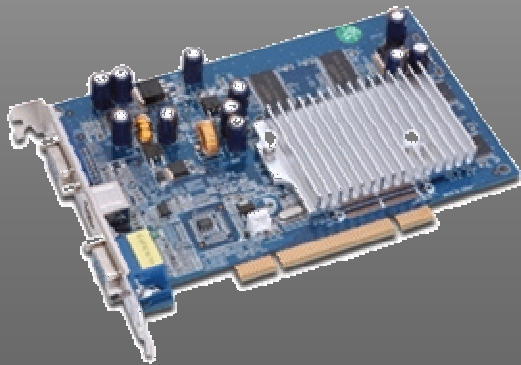
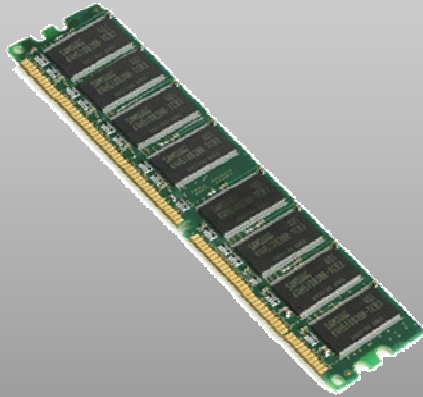


Computers for Photography

A basic approach

By Mark Kruse

- Computers are made up of several key components that work together to process, store, and display our data and images.





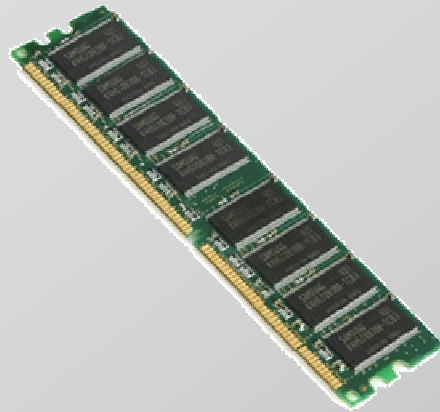
CPU or Central Processing Unit

The heart of your computer

Takes information from programs, makes necessary calculations and returns data, so it can be displayed and/or saved

Recommendations

- Buy the current technology. Intel and AMD both make good products. Technology changes frequently, so ask your salesperson/supplier.
- If it says Celeron on it, Don't buy it.
- Systems that state they use “shared memory” take one resource to use as another. Not really a good thing
- Make sure your system is upgradeable, especially with laptops



RAM Memory—Random Access Memory

Fast --allows faster processing

Stores quickly needed information from programs

Working with images and imaging programs uses a lot of this type of memory.

When the computer needs more RAM than there is installed, it uses the hard drive as extra RAM, this is called swapping.

This slows the computer down

If not enough free hard drive space is available the computer eventually will crash

***Rule of thumb—More is better

Minimum amount to have 2gb

Most Operating Systems support at least 4gb



Internal Hard Drive

The main storage unit for all data

Broken into partitions, volumes, or drives

Types—IDE, SATA, SCSI

Hard Drive sizes are constantly growing— 500gb and now 1 terrabyte are becoming mainstream

Multiple drives are better than one large drive

- Easier for backup/recovery
- Faster performance
- Possible redundancy

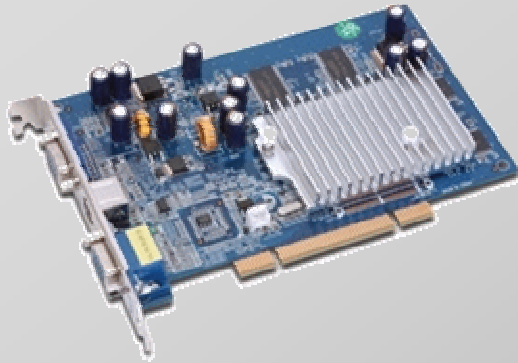
If possible break up the data the computer needs and your images onto different drives

External Hard Drive

Great for extra storage and backup, some come with one touch backup software.

Most commonly connects via USB





Video Adapter

Processes video/screen information and returns it to the monitor or screen

Has its own memory

Let's the CPU offload work so it can do other work

Current cards come with 256mb or even 512mb of memory

All cards are not created equal--Use a known brand NVidia, Matrox, ATI

Make sure the plug type matches your computer, most common is still the VGA connector, but HDMI is becoming more common

Getting images off your camera and onto your computer

There are two main ways to do this

- Plug the USB cable that should have come with your camera and plug it directly into your computer
- Remove the memory card from the camera and put it into a card reader

Either way you choose, you next need a program to do the transfer

- Simplest is to use Windows Explorer-- copy/move
- Some imaging programs have import/transfer
- Camera makers have programs for this

Storing and Organizing your Photographs

Just like a traditional office, your computer photographs need to be stored and organized in the same way

Drives are synonymous to filing cabinet drawers, folders to folders, and files to files.

- Decide on a naming scheme—by date, location, etc
- Storing photos on a separate drive is best
- Create a specific main folder to start
 - Create subfolders
 - Put files into subfolders
 - Add more folders as required

TIP....Don't store your images on your desktop, it slows down your computer

Protecting your images

- At least one extra copy should be kept of all your photographs
 - Stored on an extra separate hard drive
 - Burned onto a CD/DVD
 - Backed up onto a tape
 - Kept in a different location

File types

RAW vs. JPEG

RAW

Larger files

Better quality and more flexible

Requires a conversion program

Windows requires a program to view

Use for serious photos, especially ones you want to edit heavily

JPG

Smaller files, fits more on a memory card

Less flexible for editing, colour depth only 8bit

Easier for email

Can be edited directly, no conversion

Good for personal photos and quick pics where quality is not crucial

Imaging Software

Converters, editors, viewers, and many other types are all considered imaging software.

Converters

RAW--Lightroom, Capture One, Adobe RAW, Nikon Capture are all examples. These programs allow basic editing of the images, such as white balance, exposure, cropping, and sharpening. Then the program converts the image into a usable TIF or JPG file.

FORMAT—Ifranview and Mihov are programs that batch convert images. Usually supporting many different formats, TIF to JPG would be most relevant.

SIZE—Although image editors can do this better, sometimes a program that can resize images in a batch are useful. A folder of 100 .jpg images can be resized to 500 pixels for the web or email very quickly. But image quality might not as good.

Imaging Software-con't.

Editors

Photoshop, PaintShop Pro, and many more. These are used for more detailed editing. Functions such as resizing, layers, photo effects, masking, and blending are done here.

Viewers and Slideshow

Irfanview, Photoshow Pro, Photo Story 3 to name a few, can be used just to view, or create slideshows. Viewers usually allow a whole folders of images to be viewed one-by-one with one click. Slideshow programs allow music, transition effects, and time settings to be added.

A few Resources

<http://www.planetphotoshop.com/category/tutorials/>

<http://www.photoshop101.com/>

<http://www.photo-freeware.net/>

<http://www.tigerdirect.ca/>

Printing

Printing is a very complex subject. Only brief recommendations on printer and paper will be discussed

Printers—Epson, Canon, HP are common brands

- A printer with a minimum of six inks, but preferably with eight or nine is best for printing photographs.
- For quality and longevity using the manufacturers inkset is best.
- Some third party ink is very good but expensive to get in Canada. Examples being Mediastreet and Lyson

Paper—Epson, Ilford, Hahnemuhle, Canon, Kodak

- Once again, for quality and longevity using the manufacturers paper can yield the best results. ICC profiles are already available for your printer/paper combination.
- But, different from ink, third party papers can and do exceed the quality than that of the manufacturers paper. Also different types of materials are also offered. Canvas and watercolour are examples.

Emailing

The most important point to remember is file size.

Files must be resized and the resolution reduced to efficiently be able to email one or many images.

Try to use JPG files for emails

A file of 100-200 kb is a safe size

Try these settings

- Resize your image to 500 pixels on the longest side
- Reduce the resolution to 72 or 100 dpi
- Keep the JPG quality to high—95 or better if given a scale

Some email providers have limits. This will stop your email from being delivered.

In Summary

Computer-Get the best you can get within your budget. Components matter.

- Current Technology

- RAM--More the Better

- Celeron CPU not best for photographers

Organizing-Plan out ahead of time. It's easier than making changes later.

- Think of your folder structure

- File naming scheme

Protection-Have some sort of backup routine in place. Disasters can happen.

- DVD, Tape, whatever...Have something

Quality-RAW vs JPG.. The best is....

- RAW...best quality and most flexible RAW is it

Imaging software-Choose what works for you but..

- Take the time to learn the program, there are a lot of free resources

Printing-For long lasting high quality prints

- Use the manufacturers products or better

Emailing-Keep the size down

- 500 pixels, 72-100 dpi, file size 100-200 kb

The End Computers for Photography

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