

A page set in a Type 1 font

The three lines below are drawn from a font program in Adobe's first format. It is not a font file with tables to look a glyph up in: it is a PostScript program, its glyphs ciphered one by one, and the library reads it to find out how wide each of them is and which code reaches it. The program is then carried into this file whole, and the reader draws from those very bytes.

Drawn from the program

HQF DEVELOPMENT

ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789

A STROKE FACE , READ AND CARRIED WHOLE .

What the program states about itself

It calls itself HqfStroke and holds 62 glyphs, of which 61 are reached by a code. Every glyph stands in one box, whose corners are $34 \cdot -238$ and $647 \cdot 967$; a vertical stem is 80 thousandths of an em thick, and an underline sits 120 below the line. Not one of those figures is written into this page: each is read out of the program.

What it weighs

The program itself is 8 117 bytes on disk, and a page carrying it weighs 8 827 bytes. Both figures are measured by the program that drew this page, not written in by hand.

What travels with it, and why

Every other kind of font this library carries travels light: only the letters a page actually draws go into the file, so a page that says one word carries the letters of that word and not a whole alphabet. A Type 1 program does not. It travels whole, and the reason is in the format itself: each glyph is ciphered on its own inside the program, so keeping some and dropping the rest means deciphering the program, rewriting its list of glyphs, and ciphering it again — while holding on to the pieces of outline that several glyphs share, and to the glyphs that are built out of two others. That is a piece of work of its own, and it is deliberately left to a later version of this library. It costs nothing on a face of a few dozen glyphs. It costs real bytes on a large one: a face of sixty thousand bytes travels sixty thousand bytes even where the page shows three words.

A Type 1 font is a simple font: its codes are one byte, so at most 256 of its glyphs are reachable at a time and it never sets text down the page. Which code reaches which glyph is the program's own business — this file repeats the program's own names for them.