

The Basics of Color Management

Presented as part of the
"Managing a Digitization Project" workshop
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Important Principles

- Every person sees color differently
- Judgment is hindered by colors around us (walls, reflections in monitor, reflections from bright clothing, etc)
- Biggest factor in how we see color is the "color temperature" of the viewing light, and the most inconsistent light source is the sun
- Every device (scanner, computer, software, monitor, printer, etc) introduce its own bias or color change
- Your challenge is to minimize these variations

Don't worry - It's not as hard as it sounds



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First things first....

- Need working area with controlled lighting. Separate room is best.
- Monitor shielded from sunlight and reflections
- Careful placement of people and equipment
- Neutral gray walls
- Room dimly lit so the monitors are the primary light
- If you must have fluorescent, order 5000 degree Kelvin tubes and remove half the bulbs
- Technicians with brightly colored clothing need black aprons

Now, on to monitor calibration



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Monitor Calibration

- Need a standard, enforced procedure (i.e. "Every Friday at noon we calibrate the monitors")
- 6500 degrees Kelvin with a gamma of 2.2
- Set everything to 2.2 gamma, even Macs (not 1.8)
- Use a hardware calibration device
- Device should support both CRT and LCD monitors, Mac and Windows
- Around \$200 and easy to use:
 - Monaco Systems OPTIX www.monacosys.com
 - Pantone SPYDER www.pantone.com
 - GretagMacBeth EYE-ONE DISPLAY



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Profiles in Courage....

- ICC profiles include information that lets software adjust for differences in equipment
- Profiles are like a map that lets software (or a device like a printer) know where the file has been
- Monitor calibrator creates custom profile for each monitor so files look the same on any machine in your facility
- Scanners can also “embed” a profile in a file. We recommend creating a custom profile for your scanner using one of the commercial services. Cost is usually less than \$100.00.
- Technicians need to learn how Photoshop handles profiles

What colorspace should we use?



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Understanding Colorspace

- Each device has a particular range of colors (gamut)
- Scan into the widest possible gamut so no information is lost
- Wide gamut colorspaces - Adobe RGB 1998, RGB Master, Pro Photo RGB or Joseph Holmes' “Ekta Space”
- Monitors are narrow gamut and like sRGB
- We recommend you scan into Adobe RGB 1998 and set Photoshop to not convert
- Never use CMYK
- **IMPORTANT:** If your scans require a lot of correction (color, contrast, saturation, density) then either your color settings are wrong, or the scans are bad.



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If you have questions, please feel free to contact either of the presenters:

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- Cost analysis for digitization projects
- Quality and technical standards for RFP's
- Technical specifications for grant proposals
- Workflow optimization for scanning, image processing, printing
- Establishing standards for workflow, quality, color management

TWO CAT DIGITAL is available as a scanning vendor on projects both large and small

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