

NEC MultiSync[®] P & PA Series Quick Start

Thank you for your purchase of an **NEC MultiSync P or PA Series** professional desktop display!

Your display has many advanced features designed to provide stable and accurate color as well as improve your color accurate workflow. This short guide is designed to provide you with helpful information in order to get the most out of your display as quickly as possible.

We hope that you enjoy working with your new NEC professional display!

Essential Features of Your NEC Display

Stable Color & Brightness

Your MultiSync PA Series display includes a backlight sensor that constantly monitors the brightness and whitepoint of your display and ensures stable and consistent brightness and color between calibrations.

SpectraView Engine

The NEC-custom SpectraView Engine combines factory measurement data and multiple internal sensors (including temperature and orientation) in real-time to ensure accurate color, even when an external color sensor is not utilized.

Easy Print Previews

MultiProfiler software allows you to load the color profile for your printer, turning one of the display's presets into a quick print preview. See the MultiProfiler User's Manual for more information.

DisplaySync Pro KVM

The USB hub included in your display allows you to connect two computers to your display and allow you to share a keyboard and mouse between the two.

Picture in Picture / Picture by Picture

Your display can show the same input in multiple color spaces on-screen at the same time for a real-time preview of your work in a second color space.

Image Rotation

The screen image on your display will auto-rotate and scale when the display is rotated. This also works in Picture by Picture mode, where the desktops will be rotated and stacked to use as much of the screen as possible.



Connecting Your Display

Your NEC professional display is designed to connect to most current devices and the most common are covered here. NEC recommends the use of digital connections without adapters, where possible.

Check your display's user's manual for the specific connections and cables included with your display and contact NEC Display Solutions Technical Support with any questions. (Contact information is below.)

Tools Required

- Your MultiSync P or PA Series display
- **MultiProfiler** software (download)
- Optional **SpectraView_{II}** color calibration software and a color calibration sensor

Typical Connections

In addition to the display cable, NEC always recommends using the included USB cable to connect the monitor's USB ports and enable color control of your display.

Connection	Maximum Resolution	How to Connect
	DisplayPort 1.2: Up to 3840x2160 at 60Hz	Using the included cable, connect the DisplayPort output from your computer to the DisplayPort input on your display. Alternatively, models that feature mini DisplayPort inputs can use the smaller end of the mini DisplayPort cable connected to the display and the larger end connected to the computer.
	Thunderbolt™ / Mini DisplayPort: Up to 3840x2160 at 60Hz	Many display models include a Mini DisplayPort to DisplayPort cable. The smaller end of this cable can be plugged into the Thunderbolt or Mini DisplayPort output from your computer. The larger end can be connected to the DisplayPort input on your display.
	HDMI 1.4: Up to 3840x2160 at 30Hz HDMI 2.0: Up to 3840x2160 at 60Hz	MultiSync P & PA Series displays do not ship with an HDMI cable. Using a 3 rd party HDMI cable, connect the HDMI output from your computer to the HDMI input to your display.
	DVI-D: Up to 2560 x 1600 at 60Hz	Using the included DVI-D cable (single or dual link, depending on your display model), connect the DVI-D output from your computer to the DVI-D input to your display.

Operating System Settings

Most modern operating systems will correctly detect the NEC display and its capabilities. The most common problems are due to older graphics cards, missing display drivers or using incorrect cables. If you encounter any problems with the display not appearing correctly, please contact Technical Support.

Adjustments for High PPI Displays

Some NEC displays feature a higher number of pixels per inch (PPI), which allows more information on on-screen compared to displays with a lower PPI. Displays that have a high PPI will cause items on the screen to appear physically smaller than a comparable display with a lower PPI, though.

Adjustments can be made in your computer's operating system in order to compensate for the smaller appearance of system fonts and icons.

Model	Size	PPI
P232W	23"	96
P242W	24"	93
PA242W	24"	93
PA272W	27"	109
PA302W	30"	101
PA322UHD	32"	140

Mac OS®

On MacOS, **Display Settings** under **System Preferences** will allow you to adjust the scaling of your display, making it appear like the display is using a lower resolution.

Note: A lower resolution will result in everything appearing larger on-screen, but will have the side effect of reducing your effective working space.

Windows®

On Windows, you can scale the user interface elements separately from the overall screen scaling. The steps vary slightly based on the version of Windows being used.

- Windows 7:

<http://windows.microsoft.com/en-us/windows7/make-the-text-on-your-screen-larger-or-smaller>

- Windows 8: <http://windows.microsoft.com/en-us/windows-8/get-best-display-monitor>

Instructions for Windows 10 will be published when they are available.

Controlling and Maintaining Accurate Color



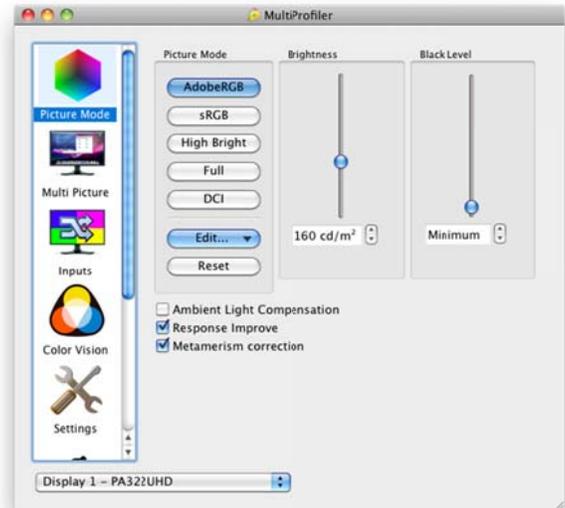
The SpectraView Engine
custom ASIC

Your professional display includes an NEC-exclusive hardware-based color management system that is built into the display called the **SpectraView Engine**. The SpectraView Engine utilizes real-time processing of factory data, user settings and display sensors to ensure that the colors displayed on your screen are consistent and correct.

The controls for the SpectraView Engine as well as many other display settings are easily accessed through the free **MultiProfiler** tool.

We highly recommend downloading and installing MultiProfiler for complete control over the color settings on your display including:

- 1) Editing presets, including adjusting brightness, black levels, color gamut, gamma, etc.
- 2) Adjusting the Picture in Picture / Picture by Picture settings on your display
- 3) Controlling the DisplaySync Pro KVM feature by adjusting input mapping



In addition to controlling the imaging settings for your display, MultiProfiler can also be used to create keyboard shortcuts for quick access to changing display settings.

More information on MultiProfiler can be found in the Links section below.

Color Calibration

Your NEC professional display excels when used with our custom engineered display calibration software, **SpectraView_{II}**™.

SpectraView_{II} uses an external color sensor together with the SpectraView Engine to adjust the display to match a specific set of target color settings. These adjustments are made directly in the lookup tables (LUTs) in the monitor instead of in the video card, ensuring that no color detail is lost as a result of the calibration process.

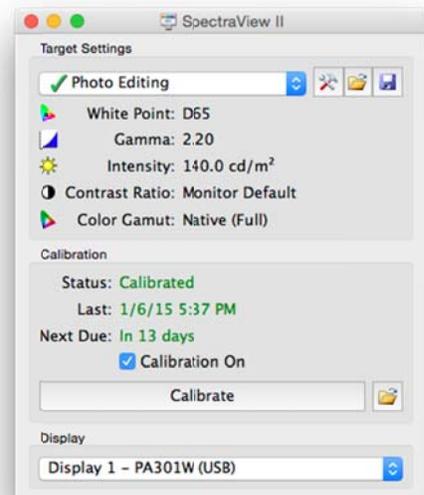
Using the SpectraView software consists of 3 steps:

- 1) Select the display to calibrate
- 2) Select or edit the Target to calibrate to
- 3) Click the “Calibrate” button

SpectraView includes default targets for many applications, including printing, photo editing and broadcast video. Most of the default targets are adequate for basic usage and the targets can also be edited for more precise control, including adjustments to white point, brightness, contrast ratio and gamma and color space.

SpectraView works perfectly with the NEC custom MDSVSENSOR3 color sensor and can also work with many 3rd party color sensors.

More information on SpectraView_{II} can be found in the Links section below.



Links

NEC Display Solutions downloads (including monitor drivers)	http://www.necdisplay.com/downloads
MultiProfiler	http://necdisplay.com/MultiProfiler
SpectraView _{II}	http://necdisplay.com/SpectraView
Color sensors compatible with SpectraView _{II}	http://www.necdisplay.com/support-and-services/spectra-view-II/Compatibility
NEC Color Critical Solutions	http://necdisplay.com/ColorCritical
Video: How to load an ICC profile	https://www.youtube.com/watch?v=F_Fpn11j-OI
Video: How to calibrate with SpectraView _{II}	https://www.youtube.com/watch?v=RFCHsbDCmOw
Video: How to use the DisplaySync Pro KVM	https://www.youtube.com/watch?v=Q6rEMm7RXcQ
Whitepaper: DisplaySync Pro	http://www.necdisplay.com/documents/Miscellaneous/DisplaySync_Pro_TechPaper.pdf
Whitepaper: ICC Profile Emulation	http://www.necdisplay.com/documents/WhitePapers/ICC_ProfileEmulation_Technology_Paper.pdf

NEC Display Solutions Technical Support Contact Information

Monday – Friday, 7 a.m. – 7 p.m. Central Time

Phone: (800) 632-4662

Email: techsupport@necdisplay.com

More information: <http://www.necdisplay.com/contact-support>

NEC Display Solutions Contact Information

<http://necdisplay.com>

 <https://www.facebook.com/necdisplay>

 http://twitter.com/NEC_display

 <https://www.youtube.com/user/necdisplay>

 <https://plus.google.com/+necdisplay>

 <https://www.linkedin.com/company/nec-display-solutions>

©2015 NEC Display Solutions of America, Inc. All rights reserved.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Apple, Macintosh, Mac and the Mac logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

All other brand or product names are trademarks or registered trademarks of their respective holders. Product specifications are subject to change.

Cat. No. 25.NEC.80.GL.UN.199 | rev 08.11.15