

Using the Roper Scientific CoolSNAP with MetaMorph Version 4.0 and Above

Abstract

Roper Scientific recently introduced the CoolSNAP camera for brightfield and fluorescence color imaging.

Install

The CoolSNAP is a Photometrics camera. This means that (if you haven't already done this on your machine) you need to install the Photometrics software first. If your CoolSNAP camera did not come with an install CD-ROM, then you can browse the Meta Imaging Series CD and install from the Photometrics Model 2 PCI Drivers folder that is on the CD-ROM (any Meta CD from 3.6 and on will have the files).

Before doing anything with MetaMorph, make sure that you run Photometrics' PCISetup95 and then run their CAMTEST32 to verify that everything related to the CoolSNAP camera is OK. If you need help installing the Photometrics software, please refer to article T10160 on our support web site that explains how to get a Photometrics camera to run.

After you know the camera is OK, you can install MetaMorph 4.0. After MetaMorph 4.0 is installed, run Video Manager and install the "Photometrics" driver. You can use the default configuration.

Run Dropins Manager and remove all the acquisition dropins except for "coolsnap". This means that you want to remove digital4, intgrate, mtlive, flashbus, and so on.

Running the CoolSNAP from MetaMorph

Start MetaMorph - you will see on the Devices Menu the command "Acquire from CoolSNAP". This tabbed dialog box simplifies the configuration and control of the camera. On the first tab you set the exposure time, on the second tab you set the region of interest, and on the third tab you set the color balancing. The fourth tab contains camera preferences. At all times there is a "start / stop focusing" button available so that you can have a live color image to work with. The focus image updates at about 1 or 2 frames per second - fast enough to adjust the microscope. It focuses in color or in monochrome.

Notes on Color Balancing

You will get the best color if there is something white in the image that you can use for color balancing. Press the "region" button on the Color Balance tab and draw a box region around whatever is white in the focus image and then press the White Balance button. If you don't want to draw a region, you can just press the White Balance button with no region present - this will try to "guess" where the white in the image is and use it for balancing.. If you want, on the same page you can adjust the overall brightness or nudge any of the color channels up or down. There is also a button on this page that will launch the Adjust Digital Contrast tools. The primary tool to use is the Gamma correction - setting a gamma (try 1.5

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or 2.0) often will greatly improve the on-screen appearance of the color image.

A Tip on Camera Power

The camera gets its power from the single cable that goes between the computer and the camera. On the back of the camera is an on/off switch. With this arrangement when the computer is off, the camera is also off. However, when you start up the computer you have to remember to reach behind the camera and press the "on" button so that the camera is also on. If you get a strange photometrics error code (in the 400's) when MetaMorph starts up, that code signifies that the camera is not powered; exit MetaMorph, press the camera's power switch on, and then restart MetaMorph.