Find a FONT

Les Earnest

Abstract

Typefaces currently available for the Xerox Graphics Printer are presented herein, warts and all. Procedures for creating, modifying and stealing fonts are discussed.

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Acknowledgement

Apology

This note attempts to describe the public fonts available at the Stanford A. I. Lab. *as they are.* In a number of cases they *should* be quite different. Unfortunately, it has not been possible to allocate sufficient resources to tidy things up. Documentation facilities are an interesting sideline, but not our main business. For the most part, we are dependent on volunteers, both here and elsewhere, for the generation and improvement of fonts.

"Here is the whole set! a character dead at every word."
The School for Scandal — Richard Sheridan

"Give ample room, and verge enough, The characters of hell to trace."
The Bard — Thomas Gray

"I'll publish, right or wrong: Fools are my theme, let satire be my song."
English Bards and Scotch Reviewers — Lord Byron

"Publish and be damned." — Duke of Wellington

"'Tis from high life high characters are drawn."
Moral Essays — Alexander Pope

"I feel a little bored; Will some one take me to a Pub?"
Ballade of an Anti-Puritan — Gilbert Chesterton
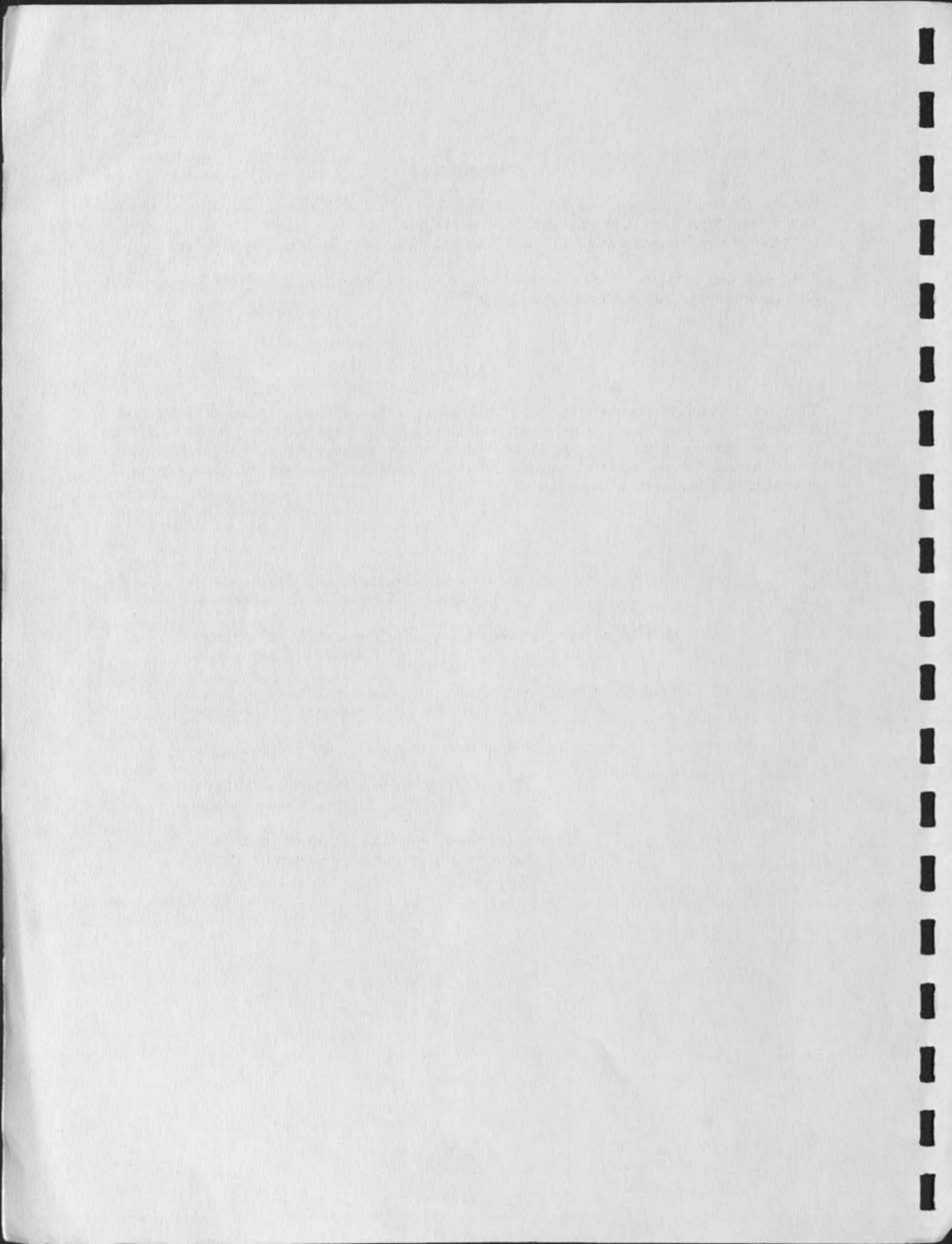
1. INTRODUCTION

This note describes symbol sets available for our Xerox Graphics Printer. Each symbol is defined by a rectangular bit array, with 1 and 0 representing "black" and "white". [The basic representation should be quite different, but that is another story.]

A font file generally contains a collection of characters of a certain size and style. The standard font files in our system have ".FNT" extensions and are stored in [XGP,SYS]. Most programs that deal with font files default to these values. Users may create and use their own font files. The internal structure of these files, which need not concern the casual user, is described in Appendix C.

Font Dissemination Policy

We have no objection to other University research groups copying our font files. Most other groups in the research community appear to have similar policies. Appendix D is a guide to font theft via the ARPAnet.

Commercial organizations wishing to use our fonts will be expected to pay a licensing fee (negotiable). Only fonts that were created in our laboratory will be considered for licensing by us.

(In)Compatibility

In exchanging documentation files with other organizations, there are a number of potential difficulties. For example, the SAIL character set uses a number of ASCII control codes to represent exotic symbols, to the endless pain of other groups who try to use our software. Appendix B itemizes differences between our code and others.

Not only do character codes vary, but so do XGP adjustments: CMU makes their resolution about 183 pixels/inch; PARC and ISI use 192; we and MIT-AI use 200. Overall, one must worry about differences in

symbol sets, character codes, documentation languages, font files, and XGP resolutions. [Sigh.] Perhaps we will get it together next time.

Programs that use Font Files

Users may write programs that output directly to the XGP as described in the UUO Manual [1]. A more common approach is to prepare a text file for processing by a document compiler, which writes a file containing XGP commands that is XSPOOLed [2].

There are two document compilers currently in use here: Pub [3] and Pox [4]. Pox is substantially faster than Pub and offers somewhat greater freedom in positioning text, but has a rather messy syntax and an incredible array of possible states. Pub has an ALGOL-like syntax and better facilities for dealing with arbitrary source text formats, but is large (50k+ in pass 1) and slow. Neither is the ultimate document compiler.

While the use of multiple fonts can improve the readability of documents, it also imposes a computing load both in compiling and printing. To minimize the system costs, please observe the following rules.
1. Don't declare more fonts than you use.
2. Whenever possible, avoid the use of the larger fonts except in small documents.

For example, if you want to use SIGN57 on the cover and title page of a sizable document, you should compile and print those pages by themselves. For A. I. Memos, there is a Pub macro available that makes covers and title pages [5].

Because of stringent timing requirements in printing on the XGP, the font files are not used directly, but are first "compiled" into a data structure that is well suited to XGP output. The timesharing system takes care of this automatically.

If your document uses too many fonts (requiring more than 65k words of font

storage or more than one minute of elapsed time to compile any one font), the printing task will automatically abort. The latter restriction can often be circumvented by precompiling a font [6]. Compiled font files normally have ".CFT" extensions.

If you suspect that the document compiler of your choice has run amok, use XGPTYP to convert the XGP file into readable commands so that you can see what happened. Say "R XGPTYP" to the Monitor, then "?" for operating instructions.

Font Manipulation Programs

To examine any given font on a Data Disk terminal, say "R DDFONT" and give the font name (e.g., "NGR25").

To generate a sample of any particular font on the XGP, give the command
    R FCOPY;<font name>/SAMPLE
FCOPY can also be used to convert fonts stolen from outside organizations to our font file format, to make fonts fixed width, or to rotate them [7].

To create a new font, use TVFONT [8]. TVFONT can also stretch existing fonts (after polygon conversion) or slant them.

To modify an existing font, use EDFONT [9]. It allows you to draw, rotate, and mirror image fonts up to 40 pixels high. To combine selected characters from two fonts, use EDFONT or COMBIN [10]. If you forget all this, say "HELP FONT" to the system.

If you want to examine or modify font parameters or permute characters and you don't mind living dangerously, use FONT [11].

Please be careful in modifying public fonts. Cleaning up ragged characters is generally OK, but permuting or replacing characters may introduce bugs in existing documents. It is safer to introduce a new font with the

improved character arrangement, declare the old one "obsolescent", and eventually delete it.

References

[1] Martin Frost, UUO Manual, SAILON-55.4, Page 160.

[2] Brian Harvey and Martin Frost, Monitor Manual, SAILON-54.5, Appendix 3, or see file SPOOL.REG [UP,DOC].

[3] Larry Tesler, Pub, the Document Compiler, SAILON-70, September 1972 (out of print); also in file PUB.TES [S,DOC]. Update in file PUB.UPD [S,DOC].

[4] Robert Maas, Prototype Overlay Xerographics, in file POX.XGP [UP,DOC].

[5] Les Earnest, COVER, in file COVER.PUB [SUB,SYS], with description in PUBMAC.LES [UP,DOC].

[6] Ralph Gorin, User Font Compiler, in file UFC.REG [UP,DOC].

[7] Tovar, FCOPY, say "HELP FCOPY" to view the meager documentation.

[8] Bruce Baumgart, TVFONT — Television Font Maker, in file TVFONT.BGB [UP,DOC].

[9] Tovar, EDFONT — Font Editor, in file EDFONT.TVR [UP,DOC].

[10] Tovar, COMBINE, say "HELP COMBIN" for a summary of features.

[11] Brian Harvey, FONT, in file FONT.DOC [1,BH]. To run it, say "RU FONT [S,BH]" (experts only, please).

2. FONT DESCRIPTIONS

This catalog takes a forthright stand against some forms of evil, but compromises with others. *Ad hoc* substitutions in certain character positions are treated as a "missing symbols" and the symbols that are there currently are not identified. The purpose is to permit these fonts to be corrected. *If you use ad hoc symbols, you do so at your own risk. Some day they will be replaced by the correct symbols for that font.*

This catalog ignores characters that are "hidden" under control codes such as CR, LF, and ALT. While both Pub. and Pox provide facilities for printing these things, it is all a silly business. If one hides alternate characters under CR, for example, why not put them under each letter of the alphabet? Since hidden characters are basically a bad idea, they are not reported below.

While a number of fonts in this catalog are rather ragged or silly, some are too bad for even our loose standards, or have been superseded. Appendix A is a Blacklist of such fonts, with the reason given for each rejection. The expectation is that these fonts will be deleted eventually.

Organization and Terminology

Fonts are organized below on the following basis:
  (1) symbol class (variable width regular, fixed width regular, special symbols),
  (2) typeface (e.g. "Baskerville"),
  (3) size (smallest to largest),
  (4) style (e.g. light, italic, or bold).

The traditional printer's units are the *pica* (1/6 inch) and *point* (1/72 inch). Font heights are given below both in points and in *pixels* (picture cells, i.e. XGP raster units). The "points" height includes an assumed interline spacing of 3 pixels, which is the default value in Pub. The default interline spacing in POX is 0 in simulator mode and 4 pixels in non-simulator mode.

The notation "height = 25 pixels = 20 + 5" means that the font is 25 pixels high, not counting any interline spacing, with 20 above the baseline and 5 below. The *maximum width* is also given in pixels. For a diagram of these parameters and others used to define fonts, see Appendix C.

Pixel to Point Conversion

Our XGP is adjusted to about 200 pixels/inch, which means that 1 "point" is about 2.8 pixels. If you need to make a master that will photographically reduce to a font of a certain size (in points), here is a table of font heights (in XGP pixels) that should be used for various reduction ratios, assuming an interline spacing of 3 pixels.

	Magnification					
Result	x1	x0.9	x0.8	x0.7	x0.6	x0.5
(points)		Font Height (pixels)				
6	13	15	17	20	24	30
8	19	21	24	28	34	41
10	24	27	31	36	43	52
12	30	34	38	44	52	63
14	35	40	45	52	61	74
18	47	52	59	68	80	97
24	63	71	80	92	108	130
30	80	89	101	116	135	163
36	97	108	122	139	163	197
42	113	126	142	163	191	230
48	130	145	163	187	219	263
60	163	182	205	235	274	330
72	197	219	247	282	330	397

The name of the originator of each font is given below where known. In some cases we have guessed, perhaps inaccurately. Corrections are solicited. For fonts that originated outside SAIL we generally have no information about the originator(s) so we simply indentify the probable originating organization, e.g. CMU (Carnegie-Mellon University AI group), MIT (M.I.T. AI group), or ISI (Information Sciences Institute, University of Southern California) or the SHY Corporation.

In describing character sets, we use "SAIL set" to mean the peculiar character set that we use, as described in Appendix B. The "ASCII set" is taken (inacurately) to mean those characters in the SAIL set with codes greater than '40, while the "special characters" are SAIL symbols with character codes less than '40.

For fonts with nonstandard characters in some positions, we use the notation "$\alpha \rightarrow \beta$" to mean that the code that normally prints as "α" prints as symbol "β" in this font. In fonts where senseless substitutions have been made, they are not listed.

3. VARIABLE WIDTH REGULAR FONTS

Baskerville

The Baskerville fonts include lightface, *italic*, and bold. The "BAS" fonts include ligatures in place of certain special characters, as noted below. The ligatures and some additional special characters are also available in BAXS30 (see Section 5, Miscellaneous fonts). If you are using Pub and want ligatures, use BASK.PUB [SUB,SYS] to make the substitutions automatically.

For special accents, use the zero-width font ZERO30. There are some supplementary Baskerville symbols in BAXS30.

BAXL30   12 point Baskerville (height = 30 pixels = 22 + 8, width ≤ 31)   by Mike Clancy
      Derived from BASL30. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β
∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

BASL30   12 point Baskerville (height = 30 pixels = 22 + 8, width ≤ 48)   by Brian Harvey
      Complete except for ligature substitutions (see below) and missing ∈ ∀.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β
∧ π λ ∂ ⊂ ⊃ ∩ ∪ ∃ ⊗ ↔ _ → ~ ≤ ! " # $ % & ' ( ) ⊗ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }
Ligatures: # →fi ∨→fl ≥→ff ≠→ffi ∞→ffl →→—

BAXI30   12 point Baskerville Italic (height = 30 pixels = 22 + 8, width ≤ 30)   by Mike Clancy
      Derived from BASI30. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVW XYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧
*¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ / \ / ↑ ← ' { | }*

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

BASI30   12 point Baskerville Italic (height = 30 pixels = 22 + 8, width ≤ 30)   by Brian Harvey
      Complete except for ligature substitutions (see below) and missing ~.
ABCDE FGHIJ KLMNO PQRST UVW XYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧
*∈ π λ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ≤ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ / \ / ↑ ← ' { | }*
Ligatures: # →fi ∨→fl ≥→ff ≠→ffi ∞→ffl →→—

BAXM30   12 point Baskerville Mathematical (height = 30 pixels = 22 + 8, width ≤ 48) by Les Earnest
Same as BAXL30 except that the alphabet is italic, has wide-spaced period, and prime ′ in
place of '. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧
¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " ⊕ $ % & ' ( ) * + , − . / : ; < = > ? @ [\ ] ↑ ← ' { | }

BAXB30   12 point Baskerville Bold (height = 30 pixels = 22 + 8, width ≤ 30)   by Mike Clancy
Derived from BASB30. Full SAIL set.
**ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β
∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " ⊕ $ % & ' ( ) * + , − . / : ; < = > ? @ [\ ] ↑ ← ' { | }**

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we
call time enough, always proves little enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less perplexity.

BASB30   12 point Baskerville Bold (height = 30 pixels = 22 + 8, width ≤ 30)   by Brian Harvey
Complete except for ligature substitutions (see below).
**ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β
∧ ∈ π λ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≤ ! " ⊕ $ % & ' ( ) * + , − . / : ; < = > ? @ [\ ] ↑ ← ' { | }**
Ligatures: ≡→fi ∨→fl ≥→ff ≠→ffi ∞→ffl ¬→−

BASL35   13 point Baskerville (height = 34 pixels = 25 + 9, width ≤ 38)   by Arthur Samuel
Includes ligatures; missing ∈ ∀. A slightly enlarged version of BASL30.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 ↓ α β ∧ π λ ∂ ⊂ ⊃ ∩ ∪ ∃ ⊗ ↔ _ → ~ ≤ ! " ⊕ $ % & ' ( ) * + , − . / : ; < = > ? @ [\ ] ↑ ←
' { | }
Ligatures: ≡→fi ∨→fl ≥→ff ≠→ffi ∞→ffl ¬→−

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

Bocklin

BEESIX   14 point Bocklin (height = 36 pixels = 27 + 9, width ≤ 38)   by Bruce Baumgart
Letters and digits only (no punctuation).
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789

If time be of all things the most precious wasting time must be fun but without
punctuation words run together and we eventually lose track of what we are
talking about which is just as well because Poor Richard was such a dingaling
that he used to fly kites in the rain

BUCK75   27 point Bocklin (height = 73 pixels = 58 + 15, width ≤ 75)   by Bruce Baumgart
Letters and digits only (no punctuation).
ABCDE   FGHIJ   KLMNO   PQRST
UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789

The noblest motive is the pubic good
Never play leapfrog with a Unicorn

Bodoni

BDJ20   8 point Bodoni Mathematical (height = 20 pixels = 16 + 4, width ≤ 22)   by Bill Gosper
Italic alphabet, everything else upright. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ α λ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _
→ ∼ ≠ ≤ ≥ ≡ ∨ ! " ⊛ ↑ % & ' ( ) ✳ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he
elsewhere tells us, lost time is never found again: and what we call time enough, always proves little enough: Let us then up and
be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

BDR25   10 point Bodoni (height = 26 pixels = 20 + 6, width ≤ 25)   by @CMU
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞
∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ∼ ≠ ⟨ ⟩ ≡ ∨ ! " ⊛ $ % & ' ( ) ✳ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough,
always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we
do more with less perplexity.

BDI25   10 point Bodoni Italic (height = 26 pixels = 20 + 6, width ≤ 27)   by @CMU
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈
π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ∼ ≠ ≤ ≥ ≡ ∨ ! " ⊛ $ % & ' ( ) ✳ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

BDJ25   10 point Bodoni Mathematical (height = 26 pixels = 20 + 6, width ≤ 27)   by Bill Gosper
Italic alphabet, everything else upright. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π
λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ∼ ≠ ≤ ≥ ≡ ∨ ! " ⊛ $ % & ' ( ) ✳ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

BDR25X   10 point Bodoni Bold (height = 26 pixels = 20 + 6, width ≤ 25)   by Tovar
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞
∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ∼ ≠ ⟨ ⟩ ≡ ∨ ! " ⊛ $ % & ' ( ) ✳ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough,
always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we
do more with less perplexity.

BDR30   12 point Bodoni (height = 31 pixels = 25 + 6, width ≤ 28)   by Tovar
            Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬
∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ < ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← '
{ | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

BDI30   12 point Bodoni Italic (height = 31 pixels = 24 + 7, width ≤ 34)   by Andy Moorer
            A bit uneven, alas. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVW XYZ abcde f g hij klmno pqrst uvwxyz 0 1234 56789
↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ = ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ?
@ / \ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

BDB30   12 point Bodoni Bold (height = 31 pixels = 25 + 6, width ≤ 30)   by Tovar
            Made from BDR30. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝
β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ < ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [
\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what
we call time enough, always proves little enough: Let us then up and be doing, and doing to
the purpose; so by diligence shall we do more with less perplexity.

BDR40   15 point Bodoni (height = 40 pixels = 30 + 10, width ≤ 38)   by Kurt VanLehn
            Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst
uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨
! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so
by diligence shall we do more with less perplexity.

BDI40   15 point Bodoni Italic (height = 40 pixels = 33 + 7, width ≤ 43)   by Tovar
               Extremely ragged; made from BDI25. Full SAIL set.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno
pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _
*→ ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ / \ / ↑ ← ' {*
| }

If time be of all things the most precious, wasting time must be,
as Poor Richard says, the greatest prodigality; since, as he
elsewhere tells us, lost time is never found again; and what we
call time enough, always proves little enough: Let us then up and
be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

BDR66   25 point Bodoni (height = 66 pixels = 51 + 15, width ≤ 63)   by Tovar
               Full SAIL set. Generated from BDR40; rather ragged.

ABCDE FGHIJ KLMNO PQRST UVWXYZ
abcde fghij klmno pqrst uvwxyz 01234 56789
↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠
≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @
[\ ] ↑ ← ' { | }

If time be of all things the most precious,
wasting time must be, as Poor Richard says,
the greatest prodigality;

Clarendon

CLAR30   14 point Clarendon (height = 37 pixels = 27 + 10, width ≤ 39)   by Paul Martin
              Missing ↓ β ∧ ¬ ∈ π λ ∞ ∂ ∩ ∪ ⊕ ↔ _ ~ ≤ ≥ ∨ ! & ≠ < > @ ↑ { }.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno
pqrst uvwxyz 01234 56789 ∝ ⊂ ⊃ ∀ ⊞ → ≠ = " # $ ℤ ' ( ) + , - .
/ : ; = ? [\ ] ← ' |

If time be of all things the most precious, wasting time must
be, as Poor Richard says, the greatest prodigality; since, as he
elsewhere tells us, lost time is never found again; and what we
call time enough, always proves little enough: Let us then up
and be doing, and doing to the purpose; so by diligence shall
we do more with less perplexity.

CLAR40   18 point Clarendon (height = 46 pixels = 34 + 12, width ≤ 52)   by Andy Moorer
              Rather ragged. Missing ↓ β ∧ ¬ ∈ π λ ∞ ∂ ∩ ∪ ⊕ ↔ _ ~ ≤ ≥ ∨ ! & ≠ < > @ ↑ { }.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde
fghij klmno pqrst uvwxyz 01234 56789 ∝ ⊂ ⊃ ∀
⊞ → ≠ = " # $ ℤ ' ( ) + , - . / : ; = ? [\ ] ← ' |

If time be of all things the most precious,
wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells
us, lost time is never found again; and what we
call time enough, always proves little enough:
Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with
less perplexity.

Coronet

CORON   18 point Coronet Bold (height = 48 pixels = 37 + 11, width ≤ 51)   by Stan Kugell
       A cursive set of letters, digits, and a little punctuation. Rather uneven.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 : : . .

Little Bo Peep has lost her sheep, and cant tell where to find them;
Leave them alone and theyll come home, and bring their tails behind them.
Little Bo Peep fell fast asleep, And dreamt she heard them bleating:
But when she awoke, she found it a joke, For they were still a fleeting.

Countdown

CNT57   22 point Countdown (height = 57 pixels = 50 + 7, width ≤ 68)   by Paul Martin
       Upper case letters only.

ABCDE FGHIJ KLMNO PQRST UVWXYZ

COUNTDOWN HAS NO INTEGERS TO COUNT
DOWN WITH BUT IT COMPENSATES BY
BEING ILLEGIBLE AND UGLY

Meteor

All the Meteor fonts have the same (mostly ASCII) character set. File name suffixes are interpreted as follows: S = small, M = medium, L = large, I = italic, B = bold.

METS   10 point Meteor (height = 25 pixels = 20 + 5, width ≤ 28)   by @SHY
ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

METSI   10 point Meteor Italic (height = 25 pixels = 20 + 5, width ≤ 23)   by @SHY
ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

METSB   10 point Meteor Bold (height = 25 pixels = 20 + 5, width ≤ 26)   by @SHY
ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

METSBI   10 point Meteor Bold Italic (height = 25 pixels = 20 + 5, width ≤ 24)   by @SHY
ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

METM   12 point Meteor (height = 30 pixels = 21 + 9, width ≤ 33)   by @SHY
             ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __ ~
! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

METMI   12 point Meteor Italic (height = 30 pixels = 21 + 9, width ≤ 31)   by @SHY
             ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 __
*~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }*

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

METMB   12 point Meteor Bold (height = 30 pixels = 21 + 9, width ≤ 36)   by @SHY
             ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found
again; and what we call time enough, always proves little enough: Let us then up
and be doing, and doing to the purpose; so by diligence shall we do more with less
perplexity.

METMBI   12 point Meteor Bold Italic (height = 30 pixels = 21 + 9, width ≤ 32)   by @SHY
             ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 __ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is never
found again; and what we call time enough, always proves little enough: Let us then
up and be doing, and doing to the purpose; so by diligence shall we do more with
less perplexity.

METL   14 point Meteor (height = 35 pixels = 28 + 7, width ≤ 34)   by @SHY
              ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time
is never found again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the purpose; so by diligence
shall we do more with less perplexity.

METLI   14 point Meteor Italic (height = 35 pixels = 28 + 7, width ≤ 33)   by @SHY
              ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
*01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }*

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

METLB   14 point Meteor Bold (height = 35 pixels = 28 + 7, width ≤ 37)   by @SHY
              ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

METLBI   14 point Meteor Bold Italic (height = 35 pixels = 28 + 7, width ≤ 37)   by @SHY
              ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us,
lost time is never found again; and what we call time enough, always
proves little enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less perplexity.

MICR25   10 point Microgramma (height = 25 pixels = 20 + 5, width ≤ 16)   by @CMU
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β
∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ ℒ & ' ( ) ¤ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | ~

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what
we call time enough, always proves little enough: Let us then up and be doing, and doing to
the purpose; so by diligence shall we do more with less perplexity.

News Gothic

NGR13   6 point News Gothic (height = 14 pixels = 11 + 3, width ≤ 13)   by @CMU
Rather unreadable. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ ℒ & ' ( ) ¤ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NGR20   9 point News Gothic (height = 21 pixels = 16 + 5, width ≤ 18)   by @CMU
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤
≥ ≡ ∨ ! " # $ % & ' ( ) ¤ + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere
tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

NGI20   8 point News Gothic Italic (height = 20 pixels = 16 + 4, width ≤ 18)   by ?
Letters only.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz

*If time be of all things the most precious wasting time must be as Poor Richard says the greatest prodigality since as he elsewhere
tells us lost time is never found again and what we call time enough always proves little enough Let us then up and be doing and doing
to the purpose so by diligence shall we do more with less perplexity*

NGR25   10 point News Gothic (height = 26 pixels = 20 + 6, width ≤ 23)   by @CMU
               This is a good size for compact text. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞
∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

NGI25   10 point News Gothic Italic (height = 25 pixels = 20 + 5, width ≤ 23)   by @CMU
               Letters only.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz

*If time be of all things the most precious wasting time must be as Poor Richard says the greatest
prodigality since as he elsewhere tells us lost time is never found again and what we call time enough
always proves little enough Let us then up and be doing and doing to the purpose so by diligence
shall we do more with less perplexity*

NGB25   10 point News Gothic Bold (height = 26 pixels = 20 + 6, width ≤ 23)   by @CMU
               Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂
⊂ ⊃ ∩ ∪ ∀ ∃ ⊛ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

**If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough,
always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall
we do more with less perplexity.**

NGR30   12 point News Gothic (height = 31 pixels = 24 + 7, width ≤ 31)   by @CMU
               Missing ↓ ∝ β ¬ λ ∞ ∂ ⊂ ∩ ∪ ∃ ⊛ ↔ ≤ ≥ ≡.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ∧ ∈
π ⊃ ∀ _ → ~ ≠ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less perplexity.

NGB30   12 point News Gothic Bold (height = 31 pixels = 24 + 7, width ≤ 32)   by Tovar
               Missing ↓ ∝ β ¬ λ ∞ ∂ ⊂ ∩ ∪ ∃ ⊛ ↔ ≤ ≥ ≡.
**ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789
∧ ∈ π ⊃ ∀ _ → ~ ≠ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }**

**If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found
again; and what we call time enough, always proves little enough: Let us then up and
be doing, and doing to the purpose; so by diligence shall we do more with less
perplexity.**

NGR40L   16 point News Gothic (height = 42 pixels = 32 + 10, width ≤ 37)   by Tovar
              Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
Ø1234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " #
$ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

NGR40   16 point News Gothic Medium (height = 41 pixels = 32 + 9, width ≤ 37)   by David Levy
             Has only alphabet, digits and a little punctuation.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789 + - / " : ; , . ? .

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

NGB40   15 point News Gothic Bold (height = 40 pixels = 32 + 8, width ≤ 3)   by Andy Moorer
             Rather ragged, alas. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz
01234 56789 ↓ ∝ β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ !
" # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us,
lost time is never found again; and what we call time enough, always
proves little enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less perplexity.

Nonie

All the Nonie fonts have the same (mostly ASCII) character set. File name suffixes are interpreted as follows: S = small, M = medium, L = large, I = italic, B = bold.

NONS   10 point Nonie (height = 25 pixels = 20 + 5, width ≤ 23)   by @SHY
             ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < =
> ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONSI   10 point Nonie Italic (height = 25 pixels = 20 + 5, width ≤ 21)   by @SHY
              ASCII less ' plus _ ~.
*ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ;*
< = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONSB   10 point Nonie Bold (height = 25 pixels = 20 + 5, width ≤ 25)   by @SHY
              ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . /
: ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONSBI   10 point Nonie Bold Italic (height = 25 pixels = 20 + 5, width ≤ 23)   by @SHY
               ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * + , -
. / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONM   12 point Nonie (height = 30 pixels = 21 + 9, width ≤ 27)   by @SHY
              ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " #
$ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what
we call time enough, always proves little enough: Let us then up and be doing, and doing to
the purpose; so by diligence shall we do more with less perplexity.

NONMI   12 point Nonie Italic (height = 30 pixels = 21 + 9, width ≤ 26)   by @SHY
              ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! "
*# $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }*

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what
we call time enough, always proves little enough: Let us then up and be doing, and doing to
the purpose; so by diligence shall we do more with less perplexity.

NONMB   12 point Nonie Bold (height = 30 pixels = 21 + 9, width ≤ 30)   by @SHY
              ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~
! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found again;
and what we call time enough, always proves little enough: Let us then up and be doing,
and doing to the purpose; so by diligence shall we do more with less perplexity.

NONMBI   12 point Nonie Bold Italic (height = 30 pixels = 21 + 9, width ≤ 30)   by @SHY
              ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _
~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found again;
and what we call time enough, always proves little enough: Let us then up and be doing,
and doing to the purpose; so by diligence shall we do more with less perplexity.

NONL   14 point Nonie (height = 35 pixels = 28 + 7, width ≤ 33)   by @SHY
             ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789
_ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found again;
and what we call time enough, always proves little enough: Let us then up and be
doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONLI   14 point Nonie Italic (height = 35 pixels = 28 + 7, width ≤ 32)   by @SHY
             ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789
*_ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }*

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is never
found again; and what we call time enough, always proves little enough: Let us then
up and be doing, and doing to the purpose; so by diligence shall we do more with
less perplexity.

NONLB   14 point Nonie Bold (height = 35 pixels = 28 + 7, width ≤ 34)   by @SHY
             ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says,
the greatest prodigality; since, as he elsewhere tells us, lost time is never found again;
and what we call time enough, always proves little enough: Let us then up and be
doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

NONLBI   14 point Nonie Bold Italic (height = 35 pixels = 28 + 7, width ≤ 34)   by @SHY
             ASCII less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 _ ~ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is never
found again; and what we call time enough, always proves little enough: Let us
then up and be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

Old English

OLDENG   12 point Old English (height = 30 pixels = 24 + 6, width ≤ 26)   by ?
                Letters, digits, and a little punctuation.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ' . - . : : '

    'Twas the night before Christmas, when all through the house
    Not a creature was stirring, not even a mouse:
    The stockings were hung by the chimney with care,
    In hopes that St. Nicholas soon would be there:

XMAS25   14 point Old English (height = 37 pixels = 28 + 9, width ≤ 70)   by Bruce Baumgart
                Letters, digits, and a little punctuation.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij
klmno pqrst uvwxyz 01234 56789 , . : ;

    The children were nestled all snug in their beds,
    While visions of sugar plums danced in their heads;
    And mamma in her kerchief, and I in my cap,
    Had just settled our brains for a long winters nap,

XMAS40   17 point Old English (height = 43 pixels = 35 + 8, width ≤ 56)   by Tovar
                Letters and digits only (no punctuation).
ABCDE FGHIJ KLMNO PQRST UVWXYZ
abcde fghij klmno pqrst uvwxyz 01234 56789

    When out on the lawn there arose such a clatter
    I sprang from the bed to see what was the matter
    Away to the window I flew like a flash
    Tore open the shutters and threw up the sash

Old German

GERM35   15 point Old German (height = 40 pixels = 31 + 9, width ≤ 32)   by Robert Maas
Letters and a little punctuation only (latter contributed by Bill van Melle).
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno parst uvwxyz ! " ' ( ) , . : ; ?
Supplementary: α→ä β→ß ◊→ö v→ü s→ß u→ü y→ÿ →→— ∞→" →≠'→„

In olden times when wishing still helped one, there lived a king whose daughters were all beautiful, but the youngest was so beautiful that the sun itself, which has seen so much, was astonished whenever it shone in her face.

GERM70   26 point Old German (height = 68 pixels = 60 + 8, width ≤ 63)   by Dave Barstow
Letters and period only.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno parst uvwxyz .

Der schnelle braune Pox hat den faulen Pub uebersprungen.

Original City Lights

CTL25   10 point Original City Lights (height = 26 pixels = 19 + 7, width ≤ 25)   by @CMU
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ¬ ⊂ π λ ∞ ∂ ⊂
⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " ≠ $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

Playbill

PLAYBI   14 point Playbill (height = 36 pixels = 27 + 9, width ≤ 16)   by Tovar
A slim font with many missing characters (e.g. digits 4-9).
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 0123 ⋅ ≠ ≤ ≥ < > / " + - & $ Z ( ) [ ] " ' : ; . , ? !

How playing: a film that depicts the struggle against environmental pollution by a courageous woman. Marilyn Chambers gives a spirited performance in "Behind the Green Door". Coming soon: a penetrating examination of an amazing talent. In "Deep Throat", Linda Lovelace gives a stirring performance of great depth.

Quux

QUUV25   10 point Quux Variable Bold (height = 25 pixels = 20 + 5, width ≤ 25)   by TGQ @MIT
Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∪ ∩ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & '
( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves
little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

SHADOW

SHD40   15 point Shadow (height = 40 pixels = 32 + 8, width ≤ 38)   by @CMU
Upper case letters, digits, and a little punctuation only.
ABCDE FGHIJ KLMNO PQRST UVWXY 01234 56789 ↔ !
" @ ' , . ; : [ ] ↔ °

THE SHADOW FONT IS AN EXCELLENT CHOICE FOR
PROFOUND PREDICTIONS.   IT HAS THE ADVANTAGE OF
BEING ALMOST UNREADABLE.

SIGN

SIGN57   22 point Sign (height = 57 pixels = 50 + 7, width ≤ 95)   by @CMU
Upper case letters, digits, and a little punctuation only.
ABCDE   FGHIJ   KLMNO   PQRST
UVWXY 01234 56789 ⇒ ! ' * , -
. / : ; ⇐   Substitutions: l→ ⇛ r→ ⇚

THIS FONT WAS INVENTED BY
A DRAFTSMAN WHO HAD LOST
HIS FRENCH CURVE.

SGN114   41 point Sign (height = 112 pixels = 100 + 12, width ≤ 189)   by Tovar
             Upper case letters, digits, and a little punctuation only.

ABC   DEF   GHI
JKL   MNO   PQR
STU   VWXY   Ø1 2
345   6789 ⇒ !   *
ɋ   -   .   /   :   ; ⇐   Substitutions: l→   r→

CLEANLINESS
IS NEXT TO
IMPOSSIBLE.

4. FIXED WIDTH REGULAR FONTS

Courier

COR20   8 point Courier (height = 20 pixels = 16 + 4, width = 16)   by @SHY
            Similar to IBM Selectric Courier. ASCII set less ' { | } plus _

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ! " #
$ % & ' ( ) * + , - . / : ; < = > ? @ { \ ] ↑ ←

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is
never found again; and what we call time enough, always proves little enough: Let
us then up and be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

Delegate

SAIL25   10 point Delegate (height = 25 pixels = 20 + 5, width = 17)   by ?
            Similar to IBM Selectric Delegate. Full SAIL set.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α
β ∧ ¬ ∈ π λ ∞ ∂ c ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ˜ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . /
: ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

Fix

The Fix fonts have are modelled after our line printer character set and are all
complete.

FIX13   6 point Fix (height = 14 pixels = 11 + 3, width = 9)   by @CMU
             A small and rather illegible font. Full SAIL set.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ...

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he elsewhere tells
us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less perplexity.

FIX13X   6 point Fix Bold (height = 14 pixels = 11 + 3, width = 10)   by Tovar
             Derived from FIX13 by shifting and "or"ing. Still rather illegible. Full SAIL set.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ...

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he
elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: Let us then up and
be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

FIX20   9 point Fix (height = 21 pixels = 15 + 6, width = 12)   by @CMU
             A good size for compact text. Full SAIL set.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ c ⊃ ∩ ∪ ∀ ∃ ⊗ ↔
_ → ˜ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' | | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough,
always proves little enough: Let us then up and be doing, and doing to the purpose; so by diligence shall we
do more with less perplexity.

FIX25   10 point Fix (height = 25 pixels = 20 + 5, width = 16)   by @CMU
              The closest thing to a "standard font" that we have. This is the default font if you don't
              specify one. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧
¬ ⊂ π λ ∞ ∂ c ⊃ ∩ U ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < =
> ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is
never found again; and what we call time enough, always proves little enough: Let
us then up and be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

LPT   10 point Line Printer (height = 25 pixels = 20 + 5, width = 18)   by Tovar
              Same as FIX25, but with character width increased to match our line printer. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 ↓ α β ∧ ¬ ⊂ π λ ∞ ∂ c ⊃ ∩ U ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & '
( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as
Poor Richard says, the greatest prodigality; since, as he elsewhere
tells us, lost time is never found again; and what we call time enough,
always proves little enough: Let us then up and be doing, and doing to
the purpose; so by diligence shall we do more with less perplexity.

FIX25X   10 point Fix Bold (height = 25 pixels = 20 + 5, width = 17)   by Tovar
              Made by "fattening" FIX25. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α
β ∧ ¬ ⊂ π λ ∞ ∂ c ⊃ ∩ U ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . /
: ; < = > ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor
Richard says, the greatest prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

FIX30   12 point Fix (height = 30 pixels = 25 + 5, width = 19)   by Tovar
              Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234
56789 ↓ α β ∧ ¬ ⊂ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % &
' ( ) * + , - . / : ; < = > ? @ [\ ] ↑ ← ` { | }

If time be of all things the most precious, wasting time must be, as
Poor Richard says, the greatest prodigality; since, as he elsewhere
tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and
doing to the purpose; so by diligence shall we do more with less
perplexity.

FIX40   15 point FIX (height = 40 pixels = 33 + 7, width = 25)   by Tovar
              Generated from FIX25--a bit inconsistent. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno
pqrst uvwxyz 01234 56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪
∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - .
/ : ; < = > ? @ [\ ] ↑ ← ` { | }

If time be of all things the most precious, wasting
time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost
time is never found again; and what we call time
enough, always proves little enough: Let us then up
and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

Gacham

GACL16   7 point Gacham (height = 16 pixels = 11 + 5, width = 10)   by @SHY
ASCII set less \ ' plus ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 - ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [ ] ↑ ← { |
}

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest prodigality; since, as he
elsewhere tells us, lost time is never found again; and what we call time enough, always proves little enough: let us then up and
be doing, and doing to the purpose; so by diligence shall we do more with less perplexity.

GACL18   8 point Gacham (height = 18 pixels = 13 + 5, width = 12)   by @SHY
ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * + , - . / :
; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time enough,
always proves little enough: let us then up and be doing, and doing to the purpose; so by diligence shall we
do more with less perplexity.

GACL22   9 point Gacham (height = 21 pixels = 17 + 4, width = 13)   by @SHY
ASCII set less ' plus _ ~.

ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' ( ) * +
, - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the greatest
prodigality; since, as he elsewhere tells us, lost time is never found again; and what we call time
enough, always proves little enough: Let us then up and be doing, and doing to the purpose; so by
diligence shall we do more with less perplexity.

GACL25   10 point Gacham (height = 25 pixels = 20 + 5, width = 14)   by @SHY
              ASCII set plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! " # $ % & ' (
) * + , - . / : ; < = > ? @ [\ ] ↑ ← ` { | }

If time be of all things the most precious, wasting time must be, as Poor Richard says, the
greatest prodigality; since, as he elsewhere tells us, lost time is never found again; and
what we call time enough, always proves little enough: Let us then up and be doing, and doing
to the purpose; so by diligence shall we do more with less perplexity.

GACI25   10 point Gacham Italic (height = 25 pixels = 20 + 5, width = 16)   by @SHY
              ASCII set less ' plus _ ~.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 _ ~ ! "
 # $ % & ' ( ) " + , - . / : ; < = > ? @ [\ ] ↑ ← { | }

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is
never found again; and what we call time enough, always proves little enough: Let
us then up and be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

GACB25   10 point Gacham Bold (height = 25 pixels = 20 + 5, width = 16)   by @SHY
              Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ α β ∧
¬ ε π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ → ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < =
> ? @ [\ ] ↑ ← ' { | }

If time be of all things the most precious, wasting time must be, as Poor Richard
says, the greatest prodigality; since, as he elsewhere tells us, lost time is
never found again; and what we call time enough, always proves little enough: Let
us then up and be doing, and doing to the purpose; so by diligence shall we do
more with less perplexity.

Quux

QUUX25   10 point Quux Fixed Bold (height = 25 pixels = 20 + 5, width = 25)   by TGQ @MIT
                    Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst
uvwxyz 01234 56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _ →
~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\
] ↑ ← ` (|)

If time be of all things the most precious, wasting time
must be, as Poor Richard says, the greatest prodigality;
since, as he elsewhere tells us, lost time is never found
again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less
perplexity.

Set 1

SET1   13 point Set1 (height = 34 pixels = 23 + 11, width = 23)   by Tovar
                    This was the first SAIL font. Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst
uvwxyz 01234 56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _
→ ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @
[\ ] ↑ ← ` (|)

If time be of all things the most precious, wasting time
must be, as Poor Richard says, the greatest prodigality;
since, as he elsewhere tells us, lost time is never found
again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less
perplexity.

SET1I   13 point Set1 Italic (height = 33 pixels = 24 + 9, width = 26)   by Tovar
                    Full SAIL set.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst
uvwxyz 01234 56789 ↓ α β ∧ ¬ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ ∪ ∀ ∃ ⊗ ↔ _
*→ ~ ≠ ≤ ≥ ≡ ∨ ! " # $ % & ' ( ) * + , - . / : ; < = > ? @*
[\ ] ↑ ← ` (|)

If time be of all things the most precious, wasting time
must be, as Poor Richard says, the greatest prodigality;
since, as he elsewhere tells us, lost time is never found
again; and what we call time enough, always proves little
enough: Let us then up and be doing, and doing to the
purpose; so by diligence shall we do more with less
perplexity.

4. SPECIAL FONTS

APL

APL25   10 point APL symbols (height = 25 pixels = 20 + 5, width ≤ 27)   by ?
            Includes Iverson's weird collection of operators.
ABCDE FGHIJ KLMNO PQRST UVWXYZ 01234 56789 ↓ α ∧ ∈ ⊂ ⊃ ∩ ∪ ∀ ∃ ↔ _ ~ ≠ ⟨ ⟩ ∨ ! $ ' ( ) ∗ +,
- . / : ; < = > ? [\ ] ↑ ← { | }
Special operators: →∸⁻ π→φ λ→I ω→⎕ ∂→● ⊕→/ →→→ "→A #→⊠ ∅→⊟ a→⊕ b→⊥ c→♣ d→� e→∇ f→⊟ g→∇ h→∆
i→ι j→∙ k→φ l→⎕ m→⊖ n→T o→○ p→⋀ q→∀ r→ρ s→⎰ t→∇ u→⍀ v→∙ w→∙ x→x y→⊟ z→⌀

Astrology

ASTR25 9 point Astrology (height = 22 pixels = 20 + 2, width ≤ 26)   by Tovar
            Aspects are incomplete.
Solar system: Sun 0→☉   Mercury 1→☿   Venus 2→♀   Earth 3→⊕   Mars 4→♂   Jupiter 5→♃   Saturn
            6→♄   Uranus 7→♅   Neptune 8→♆   Pluto 9→♀
d→•   Moon ⊃→☽   Ascending node n→☊   Descending node ∪→☋
Zodiac: Aries A→♈   Taurus B→♉   Gemini C→♊   Cancer D→♋   Leo E→♌   Virgo F→♍   Libra G→♎
            Scorpius H→♏   Sagittarius I→♐   Capricornus J→♑   Aquarius K→♒   Pisces L→♓

Chess

CHS50   19 point Chess pieces (height = 50 pixels = 40 + 10, width ≤ 50)   by @CMU
            Should be used with interline spacing set to zero.
T→___ U→   V→ F→ G→ H→ W→ X→ Z→ → |→
P→ O→ B→ A→ N→ M→ R→ S→ Q→ L→ K→ J→
p→ o→ b→ a→ n→ m→ r→ s→ q→ l→ k→ j→

HTTTTTTTTX
V Z Z A ZF
VZ Z Z 0 F
V o Z Z ZF
VZ Z Z Z F
V M Z Z ZF
V jPZ Z Z F
V ZKZ Z ZF
VZ Z Z Z F
WUUUUUUUUG

⟹

White mates in three moves.

Cyrillic

CYR25   12 point Light Cyrillic (height = 29 pixels = 24 + 5, width ≤ 28)   by Tovar
Has no punctuation.

АБВГД ЕЁЖЗИ ЙКЛМН ОПРСТ УФХЦЧ ШЩЪЫЬ ЭЮЯ абвгд еёжзи йклмн опрст уфхцч шщъыь эюя
Transliteration: A→Л B→Б V→В G→Г D→Д E→Е %→Ё ↑→Ж Z→З I→И Y→Й K→К L→Л M→М N→Н O→О P→П
R→Р S→С T→Т U→У F→Ф H→Х ←→Ц #→Ч @→Ш &→Щ '→Ъ =→Ы n→Ь u→Э c→Ю ɔ→Я a→а b→б v→в g→г d→д
e→е $→ё ↓→ж z→з i→и y→й k→к l→л m→м n→н o→о p→п r→р s→с t→т u→у f→ф h→х →→ц "→ч ®→ш +→щ '→ъ
=→ы ∧→ь ∨→э <→ю >→я
Весна Я не понимаю Это не роза

CYR30   15 point Medium Cyrillic (height = 39 pixels = 31 + 8, width ≤ 37)   by Tovar
Uses the same transliteration scheme as CYR25 and has digits but no punctuation.

АБВГД ЕЁЖЗИ ЙКЛМН ОПРСТ УФХЦЧ ШЩЪЫЬ ЭЮЯ абвгд еёжзи йклмн
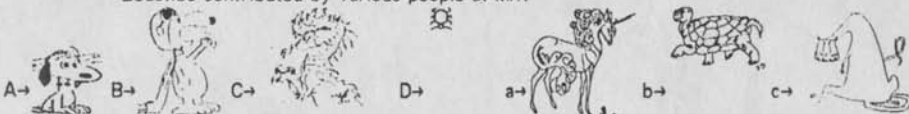опрст уфхцч шщъыь эюя 01234 56789
Весна   Я не понимаю Это не роза

Decoration

CRTURZ   57 point Creatures (height = 155 pixels = 124 + 31, width ≤ 200)   by Bonnie Dazell @MIT
Beasties contributed by various people at MIT.

A→   B→   C→   D→   a→   b→   c→

CORNER 74 point Corner Decorations (height = 202 pixels = 106 + 96, width ≤ 148) by Stan Kugell
Find a corner and fill it.

A→ B→ a→ b→

C→ D→ c→ d→

𝕯ifferent strokes
for
different folks

Graphics

GRFX25   10 point Graphics (height = 25 pixels = 20 + 5, width = 16)   by Paul Martin
Graphics font for making block diagrams, as described in GRFX.XGP[UP,DOC]. Identical to
FIX25 except for the substitutions listed below.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∞ ↔ _
→ ≠ ≡ ∨ ! " ( ) * + , - . / : ; < = > ? [∞] ↑ ← { | }

For boxes: ∿→| α→← β→┼ ‹→├ λ→┤ π→┬ Ⅴ→⊥ c→┌ ⊃→┐ %→∟ $→┘
For trees and graphs: '→∕ '→∖ ≤→╱ ╱≥→╲ /→/ \→\ ∪→/ →→\ ∩→/ &→\ ∃→χ
Arrows: ↑→↑ ↓→↓ ←→← →→→ ↔→↔ @→⇒ ∂→◄█
Multiple lines: ⇒→⇒ ⊠→≡ ⊚→||| Middle dot: ⊠→•

GRFX35   14 point Graphics (height = 35 pixels = 23 + 12, width = 16)   by Dave Barstow
Graphics font for making block diagrams, as described in GRFX.XGP[UP,DOC]. Identical to
FIX25 except for the substitutions listed below.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∞ ↔ _
→ ≠ ≡ ∨ ! " ( ) * + , - . / : ; < = > ? [∞] ↑ ← { | }

For boxes: ∿→| α→← β→┼ ‹→├ λ→┤ π→┬ Ⅴ→⊥ c→┌ ⊃→┐ %→∟ $→┘
For trees and graphs: '→∕ '→∖ ≤→╱ ╱≥→╲ /→/ \→\ ∪→/ →→\ ∩→/ &→\ ∃→χ
Arrows: ↑→↑ ↓→↓ ←→← →→→ ↔→↔ @→⇒ ∂→◄█
Multiple lines: ⇒→⇒ ⊠→≡ ⊚→||| Middle dot: ⊠→•

Example: this source   produces this.
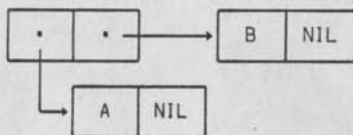
```
cααααααπαααααα⊃        cααααααπαααααα⊃
 ~   #   ~   # αβαααααα→~   B   ~ NIL ~    ⟹
%ααβααⅤααααα$         %αααααⅤααααα$
   ~   cααααααπαααααα⊃
%α→~   A   ~ NIL ~
   %ααααααⅤααααα$
```


Greek

The larger Greek fonts below (40 and 50) are needlessly ragged. Brian Reid of CMU has done some
cleaning-up that will appear shortly after this catalog goes to press. All of the Greek fonts use the
following transliteration scheme.

A→A B→B G→Γ D→Δ E→E Z→Z H→H Q→θ I→I K→K L→Λ M→M N→N X→Ξ O→O P→Π R→P S→Σ T→T
U→Υ F→Φ C→X Y→Ψ W→Ω   a→α b→β g→γ d→δ e→ε z→ς h→η q→θ i→ι k→κ l→λ m→μ n→ν x→ξ o→o p→π
r→ρ s→σ t→τ u→υ f→φ c→χ y→ψ w→ω

Integrals (if present): $→∫ %→∮

GRK25   10 point Greek (height = 26 pixels = 21 + 5, width ≤ 29)   by Tovar
             Alphabet only. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο πρστυ φχψω

GRKL30   14 point Greek (height = 35 pixels = 25 + 10, width ≤ 32)   by Andy Moorer & Tovar
             Alphabet, parentheses and integrals. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο πρστυ φχψω ( ) ∫ ∮

GRK30   13 point Greek Medium (height = 32 pixels = 27 + 5, width ≤ 35)   by Tovar
             Alphabet only. Upper case heights very uneven. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο πρστυ φχψω

GRKB30   12 point Greek Bold (height = 31 pixels = 25 + 6, width ≤ 32)   by Andy Moorer & Tovar
             Alphabet plus integrals. Transliteration scheme giveh above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο πρστυ φχψω ∫ ∮

GRKL40   16 point Greek (height = 42 pixels = 32 + 10, width ≤ 40)   by Andy Moorer
             Alphabet and integrals. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο πρστυ
φχψω ∫ ∮

GRKB40   15 point Greek Bold (height = 40 pixels = 32 + 8, width ≤ 40)   by Andy Moorer
             Alphabet and integrals. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ λμνξο
πρστυ φχψω ∫ ∮

GRKL50   22 point Greek (height = 57 pixels = 41 + 16, width ≤ 49)   by Andy Moorer
             Alphabet, parentheses, and integrals. Very ragged and uneven in lower case heights.
             Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ
λμνξο πρστυ φχψω ( ) ∫ ∮

GRKB50   19 point Greek Bold (height = 50 pixels = 40 + 10, width ≤ 49)   by Andy Moorer
             Alphabet and integrals. Rather ragged. Transliteration scheme given above.
ΑΒΓΔΕ ΖΗΘΙΚ ΛΜΝΞΟ ΠΡΣΤΥ ΦΧΨΩ αβγδε ζηθικ
λμνξο πρστυ φχψω ∫ ∮

Hands

FING   55 point Hands (height = 150 pixels = 150 + 0, width ≤ 125)   by @MIT
Alphabet only.

A→ B→ C→ D→ E→ F→ G→ H→ I→

J→ K→ L→ M→ N→ O→ P→ Q→

R→ S→ T→ U→ V→ W→ X→ Y→ Z→
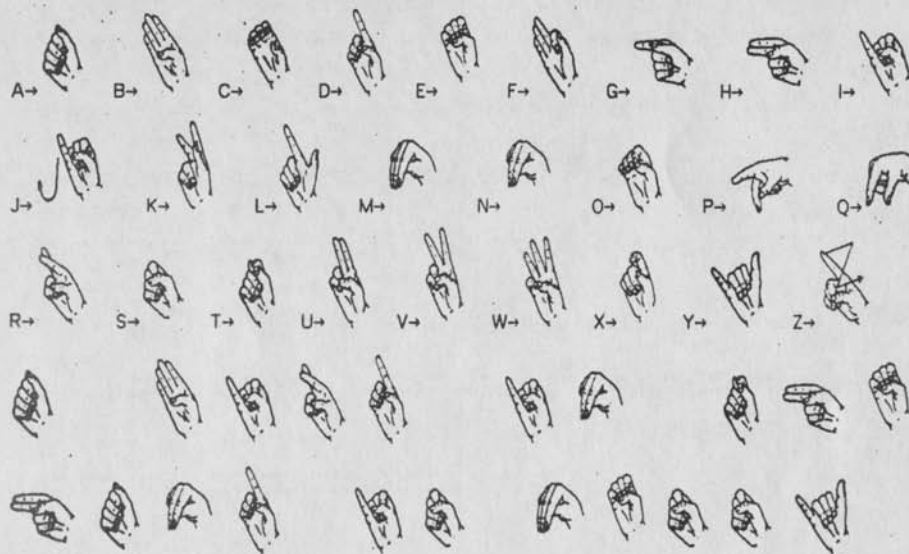
FINGA   55 point Hand Alphabet (height = 150 pixels = 150 + 0, width ≤ 125)   by @MIT
Alphabet only in both forms.

A B C D E F G H I

J K L M N O P Q R S T

U V W X Y Z

Hebrew

HBRW25 17 point Hebrew (height = 45 pixels = 32 + 13, width ≤ 32)   by Raphael Finkel
Includes all final forms and Yiddish characters.

Transliteration: A→א a→אַ α→אָ B→ב b→בֿ n→בּ G→ג D→ד H→ה V→ו U→וּ O→וֹ v→וו Z→ז X→ח T→ט Y→י i→יִ
y→יי I→ײַ k→כֿ K→כ ג→כּ L→ל I→לֿ M→מ m→ם N→נ n→ן C→ס J→ע p→פֿ P→פ F→פּ f→ף &→צ +→ץ Q→ק R→ר
S→ש s→שׂ w→ת W→ת

Vowels and special characters: ∧→<half space> ⊕→<full space> λ→ִ c→ֶ >→ָ n→ֹ u→ְ Y→ַ _→ָ =→ִ
ʺ→ʹ ʹ→ʺ ˈ→ˈ ˉ→ˉ ˊ→ˊ

אאאבבב גדהוז ו וו זחטי יִ יי יַ ככלל טבנוס עפפפֿפֿצץ קרשׂשׂתת " ʺ ʹ ʼ.--ʹ.ʹ.
[ ] < > ( ) ? ! , . ; : 98765 43210

אז איך וויל זינגען ,,לכה דודי". מיינט אַ ווערעם אין כדיין אז ס'איז ניטאַ קיין זיסערס.

HBRW40 24 point Hebrew (height = 64 pixels = 50 + 14, width ≤ 29)   by Raphael Finkel
Lacks final forms.

Transliteration: A→א B→ב G→ג D→ד H→ה V→ו Z→ז X→ח T→ט Y→י K→כ L→ל M→מ m→ם N→נ C→ס
J→ע P→פ &→צ Q→ק R→ר S→ש w→ת .→.

אבגדה וזחטי כלמנס סעפצק רשת.

Mathematics

MATH25   10 point Math (height = 25 pixels = 20 + 5, width ≤ 23)   by Les Earnest
                Collected from various fonts.
$→∑ I→∫ D→∇ ∂→δ +→± -→∓ x→x. %→÷ \→√ ≠→·
(→( )→) <→< >→> {→≪ }→≫ r→⊢ s→⊣ T→⊥ m→∥ a→⊆ b→⊑ c→⊒ d→⊒ e→≃ ≡→≈

MATH30   13 point Math (height = 32 pixels = 23 + 9, width ≤ 27)   by Les Earnest
                Largely derived from PLUNK.
∝ ∧ ¬ ∈ ⊂ ⊃ ∩ ∪ ∀ ∃ ↔ ⇒ ∼ ≡ ′ / ℂ ℚ ℝ ℤ ⟦ ⟧ ⇐ ▮
π→∉ λ→∋ ∂→δ $→∑ I→∫ A→ℵ S→ℬ E→ℰ F→ℱ
K→⊆ J→¢ N→⊇ M→♭ L→≢ O→∅
o→° e→≃ ≡→≈ <→< >→> ≤→≤ ≥→≥ {→≪ }→≫ (→( )→)
+→± -→∓ x→x %→÷ \→√ ≠→· :→·· .→∴ ⌐→′ y→⊸ z→⊷
0→O 1→□ 2→△ 3→◇ 4→⊕ 5→⊖ 6→⊗ 7→⊘ D→∇
a→⊆ b→⊑ c→⊒ d→⊒ p→⊢ q→⊨ r→⊢ s→⊣ T→⊥ i→⌈ j→⌉ k→⌊ l→⌋ m→∥ n→∦

MATH40   15 point Math (height = 39 pixels = 33 + 6, width ≤ 25)   by @MIT
                A few big operators.
$→∑ ∪→⋃ I→∫ ·→′

MATH50   20 point Math (height = 53 pixels = 35 + 18, width ≤ 34)   by @MIT
                More big stuff.
$→∑ π→∏ I→∫ \→√ (→( )→) [→[ ]→] {→{ }→} I→| /→/

MATH55   21 point Math (height = 55 pixels = 48 + 7, width ≤ 40)   by @MIT
                Top of the line.
$→∑ I→∫ (→( )→) [→[ ]→]

Miscellaneous

ZERO30　　13 point Zero Width Accents (height = 34 pixels = 26 + 8, width = 0)　　　　by Les Earnest
　　　　　　　Zero width symbols overwrite the following character and are useful for accents in certain
　　　　　　　European languages and in mathematical notation.
∧→^ →→‾ →→⁺ ~→~ v→ˇ '→' ,→, .→˙ :→¨ '→`

Here are examples of the above accents used with Baskerville (BAXL30):
á à ä â ã ā à ā ā̆ ç
Pie mōni suni ar kaulu, otreiz nepienāce ar gaļu.

Ābols no ābeles fālu nehuit.

MS25　　　10 point Miscellaneous (height = 25 pixels = 20 + 5, width ≤ 34)　　　　by Les Earnest
　　　　　　　Collected from various places.
!→i ?→ṡ {→≪ }→≫ L→£ S→¢ η→ß ±→★ ≡→█ →⌣
A→§ B→↑ C→‡ @→% c→© r→® d→° h→ℏ u→μ
→→⇒ ↑→ⱡ K→ℙ ↔→≒ D→Ḷ E→⸕ F→⸕ G→⸕ H→⸕ I→~ J→⸕
e→◁ f→🖄 g→⸮ i→⸛ P→Ū Q→Ŭ R→§̌ S→Ŋ

MS30　　　13 point Miscellaneous (height = 32 pixels = 28 + 4, width ≤ 22)　　　　by Les Earnest
　　　　　　　Collected from various places.
!→i ?→ṡ {→≪ }→≫ L→£ A→§̌ B→↑ C→‡ ≡→▓ →⌣

BAXS30　　12 point Baskerville Supplement (height = 30 pixels = 22 + 8, width ≤ 48)　　by Les Earnest
　　　　　　　Ligatures, scandinavian, and other symbols.
∝→Y β→ß ⊛→⊕ ≢→◇ ≢→. ⸕→± .→ . /→ʃ !→i ?→¿ <→≪ >→≫
BAXL30: @→ff A→ffi B→ffl C→fi D→fl E→—
BAXI30: P→ff Q→ffi R→ffl S→fi T→fl U→— V→Ⱥ W→å X→Æ Y→æ Z→Ø [→ø
BAXB30: '→ff a→ffi b→ffl c→fi d→fl e→—

Phonetics

IPA25　　　10 point Phonetic (height = 25 pixels = 20 + 5, width ≤ 16)　　　　by @CMU & Paul Martin
　　　　　　　International Phonetic Alphabet.
Appears to be the same as FIX25 except for the following substitutions.
∝→ɪ β→ɔ →→æ (→ɔ π→ʊ ∞→ə ∂→ɜ c→ŋ ⊃→θ ∩→š ∪→ʃ
V→ʒ ∃→ž ⊛→ʒ ↔→ʔ ~→ɪ ≠→ť ≡→č V→ʃ S→æ ≢→☆

Rotated

Here are some fonts for sideways tables and other graphics.

FIXR13   5 point Rotated Fix (height = 10 pixels = 8 + 2, width = 13)   by Tovar
              FIX13 rotated clockwise 1/4 revolution.

FIXR16   7 point Rotated Fix (height = 16 pixels = 13 + 3, width = 25)   by Tovar
              FIX16 rotated clockwise 1/4 revolution.

Scandinavian

SCAN30   10 point Scandinavian (height = 26 pixels = 25 + 1, width ≤ 29)   by Odd Petterson
              Supplementary symbols for several fonts.

FIX25: V→Å α→å
NGB25: A→Å a→å B→Æ b→æ C→Ø c→ø
BASI30: Q→Á q→á R→Æ r→æ S→Ø s→ø

ICE34   13 point Old Icelandic (height = 34 pixels = 29 + 5, width ≤ 39)   by Tom Fowler
              This font is a mess; it is apparently derived from IPA25.

ABDEF GHIJK LMNOP RSTUV XYZ abdef ghijk lmnop rstuv xyz 0123456789 ↓ → " ' , − . :
; [\ ] ' |

Substitutions: α→ı ∧→ö (→ɔ λ→Ů ∞→ə ∂→í V→à ∃→ɣ ⊕→ø ↔→ů _→ý ≠→ÿ ≤→ø ≥→Q ≡→ø v→ú !→í #→æ
$→ð %→þ &→Q (→á)→é ∗→Æ +→ọ /→þ <→œ =→ɣ >→Œ ?→ú @→ọ C→É Q→Ý W→Ů ↑→É ←→í c→Á q→Ů w→Í
{→á }→é

Seals

STA200   79 point Old Stanford Seal (height = 216 pixels = 108 + 108, width = 216)   by Tovar

S→
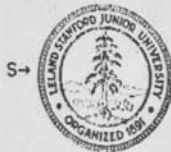
STAN2   79 point Newer Stanford Seal (height = 216 pixels = 108 + 108, width = 225)   by Tovar

S→

Displaced

Here are some fonts that have been displaced from their normal positions. Since Pub and Pox have facilities for displacing any fonts up or down, these displaced fonts are not strictly necessary.

SUP   9 point Superscript (height = 21 pixels = 28 + -7, width ≤ 20)   by Tovar
                 Made by displacing NGR20 upward.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ⌐ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ U ∀ ∃ ⊗ ⋯ _ → ~ ≠ ≤
≥ ⋅ ∨ ! " ∎ $ % & ' ( ) ⋅ ⋅ , - . / : ; < ⋅ > ? @ [\ ] ↑ ← ' { }

Example using NGR25 for main text: $E = M C^2$ (Einstein was a square M.C.)

SUB   9 point Subscript (height = 21 pixels = 9 + 12, width ≤ 20)   by Tovar
                 Made by displacing NGR20 downward.
ABCDE FGHIJ KLMNO PQRST UVWXYZ abcde fghij klmno pqrst uvwxyz 01234 56789 ↓ ∝ β ∧ ⌐ ∈ π λ ∞ ∂ ⊂ ⊃ ∩ U ∀ ∃ ⊗ ⋯ _ → ~ ≠ ≤
≥ ⋅ ∨ ! " ∎ $ % & ' ( ) ⋅ ⋅ , - . / : ; < ⋅ > ? @ [\ ] ↑ ← ' { }

Example using NGR25 for main text: H_2O is tasteless; H_2SO_4 is tangy.

Tengwar

Here are tengwar (Elvish characters) from Tolkien's "Lord of the Rings". For a discussion of composition techniques, see TENGWR.DON [UP,DOC].

TNG40   15 point Tengwar (height = 40 pixels = 32 + 8, width ≤ 33)   by Bob Currier @ISI
Modified by Don Woods.

[Tengwar character chart — Elvish script]

[Tengwar text — seven lines of Elvish script]

TNG75   28 point Tengwar (height = 75 pixels = 50 + 25, width ≤ 72)   by Don Woods
A larger set.

[Tengwar character chart — Elvish script]

[Tengwar text — seven lines of Elvish script]

TNG112　41 point Tengwar (height = 112 pixels = 75 + 37, width ≤ 92)　　　by Don Woods
The largest.

APPENDIX A

Blacklist

The following fonts are not included in the preceding catalog for the reasons given here. They should be fixed or deleted.

Font	Reason
BDJ22	Too ragged in many places.
BDJ28	Too ragged in many places.
FORN25	Identical to FIX25 except that the accents ' ` ~ have zero width, so that they overwrite the following character. ZERO30 has an equivalent set of accents and is more complete.
KBD25	Keyboard is identical to FIX25 except for "' ' ~", which are made to look more like they do on keyboards, which is a difference of little utility.
LG25	Appears to be identical to GACB25.
LGI25	Despite its name, this italic doesn't match either LG25 or LGR25. GACI25 is better.
LGR25	Substantially the same as GACB25.
MISC25	Superseded by the more complete MS25 and ZERO30.
MISC30	Superseded by the more complete MS30 and ZERO30.
PLT11	This teeny font is unreadable.
PLT11R	So is its rotated cousin.
PLUNK	Superseded by the more complete MATH30 and MS25.
SUPSUP	Super-superscript font is unnecessary. Pub and Pox provide better ways of dealing with vertical displacements.
SUBSUP	Sub-superscript is unnecessary for the same reason.
SUBSUB	Sub-superscript is similarly unnecessary.

APPENDIX B

Character Codes

Here is the Stanford A. I. Lab. (SAIL) Character Set and corresponding octal codes.

	0	1	2	3	4	5	6	7
000	NUL	↓	α	β	∧	¬	⊂	π
010	λ	HT	LF	VT	FF	CR	∞	∂
020	⊂	⊃	∩	∪	∀	∃	⊗	↔
030	≡	→	~	≠	≤	≥	≡	∨
040	S̄P	!	"	#	$	%	&	'
050	(	)	*	+	,	−	.	/
060	0	1	2	3	4	5	6	7
070	8	9	:	;	<	=	>	?
100	@	A	B	C	D	E	F	G
110	H	I	J	K	L	M	N	O
120	P	Q	R	S	T	U	V	W
130	X	Y	Z	[	\	]	↑	←
140	'	a	b	c	d	e	f	g
150	h	i	j	k	l	m	n	o
160	p	q	r	s	t	u	v	ш
170	x	y	z	{	|	ESC	}	BS

Here is a list of octal code differences between the SAIL character set, the ASCII set upon which it was based, and the CMU and MIT sets, which was based on both. A blank entry in a given row means that symbol has no representation in the given character set.

In ASCII, all symbols from '0 through '37 are control characters whereas we use many of these codes for graphical symbols. The following list of differences between principal XGP users.

Symbol	SAIL	CMU & ISI	MIT	ASCII	
λ	'10				
VT	'13	'13		'13	Vertical tab
_	'30	'30	'137	'137	
~	'32	'32	'176	'176	
≠	'33	'33	'32		
↑	'136	'136	'13		
←	'137	'137	'30		
ESC	'175	'176	'33	'33	Escape (Altmode)
}	'176	'175	'175	'175	
BS	'177	'177, '10	'10	'10	Backspace
ε			'136	'136	
DEL			'177	'177	Delete

APPENDIX C

Font File Format

A font file is a collection of up to 128 glyphs, usually representing a character set in some typeface. Parameters defining size and relative placement of a glyph are diagrammed below.
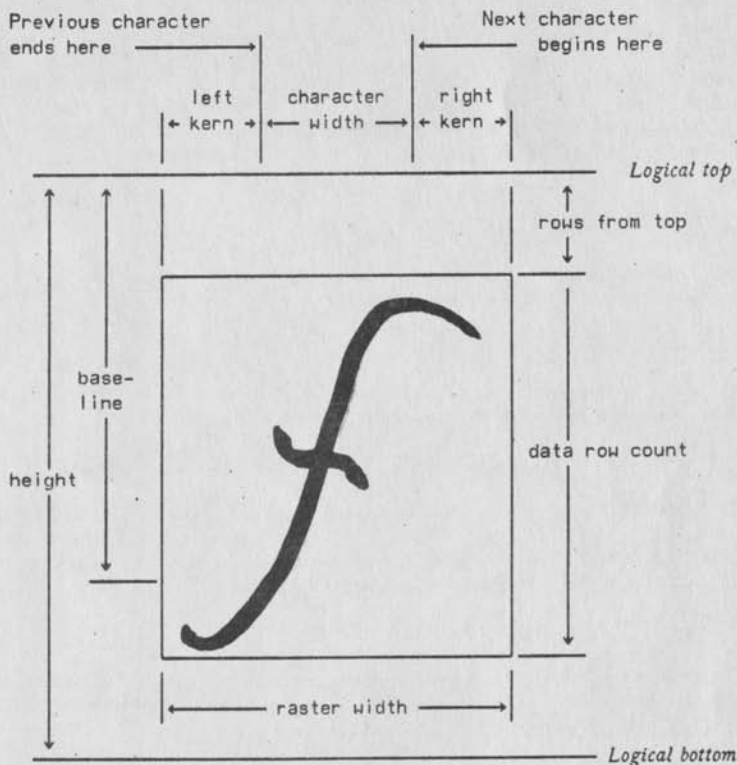

Figure C-1. Glyph Parameters

The *baseline* is the distance from the logical top of the glyph to the imaginary line on which the row of glyphs rests (though they may extend below this line). All glyphs in a given font file have the same height and baseline.

The format of font files is given below, based on 36 bit words. All distances are measured in pixels, which for our XGP are .005 inch.

WORDS '0-'177: XWD CHARACTER_WIDTH, CHARACTER_ADDRESS

The first 128 words of the file contain pointers in the right half to the word number where the corresponding characters definition begins. The left half of each word contains the character width (i.e. the logical width).

WORDS '200-'237:

'200	CHARACTER SET NUMBER	[unused by us]
'201	HEIGHT	Overall height of font (pixels).
'202	MAX WIDTH	Width of widest character (seldom used).
'203	BASELINE	Logical height above the baseline.
'204	COLUMN POSITION ADJUSTMENT	[Obsolete—should be left at 0]
'205	FONT CHARACTERISTICS	Reserved for future use
'206-'237		Reserved for future use.

WORDS 240-377: ASCIZ /FONT DESCRIPTION/

This text field of up to 480 characters should contain the full name of the font, who made it or where it came from, and possibly how it was created.

REMAINDER OF FILE

The remainder of the file consists of glyph definitions pointed to by the right halves of words '0-'177. Each glyph has the following format, using the FAIL Byte instruction.

BYTE (9) RASTER_WIDTH, CHARACTER_CODE (18) WORD_COUNT+2

WORD_COUNT+2 is total space devoted to this definition. If RASTER_WIDTH is 0, then use CHARACTER_WIDTH (above). RASTER_WIDTH is the physical width of the glyph, while CHARACTER_WIDTH is the amount the column counter is advanced after printing this glyph. This allows glyph to space more or less than their actual width.

BYTE (9) LEFT_KERN, ROWS_FROM_TOP (18) DATA_ROW_COUNT

LEFT_KERN is the amount by which the glyph overlaps the preceding character. Note that the right kern is not specified, since its value is implied by the other width parameters (LEFT_KERN, CHARACTER_WIDTH, and RASTER_WIDTH).

ROWS_FROM_TOP is the number of blank rows between the logical top and the top of the bit raster. This avoids having to store rows of zeros for glyphs that do not extend all the way to the top. DATA_ROW_COUNT is the number of rows in the bit raster, which need not extend to the logical bottom.

BLOCK WORD_COUNT

The balance of the glyph definition is the bit raster, with "0" representing "white" and "1" representing "black". If the CHARACTER_WIDTH is 36 or less, then the data are packed into words such that an ILDB gets the next scan line. Otherwise, each scan line starts at first available word boundary.

APPENDIX D

Other Places, Other Names

Stealing fonts is a lot like stealing jewels. To do it successfully, you have to know where to look and be able to recognize what you find. This appendix lists some of the classier joints on the ARPAnet and the names they use for fonts we have already, to aid in recognizing new fonts. If you are interested in questions of morality, see the "Font Dissemination Policy" in Section 1.

Font swiping is complicated by name changes. Some font file collections have been totally renamed so that they are "more orderly" in some sense. In order to use an imported font, you must convert it to our font file format (Appendix C). This process is complicated by the fact that there are currently something over 10 different font file formats in use at just four sites that we know of. FCOPY "knows" how to convert the standard MIT and CMU formats and generally does the right thing, but you may need some help from our non-resident expert, Tovar (TVR @SU-AI).

CMU

The AI group at Carnegie-Mellon University was the first to implement an XGP system and did much of the pioneering work in creating fonts. Lee Erman (Erman @CMUB) is a good contact.

The CMU font files are located in area [A730KS00] @CMUB. They generally use the same file names that we do, except that their extension is ".KST". To convert to SAIL format, use FCOPY with the /CMU switch.

MIT

The MIT AI group has been quite active both in creating and stealing fonts. Tom Knight (TK @MIT-AI) usually knows what is happening.

The MIT fonts are in areas FONTS and FONTS1 @MIT-AI and have ".KST" extensions. Alas, they use a different naming convention, of the form
    <height><width><type>.KST
where the *height* is in XGP pixels, the *width* is a single letter ("F" or "V", denoting fixed or variable), and the *type* is a 1 to 3 letter descriptor, with G or R for Gothic (sans serif) or Roman (serif) and L, I, or B for light, italic, or bold respectively. For example, our NGB25 is called 25VGB there. "Special" fonts fonts are marked with an "S" prefix. There is recent evidence that this tight little scheme is falling apart.

Known correspondences with our font names are listed below. To convert to our format, use FCOPY with the /MIT switch.

ISI

Pete Alfvin (ALFVIN @ISIA) is a contact at ISI. Their fonts are in directory <FONTS> @ISIx (where x = A, B, C, ...) and have ".XH" extensions. Alas, they too have succombed to the renaming fad and use font names of the form
    <type><height><modification>.XH

where *type* is generally the same as ours (e.g. "NGB" for News Gothic Bold), the *height* is in "points" (1/72 inch), and the *modification*, if given, may be "B" for boldface, "I" for italic, or "L" for lightface.

The ISI font file format is described in <XGP-DOC> FONTS.DOC ⊚ISIB and <XGP-DOC> FONTS.FILEFORMAT ⊚ISIB. It is supposedly identical to MIT's font format, with the exception of the "byte count" field (see their documentation file). To convert, try FCOPY with the /MIT switch. Who knows, it might work.

Cross Index

Here is a list of all SAIL fonts, in alphabetical order, together with corresponding CMU, MIT and ISI names. Blanks mean no corresponding file is known. The correspondence is not exact in all cases.

SAIL	CMU	MIT	ISI	Name
APL25	APL25	S25APL		APL symbols
ASTR25	ASTR25			Astrology
BASB30	BASB30	30VRB	BASIIB	Baskerville Bold
BASI30	BASI30	30VRI	BASIII	Baskerville Italic
BASL30	BASL30	30VR	BASIIL	Baskerville
BASL35	BASL35			Baskerville
BAXB30	BASB30	30VRB	BASIIB	Baskerville Bold
BAXI30	BAXI30	30VRI	BASIII	Baskerville Italic
BAXL30	BAXL30	30VR	BASIIL	Baskerville
BAXM30				Baskerville Mathematical
BAXS30				Baskerville Supplement
BDB30	BDB30	31VRB		Bodoni Bold
BDI25	BDI25	25VRI	BOD9I	Bodoni Italic
BDI30	BDI30			Bodoni Italic
BDI40	BDI40	40VRI	BOD15I	Bodoni Italic
BDJ20	BDJ20			Bodoni Mathematical
BDJ25	BDJ25			Bodoni Mathematical
BDR25	BDR25	25VR	BOD9	Bodoni
BDR25X	BDB25	25VRB		Bodoni Bold
BDR30	BDR30	31VR		Bodoni
BDR40	BDR40	40VR	BOD15	Bodoni
BDR66	BDR66	66VR		Bodoni
BEESIX	BUCK36	36VBEE		Bocklin
BUCK75	BUCK75	73VBEE		Bocklin
CHS50	CHS50	S50CHS		Chess pieces
CLAR30	CLAR35	37VRB		Clarendon
CLAR40	CLAR45			Clarendon
CNT57				Countdown
COR20		20FCOR		Courier
CORNER				Corner Decorations
CORON				Coronet Bold
CRTURZ		CRTURZ		Creatures
CTL25	CTL25	25VCTL	CTL9	Original City Lights
CYR25	CYR25	S25CYR		Light Cyrillic

SAIL	CMU	MIT	ISI	Name
CYR30	CYR30	S30CYR		Medium Cyrillic
FING		FING		Hands
FINGA		FINGA		Hand Alphabet
FIX13	FIX13	13FG	FIX5	Fix
FIX13X		13FGB		Fix Bold
FIX20	FIX20	20FG	FIX8	Fix
FIX25	FIX25	25FG	FIX9	Fix
FIX25X				Fix Bold
FIX30	FIX30	30FG	FIX11	Fix
FIX40	FIX40	40FG	FIX15	FIX
FIXR13				Rotated Fix
FIXR16	FIXR16	S16ROT		Rotated Fix
GACB25	GACB25	25FGB1		Gacham Bold
GACI25	GACI25	25FGI1		Gacham Italic
GACL16		16FG		Gacham
GACL18		18FG		Gacham
GACL22		22FG		Gacham
GACL25	GACL25	25FG1		Gacham
GERM35	GERM35	S35GER		Old German
GERM70	GERM70			Old German
GRFX25				Graphics
GRFX35				Graphics
GRK25	GRK25	S25GRK	GREK9	Greek
GRK30	GRK30			Greek Medium
GRKB30	GRKB30			Greek Bold
GRKB40	GRKB40			Greek Bold
GRKB50	GRKB50			Greek Bold
GRKL30	GRKL30	S30GRK	GREK11	Greek
GRKL40	GRKL40			Greek
GRKL50	GRKL50			Greek
HBRW25	HBRW25	S25HBR		Hebrew
HBRW40		S40HBR		Hebrew
ICE34				Old Icelandic
IPA25	IPA25	S25IPA		Phonetic
LPT				Line Printer
MATH25				Math
MATH30				Math
MATH40		QRP		Math
MATH50		S53SYM		Math
MATH55		SPLUNK		Math
METL		METL		Meteor
METLB		METLB		Meteor Bold
METLBI		METLBI		Meteor Bold Italic
METLI		METLI		Meteor Italic
METM		METM		Meteor
METMB		METMB1		Meteor Bold
METMBI		METMBI		Meteor Bold Italic
METMI		METMI		Meteor Italic

SAIL	CMU	MIT	ISI	Name
METS		METS		Meteor
METSB		METSB		Meteor Bold
METSBI		METSBI		Meteor Bold Italic
METSI		METSI		Meteor Italic
MICR25	MICR25	25VMIC	MICR9	Microgramma
MS25				Miscellaneous
MS30				Miscellaneous
NGB25	NGB25	25VGB	NGR9B	News Gothic Bold
NGB30	NGB30	31VGB	NGR11B	News Gothic Bold
NGB40	NGB40			News Gothic Bold
NGI20		20VGI	NGR9I	News Gothic Italic
NGI25	NGI25	20VGI	NGR9I	News Gothic Italic
NGR13	NGR13	13VG	NGR5	News Gothic
NGR20	NGR20	20VG	NGR8	News Gothic
NGR25	NGR25	25VG	NGR9	News Gothic
NGR30	NGR30	31VG	NGR11	News Gothic
NGR40	NGR40	40VG	NGR15	News Gothic Medium
NGR40L	NGR40L	40VGL	NGR15L	News Gothic
NONL		NONL		Nonie
NONLB		NONLB		Nonie Bold
NONLBI		NONLBI		Nonie Bold Italic
NONLI		NONLI		Nonie Italic
NONM		NONM		Nonie
NONMB		NONMB		Nonie Bold
NONMBI		NONMBI		Nonie Bold Italic
NONMI		NONMI		Nonie Italic
NONS		NONS		Nonie
NONSB		NONSB		Nonie Bold
NONSBI		NONSBI		Nonie Bold Italic
NONSI		NONSI		Nonie Italic
OLDENG		30VXMS	OLDENG	Old English
PLAYBI	PLAYBI	36VPLY		Playbill
QUUV25		25VQXB		Quux Variable Bold
QUUX25		25FQXB		Quux Fixed Bold
SAIL25		25FR		Delegate
SCAN30				Scandinavian
SET1		33FR		Set1
SETII		33FRI		Set1 Italic
SGN114	SGN114	114VSG		Sign
SHD40	SHD40	40VSHD	SHD15	Shadow
SIGN57	SIGN57	57VSGN	SIGN21	Sign
STA200		STA200		Old Stanford Seal
STAN2		STA2		Newer Stanford Seal
SUB		SUB	Subscript9	Subscript
SUP		SUP	Superscript9	Superscript
TNG112				Tengwar
TNG40		TENGWR	TENGWR	Tengwar
TNG75				Tengwar

SAIL	CMU	MIT	ISI	Name
XMAS25	XMAS37	37VXMS	XMAS9	Old English
XMAS40	XMAS43	43VXMS	XMAS14	Old English
ZERO30				Zero Width Accents

APPENDIX E

Regular Font Size Index

Samples of variable and fixed width regular fonts (no specials) are given here in order of increasing size. For an alphabetical index, see Appendix D.

Variable Width

Height		File	Page
6	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, right or wrong: Fools are my theme, let satire be my song.	NGR13	16
8	A font a day keeps the typographer away The quick brown Pox jumps over the lazy Pub Ill publish right o	NGI20	16
8	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish,	BDJ20	8
9	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, right	NGR20	16
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish	NONS	19
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll pu	NONSI	19
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll	NONSB	19
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	NONSBI	19
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	CTL25	23
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	METS	13
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy P	METSI	13
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy	METSB	13
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy	METSBI	13
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy	BDR25	8
10	A font a day keeps the typographer away. The quick brown Pox jumps over the l	BDI25	8
10	A font a day keeps the typographer away. The quick brown Pox jumps over the l	BDJ25	8
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy	BDR25X	8
10	A font a day keeps the typographer away. The quick brown Pox jumps over the l	NGR25	17
10	A font a day keeps the typographer away The quick brown Pox jumps over the la	NGI25	17
10	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy	NGB25	17
10	A font a day keeps the typographer away. The quick brown Pox jumps ove	MICR25	16
10	A font a day keeps the typographer away. The quick brown P	QUUV25	24
12	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	OLDENG	22
12	A font a day keeps the typographer away. The quick brown Pox jumps over th	BAXL30	5
12	A font a day keeps the typographer away. The quick brown Pox jumps over th	BASL30	5
12	A font a day keeps the typographer away. The quick brown Pox jumps over the la	BAXI30	5
12	A font a day keeps the typographer away. The quick brown Pox jumps over the la	BASI30	5
12	A font a day keeps the typographer away . The quick brown Pox jumps over th	BAXM30	6
12	A font a day keeps the typographer away. The quick brown Pox jumps over	BAXB30	6
12	A font a day keeps the typographer away. The quick brown Pox jumps over	BASB30	6

| Height		File	Page
12	A font a day keeps the typographer away. The quick brown Pox jumps over th	BDR30	9
12	*A font a day keeps the typographer away. The quick brown Pox jump*	BDI30	9
12	A font a day keeps the typographer away. The quick brown Pox jumps ov	BDB30	9
12	A font a day keeps the typographer away. The quick brown Pox jumps ov	NONM	20
12	*A font a day keeps the typographer away. The quick brown Pox jumps over*	NONMI	20
12	A font a day keeps the typographer away. The quick brown Pox jumps	NONMB	20
12	*A font a day keeps the typographer away. The quick brown Pox jumps*	NONMBI	20
12	A font a day keeps the typographer away. The quick brown Pox jumps o	METM	14
12	*A font a day keeps the typographer away. The quick brown Pox jumps*	METMI	14
12	A font a day keeps the typographer away. The quick brown Pox ju	METMB	14
12	*A font a day keeps the typographer away. The quick brown Pox ju*	METMBI	14
12	A font a day keeps the typographer away. The quick brown Pox jumps	NGR30	17
12	A font a day keeps the typographer away. The quick brown Pox ju	NGB30	17
13	A font a day keeps the typographer away. The quick brown Pox jump	BASL35	6
14	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, rig	PLAYBI	23
14	A font a day keeps the typographer away. The quick brown Pox jum	NONL	21-
14	*A font a day keeps the typographer away. The quick brown Pox jum*	NONLI	21
14	A font a day keeps the typographer away. The quick brown Pox jum	NONLB	21
14	*A font a day keeps the typographer away. The quick brown Pox*	NONLBI	21
14	A font a day keeps the typographer away The quick brown Pox	BEESIX	7
14	A font a day keeps the typographer away. The quick brown P	METL	15
14	*A font a day keeps the typographer away. The quick brown P*	METLI	15
14	A font a day keeps the typographer away. The quick brown	METLB	15
14	*A font a day keeps the typographer away. The quick brow*	METLBI	15
14	A font a day keeps the typographer away. The qu	XMAS25	22
14	A font a day keeps the typographer away. The q	CLAR30	11
15	A font a day keepf the typographer away. The quick brown Pox jumpf over the l	GERM35	23
15	A font a day keeps the typographer away. The quick bro	BDR40	9
15	*A font a day keeps the typographer away. The quic*	BDI40	10
15	A font a day keeps the typographer away. The quick br	NGB40	18
15	A FONT A DAY KEEPS THE TYPOGRAPHER A	SHD40	24

Height		File	Page
16	A font a day keeps the typographer away. The quick brown	NGR40L	18
16	A font a day keeps the typographer away. The quick brow	NGR40	18
17	A font a day keeps the typographer away Th	XMAS40	22
18	*A font a day keeps the typographer away. The quick brown Pox jumps ov*	CORON	12
18	**A font a day keeps the typographer a**	CLAR40	11
22	A FONT A DAY KEEPS THE TYPOGR	CNT57	12
22	A FONT A DAY KEEPS T	SIGN57	24
25	A font a day keeps the typographer	BDR66	10
26	A font a day keeps the typographer away.	GERM70	23
27	A font a day keeps the typographer	BUCK75	7
41	A FONT A D	SGN114	25

Fixed Width

Height		File	Page
6	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, right or wrong	FIX13	26
6	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, ri	FIX13X	26
7	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub. I'll publish, ri	GACL16	29
8	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	GACL18	29
8	A font a day keeps the typographer away. The quick brown Pox jum	COR20	26
9	A font a day keeps the typographer away. The quick brown Pox jumps over the lazy Pub.	FIX20	26
9	A font a day keeps the typographer away. The quick brown Pox jumps over the laz	GACL22	29
10	A font a day keeps the typographer away. The quick brown Pox jumps over t	GACL25	30
10	*A font a day keeps the typographer away. The quick brown Pox jum*	GACI25	30
10	A font a day keeps the typographer away. The quick brown Pox jum	GACB25	30
10	**A font a day keeps the typographer away. The q**	QUUX25	31
10	A font a day keeps the typographer away. The quick brown Pox jum	FIX25	27
10	A font a day keeps the typographer away. The quick brown	LPT	27
10	A font a day keeps the typographer away. The quick brown Pox	FIX25X	27
10	A font a day keeps the typographer away. The quick brown Pox	SAIL25	26
12	A font a day keeps the typographer away. The quick br	FIX30	28
13	A font a day keeps the typographer away. The	SET1	31
13	*A font a day keeps the typographer away. The*	SETII	31
15	A font a day keeps the typographer away.	FIX40	28
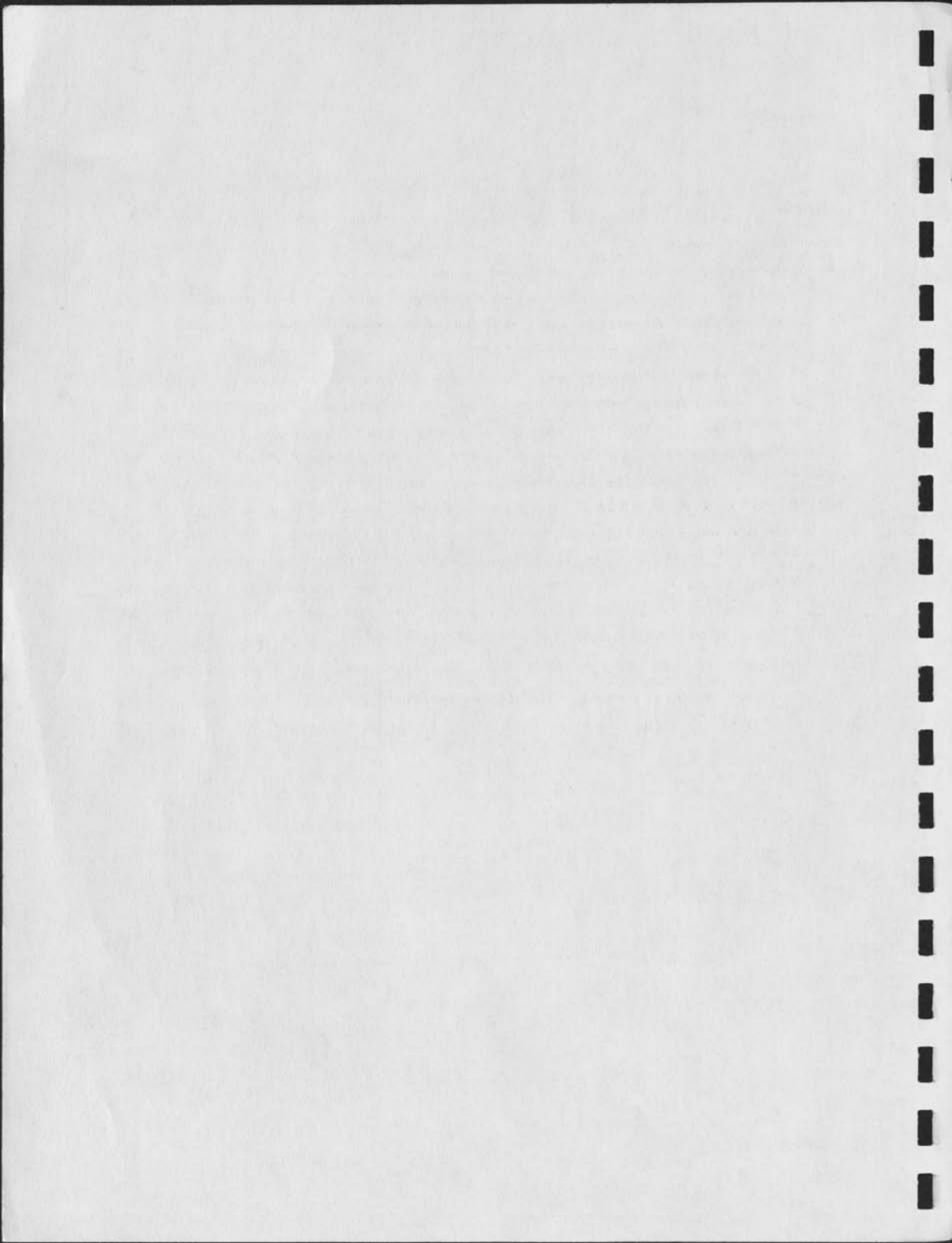
FIND-A-FONT UPDATE   by LES

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ARM      The Stanford Arm in action with and without frames (letters A-D and a-d).
BAXB16   Baskerville Bold, 16 high, full SAIL set.
BAXB22      "             "   22  "    "    "    "
BAXI16      "           Ital. 16  "    "    "    "
BAXI22      "             "   22  "    "    "    "
BAXL16      "           Light 16  "    "    "    "
BAXL22      "             "   22  "    "    "    "
BAXL35      "             "   35  "    "    "    "
BAXL40      "             "   40  "    "    "    "
BDJ22    Bodoni Mathematical, 22 high, full SAIL set, a bit ragged.
BDJ28       "           "        28  "    "    "    " .
BGN25    Mirror image of NGB25 (who would want a thing like that?)
BKG48    For printing backgammon boards.
BLIVIT   "B" prints a blivit.
CHS30    Chess pieces, 30 high.
CHS50       "      "    50  "
CNTD30   Countdown font, 30 high, letters only, just as ugly as ever.
CNTD50      "        "    50  "    "    "    "    "    "    "    "    "
DRAGON   Has a large griffon (d) and a huge dragon (D).
ESCH40   Escher font, 40 high, letters only.
ESCH80      "     "    80  "    "    "    "
GACS25   Now the standard XGP font--same as GACB25 with slashed "0" and different ''.
GO       For making Go boards.
HBRM21   Hebrew light face, 37 high, with Yiddish characters.
NGR45L   News Gothic Light, 47 high, full Sail set.
NGR50L      "     "     "    52  "    "    "    "
NON44    Nonie Light, 44 high, ASCII character set.
NON44B      "   Bold  "   "    "    "    "    "
NON44I      "   Italic "   "    "    "    "    "
NONH        "   Light 68  "    "    "    "    " -- good for making Vugraphs.
RUNE32   Runes, 32 high, full Rune set.
XIF20    Mirror image of FIX20, ridiculous.
ZERO25   Accents, etc. similar to ZERO30 but for 25 high fonts.
ZOO      Another bestiary under letters A-H.
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Black List (fonts to be flushed eventually)

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BASB16, BASB22, BASB30, BASI16, BASI22, BASI30, BASL16, BASL22 are small
         Baskerville fonts, complete with losing ligature substitutions.
         Use small BAX series instead.
CAP5X7, CAP7X5 are ridiculously tiny fonts--upright and rotated.
FOOT     Superscripts, digits only.  Not generally useful.
GRGA35   Same as GRFX25 but with Gacham letters--rather silly.
HBRWLT   Essentially the same alphabet as HBRM21 but rearranged.  No need for two.
PLTR8    Another unreadably small rotated font.
```

November 11, 1977