



Signing off

The price of fame — Gordon Laing is fed up with signing his name. Whether it's autograph hunters or correspondence overkill, here's how your computer can do the signature for you.

It may be the month of St. Valentine when you read this, but as I write, we're one week away from Christmas Day. I designed my own card for the season of goodwill, but as I laboriously hand-signed every one, it occurred to me that there must be an easier way of doing it. The signing bit, that is.

Although I feel that using a good old-fashioned pen lends a personal air and wouldn't change it for a thing, there are many occasions when having your signature, or other sample of essential handwriting, on call from your PC could be extremely handy.

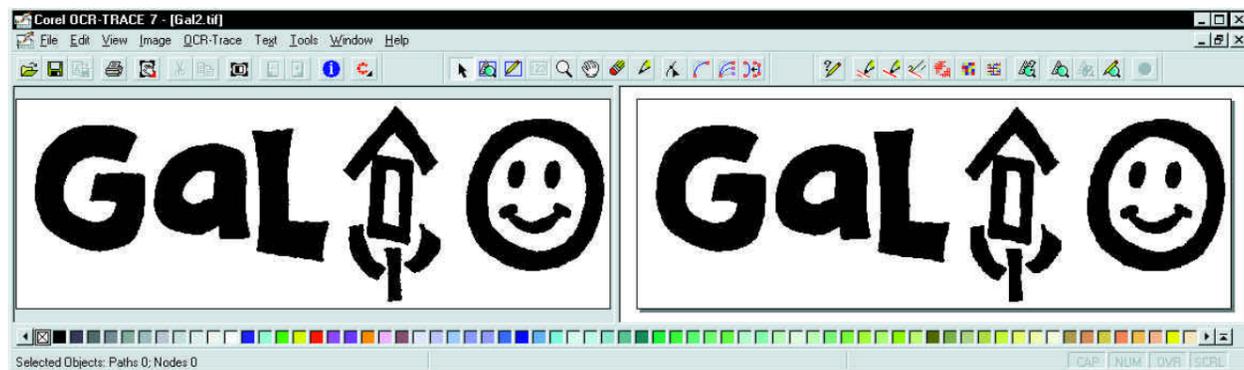
Written and carefully formatted a letter? How many times have you printed it out, stuck it straight into the post and watched it speed away without signing it? What if you're faxing from your PC and want to personalise your memo, without wasting paper at your end? Editor of a leading magazine perhaps? How do these people get their signatures into Quark XPress and consequently in the front of the magazine? Alternatively, you could simply be far too busy or important to do something as banal as signing letters with a pen.

So how else can you do it? The obvious technique is to sign a piece of paper, scan it, and insert the bitmap directly into Word (or whatever else you are using). And that's it — pass Go, collect £200 (for the upgrade to your favourite graphics app) and turn to the next *Hands On* column.

Hang on a minute, though: if it were that simple and effective, this really would be the shortest and, some people may say, the best edition of the *Graphics & DTP* column so far! Fortunately for me, and you of course, there are considerably more twisted means of using scanned handwriting than just plain bitmap-plonking.

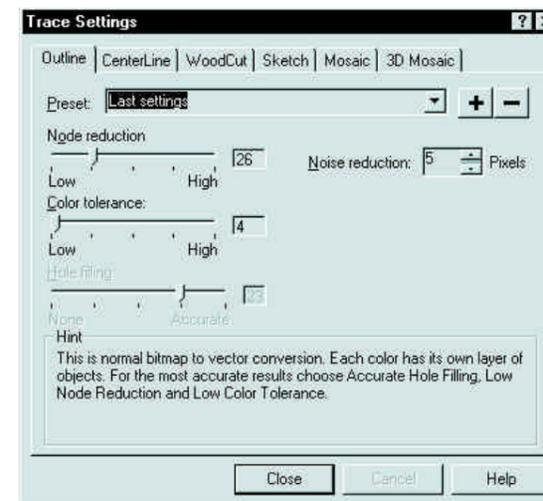
So you've got a logo or signature and want to use it on your computer? The first step is to scan it and produce a bitmap image. The GAL image is one I designed when I was only eight years old!

Top right is an enlargement of the smiley face bitmap, scanned at 100dpi — notice the low resolution. But with the aid of CorelTrace (below) I turned it into a smooth, scalable EPS vector file (right). Bitmap tracing requires a bit of trial and error, playing around with the settings (opposite page, top)



Just sign here...

As regular readers of this column will know, a bitmap is simply a grid of dots which can be coloured, or not. The more dots you have in the same distance (usually measured per inch) the greater the detail that can be captured. The downside is that more dots means bigger files, and as anyone tinkering with large colour scans soon discovers, bitmaps can quickly become unfeasibly large.



Scans of signatures should be in black and white

(See main caption, opposite)

(one bit per pixel) or greyscale (eight bits per pixel), as compared to full-colour 24 bits per pixel, and are usually physically small. A typical signature may measure three inches wide by one inch tall which, at 300dpi, results in 33Kb in 1-bit or 270Kb in 8-bit — hardly a huge file out of control.

But before you breathe a sigh of relief, even at a small physical size bitmaps have their disadvantages. In the first place, as soon as you start enlarging them, their undesirable blocky nature becomes visible. You could of course rescan at a higher resolution, but that's when the file sizes begin to grow. So bitmaps have an inherent lack of scalability.

Secondly, you've got to be careful when scanning in greyscale that the background you thought was white doesn't turn out to be a slightly dirty grey when printed with your otherwise pristine document. It's no good having a little grey box surrounding your signature or bits of dirt; in fact, this sort of mistake will end up making you look a lot worse than having forgotten to tag the signature on in the first place.

My advice is to clean up the marks, select the background greys with a magic wand style tool, and replace them with pure white just to make sure. I would even go for anti-aliasing to ensure that the edges are smooth. And you could play completely safe by converting to 1-bit line-art mode, or scanning in this mode to start with, but the results are often hard and jagged. Scanning in greyscale will pick up the nuances where the pen hasn't been pressed as hard, and indeed, the edges of the line itself. Although this may sound rather excessive, you really do notice the difference.

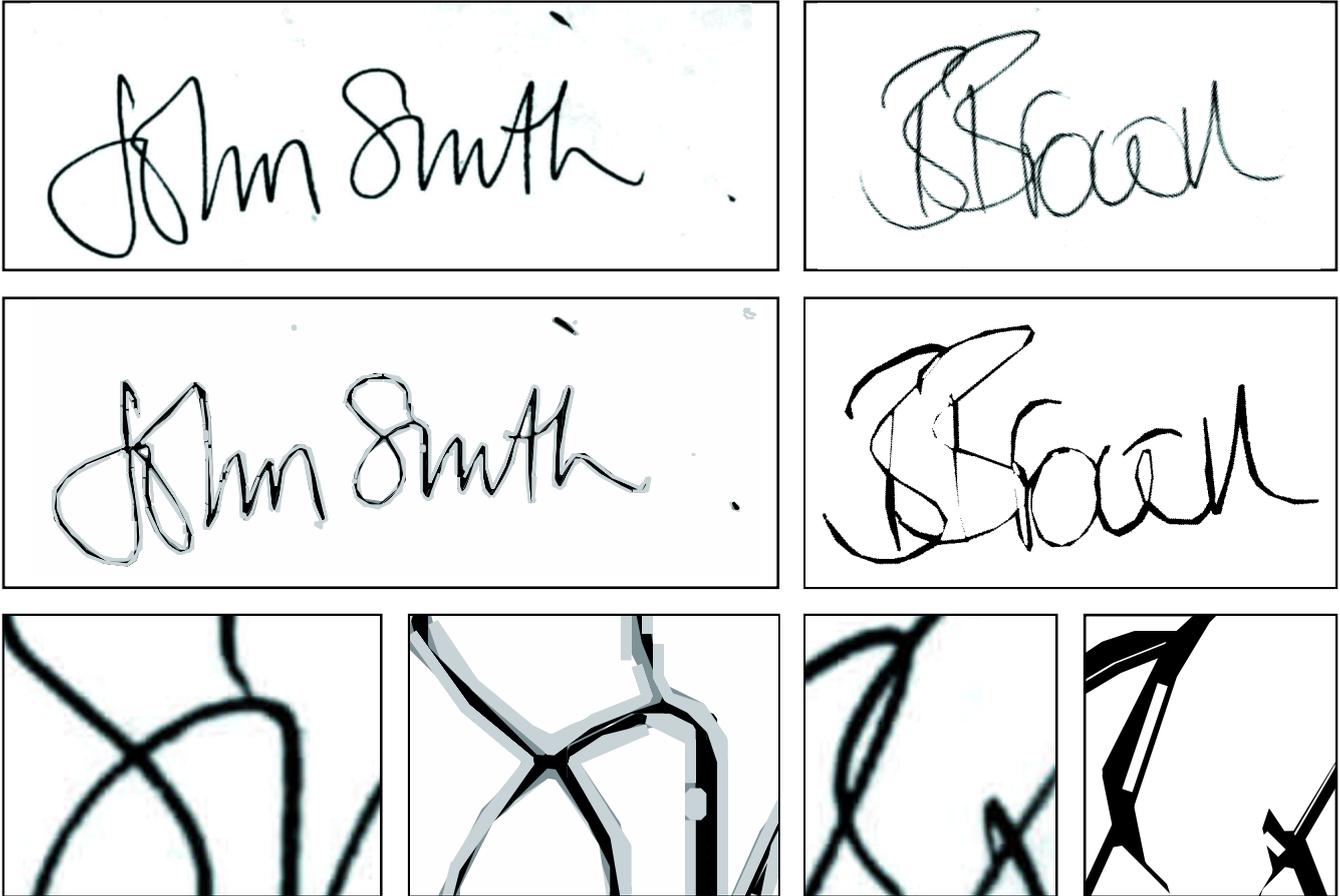
If you want to scale your signature, you'll need to convert your bitmap into a vector file format such as an EPS, using what is known as a bitmap tracer. Most drawing applications come either with this facility built-in or included as an optional utility. Corel's has its CorelTrace utility, now featuring substantial OCR facilities, FreeHand's tracing is built-in, while Adobe offers the standalone and very capable Streamline, although, unsurprisingly, the Windows version is ancient.

Bitmap tracing does just what you would expect from its name. Following user-defined preferences, the application traces the edges of the bitmap, creating an outline using vector bezier curves; just like drawing directly within CorelDraw or FreeHand. The resulting shape is scalable, very small in file size and should, with any luck, closely resemble the original bitmap image.

Tracing works best with very simple images made up of basic lines and curves, such as handwriting and logos. You'll need to play around with the preferences and tolerances before you get what you're looking for, but the final result is often worth it; you may even come across some unexpected gems in the process. Bitmap tracing is particularly useful with printed logos where a small file, which is scalable and device-independent, is very handy.

Font formulation

So you've tried using a bitmap, or even a traced EPS, but you're still having to draw separate picture frames or insert them as graphic objects. One alternative is to create your own font, made up of logos, handwritten characters, or even a whole



Just sign here: two typical signatures get the computer treatment. **Top left and right** are the original scans made at 300dpi in 8-bit greyscale; notice some dirt and marks in the background. **Middle left and right** are the traced EPSs, although the John Smith has been made with three levels of grey, resulting in a less severe outline than the single-level B.Brown. The resolution of the bitmaps along with the smoothness of the outline traces is shown in the four images immediately above, all enlarged five times. **From left to right:** John Smith bitmap (410Kb), John Smith three-shade EPS (110Kb), B.Brown bitmap (487Kb), and B.Brown single shade EPS (59Kb). You may never have to pick up that pen again!

collection of signatures — imagine having your entire company's signatures stored in a single font file, where pressing "A" could be the accountant, "B" could be the boss and so on.

To do this properly, you really need a dedicated application like Macromedia Fontographer, which comes as part of the FreeHand 7 Graphics suite. Here you can carefully create and tweak each character before mapping them to a character set and exporting as TrueType or Type-1. In fact, Fontographer features built-in bitmap tracing and encourages users to scan their own hand-drawn samples, which are converted into a scalable format; after all, TrueType and Type-1 font formats do use scalable vector descriptions.

CorelDraw boasts an intriguing export to TTF (TrueType font) filter (which I will be looking at in greater detail in a future *Graphics & DTP* column). If any of you have had experience of this, please let me know how you fared.

In the meantime, good luck, have fun,

but don't sign anything before you've carefully read the terms and conditions above — and do make sure that no-one gets hold of your precious signing rights and abuses them!

Digital cameras reveal all

Last month's digital camera group test was very revealing, particularly in terms of output in high-quality print. Manufacturers were concerned about us printing sample images from all the cameras, side by side: how could a budget camera compete with one costing ten times that amount, they argued?

A fair point, but in fact almost all models, including those operating at 640 x 480 pixels, looked fine reproduced at 50 x 75mm (approx). This shows how flexible these cheaper cameras can be, effectively operating at 240dpi when reproducing at two inches wide. Of course, had we printed them all at A4, only the expensive Nikon, Minolta and Polaroids would have weathered the test. But a good show for

the entry-level nonetheless. I can't wait to get my hands on the forthcoming models I saw at Comdex. If any of you have any digital camera stories or experiences, I'd love to hear about them.

This month's PC group test features the latest Intel chips with MMX technology [page 166]. Faster multimedia performance all-round for those applications making the right calls. The good news, in theory, for graphics users is that Photoshop 4 and CorelDraw 7 are both already supposedly accelerated for MMX hardware. This column was written before our test results were available, so refer to that feature for the latest figures.

Next month I'll return to the subject of image manipulation, particularly the enhancement of photographs.

PCW Contact

Duff DTP? I recommend you contact the manufacturer. But if you know of any decent parties, please contact **Gordon Laing** at the VNU address or email graphics@pcw.vnu.co.uk