NEC MultiSync® P Series with SpectraView™_{II}

Color calibration solution ideal for color-critical applications

23" | 24"

Delivering accurate color required by the web graphics and photography professional, NEC MultiSync P Series displays are smart investments for your desktop. These standard-gamut models include the SpectraView_{II} Color Calibration Solution, which combines award-winning NEC display technology with a color measurement sensor and sophisticated calibration software. The result is a highly reliable, repeatable and feature-rich display calibration and profiling solution.

Highlights

- **Professional-grade LED* and CCFL backlight technologies** help deliver consistent color and long life
- **Best-in-class IPS LCD technology with wide viewing angle** provides optimum performance for displaying color images
- **Internal 14-bit programmable 3D lookup tables (LUTs)** allow the display of 1.07 billion colors out of a palette of 4.3 trillion for lossless color and smooth images and hardware calibration
- **Every MultiSync P Series display is backed by a 4-year limited warranty** with 48-hour Advanced Exchange service
- **Free MultiProfiler software** provides complete control over the five picture modes. This includes loading any ICC profile directly into the monitor for optimal color space matching.
- **Built-in USB hub with DisplaySync Pro™** controls two computers with only one keyboard and mouse
- **AmbiBright™ ambient light sensor** automatically adjusts the display's brightness based on lighting conditions
- **Picture in Picture and Picture by Picture modes** allow real time previews in a second color space
- **ENERGY STAR® compliance** reduces electrical costs and lowers total cost of ownership (P242W only)

* HDMI input and LED backlight on select models

NEC Display Solutions **MultiProfiler**

CUD COLOR UNIVERSAL DESIGN

necdisplay.com **NEC**

SpectraView$_{II}$ Color Calibration Solution Features and Benefits

Quick and easy measurements. The SpectraView$_{II}$ system, available for Mac OS and Windows, uses the ultra-sensitive NEC SpectraSensor Pro colorimeter to take color measurements of the display screen during calibration. The software analyzes these measurements and sends color adjustment commands directly to the display monitor. This means that color adjustments are made in the monitor rather than in the video graphics adapter, resulting in full use of the number of colors available on the graphics adapter and a much brighter image with the maximum possible color gamut. With SpectraView$_{II}$, the video graphics adapter is not used at all to make any gamma or tone response curve corrections to the display, so the full color resolution and fidelity of the system is maintained.

14-bit Internal Look Up Tables (LUTs) - Each LCD monitor supported by SpectraView$_{II}$ features internal 14-bit 3D LUTs. These tables allow precise adjustments to be made to the display's tone response curve with minimal reduction to the number of displayable colors. Since the tone response curve correction is stored within the display and not on the host system's video graphics card LUT, the display can be calibrated on one machine and then used on another and still maintain calibration as long as a digital video signal is used.

Display Data Channel Command Interface (DDC/CI) - SpectraView$_{II}$ communicates with the monitor using DDC/CI, which is a two-way communications link between the video graphics adapter and display monitor using the standard video signal cable. No extra cables are necessary. All adjustments to the monitor settings are done automatically using this communications link.

Multiple calibration sets - Different monitor calibrations can be instantly loaded, allowing quick and easy switching between different calibration settings without the need to re-calibrate the display. Each time a calibration set is loaded, the necessary monitor settings and ICC/ColorSync profiles are automatically updated.

Calibrated display information - At the end of each monitor calibration, an information window is displayed, which shows the results of the calibration and includes a wealth of information about the display such as the measured color gamut, grayscale color tracking, Delta-E and luminance values. Additional information about the display monitor such as the model name, serial number and the total number of hours that it has been in use are also displayed.

Calibration status validation - SpectraView$_{II}$ will query each calibrated monitor to see if any controls have changed since the last calibration. If anything has changed, the previous calibrated state can be restored automatically.

Application flexibility - SpectraView$_{II}$ provides many features and options that make it flexible enough to be used in a large variety of applications, including full DICOM support for medical imaging. The display luminance can be adjusted to either a specific user-defined value or set to the maximum the display can achieve. In addition, custom target response curves can be created in addition to presets such as L* and SMPTE.

Network support (Windows only) - SpectraView$_{II}$ integrates with the NEC NaViSet™ Administrator network software (available separately from your NEC representative) to provide remote network access and monitoring of display monitors. NaViSet™ Administrator is able to read, display and log the current calibration settings and status of displays on an existing network (LAN). This feature is particularly useful for large installations where central monitoring and asset management is needed.

Monitor locking - Once calibrated, the On Screen Display (OSD®) controls for the display monitors can be locked to prevent accidental or unauthorized adjustment, which may invalidate the calibrated state of the monitor.

Monitor profiling - After calibration, the display is automatically profiled and highly accurate ICC/ColorSync color profiles are generated and automatically registered with the color management system. These profiles use the Bradford Chromaticity Adaptation matrix.

Colorimeter function - The software features a colorimeter function, which allows direct measurements to be taken by the color sensor and the results displayed in a variety of different formats.

Specifications for MultiSync P232W-BK-SV/P241W-BK-SV/P242W-BK-SV

MODEL	P232W	P241W	P242W
DISPLAY			
Panel Technology	IPS		
Viewable Image Size	23"	24.1"	
Aspect Ratio	16:9	16:10	
Native Resolution	1920 x 1080	1920 x 1200	
Pixel Pitch	0.265mm	0.27mm	
Pixels Per Inch	96 @ native resolution	93 @ native resolution	
Backlight Type	W-LED	CCFL	
Brightness (typical)	250 cd/m²	360 cd/m²	350 cd/m²
Contrast Ratio (typical)	1000:1		
Viewing Angle (typical)	178° Vert., 178° Hor. (89U/89D/89L/89R) @ CR>10		
Response Time (typical)	8ms		
Color Gamut*			
Adobe RGB Coverage/Size**	75.2% / 75.3%	75.2% / 75.6%	75.2% / 75.3%
NTSC Coverage/Size	70.7% / 72%	71.4% / 72.2%	70.7% / 72.0%
sRGB Coverage/Size	96.8% / 101.6%	96.7% / 102%	96.8% / 101.6%
Lookup Table	14-bit 3D		
Displayable Colors	1.07 billion out of 4.3 trillion	16.7 million out of 1.05 billion	
Synchronization Range			
Horizontal (Analog/Digital)	31.5-83/118.4 kHz	31.5-93.8/118.4 kHz	31.5 kHz-93.8 kHz and 118.4 kHz / 30-135 kHz
Vertical	50-85 Hz		
Input Signal			
Video	Analog RGB 0.7 Vp-p/75 Ohms		
Sync	Separate Sync: TTL Level (Positive/Negative); Composite Sync: TTL Level (Positive/Negative); Composite Sync on Green: (0.3Vp-p negative 0.7Vp-p positive)		
Input Connectors	DisplayPort, HDMI, DVI-D, VGA 15-pin D-sub	DisplayPort, DVI-D (2), VGA 15-pin D-sub	DisplayPort, DVI-D, HDMI, VGA 15-pin D-sub, USB hub (2 up/ 3 down) with DisplaySync Pro
POWER CONSUMPTION			
On (typical)	29W	95W	29.5W
Power Savings Mode (typical)	0.3W	1W	0.2W
PHYSICAL SPECIFICATIONS			
Dimensions (WxHxD)			
Net (with stand)	21.4 x 14.9-20.8 x 9 in. / 543.6 x 338-488 x 227.6mm	21.9 x 14.9-20.8 x 9 in. / 556.3 x 378.5-528.3 x 228.6mm	21.9 x 14.9-20.8 x 9 in. / 556.3 x 378.5-528.3 x 228.6mm
Net (without stand)	21.4 x 12.7 x 2.9 in. / 543.6 x 322.4 x 74mm	21.9 x 14.3 x 3.3 in. / 556.3 x 363.2 x 83.8mm	21.9 x 14.3 x 3.3 in. / 556.3 x 363.2 x 83.8mm
Weight			
Net (with stand)	20.3 lbs. / 9.2 kg	23.8 lbs. / 10.8 kg	22.5 lbs. / 10.2 kg
Net (without stand)	TBD	16.8 lbs. / 7.6 kg	15.0 lbs. / 6.8 kg
VESA Hole Configuration	100 x 100mm		
ENVIRONMENTAL CONDITIONS			
Operating Temperature	41-95°F / 5-35°C		
Operating Humidity	30 - 80%	20-80%	
Operating Altitude	6562 ft. / 2000m	16404 ft. / 5000m	
Storage Temperature	14-140°F / -10-60°C		
Storage Humidity	10-85%		
Storage Altitude	40,000 ft. / 12,192m		
LIMITED WARRANTY	4 years parts and labor, including backlight***		
ADDITIONAL FEATURES	ECO Mode; Carbon footprint meter; Thin frame; Tilt; Swivel; Pivot; Height-adjustable stand with locking base; Quick release stand; Carrying handle; Rapid Response; Ambix4; XtraView+; OSD user controls; MultiProfiler software; USB hub (2 up/3 down) with DisplaySync Pro; Cable management; Touch-integratable; VESA mount; HDCP; DDC/CI; No Touch Auto Adjust; 14-bit 3D LUT; X-Light Pro; Black Level adjustment; AmbiBright; sRGB; CableComp; TileMatrix; TileComp; GammaComp MD QA software-ready; SpectraView software		
OPTIONAL ACCESSORIES	Multimedia soundbar (SOUNDBARPRO); Hood (HDPA23)	Multimedia soundbar (SOUNDBARPRO); Hood (HDPA212426)	

* Color gamut size and coverage calculated as 2-D gamut area in CIE 1931 xy colorspace. Size is the total relative display gamut area and includes any colors outside the reference gamut. Coverage is the relative display gamut area contained inside the reference gamut. NTSC values provided for comparison purposes - modern broadcast video uses SMPTE-C, ITU-R BT, 709-5/sRGB or EBU primaries.
** AdobeRGB is a standard defined by Adobe Systems Incorporated.
*** Warranty restrictions apply. Contact your representative for details.

The MultiSync P Series design allows you to adjust the displays to your exact ergonomic preferences. In addition to tilt and swivel functionality, the height adjusts up to 150mm, and the displays pivot between landscape to portrait orientations.

SpectraView_II Software Requirements
Apple Mac OS X v10.5 or higher. Windows XP (Home and Professional editions), Windows XP x64, Windows Vista 32 bit and x64 versions, and Windows 7 32 bit and x64 versions. SUSE Enterprise Desktop 10 and higher.

At least one available USB port for MDSVSENSOR3 color sensor.

Visit www.necdisplay.com/SpectraView for the latest requirements.

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