Medium Format Digital Photography for Museums, Art History & Archaeology
Introduction

There are three major classes of digital cameras that are good for photographing art, artifacts, and historical architecture:

- Large format camera systems (Cambo, Linhof, Sinar, Arca-Swiss, etc)
- Medium format camera systems (Hasselblad, Mamiya, Contex etc, with Zeiss lenses)
- 35mm camera systems (Nikon, Canon, etc).

For photographing architecture there are also other special classes of cameras and lenses that we cover in separate new FLAAR Reports. The present report is primarily on photographing sculpture, but the same cameras that photograph stelae, altars, and miscellaneous stone sculptures can also be used to photograph temples, palaces, pyramids, and ballcourts.

There is a separate FLAAR Report on the special lighting that we used at Copan. Most museum curators prefer that hot tungsten lighting not be used. So we brought a special set of cool digital fluorescent lights from Westcott to light the sculptures.

Medium Format Digital Cameras

FLAAR has all three kinds of digital cameras: large format (BetterLight back with Cambo front), medium format (Phase One back with Hasselblad front), as well as both Nikon and Canon. Each of these cameras has their place in museum photography; any good museum should have all three. BetterLight is best for circumferential rollouts of round objects such as Maya funerary vases as well as copy-stand work on flat objects such as paintings or maps.

Medium format has better depth of field so is good for general purpose photography, but can’t do circumferential rollouts nor as high a resolution on paintings or maps. But medium format photography equipment is much faster to set up and take down, and very portable (the BetterLight is also portable, but it takes more then one hour to set up the entire system, calibrate everything, and get the first rollout or panoramas image). At Copan we had all three camera systems and used all three.

Medium format digital backs come in many brands and sizes (resolution). Anything less than 22-megapixels is already rather old. If your budget allows for more, you can get 39 megapixels and nowadays (in 2009) more is coming. But 22 megapixels is plenty good enough.
Removing unwanted edges or backgrounds on photos with: Vertus Fluid Mask plug in for Photoshop CS3.

The FLAAR team recently acquired a trial version of Vertus Fluid Mask plug-in, a useful tool that helps remove unwanted edges or backgrounds relatively quickly and easily. This plug-in is easy to install and to learn. It has helpful tutorials and videos to understand how it works. Here is a quick step-by-step report to help you understand how to utilize it for archaeological sculpture in the Copan Sculpture Museum.
First step

After installing the Vertus software, open the photo you want to work with in Photoshop, go to the filter menu and select the Vertus Mask filter, your photo will appear in a full workspace window with blue lines recognizing and selecting edges of the photo.

Blue lines recognizing and selecting edges of the photo

The next step will be to select the delete local brush and start selecting the parts you will like to remove from the photograph; all the parts that you select will become a red mask.
The next step is to select the keep local brush; and start selecting the parts you want to keep of the photo, all the parts that you select with this tool will become a green mask.

Select the keep local brush and mask the area you want to save

The next step is to select the cut out tool and then save and apply, and see the end result, is this fast and easy, so what it use to take hours to do, now you can do it in a few minutes.

Select the cut out tool and then save and apply
End Result

*Photo Copan macaw ballcourt marker before vertus fluid mask*

*Photo Copan macaw ballcourt marker after vertus fluid mask*
Photo of Copan incense burner with cacao before vertus fluid mask

Photo of Copan incense burner with cacao after vertus fluid mask
Photo of Copan stone model of house before vertus fluid mask

Photo of Copan stone model of house after vertus fluid mask
Blue lines recognizing and selecting edges of the photo

Select the delete local brush and mask all the area you want to delete

Select the keep local brush and mask the area you want to save

Select the cut out tool and then save and apply
Photo of Copan toad sculpture before vertus fluid mask

Photo of Copan toad sculpture after vertus fluid mask
Blue lines recognizing and selecting edges of the photo

Select the delete local brush and mask all the area you want to delete

Select the keep local brush and mask the area you want to save

Select the cut out tool and then save and apply
Photo of Copan waterbird fish headdress before vertus fluid mask

Photo of Copan waterbird fish headdress after vertus fluid mask
Photo of Copan skull and bones sculpture
Photo of Copan long snouted monster face sculpture
Photo of Copan rosalila macaw sculpture
Photo of Copan Tlaloc googles mosaic
Photo of Copan Tlaloc with Yearsign
Blue lines recognizing and selecting edges of the photo

Select the delete local brush and mask all the area you want to delete

Select the keep local brush and mask the area you want to save

Select the cut out tool and then save and apply
Photo of Copan Tlaloc with Yearsign before vertus fluid mask

Photo of Copan Tlaloc with Yearsign after vertus fluid mask
Photo of Copan structure facade mosaic
Photo of Copan Teo YearSign bundle
Photo of Copan facade mosaic sculpture
Blue lines recognizing and selecting edges of the photo

Select the delete local brush and mask all the area you want to delete

Select the keep local brush and mask the area you want to save

Select the cut out tool and then save and apply
Photo of Copan crocodile sculpture before vertus fluid mask

Photo of Copan crocodile sculpture after vertus fluid mask
Photo of Copan stelae
Photo of Copan stelae
Photo of Copan stelae
Blue lines recognizing and selecting edges of the photo

Select the delete local brush and mask all the area you want to delete

Select the keep local brush and mask the area you want to save

Select the cut out tool and then save and apply
**Photo of Copan stelae before vertus fluid mask**

**Photo of Copan stelae after vertus fluid mask**
Photo of Copan CPN 13 Altar GI before

Photo of Copan CPN 13 Altar GI after rubber stamp tool in Adobe Photoshop to get rid of the unsightly posts and the sign in front of the altar
Photo of Copan Skyband Structure 8N-11 bench
Photo of Copan Skyband Structure 8N-11 bench
Acknowledgements

We thank IHAH for providing permission to photograph in the Museo de Sculptura, Copan Ruinas, Honduras. FLAAR has a policy of providing copies of the resulting photographs so that the local governments can use these photographs however they wish. Since it was Christmas while we were working in Copan, it was not possible to meet all the IHAH people in person, but FLAAR has been photographing in Copan with permits several times over the past thirty years, so we are relatively well known to the previous administrators, museum guards, and tour guides. Indeed when I was in the village museum, I noticed that three of the photographs they featured on their wall were photographs donated to IHAH by FLAAR in past years. So I enjoy seeing that the photography we do for Honduras is used by them.

Jose Antonio Toro Miguel, Vigilante Nocturno, assisted setting up and taking down the lighting each day and in general helped us every event. We thank him for his help.

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Photographs by Nicholas Hellmuth, FLAAR. The photography was assisted by Tina Kosir (University of Ljubljana, Slovenia).

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Appendix A

Dr. Nicholas Hellmuth and Tina Kosir

Dr. Nicholas Hellmuth photographing Skyband Structure 8N-11 bench

Dr. Nicholas Hellmuth and Tina Kosir setting up for accurate gray-balance (color balance) to record the true colors of the Skyband Structure 8N-11 bench

Dr. Nicholas Hellmuth and Tina Kosir

Lucila Cantu setting a white sample for color balancing

Eduardo Sacayón setting up the Cambo Ultima 4x5 large format camera and Cambo sliding back adapter preparing to photographing the Moon Goddess, Rabbit Companion, Scorpion Constellation and other personified 6th-8th century AD Maya astrological characters on the Skyband Structure 8N-11 bench. Copan Sculpture Museum, Copan Ruinas, Honduras, Central America.
Appendix B

Cambo Ultima 4x5 camera

Cambo sliding back and P25+ Phase One digital back

Manfrotto tripod head and Gitzo tripod

Hoodman 16GB Card

Westcott Spiderlites