

Artemis Solutions Group LLC  
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<http://www.smartcardsupply.com>

## File Submission Guidelines

### Supported Transfer Media

#### Physical Media:

Zip (100MB), Jaz (1GB and 2GB), SuperDisk (120MB), and single-session CD (CD-ROM, CD-R, and CD-RW), Media can be formatted for MacOS HFS, MacOS HFS+, DOS-FAT, or ISO-9660 as appropriate.

#### Electronic Media:

Email and WamNet! Please contact your Customer Service Representative for appropriate addressing/routing information. Please use file-level compression to reduce the size of the transmission and also to protect the integrity of file. We support Stuffit, Zip, Gzip, tar, and Tar-Gzip compression formats.

### Preferred Applications

Please contact your customer service representative regarding use of applications and versions not listed below. If you are unsure of the application used to create a file, please contact your customer service representative.

MacOS	Windows 95/98/NT
QuarkXPress 4, 5 Pagemaker 6 Illustrator 9, 10 Freehand 9 Photoshop 7 Acrobat 4*	QuarkXPress 4 Illustrator 8 Corel Draw 10 Photoshop 5 Acrobat 4*

\* Acrobat 4 (PDF) files should be used for example/FPO purposes. PDFWriter-originated PDFs are not usable for graphic arts production. Distiller-originated PDFs do not properly support duotone (includes mono-, duo-, tri-, and quad-tone) colorspaces and so cannot be used for these types of images.

### Fonts

We prefer PostScript type for both MacOS and Windows 95/98/NT platforms. If you must use TrueType, please notify your customer service person so that this can be noted on the job specifications.

For MacOS, please supply both screen font suitcases and the printer font(s) files. Please ensure that you have supplied all printer fonts required by your job.

TrueType fonts may not output as expected on high-resolution devices as compared to a low-resolution printer you might use for proofing. TrueType fonts are optimized for 600dpi printers or lower and so the quality of the rendered type will change, in some cases significantly, when output at our normal film- and plate-resolution of 2400dpi.

### Image Specifications

All grayscale and color images should be provided at a minimum resolution of 300dpi or our preferred resolution of 350dpi. Black & white (line-art) images should be provided at a minimum resolution of 1200dpi. These resolutions assume that you are providing the image at the final, "full" size. Copy-dot scans must be provided at exactly 2400dpi, without exception.

Use the following guidelines to determine the "appropriate" resolution for grayscale and color images:

- ⌚ If an image is to be printed at 100% (i.e., same-size), it must be supplied at the minimum or preferred resolution stated above.
- ⌚ If an image is to be printed at less than 100% (i.e., a reduction of the supplied image), it can be provided at a resolution lower than the minimum or preferred resolutions. For example, an image printed at 50% of supplied size should be 150dpi to 175dpi. Use this formula: Supplied Resolution, in dpi = (Reduction Percentage) x (Minimum or Preferred Resolution)
- ⌚ If an image is to be printed at greater than 100%, (i.e. an enlargement of the supplied image), the image must be provided at a higher resolution than the minimum or preferred resolutions. For example, an image printed at 200% of supplied size should be 600dpi or 700dpi. Use this formula: Supplied Resolution, in dpi = (Enlargement Percentage) x (Minimum or Preferred Resolution)

Reduced, enlarged, over- or under-resolution images may not produce the desired results and may cause complications during production.

Images should be supplied in either TIFF, EPS, or JPEG (see note below) format. You should convert BMP, GIF, and PCX files to one of these formats. Please set the color mode of your files to CMYK, grayscale, or duotone as appropriate.

Note about JPEG images: JPEG compression will create artifacts in an image which affect both the overall image quality and color. Artifacts are discrete areas of an image, usually small with respect to the size of the image which are not part of the original scan or photograph. They can appear to be spots, dirt, or distortions in the image. The undesirable effects of artifacts are inversely proportional to image resolution—i.e., lower resolution images will be affected by artifacts more than high resolution images. Therefore, please use the highest quality (i.e. lowest compression) setting when creating JPEG files.

Note about BMP/GIF/PCX images: BMP, GIF, and PCX are inappropriate formats for full-color images. Images that have been saved in any of these formats and later converted to TIFF/EPS/JPEG format may not produce a high-quality image.

You may supply original, layered Photoshop files to supplement the “final” TIFF and/or EPS images you send. Photoshop files with all layers intact allow us to make alterations to your artwork that might be required to accommodate a printing-process issue you might not be aware of.

Files taken from web sites or prepared for use on the World-Wide-Web will most likely be low-resolution RGB images (72dpi typically) with some form of lossy-compression and/or restricted color palette. Use or repurposing of these types of images will most likely result in disappointing printed-results. Use of these types of images should be avoided unless no other options are available. Up-sampling (increasing the resolution through interpolation of existing image data) will not improve the reproduction quality of low-resolution images.

Where applicable, do not embed ColorSync profile information. ColorSync profiles are only meaningful in a closed-loop color management environment that must be established long before the exchange of image data.

If you are using a transfer curve in your image, please inform us of this fact so that we can retain this curve throughout our production workflow.

TIFF Format	EPS (Image) Format
<ul style="list-style-type: none"> <li>⌚ Avoid the use of internal LZW compression.<sup>A</sup></li> <li>⌚ Delete any alpha channels unless these are intended for use as clipping paths in QuarkXPress. If so, please inform the CSR of this condition.</li> </ul>	<ul style="list-style-type: none"> <li>⌚ Avoid the use of internal JPEG compression.<sup>B</sup></li> <li>⌚ Delete any unused alpha channels or paths.</li> <li>⌚ Clipping path “flatness” should be set at 2 or higher. Flatness values less than one can result in failures at RIP-time.</li> </ul> <p>DCS files: Save in Photoshop DCS 2.0 format with a Macintosh 8-bit preview image. You may use either single-file or multi-file format.</p>

Notes:

- A. LZW compression by itself will not compromise the quality of an image since it is not “lossy.” It trades file-size for time. LZW compression, at minimum will increase the time required to open/save

an image since each open/save incurs a decompression/compression operation. LZW compression can cause problems at RIP-time.

- B. JPEG compression to any degree and at any resolution will introduce artifacts into an image that may or may not be noticeable/objectable. If you provide JPEG compressed images, we will re-save them as normal EPS images for our production processes but any compression artifacts introduced by the initial compression will remain in the image. Please examine your proofs closely.

## Text and Graphics

Unless specifically called for by your design, we recommended that all text should be typeset in an object-oriented application like QuarkXPress, Pagemaker, Illustrator, Freehand, et al. You will have greater control over the quality of the typesetting within such an application. More importantly, the quality of the type on the final film- or plate-output will be significantly higher than with text typeset within an image-editing application like Photoshop or PaintShop Pro.

If you choose to do your typesetting within Photoshop (or any image-editing application), be aware that high-quality type rendering requires high image resolution (1000dpi or higher for “typeset” quality) which increases file size and processing time dramatically.

For example, a CR-80 card with a full-bleed, 4/c process, 350dpi image is about 4MB in size. Type created in an object-oriented application will not add to the file size significantly but will still result in sharp, well-defined text. If, instead, you use an image-editing application to typeset your text, at the minimum resolution of 1000dpi the same image is almost 33MB in size!

At 300 to 350dpi, most images will reproduce very well but most type will not. Readability will be very poor at sizes less than 10pt. Overall quality of the type will suffer even at sizes up to 14pt depending on the typeface. Only very large type, say, 36pt or larger will render well but even then, jaggy curves will be evident.

## Plastic Card Specifications

ISO Designation	Final (Trim) Size (in.)	Live Area <sup>A</sup> (in.)	Bleed Area <sup>B</sup> (in.)
CR50	3.500 x 1.730	3.375 x 1.605	3.750 x 1.980
CR80	3.375 x 2.125	3.250 x 2.000	3.625 x 2.375

You do not need to show rounded corners in your artwork. Be sure to provide bleed when appropriate. If you fail to provide bleed, preparation of your job may be delayed.

- A. Images that fall outside the live area but within the trim size run the risk of being cropped when the card is punched. The “Live” area is also referred to as the “Safe” area since any image that is in the “safe” area is safe from cropping when the card is trimmed.
- B. Bleed area is the final size plus an additional 0.125” all around the borders of the card. Your bleed elements should extend at least 0.125” beyond the border of the card.

## Magnetic Strip Considerations

If your card has a magnetic stripe and printing near the stripe then you must make allowances in the artwork to account for fact that the position of the magnetic stripe will vary slightly from card to card. Artwork that should not normally touch the magnetic stripe should be kept back from magnetic stripe edges by at least 0.046875" (3/64<sup>th</sup> inch) to allow for this variation in position. If your design includes an overall color (a.k.a. a “flood”), or overall image, it can “under-lap” the magnetic stripe without compromising its integrity.

Track 2 (ISO 7811-2)	Track 3 (ISO 7811-2)
Minimum Width: 0.25”	Minimum Width: 0.405”
Top of Card to Top of Stripe: 0.218” Max.	Top of Card to Top of Stripe: 0.218” Max.
Top of Card to Bottom of Stripe: 0.468” Min.	Top of Card to Bottom of Stripe: 0.623” Min.

Within the maximum and minimum values given above, the magnetic stripe can vary in width and vertical position and still adhere to the ISO specifications. These specifications take into account the variation that normally occurs during the production process.

## Signature Panel/Foil Stamp Considerations

If your card has a signature panel and/or foil stamp, there are tolerances in position that you must be aware of. Given these tolerances, you should position your artwork accordingly. If you place artwork too close to a signature panel/foil stamp, the positional variation of the signature panel/foil stamp may be great enough that on some cards that the artwork will be obscured by the signature panel/foil stamp.

Signature Panel	Foil Stamp
+/- 0.010" Vertical	+/- 0.010" Vertical
+/- 0.015" Horizontal	+/- 0.015" Horizontal

## Equipment

### Workstations

PowerMacintosh G4 (Digital Audio and Mystic, MacOS 9.1)

PowerMacintosh G3 (Blue & White, MacOS 9.1)

PowerMacintosh G3 (Biege, MacOS 8.6)

Dell OptiPlex GX1 (WinNT)

### Server

Departmental Dell PowerEdge 4400. Internal 108GB RAID, multiple, redundant NICs, and power supplies, external DLT drive. (Win2K Server)

### Scanning

Purup-Eskofot EskoScan 2024E

### Imposition and Output

AGFA Apogee Pilot Workstation (WinNT Server)

AGFA Apogee PDFRip (WinNT Server)

AGFA Apogee PrintDrive (WinNT Server)

AGFA Avantra 30 Film-setter

AGFA Galileo (Green) Plate-setter

### Proofing

Tektronix Phaser 740

Epson 5000 w/Fiery RIP

Polaroid PolaProof Gold 1420 Halftone Proofing System

AGFA SherpaJet 2 Large-Format Imposition Printer