Proper setting of ColorSync radio button and the recent macOS bug that affects it.

It's crucial to note an intermittent but significant bug in the last several major macOS updates (since Ventura) that could affect your print output if you print using color management.

Background: When printing, there are two general print paths to be aware of:

1. Application Manages Color. See Figure 1
2. Printer Manages Color. See Figure 2

The Application Manages Color path involves the application managing the color, which is the one print path used to print using ICC profiles. This path is also used to print the targets for making these profiles. You can see this path in Photoshop and Lightroom Classic as they manage the color (hence the general name, Application Manages Color) shown in Figure 1.

The alternative is Printer Manages Color, which is shown using Photoshop and an Epson print driver in Figure 2. This method is used in rare cases when the printer needs to control all aspects of this print path. An example for Epson users would be implementing their Epson Proprietary B&W conversions and output, known as Advance Black & White. The driver must first be set for Printer Manages Color for that option to be accessible. Otherwise, you will always use Application Manages Color and your ICC printer profiles.

The bug:
At this point, the portion of the driver where you can select the ColorSync radio button must be set to be chosen. This is found in the Color Matching section in the print dialog. Some software products use a private (undocumented) Apple SPI called kPMApplicationColorMatching, which you can see in Photoshop, Lightroom, and the Adobe Color Print Utility. X-Rite's i1Profiler and the ColorSync Utility have also implemented this SPI. When you set Application Manages Color, the area of the driver that controls this ColorSync radio button will correctly alter these radio buttons and make them grayed out. They are correctly configured and cannot be changed. The new bug on macOS seems to affect this SPI, whereby sometimes it doesn't work this way. The ColorSync radio button isn't automatically selected, which is critical. Both radio buttons are not grayed out; instead, they are set as you would typically see when using Printer Manages Color; either option can be selected. When the radio button isn't set on the ColorSync option, it will produce incorrect printed output!

The 'fix' for the time being is always to select the portion of the print driver called Color Matching and ensure that the ColorSync radio button is selected, not the other option. Sometimes your printer driver will be set correctly, and sometimes it will not; it is an intermittent bug, **so always check!**

Note that to print without color management using Apple's ColorSync utility (Print as Targets), the correct radio button must be selected so you can then 'load' a profile, making this option available to select. If you are using the ColorSync utility to print targets, also see:

Printing color targets (or anything) without color management using the ColorSync Utility
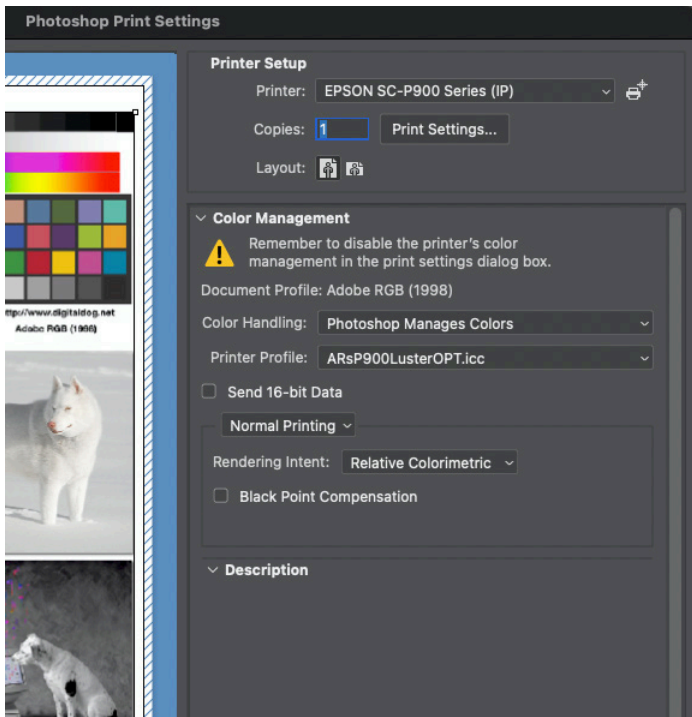http://digitaldog.net/files/PrintingTargetsCSUtility.pdf
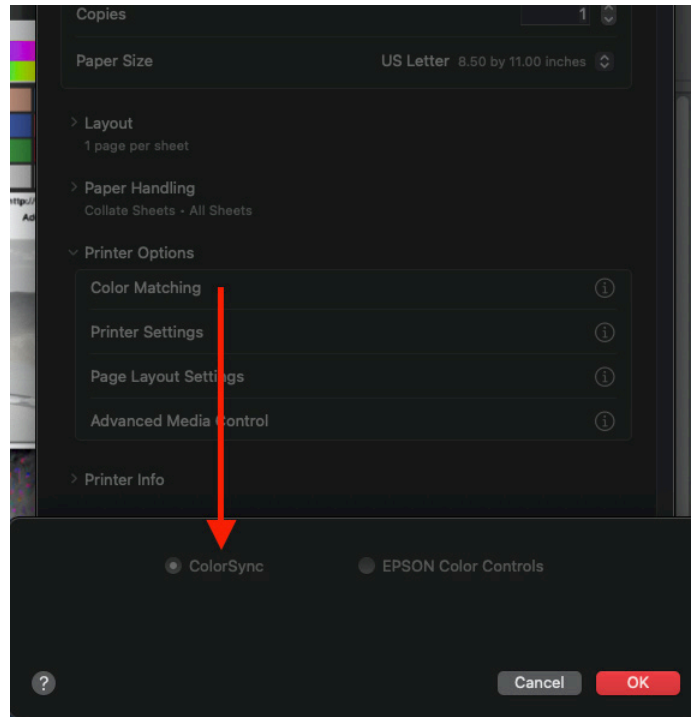
Figure 1 Application Manages Color

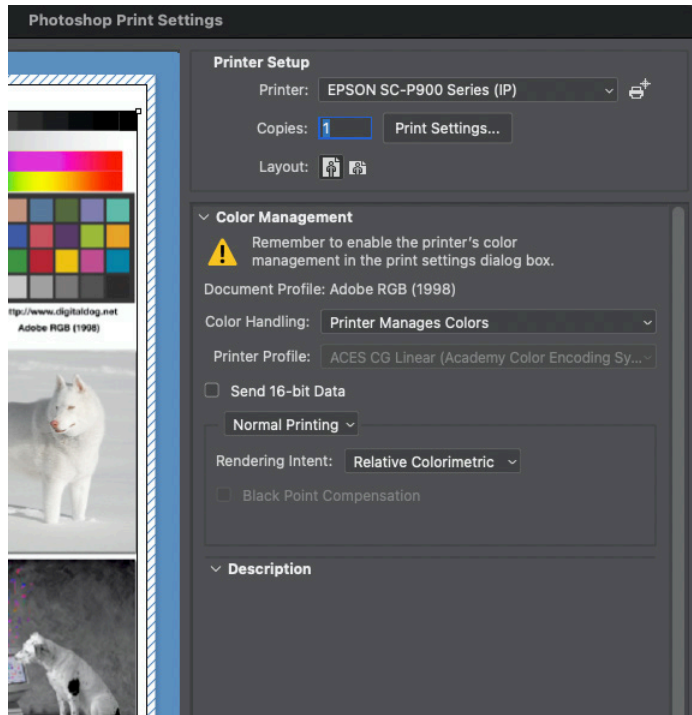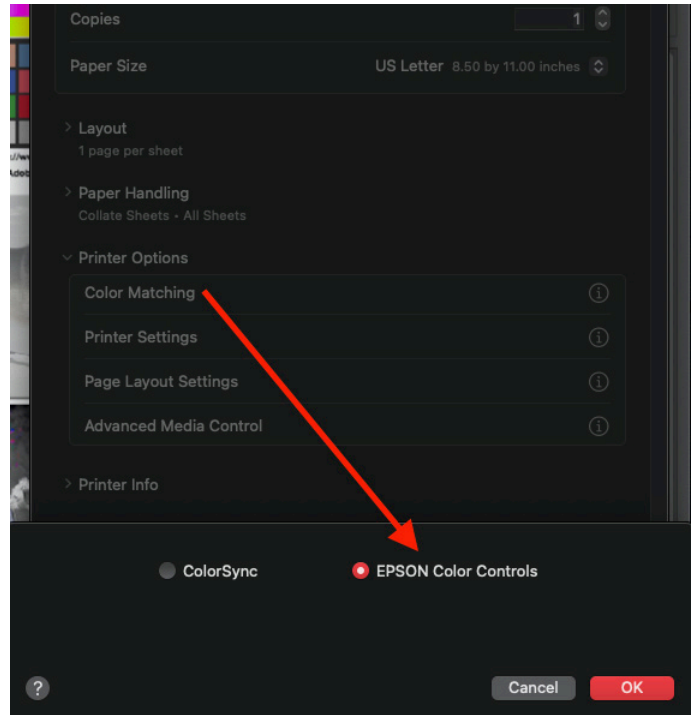Figure 3 Color Matching set correctly for Application Manages Color and SPI graying out correct radio button.

Figure 2 Printer Manages Color

Figure 4 Printer Manages Color