

# Creo EverSmart Supreme Flatbed Scanning System - Evaluation



Anne Behrnes, Christy Gutzwiller,  
and Nicholas M. Hellmuth





A Qualitative Analysis

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## Topics

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## Purpose:

This report covers the unpacking, installation, and evaluation of the quality of the Creo EverSmart Supreme scanner for ease of basic operation and image quality.

## Assignment:

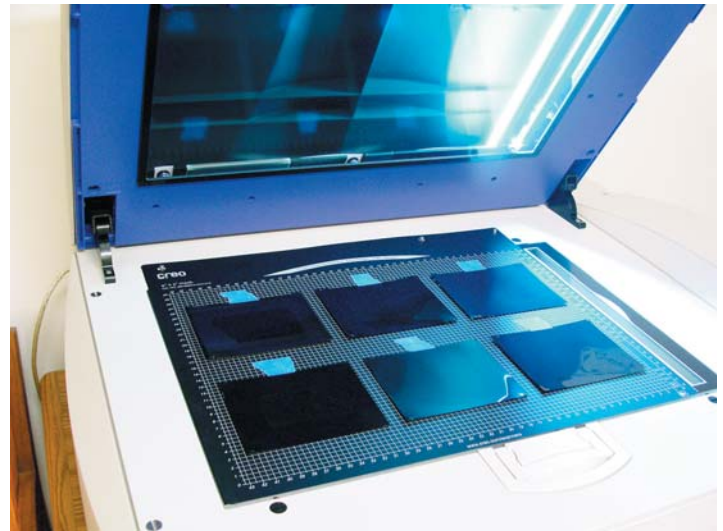
After extensive use of the Creo Supreme flatbed scanner on a daily basis, to create a review of the scanner's performance and problems that we have encountered. The Flatbed scanners at the Professional High End Level and the Unpacking sections have both been written by Anne Behrnes. The Introduction, editing and editor's comments are by Nicholas Hellmuth

## Flatbed Scanners At The Professional High End Level

Over the years it has been possible to test and evaluate many scanners. Unfortunately Heidelberg and Agfa stopped selling all their scanners about three years ago. Fuji dropped their Lanovia C-550 over 5 years ago. This was the most solid flatbed scanner ever manufactured, a scanner built as though it was designed by the Krupp German heavy steel industry. The other advantage of this C-550 model Fuji was that it could nicely digitize 3-dimensional objects.

Today the only pre-press quality flatbed scanners that remain are the Creo EverSmart Supreme and the Screen Cezanne Elite. We seriously doubt if ScanMate and others are still being manufactured. We do not count Imacon at this level, and it scans only 1 slide at a time (despite an attempt to add a multi-image attachment). Slide feeders are jerry-rigged on Nikon scanners and appear jerry-rigged elsewhere too. Furthermore, we classify Imacon advertising as potentially misleading: it is not a drum scanner in any way, shape, or form. Resellers are hyping this even worse; it approaches a bait and switch scam that is unacceptable. Imacon and Hasselblad are good companies and make professional products; it is only their advertising that is improper.

At the intermediate range of professional scanners come the Fujifilm FineScan models. We have not had the opportunity to evaluate them in-house so are not able to comment further other than to say that virtually everything Fuji makes is high quality. I would include the Creo iQsmart2 scanner in this intermediate range. The Imacon could also be situated in this mid-range quality level, if you don't mind doing one slide at a time, which makes this a poor choice for slide archives or photographers. I am a photographer with over 50,000 slides to scan, and this takes an A3 tabloid sized bed to handle batch scanning (40 slides at a time on the Creo scanners). The newer models of Imacon have gotten rid of most of the complaints about the earlier models (except for misleading advertising it as a drum scanner). So the latest model is not a bad scanner, it is just that the ads are still inappropriate.



Creo EverSmart Supreme scanner.

The main problem with Fuji scanners, any and all models, is that they are hard to find. Fuji is divided into several divisions, and at least one of these has dropped scanners all together. Many people have read FLAAR reviews praising the older Fuji Lanovia, have attempted to find one, have been frustrated, and write us telling us that either no one answers or otherwise they can't locate a functioning reseller. Actually we have never been able to receive one for testing either, so at this point (November 2004) we feel we will write off that nice brand. We have no evidence they are still being developed or that any new models will appear. It is unclear whether the company is interested in offering scanners anymore at all. Since there are hundreds of dealers for Creo scanners; since every Creo scanner we have tested has been outstanding; as a result frankly we don't see much need for being frustrated looking for other brands.



### *Our Experience over the Years with Creo and Scitex Scanners*

During 2000, in my former office in Essen-Werden, Germany, it was possible to undertake an in-house test of the then Scitex EverSmart scanner. I was able to scan 35mm slides, enlarge them to 36 x 42 inches, and print them on a large format HP printer (in those years a model DesignJet 2800cp). The results were impressive. So when we set up new offices at Bowling Green State University we wanted to re-initiate evaluations and benchmarking of high quality scanners. Scitex was the name of the company four years ago. Then Creo bought Scitex and the company was called CreoScitex. A year later they changed their name to Creo. Now (2005) they are a division of Kodak.

Cruse GmbH of Germany provided a \$75,000 scanner for this program, which we installed in May 2004. This replaced an earlier model Cruse that had been successfully in use scanning paintings for giclee printing for several years. Brent Cavanaugh, Lab Manager at BGSU, is writing the report on the Cruse.

Hewlett-Packard provided an \$18,000 42-inch wide format scanner. Anne Behrnes has written a report on this equipment. The scanner is now at our other university, in Guatemala, to scan all the university's old hand-drawn architectural drawings. We will also use the HP 4200 to scan archaeological maps and plans of Mayan ruins.

With the encouragement of John Lorusso, of Parrot Digigraphic, Creo provided a \$45,000 tabloid sized Creo EverSmart Supreme in early summer. Anne Behrnes, together with Brent Cavanaugh, are working on a benchmarking program to write up an evaluation of the equipment. This is a long-range project but we wanted to make this initial report available.

The front cover shows Brent ready to receive the scanner from the delivery truck. The woman in the later photos is Anne. The test materials are 8x10, 4x5, 6x6 cm, and 35mm slides of the FLAAR Photo Archive. We shipped the entire archive from dead storage in Florida to Ohio to undertake the scanning. These pictures are the result of over 30 years of photography throughout Latin America, as well as photos of Latin American art in museums around the world. The total archive consists of about 50,000 images.

If you wish additional information on any Creo scanner or on Leaf medium format digital backs, contact Parrot Digigraphic. Their web site is [www.ParrotColor.com](http://www.ParrotColor.com).



Scitex EverSmart scanner.



Scitex EverSmart scanner.

## Unpacking and Installation

The scanner came on a pallet with a large cardboard box covering it. There were plastic straps surrounding the outside of the package, all of which held the entire package to the pallet. The straps were cut and then removed from the outer box and pallet. The top of the box was opened and the upper cover was lifted and removed. Beneath the outer cover there were three boxes strapped together: two contained the oil mounting station and kit, and the third contained the scanner and the software. The packing ribbon was cut and removed, and the box was opened. The scanner was packaged within a plastic bag and rested on 4 heavy, blue Styrofoam supports. The scanner was lifted by two individuals (which was quite heavy) and the box below was removed. This box contained the installation kit.

The scanner was to be moved and placed in another room, but the pallet with the box on top was too large to move through the doorway. Therefore, it was decided that the scanner would be moved without the packaging or the pallet. The two boxes containing the oil mounting station and kit were put aside; the scanner was removed from the box, lifted onto a dolly, transported to the designated room, and put onto the worktable.



Anne Behrnes starting to unpack the Creo EverSmart Supreme scanner that just arrived at FLAAR BGSU.



Top of the Creo EverSmart Supreme scanner that arrived at FLAAR.



Top half of the Creo EverSmart Supreme scanner.





The delivery men unloading the Creo EverSmart Supreme off the truck.



The delivery men unloading the Creo EverSmart Supreme off the truck.



Brent Cavanaugh signing for the Creo EverSmart Supreme scanner.



The Creo EverSmart Supreme scanner.





The Creo EverSmart Supreme scanner.



Nicholas Hellmuth holding up 35 mm slides next to the Creo EverSmart Supreme scanner.



Anne Behrnes unpacking the Creo EverSmart Supreme scanner.



Anne Behrnes unpacking the Creo EverSmart Supreme scanner.



The Creo EverSmart Supreme scanner.



Transporting the Creo EverSmart Supreme scanner to the location it is now stored in at FLAAR.





The Creo EverSmart Supreme scanner.



The Creo EverSmart Supreme scanner.

## *Unlocking the Screws*

Next, we unlocked the scanner and removed the packing material. The kit provides a flat screwdriver to accomplish this task. Underneath the top cover of the scanner bed were the instructions for unlocking the scanner for use. These instructions are the same as in the manual, but they are printed on a yellow paper cover and they are illustrated instead of written. The screwdriver was inserted into the slots at the right upper corner of the cover. The screw was pushed in and turned clockwise for one rotation. This procedure was repeated for the slot on the left lower corner of the cover.

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Editor's note: Since the average person would not expect to have to lock-down a piece of equipment before moving it across the room, we would like to emphasize the importance of securing any good scanner before you move it. This requires telling all employees, or better, leaving a message on top of the scanner. Otherwise the cleaning crew or painters may come in some night and just move stuff to get it out of the way. However, what's more serious than putting on the security lock is removing the locks before turning the scanner on. If the scanner strains against the locks it can damage the mechanism.



Unlocking the lower florecent light in the EverSmart Supreme scanner.



Unlocking the top florecent light in the scanner.



## *Powering on the Scanner*

Next the power cable, provided with the installation kit, was located and connected to the scanner and then to the uninterruptible power supply box (not supplied with the scanner). We experienced problems powering up the scanner at first. It was determined that this was due to too many devices plugged into the UPS unit. The extra devices were unplugged from the UPS, which resolved the problem.

## *Installing the Software*

Following the directions in the Installation Manual, the installation CD was inserted into the Mac and the EverSmart oXYgen v.2.3.1 icon was double-clicked to begin the process. We were prompted to choose the version of the scanner. Next, the process prompted us to click "Install" and choose the location where the software would be saved.

Next the scanner was configured for FireWire connectivity. This particular sequence was provided as an Addendum to the "Installation and Maintenance Guide." It should be noted that

the computer must be off for the installation. The FireWire cable was connected to the FireWire port of the scanner and to the computer. The SCSI selector was set to the SCSI ID mark of 5. The SCSI terminator was switched to the 'on' position and then the computer was turned on. Next we were instructed to click the CreoScannerExplorer icon in the oXYgen folder on the MAC. The software located the scanner, which indicated the scanner type and scanner serial number.



Anne Behrnes and Nicholas Hellmuth holding up the software for the Creo EverSmart Supreme scanner.



The Creo EverSmart Supreme scanner manual.

## ***Launching the Installation and Utilities Application***

Next the “Installation and Utilities Application” was launched. This required us to double-click the “EverSmart oXYgen v.2.3.1.” Within the folder opened, we were next instructed to click the “EverSmart Install&Utils” icon. The “Installation Program” button was checked and then the “Continue” button was checked. During this process we lost our connection and had to restart the entire process. The scanner’s S/N number was entered, when prompted (this number is on the back of the scanner), and the number was confirmed.

Next the scanner was prepared for calibration. The manual instructs you to clean the glass and place the calibration slide (located in the installation kit) on the scanner. Both the upper glass plate and the base glass were cleaned. The calibration slide was placed on the base glass using the registration pins, the lid closed, and the “Proceed” button was clicked. At this point, the diagnostic check proceeded automatically. Our check proceeded smoothly.

## ***Automatic Optics Check***

We were prompted for the Optics check. The Optics check calibrates the optics of the scanner using the target provided for the preparation of the scanner. The check is automatic, and our scanner passed.

## ***Create Tables***

Next the Create Tables window was shown. (Tables are calibration settings, which are records of settings between color, sharpness, crop, etc.) This process, again, went smoothly.

## ***Utilities***

According to the installation manual, one can perform a scanner check by using the “Scanner Check” button within the “Installation and Utilities” dialog. We were not able to access this particular utility at any point during the installation process or after the software was installed.

## ***Resource Materials***

The scanner comes with an “Installation and Maintenance Guide” to help with the process of unpacking and installing software. The guide is straightforward and does not deviate too much in instruction. The only exception was the Addendum for the FireWire configuration, which replaced the SCSI chapter in the guide. (In addition, the manual shows you how to unpack and install the software.) The manual also includes the following:

- troubleshooting
- maintaining the scanner (such as replacing transparency lamp, cleaning the upper and base glass, etc)
- packing the scanner
- technical specifications
- information on the documentation folder
- information on the application log files
- catalog numbers

The guide also came in a French version and German version.



## Additional Information

When the scanner was removed from its box, the software was packed in a box underneath it. This box has instructions on the surface which reads: "Open First." We found it odd that this particular box, with instructions to "Open First," was at the bottom of the entire package. The consensus was that if this particular bit of information was to be referred to before anything else, then this box should be placed in such a manner that it was accessible at the beginning of the unpacking process. The software box contained the following items:

- oXYgen Scanning Application Tutorial 1&2 CD
- Scanner Parameters CD
- Color Theory CD
- Software
- oXYgen Training Application
- oXYgen User Guide
- Addendum to the oXYgen User Guide
- An extra Florescent Lamp
- oXYgen Image Editing Examples guide

In addition to the FireWire Addendum was a sheet of paper instructing one how to update the FireWire drivers for both G4 and G5 Macs.

A second box was labeled: "EverSmart&SUP Installation Kit." This kit contained the Power Supply Cord Set, the 35mm Slide Holders, the calibration target, the assembly calibration slide, and the barcode labels.

Within the first Oil Mounting Station Kit (the smaller of the two boxes) we found the following item: the cover, which holds oil mounted slides in place, sandwiched between two pieces of foam.

Within the second Oil Mounting Station Kit (the larger of the two boxes) we found the Oil Mounting Station. This was covered in a plastic wrap, topped by a piece of foam, and held in place with 4 Styrofoam supports. There was also a 4" hand rubber brayer, user masks, wiping cloth and anti static screen wiper, a box of 100 pieces of 125 micro plastic, and "Using Oil Mounting Station with iQsmart Scanner."



The EverSmart&SUP Installation kit which includes a power cord, 35mm slide holders, the calibration target, calibration slide, and barcode labels.

## Daily Usage and Features

As the archival scanner operator at FLAAR I work with the EverSmart Supreme on a daily basis in order to create high quality digital copies of the archeological archive. Many of the images in the FLAAR archive cannot be found anywhere else so it is important that the master digital copies we create are of very high quality and large dpi. The maximum dpi that FLAAR scans is 5600dpi for the 35mm format film. Having such a large dpi allows us to have a master digital copy so we are able to enlarge the image to any size and crop the image as much as needed and still be able to have a good quality image.

The Creo EverSmart Supreme came with two slide holders capable of handling twenty 35mm slides each, a 4x5 mask, mixed format mask, 35mm mask, and multiple user-defined masks. Negatives and transparencies are placed on the masks to help align the images correctly, which help to ensure that the scanning is effective and that your images are as straight as possible to allow maximum quality. The FLAAR archive consists largely of 120/220 roll-film 6x6 cm medium format, 35mm, 4x5 inch large format, and 8x10 inch negatives and transparencies. We used user-defined masks to create our own 8x10 and 120mm format masks.

While our facility tends to have a definite dust problem the scanner itself does not need daily cleaning on the top inside glass, we usually clean the top inside glass once a week or every other week. Scanners from Creo come with a polishing cloth and or anti static sheets to help clean off dust but we at FLAAR recommend that you purchase extra cloth to help with the cleaning as well as ammonia free glass cleaner, ammonia free glass cleaner helps clean the glass without damaging the coating as recommended to us by a Creo representative.

OXYgen is the software that comes with all Creo brand scanners, however more features are available for the EverSmart Supreme scanner than the IQ Smart scanners, such as a higher dpi level. The EverSmart Supreme also comes with an oil-mounting tray to make it possible to mound negatives and slides in an oil base. Mounting using oil helps reduce the appearance of scratches and dust, and there are now oils available that evaporate and do not damage the emulsion.



Slides being loaded into the slide holders provided by Creo.



Two 35mm slide holders loaded onto the EverSmart Supreme scanner.



## Imaging Quality

Below are several examples that compare the quality of the same image scanned using the Creo EverSmart Supreme and the Creo IQSmart3, which is the scanner that is offered by Creo just below the Ever Smart Supreme. The images were scanned using the same settings for both scanners. While the IQ3 took a slightly shorter amount of time to scan the Ever Smart Supreme images have better bit depth and color correction with an overall better quality.



IQSmart3 medium format B&W test      Eversmart Supreme B&W test



IQSmart3 35 mm test

Eversmart Supreme 35mm test

Using such a high-end scanner such as the EverSmart Supreme we have the ability to scan at very high resolutions that are impossible on a general consumer scanner. The highest resolution FLAAR uses is 5600ppi, such a high resolution may seem like overkill even for 35mm slide but this allows for a vast amount of detail. Physical negatives and transparencies discolor, fade, and erode over time and it is uncertain if you will be able to scan that image again with as much detail or if it will even be high enough quality that any information will be salvageable. Having high resolution images also gives us the freedom of not only being able to enlarge the image and still maintain great quality but it also allows us the freedom of being able to crop certain areas of the image and have a high chance of the section to have a resolution high enough to ensure a high quality result.

Large numbers of black and white images populate the FLAAR archive so we wanted to be sure that we were able to effectively scan black and white and still have the same level of quality as the color images. Even though there is a black and white mode option in the OXygen program it was recommended to us by Creo to use the color mode instead. We had tried to scan some black and white images in the black and white mode before but the quality was much lower than those of the color images. However, once the images were scanned in the color mode and desaturated the Black and White images were of equal quality to the color images.



IQSmart3 4"x5" test.

Eversmart Supreme 4"x5" test.



IQSmart3 35mm color negative test.

Eversmart Supreme 35mm C. neg. test.



IQSmart3 8"x10" test.

Eversmart Supreme 8"x10" test.





Nicholas Hellmuth looking through the archives.



Nicholas Hellmuth looking through the archives.



The archives at FLAAR.

## Problems Encountered

Over time there were a few problems we at FLAAR have come across while using the EverSmart Supreme flatbed scanner. Below is a list of some of the errors and glitches we have come across during our work with the EverSmart Supreme and how we were able to solve them.

One of our largest problems was miscommunication and the transparencies being scanned with the emulsion side up rather than with the emulsion side facing down on the scanner. In order to prevent this from happening again I have created examples in the FLAAR scanner manual to demonstrate how to determine which side is the emulsion side. We would expect that many other archive staff would be equally confused. We are disappointed that there was not better instruction available so that staff who were new to traditional film would not make this kind of mistake.

Another problem we have encountered that has affected image quality is that often the Sharp setting in the Oxygen application had mistakenly been left on or had reset itself to 'sharp' rather than 'no sharp'. Leaving the sharpness on will cause the image to look much more pixilated. After having a Creo representative visit FLAAR we also learned it is best to scan black and white images using the RGB mode to help retain depth and value, when scanned using the black and white setting the images turned out with much lower quality than when scanned in RGB. We have also learned that the highest scan mode 'excellent' only needs to be used for black and white positives that have extreme shadows.

We have encountered a few technical errors, but overall there haven't been enough to give to scanner a bad review. The most difficult technical problem was the fact that Oxygen often had difficulty connecting to the scanner if we connected in external fire wire drives to the computer. Fortunately the Creo service line was very helpful and eventually sent us an updated version of the software, which quickly solved the problem. Oxygen itself does have one very noticeable glitch in the program. In order to name a file you need to click outside of the preview or the keyboard will not recognize the naming window.

The Creo EverSmart Supreme is a large and slightly bulky scanner so it is much easier for dust to enter the inside glass. FLAAR also has a bit of a dust problem so this only complicates dust collection in the scanner. Unfortunately Creo does not provide a dust cover for the Supreme model like they do with the IQ Smart scanners. Even though, the scanner does tend to collect dust easily we only need to clean the inside of the scanner once a week.

When we did encounter a problem we were not able to solve on our own we often found that the Creo help line was more than willing to go through any possible causes and how to fix them. The Creo help staff was more often than not very easy to understand and was very helpful. The help line was rarely if ever very busy and once you did get a help staff member you would be given a problem ID number so you could quickly get a hold of the same person if you needed to call back, this often would keep hold time to a minimum and you would not need to keep retelling different IT personnel what your problem was.

## Conclusions

Overall the Creo EverSmart Supreme scanner is a very high quality professional scanner that produces spectacular results. The EverSmart Supreme is not a scanner for incidental basic use; this is a scanner that would be purchased by companies who require the highest quality possible when digitizing. Here at FLAAR we are very impressed with customer support provided by Creo, support when beyond expectations and has always been helpful.

Both the oil mounting kit and light table features of the EverSmart Supreme are very useful and attractive parts of the high-end scanner. The Creo EverSmart Supreme is a sophisticated scanner that is easy to use, includes all the tools you will need, and with very few problems. Quality is the main goal of the EverSmart Supreme and it achieves that goal, providing great color depth and incredibly high dpi.



Anne Behrnes and co-worker holding up a print that was scanned on the EverSmart Supreme scanner.

## Concluding Comments by Nicholas Hellmuth

If you used Leica, Hasselblad, and Linhof cameras to do your original photography, and use Leitz, Zeiss, Schneider and Rodenstock lenses, then you certainly don't want to inflict any lesser scanner on your priced negatives and chromes. Trying to save money by buying a cheap scanner, is a sad way to treat a slide or negative archive that has high quality material.

I spent over 30 years of my life photographing in remote parts of Guatemala, Belize, Mexico, and Honduras. Most of these photographs are irreplaceable. I have photographed in museums in Japan, Switzerland, and other countries. Again, if you did a professional job of photography to begin with, you want a professional scanner to handle your results.

I would accept only two scanners to handle my life's work: a good drum scanner (such as ICG or Screen), or a Creo EverSmart Supreme scanner.

I would not want to take a chance on a cheap drum scanner or a cheap flatbed scanner.

Dr Nicholas M Hellmuth  
FLAAR

Center for Applied Technology  
Director, Large Format Digital Imaging Division  
Bowling Green State University  
Bowling Green OH 43403-0156