Appendix 2: Robert Weldon on Photographing Alexandrites

Photographing color-change gems, particularly alexandrites, can be very challenging. This is because our perception of the exact color of alexandrites that we see in daylight, in open shade, or with blue balance LED lights at approximately 5500 degrees Kelvin, can vary slightly in camera (or on film). The color temperature of light is variable from one environment to another. Calibrating a camera for specific light (or purchasing film to match color temperature environments) is therefore important.

It is particularly challenging when we try to approximate the alexandrite color change viewed in incandescent light. This light has a warmer color temperature, preferably close to 3400 degrees Kelvin or even warmer if by candlelight. Again, this color of light is variable, and when using in-camera color balance tools to approximate white light (and thus removing the yellow cast), the *whole* scene is changed—including most of the lovely color-change effect that we perceive in alexandrites.

I have found that the most dramatic color change, and one that closely approximates what we see with our eyes, is when we calibrate the camera (or use film) for daylight, but shoot in incandescent light. Unfortunately, the whole scene is changed, with everything in the image—including white diamonds, white metals, and backgrounds—taking on a distinctly yellowish cast. However, in this incandescent light the alexandrite exhibits its strongest color change and closely approximates the color change we are actually seeing in the gem.

Variations in color cast are solved through pinpoint color adjustments to gems and/or to the scene in digital post-processing. It is critical to do this when the gems are in front of you (under ideal incandescent and daylight lighting conditions) so the adjustments represent the changes we are actually seeing. In this it is also important that the photographer work with a freshly calibrated computer monitor. This helps accuracy. Failure to do so results in images that do not accurately represent the gems as we see them.

Digital photography has improved markedly in the last decade, and this has helped considerably. Images of alexandrites and other color-change gems are much more accurate and representative today than they were more than a decade ago, when film prevailed. Before the days of scanned film and Adobe Photoshop, some photographers would retouch the actual film plates, or make changes at press time to show more “accurate” color-change adjustments. However, this was often done with the gem no longer available, and the adjustments had to be made from memory.

Finally, when colors are fine-tuned to this degree in post processing, I believe it is important to disclose that fact. Disclosure language should note that the color changes in gemstone photographs have been edited to approximate the color changes we see with our eyes.

Appendix 3: Kevin Schumacher on Photographing Alexandrites

1. Items are “test arranged” on a table to design an attractive layout.
2. Each item is carefully cleaned and transferred to a sheet of glass on a shooting table, while maintaining the layout.
3. Black velvet is placed below the glass and the camera is positioned so the culets are centered in each stone’s table.
4. A variable color temperature LED spotlight is placed behind a large, overhead sheet of diffusion material that is suspended at an approximately 45º angle above the glass, creating a background “glow.”
5. Because facets are cut to return reflected light back to the viewer, one or more small but diffused variable color temperature LED lights are placed near the camera lens axis and adjusted to eliminate facet reflections.
6. All LED lights are adjusted to a common color temperature for each photo: “tungsten” and then “daylight.”

Post-production workflow

1. Post production begins in Adobe Lightroom to catalog images and add metadata, and then to make primary and some secondary corrections including: white balance, white and black point, contrast, hue, saturation, and basic color correction. (“Primary” corrections affect the entire image, while “secondary” affects only targeted areas.)
2. A 16-bit TIFF is exported to Photoshop for: (1) dust and debris retouching, (2) compositing (if needed), (3) precise or targeted color/saturation/hue correction, and (4) sharpening.