



www.spectraview.nec-display-solutions.com



COLOUR PERFECTION

see more.

NEC Display Solutions

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NEW STANDARDS FOR YOUR CREATIVITY

The demands on the creative industry have changed considerably in recent years. Increasingly tight schedules and deadlines, coupled with sustained or even enhanced creative performance, demand optimum process efficiency in all fields, from graphic design to DTP and pre-press applications.

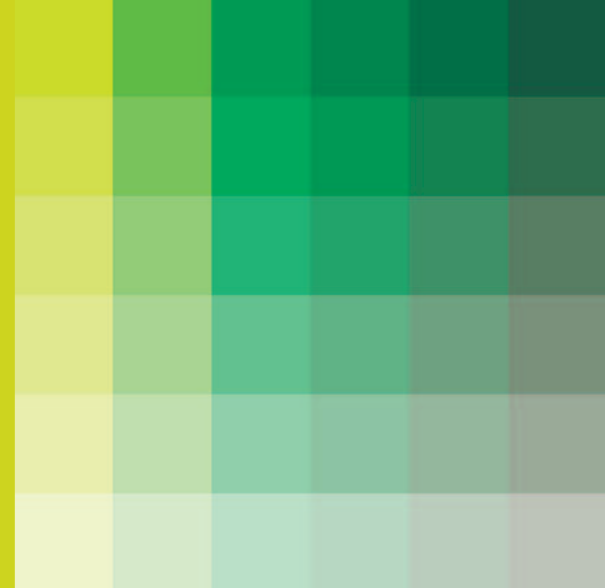
Professional digital photographers need to check their images in real time and must be able to rely on absolute colour fidelity during image processing.

From the initial creative idea to production, creative projects progress through numerous individual steps of processing and calibration. The most important interface is always the ideal monitor.

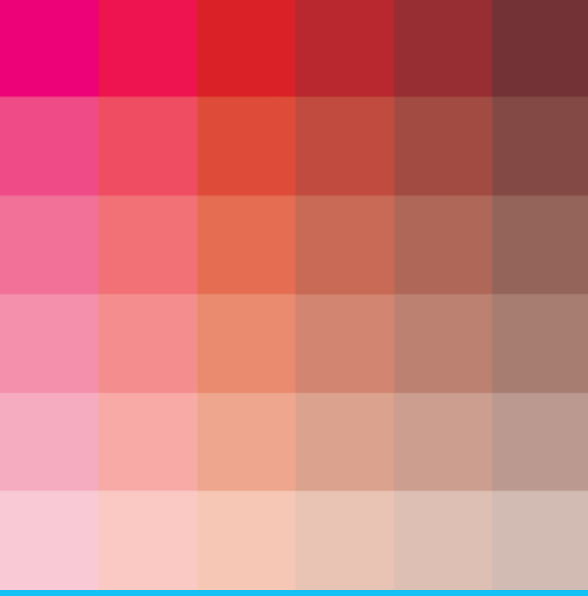
NEC Display Solutions set new standards with their **SpectraView®** range of monitors. With a hitherto unparalleled coverage of the Adobe®RGB colour space and uncompromising contour sharpness, colour reproduction and luminance. The SpectraView® models 1990p, 2090, 2190, 2190p, 2690, 3090 and the SpectraView® Reference 21 with LED Backlight Technology guarantee optimum professional colour management, superb ergonomics and are an ideal and indispensable partner – regardless of your creative field:

- Graphics design
- Textile/industrial design
- Digital image creation and editing
- DTP
- Digital colour workflow
- Pre-press/soft proofing

By professionals – for professionals.



The creative professional in action. The SpectraView® range for the most exacting quality demands.



BRILLIANT EXAMPLES IN THE ADOBE® RGB COLOUR SPACE

Beside high resolution, the true to life reproduction of gamuts and uncompromised colour depth plays, above all, a fundamental role in professional colour management and the digital colour workflow.

The models of the NEC SpectraView® range offer unparalleled colour fidelity. The colour space capability of the SpectraView® 2690 guarantees 95% reproduction of the Adobe® RGB colour space, the SpectraView® 3090 and Reference 21 with LED Backlight Technology provide an outstanding value of 107%. This is the most important criteria for professional image processing and retouching, as well as a vital prerequisite for on-screen checking and approval of CMYK data in soft-proof quality.

A detachable, anti-glare hood lined with photographic velvet prevents image impairment due to extraneous ambient light. Additionally the horizontal and vertical viewing angle of up to 178° ensures ideal contrast and stable colour tonality even at unfavourable viewing angles and complements the reliability of the monitor.

Colour reproduction variations across devices and platforms are now a thing of the past! Fewer unpredictable results and false interpretations in the calibration phase, as well as fewer proofs and exposures, make it possible for agencies, publishers and the (printing) industry to enormously increase their effective productivity.

RELAXED CREATIVITY

Every user is as different as his or her needs. That's the reason why the NEC SpectraView® models 1990p, 2090, 2190, 2190p, 2690 and 3090 all have a stand that not only allows height adjustment of up to 150 mm, (SpectraView® 3090: 190 mm), but is also tiltable and rotates almost through a full 360°.

With TORO™ Design, the display can be rotated by 90° to portrait format. Intelligent, L-shaped menu buttons are ideally matched to both portrait and landscape modes, are intuitive to use and, thanks to the OSM Key Guide, remain easily legible and operable even in a darkened working environment.

- Optimised working hours
- Reduced production times
- Lower costs
- Increased flexibility
- Superb ergonomics

Anti-glare hood with a "hinged hatch" for easy access and sensor handling during calibration without removing the hood.





10/12-BIT COLOUR PALETTE – SEEING THE WORLD IN ALL ITS FACETS

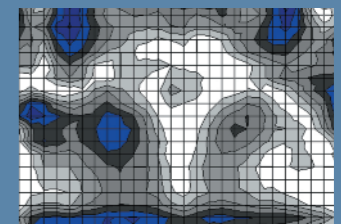
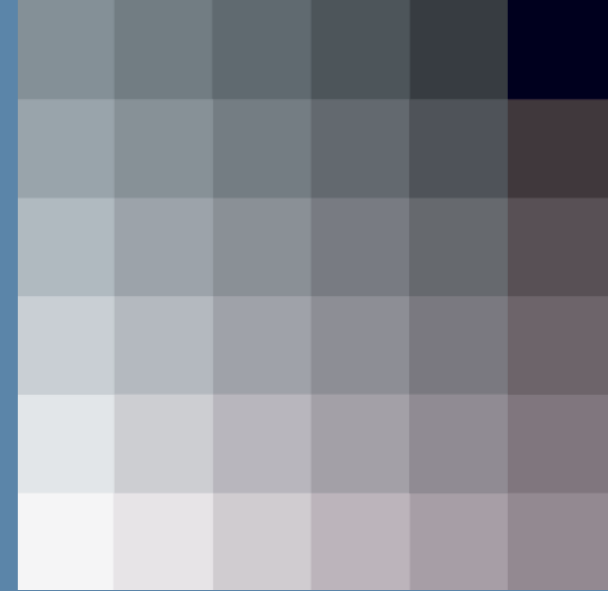
Nobody wants any nasty surprises when it comes to printed results. With the SpectraView® Profiler software for hardware calibration, it's simple to perform a 10/12-bit gamma correction – conveniently and individually, for the red, green and blue channels.

With 1021/4081 tonal values per colour, GammaComp enables an almost stepless and, in turn, considerably more precise gradation adjustment than is the case with conventional 8-bit graphic card colour palettes (software calibration). The finest gradations and greyscales can be displayed with extraordinary precision and clarity. This ensures that the colours seen on the screen are exactly the colours communicated to the printer.

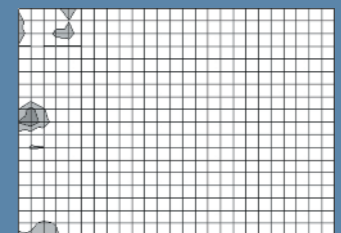
For colour-critical applications, a homogeneous distribution of brightness and colour across the entire image area is essential. A fine matrix and high-precision sensing electronics measure at factory individual irregularities in brightness, colour and gamma values for each individual display. ColorComp Uniformity Compensation determines variations and optimises millions of pixels – exact to the pixel – to ensure a uniform image with regard to brightness distribution and colour re-production. At the same time, various parameters such as temperature, operating time and even the alignment of the monitor are taken into account. A default is already considered in the OSD of SpectraView® models. However, the intensity of the compensation applied may be individually adjusted and stored at any time.

In addition, the ergonomic AmbiBright function evaluates current lighting conditions and automatically adjusts the display accordingly to match the ambient lighting for various applications. Ideal conditions for stress-free working are guaranteed – even when the days and evenings sometimes last a bit longer.

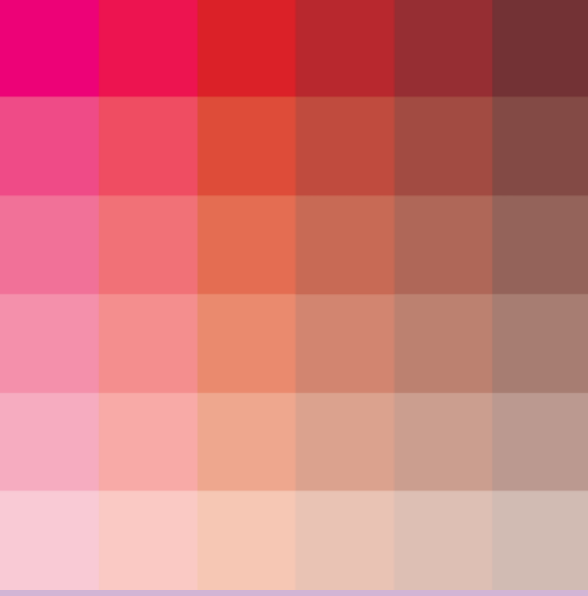
- Highest quality colour fidelity
- Perfect greyscale balance
- Homogeneous colour and brightness distribution
- Personalised preference profile for optimum image display
- Stress-free working



Comparison of brightness distribution across the screen without ColorComp function.



with ColorComp function.



BROADER HORIZONS – 16:10 WIDE FORMAT

Particularly in the creative segment, the ability to view and edit as much information and simultaneously perform as many applications as possible is becoming increasingly important. In order to ensure efficient working, the decisive factor is the ability to maintain an overview over the multitude of layers, toolbars and control elements on the screen.

The NEC SpectraView® 2690 and 3090, with their 16:10 Wide Format, are ideally aligned with such demands. They offer more than one-third of additional screen space against a resolution of 1600 x 1200 while maintaining an ergonomic pixel size. For instance, this means room enough for a DIN A4 double page spread at 100% plus visible toolbars, programming tools or email windows.

Independent surveys have proved that Wide Format Displays contribute to increased productivity. As a format compatible with natural viewing and perception proportions, the 16:10 format supports viewing comfort and, in some cases, allows users to complete their tasks three times faster.

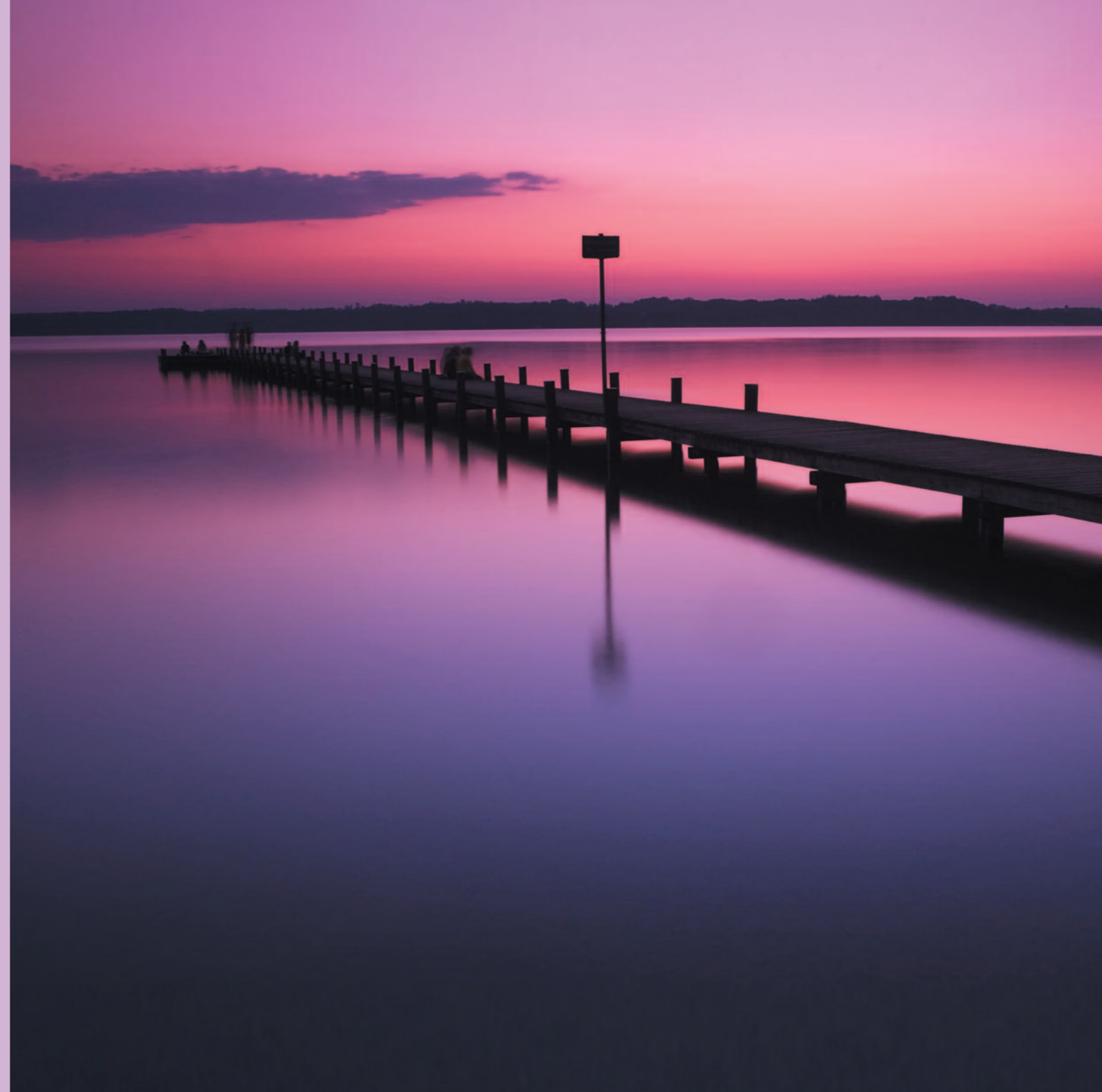
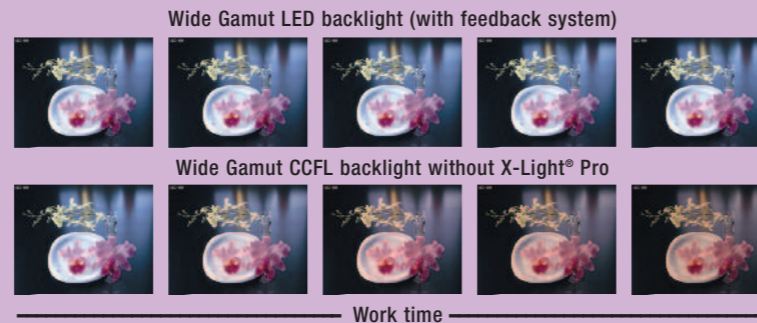
The X-Light® Pro function, an additional highlight of the NEC SpectraView® 2690 and SpectraView® 3090 displays, assures stable colour reproduction and luminance during the warm-up phase. A sensor measures the luminance and colour temperature of the backlight and corrects and stabilises both automatically and for a long time.

- Optimum overview
- More room for parallel applications
- Increased productivity
- X-Light® Pro function

SpectraView® 2690 – more than 35% larger active screen area in comparison with a standard 21" UXGA monitor



Comparison with and without X-Light® Pro function





THE PROFESSIONAL LEVEL MEGA-STAR: NEC SPECTRAVIEW® REFERENCE 21

The utilisation of digital workflows reveals enormous savings potential. Today, even global campaigns can be digitally managed, proofed and put into print without any appreciable problems. The absolutely essential factor in this process is total reliability in all areas of colour processing and colour homogeneity – in short, perfect colour management. Because colour discrepancies in the final stages of the process can easily lead to enormous financial losses.

NEC Display Solutions have developed a high-end LCD monitor with innovative LED backlight technology for particularly colour-critical applications which has created an uproar in industry circles – the NEC SpectraView® Reference 21.

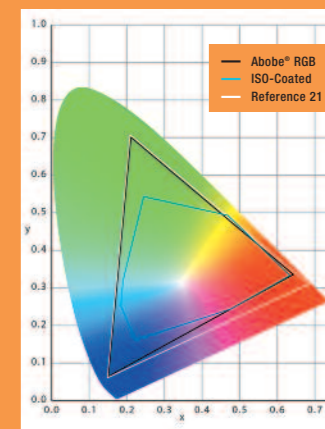
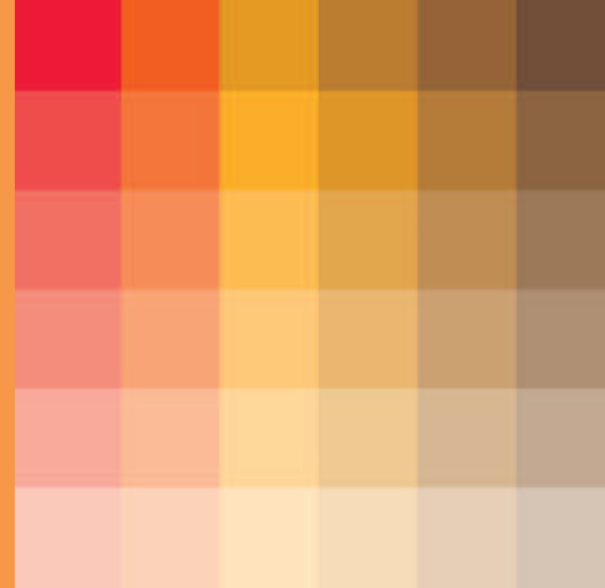
Red, green and blue light emitting diodes (LEDs) generate white light that, in combination with optimised colour filters, allows the reproduction of a 40 per cent larger colour space. For the first time ever, it is now possible to reproduce more than 100% of the Adobe® RGB and NTSC colour spaces – with extremely high luminosity.

Beside the other features of the NEC SpectraView® models, LED backlight permits precise adjustment of the white point between 5000 K and 9300 K without any loss of brightness.

An internal feedback system constantly monitors and controls the colour temperature and brightness. Within seconds of switching on the monitor, the backlight achieves a Delta E value (colour consistency variance) of <1.

The perfect choice for the most exacting demands!

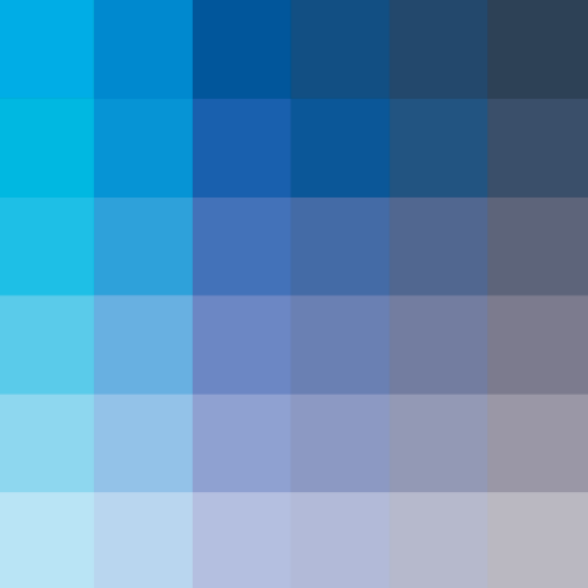
- A colour spectrum as never before through LED Backlight Technology
- Extreme luminosity
- Optimum long-term stability
- High-end performance



Colour space comparison: Adobe® RGB, ISO-Coated and more than 100% coverage by the NEC SpectraView® Reference 21



Different imaging at colour temperatures of 5000 K and 6500 K



SPECTRAVIEW® PROFILER – CUTTING-EDGE HARDWARE CALIBRATION

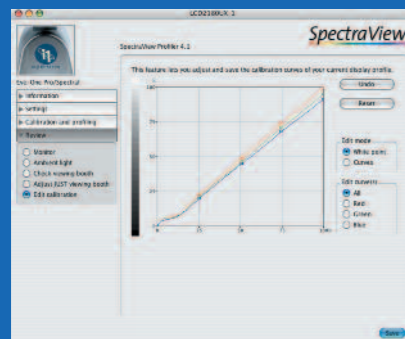
Colour-critical applications can only be a complete success when the process runs hand in hand with comprehensive hardware calibration. The bundled calibration and profiling software package, SpectraView® Profiler (4.1), allows precise and straightforward calibration of brightness, white point and luminance and the creation of ICC profiles for Apple and Windows systems. The result: a colour reproduction that precisely represents subsequent processing and print output quality.

Thanks to its clearly structured user interface, SpectraView® Profiler Software is simple and fast to use. Default settings enable express calibration with just one click of the mouse – without restricting any of the user options for setting personalised profiles. SpectraView® Profiler supports all current systems, including IntelMacs (Version 4.1*).

Overview of the most important functions (SpectraView® Profiler Software, Version 4.0 and above):

- L*-calibration (CIE-LAB L* colour space), alternative calibration with gamma 1.8 or 2.2 or user-specified gamma values, sRGB or CIE-CAM02 calibration
- Creation of LUT-based 16-bit ICC and matrix profiles
- Iterative calibration process
- Manual white point and calibration curve editing
- White and black luminance adjustment (or contrast range)
- Supports prominent brands of colorimeters and spectral photometer sensors
- Profile validation for fast checking of calibration profiles
- Evaluation of workplace ambient light and viewing conditions in accordance with ISO 3664 and 12646
- Automatic hardware adjustment of JUST Normlicht lightbox by software
- Chromatic adaptation

Precise and straightforward
hardware calibration with
SpectraView® Profiler software



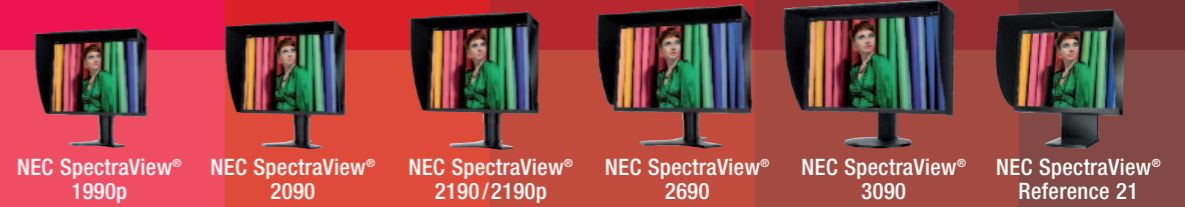
* Due to constantly changing systems, compatibility can not always be guaranteed. However, free updates assure the best possible support.





NEC SPECTRAVIEW® RANGE – THE CREATIVE PROFESSIONALS IN DETAIL

An overview of all models of the SpectraView® range with the most important technical specifications.



Screen Size	19"/48.2 cm	20.1"/51 cm	21.3"/54 cm	25.5"/64.9 cm	29.8"/75.6 cm	21.3"/54 cm
Panel Technology	PVA TFT	S-IPS A-TW Pol. TFT	SA-SFT / S-PVA TFT	H-IPS A-TW Pol. TFT	H-IPS A-TW Pol. TFT	SA-SFT TFT with LED-Backlight
Optimum Resolution	1280 x 1024 at 60 Hz	1600 x 1200 at 60 Hz	1600 x 1200 at 60 Hz	1920 x 1200 at 60 Hz	2560 x 1600 at 60 Hz	1600 x 1200 at 60 Hz
Viewing Angle	178° h/178° v (typ. at contrast ratio 10:1)					176° h/176° v (typ. at contrast ratio 10:1)
Contrast Ratio	1,500:1	700:1	500:1/1,000:1	800:1	1,000:1	430:1
Brightness (without ColorComp)	250 cd/m ²	280 cd/m ²	250 cd/m ² / 300 cd/m ²	400 cd/m ² (without X-Light® Pro)	350 cd/m ² (without X-Light® Pro)	200 cd/m ² at 5.000 K –9.300 K
Inputs	ambix ^{3™} Digital: 1 x DVI-D; Digital/Analogue: 1 x DVI-I; Analogue: 1 x D-sub 15 pin				Digital: 1 x DVI-D Analogue: 1 x DVI-I	Digital: 2 x DVI-D

COLOUR MANAGEMENT

Wide Colour Gamut				x	x	x
GammaComp	x	x	x	x	x	x
ColorComp	x	x	x	x	x	x
X-Light® Pro				x	x	X-Light®
LED Backlight						x
Colour Temperature Control	x	x	x	x	x	x
OmniColor™: sRGB and 6-axis-colour-control	x	x	x	x	x	x
Blacklevel Adjustment	x	x	x	x	x	x

SPECIALS

SpectraView® Profiler Software	x	x	x	x	x	x
Detachable Light Protection Hood	x	x	x	x	x	x
Advanced Non-Touch-Auto Adjust	x	x	x	x	x	x
TORO™ Design	x	x	x	x	x	
ErgoDesign® – Height adjustable stand	150 mm	150 mm	150 mm	150 mm	190 mm	