

# Samples of common T<sub>E</sub>X font encodings

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The `pkfix-helper` program occasionally needs help from the user in selecting an appropriate TFM file to match a Type 3 font found in a PostScript document. This document assists with the task of identifying fonts by presenting character-by-character comparisons of all 256 character positions in a selection of common T<sub>E</sub>X fonts. The following encodings are represented:

- T<sub>E</sub>X text (e.g., *cmr10*)
- T<sub>E</sub>X math italic (e.g., *cmmi10*)
- T<sub>E</sub>X math symbols (e.g., *cmsy10*)
- L<sup>A</sup>T<sub>E</sub>X symbols (e.g., *lasy10*)
- T<sub>E</sub>X math extension (e.g., *cmex10*)
- Adobe standard encoding (e.g., *rptmr*)
- Adobe symbol encoding (e.g., *rpsyr*)
- extended T<sub>E</sub>X font encoding (e.g., *ecrm1000*)
- T<sub>E</sub>X text companion symbols (e.g., *tcrm1000*)

To use the tables that appear below, first produce “before” and “after” font sheets using `pkfix-helper`’s `--ps` and `--tex` options. (See the `pkfix-helper` documentation for details.) For each font in which the “after” characters are completely different from the “before” characters—as opposed to merely the wrong selection

of font size, weight, or slant—make a note of the font that `pkfix-helper` announced it had selected. Find the table and column in which the “before” symbol exists and the “after” symbol is associated with the font selected by `pkfix-helper`. The font associated with the “before” symbol is what should be specified in a `--force` option to `pkfix-helper`. For example, consider the observations shown in Figure 1. We find that the “after” character, “ $\eta$ ”, is associated with *cmmi10* (the same typeface used for *cmmb10* but in book weight) at character position 17. The “before” character, “ $\equiv$ ”, is also present in position 17 and is associated with *cmsy10*. Therefore, we know we need to re-run `pkfix-helper` with the `--force="Fj=cmsy10 @ 1.2X"` option to force it to associate document font *Fj* with *cmsy10* instead of *cmmb10*.

The font size may need adjusting. In the preceding example, `--force="Fj=cmsy9"` produces less mismatch for *cmmb10 @ 1.2X* than does `--force="Fj=cmsy10 @ 1.2X"` (mismatch=0.00106 vs. mismatch=4.43701). Making such a determination still requires human involvement. A suggested approach is to observe that `--force="Fj=cmsy10 @ *"` causes `pkfix-helper` to select a scaling factor of 0.92918X for a scaled font size of  $0.92918 \times 10 \text{ pt.} = 9.2918 \text{ pt.}$  Noting that *cmsy9.tfm* exists and assuming that the document source did not specify a fractional scaling of the font, we can hypothesize that unscaled *cmsy9* is the font actually utilized in the document.

|  |            |          |  |
|--|------------|----------|--|
| pkfix-helper: Processing Fj ... done (cmmb10 @ 1.2X, mismatch=0.00073) |            |          |  |
| --ps file:   | <b>Fj:</b> | $\equiv$ |  |
| --tex file:  | <b>Fj:</b> | $\eta$   |  |

Figure 1: Sample observations of `pkfix-helper` output and output files

|                 |          |          |          |           |       |       |          |            |        |        |          |                |                 |                 |                  |                  |
|-----------------|----------|----------|----------|-----------|-------|-------|----------|------------|--------|--------|----------|----------------|-----------------|-----------------|------------------|------------------|
|                 | 0        | 1        | 2        | 3         | 4     | 5     | 6        | 7          | 8      | 9      | 10       | 11             | 12              | 13              | 14               | 15               |
| <i>cmr10</i>    | $\Gamma$ | $\Delta$ | $\Theta$ | $\Lambda$ | $\Xi$ | $\Pi$ | $\Sigma$ | $\Upsilon$ | $\Phi$ | $\Psi$ | $\Omega$ | $\mathfrak{f}$ | $\mathfrak{fi}$ | $\mathfrak{fl}$ | $\mathfrak{ffi}$ | $\mathfrak{ffl}$ |
| <i>cmmi10</i>   | $\Gamma$ | $\Delta$ | $\Theta$ | $\Lambda$ | $\Xi$ | $\Pi$ | $\Sigma$ | $\Upsilon$ | $\Phi$ | $\Psi$ | $\Omega$ | $\alpha$       | $\beta$         | $\gamma$        | $\delta$         | $\epsilon$       |
| <i>cmsy10</i>   | —        | ·        | ×        | *         | ÷     | ◇     | ±        | ∓          | ⊕      | ⊖      | ⊗        | ⊙              | ⊙               | ○               | ◦                | ●                |
| <i>lasy10</i>   |          | ◁        | ≤        | ▷         | ≥     |       |          |            |        |        |          |                |                 |                 |                  |                  |
| <i>cmex10</i>   | (        | )        | [        | ]         | ⌊     | ⌋     | ⌈        | ⌋          | {      | }      | ⟨        | ⟩              |                 |                 | /                | \                |
| <i>rptmr</i>    |          |          |          |           |       |       |          |            |        |        |          |                |                 |                 |                  |                  |
| <i>rpsyr</i>    | ˘        | ˙        | ˆ        | ˜         | ¨     | ˜     | ˚        | ˘          | ˘      | ˘      | ˘        | ˘              | ˘               | ˘               | ˘                | ˘                |
| <i>ecrm1000</i> | ˘        | ˙        | ˆ        | ˜         | ¨     | ˜     | ˚        | ˘          | ˘      | ˘      | ˘        | ˘              | ˘               | ˘               | ˘                | ˘                |
| <i>tcrm1000</i> | ˘        | ˙        | ˆ        | ˜         | ¨     | ˜     | ˚        | ˘          | ˘      | ˘      | ˘        | ˘              | ˘               | ˘               | ˘                | ˘                |

|                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|
|                 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30  | 31  |
| <i>cmr10</i>    | ı  | ı  | ˘  | ˙  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘  | ˘   | ˘   |
| <i>cmmi10</i>   | ζ  | η  | θ  | ι  | κ  | λ  | μ  | ν  | ξ  | π  | ρ  | σ  | τ  | υ  | φ   | χ   |
| <i>cmsy10</i>   | ×  | ≡  | ⊆  | ⊇  | ≤  | ≥  | ⌊  | ⌋  | ⌊  | ⌋  | ⊂  | ⊃  | ⊆  | ⊇  | ⊆   | ⊇   |
| <i>lasy10</i>   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |
| <i>cmex10</i>   | (  | )  | (  | )  | [  | ]  | ⌊  | ⌋  | ⌊  | ⌋  | {  | }  | ⟨  | ⟩  | /   | \   |
| <i>rptmr</i>    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |
| <i>rpsyr</i>    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |
| <i>ecrm1000</i> | “  | ”  | „  | «  | »  | —  | —  |    | ◊  | ◊  | ı  | ff | fi | fl | ffi | ffl |
| <i>tcrm1000</i> | “  | ”  | „  | «  | »  | —  | —  |    | ◊  | ◊  | ı  | ff | fi | fl | ffi | ffl |

|                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| <i>cmr10</i>    | ˘  | !  | ”  | #  | \$ | %  | &  | ’  | (  | )  | *  | +  | ,  | -  | ·  | /  |
| <i>cmmi10</i>   | ψ  | ω  | ε  | ϑ  | ϖ  | ϑ  | ς  | φ  | ⌊  | ⌋  | ⌊  | ⌋  | ⌊  | ⌋  | ⌊  | ⌋  |
| <i>cmsy10</i>   | ←  | →  | ↑  | ↓  | ↔  | ↗  | ↘  | ≈  | ⊆  | ⊇  | ⊆  | ⊇  | ⊆  | ⊇  | ⊆  | ⊇  |
| <i>lasy10</i>   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| <i>cmex10</i>   | (  | )  | [  | ]  | ⌊  | ⌋  | ⌊  | ⌋  | {  | }  | ⟨  | ⟩  | /  | \  | /  | \  |
| <i>rptmr</i>    |    | !  | ”  | #  | \$ | %  | &  | ’  | (  | )  | *  | +  | ,  | -  | ·  | /  |
| <i>rpsyr</i>    |    | !  | ”  | #  | \$ | %  | &  | ’  | (  | )  | *  | +  | ,  | -  | ·  | /  |
| <i>ecrm1000</i> | ˘  | !  | ”  | #  | \$ | %  | &  | ’  | (  | )  | *  | +  | ,  | -  | ·  | /  |
| <i>tcrm1000</i> | ˘  | !  | ”  | #  | \$ | %  | &  | ’  | (  | )  | *  | +  | ,  | -  | ·  | /  |

|                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| <i>cmr10</i>    | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | :  | ;  | i  | =  | ¿  | ?  |
| <i>cmmi10</i>   | o  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | ·  | ,  | <  | /  | >  | *  |
| <i>cmsy10</i>   | /  | ∞  | ∈  | ∋  | △  | ▽  | /  | ı  | ∇  | ∃  | ⌊  | ⌋  | ∅  | ℝ  | ⊆  | ⊆  |
| <i>lasy10</i>   | ∪  | ⊗  | □  | ◇  |    |    |    |    |    |    | ~  | ~  | □  | □  |    |    |
| <i>cmex10</i>   | (  | )  | [  | ]  | ⌊  | ⌋  |    |    |    |    |    |    |    |    |    |    |
| <i>rptmr</i>    | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | :  | ;  | <  | =  | >  | ?  |
| <i>rpsyr</i>    | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | :  | ;  | <  | =  | >  | ?  |
| <i>ecrm1000</i> | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | :  | ;  | <  | =  | >  | ?  |
| <i>tcrm1000</i> | o  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | :  | ;  | <  | =  | >  | ?  |

|                 | 64           | 65       | 66          | 67          | 68        | 69        | 70       | 71       | 72             | 73             | 74          | 75       | 76        | 77       | 78        | 79        |
|-----------------|--------------|----------|-------------|-------------|-----------|-----------|----------|----------|----------------|----------------|-------------|----------|-----------|----------|-----------|-----------|
| <i>cmr10</i>    | @            | A        | B           | C           | D         | E         | F        | G        | H              | I              | J           | K        | L         | M        | N         | O         |
| <i>cmmi10</i>   | $\partial$   | <i>A</i> | <i>B</i>    | <i>C</i>    | <i>D</i>  | <i>E</i>  | <i>F</i> | <i>G</i> | <i>H</i>       | <i>I</i>       | <i>J</i>    | <i>K</i> | <i>L</i>  | <i>M</i> | <i>N</i>  | <i>O</i>  |
| <i>cmsy10</i>   | $\aleph$     | <i>A</i> | <i>B</i>    | <i>C</i>    | <i>D</i>  | <i>E</i>  | <i>F</i> | <i>G</i> | <i>H</i>       | <i>I</i>       | <i>J</i>    | <i>K</i> | <i>L</i>  | <i>M</i> | <i>N</i>  | <i>O</i>  |
| <i>lasy10</i>   |              |          |             |             |           |           |          |          |                |                |             |          |           |          |           |           |
| <i>cmex10</i>   | $\backslash$ | $\int$   | $\lrcorner$ | $\lrcorner$ | $\langle$ | $\rangle$ | $\sqcup$ | $\sqcup$ | $\mathfrak{f}$ | $\mathfrak{f}$ | $\odot$     | $\odot$  | $\oplus$  | $\oplus$ | $\otimes$ | $\otimes$ |
| <i>rptmr</i>    | @            | A        | B           | C           | D         | E         | F        | G        | H              | I              | J           | K        | L         | M        | N         | O         |
| <i>rpsyr</i>    | $\cong$      | A        | B           | X           | $\Delta$  | E         | $\Phi$   | $\Gamma$ | H              | I              | $\vartheta$ | K        | $\Lambda$ | M        | N         | O         |
| <i>ecrm1000</i> | @            | A        | B           | C           | D         | E         | F        | G        | H              | I              | J           | K        | L         | M        | N         | O         |
| <i>tcrm1000</i> |              |          |             |             |           |           |          |          |                |                |             |          |           | U        |           | ○         |

|                 | 80            | 81            | 82            | 83            | 84            | 85             | 86            | 87            | 88            | 89            | 90            | 91             | 92             | 93             | 94         | 95           |
|-----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|------------|--------------|
| <i>cmr10</i>    | P             | Q             | R             | S             | T             | U              | V             | W             | X             | Y             | Z             | [              | “              | ]              | ^          | .            |
| <i>cmmi10</i>   | <i>P</i>      | <i>Q</i>      | <i>R</i>      | <i>S</i>      | <i>T</i>      | <i>U</i>       | <i>V</i>      | <i>W</i>      | <i>X</i>      | <i>Y</i>      | <i>Z</i>      | $\mathfrak{b}$ | $\mathfrak{b}$ | $\mathfrak{b}$ | $\wedge$   | $\vee$       |
| <i>cmsy10</i>   | $\mathcal{P}$ | $\mathcal{Q}$ | $\mathcal{R}$ | $\mathcal{S}$ | $\mathcal{T}$ | $\mathcal{U}$  | $\mathcal{V}$ | $\mathcal{W}$ | $\mathcal{X}$ | $\mathcal{Y}$ | $\mathcal{Z}$ | U              | U              | U              | $\wedge$   | $\vee$       |
| <i>lasy10</i>   |               |               |               |               |               |                |               |               |               |               |               |                |                |                |            |              |
| <i>cmex10</i>   | $\Sigma$      | $\Pi$         | $\int$        | U             | $\cap$        | $\mathfrak{U}$ | $\wedge$      | $\vee$        | $\Sigma$      | $\Pi$         | $\int$        | U              | $\cap$         | $\mathfrak{U}$ | $\wedge$   | $\vee$       |
| <i>rptmr</i>    | P             | Q             | R             | S             | T             | U              | V             | W             | X             | Y             | Z             | [              | \              | ]              | ^          | _            |
| <i>rpsyr</i>    | $\Pi$         | $\Theta$      | P             | $\Sigma$      | T             | Y              | $\varsigma$   | $\Omega$      | $\Xi$         | $\Psi$        | Z             | [              | $\therefore$   | ]              | $\perp$    | $\_$         |
| <i>ecrm1000</i> | P             | Q             | R             | S             | T             | U              | V             | W             | X             | Y             | Z             | [              | \              | ]              | $\wedge$   | $\_$         |
| <i>tcrm1000</i> |               |               |               |               |               |                |               | $\Omega$      |               |               |               | $\llbracket$   | $\backslash$   | $\rrbracket$   | $\uparrow$ | $\downarrow$ |

|                 | 96           | 97       | 98        | 99        | 100      | 101        | 102      | 103      | 104       | 105       | 106       | 107         | 108                      | 109            | 110                      | 111                      |
|-----------------|--------------|----------|-----------|-----------|----------|------------|----------|----------|-----------|-----------|-----------|-------------|--------------------------|----------------|--------------------------|--------------------------|
| <i>cmr10</i>    | ‘            | a        | b         | c         | d        | e          | f        | g        | h         | i         | j         | k           | l                        | m              | n                        | o                        |
| <i>cmmi10</i>   | $\ell$       | <i>a</i> | <i>b</i>  | <i>c</i>  | <i>d</i> | <i>e</i>   | <i>f</i> | <i>g</i> | <i>h</i>  | <i>i</i>  | <i>j</i>  | <i>k</i>    | <i>l</i>                 | <i>m</i>       | <i>n</i>                 | <i>o</i>                 |
| <i>cmsy10</i>   | $\vdash$     | $\dashv$ | $\lfloor$ | $\rfloor$ | $\lceil$ | $\rfloor$  | {        | }        | $\langle$ | $\rangle$ |           | $\parallel$ | $\updownarrow$           | $\updownarrow$ | $\backslash$             | $\wr$                    |
| <i>lasy10</i>   |              |          |           |           |          |            |          |          |           |           |           |             |                          |                |                          |                          |
| <i>cmex10</i>   | $\Pi$        | $\Pi$    | $\wedge$  | $\wedge$  | $\wedge$ | $\sim$     | $\sim$   | $\sim$   |           |           |           |             |                          |                |                          |                          |
| <i>rptmr</i>    | ‘            | a        | b         | c         | d        | e          | f        | g        | h         | i         | j         | k           | l                        | m              | n                        | o                        |
| <i>rpsyr</i>    | $\_$         | $\alpha$ | $\beta$   | $\chi$    | $\delta$ | $\epsilon$ | $\phi$   | $\gamma$ | $\eta$    | $\iota$   | $\varphi$ | $\kappa$    | $\lambda$                | $\mu$          | $\nu$                    | $\omicron$               |
| <i>ecrm1000</i> | ‘            | a        | b         | c         | d        | e          | f        | g        | h         | i         | j         | k           | l                        | m              | n                        | o                        |
| <i>tcrm1000</i> | $\backslash$ |          | *         | o o       | +        |            |          |          |           |           |           |             | $\text{\textcircled{e}}$ | $\omega$       | $\text{\textcircled{a}}$ | $\text{\textcircled{c}}$ |

|                 | 112                  | 113                  | 114                  | 115                  | 116                  | 117                  | 118                  | 119                  | 120                  | 121                  | 122                  | 123                  | 124                  | 125                  | 126                  | 127                  |
|-----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>cmr10</i>    | p                    | q                    | r                    | s                    | t                    | u                    | v                    | w                    | x                    | y                    | z                    | $\_$                 | $\_$                 | $\_$                 | $\_$                 | $\_$                 |
| <i>cmmi10</i>   | <i>p</i>             | <i>q</i>             | <i>r</i>             | <i>s</i>             | <i>t</i>             | <i>u</i>             | <i>v</i>             | <i>w</i>             | <i>x</i>             | <i>y</i>             | <i>z</i>             | $\mathfrak{z}$       | $\mathfrak{z}$       | $\mathfrak{z}$       | $\mathfrak{z}$       | $\mathfrak{z}$       |
| <i>cmsy10</i>   | $\sqrt{\phantom{x}}$ | $\Pi$                | $\nabla$             | $\int$               | $\sqcup$             | $\sqcap$             | $\sqsubseteq$        | $\sqsupseteq$        | $\S$                 | $\dagger$            | $\ddagger$           | $\P$                 | $\clubsuit$          | $\diamond$           | $\heartsuit$         | $\spadesuit$         |
| <i>lasy10</i>   |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| <i>cmex10</i>   | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ | $\sqrt{\phantom{x}}$ |
| <i>rptmr</i>    | p                    | q                    | r                    | s                    | t                    | u                    | v                    | w                    | x                    | y                    | z                    | {                    |                      | }                    | ~                    |                      |
| <i>rpsyr</i>    | $\pi$                | $\theta$             | $\rho$               | $\sigma$             | $\tau$               | $\upsilon$           | $\varpi$             | $\omega$             | $\xi$                | $\psi$               | $\zeta$              | {                    |                      | }                    | ~                    |                      |
| <i>ecrm1000</i> | p                    | q                    | r                    | s                    | t                    | u                    | v                    | w                    | x                    | y                    | z                    | {                    |                      | }                    | ~                    |                      |
| <i>tcrm1000</i> |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | {                    |                      | }                    | ~                    | =                    |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rpsyr</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>ecrm1000</i> | Ä   | Å   | Ć   | Č   | Ď   | Ě   | Ǝ   | Ǧ   | Ł   | Ł   | Ł   | Ń   | Ň   | Đ   | Œ   | Ř   |
| <i>tcrm1000</i> | ˆ   | ˆ   | ˆ   | ˆ   | †   | ‡   | ‖   | ‰   | •   | °C  | \$  | ¢   | f   | ¢   | W   | ℞   |

|                 |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|-----|-----|-----------------|
|                 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152             | 153 | 154 | 155 | 156 | 157 | 158 | 159             |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>rptmr</i>    |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>rpsyr</i>    |     |     |     |     |     |     |     |     |                 |     |     |     |     |     |     |                 |
| <i>ecrm1000</i> | Ř   | Ś   | Š   | Ş   | Ť   | Ț   | Ũ   | Ȫ   | Ÿ               | Ž   | Ž   | Ž   | IJ  | İ   | đ   | §               |
| <i>tcrm1000</i> | G   | P   | £   | R   | ?   | ↓   | d   | ™   | ‰ <sub>00</sub> | ¶   | B   | Nº  | %   | e   | o   | § <sub>SM</sub> |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     | ı   | ç   | £   | /   | ¥   | f   | §   | ¤   | '   | “   | «   | <   | >   | fi  | fl  |
| <i>rpsyr</i>    |     | Ÿ   | '   | ≤   | /   | ∞   | f   | ♣   | ♦   | ♥   | ♠   | ↔   | ←   | ↑   | →   | ↓   |
| <i>ecrm1000</i> | ă   | ȧ   | ć   | č   | d'  | ě   | ę   | ğ   | ı   | İ   | ı   | ı   | ı   | ı   | ö   | ı   |
| <i>tcrm1000</i> | {   | }   | ¢   | £   | ¤   | ¥   | ı   | §   | ¨   | ©   | ¸   | ©   | ¬   | ®   | ®   | —   |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     | —   | †   | ‡   | ·   |     | ¶   | •   | ,   | „   | ”   | »   | ... | ‰   | —   | ı   |
| <i>rpsyr</i>    | °   | ±   | ”   | ≥   | ×   | ∞   | ð   | •   | ÷   | ≠   | ≡   | ≈   | ... |     | —   | ı   |
| <i>ecrm1000</i> | ř   | ±   | š   | §   | ı   | μ   | ı   | ı   | ı   | ı   | ı   | ı   | ı   | ı   | ı   | ı   |
| <i>tcrm1000</i> | °   | ±   | 2   | 3   | '   | ı   | ¶   | ı   | ı   | ı   | ı   | ı   | ı   | ı   | ı   | ı   |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     | `   | ´   | ^   | ˘   | -   | ˘   | ·   | ¨   |     | °   | ˙   |     | ˜   | ˘   | ˘   |
| <i>rpsyr</i>    | ⌘   | Ɔ   | ℜ   | ø   | ⊗   | ⊕   | ∅   | ∩   | ∪   | ⊃   | ⊇   | ∂   | ⊂   | ⊆   | ∈   | ∉   |
| <i>ecrm1000</i> | À   | Á   | Â   | Ã   | Ä   | Å   | Æ   | Ç   | È   | É   | Ê   | Ë   | Ì   | Í   | Î   | Ï   |
| <i>tcrm1000</i> |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    | —   | ∇   | ®   | ©   | ™   | ∏   | √   | ·   | ¬   | ^   | ∨   | ↔   | ⇐   | ↑   | ⇒   | ↓   |
| <i>rpsyr</i>    | ∠   | ∇   | ®   | ©   | ™   | ∏   | √   | ·   | ¬   | ^   | ∨   | ↔   | ⇐   | ↑   | ⇒   | ↓   |
| <i>ecrm1000</i> | Ð   | Ñ   | Ò   | Ó   | Ô   | Õ   | Ö   | Œ   | Ø   | Ù   | Ú   | Û   | Ü   | Ý   | Þ   | ß   |
| <i>tcrm1000</i> |     |     |     |     |     |     | ×   |     |     |     |     |     |     |     |     |     |

|                 |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 224 | 225 | 226 | 227          | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 |
| <i>cmr10</i>    |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     | Æ   |     | <sup>a</sup> | ™   | Σ   | ƒ   |     | ℒ   | ∅   | Œ   | °   |     |     |     |     |
| <i>rpsyr</i>    | ◊   | ⟨   | ®   | ©            | ™   | Σ   | ƒ   |     | ℒ   | ∅   | Œ   | °   |     | {   |     |     |
| <i>ecrm1000</i> | à   | á   | â   | ã            | ä   | å   | æ   | ç   | è   | é   | ê   | ë   | ì   | í   | î   | ï   |
| <i>tcrm1000</i> |     |     |     |              |     |     |     |     |     |     |     |     |     |     |     |     |

|                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 |
| <i>cmr10</i>    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmmi10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmsy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>lasy10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>cmex10</i>   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| <i>rptmr</i>    |     | æ   |     | ƒ   |     | ı   | ı   |     | ı   | ø   | œ   | ß   |     |     |     |     |
| <i>rpsyr</i>    |     | ⟩   | ƒ   | ƒ   |     | ı   | ı   |     | ı   | ø   | œ   | ß   |     | ı   | ı   |     |
| <i>ecrm1000</i> | ð   | ñ   | ò   | ó   | ô   | õ   | ö   | œ   | ø   | ù   | ú   | û   | ü   | ý   | þ   | ß   |
| <i>tcrm1000</i> |     |     |     |     |     |     | ÷   |     |     |     |     |     |     |     |     |     |