1
4. HDMI2
5. Audio Out
6. UART In
7. Main Power In
8. BLU Power In



Power box



Samsung OHD Series SMART Signage

Specifications

		OH46D	OH55D
Panel	Diagonal Size	46"	55"
	Type	S-VA	
	Resolution	1,920 x 1,080 (16:9)	
	Active Display Area (mm/in.)	1,018 x 572.6 (40 x 22.5)	1,209.6 x 680.4 (47.6 x 26.7)
	Brightness(Typ.)	3,000 cd/m ²	2,500cd/m ²
	Contrast Ratio	5,000:1	
	Viewing Angle(H/V)	178/178	
	Response Time(G-to-G)	6ms	
Display	Display Colors	8 bit - 16.7M	
		72%	
	Dynamic C/R	100,000:1	
	H-Scanning Frequency	30 ~ 81kHz	
Sound	V-Scanning Frequency	48 ~ 75Hz	
	Maximum Pixel Frequency	148.5Mhz	
	Speaker Type	N/A	
Connectivity	INPUT	RGB VIDEO AUDIO	- HDMI®1, HDMI2, HDBaseT®(LAN Common) -
	OUTPUT	RGB VIDEO AUDIO	- -
		Power Out	Stereo Mini Jack
			Yes (Set <-> Power Box)
	EXTERNAL CONTROL		HDBaseT, RJ45
	EXTERNAL SENSOR		N/A
Power	Type		External (Power Box)
	Power Supply		AC 100 - 240 V~ (+/- 10 %), 50/60 Hz
	Power Consumption	Max[W/h]	600
		Typical[W/h]	193(EN) / 412(ZA)
		BTU(Max)	2,047.7
Mechanical Sepc	Sleep mode		less than 0.5W
	Off mode		less than 0.5W
	Dimension (mm/in.)	Set 623.5 x 564.9 x 90 (24.5 x 22.2 x 3.5) (Set) 623.5 x 564.9 x 90 (24.5 x 22.2 x 3.5) (Power Box)	1,260.6 x 731.4 x 90.3 (49.6 x 28.7 x 3.5) (Set) 623.5 x 564.9 x 90 (24.5 x 22.2 x 3.5) (Power Box)
	Weight (kg/lb)	Set 1,174 x 305 x 727 (46.2 x 12 x 28.6)	1,378 x 325 x 842 (54.2 x 12.7 x 33.1)
	Mounting Hole	39.5 (87) (Set) 8.6 (18.9) (Power Box)	39.5 (87) (Set) 8.6 (18.9) (Power Box)
Operation	Protection Glass	54.4 (119.9)	66.6 (146.8)
	Stand Type	989.0 x503.6	1180.6 x 611.4
	Media Player Option Type		
	Bezel width (mm/in)	24.9 (0.9)	
	Operating Temperature		-30°C ~ 50°C
	Humidity		10~80%
	IP Certificate		IP56

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Specifications

		OH46D	OH55D
	Key	Slim High Brightness, IP56 Outdoor	
	Special	IP56 Certified for Simple Enclosure Outdoor, Protection Glass(Anti Graffiti, Infrared Reduce), Polarized Sun Glasses Viewable in any direction, HD Base T for Long Distance Installation, Portrait Installation Support, Button Lock, Lamp Error Detection, Auto Brightness Control with Ambient Brightness Sensor, Anti Image Retention, Temperature Sensor, Pivot Display, MagicInfo S, Smart Scheduling, RJ45 MDC, PIP/PBP, Auto Source Switching & Recovery,	
Feature	Processor	Cortex®-A9 1GHz Quad Core CPU	
	On-Chip Cache	L1 (I/D) : 32KB / 32KB	
	Memory	L2 (Unified) : 1MB	
	Clock Speed	1GHz CPU Quad	
	Main Memory Interface	1.5 GB Dual 48bit DDR3-933 (1866MHz)	
	Internal Player (Embedded H/W)	2D & 3D Graphics Engine - Up to 1,920 x 1,080 32bpp - Supports OpenGL ES®	
	Storage (FDM)	8 GB (2GB Occupied by O/S, 6GB Available) Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG, VP8 Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc.	
	Multimedia		
	IO Ports	USB 2.0	
Certification	Operating System	Linux®	
	Safety	CB : IEC60950-1/EN60950-1 (EN) UL : cUL60950-1 (GO)	
	EMC	CE : EN55022:2006+A1:2007 EN55024:1998+A1:2001+A2:2003 (EN) FCC : Part 15, Subpart B Class A (GO)	
Accessories	Environment	N/A	
	Included	Quick Setup Guide, Regulatory Guide, Warranty Card, Remote Controller, Batteries BLU Power Cable, Main Power Cable	
Media Player	CPU		
	N/B		
	S/B		
	GPU		
	FDM/HDD		
	Memory		
	Ethernet		N/A
	USB		
	Connectivity		
	Output		
	Others		

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For more information

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



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