



## **Artwork Reference Guide**

**We're here to help you make the most of  
your music and creativity**

Thank you for choosing us



These guidelines have been created to help you understand what's required in supplying finished, print-ready artwork.

If anything is unclear please get in touch as we're always happy to help.

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## Your artwork

The following should be included in all CD, DVD & vinyl artwork:

- **Title of album**
- **Name of band/artist and any band logo**
- **Catalogue Number**

The catalogue number is usually printed on the spines, back panel and disc.

- **Label name and logo (if applicable)**

- **Barcode**

If you require a barcode number or graphic we will send you this plus a copy of our usage guidelines.

If you require us to add a barcode to your artwork the positioning should be indicated in a separate file.

It is a condition of our membership of GS1 that we must be credited if issuing a barcode. This can be very small text – 5pt minimum and reads:

*Manufactured in The Netherlands  
www.birnamcd.com*

- **Publishing and copyright information**

CD, DVD & vinyl packaging should always carry a copyright notice to protect the rights of the individual or company producing the discs.

A typical copyright notice reads:

*© 2021 Artist/record company name\*. © 2021 Artist/record company name\*.  
All rights of the producer and of the owner of the recorded work reserved.  
Unauthorised copying, public performance, broadcasting, hiring or rental of this  
recording is prohibited.*

- **Contact details – website, social media etc.**

- **Credits & thanks such as recording, production, design etc.**

Check out some CDs, DVDs or vinyl to see if you are missing anything obvious.

It's a good idea to print out and produce a 'mock up' of your artwork so you can proof read it to ensure there are no spelling errors and you are happy with the layout. We're always happy to help with any aspect of the design process but we do not proof read artwork.

## Creating your artwork

We suggest you use professional software like **Adobe InDesign** to create your finished artwork. There are other DTP software options available but most are unsuitable for producing artwork to professional standards (for example many can only output low resolution images and files in RGB rather than CMYK)

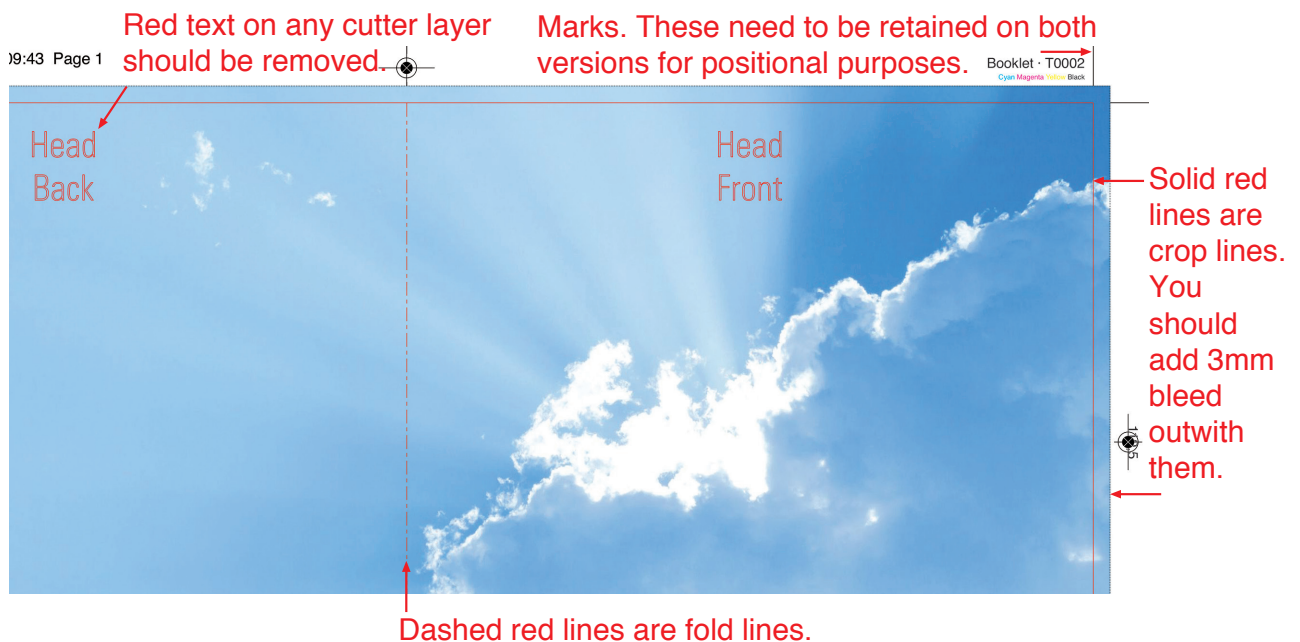
### Layout

The layout size used for the document must correspond to the final format of the actual product, including bleed. We work with a number of quality printers which means that individual artwork specifications may vary slightly. Please contact us to discuss your packaging requirements and we will then email the relevant artwork templates.

### Templates

We will supply a zipped folder which will contain templates for InDesign, Illustrator, QuarkXpress and Photoshop.

**We require two versions of each finished PDF – one with the cutter guide and marks layers turned on and one with only the marks (see page 12).** In InDesign and QuarkXpress the red cutter guide can be turned on and off using the Layers menu. Illustrator and Photoshop users need to manually remove the red lines and text.



\*Note that 3mm bleed should be included on the inner spines of digipacks, digisleaves and digifiles.

\*Please clearly mark your artwork using the Catalogue Number, Template Reference Number and Artist/Client name and send it to us here: <http://birnam.wetransfer.com>. otherwise it may cause delays.

\*Before starting please check that the file dimensions correctly correspond to the dimensions in the Reference PDFs.

## CD, DVD & Blu-ray labels

### Setting up your artwork:

- Pixel-based images should be CMYK and have a resolution of at least 600ppi.
- Single colour images should have a resolution of 1200ppi.
- If printing large areas of solid colour on discs it should be set up as Pantone Coated.
- Artwork should be supplied as 117mm x 117mm. Your design / background colour can cover the entire disc area or only parts of it. If you plan to print on all of the disc you should submit artwork that has your image / background filled all the way to the centre.
- Text other than copyright notices must be bigger than 5pt. If using fine text or white out of coloured text then it should be no less than 7pt. For the best results make all text vector. Text that is part of an image (i.e. done in Photoshop) may not print as clear, and should always be at least 600ppi.

• **DO NOT KNOCK OUT the centre hole to white as this can cause registration problems and you may end up with a white halo at the centre of the disc.**

### White base or silver disc?

• **By default we will print onto white discs (white base) unless specifically asked to print directly onto silver.**

- If printing without a white base, please take into consideration the difference in appearance of the ID ring and clear hub when designing artwork. You should keep any text or images outwith the plastic hub.

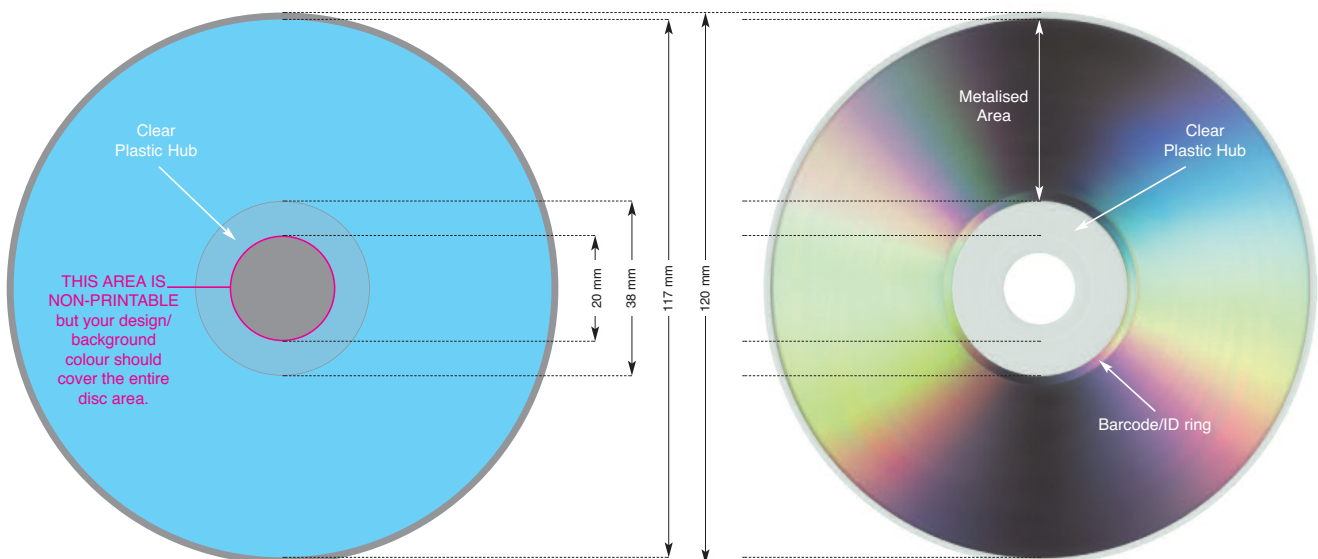
If your disc artwork contains photographic / full colour images, or if you want any part (including text) to print as white you will need a white base.

We strongly suggest using a white base, especially when dealing with photographic materials, as printing colour or greyscale directly onto silver discs may not have the desired effect you want.

• **White Base: 20mm diameter inner / 117mm diameter outer. This is the entire printable surface of the disc.**

• **Silver Disc: 38mm diameter inner clear plastic hub / 117mm diameter outer edge. This is the metalised area of the disc to be printed on.**

If you are unsure please contact us as we are always happy to help.



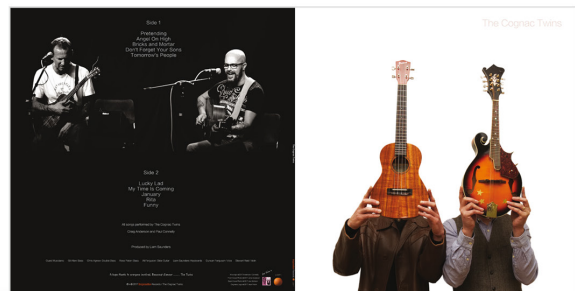
## Vinyl sleeves / CD card wallets

### Setting up your artwork:

Sleeves and card wallets can be top opening or side opening. Most are side opening but it's completely up to you. Please indicate clearly your preferred choice.



Side opening



The correct orientation to set up artwork for side opening



Top opening



The correct orientation to set up artwork for top opening

### Cutout holes in sleeves and wallets

If you want holes cut out of the sleeves let us know. Please supply a second file with the holes clearly marked.

### Vinyl labels

The record needs to be 'baked' when the label is fixed onto the record. This means that heat is applied to the labels which can cause an alteration to the colour.

We recommend you do not use metallic Pantone colours on the label.

## Bleed

Bleed is a 3mm continuation of the background colour or images outwith the print area to be trimmed (as displayed in the example marked green below). Bleed prevents potential white edges when the paper/card has been cropped to finished dimensions. The 3mm bleed margin must be included on every external edge, including inner spines of digipaks, digisleeves and digifiles.

**It is essential to include bleed on all of your artwork.**

\* QuarkXpress and InDesign users – see pages 14-16 for additional bleed in the PDF output settings.

**TEXT** should not be placed too close to the trim edges as there is a risk it will be cut off. We recommend at least 3mm from the edge. If the intention is to crop text please indicate this clearly. Text other than copyright notices must be bigger than 5pt. If using fine text or white out of coloured text then it should be no less than 7pt. For the best results make all text vector. Text that is part of an image (i.e. done in Photoshop) may not print as clear, and should always be at least 600ppi.



## Page Imposition

Booklets need to be supplied as printers' pairs. A 12 page example of how the pages should be laid out is shown here:

12 BACK PAGE	1 FRONT PAGE	2	11	10	3
4	9	8	5	6	7

## Page creep

Please take into account the effects of page creep, which occurs during production of multi-page booklets. This term refers to the fact that the inner pages are pushed outwards when the booklet is folded, meaning that the content of images must be indented in order to avoid these being trimmed.

## Catalogue number

Our production process uses a product catalogue number to ensure a smooth manufacturing operation.

A catalogue number makes it easily identifiable for ordering, tracking and other purposes. This can be anything you want, but typically, a catalogue number will be a combination of letters and numbers (e.g. ABC123: ABC123CD: ABC123DVD etc). Once you choose a format, it is a good idea to stick with it for further product releases. It's a good idea to check whether your catalogue number may already have been used for another product. Type the number into Google and see what results come up. This isn't a failsafe method, but it's a good starting point.

Check that the catalogue number appears everywhere you would like it to on the packaging. For CD packaging, it is usual for the catalogue number to appear on both spines, on the rear tray card (or on the back page for card packaging) and on the disc face. For DVD packaging, the catalogue number will generally appear on the spine and the rear page of the outer cover as well as on the disc face. It may also be included on the rear page of the booklet, if the package includes one.

## Barcode

We can supply barcode numbers and graphics. Please ask.

Although it is possible to print barcodes in certain colour combinations, we recommend that the graphic is created as a 100% black-only EPS on a white background. This guarantees that the barcode will scan correctly and easily.

**DO NOT SUPPLY YOUR BARCODE IN CMYK – IT NEEDS TO BE 100% BLACK ONLY ON WHITE.**

The graphic below illustrates our recommended minimum dimensions for the barcode graphic. There should be at least 3mm space added at either side of the bars.



## Image size and resolution

Images in InDesign, Illustrator and QuarkXpress should always be at high resolution – at least 300ppi (pixels per inch) resolution at actual size. Images containing fine lines or small text should be 600ppi minimum. Bitmap line artwork needs to be extremely high resolution (1200ppi, actual size). All lines need to be at least 0.3pt. We advise that you don't create finished artwork in Photoshop, but if you do, resolution should be set at 600ppi minimum. Do not reduce before supplying. This helps to keep the text edges sharp. If you are using any low resolution images these should be noted in a text document and supplied with the files.



## Fonts

Embedding fonts means that you make the font a part of the document itself to carry it along to any other computer accessing it. It's important to ensure that all fonts are embedded or converted to paths / curves. Text other than copyright notices must be bigger than 5pt. If using fine text or white out of coloured text then it should be no less than 7pt. For the best results make all text vector. Text that is part of an image (i.e. done in Photoshop) may not print as clear, and should always be at least 600ppi.

## Colours

The colours used in your files must always be created as **CMYK** or **greyscale**. Large areas of solid colours to be printed onto discs should always be set as **Pantone Coated** unless part of a photograph.

**Files including RGB elements will be rejected as will files containing colour profiles.**

The total ink application should not exceed 340%. The minimum ink values should be over 5% for cyan, magenta and black, and over 10% for yellow.

Black which is just black ink will appear more dull if used in large blocks than a 'rich' black which contains cyan, magenta and yellow.

'Rich' Black is used for blocks of black and graphics.

Designers use various CMYK colour combinations to achieve 'rich' black.

A common 'rich' black setting is C=75%, M=68%, Y=67%, K=90%.

Photoshop Default 5 uses C=63%, M=52%, Y=51%, K=100%.

If you are using a lot of black in your design then it is essential to make sure that the black matches throughout.

Blocks of black body text should be set to overprint K=100% only.

## Pantone

Large areas of solid colours to be printed onto discs should always be set as **Pantone Solid Coated** unless part of a photograph. Pantone Solid inks are pre-mixed, like paint, and are applied in one coat, meaning that there is no chance of banding of solid colour areas occurring, as is sometimes the case when printing the same large areas of CMYK onto plastic discs. If you are using Pantone colours within the artwork then you need to specify the Pantone colour number, for example PMS 368 (PMS = Pantone Matching System). Unlike CMYK, Pantone colours are limited and do not always match CMYK values so it is important to check this if trying to match Pantones with CMYK.

**Printing Pantone colours on the card / paper parts will incur additional costs.**

## Varnishes

If you would like your product to have a special finish such as a spot varnish you need to make a separate document detailing the areas for varnish only. Objects and / or areas that require partial coating must be laid out using 100% Black only. All objects for varnishing have to be created as vector files and cannot contain any pixels.

## Foil blocking and embossing / debossing

All areas which require embossing / debossing need to be clearly indicated in your file on a separate page using 100% Black only. For hot foil embossing, the elements to be embossed must not be present in the composite file, that is, the artwork must not lie underneath the embossed area as this can lead to register problems. The embossing must cover the artwork without leaving white gaps. All objects for embossing and debossing have to be created as vector files and cannot contain any pixels. For multi step embossing please create a single layer for every step.

## Overprinting

Black text should be set to overprint K=100% only as this will ensure no 'halos' appear if the paper / card moves at all in the printing process.

## Illustrator

Black is set to knockout by default. To overprint black text follow this path:

### Window > Attributes > Overprint Fill

To overprint black objects, such as logos, shapes etc follow the same path.

To overprint lines using the same path check the box marked **Overprint Stroke**.

## Inner Spine Printing

In order to enable digipaks, digisleeves and digifiles to close, a section of each of the inner spines has to be cut out, leaving the reverse of the board showing as one or more white strips. For an additional cost, these strips can be printed, usually to fill the gaps left if using a photograph which spreads over the inner panels. The illustrations below demonstrate.



Without inner spine print



With inner spine print

## Common faults with supplied files

### Barcode problems

Reading errors due to colour and background.

Barcodes printed in CMYK may not scan effectively if the registration becomes slightly out. To be guaranteed to scan, barcodes should be vector rather than raster graphics and 100% black on a white background.

### CMYK artwork supplied with Pantone or spot colours

Pantone or spot colours used in artwork not converted to CMYK: colours should be converted in native files before creating a PDF. Please note that not all spot colours have an accurate match when printed CMYK. If you wish to use Pantones or spot colours refer to page 9.

### Files not supplied as PDFs

There will be a processing charge if you require us to create PDFs from your native files – for example, InDesign, Illustrator, Photoshop, QuarkXpress etc. In addition to the native files, you need to include all images and fonts used.

### **Fonts not embedded**

All fonts used must be embedded. Any fonts not embedded will be regarded as missing by our system and font substitution may occur with a default font. Ensure that your PDF output settings are set to embed fonts (see exporting your PDF). Typefaces given an artificial bold or italic style by DTP applications may not print as they appear on screen.

### **Ink saturation**

Ink saturation cannot exceed 340% (total ink coverage in any area including images), any higher may cause drying and set-off problems to occur. Inks with more than 95% coverage will fill in solid. The minimum sustainable percentage of any ink is 2%, levels below this may not print.

### **Low resolution files**

Files should always be high resolution. Image resolution should be 300 ppi (pixels per inch) minimum for colour and greyscale images, 1200 ppi for bitmap line artwork. This should be the final resolution, i.e. if you use an image with an original resolution of 300 ppi at 200% size, the effective resolution will be only 150 ppi. To avoid producing low resolution PDFs ensure the settings used do not downsample images.

### **No bleed allowance**

Artwork supplied without bleed (printed matter designed to run off the edge of the finished trimmed paper, normally 3mm). Missing or insufficient bleed amount may result in raw paper or board appearing on edges.

### **RGB colours and images**

The industry standard for print is CMYK (Cyan, Magenta, Yellow & Black, commonly known as process colours). RGB (Red, Green & Blue, light primary colours), Index or Lab colours are used for screen or web application, and have to be converted to CMYK. Some colours change dramatically and cannot be matched, altering the finished product.



## **Supplying finished artwork – Outputting your PDF.**

You should supply your files as CMYK print-ready PDFs to the specific settings contained over the next few pages.

A print-ready PDF should contain all the information required to go straight to print. When correctly supplied to Birnam CD spec, it enhances workflow and allows us to pass on the benefits by avoiding handling charges.

Using Adobe Acrobat Professional the finished artwork can be viewed in its entirety, allowing type, images, colours, overprinting, and ink coverage to be checked. This is done in Print Production > Preflight and Print Production > Output Preview.

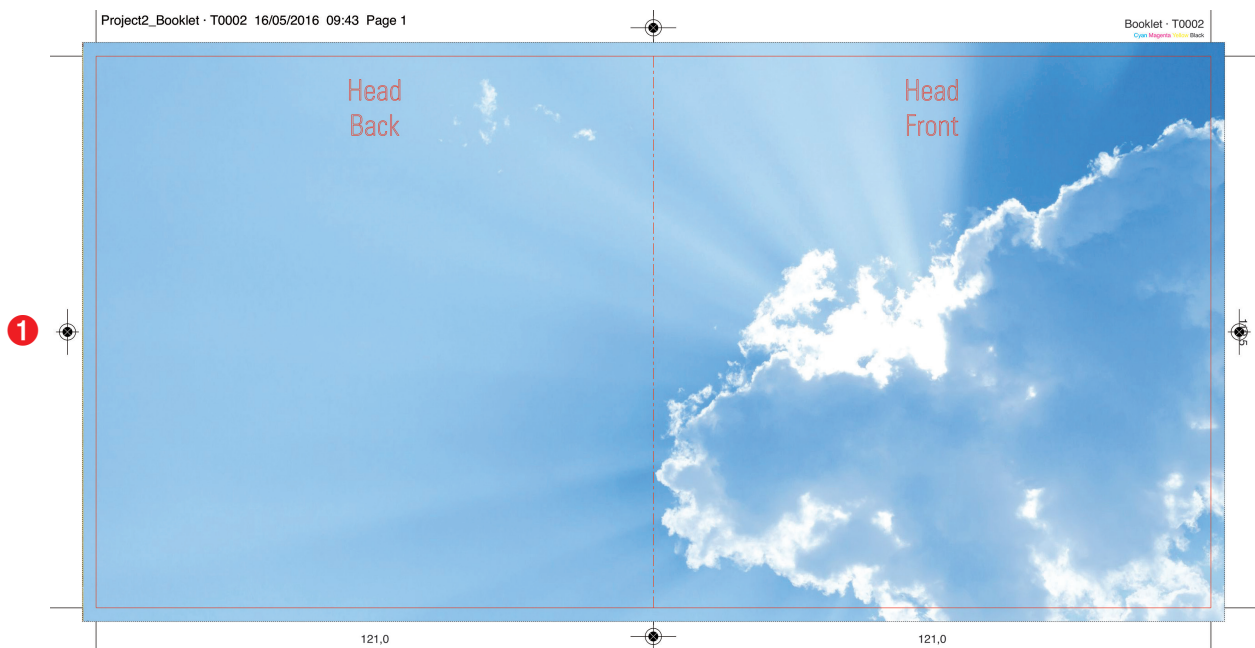
We require two PDF versions of finished artwork:

- 1 With the red Cutter Guide and Marks layers turned on.
- 2 With the Cutter Guide layer turned off but keeping the Marks layer visible.

### Illustrator and Photoshop:

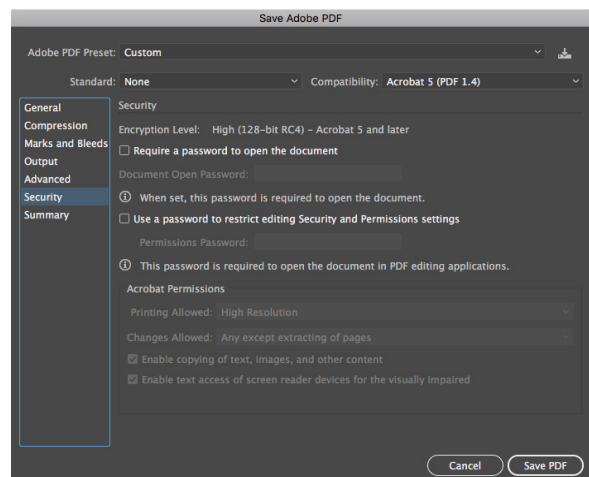
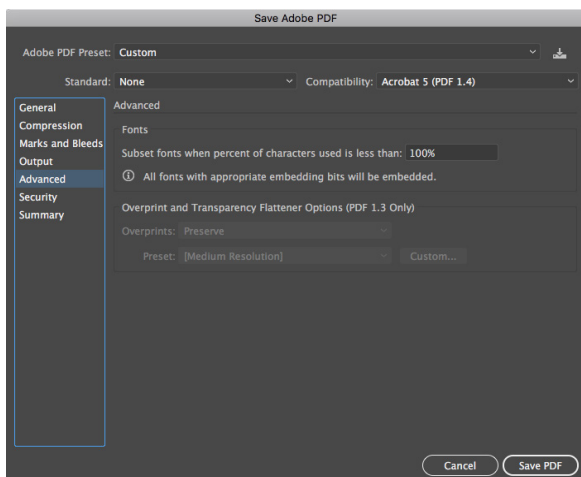
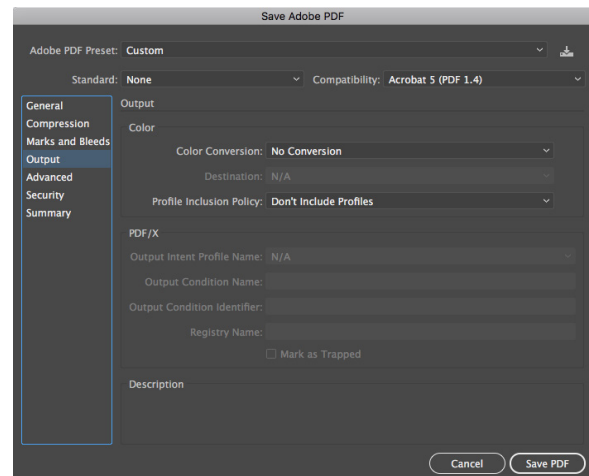
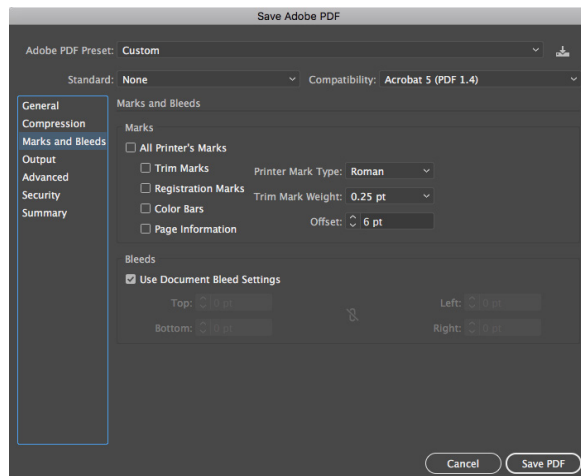
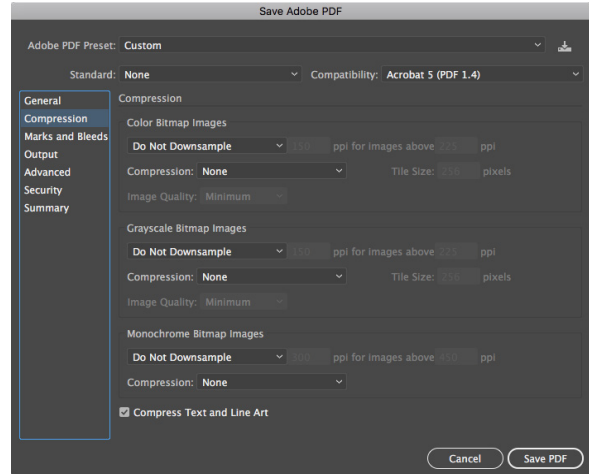
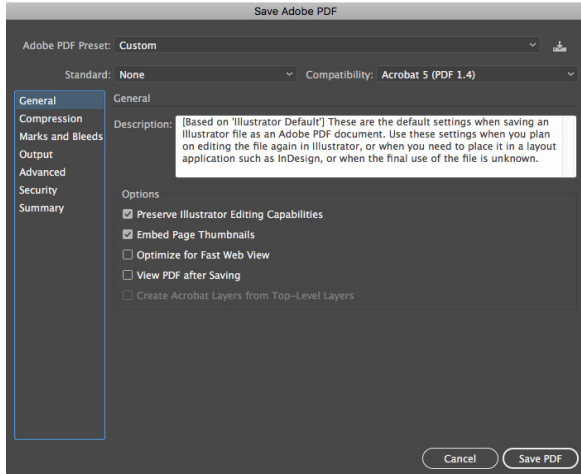
To open at actual size drag and drop PDFs onto your software icon.

When opened you should name this first layer **Cutter Guide** and then duplicate it and rename the new layer **Marks**. In the Marks layer all red lines and text should be removed.



## Adobe Illustrator PDF output settings

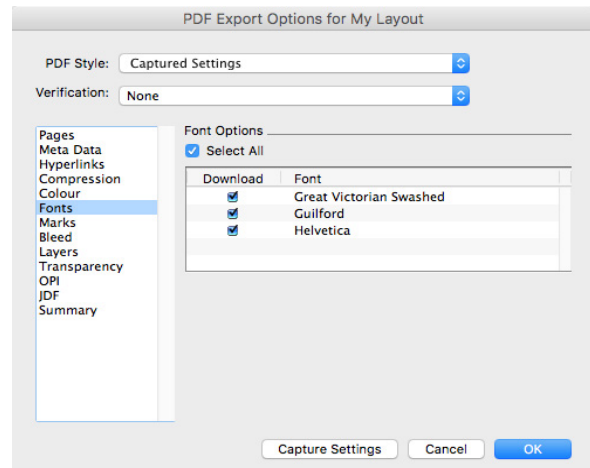
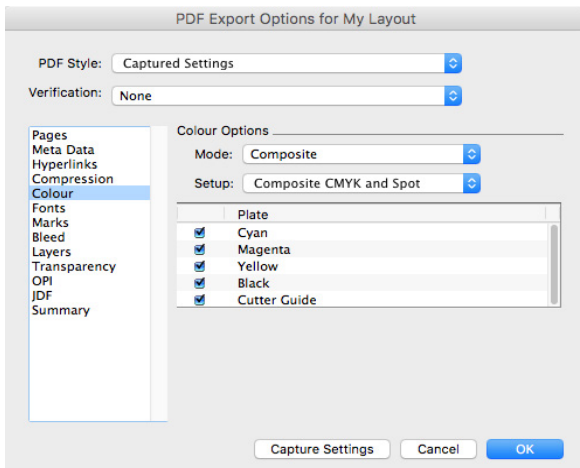
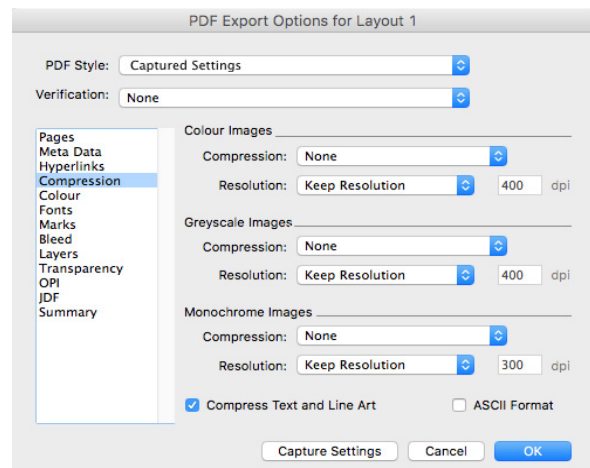
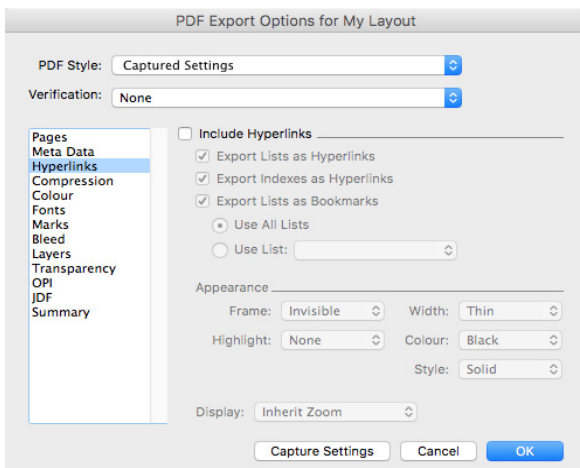
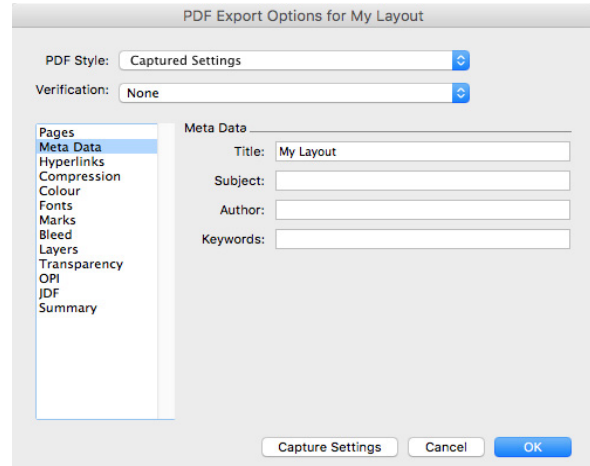
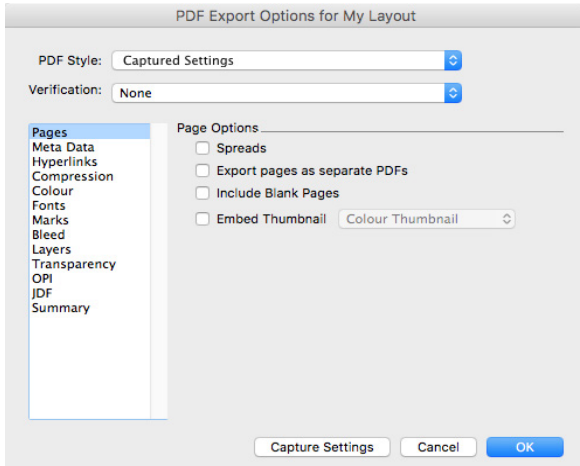
The following are PDF export settings for Illustrator.



## QuarkXpress PDF output settings

The following are PDF export settings for QuarkXpress.

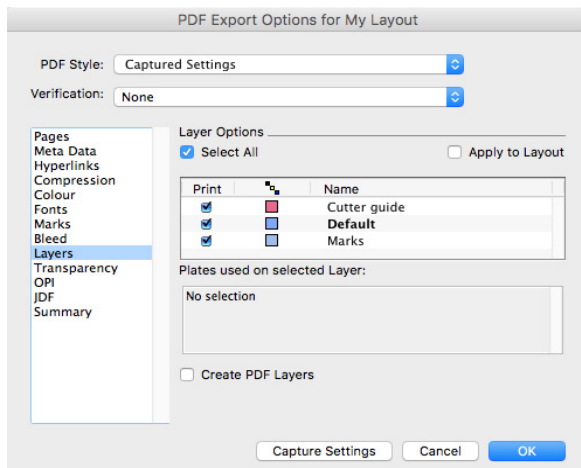
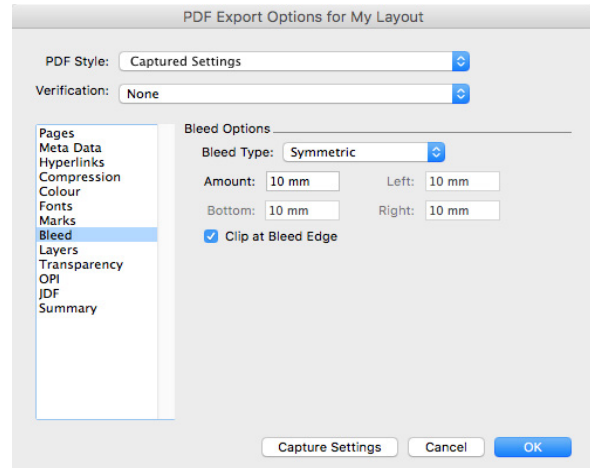
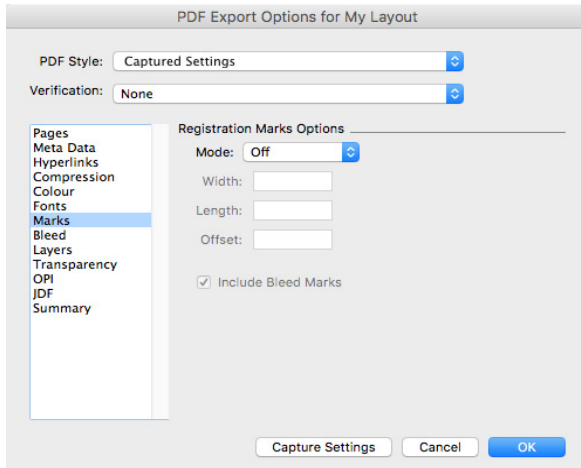
**\* In older versions of QuarkXpress please ensure that OPI is NOT used.**



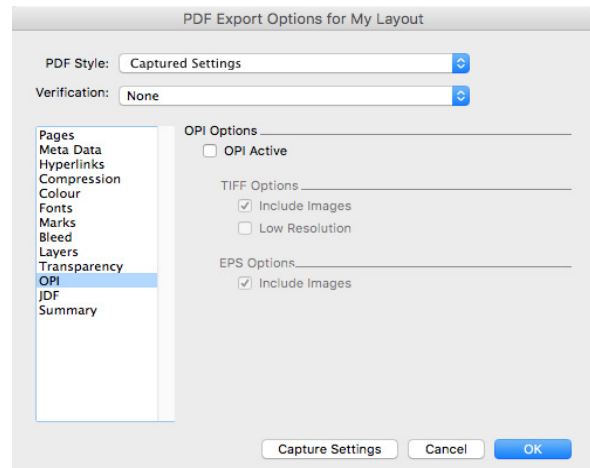
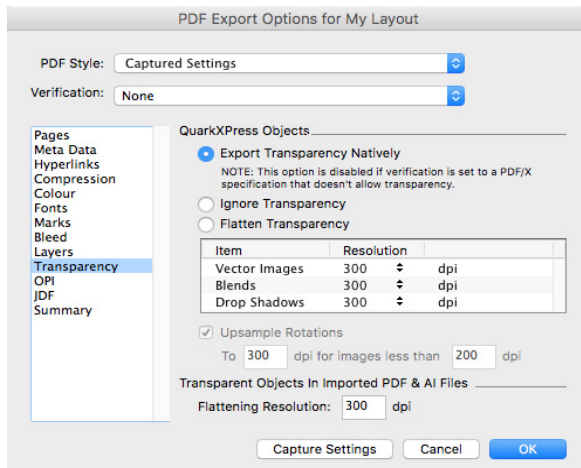
Continued overleaf...

## QuarkXpress PDF output settings (continued)

The following are PDF export settings for QuarkXpress.

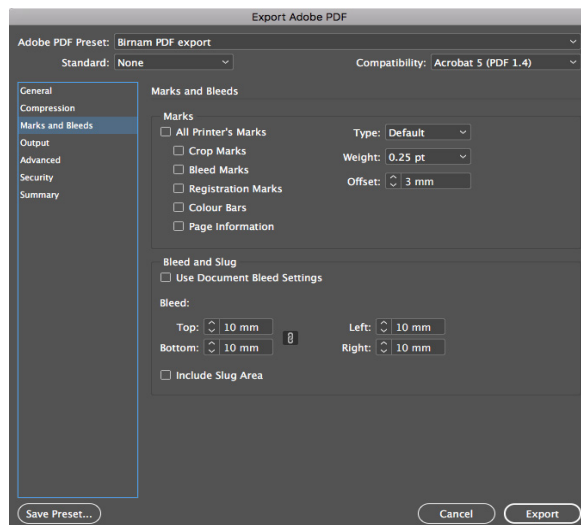
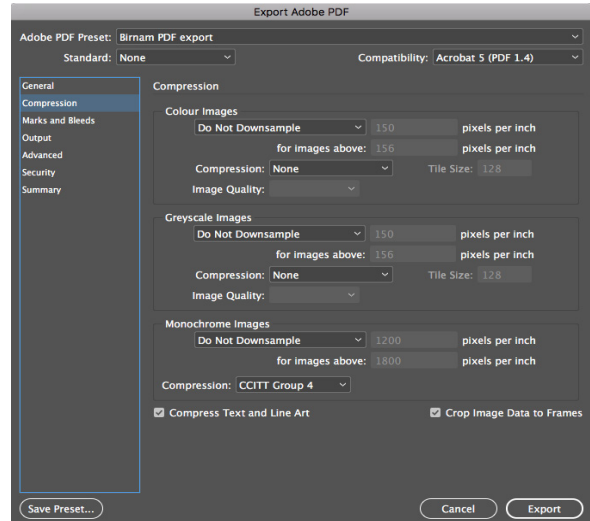
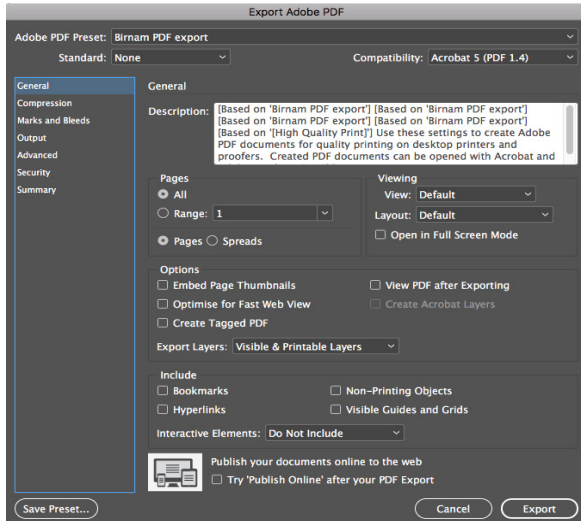


↑ The bleed around your artwork should be the standard 3mm. However, at PDF export stage in QuarkXpress, you need to set the bleed in the output settings at 10mm which takes into consideration the 3mm artwork bleed and the marks.

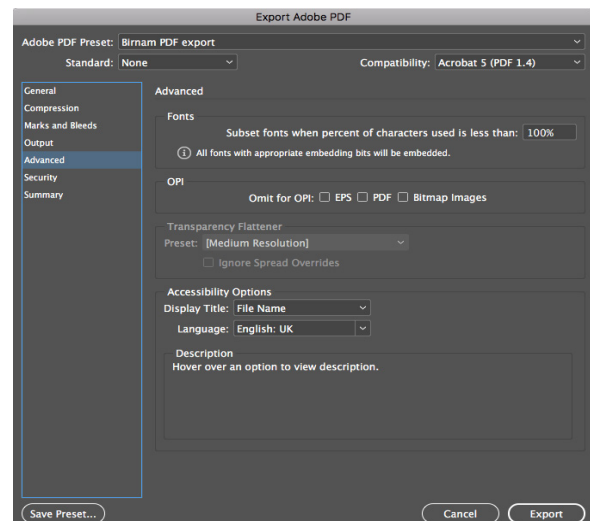
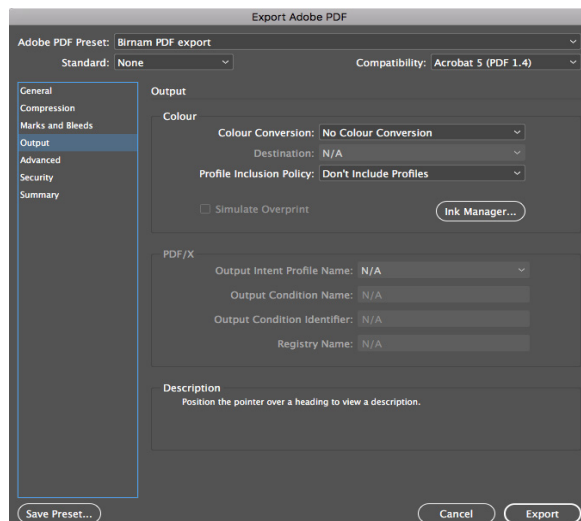


## Adobe InDesign PDF output settings

The following are PDF export settings for InDesign



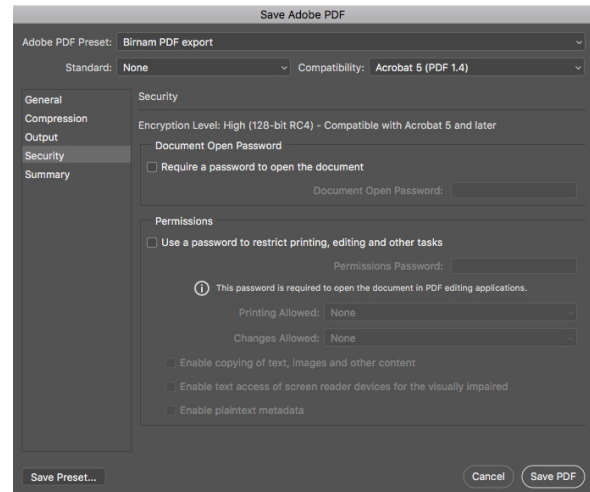
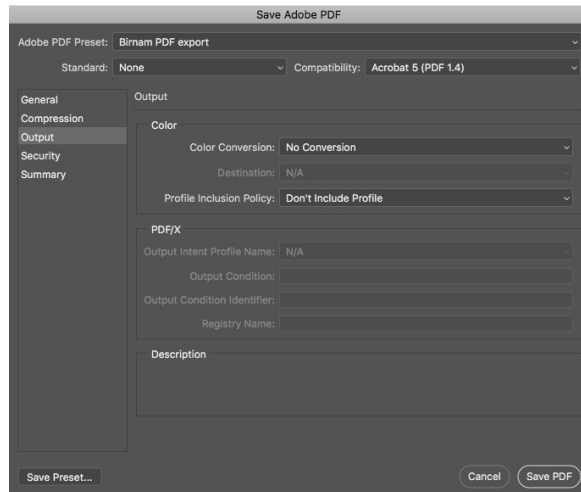
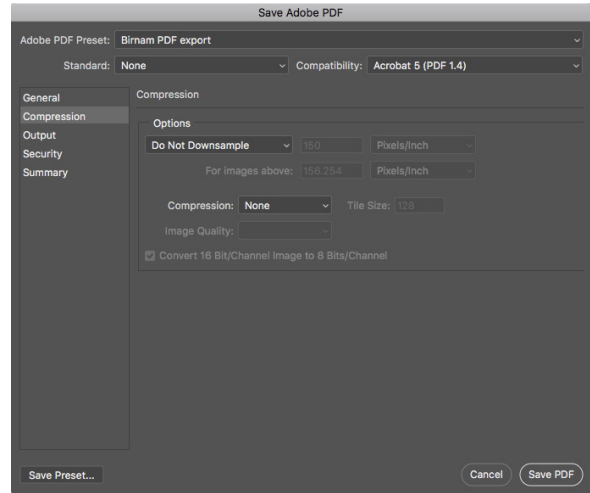
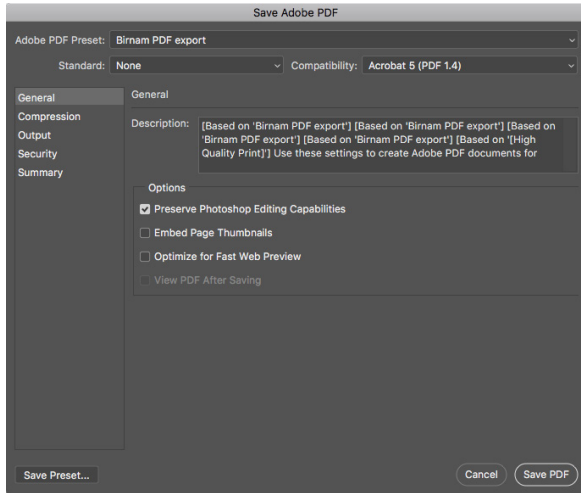
The bleed around your artwork should be the standard 3mm. However, at PDF export stage in InDesign, you need to set the bleed in the output settings at 10mm which takes into consideration the 3mm artwork bleed and the marks.





## Adobe Photoshop PDF output settings

The following are PDF export settings for Photoshop.



## Artwork supply checklist

Finished artwork should be print-ready and proof read before submission. To avoid resupply charges and delays in printing you need to ensure the following have been checked and are supplied correctly.

- Please clearly name your files using the catalogue number, artist name and template reference number.
- Your artwork is the correct size. You need to supply two copies – one with the red cutter guide overlaid and one with only the marks – (see page 12).
- Do not mark / cut-out centre holes on the label artwork. Images / background colours need to bleed all the way into the middle.
- Have you included a catalogue number on the spines, back and label on your artwork?
- Multi-page booklet inserts are supplied as printers pairs and not as single pages or readers pairs.
- Your artwork contains correctly set 3mm bleed.
- Text is at least 3mm from any trim edge unless deliberately wanted cropped.
- Your artwork is set up using CMYK or Pantone Coated colours as relevant. If Pantone colours have been used you need to indicate this in a separate text file supplied along with your artwork.
- If you are using a lot of black in your design then it is essential to make sure that the black matches. See page 9 regarding rich blacks.
- Black body text should be set to overprint K=100% only. Larger text can be rich black.
- Ink coverage does not exceed 340%.
- All lines in your artwork are at least 0.3pt.
- All images in your artwork are 300 ppi minimum when placed at 100%.
- Barcodes should be set to print C=0%, M=0%, Y=0%, K=100% on white.
- Barcodes supplied by Birnam CD are credited as per our barcode usage guide which we will supply along with your barcode graphic. Note that the graphic we supply is print-ready 100% black only. If we are placing the barcode please indicate where you would like the barcode placed with a 34mm x 10mm white panel.
- Supply your artwork as PDF – (see pp 11 – 17).
- Put any additional information/special instructions in a text document, especially if you want to print directly onto silver discs.

## How to send your artwork

Please clearly name your files using the catalogue number, artist name and template reference number.

### Upload

Your artwork must be sent through our wetransfer channel: [birnam.wetransfer.com](http://birnam.wetransfer.com)

We will not accept artwork attached to emails or sent via another FTP service.

### By Post

You can also send your completed artwork on disc. Please **clearly mark the artist, title, catalogue number and template reference number** on the disc face and on any accompanying paperwork. To avoid damage and scratching to the disc surface, pack you master into a hard jewel case and send it in a padded envelope or jiffy bag. If sending from within the UK, we would recommend Royal Mail Special Delivery Post. This is an inexpensive and secure method for sending artwork and masters and is available at any Post Office. Delivery is guaranteed by 1pm next working day and the package can be tracked if it does go astray.

**Be sure to make a copy and keep it safe.  
NEVER send the only existing copy to us.**

Our postal address is:

Birnam CD Ltd., Station Road, Birnam, Dunkeld, Perthshire, Scotland, PH8 0DS

## Your approval PDFs from Birnam

Following preflighting and processing your files to our printer specifications we will email approval PDFs to you. Please check them carefully for any issues as this will be your last chance to ensure that everything is correct before going to print. What to check: layout, font corruption, ensure your barcode has the correct number and remember to check spelling throughout – **we do not spellcheck.**

• **The PDFs of your artwork is intended for content and position only. The colours shown are only simulated on your computer monitor. Colour appearance may vary from computer to computer depending on colour, contrast and brightness settings, and surrounding lighting conditions. The PDF is NOT to be used for colour approval.**

If you have a particularly tight deadline let us know.

**Approval PDFs need to be signed off via email before we will send them to print.**