



## **SCANNING**

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The first step in digital imaging is to get an image from a slide, negative or print, into your computer as a digital file. The process of 'scanning' achieves this. You can have your work scanned professionally onto a CD, and then put it onto your hard disk, or you can do the job yourself.

A flatbed scanner is suitable for scanning prints up to A4 size so this is the first requirement and quite satisfactory models can be purchased for \$200 upwards. The procedure is similar to photocopying. The print is laid face down on a glass surface and the scanning light travels over the surface. The information is recorded in digital or numerical form and when the scan is completed the image appears on the monitor.

There it can be worked on and saved as a file (jpeg, tiff or whatever you prefer) into a folder on your hard drive.

Should you wish to scan 35mm slides or negatives it becomes a somewhat more expensive operation as it is preferable to use a dedicated slide scanner and these start at over \$1000. However, like most such hardware these are slowly coming down in price. Scanners for larger transparencies are even more expensive. Some flatbed scanners have an optional 'light head' enabling transparencies to be scanned, but usually these cannot provide adequate quality for our purposes.

Because the software and the interface of each brand of scanner varies we cannot be explicit on how to proceed with the actual job. It is a matter of coming to grips with your own system and gaining proficiency through trial and error. It is surprising to find the number of different methods that people use in scanning and at the end of the day, it is largely what system works for you. Once you find the best formula stick to it. It is very easy to become confused with the mathematics of the process especially when talking of input and output resolution, dpi, ppi and suchlike. We will try to avoid that here but some basic understanding will be necessary.

Most scanners have a preview mode wherein you can marquee or select the area of the image you wish to scan. You then have the opportunity to select the resolution that you wish to scan at and to select the output magnification you desire.

With a flatbed scanner is usual to set the resolution at 300dpi (dots per inch) and the magnification to the size you are likely to wish to print. e.g. A3, A4 etc. If you set the magnification or output at 100% that will obviously produce an image the same size as the original. The output size can later be altered by using the imaging software such as Photoshop but you will lose quality if you boost the size too far above the original scan size.

Initially you may allow the scanner default settings to set exposure, contrast and the like, however, with experience, you will wish to tinker with these yourself. Some people like

to make a 'raw' scan and make all their adjustments later with their preferred imaging software.

I believe one should endeavour to make the best scan possible for if you over-expose an area, such as a white wedding dress, you cannot subsequently get that detail back. On the other hand it is surprising how much detail can be brought up in the darkest shadow area with careful scanning.

You may ask at this stage, why scan at 300dpi. This is the optimum resolution for an ink jet printer. Other factors come into the equation. Much will depend on the paper you intend to use. Glossy paper requires high resolution although by experimenting you may find that a lesser resolution of say 200 or 250 dpi is sufficient. Certainly if you are using an absorbent paper such as a watercolor paper, such critical definition is unnecessary. Printers will also vary in their requirements so some early experimentation will pay dividends. Initially keep a note of the settings you use for future comparison. Scanning from transparent material, i.e. slide or negative is a similar procedure. It is arguable whether best results come from a print, a slide or a negative. Each mode has its supporters and it really comes down to your own source of supply. I doubt if properly done one could tell the difference in the final image. Again it is debated whether it is preferable to scan a slide at say 300dpi and boost the output size up to 900% or more, or to scan at the highest resolution available on your scanner and output at 100%. Provided the mathematics work out the result seems to be much the same and file sizes should be similar.

We mention file size here and it is important to keep an eye on this. If scanning to very high resolution and output, you may find yourself with a huge file that your computer may not be able to cope with from both a storage and memory point of view.

If you are scanning an image for the internet or email, you will only require 72dpi as that is the best resolution that a screen can handle. Sending a higher resolution picture by email will incur the wrath of the recipient trying to download the large file.

If you are scanning a B&W print or require the output in monochrome only, you can scan in greyscale, as this will produce only 256 pixel values and thus a smaller file. However if you are scanning a quality monochrome image and want the best quality obtainable it may pay to use RGB mode which goes into millions and should give more subtle detail.

There are many magazine articles on scanning and here we have only touched the basics however, this should be sufficient to get you started and as you progress, it will be worthwhile doing more reading on what is quite a complex subject. The scan is the first step to making a great picture and if it is not satisfactory, no amount of work in Photoshop or other programs will rectify the matter. It will pay to spend time developing a good scanning technique with the aim of producing the best quality available from your original work.

A couple of final points. Some computers seem to have an aversion to scanners and setting them up compatibly can be tricky. Make sure that the connections are suitable.

If you have a more recent pc with USB connections make sure your scanners has likewise. In addition, remember to turn the scanner on before booting up the computer, otherwise it may not recognise it.

Go to it ... and best of luck.

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