

FRACTION FONTS FOR WINDOWS

Fraction Fonts enable you to view and print true fractions that match your PostScript Type 1 fonts. Designed to reap all the benefits of Adobe Type Manager™, **Fraction Fonts** can be used with ATM™ in any Windows 3.0 application. (They can be used without it, too. But, what is Windows without ATM™?)

Fraction Fonts are available in two distinct types -- *Baseline* and *Extended*. In Baseline **Fraction Fonts**, the denominator sits on the baseline and the top of the numerator is the height of the tallest ascender in its companion font. In Extended **Fraction Fonts**, the bottom of the denominator extends below the baseline and the top of the numerator extends above the height of the tallest ascender.

These are Baseline **Fraction Fonts** -- $1/2$, $\#1/4$, $\%1/8$.

These are Extended **Fraction Fonts** -- $1/2$, $\#1/4$, $\%1/8$.

Which is better? Neither. They have different purposes. Extended **Fraction Fonts** are more legible in text sizes, but tend to look bulky in display sizes. Baseline **Fraction Fonts** may cause a little eyestrain below 12 points, but appear balanced with conventional numerals in titles, headers, or other display applications. A sample of each is in FRACFONT.ZIP, so you be the judge.

FRACTION FILE NAMES

It's easy to differentiate between Baseline and Extended **Fraction Fonts** at the DOS level. The eighth character in the font file name will be either a **B** or an **E**. For example, the **Fraction Fonts** that are companions to Times Roman are named TIF__B.PFB (and PFM) and TIF__E.PFB (and PFM).

The fonts are similarly coded internally so you can identify them in the font selection scroll boxes in various Windows applications. The last character in the font name will be either ":b" or ":e". The two fonts in FRACFONT.EXE will appear as "TmsFraction:b" and "TmsFraction:e".

TYPING FRACTIONS

The **Fraction Font** character set is short, but complete. Adapting to

the key assignments should become almost instinctive.

When working with **Fraction Fonts**, don't regard the "!", the "@", and all their neighbors as punctuation marks and symbols. Instead, think of these keys as SHIFT 1, SHIFT 2, etc.

Fraction numerators are generated by typing a SHIFT+NUMERAL combination (the keyboard numbers -- *not* the numeric keypad numbers). Fraction denominators are generated by typing the unshifted numerals. And the fraction bar is assigned to the "/". (That's the slash beneath the question mark, not the backslash.)

To create a fraction, just type in the characters, highlight the **Fraction Font** characters with the text-selection cursor, then choose the appropriate **Fraction Font** from the application's font selection scroll box.

OTHER KEYS

There are no alphabetic keys in **Fraction Fonts**. However, a few specific keys have been given special assignments to help integrate the fractions with conventional fonts.

Fraction Fonts exist to make accurate representation of measurements possible. For this reason special inch ("), foot ('), and two special degree (°) signs are included. These three characters are identical to their conventional font counterparts with one exception. All three of these three marks are *kerned* on their left side for correct positioning when adjacent to a fraction. When typing conventional numbers the conventional counterparts of these signs should be used.

In **Fraction Fonts**, the quote mark is the inch mark; the apostrophe is the foot mark; and the keyboard equals sign and plus sign (above the = sign) each generate a degree sign. Actually, *there are two degree signs* due to differences in the way ATM, PostScript printers, and PCL and dot matrix printers interpret this character. When outputting to a PostScript device, the **Fraction Font equals sign** (=) will generate a degree sign to match the degree sign in the companion font. When printing with a PCL or dot matrix printer, you'll find the **Fraction Font plus sign** (+) generates a degree sign to match the degree sign in the companion font.

Note: ATM's on-screen representation of a typical Type 1 font's degree sign closely matches that of a PCL or dot matrix printer. A PostScript degree sign is about twice the size of the ATM (screen) or non-PostScript printer's degree sign.

45° uses the font's own degree sign (ALT + 0176)

22 !/2= uses the **Fraction Font** equals (=) sign

22 !/2+ uses the **Fraction Font** plus (+) sign

(There are two characters not intended for use. These are the colon and semicolon, which control vertical scaling of the **Fraction Fonts**. When typing one of these characters, a vertical bar (: or ;) will be generated. These are of no practical use.)

KERNING

A word about kerning (intercharacter spatial relationships) is appropriate here. The numeral set in all fonts is monospaced. In other words, the space allocated to a 1 is the same width as the space allocated to a 3 or a 5, even though the character widths vary. This is to allow the numerals to align in columns. For example . . .

1234567890
0987654321
9151813114

Fractions are different. For the best appearance, the numerals used in both the numerator and the denominator are treated as units -- almost as though they were ligatures. So, the relationships of the 1 and 3 and the 6 and 4 in !#/64 or !#/64 are considerably different than their relationships when used as conventional numerals.

Fraction Font internal kerning is a compromise. The *primary spatial relationship* is between the numerator or denominator and the fraction bar. In other words, the numerator 7 has negative kerning on the right side so it can slide over the fraction bar. The denominator 4 has

negative kerning on the left so it can tuck under the fraction bar. This makes a fraction like $\frac{1}{4}$ pleasing to look at.

The *secondary spatial relationship* is between two adjacent numerals. In the fraction $\frac{1}{64}$, the numerator 1 is kerned so that a pair of 1s gives a balanced appearance. The denominator numerals 6 and 4 present a different case. Because the 4 has negative kerning on the left to slide under the fraction bar, the 6 has positive kerning on the right so the numerals won't overprint.

The character font metrics in **Fraction Fonts** are optimized for the most commonly-used fractions. Less commonly-used fractions -- such as $\frac{1}{4}$ -- could present a problem. Anticipating this, all characters not specifically kerned for the most common fractions are kerned on the "tight" side.

KERNING CONTROLS

To make optimizing these unusual fractions possible, kerning controls are built into **Fraction Fonts**. They are as follows:

- The Comma inserts @)/1000 EM
- The Period inserts %)/1000 EM
- The Spacebar inserts !))/1000 EM
- The "N" inserts %))/1000 EM
- The "M" inserts !)))/1000 EM, or one EM

To make a problem fraction palatable, first type the fraction . . .

&&/44

Then, insert the cursor between the troublesome numerals and type one of the kerning control keys.

&.,&/4.,4

In this case, typing a **Fraction Font** comma and period between the 7s and a period between the 4s transformed the original fraction into the second. In general use (text sizes) you'll find this procedure is rarely necessary.

FONT IDENTIFICATION CHARACTER

When working with Windows applications that offer a Font Preview window (Ami, Excel, WordStar, and Corel DRAW! for example) a special character in the selected fraction font will be shown. In the case of TmsFraction:b or TmsFraction:e, it will look like this:

A or **A**

FRACTION FONT COMPANION SETS

Fraction Fonts are available in complete sets to work with genuine Adobe PostScript Type 1 fonts or their counterparts from other foundries. The names assigned to individual **Fraction Fonts** are intended to position these fonts with their brand-name counterparts in font selection list boxes. However, there is no intent to imply any relationship with Adobe or any other foundry, nor to infringe upon registered trademarks or copyrights.

Fraction Font Set #1 (Baseline or Extended) consists of 12 fonts and includes:

CourierFraction	(N,I,B,BI)
HelvFraction	(N,O,B,BO)
TmsFraction	(N,I,B,BI)

Fraction Font Set #2 (Baseline or Extended) consists of 21 fonts and includes:

AvGardFraction	(N,O,B,BO)
BManFraction	(N,I,B,BI)
HelvNarFraction	(N,O,B,BO)
NewCentFraction	(N,I,B,BI)
PalFraction	(N,I,B,BI)
ZChanFraction	(I)