8K HDR

OBM-8K SERIES

HDR 8K Professionals Broadcast Monitors

postium®

12G-SDI Quad Link 8K
12G-SDI Single Link 4K
3G-SDI Quad Link Square Division & 2-S.I. 4K

17.3" 24" 32" 43"

The OBM-8K Series incorporates 4 x 12G SDI input and Loopout(x4), HDMI 2.0 input. The OBM-8K Series accepts up to 7680x4320 / 60 / 59.94. / 50p signals. The OBM-8K Series provides the function to display the HDR(High Dynamic Range) footage, and supports a wide color gamut conforming to DCI-P3.
The OBM-8K Series offers the professional performance, including excellent quality black performance, accurate color reproduction, which make these monitors ideal for 8K/4K live production, versatile monitoring and field production applications. In addition, the OBM-8K Series supports the integrated 3D LUT, Waveform, Vector Scope and full feature set.

Advanced 3D LUT Tetrahedral Interpolation algorithm has been applied to the OBM-8K Series. The accuracy of the color reproduction is better than 33x33x33 grid 3D LUT with cubic interpolation.

Product Highlights

- 12G SDI Quad Link 8K / 12G-SDI Single Link 4K
- 6G-SDI Dual Link 2-S.I. 4K
- 3G-SDI Quad Link Square Division 4K / 3G-SDI Quad Link 2-Sample Interleave (2-S.I.) 4K
- Dual SFP Module Inputs (ST 2022-6 Support)
- HDMI 2.0 Input
- HDR(High Dynamic Range) Display supporting PQ (ST 2084), Hybrid Log Gamma, S-Log3
- Wide Color Gamut Supporting ITU-R BT.709, SMPTE-C, EBU, Native, DCI-P3, ITU-R BT.2020
- Internal color processing 72bit(24bitx3) + Native 33x33x33 30bit 3D-LUT
- 1.073 Billion Colors
- Gamut Error
- Black stretch
- Camera Log Conversion
- Custom 3D LUT file Import Through USB
- Gamma Selection (1.0 ~ 3.0)
- SDR EOTF - BT.1886 (Gamma 2.4)
- Color Temperature (3200K, 5500K, 6500K, 9300K, USER 1/2/3, D-CINEMA)
- Monitor Control via Ethernet, RS-422
- Image Division & Link Order Auto Detection
- Waveform, VectorScope (Wave + Vector)
- HDR Waveform
- Various Markers (EBU, 4:3, 16:9, 1.85:1, 2.35:1, Variable Custom)
- Zero Scan
- Time Code Display
- De-embedded 8~16ch Audio Level Meter
- Internal Pattern Display for Color Test (Black ~ 100% White, Color Bar)
- Remote Control via GPI(RJ-45) Port
- False Color : Zebra, Color Pattern, ARRI
- Easy Firmware Update by USB
- System Data Copy
- H/V Delay
- Blue/Mono Only
- Focus Assist
- 3 Color TALLY Lamp
- HDR Auto Setting
- Aspect
- Freeze

Versatile 8K/QFHD Input Capability

The OBM-Uxx8K series is equipped with standard 12G-SDI input interface(x4) and support 4K/8K Quad Link 2-sample interleave signals and 4K Quad Link Square Division signals.
The OBM-Uxx8K Series can accept up to 7680x4320/23.98, 24, 25, 29.97, 30, 50, 59.94, 60p and 3840x2160/24, 25, 30, 50, 59.94, 60p

High Dynamic Range(HDR) Display

The OBM series provides the function to display the High Dynamic Range footage.
Postium HDR function allows users to view both highlights and shadow detail of scenes at the same time, thus resulting in more natural and realistic images.
The OBM series supports PQ EOTF (SMPTE ST 2084), Hybrid Log Gamma and S-Log3.

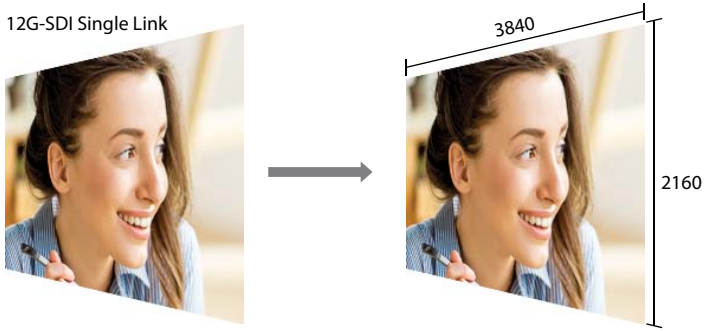
HDR Mode | SDR Mode

OBM-HDR provides the function of comparing HDR and SDR(Standard Dynamic Range) on the displayed image on the OBM series simultaneously.

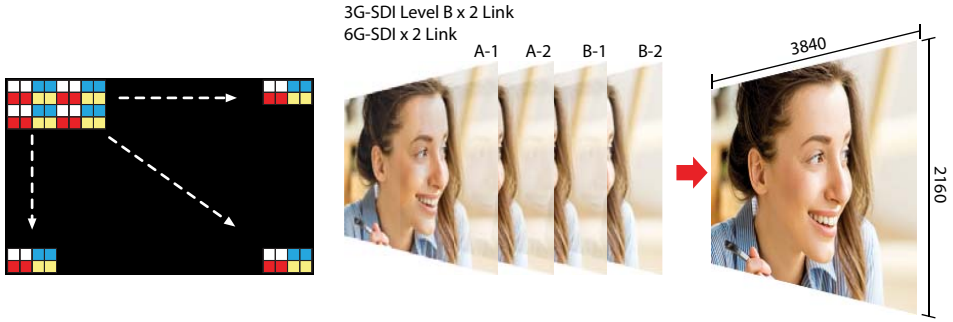
HDR | SDR

Various 4K/12G Display Modes

Single Link 12G-SDI

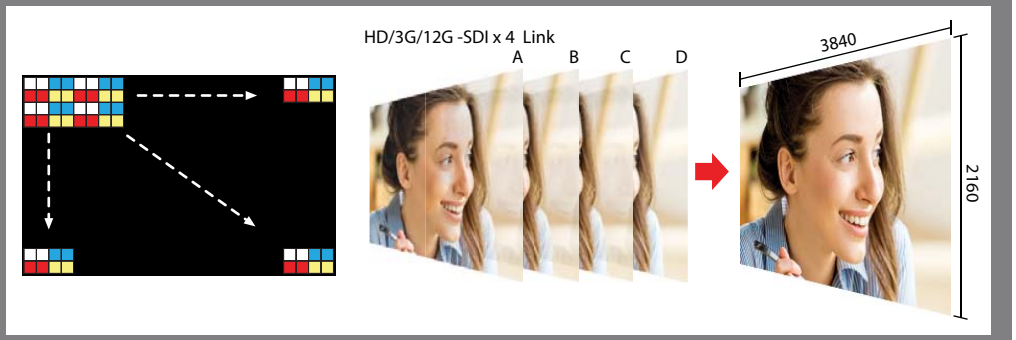


Dual Link 2-Sample Interleave(2-S.I.)



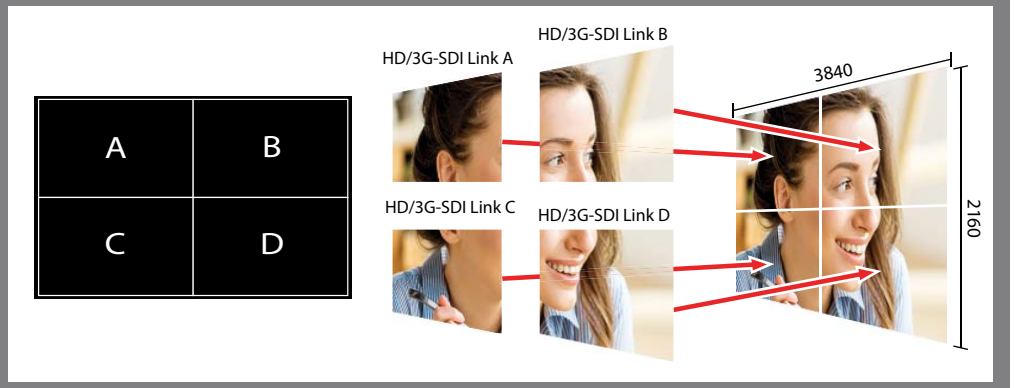
Quad Link 2 Sample Interleave (2-S.I.)

Each link contains a full image at 1/4 resolution. 2-S.I. mode uses four sub-image and alternates the samples every two pixels and every line instead of slitting the image into four quadrants.



Quad Link Square Division

Each link contains one square of the original image.

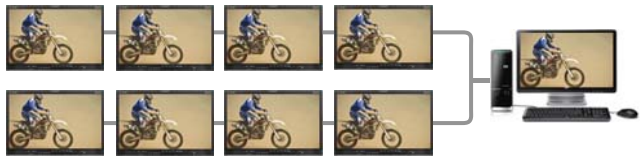


4K Waveform Monitor and Vector Scope Display

These features enable users to monitor 4K sources using the internal Waveform and Vector Scope. Waveform Wide mode* is supported, and both Waveform and Vector Scope can be displayed simultaneously.

Remote Control via Ethernet

The OBM series can be connected via Ethernet connection and controlled remotely on the network.



False Color

This function evaluates the Luma(Y') level of the input image. If the certain Y' level is set, the pixels with the designated Luma(Y') level are displayed with the zebra pattern or the color pattern.
There are three modes in OBM False Color.

Zebra

This mode displays the Luma(Y') level of the input image in zebra pattern.

False Color Variable

This mode allows the user to adjust White clipping, Pink level, Green level, Black Clipping.

False Color ARRI

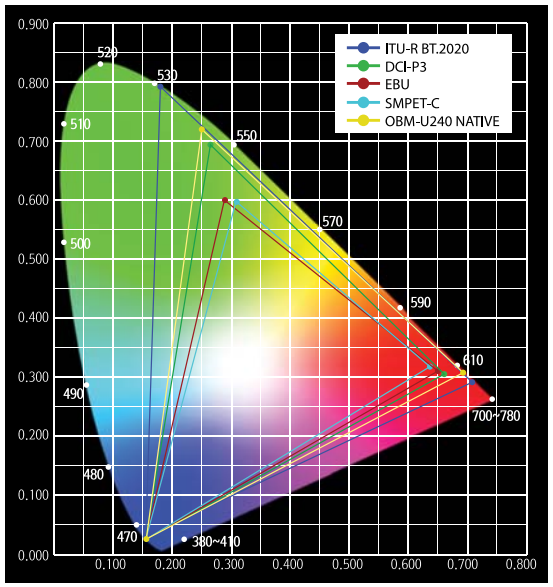
The color pattern is displayed with ARRI camera standard.

False Color Comparison

This function enables the user to divide the picture side by side, and compare the original image on the left half and the False Color image on the right half.

Wide Color Gamut Supporting DCI-P3 and ITU-R BT.2020

The wide color gamut and the advanced 3D LUT function enable the OBM series to reproduce various color spaces accurately and the excellent grayscale.
You can select from color gamuts such as DCI-P3, ITU-R BT.2020, ITU-R BT.709, SMPTE-C, EBU, Native.



Adjustable Gamma

Gamma value is adjustable from 1.0 to 3.0 as user's preference to monitor in the dark area of the picture.
Any pictures taken in either light or dark environment can be easily watched or analyzed.


Gamma 1.8


Gamma 2.4

Black Stretch

The Black Stretch increases the visibility of subjects in dark areas, not degrading image quality in bright areas.
This mode can be used to increase shadow detail without changing the absolute black level, and without affecting mid-tones.


Black Stretch Off


Black Stretch On

12G-SDI over fiber and 3G-SDI over IP Supporting ST 2022-6, ST 2110

The OBM-8K series have the SFP interface, which allows to use the various SFP modules which can fit any possible broadcast applications.
The OBM-8K series monitors can display the 12G-SDI over fiber and the 3G-SDI video over IP through the SFP module supporting ST 2022-6 and ST 2110.

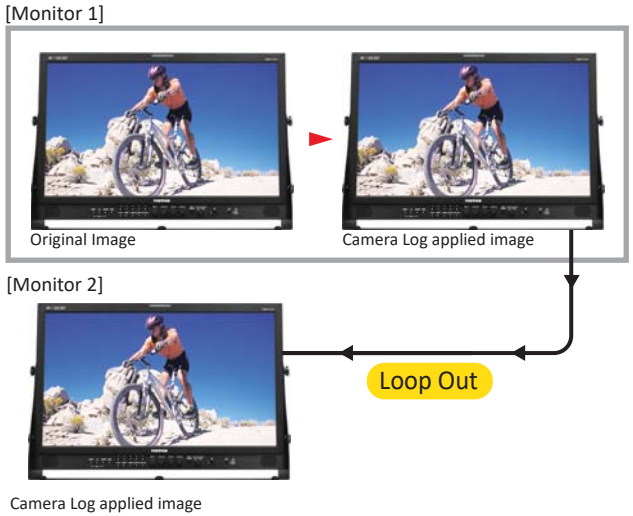
Camera Log Selection

The OBM series has the integrated camera LUT of the various camera manufacturers. It allows users to load the following camera logs.
Log-C / C-Log / S-Log2, S-Log3 / J-Log1
The more camera LUTs will be updated.

Camera Log Mapped SDI Loopout

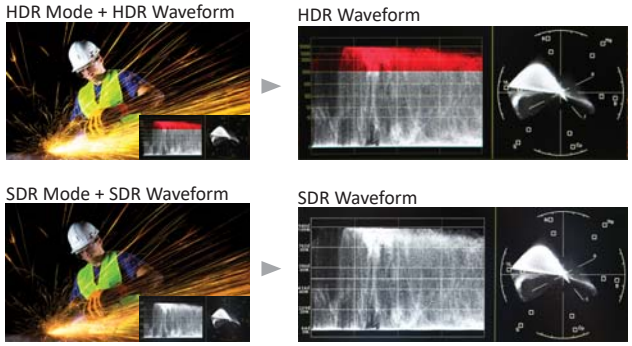
(OBM-X/U/W/N/H/R Series)

This function allows to load the camera log to the original image and then send the camera log mapped image to another monitor through SDI loop out.



HDR Waveform

When HDR more is set on, HDR Waveform is displayed on screen.



Waveform & Vector Scope Position Changeable

The position of Waveform and Vectro Scope can be changed among Left Top, Right Top, Right Bottom, Left Bottom.

System Data Copy

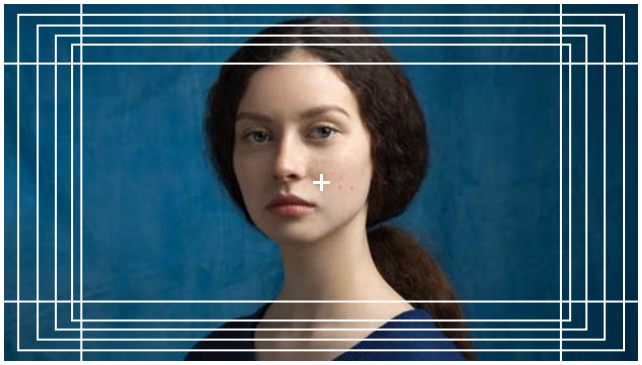
This function allows users to save the monitor configuration and adjustment settings on the USB memory stick and load them to other monitors. This is useful for multiple monitor systems, allowing the transfer of one monitor's setup and adjustment data to another.

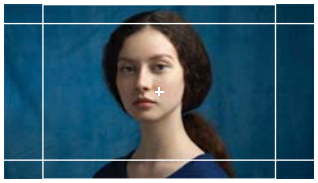
HDR / Camera Log Comparison

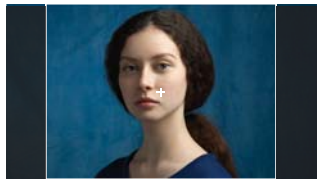
The unique function allows users to compare HDR and Camera Log side by side.

Various Markers

The OBM series can display various markers, including aspect marker, area marker, and center marker. In addition, the detailed display settings of each marker are allowed. For example, the color, brightness, horizontal/vertical position, and thickness of aspect markers can all be adjusted.
Custom Marker allows the users to place top, bottom, left, right marker lines as they want.




Custom Marker


Aspect Mat 5

32″
OBM-U318K

Gamut Error

The total range of the SDI 10bit signal is 0 to 1023. The range 0 to 3 and 1020 to 1023 are the reserved values for Sync, and the total video signal range is 4 to 1019.
In a video signal, each primary component should lie between 0 and 100% of the video range between black level and peak level (R and G and B). Ideally, video levels should lie within the specified limits so that programs can be distributed without adjustment.

100% White pattern: Y - 940, Cb - 512, Cr - 512
0% Black pattern: Y - 64, Cb - 512, Cr - 512
Expected Video Range: 64 to 940

System Bit Depth	Range in Digital Sample (Code) Values		
	Expected Video Range	Preferred Min. / Max.	Total Video Signal Range
10 bit	64 - 940	20 - 984	4 - 1019

*References: EBU R 103 Version 2.0 page 4, Annex 1

In practice, it is difficult to avoid generating signals slightly out of range, and it is considered reasonable to allow a small tolerance. Therefore, the EBU recommends that the RGB components and the corresponding Luminance (Y) signal should not normally exceed the “preferred minimum/maximum” range of digital sample levels in the table above.

Type 1: Black Zebra

When the targeted color space is selected as BT.709, the pixels outside of the targeted color space are displayed as Black Zebra.
The pixels over Y Maximum, Chroma Maximum, RGB Maximum are displayed as Black Zebra, and the pixels below Y Minimum, Chroma Minimum, RGB Minimum are also displayed as Black Zebra.

Type 2: Black & White Zebra

When the targeted color space is selected as BT.709, the pixels outside of the targeted color space are displayed as Black or White Zebra. The pixels over Y Maximum, Chroma Maximum, RGB Maximum are displayed as Black Zebra, and the pixels below Y Minimum, Chroma Minimum, RGB Minimum are displayed as White Zebra.

Type 3: Mono

When the targeted color space is selected as BT.709, the pixels inside of the targeted color space are displayed as Mono, and the pixels outside of the targeted color space are displayed as the color. In this type, black and white area is not recognized.

*Simulated image

In-Monitor Display(IMD)

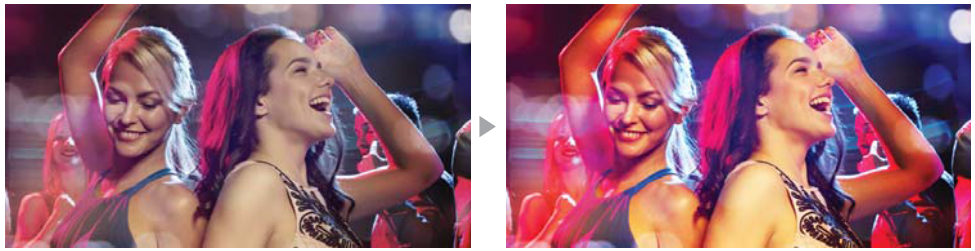
The image source names and tally information can be displayed on the screen, with an external remote function via Ethernet. The TSL system protocol is supported. The color of the source name and tally color can be selectable among White, Red, Green, Blue, Yellow, Cyan, Magenta.

Password Lock for User Preset

When multiple users share the same monitor, each user can register his/her own password for color temperature and user preset data. This ensures the users correctly recall their preset data, and keep preset information safe from unauthorized use.

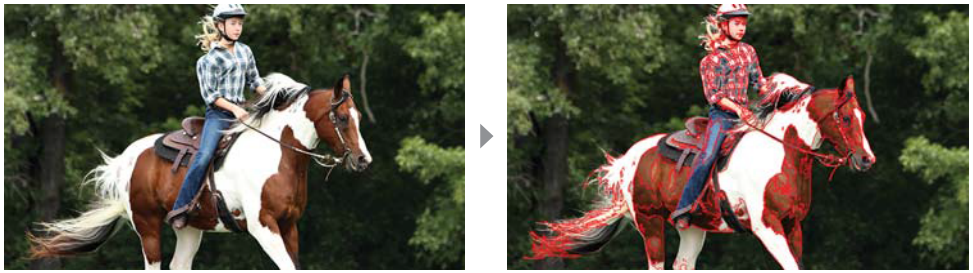
Custom 3D LUT File Import

The OBM series allow the user to import 3D Look-up Table for accurate and consistent color matching between individual displays as well as using customized 'looks' that have been created by 3rd party color-grading applications. 32^3, 33^3, 64^3, 65^3 cube file are supported.



Focus Assist

This function controls the aperture level of a video signal, and displays images on screen with sharpened edges to help camera focus operation.

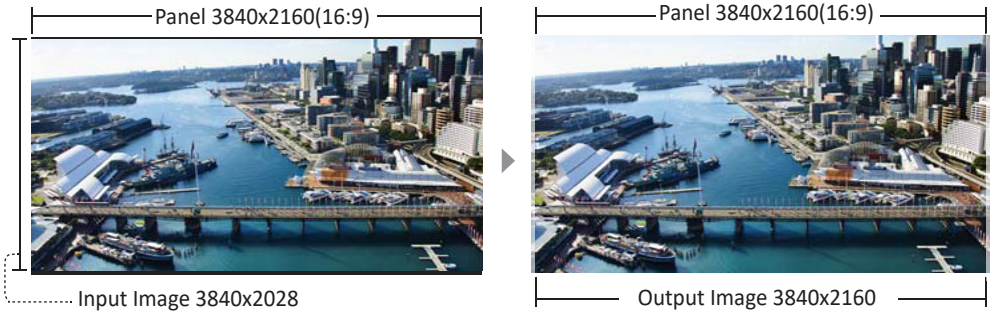


Scan Mode

4K/QFHD Mode

The LCD panel resolution of OBM-U318K/278K/248K is QFHD(16:9) 3840x2160, so if the input signal is 3840x2160 1:1 mapping is supported. If the input signal is DCI 4K(4096x2160), 1:1 mapping is not supported.

[Zero Scan]

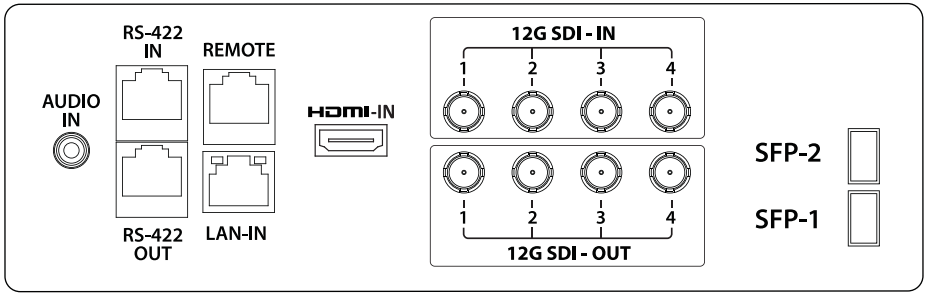


When the 4096x2160 signal is fed, if you select Zero Scan button on the front panel, the pictures is Scaled to be displayed on the panel of 3840x2048 resolution with maintaining 1.89:1 ratio

[1:1 Scan]

When 1:1 Scan mode is selected with the [Scan] button in 1920x1080, 1280x720 mode, etc., it is centered on the screen as shown in the figure. 1:1 mapped image is output.

Parts and Controls



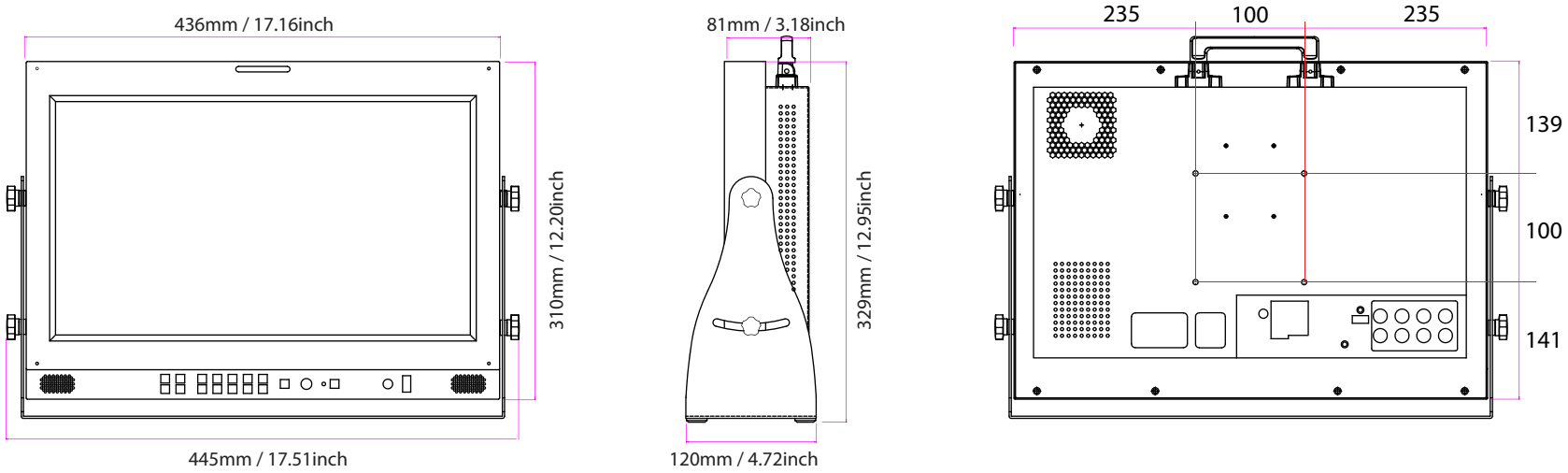
Specifications

ITEM		OBM-U178K	OBM-U248K	OBM-U318K	OBM-U428K
Input	4 x BNC	12G/6G/3G/HD			
	1 x HDMI	HDMI 2.0			
	2 x SFP	SFP			
Output	4 x BNC	12G/6G/3G/HD/4 Active Loop Output			
Input Signal Format	SMPTE ST 2082-12(12G Quad 8K)	4320p(60/59.94/50)			
	SMPTE ST 2082-10(12G Single)	2160p(60/59.94/50/30/29.97/25/24/23.98)			
	SMPTE ST 2081-11(6G Dual)	2160p(60/59.94/50)			
	SMPTE ST 2081-10(6G Single)	2160p(30/29.97/25/24/23.98)			
	SMPTE ST 425-AB	1080p(60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF/25sF/24sF/23.98sF) / 1080i (60/59.94/50)			
	SMPTE ST 274	1080p(30/29.97/25/24/23.98/24sF/23.98sF)			
		1080i (60/59.94/50)			
	SMPTE ST 296	720p(60/59.94/50)			
	SMPTE ST 260	1920 x 1035i(60/59.94)			
	SMPTE ST 2048	2048 x 1080p(24/23.98/24sF/23.98sF)			
	HDMI 2.0	~ 2160p(60)			
	SFP	12Gbps, 6Gbps, 2.970Gbps, 1.485Gbps			
Audio In/Out	1 x Phone Jack In	Line In(Stereo)			
	1 x Phone Jack Out	H/P Out(Front, Stereo)			
	2 x Speaker Out	Stereo			-
Display	Size	17.3” LCD	23.74” LCD	32” LCD	42.51” LCD
	Resolution	3840 x 2160 (16:9)	3840 x 2160 (16:9)	3840 x 2160 (16:9)	3840 x 2160 (16:9)
	Pixel Pitch	0.09945mm	0.1369mm	0.1845mm	0.2451mm
	Color	1.064B Colors(8bit+Hi FRC)	1.073B Colors, 10Bit	1.073B Colors, 10Bit	1.073B Colors, 10Bit
	Viewing Angle	178(H), 178(V)	178(H), 178(V)	178(H), 178(V)	178(H), 178(V)
	Luminance of White	1500cd/m²	540cd/m²	1000cd/m²	700cd/m²
	Contrast	1000 : 1	1200 : 1	1500 : 1	1000 : 1
	Display Area (H x V)	381.89 x 214.81 (mm)	525.65 x 295.70 (mm)	708.48 x 398.52 (mm)	941.184 x 529.416 (mm)
General	2 x Ethernet	Control/Update, RJ-45P Input / Output	Control/Update, RJ-45P Input / Output	Control/Update, RJ-45P Input / Output	Control/Update, RJ-45P Input / Output
	1 x GPIO	GPI-7 Port, RJ-45P Jack	GPI-7 Port, RJ-45P Jack	GPI-7 Port, RJ-45P Jack	GPI-7 Port, RJ-45P Jack
	2 x Serial	RS-422 Jack, RJ-45P Input / Output	RS-422 Jack, RJ-45P Input / Output	RS-422 Jack, RJ-45P Input / Output	RS-422 Jack, RJ-45P Input / Output
	1 x USB	For Firmware Update, Color Calibration	For Firmware Update, Color Calibration	For Firmware Update, Color Calibration	For Firmware Update, Color Calibration
	Power Requirements	AC(100-230V, 50/60Hz)/DC 24V	AC(100-230V, 50/60Hz)/DC 24V	AC(100-230V, 50/60Hz)/DC 24V	AC(100-230V, 50/60Hz)
	Power Consumption	75W	80W	180W	200W
	Operating Temperature	0°C ~ 40°C(32°F~104°F)	0°C ~ 40°C(32°F~104°F)	0°C ~ 40°C(32°F~104°F)	0°C ~ 40°C(32°F~104°F)
	Operating Humidity	20% ~ 80% RH	20% ~ 80% RH	20% ~ 80% RH	20% ~ 80% RH
	Weight (with stand)	7.7kg / 16.97lbs	10.5kg / 23.14lbs	14.8kg / 32.62lbs	Main Body : 32kg / 70.54lbs
	Dimensions (with stand)	471 x 335 x 120mm	605 x 400 x 140mm	762 x 513 x 190 mm	990 x 639 x 210 mm
		18.54 x 13.18 x 4.72inch	23.81 x 15.74 x 5.51inch	30 x 20.15 x 7.48 inch	38.97 x 25.15 x 8.26 inch
	Accessories	Power Cable	Power Cable	Power Cable	Power Cable
	Option	Wall Mount Kit/ Carrying Case	Wall Mount Kit/ Carrying Case	Wall Mount Kit/ Carrying Case	Wall Mount Kit/ Carrying Case

* Specifications are subject to change without prior notice for the product quality improvement.

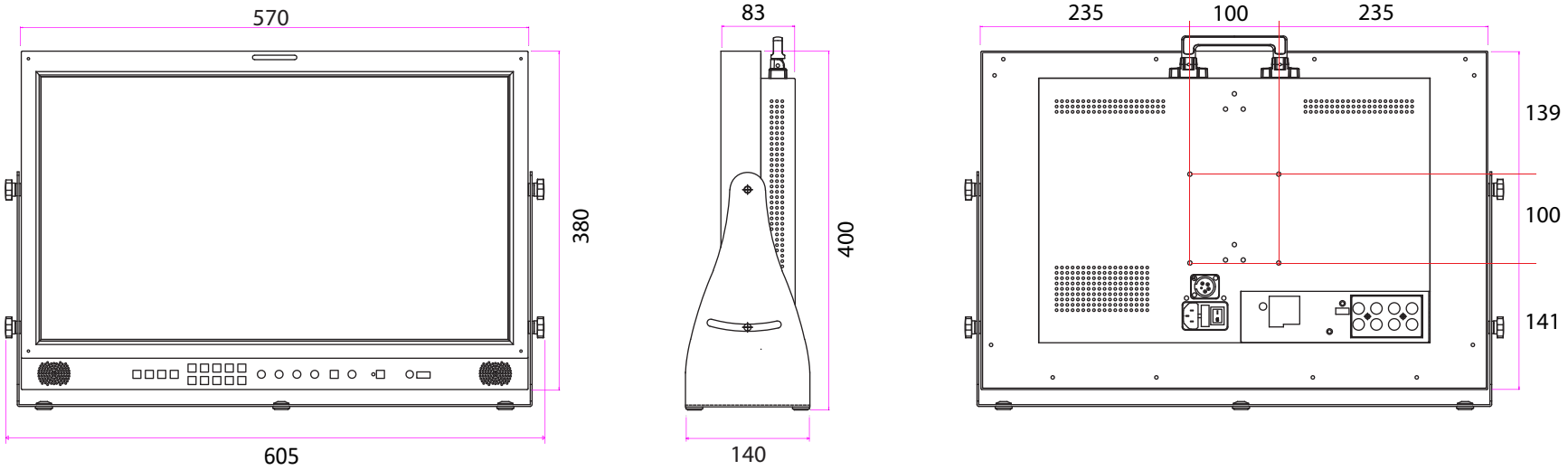
OBM-U178K - Dimensions(mm)

Main Body : 436 x 310 x 81 mm / 17.16 x 12.20 x 3.18 inch --With Stand : 445 x 329 x 120 mm / 17.51 x 12.20 x 4.72 inch
Weight : Main Body : 6.6kg / 14.55lbs --With Stand : 7.8kg / 17.19lbs



OBM-U248K - Dimensions(mm)

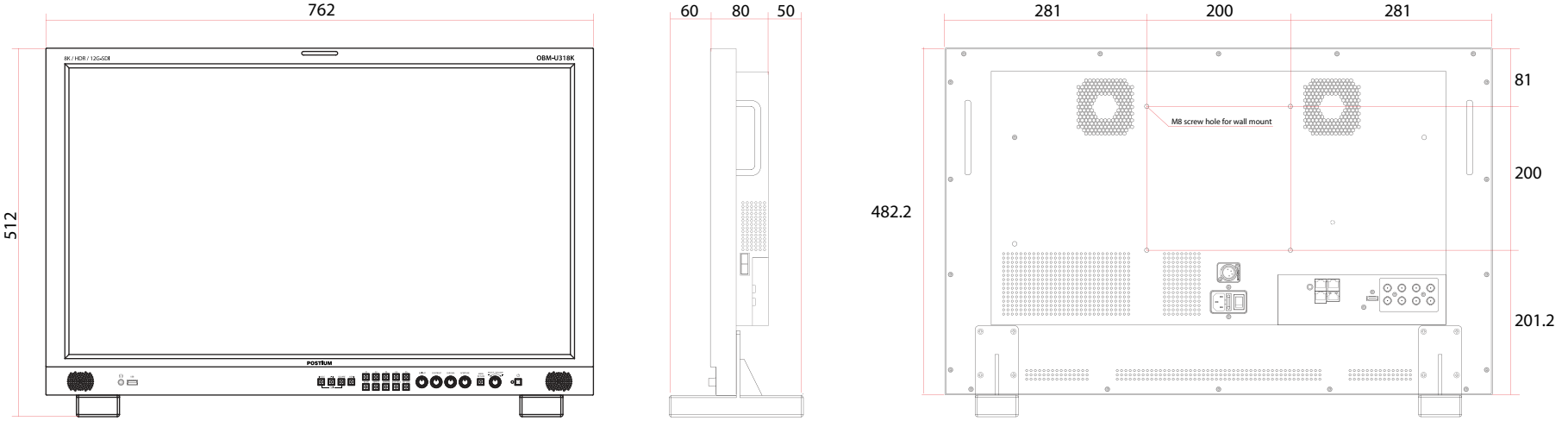
Main Body : 570 x 380 x 83 mm / 22.44 x 12.12 x 3.26 inch --With Stand : 605 x 400 x 140 mm / 23.81 x 15.74 x 5.51 inch
Weight : Main Body : 9.3kg / 20.50lbs ---With Stand : 10.9kg / 24.03lbs



OBM-U318K - Dimensions(mm)

Main Body : 762 x 482.2 x 80 mm / 30 x 18.59 x 3.14 inch --With stand : 762 x 512 x 190mm / 30 x 20.15 x 7.48inch

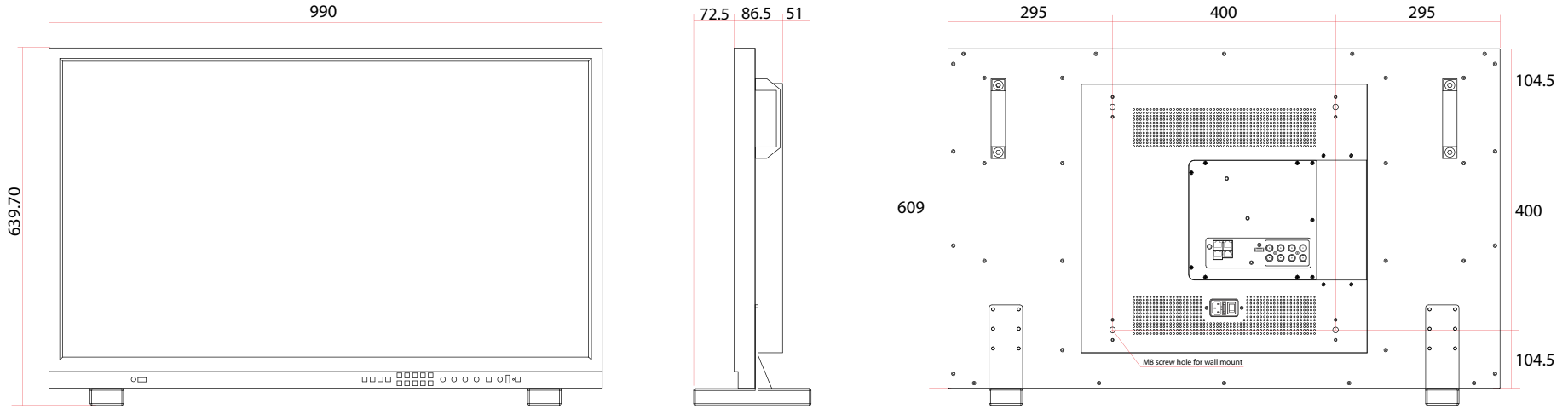
Wight -- Main Body : 13.1kg / 28.88lbs --With Stand : 14.8kg / 32.62lbs



OBM-U428K - Dimensions(mm)

Main Body : 990 x 609 x 86.5 mm / 38.97 x 23.97 x 3.4 inch --With stand : 990 x 639.70 x 210mm / 38.97 x 23.97 x 8.26inch

Wight -- Main Body : TBD --With Stand : TBD



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