

Take good care of your logo!

Quite often, I collaborate with my friend Anita to design printed materials for small charities and other voluntary organisations in London – things like Annual Reports, publicity for specific projects or events, or newsletters for their supporters. But there is one part of the project that I dread – getting the electronic artwork for the various logos that need to be inserted in the publication.

Most of these organisations get their funding from a number of sources. A project might be get most of its funds from two London borough councils, some from the Greater London Authority, and some from a charitable trust. It is considered ‘good form’ to acknowledge support by placing your sponsors’ logos on your publication; some funders even insist on it. So, as a designer preparing the publication for printing, you may need to obtain not only your client’s own logo, but also the logos of all the funders as well.

And it can be a nightmare...

‘Why don’t you just take it off our Web site?’

We’ve heard *that* response more times than I care to remember. And it is true that it is very easy to copy any graphic that you find on a Web site. But the logos you can get this way are unsuitable for making quality printed publications:

- ◆ They are made up of big, fat pixels, at the same resolution as the computer screen. That’s fine for viewing Web pages, but they will look horribly jagged when printed (see Figure 7 for an example).
- ◆ Images for the Web have their colours defined as mixtures of Red, Green and Blue – but images for commercial litho printing have to be defined in Cyan, Magenta, Yellow and Black.

‘I’ll send it as an attachment to email’

Those are the words I like to hear, but quite often my confidence turns out to be misplaced. For example, it’s surprising how many people think they are doing you a favour by placing the logo inside a Microsoft Word document and emailing *that* to you. No! Don’t do that! Microsoft Word has no facilities for exporting or extracting images from documents; it’s a one-way street.

When you’ve been working in electronic publishing for as long as I have, you tend to forget that the average computer user in local government, the health service or a commercial company has quite a ‘naive’ concept of computer file formats, and probably not much experience of files that don’t open in Word, Excel or PowerPoint. I realised this last year after repeated attempts to get the logo for a children’s project called ‘Scorpions’

from a member of staff at the charity that runs the project. I finally gave up, and arranged to pick up a printed version, so I could scan it and re-digitise it myself.

‘I was really hoping that you could find me a Encapsulated PostScript (.eps) version of the Scorpions logo,’ I said. ‘I’m surprised that when the logo was designed, the designer didn’t give it to you in lots of different file formats.’

‘Oh yes, the designer gave us a CD-ROM with lots of files on,’ she said. ‘But most of the files turned out to be corrupt.’

I asked her to explain how she had come to that conclusion. ‘Well, I double-clicked on the files on the CD, but they wouldn’t open – so I assumed that something was wrong with them.’

I sighed inwardly. Doubtless that CD-ROM contained the files I had been asking for. There’s a good chance that they were Adobe Illustrator EPS files. Without Illustrator, *of course* she couldn’t open them. But, just because she couldn’t open them, she assumed they were corrupted. What she was lacking was the concept of a file that you can’t open, but that you can place in a document, and so use in that way.

Logos need to be archived – and documented

Perhaps the designer who created the Scorpions logo should bear some of the blame for the young lady’s mistake. I believe it is very important when a graphic identity is commissioned, that the designer should write a guide or handbook about how to apply the graphic identity rules, and this should include a list of all of the logo files provided, with explanations of which version is to be used in which kind of circumstance.

Of course, it is also entirely possible that the designer *did* document the logos properly, but the importance of this documentation was not understood – or the document fell down the back of the proverbial filing cabinet.

My message to you if you have commissioned logos from a designer is: look after them properly! Insist that the designer provide you with documentation! Don’t lose that documentation, and make sure there is a clear process to be followed whenever you are asked to supply that logo as part of a publishing project! I shall return to this topic at the end of this article.

To explain all this better, and to raise awareness of all of the technical issues that have to be borne in mind when logotype artwork is being created, I shall talk you through the design of a logo for a fictitious organisation:

Hallamshire Trust for Nature.



Fig. 1 : The logo design that will be my example is in two colours – black and green – and the typographic elements are in Adobe Myriad Bold.

The most important thing for a logo: resolution independence

An organisational logo like this could be needed at all sorts of sizes – perhaps only a few millimetres across on a promotional ballpoint pen, or four metres wide on a fabric banner to put on the side of a building, and all sorts of sizes in between on business cards, stationery and exhibition panels.

So, I have created the artwork in a drawing program such as Adobe Illustrator, where the curved green shape that looks like the foliage of a tree can be defined with geometric curves (Bézier curves). I used a pencil sketch as my template for this design, imported it to Illustrator as a ‘template’ layer, used the Illustrator pen tool to construct the curves, and adjusted the curves until I was happy with the result.

Illustrations created in this geometric way are known as ‘vector-mapped’, and they have no fixed imaging resolution. Whatever size they are printed at, they always exploit the maximum resolution of the available printing device. In this respect, such images behave like type characters.

For many years, logos have been saved in the Encapsulated PostScript (EPS) file format, which preserves these vector paths. Nowadays, we might save them in Portable Document Format (PDF), because modern page make-up software can import and place PDF files as images, and there are advantages too, such as improved on-screen display in the page make-up environment.

Encapsulated PostScript solutions are based on the understanding that the printing device will understand the PostScript page description language. That isn’t true of a lot of simple office laser printers and desktop inkjet printers, and in practice we might have to forgo resolution-independence, and ‘spin off’ a number of versions of the logo for use in office situations. (See ‘logos for office use’ below.)

Managing the type within logos

This logo includes type: the letters **htn**, and the wording underneath. Using ‘live’ type in a logo design is problematic, because it can be printed properly only from computers that have that font installed on them. There are two ways of solving this problem:

- ◆ The first solution is to embed the font data inside the file, an option that Illustrator and other drawing programs let you choose when you save an EPS file. Fonts can also be embedded in PDF files.
- ◆ The second solution is to convert all of the type characters in the logo into ‘outlines’. That way, the letters are changed into shapes, made of the same straight lines and Bézier curves that the other drawn elements are.

One advantage of embedding font data in files is that you get more than just the character outlines that way. Fonts also include instructions called ‘hints’, which help to render the type outlines in a more pleasing way on low-resolution devices such as laser printers, especially when the logo is used small.

But what do you do if the fonts in the logo are PostScript fonts, and the logo has to be handled in a non-PostScript environment? When preparing artwork for some applications such as large-format exhibition panels, I have often been asked by printers to convert all of the type in a design to outlines. It seems to me to be the safest option – so, to be on the safe side, I decided to ‘play safe’ and use the outlining method.

However, you can be sure that I am going to save a ‘golden version’ – one where the type is live and therefore editable, not outlined. This is because I know that sometimes the names of organisations change – it might become the Hallamshire Trust for Conservancy some day. It’s much easier to change the wording afterwards if the type is ‘live’. But I don’t need to give that to the client, just keep it somewhere safe.

For one part of the design, I had no choice but to outline the type. That’s the letter ‘h’ that forms the trunk of the ‘tree’, and represents Hallamshire. I wanted the ascender to be taller than usual for this typeface, and so I had to convert the letter to outlines to be able to manipulate its shape.

Two colour models for print

There are many ways in which a colour logo might be printed. It could be used in an office document and printed on a laser printer. It could be printed on a digital colour press, or rendered on an exhibition panel with a large inkjet printer. But for producing business cards, stationery, magazines and newsletters, Annual Reports and so on, the most economical choice is still to go to an offset litho printing business.

An offset litho press can be loaded with any colour of ink that you can mix up. A lot of small to medium-sized print businesses operate two-colour presses, and if the Hallamshire Trust for Nature wanted to get stationery printed in black and green, an economical way to print this would be to load

green ink into one of the printing heads on the press, and black into the other. This scenario is shown in Figure 2. The green that we have specified is one of the indexed colours in the Pantone Matching System: number 363.

The printing staff will have a copy of the Formula Guide, a swatchbook of the PMS colours, manufactured by Pantone Inc. Next to each numbered colour in the swatchbook is a 'recipe' for how to mix that colour of ink from a small range of base inks. It's a system that has worked well for decades.

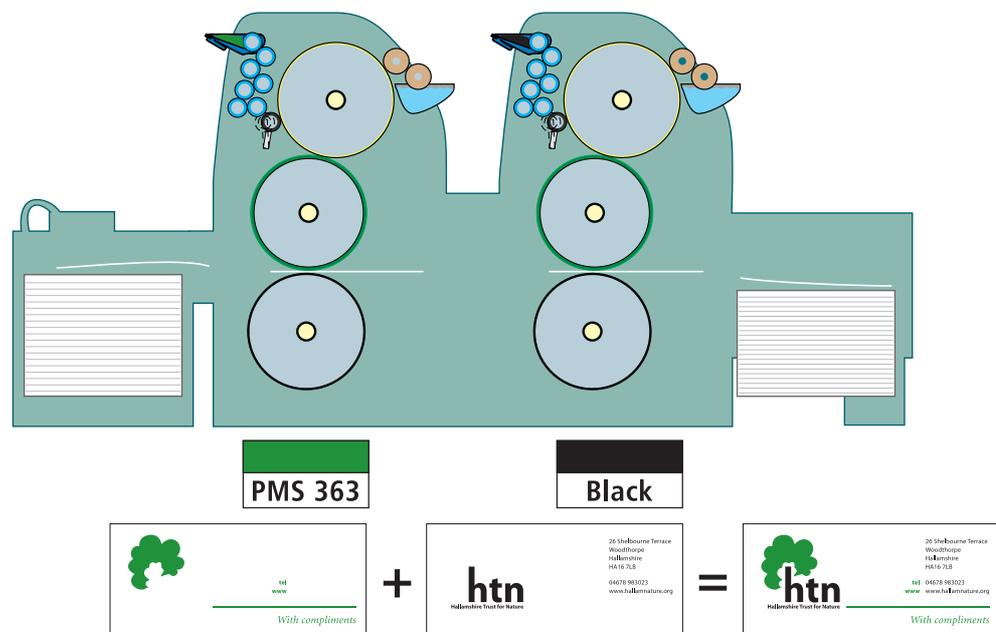


Fig. 2: An economical way to print this two-colour design is on a two-colour press loaded with black and green ink. Of course, this requires a version of the logo that is defined in these two colours only.

To prepare the electronic artwork for this item of stationery, I'd use a page make-up program such as InDesign, QuarkXPress or PageMaker, or maybe Illustrator itself. It doesn't really matter which. What does matter is that all of the elements have to be defined as black (including tints of black) or this green (including tints of green).

And, of course, I've prepared a version of the logo that is defined in those two colours (see Fig. 3):

Fig 3: This screen-capture from Adobe Illustrator shows the logo being created as a two-colour image, using Black and Pantone 363 Green ink colours. The 'CVC' suffix reminds us that we are looking at a 'Color Video' screen simulation of 363 green printed onto Coated paper.

Also note the Bézier outline and control points of the green shape, which happened to be selected when this screen shot was taken.



However, there will be other circumstances in which the logo cannot be printed using Black and Pantone 363 Green inks. Perhaps the logo will be printed with a digital press such as an HP Indigo, which only has toners available in the four process colours Cyan, Magenta, Yellow and Black (CMYK). Or perhaps the logo will be used in a litho-printed publication that also carries full colour photography (like *Populär Kommunikation*), for which the CMYK model will be adopted.

It would be foolish – and expensive – to get the printers to add a fifth ink and make a fifth printing plate just to print the logo, if the colour can be simulated well enough with overprinted tints of CMYK ink.

To accommodate these situations, I prepare another version of the logo, converting the Pantone 363 green to its nearest CMYK equivalent. Using this version, the green will be printed as a solid patch of process yellow ink, surprinted with a 76% tint of cyan and a 23% tint of black. Under a magnifying glass, the printed result will look something like this:

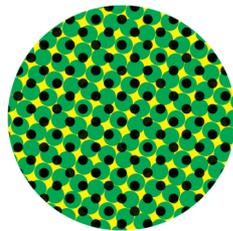


Fig. 4: A simulation of what our green colour would look like, if it were printed as a combination of CMYK tints instead of as a solid green ink.

Don't mix up your colour models!

Even if I provide both 'spot colour' and 'process colour' versions of the logo, I know from long experience that organisations often fail to appreciate just when each version should be used, and this can lead to frustration and added cost.

- ◆ When the British Computer Society commissioned a new visual identity, the revised logo was in light blue and black, and the design company made it available to the BCS in Encapsulated PostScript, both in a version where the blue was defined as PMS 2995, and also a version in which the blue was defined as 100% cyan plus 8.5% magenta. The BCS thought, wouldn't it be a good idea to make these logos available for download from the Web site, so that magazines that are running a story about the BCS could use them? The problem is, they posted the PMS 2995 version only... What magazine is going to run another colour of ink just to illustrate a story about the BCS?
- ◆ Recently I was asked to check the electronic artwork for a simple leaflet to be printed in black and red ink only, on a coloured paper. The logo of this organisation is in black and red, but I found by analysis of the PDF that they sent me that the red colour was defined as 100% yellow plus 100% magenta. An expensive way to print a two-colour leaflet! It turned out that the 'spot colour' version of the logo had been lost by the staff. I reconstructed it for them, and saved them some money.

When 'spot colour' is the only way

There are a few situations when it isn't such a good idea to use CMYK inks to simulate a colour that was originally chosen from the solid ink palettes provided by Pantone.

Unmatchable colours: There are colours which it is beyond the capabilities of CMYK inks to match. The obvious examples would be strong fluorescent colours, and metallic inks, but there are also some strongly saturated reds and greens, blues and purples which cannot be simulated satisfactorily. It is up to you to decide whether preserving the fidelity of colours is so important that your next company brochure will be printed in six colours of ink...

If your corporate colours are defined from the Pantone range, one way to check whether the simulated colour is acceptable to you is to buy the official Pantone-to-process swatchbook (see Figure 5). This shows colour swatches side by side, one printed with the pure ink as a solid, mixed in accordance with the Pantone Formula Guide, and the other a recommended mix of CMYK tints that come as close as possible to that colour.

Fig. 5: The Pantone-to-process swatchbook lets you judge whether a CMYK simulation of a Pantone colour is a close enough match to satisfy your needs – and provides a 'tint formula' for achieving that simulation.



Colours that drift: Because litho printing is a dynamic process, the level of ink supply does tend to fluctuate continuously, and when colours are represented by CMYK tints this can result in a 'drifting' of the colour. This can happen even within one press run – and matching that colour during a reprint is even more difficult. This is often most noticeable when something like an information pack is being prepared (e.g. for a product launch, press conference or event), because you have five or six separately printed items being assembled inside a folder or box that has itself been printed. Then, it is safer to use a pure colour of ink mixed according to the Pantone Formula Guide.

Details that 'break up' as tints: Some very pale colours, when they are rendered as CMYK tints, end up with a low 'ink-to-paper' ratio. This causes

difficulties when you want to print fine type and other details. For example, let's look at this magnified italic letter *m* which has been designed to be printed as Pantone 7508 (see Figure 6):

Fig. 6: Note – because this article is printed in CMYK, remember this is a simulation of a simulation!



Printed in CMYK, the edges of this letter are very ragged. Whether this effect will be a problem depends very much on the fineness of the pattern of dots (the 'halftone screen ruling') with which the CMYK simulation of the colour is printed. Offset litho printing these days often uses very fine screen patterns of around 200 halftone dots per inch, particularly on coated paper, so you can often 'get away with it'.

But there is one print technology which still cannot render fine tints well, and that is screen process printing, often used for printing coloured inks on metal or plastic panels, or on fabrics. A design company I know once won a contract from British Telecom, to design an instruction panel to be fitted next to payphones. After taking into account BT's corporate colours, and the red and green needed to draw attention to how to call the emergency services, they found that the logos for five different credit and debit cards also needed to be accommodated! Because it was screen printed, each colour had to be printed as pure spot colour, and it ended up as a seventeen-colour job. Seventeen!

What about the Web?

What about presentations?

When logos are to be used on Web pages and in presentations, such as in PowerPoint, we leave the world of ink behind. Here, the colour model to use is Red–Green–Blue (RGB).

Is there a resolution-independent file format we can use on the Web and in presentations? Maybe. Adobe Illustrator CS gave me the ability to save my logo design in the Shockwave format (**.swf**) devised by Macromedia for Flash movies. The filesize was very small – less than 3k. But there's not a lot of point using Shockwave for logos in Web pages – except that it should improve the appearance of your logo if someone prints them out.

However, while doing some experiments in preparation for writing this article, I did discover that the Apple alternative to PowerPoint – **Keynote** – imports Shockwave files beautifully: this is because Apple wants to let you run Flash animations on your presentation slides. And it does mean that you can re-size your logo freely in Keynote, and it will always look its best, while minimising 'file bloat'. It's nice to know. And I have heard it said (but haven't been able yet to confirm) that the very latest versions of Microsoft PowerPoint for Windows also accept SWF-format artwork.

Rasters are a safe bet

On the Web, it is better to convert your vector logos into fixed arrays of pixels – raster images – and to one of the long-established formats that just about all Web browsers support.

JPEG, the Joint Photographic Experts Group format, is very commonly used for images on Web pages, but I suggest that you avoid it for logos. As it says on the tin, the JPEG format was designed for photos. It uses a compression scheme which does particularly nasty things to images with high-contrast edges, and we don't want that for our logos.

The old stand-by for logos on the Web is **GIF**, the Compuserve Graphic Image Format. GIF uses a 'lossless' compression scheme that doesn't hurt edge detail. It does have the theoretical disadvantage that you can only have a palette of up to 256 different colours in a GIF file, but even when you take into account the 'anti-aliasing' that goes on around the edges of a logo – the pixels in intermediate colours that soften the transition between the fill colour and the background – 256 colours is enough. In Figure 7 you can see a GIF version of the Hallamshire logo, at 200 pixels wide and 179 pixels high, with a palette of 27 colours and a fast-loading filesize of only 3,846 bytes – less than 4k.



Fig. 7: The simplicity of this design is one reason it compressed so well as a GIF file. Believe me, it looks better on screen than it does printed on the page – one reason why you should never use Web versions of logos for print!

There's an alternative to GIF, and it's **PNG** (pronounced 'ping'), which stands for Public Network Graphics. Devised by Web activists in the early 1990s when there was a scare about whether it would be legal to use the patented compression scheme in GIF, PNG comes in two flavours – an 8-bit version that has the same 256-colour limitation as GIF, and a 24-bit version that supports millions of colours.

What is nice about PNG for logos on the Web is that the space around the logo can be made transparent, to work on any background. (GIF also has transparency, but it is an all-or-nothing kind of transparency that can look quite horrible on some backgrounds, whereas PNG has a full alpha channel with 256 levels of graduated transparency for really smooth edges.)

PNG also seems to be the recommended format for saving logos and other forms of graphics for use in Microsoft Office applications, such as Powerpoint or Word. You can also save a Windows Metafile (.wmf) from Illustrator for use in these applications. WMF is a resolution-independent format that converts logo shapes to straight lines and simple curves. But I have to say that my limited experience of placing PNG and WMF files in PowerPoint gave some rather disgusting-looking results.

Saving out to all these different Web- and presentation-oriented formats has become particularly efficient in Illustrator CS, especially now that it also has a 'Save for Web' feature like Photoshop's. That is particularly useful when you need to make a batch of GIFs or PNGs at different sizes, because Illustrator will scale and rasterise them very efficiently for you.

My main complaint about Illustrator at the moment, is that for some of these file formats you have to 'Save As...', for some you have to 'Export...', and for some you have to 'Save For Web...' I'm often forgetting which formats are available via each path, and if it's confusing for me as an experienced user, it must be very puzzling for other people!

Other options for office printing

To complete the suite of logos I'd provide for a client, I will also need some foolproof versions that will work on simple non-PostScript laser printers and inkjet printers. For a typical Windows office environment, I might provide TIFF files at about 300 dpi resolution, at various useful sizes – some in RGB colour and some in greyscale – and Windows Metafile versions in RGB and grey as well.

On occasion in the past, it has also proved useful to convert the shape of the logo (in black only, of course) as a character in a special font, perhaps in the TrueType format. A font is one collection of 'graphics' that has a kind of universal passport, and as long as you don't need different colours within the logo it can be a useful tool for clients to produce it at all sorts of sizes, in many different software programs.

And finally, the paperwork...

Finally, the designer should provide guidance literature for the client, to advise which versions of the logo are to be used for what purpose. At British Airways, they even commissioned an interactive multimedia guide for their staff who purchase literature – and anything that uses the company logo and colours – to guide them through a decision process, and even to create a 'drop folder' with all the relevant logos, other artwork files and explanatory notes, ready to forward to the designer, printer, advertising agency or other supplier.

Not many of us can afford to go to that expense, but at a minimum there should be a document to explain what logos to use for which circumstance.