

# FONT EMULATION

By Martin Bailey, Chief Technology Officer.

## Introduction

There are times when a printer just has to find a way around the perennial problem of customer files supplied without the required fonts. That's exactly what Global Graphics has produced in the Genesis Release™ of the Harlequin® RIP, another way around the problem. The Genesis Release will make a typographically acceptable match to missing fonts with no text overflow and with appropriate character spacing, weight and width. It's ideal for time critical applications, such as Print on Demand (digital production print), newspapers, magazines, jobs where artwork or advertising is supplied independently of the paying customer, and other applications where output must leave on time.

Imagine the scene; you're advertising traffic manager at a mid-size newspaper. It's 7pm, and the last of the ads for the morning edition has just arrived, it's going to be an easy night. Even after you've spent ten minutes figuring out which of the half dozen files on the CD is the one you're supposed to run you're way ahead of schedule.

And then the file fails pre-flight; it's missing a couple of fonts. You call the ad agency, but the security guard who answers the phone can't help; the ad buyer handed the CD for you to the courier on his way out of the office. Even if he had been there, or you had his home number, he probably couldn't have helped you. He didn't prep the file, that was probably done by an outside designer. And the designer may have been employed by the client rather than the ad agency. There's no way that you can get the fonts you need from the customer tonight.

Fortunately this client was on the ball enough to have sent you a laser proof in the bag with the CD. You glance over it and decide that you can get away with running the ad anyway and work out the costs tomorrow. You've set the default font on your RIP to be Times Roman rather than Courier. It's a bit small, and not as bold as the fonts the designer used. The letter spacing may be a bit odd and the overall impression will be a bit lighter, but it shouldn't be too much of a disaster. Better than not running the ad at all, anyway.

Your only alternative would be to quickly buy a copy of the required fonts over the web and hope that you get the right ones. But that would cost as much as the ad placement did in the first place; not a great commercial deal!

And now another scene; this time you're the customer services rep at a small commercial print shop. Your prepress team has just been looking over the files for a brochure, the first job from a new customer who may become quite important for you. Again, they're shaking their heads; the files are incomplete. Everything's good except for fonts that the designer used on the brochure. They didn't include them on the disk and you don't have them in the font library that you've built up over the years.

You call the customer and speak to the boss' secretary; they're too small to have a dedicated print buyer. He

**In-RIP font emulation  
gives printers another  
way around the perennial  
problem of missing fonts**

doesn't know what you mean, what's a font? When you try to explain what you need he seems to take it personally and starts saying that their last printer never had any problems with their files. You're in danger of blowing the whole account if you push any further; so you tell him not to worry, your colleague's just found the missing data.

You're reasonably sure that the customer wouldn't normally notice a few substituted fonts in the job, but this is a test piece that they'll be examining carefully and it has a lot riding on it. You speak to your manager and you can see him mentally writing off a couple of software upgrades as he enters his credit card details to buy the font over the web.

These two scenarios play out hundreds of times every day in newsprint and small magazine publishers, in small and medium commercial print shops, at quick-printers and in corporate rendering and in-plant departments. There are times when the printer just has to find another way around the perennial problem of customer files supplied without the required fonts.

With in-RIP font emulation, all you need to do is to send the problem files to the RIP as usual, and the RIP will construct a suitable replacement on the fly. Emulated fonts have the correct width for every glyph in the font, so that letter and word spacing will be correct, and justified text will continue to be justified, with a straight edge to the text block.

Extended and condensed fonts are emulated just as well as regular typefaces and are constructed at the correct

### Font: Rotis

**Original:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

**Emulation:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

---

### Font: Shannon

**Original:** **The quick brown fox jumped over the lazy dog**  
**ÆSOP's FABLES filled with stories**

**Emulation:** **The quick brown fox jumped over the lazy dog**  
**ÆSOP's FABLES filled with stories**

---

### Font: Octavian

**Original:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

**Emulation:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

---

### Font: Garamond

**Original:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

**Emulation:** The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

**Comparative output  
using in-RIP font  
emulation.**

weight, from extra thin to extra black, so the overall appearance of the page (what typographers call the 'color') will be unchanged.

The emulated fonts will also be slanted at the right angle, allowing oblique and italic fonts to be correctly displayed. In addition, italic faces will be slightly more ornate than emulations of the roman faces from the same family.

And the emulation won't cause any re-flow; there won't be any changes to line-ends and page breaks.

That's not to say that the emulated fonts will exactly match the font that the designer used in constructing the

**Retired?  
Home owner?  
Need cash now?**

***Release the equity  
trapped in your property!***

Thanks to huge increases in the booming housing market, your home is the key to an affluent lifestyle. Use your windfall for:

- *Christmas to remember*
- *Mediterranean cruise*
- *Harley Davidson*
- *Medical bills*

Call John Doe at Doe, Ray & Mee on  
**0800 123 4567**

**Original advert.**

**Retired?  
Home owner?  
Need cash now?**

***Release the equity  
trapped in your property!***

Thanks to huge increases in the booming housing market, your home is the key to an affluent lifestyle. Use your windfall for:

- *Christmas to remember*
- *Mediterranean cruise*
- *Harley Davidson*
- *Medical bills*

Call John Doe at Doe, Ray & Mee on  
**0800 123 4567**

**Emulated advert.**

page. If emulation could do that then nobody would need the original fonts at all! But the emulation is close enough that it will usually be acceptable by all but the most demanding of print buyers, at least for body fonts.

If the designer has used a specialty display face in order to convey a feeling of the wild west, modernity or anything else then it's more likely that the buyer won't find the result of in-RIP font emulation as appealing, but at least you can still produce a proof to show them what you can do and use that as a starting point for discussions.

There are some limitations, of course: symbolic or pi fonts cannot be emulated.

If the job is submitted as a PDF file, then information required to construct the emulation font will be derived from the PDF file itself. If it's submitted as a PostScript or EPS file instead, then the relevant information must be drawn from the database of font metrics supplied with the RIP. That database is quite extensive, but there will always be fonts that are not included, and those also cannot be emulated. Finally, the font emulation is applicable only to Latin fonts, as used for Western European languages and a number of others around the world.

If you're catering for demanding buyers you'll be glad to know that font emulation can be disabled as necessary. A Harlequin RIP can support a number of input channels, which may be AppleTalk printers, hot folders, or any other route for submitting jobs to it. Each channel is associated with a "Page Setup", which is a form of job ticket that's attached to every job supplied through that channel. Each page setup can be individually set to allow font

## Font: Garamond

Original: The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

Emulation: The quick brown fox jumped over the lazy dog  
ÆSOP's FABLES filled with stories

## Font: Shannon

Original: **The quick brown fox jumped over the lazy dog**  
**ÆSOP's FABLES filled with stories**

Emulation: **The quick brown fox jumped over the lazy dog**  
**ÆSOP's FABLES filled with stories**

**Weights and spacing with  
in-RIP font emulation.**

emulation or not, so, even if you don't want to use font emulation for making plates, you can turn it on for proofs produced for evaluating color; for instance ... or for that occasional job where you just need another way around the problem.

Each page setup also includes a switch to say what should happen if you've enabled font emulation and a required font could not be emulated; the RIP can either fall back on a default font, or can cancel the job so that you don't waste expensive media.

All this in a RIP that will also perform in-RIP image replacement with OPI and DCS, color management, trapping, imposition, separation and advanced screening.

The technology experts for open document and print solutions

October 2006



[www.globalgraphics.com](http://www.globalgraphics.com)

### Global Graphics Software Inc.

5875 Trinity Parkway, Suite 110  
Centreville, VA 20120, USA  
Tel: +1 703 266 9588  
Fax: +1 703 266 9582

### Global Graphics Software Ltd

2nd Floor, Building 2030  
Cambourne Business Park  
Cambourne, Cambridge  
CB23 6DW UK  
Tel: +44 (0)1954 283100  
Fax: +44 (0)1954 283101

### Global Graphics KK

Level 14, Hibiya Central Building  
1-2-9 Nishi-Shimbashi, Minato-ku  
Tokyo 105-0003, Japan  
Tel: +81-3-5532-7340  
Fax: +81-3-5532-7373