DIGITAL DIRECTIONS
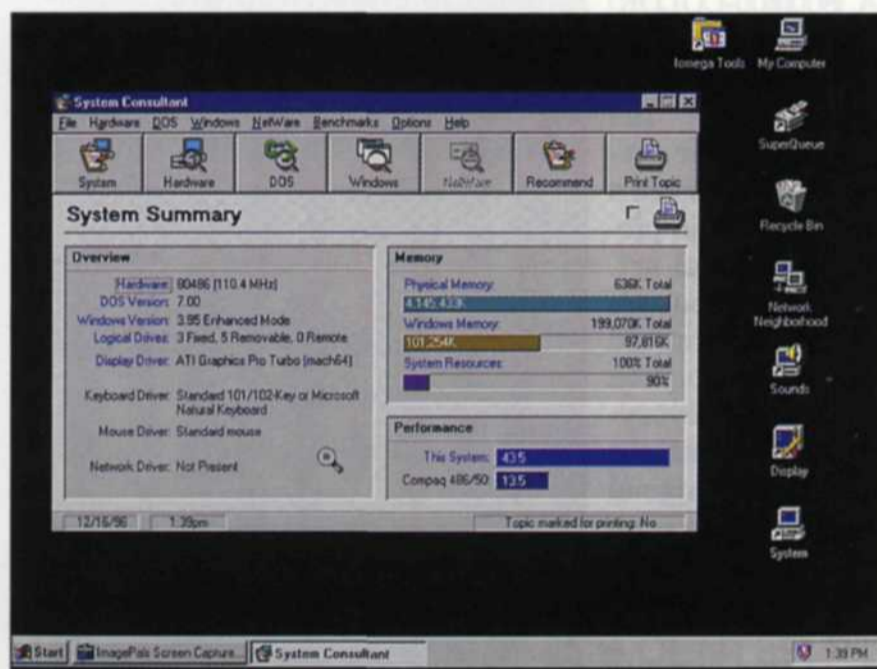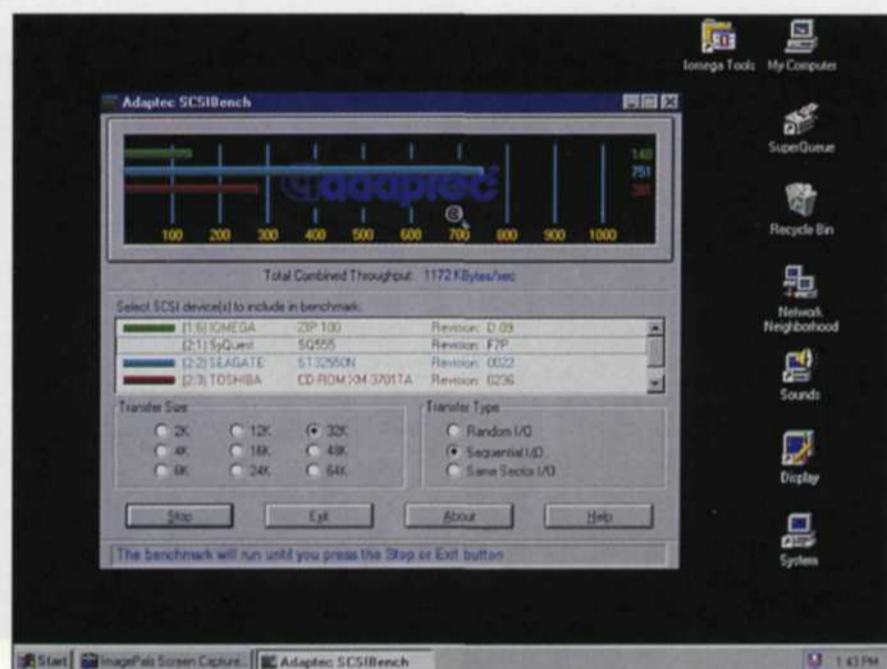
High-Speed

System Consultant, CPU speeds

Adaptec SCSIBench, Hard Disk speed

Jack & Sue Drafahl

ONE OF THE MOST expensive problems facing a digital lab is the amount of time required to edit a photo image. The image input and output usually require a fixed amount of time, but the editing time can vary. This time variance depends on the expertise of the editor and the tools available to speed up the job.

In our lab we do a lot of input-edit-output of images from color negatives to slides. If an image takes more than a few minutes to edit, we lose money. Over the past year, we have experimented with various factors involved with image editing in order to speed up the process. We hope the lessons we learned will provide solutions for you, too.

Fast Computers

Computers keep getting faster and faster. A computer purchased even a year ago has been replaced with a faster model. If you have several computers in your lab, make sure that you use the fastest one for image editing.

You should probably consider adding a new system for each image editing station every year. It may seem like a pain to do so, but the time you save with the increased computer speed will be worth it.

The cost of computers is dropping at incredible rates, so it is becoming less expensive to attain computer speed. We often keep our older systems and re-assign them new jobs.

Remember, they are your least expensive employees. They need no hourly raises and never complain when they have to work around the clock! One of our old computers labels slides, another is used for e-mail only, two are used only for word processing, and yet another is used for programming slide shows. We even have one computer that monitors another computer's functions!

Fast Hard Disk

In the PC world you have two basic choices for hard disks: IDE and SCSI. Most computer systems today come installed with the IDE type of hard disk. That's okay, but we would suggest that you use the IDE hard disk as a program drive, and add a SCSI as an image data drive.

The SCSI hard disk is very fast and loads images much faster than IDE drives. Most editing programs are small compared with the size of the images they edit, and these large images need to be physically separated from the programs.

During the editing process the images are written over and over, so there is always the chance that an image will be written incorrectly and crash a program. If you keep the SCSI drive only for images, the editing program will not be trying to write images around your program files. It's a lot easier to re-scan an image than to re-install a program!

Image Editing
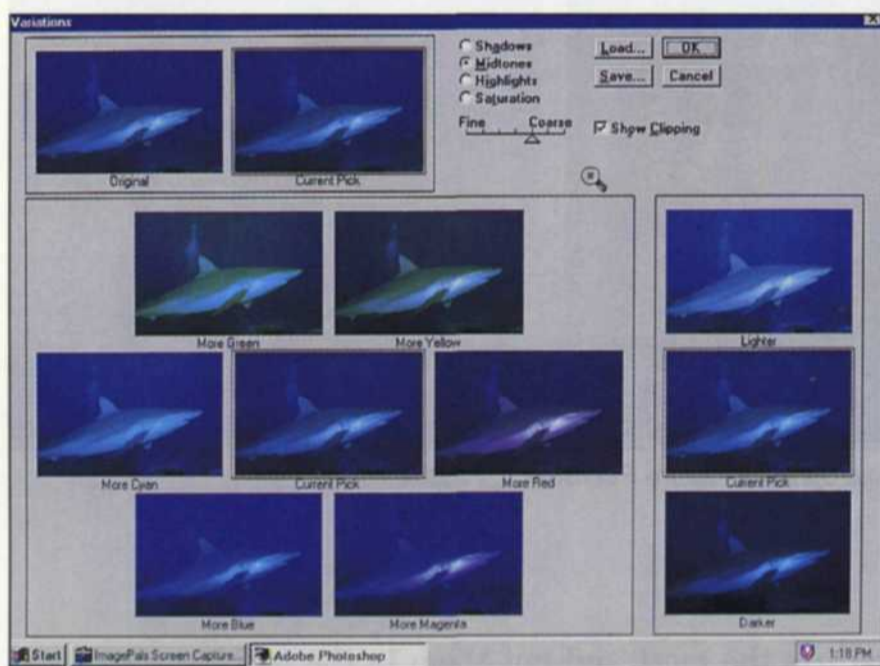
Adobe Photoshop, Right Mouse button
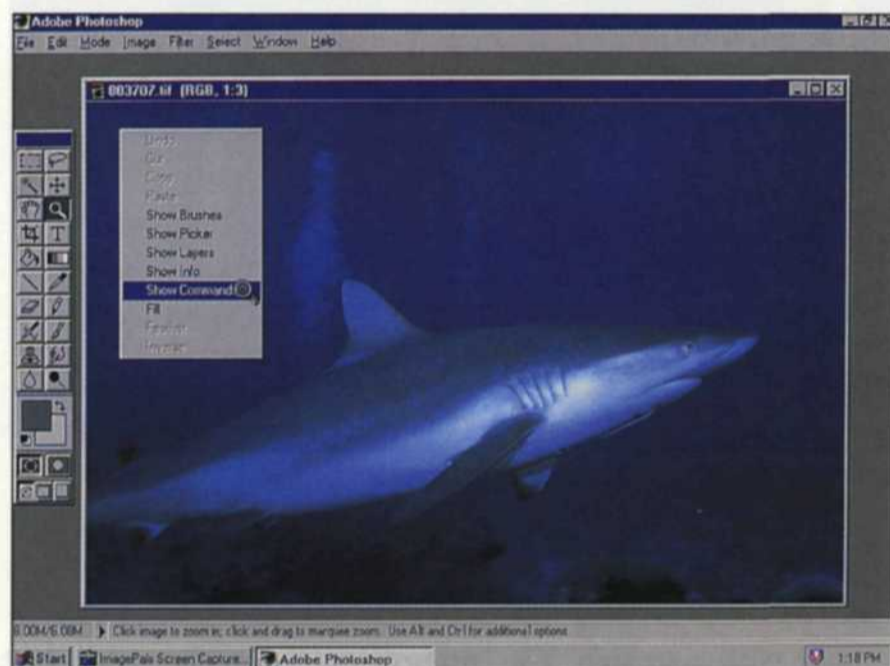
Adobe Photoshop, Fast Color Correction visual

Lots of RAM

The more RAM, the better. One year ago RAM was an expensive proposition. Today RAM is reasonable. Eighteen months ago, 100 MB of RAM cost more than $4,000. Now you can get it for less than $500.

You may ask just why you need so much RAM. As your image loads, the computer uses RAM to store it. When you start editing the image, the computer needs at least twice the size of the file in RAM to edit it. If you have the "undo" function turned on, it may need up to five times the size of the file.

When the computer runs out of RAM for editing, the edit time will increase by at least 10 times. One minute will now be 10, because the computer is using your hard disk as a memory. We recommend at least 100 MB of RAM if you are editing 35mm scanned images and 256 MB would be ideal. Larger format editing would require even more than 256 MB of RAM.

Understanding Undo's

Most editing programs have a function called an undo. This allows you to go back and correct mistakes you have made while editing. Each undo will require a chunk of memory the size of the edit. If you make a color correction to a 32 MB file, the computer will need 64 MB for the image, so you can back up one step.

If you have the undo set to three, the computer will save out three edits into memory, so that you can back up three steps. This all sounds great, but after you have been image-editing for a while, you will find that you rarely use the undo function. We find that reloading the file and re-editing the image is faster than using the undo function.

If you do want to use undo, there is a trick to keeping the memory usage down. You only have 100 MB of RAM. Let's say that you are using a mask on an image and the mask takes up about half of an 50 MB image. This means that the computer has reserved 75 MB of RAM for the image. Now you want to make another edit that will exceed your total RAM.

If you are happy that the mask is good, you can use the rectangular select tool and select a very small area and copy it to the clipboard. This will dump the 25 MB undo and substitute it with an undo of less than 1 MB. You can now perform the next edit, and not worry about the computer going to the hard disk for memory.

FASTBIT (Micrografx) and QUICKEDIT (Adobe)

Some of the more sophisticated editing programs, such as Adobe's Photoshop and Micrografx's Picture Publisher, have a special function that allows you to load in a section of a file, edit it and then save that section back out into the file.

For example, let's say that you have a 50 MB file of an

Micrografx's Picture Publisher adjustments

Micrografx's Picture Publisher's, FastBit editor

image with a scratch. You can preview the image, select just the area with the scratch, and load just that section. Instead of loading the entire 50 MB file, the program quickly loads only a small portion of the file.

After being modified, the edited portion is returned to the original file. This is a great tool, and can save a lot of time in the editing process. (This function will not work with adjustments that would normally affect the entire image, such as color, brightness, contrast, or tone curves.)

Macros

If there is a step in your editing process that you currently repeat, you may want to learn how to use the "Macro" functions of your editing program. To make a macro, you simply turn on the "Macro Record," perform the function, and then press the "Record Off" function. You can even assign the macro to a hot key on your keyboard. Each time you want to perform that complex task, simply press a couple of keys and it's done.

We often provide slides of screen-capture images for our clients. They don't always realize that the slide mount will chop off the edge of their image unless they plan for it. We have a macro that automatically adds the right amount of black border on all sides and saves it out. The macro saves us time, the images look great, and the clients think we perform magic tricks.

User Tool Bars

Some programs allow the user to customize their own tool bars. These tool bars can consist of the most commonly used functions in the pulldown menus. You decide which tools

you use the most and put them in the tool bar. Once we incorporated this into our editing process, we noticed a 20% increase in our editing speed.

Right Mouse Button

Your right mouse button has some special functions that can speed up your editing process. Probably the most valuable is the quick zoom. With the flick of a finger, you can zoom in and quickly edit a small section of the image.

Keyboard Shortcuts

For those image editors who feel comfortable with the keyboard, we recommend the additional use of hot keys. Many times, a quick punch of a single key is faster than dragging a pulldown and clicking on a function. For editing programs that do not have the ability to customize user tool bars, the hot key function is a good replacement.

Practice Makes Perfect

Every person seated in front of a computer does things differently. Each has a different image-analyzing and editing style. Make sure that the person editing images for your lab has enough time to practice editing images before working on a critical client's work. ⌐‾‾‾

Jack and Sue Drafahl own and operate a custom lab in Portland, OR. They are also professional photographers, specializing in underwater photography.