✳ Classification of Broadcast Monitor

Test Items	TTA	EBU
Luminance Range	Above 70-100 cd/m²	>100cd/m²
Black Level	Under 0.1 cd/m²	<0.05 cd/m²
Contrast Ratio	100% White Luminance ref 0.1 cd/m²	>2000:1 for 100cd/m²
Gamma Characteristics	Within 2.2 ± 0.025	2.4 ± 0.1 (monotonic)
Gray Scale Reproduction	Within ±0.0010 △u˙, ±0.0015 △v˙	CIE1976 0.5 △u*v*
Colour Gamut and Reproduction	Within 4 △u*v* (2.6 △u*v*)	CIE1976 2.6 △u*v*
Colour Temperature	Within 2.6 △u*v*	D65 1.3 △u*v*
Viewing-angle Dependency	Within 6 △u*v* (6.8 △u*v*)	<6 △u*v* for >±45° Horiz, >20° Vert
Screen Resolution	1920 x 1080	1920 x 1080
Delay Time	10ms (Setup Fast Response Mode)	See EBU Tech 3320, 3325
Uniformity	Within Luminance ± 5%	Within Luminance ± 5%
	Colour Temperature 2.6 △u*v*	CIE1976 2.6 △u*v*
Stability	Under Black level 0.1 cd/m²	See EBU Tech 3325
	Within White Level ± 1%	See EBU Tech 3325
Environmental Condition	Operation 0-40℃ Storage -20~60℃	Operation 0-45℃ Storage -35~70℃
Pixel Defects	No Pixel Defects	No Pixel Defects (ISO 13406-2)
Handling of under and overshoot	Sub-Black, Super –White Clip	No clipping in processing
Treatment of Illegal Signal	Support Location Indicating	Visible
Supported Standards & Signal Interfaces	SD, HD Standard Format& Interface support	See EBU Tech 3320 issue 3.0
Other Facilities	Broadcasting Monitor Function support	See EBU Tech 3320 issue 3.0
Acoustic Noise		<NR5 (ISO 1996)
SDI Ports Return Loss	> 15dB	To SMPTE Specification
SDI Output Interface Performance	To SMPTE Specification	To SMPTE Specification
HD-SDI Output Interface Performance	To SMPTE Specification	To SMPTE Specification
3G-SDI Output Interface Performance	To SMPTE Specification	To SMPTE Specification

✳ Mechanical Design

World first 55″ OLED Grade 1 Monitor
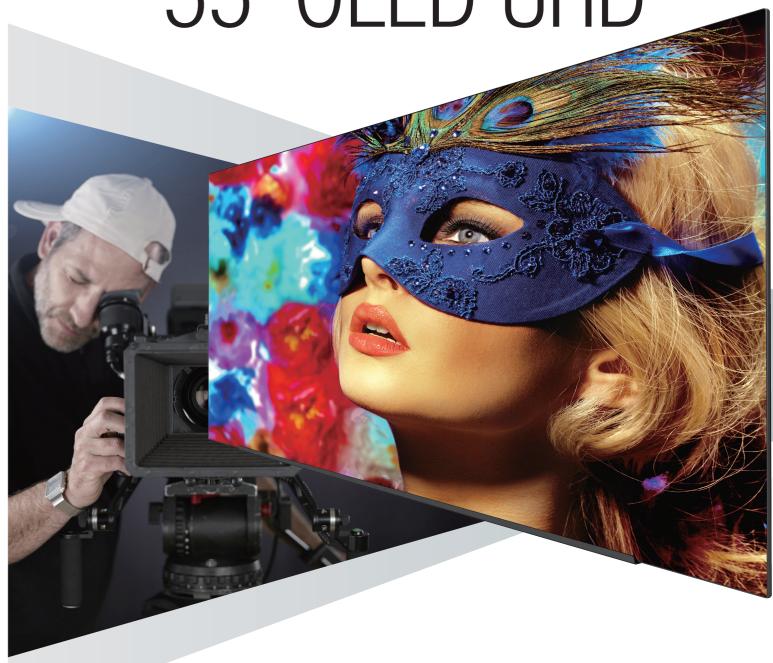
55″ OLED UHD

ODS ORION DISPLAY SOLUTIONS

Orion Co., Ltd.
Factory_257-6, Gongdan-Dong, Gumi, Kyungbuk, Korea
Sales_4F, ilshin Bldg., 15-15, Yeouido-Dong, Yeongdungpo-Gu, Seoul 150-872, Korea
Tel: +82-2-6678-8505   E-mail: sales@oriondisplay.net

Professional Monitor for Broadcast & CCTV

World first 55" OLED Grade 1 Monitor (Superiority of WOLED)
Orion Display Solutions introduce the world's first 55" Grade 1 OLED Reference Monitor as part of the new 'ODS' (Orion Display Solutions) product range.
Reference monitors are designed for showing high quality video without enhancement and as a critical analysis tool for evaluating and measuring artifacts and colour.

We are introducing this new technology monitor to the Broadcast, Film, and Post Production Industry to take advantage of the many benefits of OLED properties.
OLED panels are based on organic materials that are self-emitting with the luminance level directly controlled by current adjustment.

The advantages of OLED panels are quite significant and include :

- Excellent deep 'Black Level' due to omission of 'Black light' and the emissive properties of the OLED.

- Interlace signals are displayed as an interlace picture by inserting the black line without I/P conversion processing.

- Excellent Viewing angle -89~89(H), -89~89(V) resulting in constant colour reproduction irrespective of viewer or multiple viewers sitting positions when utilised in a 'monitor stack of an OB's or control room. Viewing angle is ~ + - 60% before a colour shift.

- Ultra-fast response time (under 10 micro seconds) reducing smear and motion artifacts caused by fast motion video or quick camera 'panning' (faster than a CRT)

- Environmental temperature change has no effect on response time for 'Location' shooting.

- Excellent 'Contrast' & 'Wide Dynamic' properties enabling high quality reproduction of video containing sparkle/twinkle etc. footage.

- Because OLED's do not require backlighting, they consume much less power than LCD's

- (most of the LCD power goes to the backlighting)

- Excellent wide colour gamut that complies with the broadcast standard, EBU, SMPTE-C & sRGB accurately.

- 12 bit Driver circuitry for smooth gradation of colour shading.

✳ 55" OLED Grade 1 Monitor Specification

	55" OLED FHD(OES-5510)	55" OLED UHD(OESK-5510)
Input Formats	Single Link SDI/HDSDI: SMPTE 259 M 292M	
	Dual Link HDSDI: SMPTE 372, Single Link 3G HDSDI(Level A & B): SMPTE 425M	
Picture Modes	Single Channel Full Screen	
Outline Dimensions	1226(H) x 706(V) x 5.27(D)mm + 38mm pod depth	
Resolution	1920 x 1080	3840 x 2160
Pixel Pitch	0.63mm x 0.63mm	0.315mm x 0.315mm
Contrast Ratio	>100,000:1	
Luminance White	100 cd/sqm nominal, 400cd/sqm maximum	
Viewing Angle	178° Horizontal, 178° Vertical	
Response Time	1ms Grey to Grey	
Display Aspect Ratio	16:9	
Displayable Aspect Ratio	4:3, 14:9, 15:9, 16:9, 16:10, 1:1 Pixel mapping	
Colour Depth	10.7 Billion Colours 10 bit	
Control and Setup	Handheld IR Remote, Pushbuttons on rear of side panel	
	IP Controllable, Serial Control via RS232	
Picture Controls	Black Level, Gain, Saturation, Illumination	
Colour Temperature	3200, 5400, 6500, 7200, 8200, 9200	
Gamma	1, 2.0, 2.2, 2.35, 2.4, 2.5	
Over-scan	Adjustable	
dBFS Audio meters	Any 4 from up to 16 embedded channels per input	
UMD	IP Controllable (24 Characters) & (16 character TSL)	
	Local Text Input	
	Dynamic width, variable position, picture blanking area, coloured text	
Tally	Red, Green, Blocks or Frames (adjustable) via GPI (RJ45)	
RGB Channel Separation	Normal; Red/Green/Blue to all; Red, Green, Blue only; Invert	
Safe Area Cages	2 per Channel in Full Screen	
	Adjustable + Cage Masks	
RGB Gains	Red, Green, Blue gains individually adjustable	
Reveal Blanking	Horizontal and Vertical	
Display Operating Mode	Emissive Mode, Normally Black	
Internal Test Patterns	Scale bars, and others	
Dimensions	1247mm x 718mm x 60mm	
Weight	30Kg	
Power Consumption	150W Max	
Mounting	400mm x 600mm xM6	
Life time	>30,000 Hours	

✳ Key Features

55" OLED Display	Internal Test Signal Generator
Native HD resolution 1920 x 1080 / 3840 x 2160	RGB Channel Separation
Inputs SDSDI, HDSDI, Single Link, Dual Link, 3Gb/s	Adjustable De-interlace
Colour Reproduction to EBU, SMPTE-C, ITU-R BT.709	Over-scan control
Input Selection	On-screen dBFS Audio Meters
Low Latency	Display UMD and Tally Information
LG Displays OLED Panel	RGB &W in Vertical Stripe Array
Selectable Source Sync	Graphic Mode & Broadcast mode
Adjustable Gamma	Safe Area Cages and Cage Mask
Adjustable Colour Temperature	Individual RGB Gain controls
Adjustable Aspect Ratio	Fully Network Addressable and Controllable
Extensive Image Controls	Low profile 16.5mm Bezel
Blanking Reveal	Compatible with LightSpace CMS