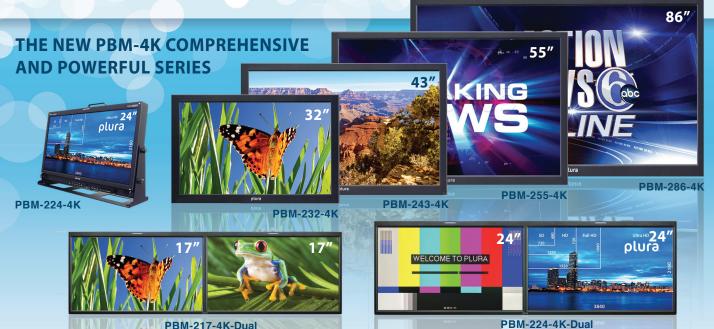
# OLUGa PBM-4K (HDR) Series Screen Sizes: 17" (17" Dual) 24" (24" Dual) 32" 43" 49" 55" 65" 86"



### PBM-217-4K-Dual

PBM-4K Series is a complete portfolio of 4K monitors in alignment with increased industry demand. Available in multiple sizes from 24 up to 84 inches, the Plura PBM-4K series bring the exceptional built-in feature set Plura monitors are known for, maintaining quality and performance to give production facilities an edge in Ultra HD monitoring.

The Plura PBM-4K is a great tool for all UHD/4K, 3G broadcast systems and allother wide-range industries. The PBM-4K series was designed and engineered for simple operation and future flexibility. The platform is built around a powerful FPGA chipset. The core of this platform is based on fully programmable architecture. Future proof expansion (i.e. additional features and functionalities can and will be implemented in the field via the Ethernet interface.

The PBM-4K series comes in multiple sizes 17", 17" Dual, 24", 24" Dual, 32", 43", 49", 55", 65" & 86", all sizes offer the extensive and well-known Plura prominent features. PBM-4K Series supports up to 4096 x 2160 resolutions, focuses on delivering the highly detailed, accurate color representation and stunning picture consistency that high-end production applications require. The PBM-4K series offers HDR Display capabilities supporting PQ (ST-2084) & HGL standards.





The PBM-4K series offers HDR Display capabilities supporting PQ (ST-2084) & HLG standards. The PBM-4K series allows to display same image side by side with HDR & SDR. This is a great

# **PBM-4K Series - Product Highlights:**

- 1 x HDMI 2.0
- 2 x 12G, 6G, 3G, 1.5G
- 1 x SFP Slot supporting Multiple I/O Standards
- Quad 3G SQ and 2SI with PBM-217-4K, PBM-324-4K, PBM-255-4K,
- 10 bit panel color depth
- Supports up to 4096 x 2160 resolutions
- HDR (High Dynamic Range) capabilities
- PQ (SMPTE ST 2084) & HLG (Hybrid Log Gamma)
- Side by side HDR / SDR mode
- RGB 12 Bit Digital Signal Processing
- 178° Viewing Angle Display
- Gamma Selectable (0.8 3.0)
- Color Temperature User, VAR, Adjustable (11000K TO 3200K)
- (ICAC) Plura Intelligent Connection for Alignment & Calibration
- 3D LUT (ITU-R BT 2020, Native, BT.709, SMPTE-C, EBU, NTSC, D-Cinema, 709)
- Display Advanced Waveform & Vector Scope simultaneously with line select
- Various and User defined Markers Display, Safe Area in HD & SD
- Programmable 3 User Front Pushbutton Controls & GPI
- Closed Caption (608/708) North American Market
- Cutting edge De-interlacing and Scaling Technology
- Fast Response Time for high motion video
- Internal Monitor Display (IMD) • Ethernet & RS232 Remote Control
- Underscan / Overscan / Normal / Zoom
- Pixel to Pixel Mode, Tally, DC Operation
- False Color and Peaking Filter / Focus Assist
- Video Range test with adjustable Y & C values
- Display LTC & DVITC time code with line select
- Embedded Audio Input, Digital Audio Decoding
- Internal Pattern Generator and Wall Control System

### **PBM-4K (HDR) PROMINENT FEATURES**

Plura PBM-4K series brings the exceptional built in feature set Plura monitors are known for, maintaining quality and performance to give broadcast & production facilities an edge in Ultra HD monitoring.

### Gamma Adjustment



PBM-4K series provides different Gamma adjustment settings. The monitor is capable to select Gamma setting between (0.8 – 3.0)

### Markers



Various and User defined Markers Display, Safe area in HD and SD.

### Video Range



This function displays Luma (Y) & Chroma (C) out of range levels outside the user defined range.

### Waveform / Vector



Display Advanced Waveform & Vector Scope simultaneously with line select

### **Focus Assist**



A focus-assist feature is important for focusing cameras.

### False color

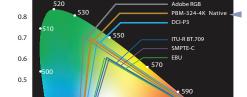


False color function refers to a group of color rendering methods used to display images in color which were recorded in the visible or non-visible parts of the electro-magnetic spectrum. A false-color image is an image that illustrates an object in colors that differ from those a photograph (a true-color image) would show. feature to identify and monitor your video in both HDR & SDR simultaneously.

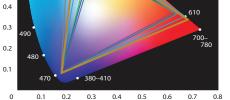
y 0.9

### Wide Color Gamut & Color Spaces support ►

PBM-4K built with intelligent connections for calibration alignment, adjustable colormetry and gamma correction capabilities. The PBM-4K series can reproduce many color spaces (ITU-R BT 2020, Native, ITU-R BT.709, SMPTE-C, EBU, NTSC, D-Cinema). The Plura 4K Series will feature the traditional software-redefined feature set built into most Plura monitors, including intelligent connections for calibration alignment, adjustable colormetry, gamma correction and audio monitoring – all accessible from an intuitive menu offering smooth navigation. Using Plura's unique ICAC tool, production staff can quickly and automatically calibrate multiple color-related elements across the entire monitor network over IP. This ensures that the PBM-4K Series is quickly recalibrated to its reference standard, returning optimal brightness and color consistency for demanding 4K workflows.



Wide Color Gamut & Color Spaces support



# **PBM-4K Series Specifications**

The PBM-4K series comes in multiple sizes 17", 24", 32", 43", 49", 55", 65" & 86" all sizes offer the extensive and well-know Plura prominent features

The Plura PBM-4K Series, will support SMPTE 2082 and other earlier industry standards, 2 x 12G/3G/HD-SDI inputs with active loop, 1 x SFP slot to support multiple IP & fiber I/O standards, 1 x HDMI 2.0, in addition to all other legacy I/O.

PBM-4K will suit any studio or mobile production workflow, and will be especially valuable to all customers that lack affordable options for wide range size 4K monitor solutions with the flexibility to work across multiple formats. The series also adopts the exceptionally slim form factor that Plura customers enjoy, ensuring that even the largest 4K monitors in the portfolio demand a modest slice of real estate.

FUNCTION		PBM-224-4K	PBM-232-4K	PBM-249-4K				
INPUT	SDI Input	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack						
INI OI	SFP Port	1EA, SFP Optical and/or Electrical						
	HDMI	1EA, HDMI, 19pin Female						
OUTPUT	SDI Output	2EA, Serial Digital, 12G/3G/HD-SDI BNC Jack						
DIGITAL INPUT FORMAT	SMPTE- ST 2082M	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)						
	SMPTE 428.1M	2048x1080P ( 24/25)						
	SMPTE-425M AB(3G)	1920x1080P (60/59.94/50/30/29.97/25/24/23.98/30sf/29.97sF/25sF/24sF/23.98sF) / 1080i (60/59.94/50)						
	SMPTE-260M	1920x1035i(60/59.94)						
	SMPTE-274M/ 292M	1920x1080i ( <b>60/59.94/</b> 50)						
		1920x1080P (30/29.97/25/24/24sF/33.98/s3						
	SMPTE 296M	1280x720P ( <b>60</b> /59.94/50)						
	SFP	12G / 6G / 3G / 1.5G						
	UHD HDMI 2.0	480P / 720P /1080P /2160P						
AUDIO INPUT	SDI Audio Input	Embedded HD/SD-SDI Audio						
	HDMI Audio Input	Embedded Audio						
AUDIO	Speaker Output	Internal Speaker (Stereo) 3W + 3W						
OUTPUT	Ear-phone Output	1EA, L/R Stereo, 3.5mm pin jack						
I/O PORT	GPI	RJ-45 8 Pin (Programmable for General Purpose Input)						
#0 T 0TT	ETHERNET	ETHERNET (System Control) Firmware upgrade						
	USB	Firmware upgrade						
	RS232		D-sub 9 pin female /Firmware Upgrade					
LCD	Size	24" Diagonal	24" Diagonal 32" Diagonal					
	Aspect Ratio	16:9						
	Resolution	3840 x 2160						
	Display Color	1.07 Billion Colors						
	Brightness	350cd/m2	350cd/m2	350cd/m2				
	Contrast Ratio	1000:1 (Typical)	1300:1 (Typical)	1000:1 (Typical)				
	Response Time	Tr=7ms / Tf=7ms	Tr=14ms / Tf=14ms	Tr= 6 ms / Tf= 6 ms				
	Viewing Angle (deg)	Horizontal: 178 (Typ.) Vertical 178 (Typ.)						
POWER REQU	IREMENTS		AC 100V ~ 240 V (60/50 Hz)					
POWER CONS		1.0A-0.5A(100W)	1.4A-0.6A(140W)	2.2A-1.1A(230W)				
	EMPERATURE	0°C - 40° C (32° ~ 104°F)						
OPERATING F	IUMIDITY	10% RH ~ 85%RH ( Non Condensed)						
STORAGE TEMPERATURE		-10°C - 80° C (14° ~ 176°F)						
STORAGE HUMIDITY		10% RH ~ 85%RH (Non Condensed)						
WEIGHT ( w/o stand & packing)		9.9 Kg - 22.0 lbs	16.6 Kg- 30 lbs	20.4 Kg- 45.0 lbs				
DIMENSION (W*H*D*) w/o Box & Stand PACKAGING DIMENSION		561 X 384 X 81.7mm	737 x 461 x 70 mm	1109 x 664 x 74.2 mm				
		22.0 X 15.1 x3.2 inch	29.0 x 18.1 x 2.7 Inch	43.6 x 25.3 x 2.9 lnch				
		600 X 523 X 220 mm	932 x 630 x 272 mm	1250 x 805 x 295 mm				
		26 X 20.6 X 8.7 inch	36.69 x 24.8 x 10.71 Inch	49.2 x 31.7 x 11.6 Inch				
ACCESSORY		Power Cord Power Cord						
OPTIONS		Wall Mount						

Please note that the technical details shown here are provisional specifications (as of Feb 2020) The information is subject to change without notice.

### Connectivity



# **PBM-4K Series Specifications**

FUNCTION		PBM-217-4K	PBM-324-4K	PBM-243-4K	PBM-255-4K	PBM-265-4K	PBM-286-4K		
INPUT	SDI Input	4EA, Serial Digital, 12G/Quad 3G SQ/2SI/3G/HD-SDI BNC jack							
51	SFP Port	1EA, SFP Optical and/or Electrical							
	HDMI	1EA, HDMI, 19pin Female							
OUTPUT	SDI Output	4EA, Serial Digital, 12G/Quad 3G SQ/2SI/3G/HD-SDI BNC jack							
DIGITAL INPUT	SMPTE- ST 2082M	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)							
	SMPTE 428.1M	2048x1080P ( 24/25)							
FORMAT	SMPTE-425M AB(3G)	1920x1080P (60/59.94/50/30/29.97/25/24/23.98/30sf/29.97sF/25sF/24sF/23.98sF) / 1080i (60/59.94/50)							
	SMPTE-260M	1920x1035i(60/59.94)							
	SMPTE-274M/292M	1920x1080i (60/59.94/50)							
		1920x1080P (30/29.97/25/24/24sF/33.98/23.98sF)							
	SMPTE 296M	1280x720P ( <b>60</b> /59.94/50)							
	SFP	12G / 6G / 3G / 1.5G							
	UHD HDMI 2.0	480P / 720P /1080P /2160P							
AUDIO	SDI Audio Input	Embedded HD/SD-SDI Audio							
INPUT	HDMI Audio Input	Embedded Audio							
AUDIO	Speaker Output	Internal Speaker (Stereo) 3W + 3W							
OUTPUT	Ear-phone Output	1EA, L/R Stereo, 3.5mm pin jack							
I/O PORT	GPI	RJ-45 8 Pin (Programmable for General Purpose Input)							
	ETHERNET	ETHERNET (System Control) Firmware upgrade							
	USB	Firmware upgrade							
	RS232 Size	D-sub 9 pin female /Firmware Upgrade							
LCD	Aspect Ratio	17" Diagonal	24" Diagonal	43" Diagonal	55" Diagonal	65" Diagonal	86" Diagonal		
	Resolution	16:9 3840 x 2160							
Display Color		3840 X 2160 1.07 Billion Colors							
	Brightness	350cd/m2	1000cd/m2	350cd/m2	500cd/m2	500cd/m2	500cd/m2		
	Contrast Ratio	1000:1 (Typical)	2500:1 (Typical)	1000:1 (Typical)	1100:1 (Typical)	1000:1 (Typical)	1200:1 (Typical)		
	Response Time	Tr=7ms / Tf=7ms	Tr=7ms / Tf=7ms	Tr=6ms / Tf=6ms	Tr=8ms / Tf=8ms	Tr=8ms / Tf=8ms	Tr=8ms / Tf=8ms		
	Viewing Angle (deg)	Horizontal: 178 (Typ.) Vertical 178 (Typ.)							
POWER REQUIREMENTS		AC 100V ~ 240 V (60/50 Hz)							
POWER CONSU	JMPTION	0.65A0.34A (65W)	1.0A-0.5A(100W)	2.2A-1.1A(230W)	2.2A-1.1A(230W)	2.3A-1.2A(250W)	3.33A-1.8A(400W)		
OPERATING TEMPERATURE		0°C - 40° C (32° ~ 104°F)							
OPERATING HUMIDITY		10% RH ~ 85%RH ( Non Condensed)							
STORAGE TEMPERATURE		-10°C - 80° C (14° ~ 176°F)							
STORAGE HUMIDITY		10% RH ~ 85%RH (Non Condensed)							
WEIGHT ( w/o stand & packing)		4.50 Kg - 10.0. lbs	9.9 Kg - 22.0 lbs	20.4 Kg- 45.0 lbs	30.0 Kg- 66 lbs	40.0 Kg- 88.1 lbs	95 Kg- 210 lbs		
DIMENSION (W*H*D*) w/o Box & Stand  PACKAGING DIMENSION		450 X 310 X 75.2 mm	561 X 384 X 81.7mm	979 x 638 x 102 mm	1245 x 721 x 76 mm	1477 x 857 x 76.3 mm	1954 x 1125 x 80 mm		
		17.7 x 12.2 x 2.96 inch	22.0 X 15.1 x 3.2 inch	38.54 x 25.11 x 4 Inch	49 x 28.4 x 3 Inch	58.1 x 33.7 x 3.0 Inch	76.9 x 44.29 x 3.14 Inch		
		584.2 x 482.6 x 254.0 mm	600 X 523 X 220 mm	1250 x 805 x 295 mm	1475 x 975 x 305 mm	1900 x 1200 x 320 mm	2300 x 1450 x 300 mm		
		23 x 19 x 10 inch	26 X 20.6 X 8.7 inch	49.2 x 31.7 x 11.6 lnch	58.0 x 38.25 x 12.0 lnch	74.8 x 47.24 x 12.59 Inch	90.5 x 57 x 11.8 lnch		
ACCESSORY		Power Cord							
OPTIONS		Rack Mount / Wall Mount Wall Mount							

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## Connectivity



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# **PBM-4K Series Specifications**

FUNCTION		PBM-217-4K-DUAL	PBM-224-4K-DUAL			
INDUT	SDI Input	2 X 4EA, Serial Digital, 12G/Quad 3G SQ/2SI/3G/HD-SDI BNC jack				
INPUT	SFP Port	2 X 1EA, SFP Optical and/or Electrical				
	HDMI	2 X 1EA, HDMI, 19pin Female				
OUTPUT SDI Output		2 X 4EA, Serial Digital, 12G/Quad 3G SQ/2SI/3G/HD-SDI BNC jack				
DIGITAL	SMPTE- ST 2082M	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)				
INPUT FORMAT	SMPTE 428.1M	2048x1080P (24/25)				
	SMPTE-425M AB (3G)	1920x1080P (60/59.94/50/30/29.97/25/24/23.98/30sf/29.97sF/25sF/24sF/23.98sF) / 1080i (60/59.94/50)				
	SMPTE-260M	1920x1035i(60/59.94)				
	SMPTE-274M /292M	1920x1080i (60/59.94/50)				
		1920x1080P (30/29.97/25/24/24sF/33.98/23.98sF)				
	SMPTE 296M	1280x720P ( <b>60</b> /59.94/ <b>5</b> 0)				
	SFP	12G / 6G / 3G / 1.5G				
	UHD HDMI 2.0	480P / 720P /1080P /2160P				
AUDIO INPUT	SDI Audio Input	Embedded HD/SD-SDI Audio				
	HDMI Audio Input	Embedded Audio				
AUDIO	Speaker Output	2 X Internal Speaker (Stereo) 3W + 3W				
OUTPUT	Ear-phone Output	2 X 1EA, L/R Stereo, 3.5mm pin jack				
I/O PORT	GPI	2 X RJ-45 8 Pin (Programmable for General Purpose Input)				
# <b>3</b> 1 <b>3</b> 111	ETHERNET	2 X ETHERNET (System Control) Firmware upgrade				
	USB	2 X Firmware upgrade				
	RS232	2 X D-sub 9 pin female /Firmware Upgrade				
LCD	Size	2X 17" Diagonal	2X 24" Diagonal			
	Aspect Ratio	16:9				
	Resolution	3840 x 2160				
	Display Color	1.07 Billion Colors				
	Brightness	350cd/m2	1000cd/m2			
	Contrast Ratio	1000:1 (Typical)	2500:1 (Typical)			
	Response Time	Tr=7ms/Tf=7ms	Tr=7ms/Tf=7ms			
	Viewing Angle (deg)	Horizontal: 178 (Typ.) Vertical 178 (Typ.)				
POWER REQU		AC 100V ~ 240	` '			
POWER CONSUMPTION		0.65A-0.34A (65W)	1.0A-0.5A (100W)			
OPERATING TEMPERATURE		0°C - 40° C (32° ~ 104°F)				
OPERATING HUMIDITY		10% RH ~ 85%RH ( Non Condensed)				
STORAGE TEMPERATURE		-10°C - 80° C (14° ~ 176°F)				
STORAGE HUMIDITY		10% RH ~ 85%RH ( Non Condensed)				
WEIGHT ( w/o stand & packing)  DIMENSION (W*H*D*)  w/o Box & Stand  PACKAGING DIMENSION		20 lbs (9.07 kg)	44 lbs (19.95 kg) 1092.2 x 66.0 x 335.28 mm			
		863.6 x 66.0 x 259.0 mm 34 x 2.6 x 10.2 inch	1092.2 x 66.0 x 335.28 mm 43.0 x 2.6 x 13.2 inch			
		1244.6 x 203.2 x 482.6 mm				
		1 11 1	1244.6 x 203.2 x 482.6 mm			
		49 x 8 x 19 inch 49 x 8 x 19 inch				
ACCESSORY		Power Cord				
OPTIONS		Wall Mount				

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Connectivity