

# SpectraView™ II LCD Series

Color calibration solution for 19" and 21" high-end NEC LCDs



# Unparalleled display performance for your

# COLOR-CRITICAL applications.

Designed for professionals with color critical applications, the SpectraView<sub>II</sub> Color Calibration Solution combines award-winning NEC Display Solutions LCD monitor technology with a color measurement sensor and sophisticated software. The result is a highly accurate, reliable, repeatable and feature-rich display calibration and profiling solution.

**Quick and easy measurements.** The SpectraView<sub>II</sub> system uses the Eye-One Display 2, a colorimeter manufactured by GretagMacbeth, 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<sub>II</sub>, 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.

## SpectraView<sub>II</sub> Color Calibration Solution Features and Benefits

**10-bit internal look-up tables (LUTs)** - Each LCD monitor supported by SpectraView<sub>II</sub> features three internal 10-bit LUTs. These tables allow very precise adjustments to be made to the display's tone response curve without reducing the number of displayable colors.

**Display Data Channel Command Interface (DDC/CI)** - SpectraView<sub>II</sub> communicates with the monitors using DDC/CI, which is a two-way communications link between the video graphics adapter and display monitor using the normal 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<sub>II</sub> 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<sub>II</sub> 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 value or to the maximum possible that the display can achieve.

**Network support (Windows only)** - SpectraView<sub>II</sub> 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 Manager (OSM) 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.

**Professional-level LCD monitors.** When combined with the SpectraView<sub>II</sub> Color Calibration Solution, select 19" and 21" NEC LCDs deliver the utmost in desktop color performance.

The 21" NEC MultiSync LCD2180UXWG LED, the world's first LED-backlit LCD desktop display, delivers new levels of image detail and color scale to professional-level users in the areas of computer graphics, digital animation, medical imaging, pre-press production and film, video and photo editing. Chosen from only the top 5% of the manufacturer's production, the LEDs used for this display meet stringent purity and light output vs. power requirements.

Using LEDs as the backlight source in lieu of normal fluorescent tubes, the LCD2180WG LED reveals an amazingly broad color gamut without loss of luminance. This state-of-the-art technology is able to produce more detail and greater nuances on digital images than any other LCD or CRT on the market today.

MultiSync LCD2180WG LED features include:

**Wide color gamut** achieves all of SMPTE-C and more than 100% of NTSC and Adobe RGB

**Variable whitepoint system backlight** results in a broader range between color steps with no loss of luminance when the whitepoint changes (no loss of luminance between 5000-9300K)

**Built-in color feedback system** stabilizes target color in one minute after power is turned on vs. 30 minutes in normal LCDs. The system also maintains the stability of color over time

**ColorComp** compensates for the differences with the screen's white uniformity and improves the color and luminance uniformity of the display

**10-bit internal look-up tables (LUTs)** allow the monitor to display from a color palette of more than 1 billion colors as well as precise adjustments to be made to the display's tone response curve without reducing the number of displayable colors

**Built-in feedback** maintains color stability and better color tracking compared to CCFL

**XtraView+™ technology** allows for 176° viewing angle from all directions

**Environmentally friendly and RoHS compliant** due to omission of CCFL lighting source

**Passive cooling system** results in no fan noise or moving mechanical parts

**Dual DVI connectivity** allows for multi-computer configurations through a single monitor, significantly improving productivity



The 19" NEC MultiSync LCD1980SXi and 21" LCD2180UX, have not only revolutionized the way flat-panel monitors are engineered and designed, but how they can be used. With their multitude of leading-edge capabilities, combined with groundbreaking minimalist design, these monitors could easily be considered the most intelligent visual display solutions to date. Not only are these monitors smart investments for you and your company, their advanced functionality and productivity-enhancing technologies illustrate their unique brilliance.

Features and benefits of the LCD1980SXi and LCD2180UX include:

**Ultra-thin-frame design** allows you to view more of your ideas and less of the monitor bezel, while freeing up more horizontal and vertical desktop space for multiple-monitor applications

**XtraView+ technology** allows for the widest viewing angles available (up to 176°) without off-angle color shift

**Rapid Response™ technology** delivers virtually uninterrupted, undistorted viewing of high-speed video

**NaViSet™ software** offers an expanded and intuitive

graphical interface, allowing you to more easily adjust display settings via mouse and keyboard. The Administrator version utilizes the monitor's advanced control and diagnostics capabilities to provide IT professionals with remote access to monitor settings over their existing network

**GammaComp™ internal circuitry** automatically converts 8-bit data from the PC to 10-bit and back to 8-bit, producing smooth, accurate color tones

**TileMatrix™** allows you to build video walls of various configurations (up to 5 x 5) through the Advanced OSM

**TileComp™** compensates for tiled bezel width to optimally display still images (MultiSync LCD1980SXi)

**Automatic black level adjustment** regulates grayscale images for optimal picture quality

**Power-off timer** automatically turns your monitor's power off after a user-determined amount of time  
**AutoBright** function aligns the monitor's brightness level with the application in use for optimal viewing

**Auto DVI cable detection** eliminates manual setup steps and ensures optimal performance between your system and monitor

**Advanced No Touch Auto Adjust™** provides optimal image settings upon initial power-on and closed signal changes (includes a user-selectable mode in the Advanced OSM)

**Pivot capability and height-adjustable stand** add flexibility to your viewing preferences



Model	LCD2180WG-LED	LCD1980SXi	LCD2180UX	
Display	Viewable Size Image Pixel Pitch Pixels Per Inch Brightness (typical) Contrast Ratio (typical) Viewing Angle (typical) Response Time (typical) Display Colors	21.3"/54 cm 0.27mm TBD 200 cd/m <sup>2</sup> 500:1 176° Vert., 176° Hor. (88U/88D/88L/88R) @ CRx10 Rapid Response (25ms) More than 16 million	19"/48 cm 0.294mm 86 @ native resolution 270 cd/m <sup>2</sup> 500:1 176° Vert., 176° Hor.(88U/88D/88L/88R) Rapid Response (25ms) More than 16 million	21.3"/54 cm 0.27mm 94 @ native resolution 250 cd/m <sup>2</sup> 500:1 176° Vert., 176° Hor.(88U/88D/88L/88R) Rapid Response (20ms) More than 16 million
Color Scale Achievement SMPTE-C NTSC Adobe RGB	100% 109% 104%	NA 70% 69%	NA 72% 69%	
Synchronization Range Horizontal Vertical	TBD TBD	31.5-81.1 kHz 50-85 Hz	31.5-91.1 kHz 50-85 Hz	
Input Signal Video Sync	ANALOG RGB 0.7 Vp-p/75 Ohms Separate sync: TTL Level (Positive/Negative) Composite sync: TTL Level (Positive/Negative) Composite sync on green: (0.3Vp-p negative 0.7Vp-p positive)	Analog 0.7 Vp-p/75 Ohms Separate Sync: TTL Level (positive/negative) Composite Sync: TTL Level (positive/negative) Composite Sync on Green (0.3 Vp-p negative 0.7 Vp-p positive)	Analog 0.7 Vp-p/75 Ohms Separate Sync: TTL Level (positive/negative) Composite Sync: TTL Level (positive/negative) Composite Sync on Green (0.3 Vp-p negative 0.7 Vp-p positive)	
Input	DVI-D (2)	Ambix+ technology (DVI-I, DVI-D, VGA 15-pin D-sub)	Ambix+ technology (DVI-I, DVI-D, VGA 15-pin D-sub)	
Resolutions Supported	ANALOG/DIGITAL 1600 x 1200 @ 60 Hz	ANALOG/DIGITAL 640 x 400 @ 70-85 Hz (digital only) 720 x 400 @ 70-85 Hz 640 x 480 @ 60-85 Hz 800 x 600 @ 56-85 Hz 832 x 624 @ 75 Hz 1024 x 768 @ 60-85 Hz 1152 x 870 @ 75 Hz 1280 x 1024 @ 60-75 Hz	ANALOG/DIGITAL 640 x 400 @ 70-85 Hz (digital only) 720 x 400 @ 70-85 Hz 640 x 480 @ 60-85 Hz 800 x 600 @ 56-85 Hz 832 x 624 @ 75 Hz 1024 x 768 @ 60-85 Hz 1152 x 870 @ 75 Hz 1280 x 1024 @ 60-85 Hz 1600 x 1200 @60 Hz	
Recommended Resolution	1600 x 1200	1280 x 1024 @ 60 Hz	1600 x 1200 @ 60 Hz	
Additional Features	Ultra-thin frame (bezel), tilt/swivel base, Xtra-View+ wide-angle viewing technology, Advanced No Touch Auto Adjust, cable management, AutoBright, OmniColor 6-axis color control, 10-bit video input (2 DVI-D connections), sRGB, black level adjustment, digital smoothing, digital controls, vacation switch, power-off timer, color temperature mode, serial number display, Rapid Response, ISO 13406-2	Ultra-thin frame (bezel), GammaComp, TileMatrix, TileComp, XtraView+ wide-angle viewing technology, Ambix+ technology, Advanced No Touch Auto Adjust, AutoBright, CableComp, power-off timer, black level adjustment, Rapid Motion, digital smoothing, digital controls, OmniColor 6-axis color control, sRGB, third-party touchscreen and protective glass integration, Plug and Play (VESA DDC2B & 2Bi), VESA DPMS power management, optional MultiSync SoundBar80, automatic DVI selection, ISO 13406-2	Ultra-thin frame (bezel), GammaComp, TileMatrix, XtraView+ wide-angle viewing technology, Ambix+ technology, Advanced No Touch Auto Adjust, AutoBright, CableComp, power-off timer, black level adjustment, digital smoothing, digital controls, sRGB, OmniColor 6-axis color control sRGB, third-party touchscreen and protective glass integration, Plug and Play (VESA DDC2B & 2Bi), VESA DPMS power management, optional MultiSync SoundBar80, automatic DVI selection, ISO 13406-2	
Touch-Capable	No	Designed for integration	Designed for integration	
Voltage Rating	100-120V/AC 220-240V @ 50-60 Hz	100-120/220-240V @ 50-60 Hz	Universal 100 (110-240V) 50-60 Hz internal	
Power Consumption (typical) On Power Savings Mode	105W 7W	45W <1W	52W <1W	
Dimensions (WxHxD) Net (with stand) Net (without stand)	18.6 x 18.2 x 8.3 in./473 x 461.7 x 211.9mm 18.6 x 14.6 x 4.9 in./473 x 370.4 x 124.5mm	412.2 x 365 x 200mm/16.2 x 14.4 x 7.9 in 412.2 x 337 x 80mm/16.2 x 13.3 x 3.1 in	467 x 391 x 200mm/18.4 x 15.4 x 7.9 in 467 x 358.7 x 85mm/18.4 x 14.1 x 3.3 in	
Net Weight (with stand) (without stand)	40.3 lbs./18.3 kg 31.1 lbs./14.1 kg	21.4 lbs/9.7 kg 13.9 lbs/6.3 kg	24.3 lbs/11.5 kg 17 lbs/7.7 kg	
VESA Hole Configuration Specifications	100 x 100mm	100 x 100mm	100 x 100mm	
Environmental Conditions Operating Temperature Operating Humidity Operating Altitude Storage Temperature Storage Humidity Storage Altitude	5-35° C/41-95° F 30-80% 3658m/12,001 ft. -10-60° C/-14-140° F 10-85% 12,192m/40,000 ft.	5-35°C/41-95°F 30-80% 3048 m/10,000 ft. -10-60°C/14-140°F 10-85% 12,192m/40,000 ft	5-35°C/41-95°F 30-80% 4,850 m/15,900 ft. -10-60°C/14-140°F 10-85% 13,600m/44,600 ft	
Regulatory Approvals	UL/C-UL or CSA, VCCI (class2), PCT, FCC Class B/Canadian DOC, TUV GS, TUV Ergonomie, CE	UL/C-UL or CSA, VCCI (class2), PCT, FCC Class B/Canadian DOC, TUV GS, TUV Ergonomie, CE	UL/C-UL or CSA, VCCI (class2), PCT, FCC Class B/Canadian DOC, TUV GS, TUV Ergonomie, CE	
Optional Accessories	SpectraView <sub>ii</sub> Color Calibration Kit (custom-calibrated colorimeter and software)	SpectraView <sub>ii</sub> Color Calibration Kit (colorimeter and software)	SpectraView <sub>ii</sub> Color Calibration Kit (colorimeter and software)	
Limited Warranty	3 years parts and labor, including backlight	3 years parts and labor, including backlight	3 years parts and labor, including backlight	
Technical Support	24 hours/7 days	24 hours/7 days	24 hours/7 days	



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