



Artwork & Data Requirement Manual

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Introduction

Printing and creating plastic cards properly can be a challenge. But with some preparation, especially early on in the project, we can make it easy for you.

We've created this manual for you to outline a lot of what we've learned over the 20 years of creating plastic cards to help you get the best possible results for you and your client. It's not everything, but over time it will grow to cover all the usual situations and some of the more obscure ones as well so that you can take on almost any plastic card job with confidence, no matter how hard or difficult it might appear.

If we were to give you one piece of advice to help you, it's this: talk to us as early as possible. We know all the tricks and techniques involved and we can quite often make what appears to be a daunting task much easier for both you and your client.

Have a read through, and if you have any questions, please don't hesitate to call us on 03 9729 9367 or email us at info@fiske.com.au. We like to be consulted and get involved as early as possible to assist you get the most out of your project.

Regards,

The Team at Fiske Advertising.

How to Specify the Job

Throughout this document, we'll refer to specifying something for us, be it something to do with artwork, data, the product. The question you have, naturally, is how?

To start with, you probably can't give us too much information, provided it's given to us in a clear manner. More specifications are better than less: you've outlined to us what you want and there's no room for ambiguity. If you specify something that can't be done, don't worry, we'll let you know and often provide a solution that will get as close as possible to what you're after.

Always give us the information in writing, ideally by email with a clear subject related to the job. Assume that verbal instructions will be forgotten, misheard, misinterpreted and so on. If we have it in writing, we have it. We will also request any extra information required by email to ensure that we all have an auditable trail.

Quantities for items that have no VDP should be outlined clearly in your purchase order, ideally each as their own line item. Indeed, for non-VDP items, this is the document we will treat as being correct.

Where possible, supply us with a hard copy print of the item. If the job contains VDP, then supply us with a hard copy print of the item, fully notated with font types and styles and sizes of the VDP elements. Also note which data field goes where.

Make use of the checklists for artwork and data supplied in this manual. They're handy for making sure you haven't forgotten anything.

Old Traps for New Players

We often see the same mistakes and problems played out time and time again. It's not surprising as printing on plastic is a rare thing and although you might know printing on paper backwards, paper's not plastic. It prints different, cuts different, finishes different; it's just plain different.

Even if you know printing on plastic with screen print or traditional offset presses, our utilisation of cutting edge digital print production methods make our workflow somewhat different to everyone else.

Because of this, we've collected a few things that keep cropping up, along with how they can be avoided in the first place.

Colour

Let's be up front: what you see on screen is **not** what you're going to get. As much as colour profiling our workflows has made that idea seem tangible, it's not going to happen. What you see on screen will be close to what you're going to get; for a given value of screen and what we print.

We print on a number of different substrates, each with its own idea of what's white. And as for colour matching on a sparkle gold stock; well, black will be black and that's about as good as we're going to get.

Here we work under the following maxim: the correct colour is the one that comes out of the press that the job is going to run on. That's why we offer press proofs, not chromalin proofs. We can't hope to match a print of a thermal dye-sublimation printer, nor do we expect them to be able to match us. Same goes for screen printing and any other printing technique that differs from ours, the way the ink goes onto the stock is different and each press has its own characteristics.

That's not to say that if you give us a sample that we won't try to match it. We'll give it a go. But we'll also be honest and up-front about the chances of matching it.

CMYK

Good ol' CMYK - **C**yan, **M**agenta, **Y**ellow & **B**lack. Essentially what the vast majority of offset printing is produced in. This is the way we print and it works by printing very small dots of the four colours of ink (CMYK) of varying sizes on the stock. Most printers print the dots too small to be easily seen, newsprint tends to use larger dots and is usually the easiest to see if you want to have a look. The four colours mix together in your brain to provide the colour you end up seeing on the page.

RGB

RGB is what you see on your computer monitor or television screen - **R**ed, **G**reen & **B**lue. Whereas CMYK is light being reflected and having parts subtracted to get the colour, RGB is the light being directly beamed to your eye from the screen from pixels of each colour, adding together to get the colour you see. Because of this, RGB can give much brighter colours than CMYK can with a much wider colour gamut (or range). This would be good if we could print in RGB, but we can't. Because of this, designs done in RGB will colour shift and dull down when printed in CMYK. It's best to design in CMYK from the start to avoid disappointment.

Spot Colour

Spot Colour is neither RGB or CMYK, instead a specific ink is mixed for each colour. There's a number of established spot colour specifications, the most popular being the Pantone® colours. The advantage is that where "blue" might mean different things to different people (dark blue, light blue, sky blue, blue the colour of Dave's gumboot

where it's a bit darker near the sole but not as dark as the inside but only when it's a bit dirty); Pantone® 293C means the same thing to every printer. It's Pantone® 293C, end of story. Using a spot colour can be really good, especially if you're doing a lot of letterheads or business cards with a corporate logo on it, but the ink needs to be mixed for each colour used. For us to do, it's expensive, so we use the press to match the spot colour as best it can. It's pretty good, too, but it won't be quite the same as using a true spot colour ink because we're attempting to match it using CMYK. A lot of the time the difference won't be noticed, but some colours shift quite a bit. We can do custom spot colours if you really require but the cost can be significant.

IndiChrome

One technique we have to bridge the CMYK/RGB/Spot Colour worlds is through IndiChrome.

IndiChrome is a method of printing using CMYK plus two extra colours – orange and violet – to increase the gamut range. It enables us to print RGB images with a bit more vibrancy and allows us to more accurately print a wider range of spot colours. This option is suitable especially when you have a spot colour that needs to be matched, but don't have a print run big enough to justify mixing a dedicated spot colour.

Black & Dark Coloured Cards

Black cards and black cars share two important features. They look great when they're brand spanking new; and they show up every single scratch and defect as soon as they're delivered.

That's not to say that we don't produce black cards, we can and do. We just ask you to take into account that the "showroom shine" wears off really quickly with black cards, more so than any other colour. They will show any defects in structure and finish of the card, something that other colours mask.

If, after taking that into account, you still want black cards, we have a number of ways of dealing with the production of them. We deal with this on a case by case basis to ensure that we use the best production technique for your artwork. Again, this is a case of contacting us early so we can advise from the start to get the best results.

Production Marking

During production, the stocks gets fed, moved, laminated, rolled, cut and handled. Not surprisingly, this results in some marking during production. For the most part, these marks are very fine scratches and are pretty much invisible unless you hold the card just right and you put your head down low and, you get the picture, you've got to try to see them before you notice them.

As always, there's an exception, and once again black and dark cards are that exception. The fine scratches catch the light and on a lighter coloured card, it's not visible. On a dark card however, it shows up quite a bit. It's something that you need to accept will happen and will be visible if you decide to go ahead with a dark card.

We do our best to minimise it, but we can't eliminate it, it's just not possible. The worst is when the cards need to have a mag stripe encoded as that is a contact process involving swiping the card across the encoding head. The vast majority of the time however, the marking from production won't be visible on lighter coloured cards. Dark and black cards will show up production marks a lot more.

Cutting Movement

Plastic is slippery, hard, dense and difficult to work with. It shrinks and expands during printing and finishing as it gets heated and cooled during the different production processes. One of the hardest areas to work with it is in the cutting process. As much as we try to eliminate it, we still get - and will always get - movement when cutting.

This is one of the main reasons we ask that you move any important artwork 3mm away from the edges of the card - including holes or slots. If you don't want to, well, that's up to you, but be prepared for it to be either cut off or further away from the edge than planned.

If you do require spot on precision cutting, begin by allowing for it in your design. It requires us to over produce and then cull out any cards that do not meet specification. This increases the cost to cover the overrun. Even then, we will not guarantee a perfect cut. It's a much better idea to design to within the limitations of the process and avoid this problem further down the track.

Holes & Slots

As well as the usual issues surrounding the movement during cutting with regards to holes and slots, there is one issue that comes up again and again: holes through heads.

The number of times we're sent designs back to the client because the hole will go through the middle of someone's head or there's a slot going to go through an animal's head is, well, a lot. And quite often the design has already been signed off by the end-client, resulting in a costly redesign and approval process. If you're doing a card that has a hole and a picture of someone's head, make sure that one doesn't go through the other. Most other images can take a chunk being taken out of it, but a hole through someone's head just doesn't quite look right.

You'll also want to make sure it doesn't go through logos or important text and don't forget to check the rear of the card as well.

88 Different Designs Quite Often Isn't

We'll quite often get a request for a quote for 7,000 cards split across 88 different designs - and the designers done all of them. This is especially true for event passes to be used for individual matches across a season.

This is what it usually is: 4 different membership levels (usually 4 different designs) x 22 matches in the season (different match dates/times per round) = 88 designs. Except it doesn't. It's 4 different designs (one per membership level) plus 1 database supplying the variable data to alter the text on the card.

Check with your designer and the person paying for it which they'd prefer - 88 individual designs (which still usually needs data in the form of a barcode and membership number attached) or 4 designs and a datafile.

Again, this is one of those times that the earlier we're brought in to provide advice, the less money you'll pay and more stress you'll avoid.

Artwork Specifications

Incorrectly prepared artwork can create some of the biggest delays to production. Wrong sizes, incorrect tolerances, lack of allowance for data driven elements; all these impact production time lines as they need to be corrected before production can continue.

The further back that these errors are created, the harder they are to rectify. Getting the artwork correct from the beginning is one of the keys to a successful production run.

Basic Requirements

The basic requirements for artwork are pretty much the same regardless of our product. We require a minimum bleed of 3mm for any part of the artwork that extends to and beyond the edge of the item, including the edges of holes or slots. Any image or text that does not extend beyond the edge of the item must be no closer to the edge than 3mm to allow for movement during cutting. Any raster images must be a minimum of 300dpi and ideally, artwork should be CMYK as that is how we print. Any spot or RGB colours will – unless previously arranged – be converted to CMYK with a resulting loss of expected colour fidelity.

For more information regarding the above requirements, see the “Old Traps for New Players” chapter.

File Formats

We accept artwork in the following formats:

- InDesign CS4
- Illustrator CS4
- Photoshop CS4
- Corel Draw X5
- Quark 6

All fonts must be supplied with the artwork or all fonts must be converted to curves. If the card has variable data as a component, then the font for the variable data must be supplied.

Press ready PDF's may be accepted, but they are rarely press ready and will often require adjustment, especially if data is involved. As this can be a lengthy process and may result in the resulting print being incorrect, we strongly suggest that the original artwork files are supplied.

We do not accept artwork produced in word processing packages, spreadsheets, presentation software (such as PowerPoint), or Microsoft Publisher.

Supplying Artwork

We recommend supplying artwork on CD with all fonts and linked graphics supplied on disc. If artwork is to be emailed, then it is to be compressed into a ZIP file, along with all fonts and linked graphics. Email should not exceed 5MB in size.

Artwork Resolution

All images and photos must be supplied at a minimum of 300dpi at the size they are to be printed to ensure a good, sharp, printed image. Images supplied at a resolution lower than this will appear to be blurry or pixelated. Images taken from web pages are

usually at 72dpi and will produce a very pixelated image.

Also note that taking a 72dpi image and resizing it to 300dpi will blur the image and not improve the situation. The better the resolution you start with, the better the print.

Font Size

Text at point sizes below 5pt (which is this big (or this tiny, for that matter), by the way) becomes readable only with a magnifying glass once printed. We can print at font sizes below this for fine print text, but recommend against it on a usability basis.

Very small text (2pt and below) requires special consideration during the creation of artwork. If microprinting is required, please contact us as early in the project stage as possible.

Allowance for VDP

If you're adding variable data to the job as well, make sure you go through the technical documentation for data. By factoring data into the artwork from the beginning, many problems and issues can be avoided right from the start.

We have a lot of experience with data, and as such, have ways of using data to streamline the artwork process.

Room must be allowed for data in the artwork. This varies based on the data required and what the data is required to represent. Areas for variable text must take into account the longest piece of variable text. It's no good designing an area for the name "John Smith" when you've got an "Anastasia Papadopolus-Smythe" in there. Not only that, different characters require different amounts of space. A "W" takes up a lot more room than an "I" and as a result, just basing the amount of space required on a simple character count isn't enough.

You also need to leave allowances for blank white space around barcodes, as well as allowing room for the barcode itself. Most barcodes need at least 5mm "quiet zone" either side of the barcode for the scanner to be able to read it correctly. Many systems set out requirements for barcode placement and sizing. If possible, consult this when designing and forward us a copy so that we can create your barcode to specification.

Please contact us as early as possible in the project to discuss allowances for data and see general recommendations in the data requirements for specific items, such as barcodes or mag stripes.

Holes and Slots

We can add holes and slots to any card type for an extra cost. The same rules regarding bleed and artwork near the edge apply as for the product they're going on. Slots are 14mm x 3mm and the edge of the slot is 5mm from the edge of the card. Holes are 6mm in diameter and the edge of the hole is 4mm from the edge of the card.

Also take a look in the Old Traps for New Players chapter for a few things to watch for with holes and slots.

White Ink

Along with the standard CMYK process colours, we also have a white ink loaded into our press. This enables us to put down white ink to cover either metallic base stock or to increase the opacity of artwork on clear stocks.

Preparing artwork for using the white ink is very similar to producing art to take advantage of spot varnishes. We recommend that this step be done in Illustrator in a separate layer to the rest of the artwork.

First, create a new spot colour called **hp Indigo White**. This is case-sensitive, so make sure that you've got all the upper and lower case letters correct. This colour can be anything you want as long as it is a spot colour and not a process colour. We tend to make it a 10% magenta so that's still very light like white, but still visible.

Next, create a new layer above all the other artwork. Call it anything you like, but something like **White Layer** is good. In this layer you need to do your artwork for the white ink that will end up behind the artwork. Most of the time it just involves copying the existing artwork into this layer and setting the colour to **hp Indigo White**. It's often easier to just copy the existing artwork layer, get rid of any elements in the new layer that you don't want white behind, and set the rest to **hp Indigo White**. Don't forget to also set strokes in this layer to **hp Indigo White** as well.

Now set all the elements in the **White Layer** to overprint both fill and stroke. You should now see lots of the **hp Indigo White** layer and not much of anything else, depending on what your artwork dictates. Save the file as is.

While it might seem a bit strange to leave that white layer on top, blocking everything else, when it gets to the press, we rearrange the order the ink goes down to make sure the white goes behind the artwork, blocking out the stock underneath or giving some white behind the ink on clear stock to reduce the transparency of the print.

VDP Example

On the following pages we've set up an example of an artwork and data heavy VDP event pass. On this pass there is 16 different data fields being imaged onto the pass, some of which occur in more than one location on the pass and some of which change images on the pass.

The data fields are as below:

- **barcode** – barcode number (supplied by ticketing company)
- **ttDate** – date data was generated (supplied by ticketing company)
- **ttSeqNum** – sequential number (supplied by ticketing company)
- **ttRGA** – sequential number within a subset of data (supplied by ticketing company)
- **ttPaxNum** – ticket number for tracking (supplied by ticketing company)
- **eventDate** – the date the event will be held
- **eventTime** – the time the event will be held
- **enterGate** – which gate the pass holder is to enter by
- **lounge** – the location within the venue the pass holder is based
- **level** – the floor level of the venue where the lounge is located
- **nameFirst** – the pass holders first name
- **nameLast** – the pass holders last name
- **nameCompany** – the pass holders company name
- **photoFilename** – filename of the photo to be used (must match exactly)
- **accessLevel** – access restrictions imposed upon the pass holder
- **seqNum** – sequential number consistent across the entire dataset

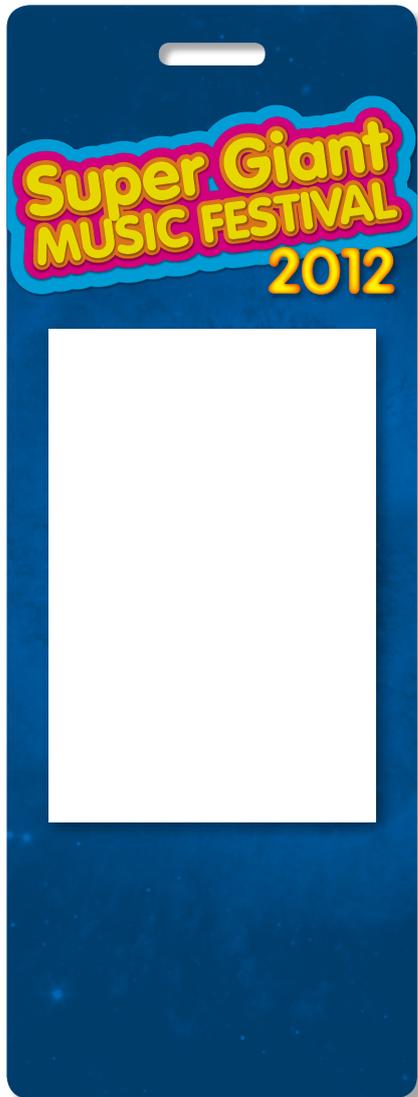
Of these fields, **photoFilename** changes the photo on the pass; **accessLevel** changes both the images on the front of the card and the coloured bar on the reverse above the barcode data; **barcode** is used twice – once as just a plain number and once to generate the barcode itself; **enterGate** and **lounge** are both used to change images on the map to assist the pass holder to find their way.

Many event passes – especially those for events that travel – will also have extra fields. Some of that extra data may relate to which venue the pass is for, extra security/access restrictions or requirements, pass holder position within a company, dress codes, meal inclusions, age restrictions, and more. No wonder we offer a wider long pass to help squeeze all the information on. In some cases, it may be an idea to separate pass holder specific information from general event information and place them on two (or more) items to be joined by the lanyard. Hospital staff passes are an excellent example of this – one item for ID holder details, one item for emergency instructions, and one for general hospital information.

Artwork Only

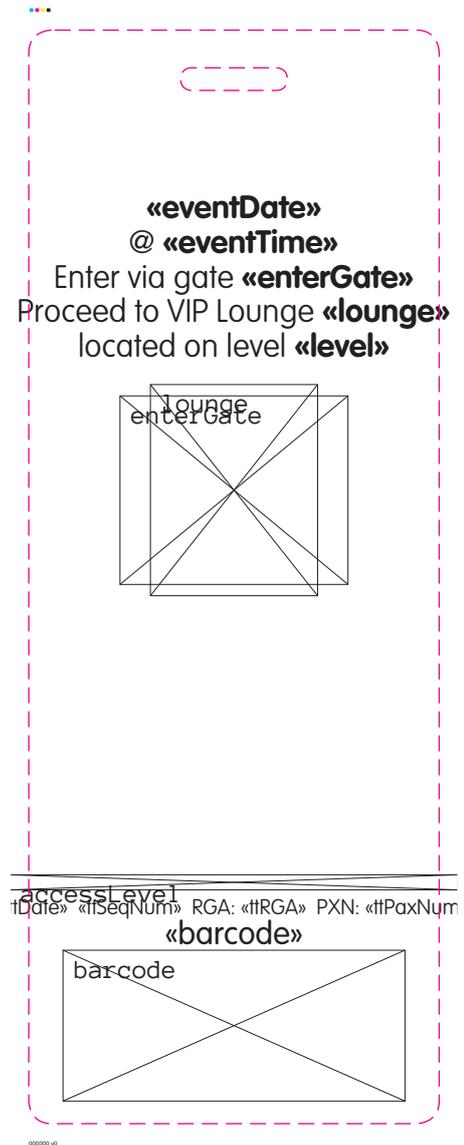
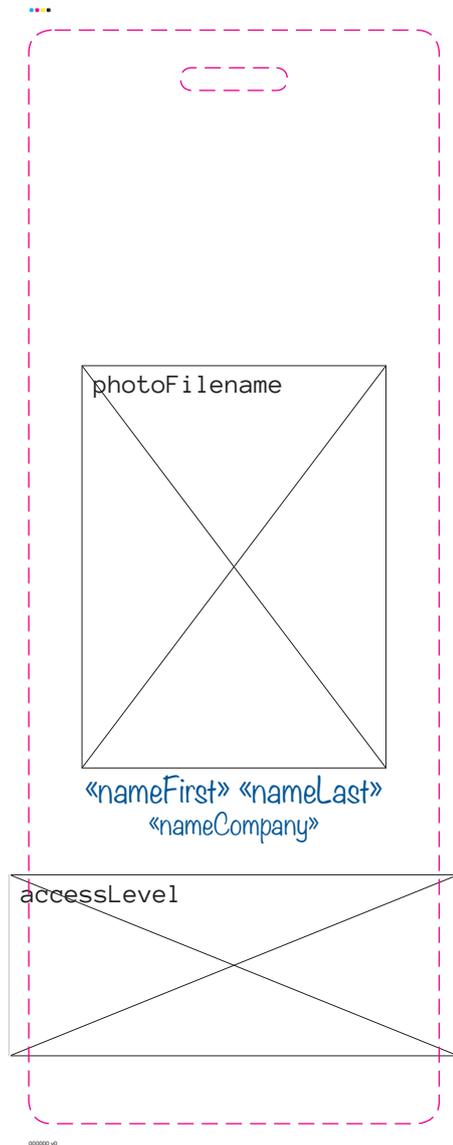
This is what the base artwork of the pass looks like before we add any data to it. As you can see, it's actually quite plain.

If you were changing the entire background to differentiate pass types, there would be even less here – quite often everything is data driven, there is no static artwork at all.



Data Positioning Only

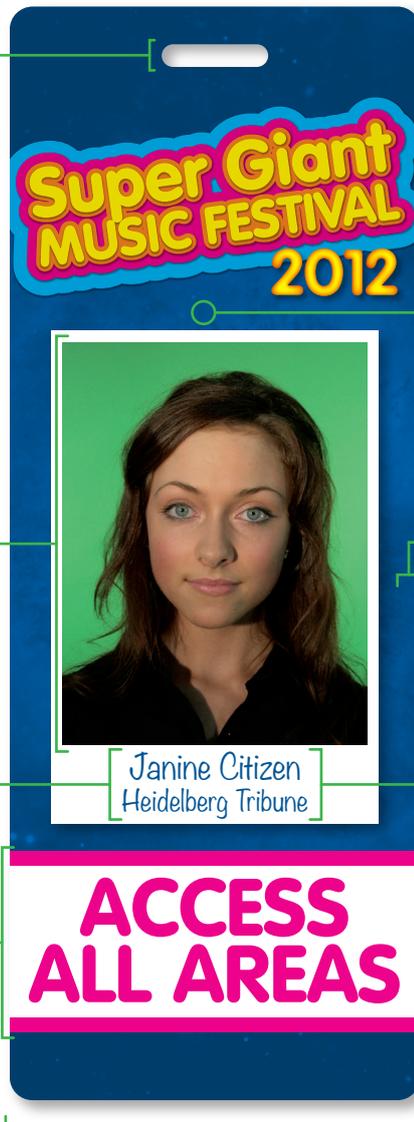
This shows the data fields and locations on the pass without the artwork. As you can see, there's a fair bit of data going on to the pass that needs to be kept together neatly. Any variable artwork must be created with this in mind – it must all mesh together precisely to avoid movement or extra data setup charges.



Putting it all together

This is how it all comes together into one item. We've included some hints and tips to help you get the most out of your data and artwork and to help it run smoothly.

Watch your background in this area to make sure the slot or hole doesn't go through something inappropriate.



Try and break up solid backgrounds using a texture or image. This helps make the pass look better and makes it harder to imitate.

Photos should be clear, be high resolution (200dpi+), be named correctly and be cropped to the correct size to prevent the auto-crop from beheading people.

ALL artwork that does not bleed off the edge of the card should be no closer than 3mm to the edge – and that includes the edge of the holes.

Remember name lengths! Look for the longest name and design around that.

And name length isn't just about how many letters – 'w' is wider than 'i' – but what combination of letters in the field. Always allow more room than you think.

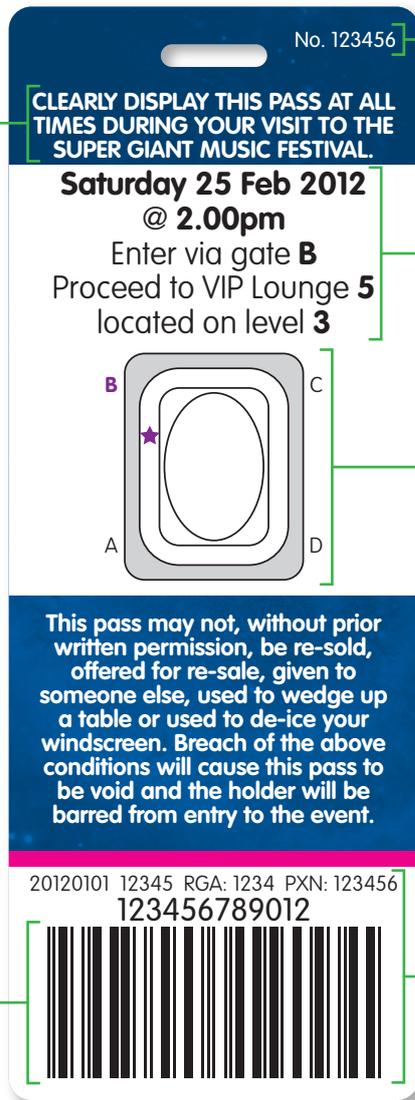
Don't just use text to show entry restrictions, use colour as well to assist security to do their job.



In this case, instead of changing the entire background artwork of the pass, we're just swapping a small graphic element to indicate access restrictions. This means less artwork that needs to be created for the job.

If you're changing the entire background of the card for different access areas or pass types rather than just individual elements, make sure that all the positions for the data line up correctly between the types. Make use of the transform pallets in the design software to position graphics precisely – don't just copy & paste and nudge it into position.

Doing white reverse out text? Make it a decent sized font (no less than 8pt) and ideally make it bold and a sans serif font to keep it as legible as possible.



Sequential number for auditing and QC purposes.

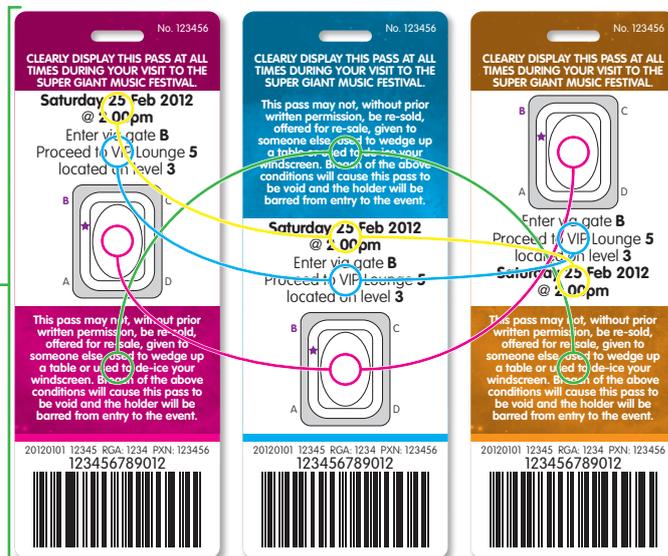
Entry and seat/room details need to be clear and concise.

If you need a map on the pass, keep it simple. Remember there's not a lot of room on a pass for detailed maps and they will become unreadable.

Barcode needs to be as wide as possible, whilst still having 5mm quiet zone either side and should be as tall as possible, between 15mm and 20mm.

You need to remember to leave plenty of room not only for the barcode, but for all the extra info the ticket companies require. In this case, 5 separate pieces of data.

As you can see from the passes to the right, the backgrounds are not only different colours, but the position of the VDP elements have also changed. This would require us to create a separate data layout for each pass type as opposed to just one setup that covers all pass types. Avoid this whenever you can to avoid extra setup costs.



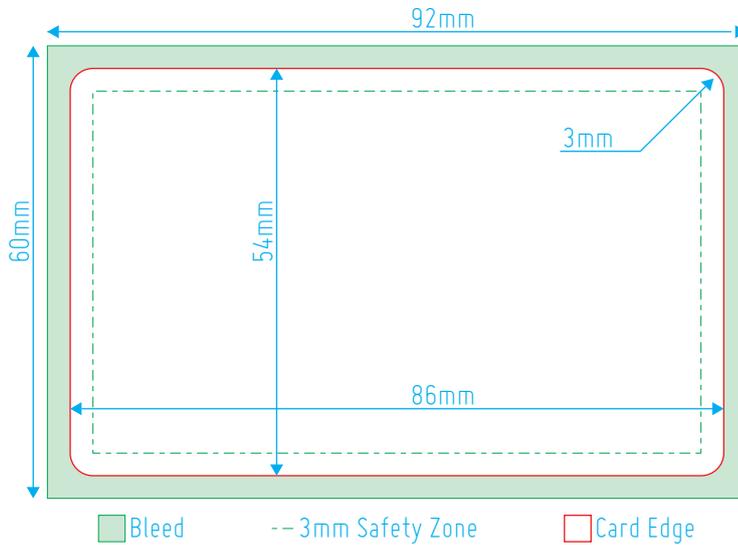
Artwork Templates

For the most part, you'll be using one of the following sizes. They're the most common ones ordered and they're the ones we have ready made dies available for. Artwork templates are available for download from www.fiske.com.au/support/artwork.php.

This isn't to say you're restricted to these sizes, we can create almost any size you'd like, but these are the common ones that will not incur an extra die creation fee. If you would like a custom size, please give us a call.

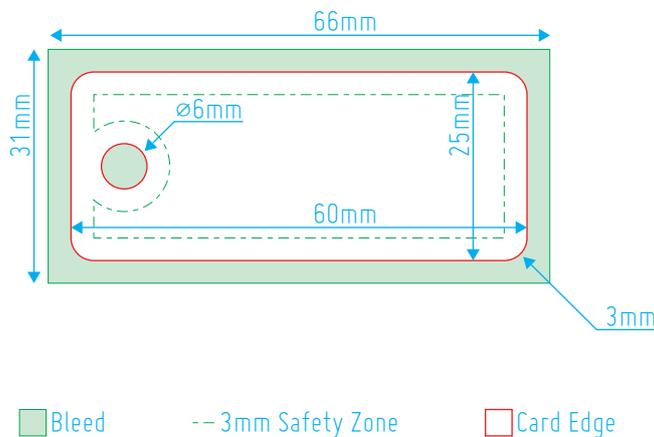
CR80

A standard CR80 card is 86mm x 54mm. We require a minimum bleed of 3mm on all edges. Artwork size, including bleeds, is 92mm x 60mm. Any artwork, photos, text or logos that do not bleed over edge the of the card must be no closer than 3mm from the edge of the card. Corner radius is 3mm.



Keytag

Our standard keytag is 60mm x 25mm. We require a minimum bleed of 3mm on all edges. Artwork size, including bleeds, is 66mm x 31mm. Any artwork, photos, text or logos that do not bleed over the edge of the keytag must be no closer than 3mm from the edge of the keytag. Corner radius is 3mm. The hole is 5mm from the short edge of the keytag, is centred on the short edge, and is 6mm in diameter.



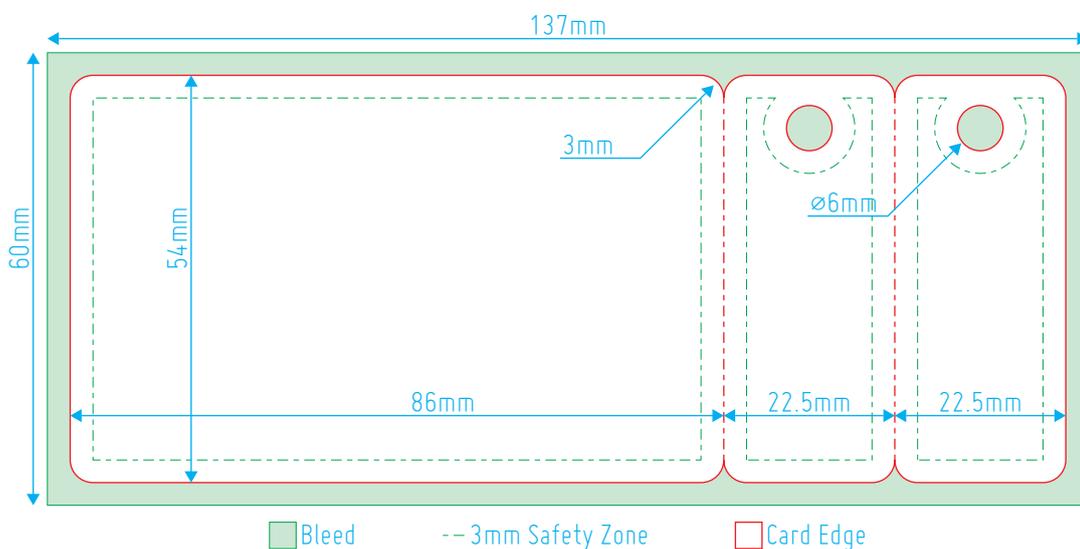
CombiTags

We have a number of different CombiTag designs available, the most popular being the card and two tags CombiTag. Templates for all the designs are available on the website at www.fiske.com.au/support/artwork.php. For this example, we'll concentrate on the card and two tags CombiTag.

The card and two tags CombiTag has an overall size of 131mm x 54mm. We require a minimum bleed of 3mm on all edges. Artwork size, including bleeds, is 137mm x 60mm. Any artwork, photos, text or logos that do not bleed over the edge of the pass must be no closer than 3mm from the edge of the pass. Corner radius is 3mm.

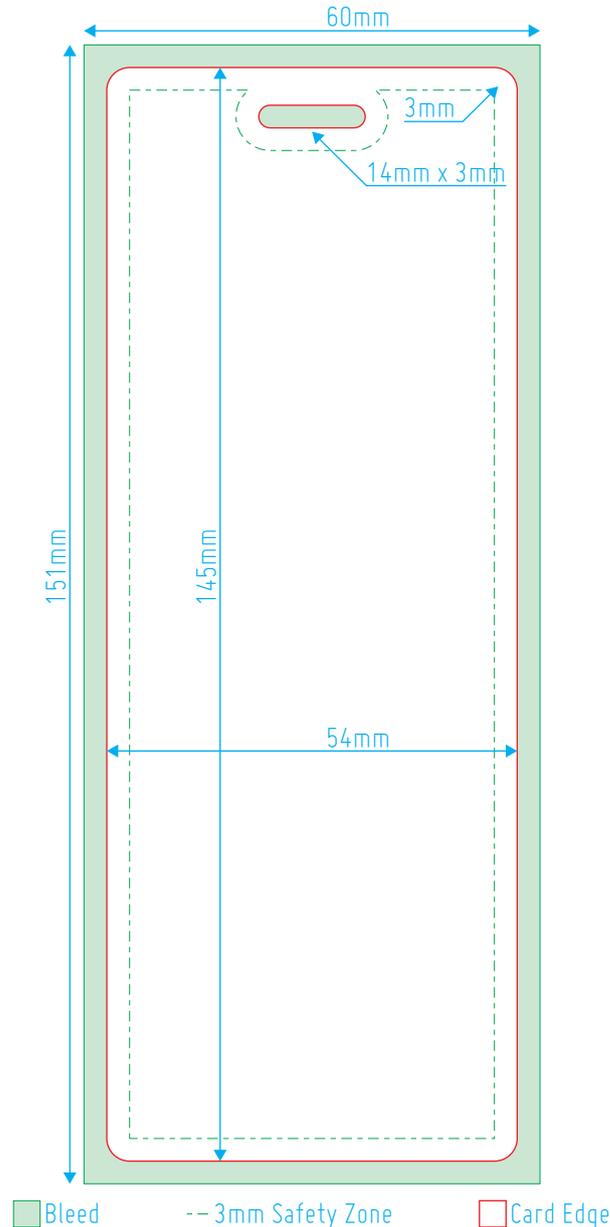
The card section is 86mm x 54mm and each of the two tags are 22.5mm x 54mm. Each keytag has a hole 5mm from the short edge of the keytag, is centred on the short edge, and is 6mm in diameter.

The main thing to be aware of when designing artwork for the CombiTags is that the three items are joined together with no spacing between. Because of this we **highly** recommend doing one of two things. Either have a background that flows across the entire CombiTag product with no joins at the keytag/card boundary; or have a border of at least 2mm around each part of the product. This will eliminate hard joins between images at the boundary of each item and will create a much better looking product.



Long Pass

Our standard long pass is 54mm x 145mm. We require a minimum bleed of 3mm on all edges. Artwork size, including bleeds, is 60mm x 151mm. Any artwork, photos, text or logos that do not bleed over the edge of the pass must be no closer than 3mm from the edge of the pass. Corner radius is 3mm. The hole (if required) is 5mm from the short edge of the pass, is centred on the short edge, and is 6mm in diameter. A slot is also available. It is 3mm x 14mm with rounded ends. It is centered on the short edge and is 5mm from the short edge of the pass.



Data Specifications

Data can range from a simple, consecutive number through to the complex mashing of data, images, barcodes and evaluations. For jobs that contain data, getting it correct from the start is a key difference between a smooth flowing job and a nightmare. Quite often, the requirements of the data will dictate the artwork, and as such, the data requirements should be one of the first things that is established.

If you're new at this, don't panic. It's a new way of printing and requires a new way of thinking about projects. If you have any questions, don't hesitate to get into contact with us to discuss your project and the best way to go about achieving it. What might appear to be a daunting amount of work may, in fact, be quite simple with a bit of planning.

File Formats

We accept data in the following formats:

- Microsoft Excel
- Open Document Spreadsheet
- CSV (comma delimited)
- TXT (tab delimited)

At this point in time, we do not support data supplied in Microsoft Access. We ask that you output the data required in another format, such as tab-delimited text file or an Excel spreadsheet.

We also do not accept data supplied as word processor files.

Accuracy of Data

Data will be output as supplied and we cannot be held responsible for mistakes in your data. We cannot read through all the data and we cannot proofread it. Ensuring your data is correct is your responsibility.

Ensure the following:

- All dates are formatted as you wish them to appear
- All data is in the case you wish them to be printed (UPPER/lower case)

Unique Identifier

We require that each card has a unique, sequential identifying number imaged onto the card to facilitate replacing cards removed during the QC process and to assist in our data auditing procedure.

Quite often, this is part of the required data that you request us to image onto the cards. When there isn't a unique identifying number that we can use, we will add one in an inconspicuous position.

Fonts

Please ensure that all fields for data have a font specified, down to size and weight. All fonts must be supplied, we do not hold a store of fonts.

Barcodes

Barcodes. You know them as those black bar things that get scanned at the supermarket. That's one type. At last count, there was a ridiculous number of different barcode types, and a number of variants of those barcode types, too. Sound daunting? We're here to hold your hand on this one.

When you break it all down, there's only a few types of barcodes that regularly get used out in the real world. If you're getting cards from us to integrate into a new or existing system, then it's probably even easier to work out which one you need as the type has in all likelihood been specified by the system manufacturer.

For detailed information on barcodes, head to en.wikipedia.org/wiki/Barcode. In the meantime, let's have a quick look at a few of the common types.

Code 39

This is the simplest barcode of them all. Unless specifically disabled, practically all barcode readers can decode a Code 39 barcode. This makes it a very popular choice. It does have a number of drawbacks, however.

A standard Code 39 barcode can only encode A-Z, 0-9 and a few special characters. It also has a very low data density, which makes it a longer barcode than other types. There is a variant called Full ASCII Code 39 which adds a-z and some more special characters. This lowers the data density, making it longer still. This low data density is its greatest weakness, reducing its ability to be used in small areas on cards and keytags.



Code 39



Code 39 Full ASCII

EAN-13 & EAN-8

These two barcodes are probably the most ubiquitous barcodes out there. Those barcodes that get scanned at the supermarket? They're one of these two.

We'd only recommend using these in a retail environment, and even then with a few caveats. Firstly, don't expect to encode someone's names or alphanumeric member number with one of these, they only do 0-9. The EAN-13 only encodes 13 numbers, the EAN-8, 8 numbers. And even then it's only 12 numbers + check digit or 7 numbers + check digit. And you have to have the right number sequence to ensure that it doesn't clash with stock you already have. You don't want to scan someone's loyalty card only to add a \$8,999 flat panel television to their bill instead.

Having said that, many existing retail systems leverage the fact that they are setup for EAN barcodes already and that there is scope in the EAN system for internal use barcodes, and use this for membership cards. Be aware of potential problems though

if the system and the numbering for the barcodes isn't set up with care.



EAN 8



EAN 13

Code 128

A very versatile, high density barcode with a number of subformats that can be swapped between within a barcode. Code 128 is a popular choice because of its flexibility.

This is usually the one we recommend for most purposes. It's main drawback is it's high data density, shorter numbers can make the barcode look, well, way too short and a bit odd. It's main trick is to be able to swap between 3 different sub-formats, each optimised for a different type of data, enabling it to be as small as possible. Some systems can become a bit unstuck because of this trick, but newer systems should be able to decode it fine.



Code 128

Interleaved 2 of 5

One of the toughest barcodes out there. Good data density, but with a bit of a drawback.

Interleaved 2 of 5 gets used a lot in quite demanding areas like external box packaging, ticketing and the like. It's got a high data density, is simple to decode and does nothing but numeric characters. Got letters in your member number? This one's not for you. You've got a card that needs to be processed quickly and reliably and your system is happy with numeric characters only? This is your barcode.



Interleaved 2 of 5

QR Code

Need a lot of data (and I mean a lot) in a small space? QR Code is the go.

QR Codes are becoming a lot more prevalent out in the world, being used mainly

for mobile phones to capture web and email addresses off business cards, posters, buildings and so on. They're used a lot in the manufacturing world as a highly reliable barcode for marking parts. Very high density, but specialised scanning equipment is required if you're not using software on a mobile phone.



QR Code

As a quick note, all the barcodes displayed contain just the data below them except for the QR Code which contains all of our contact details – address, phone numbers, the lot. If you have a QR Code reader app on your mobile, scan it to add our details to your address book.

Other barcodes

We understand that you may also have a peculiar barcode arrangement or specification. For example, there's defined standards for use in the health industry to ensure that all medical facilities are using the same barcode type and encoding of data as each other.

If the barcode type you need isn't here, don't worry. There's a very good chance we can produce it for you if you let us know what the specification is.

Barcode Features

	A-Z	a-z	0-9	!&@# etc	Density
Code 39	✓	✗	✓	✗	★★★★☆
Code 39 Full ASCII	✓	✓	✓	✓	☆☆☆☆☆
EAN-8 & EAN-13	✗	✗	✓	✗	★★★★☆
Code 128	✓	✓	✓	✓	★★★★☆
Interleaved 2 of 5	✗	✗	✓	✗	★★★★☆
QR Code	✓	✓	✓	✓	★★★★★

Size Comparison

These following card images each show the same data encoded as a barcode at the same data density to illustrate the size differences between the barcode types. The difference can become even more pronounced when using alphanumeric data.

Code 39



123456789012

Code 128



123456789012

Interleaved 2 of 5



123456789012

EAN 13



1 234567 890128

Magnetic Stripes

Magnetic stripes are a common way of carrying data on a plastic card. For the most part, they're limited only to 0.75mm PVC cards as that's what's required by the reader equipment. We can create custom thicknesses to suit equipment requirements, however.

For detailed information on magnetic stripe cards, head to en.wikipedia.org/wiki/Magnetic_stripe_card. In the meantime, let's go over some of the basic information.

Coercivity

Magnetic stripes come in essentially two flavours: hi-co (or high coercivity) and lo-co (or low coercivity), measured in Oersteds (Oe). There are basically two differences between the two types, cost and resistance to change.

Hi-Co stripes are more resistant to change: they take more magnetic energy to change them, thus more suited to long term and critical uses. Because of this, they're also more expensive. Hi-Co mag stripes usually come in either 2750 Oe or 4000 Oe forms. The higher the Oersted rating, the more resistant to change and the more expensive.

Lo-Co cards are less resistant to change than Hi-Co cards, but are the most common type used. More than 80% of orders use Lo-Co magnetic stripes and they are more than appropriate for the majority of applications. They are usually rated at 300 Oe.

Encoding

Magnetic stripes can be encoded on any combination of three stripes of data, each with it's own limitations.

	A-Z	a-z	0-9	Total Characters
Track 1 (IATA)	✓	✗	✓	79
Track 2 (ABA)	✗	✗	✓	40
Track 3 (Thrift)	✗	✗	✓	107

Location

For the vast majority of uses, magnetic stripes are 12.7mm wide and are placed 5.5mm from the top edge of the card.

We can also place the magnetic stripe through the centre of the card or along the bottom edge if required. Please contact us for more information.

Variable Images

For a bit of extra security, especially with identification related products, variable images and/or photos can also be added to the data stream as well. Like everything else, there's a few limitations and things to watch out for; but when done well, they can add a lot to the product.

The first, and most important thing is to get the data and the filename of the image matching up exactly. We can't stress that enough. The system needs to know what the image is called or it won't be able to find it and we can't go renaming files or altering data because we don't know what Jeffery Smythe from Accounts looks like. As result, any mismatches will go through as a blank image.

The second thing is to make sure that each image for a particular field is of the same file type. So make sure that all the employee photos are a JPEG or a TIFF and all the variable logos are all Illustrator or EPS files, for example. We can do a batch conversion for you of all the images if necessary at an additional cost. This may be necessary if your images have come from a range of sources; eg different branches or offices or collecting from different organisations.

Thirdly, you need to make sure that the photos are cropped appropriately. Ensure that the person's head is central to the image and that they're all roughly the same size. Although we can automatically resize the image to fit into an area, we can't automatically crop and guarantee that the person's head will not have bits cropped off as well. Depending on the final size and shape required, this might occur:



As you can see, the top of the head has been sliced off. Again, we can organise manual image cropping at an additional cost.

A good guide to photos is the one for Australian Passports (www.passports.gov.au/web/requirements/photos.aspx). This guide gives a good idea on how large the photo should be and most of the rules they have for an acceptable passport photo also applies to identification photos. Of course, unlike passport photos, it's probably okay if your staff smile for the photo.

As well as photos, we can change other graphical elements on a card through data. Each department may have a differently coloured logo to help rapidly identify which department staff belong too. Event passes may have a map specific for an entry gate for that pass to be used at. By changing the map based on the entry point and highlighting the entry point for that pass, the pass can be made to convey the information in a clearer manner than having all the entry points indicated on what will be a fairly small map.

The combinations available through the changing of not just text, but graphical elements as well, open up a wide range of possibilities for projects. It can also greatly reduce the amount of work required for the artist in the design phase.

Data Tutorial

Here we've collected some tutorials on how to prepare some basic data files for variable data printing.

We've created a number of files for you to use as examples or starting points. All the sample tables used here are available for download from our website at www.fiske.com.au/support/data.php. These will show you how we set up our data, and by following on from that, we can ensure that the personalisation process is as straight forward as possible.

Consecutive Numbering

Overview

By itself, a plain consecutive number is the easiest of data, and is usually sufficient for most applications. Easy to create, easy to set-up, the main thing to watch for is that you've allowed enough room in the artwork for the number. This is also good practice to start getting used to doing formulas and the moving on to doing some more complicated data in the future.

Step 1

	A	B	C	D	...
1	cardNum				
2					

Open up your favourite spreadsheet package. Feel free to use Excel, OpenOffice, Numbers, whatever. At the end of all this, we're going to require only a tab delimited text file. We also try to make sure that we can open pretty much any format you send us.

Once you've got a need spreadsheet, enter **cardNum** in the first cell (**A1**), as above. This is our field header. In your artwork, you'll also have a line of text with **cardNum**. This lets us know where you want your data to go.

Step 2

	A	B	C	D	...
1	cardNum				
2	501				

Select the next cell below (**A2**), and enter your starting number. In this case we're going to start with **501**, but it can be any number. **1** is a popular choice here.

Step 3

	A	B	C	D	...
1	cardNum				
2	501				
3	=A2+1				

Down to the next cell, and this time enter **=A2+1** into it. This is a simple equation that takes cell **A2** and adds **1** to it, giving you your sequential number.

Once you move out of this cell (hit **TAB**), it will look like below.

	A	B	C	D	...
1	cardNum				
2	501				
3	502				

Step 4

Now to populate the rest of the numbers. There's two options here, one works well for small ranges (<1,000 numbers) and one works well for larger ranges (>1,000).

For smaller ranges, select the last cell (**A3**) that you entered the formulae into. You'll notice that the cell has a thick border all the way around, except for the bottom right hand corner where there is a small square. Click-and-hold on that small square and drag it down the spreadsheet. As you do, you'll notice the number increments as you go. Keep going until you're up to the number you want it to finish at. This might take a bit of practice to sort out how fast it all goes.

For larger ranges, select the last cell (**A3**) that you entered the formulae into and hit **Ctrl+C** (for Windows) or **⌘+C** (for Mac OS) to copy that cell. Select the next cell underneath (**A4**). Now for the tricky(ish) bit. Towards the top of the screen, just to the left of the formulae bar, you'll notice a small box that will have your current selected cell in it. It should read **A4**. Select that box and replace what's in it with **A4:A2001** where the last number is the total number of numbers you need, plus one (makes up for the field header that plus one does). Now, type **Ctrl+V** (for Windows) or **⌘+V** (for Mac OS) to paste that formulae into all those cells. Done.

Step 5

You've got your numbers, so now it's time to save it in a format for us.

Ideally, we'd like a tab-delimited text file along with the data file in it's native format. First up, just save the spreadsheet in it's native format, ***.xls** for Excel, ***.ods** for OpenOffice. Give the filename something that we'll understand; **3cs6ehsnw.xls** isn't too helpful to us. If your project is the Whroo Public Library membership cards, then **WhrooLibrary.xls** is a good filename to use.

If you can, also send us the file in a tab-delimited text format, too. The way to do this changes from package to package, version to version. If the words "tab-delimited text format" leave you a bit blank, then don't worry too much, we should be able to open the native format file.

All to do now is to send us the data, usually along with the artwork if you can. That way, we can make sure the data fits into the artwork before we get too far along.

Variable Image Data

Overview

Let's say we're doing a run of 5 ID cards. How do we set up the data and the files?

The first thing is to work out what we're going to use to name the files. It needs to be unique and ideally it needs to mean something. Usually with ID cards we're lucky in that there's a unique number for each card. We might also be able to use the name of person that the ID is for. Watch out for large runs though; it's not uncommon to have multiple IDs for different people of the same name.

Step 1

Let's start with the data first:

	A	B	C	D	...
1	employeeID	nameFirst	nameLast	filename	
2	51235	Jeffery	Smythe		
3	85321	John	Smith		
4	88754	Alex	Johnstone		
5	16354	Peter	Davies		
6	74356	John	Smith		

In this case, you'll notice we have two John Smiths (row 3 & 6). This means that we can't just use the employee's name as the filename - one of them will end up with the wrong photo. Looking at the data, we can see that the **employeeID** field is unique across the data. In this instance, we would recommend using that as the filename for the photo.

Step 2

To save typing, we add a little bit of formula to this table, one that copies the **employeeID** to **filename** and adds the file extension as well. In this instance we're going to use a concatenate to join the file extension to the **employeeID** field.

To do this, click in cell **D2** and type **=CONCATENATE(A2, ".jpg")**. Concatenate takes two values and joins them together into the one string.

	A	B	C	D	...
1	employeeID	nameFirst	nameLast	filename	
2	51235	Jeffery	Smythe	=CONCATENATE(A2, ".jpg")	
3	85321	John	Smith		
4	88754	Alex	Johnstone		

	A	B	C	D	...
5	16354	Peter	Davies		
6	74356	John	Smith		

When we exit this cell now, you'll see that it now has the value **51235.jpg**.

	A	B	C	D	...
1	employeeID	nameFirst	nameLast	filename	
2	51235	Jeffery	Smythe	51235.jpg	
3	85321	John	Smith		
4	88754	Alex	Johnstone		
5	16354	Peter	Davies		
6	74356	John	Smith		

Step 3

Drag this down to fill all the cells and you're data is done. You can also use concatenate to merge the **nameFirst** and **nameLast** fields if you were going to use that as your **filename** instead. In that case the formula would be **=CONCATENATE(B2,C2,".jpg")** to get **JefferySmythe.jpg** as the **filename** field.

	A	B	C	D	...
1	employeeID	nameFirst	nameLast	filename	
2	51235	Jeffery	Smythe	51235.jpg	
3	85321	John	Smith	85321.jpg	
4	88754	Alex	Johnstone	88754.jpg	
5	16354	Peter	Davies	16354.jpg	
6	74356	John	Smith	74356.jpg	

Step 4

The next thing to do is to ensure that your actual filenames match those that are in the data. Ideally this should be done when the images are first created and this is one of those things that are best thought of when specifying the ID card project to begin with.

Terms & Conditions of Trade

1. Definitions

1. "Manufacturer" shall mean Fiske Enterprises Pty Ltd T/A Fiske Advertising and its successors and assigns.
2. "Customer" shall mean the Customer or any person acting on behalf of and with the authority of the Customer.
3. "Guarantor" means that person (or persons), or entity who agrees herein to be liable for the debts of the Customer on a principal debtor basis.
4. "Goods" shall mean Goods supplied by the Manufacturer to the Customer (and where the context so permits shall include any supply of Services as hereinafter defined).
5. "Services" shall mean all services supplied by the Manufacturer to the Customer and includes any advice or recommendations (and where the context so permits shall include any supply of Goods as defined supra).
6. "Price" shall mean the cost of the Goods as agreed between the Manufacturer and the Customer subject to clause 4 of this contract.

2. Acceptance

1. Any instructions received by the Manufacturer from the Customer for the supply of Goods and/or the Customer's acceptance Goods supplied by the Manufacturer shall constitute acceptance of the terms and conditions contained herein.
2. Where more than one Customer has entered into this agreement, the Customer's shall be jointly and severally liable for all payments of the Price.
3. Upon acceptance of these terms and conditions by the Customer the terms and conditions are irrevocable and can only be rescinded in accordance with these terms and conditions or with the written consent of the manager of the Manufacturer.
4. None of the Manufacturer's agents or representatives are authorised to make any representations, statements, conditions or agreements not expressed by the manager of the Manufacturer in writing nor is the Manufacturer bound by any such unauthorised statements.
5. The Customer undertakes to give the Manufacturer not less than fourteen (14) days prior written notice of any proposed change in the Customer's name and/or any other change in the Customer's

details (including but not limited to, changes in the Customer's address, facsimile number, or business practice).

3. Goods

1. The Goods are as described on the invoices, quotation, work authorisation or any other work commencement forms as provided by the Manufacturer to the Customer.

4. Price And Payment

1. At the Manufacturer's sole discretion;
 - a. The Price shall be as indicated on invoices provided by the Manufacturer to the Customer in respect of Goods supplied; or
 - b. The Price of the Goods shall (subject to clause 4.2) be the Manufacturer's quoted Price which shall be binding upon the Manufacturer provided that the Customer shall accept in writing the Manufacturer's quotation within thirty (30) days.
2. Any variation from the plan of scheduled works or specifications will be charged for on the basis of the Manufacturer's quotation and will be shown as variations on the invoice. Payment for all variations must be made in full at their time of completion.
3. Time for payment for the Goods shall be of the essence and will be stated on the invoice, quotation or any other order forms. If no time is stated then payment shall be due thirty (30) days following the end of the month in which a statement is posted to the Customer's address or address for notices.
4. Payment will be made by cheque, or by bank cheque, or by direct credit, or by any other method as agreed to between the Customer and the Manufacturer.
5. The Price shall be increased by the amount of any GST and other taxes and duties which may be applicable, except to the extent that such taxes are expressly included in any quotation given by the Manufacturer.
6. All orders will be confirmed within forty-eight (48) hours of the order being placed.
7. Freight charges are made according to weight, size and destination of the Goods. Specific freight requirements must be advised at time of placing order.
8. If an order is cancelled once production has commenced,

the full invoice amount shall be payable.

9. A 50% deposit is required at the time of placing the order.
10. Application can be made for nil deposit and net credit of thirty (30) days once a satisfactory payment history has been made.

5. Delivery Of Goods/Services

1. Delivery of the Goods shall be made to the Customer's address. The Customer shall make all arrangements necessary to take delivery of the Goods whenever they are tendered for delivery, or delivery of the Goods shall be made to the Customer at the Manufacturer's address.
2. Delivery of the Goods to a carrier, either named by the Customer or failing such naming to a carrier at the discretion of the Manufacturer for the purpose of transmission to the Customer, is deemed to be a delivery of the Goods to the Customer.
3. Where there is no agreement that the Manufacturer shall send the Goods to the Customer, delivery to a carrier at limited carrier's risk at the expense of the Customer is deemed to be delivery to the Customer.
4. The Manufacturer may deliver the Goods by separate instalments (in accordance with the agreed delivery schedule). Each separate instalment shall be invoiced and paid for in accordance with the provisions in this contract of sale.
5. Delivery of the Goods to a third party nominated by the Customer is deemed to be delivery to the Customer for the purposes of this agreement.
6. The Customer shall take delivery of the Goods tendered notwithstanding that the quantity so delivered shall be either greater or less than the quantity purchased provided that;
 - a. such discrepancy in quantity shall not exceed 5%, and
 - b. the Price shall be adjusted pro rata to the discrepancy.
7. The failure of the Manufacturer to deliver shall not entitle either party to treat this contract as repudiated.
8. The Manufacturer shall not be liable for any loss or damage whatever due to failure by the Manufacturer to deliver the Goods (or any of them) promptly or at all.

6. Risk

1. If the Manufacturer retains

property in the Goods nonetheless, all risk for the Goods passes to the Customer on delivery.

2. If any of the Goods are damaged or destroyed prior to property in them passing to the Customer, the Manufacturer is entitled, without prejudice to any of its other rights or remedies under these Terms and Conditions of Trade (including the right to receive payment of the balance of the Price for the Goods), to receive all insurance proceeds payable for the Goods. This applies whether or not the Price has become payable under the Contract. The production of these terms and conditions by the Manufacturer is sufficient evidence of the Manufacturer's rights to receive the insurance proceeds without the need for any person dealing with the Manufacturer to make further enquiries.

7. Customer's Disclaimer

1. The Customer hereby disclaims any right to rescind, or cancel the contract or to sue for damages or to claim restitution arising out of any misrepresentation made to him by any servant or agent of the Manufacturer and the Customer acknowledges that he buys the Goods relying solely upon his own skill and judgement and that the Manufacturer shall not be bound by nor responsible for any term, condition, representation or warranty other than the warranty given by the Manufacturer which warranty shall be personal to the Customer and shall not be transferable to any subsequent Customer.

8. Defect/Returns

1. The Customer shall inspect the Goods on delivery and shall within seven (7) days of delivery notify the Manufacturer of any alleged defect, shortage in quantity, damage or failure to comply with the description or quote. The Customer shall afford the Manufacturer an opportunity to inspect the Goods within a reasonable time following delivery if the Customer believes the Goods are defective in any way. If the Customer shall fail to comply with these provisions, the Goods shall be conclusively presumed to be in accordance with the terms and conditions and free from any defect or damage.
2. For defective Goods, which the Manufacturer has agreed in writing that the Customer is entitled to reject, the Manufacturer's liability is limited

to either (at the Manufacturer's discretion) replacing the Goods or repairing the Goods provided that the Customer has complied with the provisions of clause 7.1.

9. Warranty

1. For Goods not manufactured by the Manufacturer, the warranty shall be the current warranty provided by the manufacturer of the Goods. The Manufacturer shall be under no liability whatsoever, except for the express conditions as detailed and stipulated in the manufacturer's warranty.

10. The Commonwealth Trade Practices Act 1974 and Fair Trading Acts

1. Nothing in this agreement is intended to have the effect of contracting out of any applicable provisions of the Commonwealth Trade Practices Act 1974 or the Fair Trading Acts in each of the States and Territories of Australia, except to the extent permitted by those Acts where applicable.

11. Intellectual Property

1. Where the Manufacturer has designed or drawn Goods for the Customer, then the copyright in those designs and drawings shall remain vested in the Manufacturer, and shall only be used by the Customer at the Manufacturer's discretion.
2. Conversely, in such a situation, where the Customer has supplied drawings, the Manufacturer in its sale conditions may look for an indemnity (the specifications and design of the Goods (including the copyright, design right or other intellectual property in them) shall as between the parties be the property of the Manufacturer).
3. Where any designs or specifications have been supplied by the Customer for manufacture, by or to the order of the Manufacturer then the Customer warrants that the use of those designs or specifications for the manufacture, processing, assembly or supply of the Goods shall not infringe the rights of any third party.
4. The Customer warrants that all designs or instructions to the Manufacturer will not cause the Manufacturer to infringe any patent, registered design or trademark in the execution of the Customer's order

12. Default & Consequences Of Default

1. Interest on overdue invoices shall accrue from the date when payment becomes due daily until the date of payment at a rate of 5% per calendar month and shall accrue at such a rate after as well

as before any judgement.

2. If the Customer defaults in payment of any invoice when due, the Customer shall indemnify the Manufacturer from and against all the Manufacturer's costs and disbursements including on a solicitor and own client basis and in addition all of the Manufacturer's nominees costs of collection.
3. Without prejudice to any other remedies the Manufacturer may have, if at any time the Customer is in breach of any obligation (including those relating to payment), the Manufacturer may suspend or terminate the supply of Goods to the Customer and any of its other obligations under the terms and conditions. The Manufacturer will not be liable to the Customer for any loss or damage the Customer suffers because the Manufacturer exercised its rights under this clause.
4. If any account remains unpaid at the end of the second month after supply of the goods or services the following shall apply: An immediate amount of the greater of \$20.00 or 10.00% of the amount overdue shall be levied for administration fees which sum shall become immediately due and payable.
5. In the event that:
 - a. any money payable to the Manufacturer becomes overdue, or in the Manufacturer's opinion the Customer will be unable to meet its payments as they fall due; or
 - b. the Customer becomes insolvent, convenes a meeting with its creditors or proposes or enters into an arrangement with creditors, or makes an assignment for the benefit of its creditors; or
 - c. a receiver, manager, liquidator (provisional or otherwise) or similar person is appointed in respect of the Customer or any asset of the Customer;
6. then without prejudice to the Manufacturer's other remedies at law
 - a. the Manufacturer shall be entitled to cancel all or any part of any order of the Customer which remains unperformed in addition to and without prejudice to any other remedies; and
 - b. all amounts owing to the Manufacturer shall, whether or not due for payment,

immediately become payable.

13. Title

1. It is the intention of the Manufacturer and agreed by the Customer that property in the Goods shall not pass until:
 - a. The Customer has paid all amounts owing for the particular Goods, and
 - b. The Customer has met all other obligations due by the Customer to the Manufacturer in respect of all contracts between the Manufacturer and the Customer, and that the Goods shall be kept separate until the Manufacturer shall have received payment and all other obligations of the Customer are met.
2. It is further agreed that:
 - a. Until such time as ownership of the Goods shall pass from the Manufacturer to the Customer the Manufacturer may give notice in writing to the Customer to return the Goods or any of them to the Manufacturer. Upon such notice the rights of the Customer to obtain ownership or any other interest in the Goods shall cease.
 - b. If the Customer fails to return the Goods to the Manufacturer then the Manufacturer or the Manufacturer's agent may enter upon and into land and premises owned, occupied or used by the Customer, or any premises as the invitee of the Customer, where the Goods are situated and take possession of the Goods, without being responsible for any damage thereby caused.
 - c. The Customer is only a bailee of the Goods and until such time as the Manufacturer has received payment in full for the Goods then the Customer shall hold any proceeds from the sale or disposal of the Goods on trust for the Manufacturer.

14. Security And Charge

1. Notwithstanding anything to the contrary contained herein or any other rights which the Manufacturer may have howsoever:
 - a. Where the Customer and/or the Guarantor (if any) is the owner of land, realty or any other asset capable of being charged, both the Customer and/or the Guarantor agree to mortgage and/or charge all of their joint and/or several interest in the said land, realty or any other asset to the Manufacturer or

the Manufacturer's nominee to secure all amounts and other monetary obligations payable under the terms and conditions. The Customer and/or the Guarantor acknowledge and agree that the Manufacturer (or the Manufacturer's nominee) shall be entitled to lodge where appropriate a caveat, which caveat shall be released once all payments and other monetary obligations payable hereunder have been met.

- b. Should the Manufacturer elect to proceed in any manner in accordance with this clause and/or its sub-clauses, the Customer and/or Guarantor shall indemnify the Manufacturer from and against all the Manufacturer's costs and disbursements including legal costs on a solicitor and own client basis.
- c. To give effect to the provisions of clause [14.1 (a) and (b)] inclusive hereof the Customer and/or the Guarantor (if any) do hereby irrevocably nominate constitute and appoint the Manufacturer or the Manufacturer's nominee as the Customer's and/or Guarantor's true and lawful attorney to execute mortgages and charges (whether registerable or not) including such other terms and conditions as the Manufacturer and/or the Manufacturer's nominee shall think fit in his/her/its/their absolute discretion against the joint and/or several interest of the Customer and/or the Guarantor in any land, realty or asset in favour of the Manufacturer and in the Customer's and/or Guarantor's name as may be necessary to secure the said Customer's and/or Guarantor's obligations and indebtedness to the Manufacturer and further to do and perform all necessary and other acts including instituting any necessary legal proceedings, and further to execute all or any documents in the Manufacturer's absolute discretion which may be necessary or advantageous to give effect to the provisions of this clause.

15. Cancellation

1. The Manufacturer may cancel these terms and conditions or cancel delivery of Goods at any time before the Goods are

delivered by giving written notice. The Manufacturer shall not be liable for any loss or damage whatever arising from such cancellation.

16. Privacy Act 1988

1. The Customer and/or the Guarantor/s agree for the Manufacturer to obtain from a credit-reporting agency a credit report containing personal credit information about the Customer and Guarantor/s in relation to credit provided by the Manufacturer.
2. The Customer and/or the Guarantor/s agree that the Manufacturer may exchange information about Customer and Guarantor/s with those credit providers named in the Application for Credit account or named in a consumer credit report issued by a reporting agency for the following purposes:
 - a. To assess an application by Customer;
 - b. To notify other credit providers of a default by the Customer;
 - c. To exchange information with other credit providers as to the status of this credit account, where the Customer is in default with other credit providers; and
 - d. To assess the credit worthiness of Customer and/or Guarantor/s.
3. The Customer consents to the Manufacturer being given a consumer credit report to collect overdue payment on commercial credit (Section 18K(1)(h) Privacy Act 1988).
4. The Customer agrees that Personal Data provided may be used and retained by the Manufacturer for the following purposes and for other purposes as shall be agreed between the Customer and Manufacturer or required by law from time to time:
 - a. provision of Services & Goods;
 - b. marketing of Services and/or Goods by the Manufacturer, its agents or distributors in relation to the Services and Goods;
 - c. analysing, verifying and/or checking the Customer's credit, payment and/or status in relation to provision of Services/Goods;
 - d. processing of any payment instructions, direct debit facilities and/or credit facilities requested by Customer; and
 - e. enabling the daily operation of Customer's account and/or the collection of amounts

outstanding in the Customer's account in relation to the Services and Goods.

5. The Manufacturer may give, information about the Customer to a credit reporting agency for the following purposes:
 - a. to obtain a consumer credit report about the Customer; and or
 - b. allow the credit reporting agency to create or maintain a credit information file containing information about the Customer.

17. Unpaid Manufacturer's Rights To Dispose Of Goods

1. In the event that:
 - a. the Manufacturer retains possession or control of the Goods; and
 - b. payment of the Price is due to the Manufacturer; and
 - c. the Manufacturer has made demand in writing of the Customer for payment of the Price in terms of this contract; and
 - d. the Manufacturer has not received the Price of the Goods,
2. then, whether the property in the Goods has passed to the Customer or has remained with the Manufacturer, the Manufacturer may dispose of the Goods and may claim from the Customer the loss to the Manufacturer on such disposal.

18. Lien & Stoppage in Transit

1. Where the Manufacturer has not received or been tendered the

whole of the price, or the payment has been dishonoured, the Manufacturer shall have:

- a. a lien on the goods;
 - b. the right to retain them for the price while the Manufacturer is in possession of them;
 - c. a right of stopping the goods in transit whether or not delivery has been made or ownership has passed; and
 - d. a right of resale,
 - e. the foregoing right of disposal,
2. provided that the lien of the Manufacturer shall continue despite the commencement of proceedings or judgement for the price having been obtained.

19. General

1. If any provision of these terms and conditions shall be invalid, void or illegal or unenforceable the validity existence, legality and enforceability of the remaining provisions shall not be affected, prejudiced or impaired.
2. All Goods supplied by the Manufacturer are subject to the laws of Victoria and the Manufacturer takes no responsibility for changes in the law which affect the Goods supplied.
3. The Manufacturer shall be under no liability whatever to the Customer for any indirect loss and/or expense (including loss of profit) suffered by the Customer arising out of a breach by the Manufacturer of these terms and conditions.

4. In the event of any breach of this contract by the Manufacturer the remedies of the Customer shall be limited to damages. Under no circumstances shall the liability of the Manufacturer exceed the Price of the Services.
5. The Customer shall not set off against the Price amounts due from the Manufacturer.
6. The Manufacturer may license or sub-contract all or any part of its rights and obligations without the Customer's consent.
7. The Manufacturer reserves the right to review these terms and conditions at any time and from time to time. If, following any such review, there is to be any change in such terms and conditions, that change will take effect from the date on which the Manufacturer notifies the Customer of such change.
8. Neither party shall be liable for any default due to any act of God, war, terrorism, strike, lock out, industrial action, fire, flood, drought, storm or other event beyond the reasonable control of either party.
9. Whilst every effort is made to return customer samples, no guarantee is given. Please note, some samples may be damaged during production.
10. Unless otherwise stated by the Customer in writing, all Goods may be used by the Manufacturer for display or catalogue purposes.

