

Northlight
Images

Photography by

Keith Cooper

[Gallery](#)

[Buy a Print](#)

[Commercial Services](#)

[Contact / About Us](#)

[Info and Resources](#)

[- Photography Info](#)

[- Digital Black and White](#)

[- Articles](#)

[- Reviews](#)

[- Tutorials](#)

[- Books](#)

[- Viewing Tips](#)

[- Mac Info](#)

[- Usability and design](#)

[Home](#)

This site, and all its contents
are copyright

©2004,2005 Keith Cooper

[Image usage information](#)



The Spyder 2 Pro - monitor calibration made easy

ColorVision's latest version of the Spyder is a definite improvement

If you're moving into colour management, then you've probably been told to start with your monitor. Keith has used the original Spyder for some time and in this review looks at some of the advantages of the new offering from [ColorVision](#).

The latest version of the Spyder 2 Pro now supports [digital projector calibration](#) - [this is covered in a separate review](#)

- [Why do you need to sort out your monitor?](#)
- [What does the equipment do?](#)
- [How does it work?](#)
- [The range of solutions](#)
- [Summary](#)

This page is part of the [Reviews](#) feature in our [Info and Resources](#) section

Northlight Images prides itself on its independence when giving advice. We do not sell hardware or software and have no direct commercial links with any of the software or hardware vendors that may be mentioned here.

Why do you need to sort out your monitor?

There is really only one place to start with Colour Management - your monitor. If it doesn't actually display accurate colour, it's difficult to get prints right and even more so getting anyone else to produce them accurately. At it's simplest you should adjust your monitor by eye to get good brightness and contrast. There are various software tools that can help you in this (see the [Viewing Page](#) in the Gallery section) but these are at best a partial solution (they rely on your eyesight for one thing).

I've used the original ColorVision Spyder for some time now, for calibrating my main monitor (a 21" crt). It works well and gives good consistent results, although the two part software solution (PreCAL and OptiCAL) does seem a little clunky sometimes. I've also noticed problems

with some LCD screens, where the greyscale performance in particular was less than inspiring.

The recent announcement of the Spyder 2 and it's all new software looked as if it might well improve the situation, without having to spend more money on some of the other solutions on the market. I decided to see how much had changed...

What does the equipment do?

There are two main aspects of getting your monitor set up correctly:

Firstly, how do you characterise the actual performance of the display. For example...

- How red is bright red
- What colour is displayed at R=127,G=127,B=127 (should be a mid grey)
- How linear is the brightness output with changing input values

This is 'Profiling' your monitor

Secondly, making the monitor perform as a 'standard' device

- What gamma do you want to have (I use 2.2 for my displays now)
- What colour temperature do you want (I use 6500)
- What black and white point luminances do you want

This is 'Calibration'

It's worth remembering that you are actually measuring the whole monitor/display card combination, since some aspects of monitor display can depend on the capabilities of your video card.

How does it work?

The examples below are all on Apple Macs, but the software is supplied for windows PCs as well (Windows: 2000, XP. Macintosh: OS X 10.2+). It is also important that the sensor just measures what comes from the screen, so avoid bright lights (like the flash I used to take the pictures :-)) and make sure that the monitor has been on long enough to stabilise (an hour is

suggested).

Installation consists of running the installer on the CD, then you plug in the USB measuring device and fire up the software. The sensor measures the light coming from the screen when the software displays various colours and greys. At it's simplest, you just follow the default settings and instructions and you end up with a profiled screen calibrated (in the case of my 23" LCD below) to a Gamma of 2.2 and a temperature of 6500.

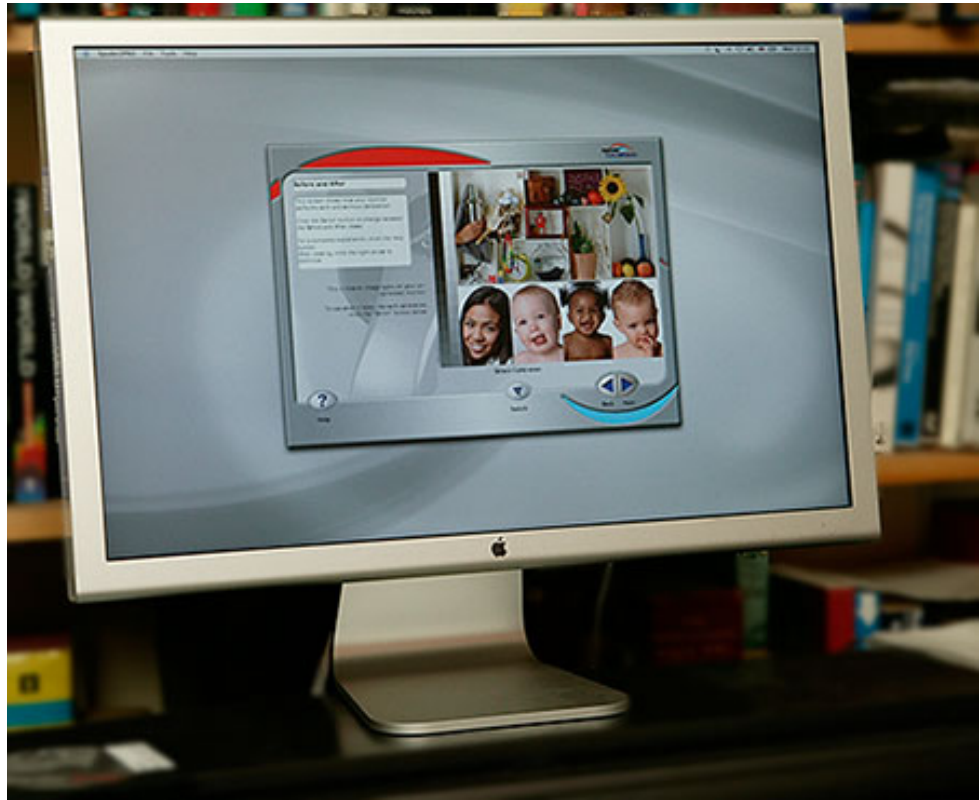
There is a weight attached to the lead that you can slide along the wire and balance the weight of the sensor. In the picture below, it is behind the screen. With LCDs you use a filter attachment and the sensor lays flat against the screen, while with CRTs the filter unit comes off to reveal small suckers that hold the scanner in place.



Measuring device on an Apple 23" LCD display - the screen is tilted back so that the sensor makes good contact

After running the checks, the software shows the PDI test image ([available here](#)) and allows you to see the difference that your new settings have made. Do remember that if there has

been a lot of adjustment, the 'new' settings may look a bit odd, especially if you have been using the monitor uncalibrated for a while. This is perfectly normal and very quickly you won't notice it.



Test image allows comparison of settings

So, that was it ... I'd just set up my monitor. The greyscale in particular looked very smooth. There have been reports that the large Apple LCD has a smoother greyscale if you use the display's 'native' temperature rather than 6500. I tried this and the differences were minimal. It might be worth checking your own LCD displays with this option, unless you specifically need a certain setting.

Now to do my laptop - this had not been very good at all with the old Spyder - but then I never use the laptop for critical work.

Just as easy to run and the greyscale was now without the slight colours that I'd noticed when trying out the old Spyder.

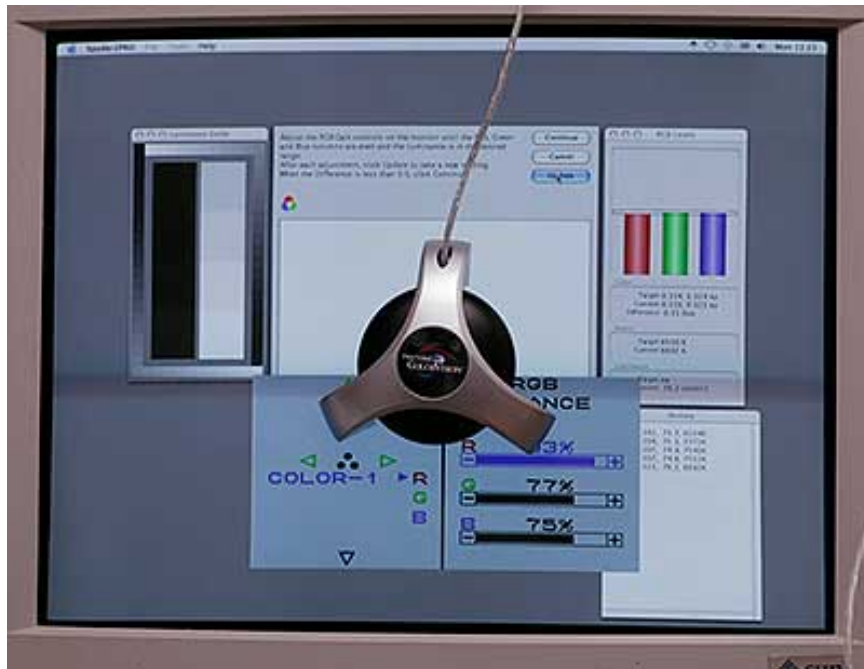


Calibrating a G4 Powerbook

The software certainly seems easier to use, not that the old version was difficult, just this one seemed to do everything it needed without fuss.

I took the device round to my old CRT. This is starting to show signs of it's age and compared to the new Apple 23" LCD looks soft and dim. Removing the LCD filter I stuck the sensor to the screen - it didn't fall off- and ran the software. Quite a few more options were available since the CRT has many more controls. The picture below shows the CRT's own adjustment menu (below sensor), where I'm adjusting the individual colours to balance them (upper right window) This was part of the PreCAL software in the original Spyder package.

The process was not difficult to follow, and there are numerous help screens available at most stages. One thing you can set is how often the software will remind you to calibrate your monitor. I have mine set up to remind me every two weeks, but you can choose your own settings -- I know some people who do it every day!



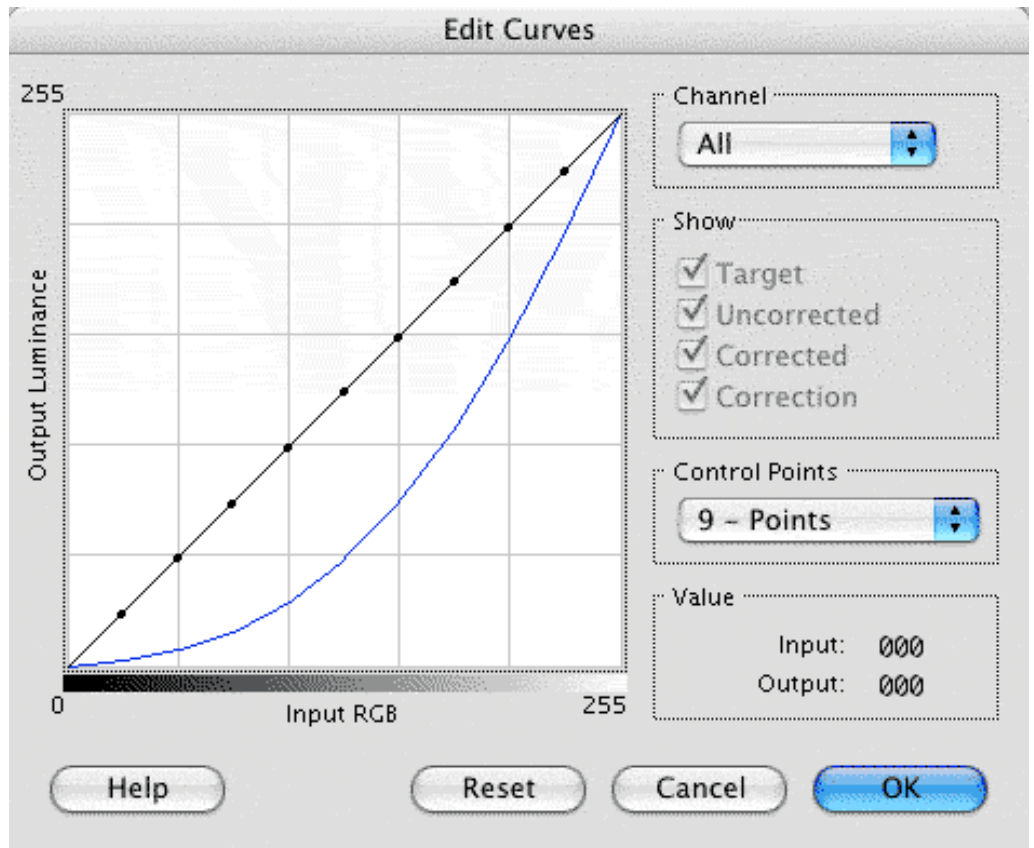
Setting up a CRT

So I'd managed to calibrate all three main monitors I use in less than an hour, and that included installing the software. Subsequent recalibration is quicker, unless you need to reset brightness/contrast settings as well. It is worth mentioning that if you (or anyone else) make any adjustments to the monitor then the calibration will need to be repeated.

I tend to use the three machines for quite different uses and rarely at the same location. This was one reason that I was happy to accept the default values for calibration. If I'd got half a dozen monitors in a single office I'd probably be much more keen to have them calibrated to consistent values so that people moving work from one machine to another would see the same view. More advanced modes of the software allow you to customise most settings for the particular task and hardware you are using.

For example, this gets more important if you are using special lighting for proofing, and need to work to much higher levels of accuracy. Most of my photographic work is not so colour critical, so the default 6500,2.2 settings were fine.

Custom targets and curve adjustment allow you to reproduce all kind of set-ups, but ... if you are going to be making use of the advanced settings, you should already have quite a lot of colour management knowledge -- if not then I'd suggest you take the time to learn about it...



- 1.8-5000
- 1.8-6500
- 1.8-Native
- 2.2-5000
- 2.2-6500
- ✓ 2.2-Native
- Cineon
- ITU-R Rec. BT.709
- Linear Grayscale
- NTSC
- PAL SECAM
- Print Standard
- sRGB

Some of the more advanced settings you can select.

If you know why you want ITU-R Rec. BT.709 then by all means use it, otherwise it's probably best to stick to the defaults :-)

The sensor can also be used as a colorimeter to measure screen colours and can handle the calibration of multiple screens on the same computer.

The range of solutions

The package I've been looking at is the [Spyder 2 Pro](#). At the moment it also comes bundled with nik Color Efex Pro 2.0 Standard Edition, PANTONE® colorist, and ColorVision® DoctorPRO.

It includes a site license for calibrating all your monitors (Mac and PC)

The picture below shows my old Spyder and the new Spyder 2 Pro. The new LCD filter (top) is much easier to fit than the old one. Not shown are the LCD balance weights, once again the new solution wins on simplicity




The only thing not improved is the box-- I rather like the old cloth covered black box



Old and new Spydery

ColorVision also offer simplified calibration hardware and software that might better suit other users.

The table below is taken from ColorVision info (you should check their site for the latest prices and details of bundled software).

Features	ColorPLUS	Spyder	SpyderPRO
Price	\$119	\$169	\$249
Target End User	Anyone printing photos at home, digital imaging enthusiasts	Advanced Amateur, Prosumer or Designer	Professionals and Semi-Professionals
Calibrates CRT and LCD Displays	YES	YES	YES
Operating System			
Software	ColorPLUS	PhotoCAL (site license)	OptiCAL (site license)
User Interface	Wizard	Wizard (with options)	Wizard & Progressive Dialog
Adobe® Software	Album SE	Album	Album
Choice of Gamma	Preset	2	Unlimited
Choice of Whitepoint	Preset	2	Unlimited
PreCAL Function	NO	YES	YES
Custom Targets	NO	NO	YES
Curve Manipulation	NO	NO	YES
Colorimeter Tool	NO	NO	YES
Reporting	NO	NO	YES

Matching Different Monitors to Same Target	NO	NO	YES
Precision Mode	NO	NO	YES
30-Day Money Back Guarantee	YES	YES	YES
1-Year Spyder Warranty	YES	YES	YES
Free Technical Support	YES	YES	YES
Free Software Upgrades	YES	YES	YES

Summary

A solid, easy to use bit of kit. Just when advances in monitor technology were beginning to show up some of the deficiencies in my old Spyder, along comes one that is both easier to use and more accurate. The grey scale improvements are particularly welcome, given the amount of black and white photography I do.

As ever, I'd advise you to do some research of your own before making buying decisions, but I'm more than happy with the results I get with the new Spyder. It never was difficult to use, but the attention paid to interface design in the new software is welcome.

A very capable device ... even if I still prefer the box that the old one came in... :-)

[Top of page](#)

Update - after several weeks of use I decided that the display on my Powerbook was slightly better at 'Native' settings, and the Apple 23" was fine at 6500. As I said, I don't usually use the Powerbook for critical work...

More Info

- An [Introduction to colour management](#) article by Keith and collection of CM info.
- [Colour management links](#) on this site
- The [Viewing page](#) - basic monitor set-up
- [Reviews](#) - Other equipment and software reviews by Keith.
- [Eye One Display 2](#) Monitor calibration and profiling device from GretagMacbeth - also allows ambient light measurement.

"Sorry, this application has expired"

If you get this message in 2005 from your Spyder 2 Pro software, then check out either of these update sites

- http://support.colorvision.ch/?_a=downloads
- http://www.colorvision.com/sup_dl-upgrades.shtml

Keith is always happy to discuss matters raised in his articles. You can contact Keith at the address below.

bw@northlight-images.co.uk

The views above represent those of Keith Cooper. Articles copyright ©2003-5 Keith Cooper.

Other areas of our site that may be of interest...

We have a growing collection of [Photography related information and links](#). We are always updating the collection so do check regularly. It includes up to the minute imaging related news items from around the world.

New site features and some of Keith's latest work are covered in the [What's New](#) page.

Visiting Leicester or wondering where it is? If you'd like to see what some of it looks like, we have [views from the Leicester traffic cameras](#).

[Top of page](#) [Gallery](#) [Buy Prints](#) [Commercial Services](#) [Contact / About Us](#) [Info and Resources](#)
[Home](#)
