

# LM 9000 HB 4K Broadcast Monitors



## 24" and 31" Broadcast Monitors with 4K resolution.

**UHD Monitors with broadcast features based on quadruple 10 bit processor. There are two models available: 31" with 4096 x 2160 pixels and 24" with 3840 x 2160 pixels.**

**High performing monitor that support the reproduction of 4K video signals in Single and Quad-Link, both in "Square division" and "2-sample interleave" formats.**

**HDR technology, incorporated in these monitors, makes them able to display every part of the image, either dark or bright areas, with high brightness and clarity, enhancing image contrast and realism perception.**

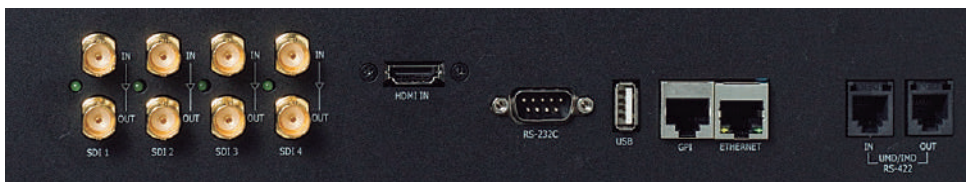
**Monitoring and measuring of the UHD/4K signal through the different waveforms and vectorscope, allowing to determine if the signal is in compliance with international video format standards.**

## FEATURES

- 2x BNC 12G-SDI with their respective loops for Single-Link UHD and 4K signals display.
- 4x BNC 3G-SDI for 4K and UHD signals display with Quad-Link.
- 4K image processing in "Square Division" and "2-Sample Interleave" formats.
- DCI 2.0 inputs (not compatible with HDCP) allowing for resolutions up to 2160p60.
- Color space selection (3-D LUT) EBU, NTSC, SMPTE-C, REC709, BT.2020, and D-CINEMA.
- Color temperature selection: 3200K, 5500K, 6500K and 9300 K.
- Firmware upgrade via USB port.
- Remote control through GPI port (RJ45 connector).
- Audio level meter for up to 16 channels.
- HDR (high dynamic range) display function with several ST2048, ST2084, HLG curves and Slog3. Demo mode for HDR / SDR comparison.
- Peaking filter and False Color.
- LTC and DVITC timecode display.
- Vectorscope and waveform.
- Closed Caption according to 608, 808 ANC, Transcoded 608 and CC708.
- Blue Only / Mono .
- Several marker formats with adjustable transparency and color: 4:3, 16:9, 14:9, 13:9, 2.35:1, and 1.85:1.
- Safe Area: 80%, 85%, 88%, 90%, 93%, 95%, EBU Graphic, Action.
- Center Marker with three selectable sizes.
- H / V Flip function.
- Aspect ratios: 4:3, 16:9, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, 1:1, native.
- Power supplies: Internal switching AC power supply and DC Input.



## Rear panel elements



- 4 SDI, input/output pairs with signal presence LED. They may operate as:
  - 2 12G-SDI switchable inputs, each one featuring its own follower output.
  - 4 3G-SDI inputs for 4K Quad-Link inputs, with its corresponding Quad-Link follower output.
- One DCI (Digital Components Input) connector supporting resolutions up to 2160p60.
- One RS 232C serial port.
- One USB connector for firmware upgrade.
- One RJ45 connector for GPI (general purpose input).
- A pair of RS 422 input and follower connectors for UMD/IMDI.



• 24 V DC power supply connector.

## Front panel controls and features



- Power switch.
- 14 control and quick-access keys.
- Navigation encoder.
- Front tri-color Tally .
- Headphone connector.
- 2 speakers.

SPECIFICATIONS	LM 9031HB	LM 9024HB
Active Area (Diagonal)	31" / 787.7 mm	23.8" / 604.7 mm
<b>MODES</b>		
Video Modes	3840 x 2160p (23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60) 2048 x 1080p (23.98 / 24) 1920 x 1080p (50 / 60 / 30psf / 25psf / 24psf / 30 / 25 / 24) 1920 x 1035i (60 / 59.94) 1920 x 1080i (50 / 59.94 / 60) 1280 x 720p (24 / 25 / 30 / 50 / 59.94 / 60) DCI (Digital Components Input) 720p / 1080p / 2160p	
<b>INPUTS</b>		
Digital Video Inputs(SDI)	12G / 6G / 3G / HD SDI	
Digital Video Inputs DCI	SMPTE ST 2082-10 / SMPTE 424 & 425 / SMPTE 292M / 296M. (It does not support dual link) Up to 2160p DCI (Not Supported 4:2:0 Color Format)	
<b>PICTURE</b>		
Aspect Ratios	Full Screen, 16:9, 4:3, 14:9, 13:9, 1.85:1, 2.85:1, Pixel to Pixel	
Pixel (RGB Trio) Arrangement	4096 H x 2160 V Pixels (8.847.360 Pixels, 17:9)	3840 H x 2160 V Pixels (8.294.400 Pixels, 16:9)
Pixel (RGB Trio) Pitch, Depth	0.0567 mm x 0.1701 mm, 1,07 x 10 <sup>9</sup> colors, 10bit	0.13725 mm x 0.13725 mm, 1,07 x 10 <sup>9</sup> colors, 10bit
Brightness, typical	850 cd/m <sup>2</sup>	1000 cd/m <sup>2</sup>
Contrast Ratio	1000:1	
Color Processing	4:4:4 (12-bit) 3840x2160p (YCbCr/RGB) / 4:2:2	
Viewing Angle, contrast>10:1	R/L 178(Typ.), U/D 178(Typ.)	
Panel Response Time	10 ms (G to G)	
<b>CONTROLS</b>		
User Controls	ST-BY, SDI1, SDI2, 2SI, QUAD, HDMI, F1 ~5, MENU, UP, DOWN, SEL / INPUT	
Remote Controls	RS-422	
<b>LIGHT</b>		
Light Source (standard)	Light Emitting Diode Backlight System	
LED Life	50,000 hrs (Min)	
<b>CONNECTORS</b>		
SDI Video Connectors	BNC x 8 SDI: 2 12G input / output, 4 3G QUAD-link input / output	
DCI Connectors	1 Input, format (Digital Components Input)	
<b>DISPLAY</b>		
Window (Display Area)	27.43 x 14.46" / 696.73 mm x 367.416 mm	20.74 x 11.59" / 527.04 mm x 294.46 mm
<b>POWER, DIMENSIONS &amp; MISCELLANEOUS</b>		
Internal AC Power	100-240 VAC, 50/60 Hz	
AC Power Connector:	IEC 320-C14 3 pin Male	
Cabinet Dimensions	736 X 552 X 56 mm	452 x 376 x 56 mm
Weight	8,7 Kg	5,2 Kg
Operating (full spec)	0 / +50°C, no condensation, 0 - 3000 m (0 - 10,000 feet)	
Storage	- 20 / +60°C, no condensation, 0 - 12000 m. (0 - 40,000 feet)	