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USING SCRIBE TO SELECT FONTS ON THE PENGUIN(U)
UNIVERSITY OF SOUTHERN CALIFORNIA MARINA DEL REY
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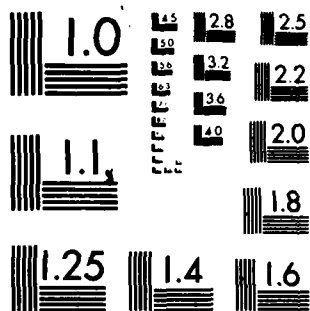
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Lisa Moses
Sheila Coyazo

ISI/TM-83-119

February 1984

University
of Southern
California



Using Scribe to Select
Fonts on the Penguin

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Lisa Moses
Sheila Coyazo

University
of Southern
California



Using Scribe to Select Fonts on the Penguin

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Preface

This document is intended for people who use Scribe for document preparation on the ISI and ARPA Penguin printers. It explains how the user may choose the style of text, or "Font," for each document. It does not list every font available on the Penguins, but instead shows the more useful fonts that are currently available.

This document defines Fonts, Font Families, SpecialFonts, and Special Character Fonts, and explains the difference between fixed-width and variable-width fonts. It shows the Scribe commands to use to request different fonts and demonstrates the commands used to generate a "font dump," which is a listing of all the characters available in a particular font.

1. Understanding Fonts

This document is intended for people who use Scribe for document preparation on the Penguin printer. It covers the basic use of Fonts, Font Families, SpecialFonts, and Special Character Fonts, and shows the more useful fonts that are currently available (not all of the fonts, just the useful ones).

1.1. Definition of a Font and a Font Family

There is an important difference between fonts and font families. A font is simply a collection of typed characters (like the alphabet) printed in a particular style and size. A font family is a group of fonts in different styles and sizes that are complementary. The text formatting program Scribe allows you to use different fonts on the Penguin printer.

The name of a font indicates several things about that font. The first segment of the name (for example, Helvetica or TimesRoman) may indicate its shape and form. The number following the name refers to the *point* size (height) of the characters. There are 72 points per inch, so the font Helvetica12R would be 1/8 inch high (measured by the tallest letters). The letter following the point size indicates the style of the font. For example, the letter I indicates italics (a slanted font), and the letter B indicates bold (a font that is darker and thicker than the regular font).

The default font family for the Scribe document type Text is Helvetica10; in other words, if you do not specify a font or document type in your .mss file, your document will be printed in the font family Helvetica10. (Other document types may have TimesRoman10 as the default font family.) This document is printed in the font family Helvetica10. The body of the text is printed in the font Helvetica10R, but when you ask for *Italics*, the italicized text is printed in a font called Helvetica10I. Helvetica10R and Helvetica10I go well together because of their style and size. Some other fonts you may use within the font family Helvetica10 produce small capitalized letters, boldface letters, and bold italic letters. Use the following commands to get different fonts within Helvetica10:

| | |
|---|---|
| <u>@i[Text to be in italics]</u> | This will produce <i>italicized</i> text. |
| <u>@b[Text to be in boldface]</u> | This will produce boldface text. |
| <u>@p[Text to be in boldface italics]</u> | This will produce <i>boldface italicized</i> text. |
| <u>@c[Text to be in small caps]</u> | This will produce SMALL CAPITALIZED text in a smaller font. |
| <u>@t[Text to be in typewriter font]</u> | This will produce typewriter text in a font called Gacha10. You will also get this font when you use the @Verbatim or @Example commands. |
| <u>@Foot[Text to be in footnote]</u> | This will produce a footnote and actually switch to a smaller font family, Helvetica8, which is compatible with Helvetica10. ¹ |

¹ Within the @Footnote command you may use *italics*, **boldface**, SMALL CAPITALS, etc., and they will be from the font family Helvetica8.

1.2. Heading Commands

Heading commands produce text in large, bold fonts appropriate for document headings. The commands used for documents with numbered headings are @Chapter, @Section, @Subsection, and @Paragraph. These headings are numbered automatically by Scribe.

Commands used for unnumbered headings are @Majorheading, @Heading, and @Subheading. Figure 1 shows how these heading commands look in Helvetica10:

Majorheading
Heading

Subheading

Figure 1-1: Heading Fonts in Helvetica10

1.3. Fixed-Width vs. Variable-Width Fonts

A font in which each letter takes up the same amount of space is a fixed-width font. For example, in a fixed-width font an "m" takes up the same space as an "i". Fixed-width fonts are often used for charts in which columns must line up exactly (especially when there are dollar signs with blank spaces before the numbers). The @t command (see example on page 1), the @verbatim command, and the @example command cause text to be printed in a fixed-width font.

Each letter in a variable-width font takes up a different amount of space, depending on its shape. As a result, text printed in a variable-width font generally looks "prettier" than the same text printed in a fixed-width font. Helvetica10 is a variable-width font.

The available fixed-width fonts are ELITE10, GACHA8, GACHA10, GACHA12, LETTERGOTHIC10, LETTERGOTHIC10B, TITAN10, TITANLEGAL12, and XEROXBOOK12.

1.4. Creating a Font Dump

There are some inconsistencies in the fonts because not all of the fonts have the same characters available. To see all of the characters available in a particular font, you may create a "font dump" and send it to the Penguin. To create a font dump, type the underlined words in the following example (the character `␣` indicates a carriage return):

@ penguin␣

PENGUIN program.

Command: font-Definition-Dump␣

Processing FONTS.WIDTHS file.

Finished processing FONTS.WIDTHS.

Font dump to file: png␣

Select FONT characteristics

@ font-name␣

Font family name: helvetica␣

@ point-size␣

(is) 12␣

@ ␣

Page: 1 2 3 4 5 6 7

Command: ␣

@

1.5. Requesting a Font Family

To request a font family other than Helvetica10, you must enter the @font command in your .mss file after the @device command. This example shows the command to request the font family TimesRoman12:

@Font[TimesRoman12]

Now the body of the text will be in TimesRoman12R and when the commands @i, @b, @p, etc., are used, the fonts printed will be from the font family TimesRoman12.

1.6. Font Families Available on the Penguin

1. TimesRoman10
2. TimesRoman11
3. TimesRoman12
4. TimesRoman14
5. Helvetica8
6. Helvetica9
7. Helvetica10
8. Helvetica11
9. Helvetica12
10. Poster
11. Slides

1.7. Organization of a Font Family

Scribe divides each font family into three categories: BodyFont, SmallBodyFont, and TitleFont. The majority of text in a document is printed in the BodyFont. The name of the BodyFont is also the name of the font family. For example, the BodyFont of the font family TimesRoman12 is also TimesRoman12.

1.7.1. SmallBodyFonts

The SmallBodyFont is usually two points smaller in size than the BodyFont. It is used mostly for footnotes and pageheadings. The SmallBodyFont of each font family is actually a font family in itself. This means that you can use italics, boldface, etc., in your footnotes.

1.7.2. TitleFonts

TitleFonts are used for headings, chapter titles, subheadings, section headings, etc. There are five levels of TitleFonts. Each level has regular, italic, and small-capital fonts, but in most cases you will use only the regular TitleFont style. Different document types may use slightly different font sizes for the same kind of heading. For example, Appendix titles in document type Report are printed in a larger font than Appendix titles in document type Article. This is because Appendix titles should be equivalent to the titles of the largest kind of section used in that particular document. Because Report has Chapters, which use the largest TitleFont, Appendix titles for Report are also printed in the largest TitleFont. Article's largest section heading is Section, which uses a smaller TitleFont.

Figure 1-2 shows the five levels of TitleFonts and describes their use. Although the examples shown in the figure are from the font family Helvetica10, the actual name and size of a TitleFont depend on the name and size of its font family. For example, in the font family Helvetica8, the largest TitleFont is Helvetica14B. In the font family TimesRoman12, the largest TitleFont is Helvetica18B.²

| | |
|-------------------|--|
| TitleFont1 | This TitleFont is used for Subsection and Paragraph. |
| TitleFont2 | This TitleFont is used for Subheading. |
| TitleFont3 | This TitleFont is used for Heading, Section, and AppendixSection. In document type Article, this TitleFont is used for Appendix, Unnumbered, and PrefaceSection. |
| TitleFont4 | This TitleFont is not used at ISI, because it is exactly the same as TitleFont3. |
| TitleFont5 | This TitleFont is used for MajorHeading and Chapter. In document type Report, this font is used for Appendix, Unnumbered, and PrefaceSection. |

Figure 1-2: The five levels of TitleFonts from the Font Family Helvetica10

² The TimesRoman Font Families use Helvetica TitleFonts.

| | <u>BodyFonts</u> | <u>SmallBodyFonts</u> |
|-----------------------|-----------------------------|----------------------------|
| regular text: | Helvetica10R | Helvetica8R |
| italic text: | <i>Helvetica10I</i> | <i>Helvetica8I</i> |
| boldface text: | Helvetica10B | Helvetica8B |
| boldface italic text: | <i>Helvetica10BI</i> | <i>Helvetica8BI</i> |
| typewriter text: | Gacha10R | Gacha8R |

TitleFonts

| | |
|-------------|--------------|
| TitleFont1: | Helvetica10B |
| TitleFont2: | Helvetica12B |
| TitleFont3: | Helvetica14B |
| TitleFont4: | Helvetica14B |
| TitleFont5: | Helvetica18B |

Figure 1-3: Organization of the Font Family Helvetica10

2. Font Family Samples

2.1. Sample Fonts

This section contains samples of the Helvetica and TimesRoman fonts. Every available size and style is shown for each font, as well as a list of available characters and a short paragraph of text. These are the most commonly used fonts, but this is not a complete list of the available fonts.

HELVETICA6R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-+ \ @ [{ ; : , / " # \$ % & ' () = ~ | ' { + * } < > ?

HELVETICA7R

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HELVETICA8R

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HELVETICA9R

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HELVETICA10R

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abcdefghijklmnopqrstuvwxyz

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HELVETICA11R

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HELVETICA12R

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HELVETICA14R

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HELVETICA 18R

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HELVETICA6I

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HELVETICA7I

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HELVETICA9I

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HELVETICA10I

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HELVETICA11I

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HELVETICA12I

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1234567890-+ \ @ [{ ; : , . / ! " # \$ % & ' () 0 = ~ / ' { + * } < > ?

HELVETICA 14I

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HELVETICA18I

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HELVETICA6B

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HELVETICA7B

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HELVETICA8B

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HELVETICA9B

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HELVETICA10B

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HELVETICA11B

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HELVETICA12B

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HELVETICA14B

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HELVETICA18B

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HELVETICA6BI

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HELVETICA14BI

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HELVETICA18BI

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HELVETICAD24

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capable of printing large
quantities of text in
Helvetica D24 and
Helvetica D36 on one page.**

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HELVETICAD36

**The Penguin is
not capable of
printing large
quantities of text
in Helvetica D24
and Helvetica D36
on one page.**

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TIMESROMAN6R

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TIMESROMAN7R

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TIMESROMAN8R

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TIMESROMAN9R

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TIMESROMAN10R

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TIMESROMAN11R

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TIMESROMAN12R

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TIMESROMAN14R

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TIMESROMAN18R

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TIMESROMAN6I

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TIMESROMAN9I

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TIMESROMAN10I

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--extracted from The New Columbia Encyclopedia

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TIMESROMAN11I

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TIMESROMAN12I

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TIMESROMAN14I

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TIMESROMAN18I

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TIMESROMAN6B

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TIMESROMAN7B

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TIMESROMAN8B

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TIMESROMAN9B

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TIMESROMAN10B

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TIMESROMAN11B

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TIMESROMAN12B

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TIMESROMAN14B

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TIMESROMAN18B

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TIMESROMAN6BI

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TIMESROMAN7BI

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TIMESROMAN10BI

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TIMESROMAN11BI

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TIMESROMAN14BI

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TIMESROMAND24

**The Penguin is not capable of
printing large quantities of text
in TimesRoman D24 and
TimesRoman D36 on one page.**

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TIMESROMAND36

**The Penguin is not
capable of printing
large quantities of
text in TimesRoman
D24 and TimesRoman
D36 on one page.**

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3. Special Fonts

3.1. Special Fonts

Many individual fonts, which may not be included in font families, are also available. To use these fonts, type the `@SpecialFont` command in the header part of your file. This example shows the command to request the SpecialFont Cream12R (you must capitalize the letter after the number in the font name as shown in the example):

```
@SpecialFont[F1 = "Cream12R"]
```

Once that command is in your .mss file, you may type `@begin[F1]` in the body of your file wherever you want the SpecialFont to appear. All of the text you type will then be printed in the SpecialFont until you type `@end[F1]`.

NOTE: If you have trouble using any of the SpecialFonts in this section it could be that the font you are trying to use is still in <NEWSYS>. You may still use it, however, by typing at the Exec level (before running your file through Scribe):

```
define fon: new:
```

You may ask for up to ten SpecialFonts in a file by repeating the `@SpecialFont` command. In the header part of your file, define the fonts you wish to use by designating them F0 through F9. Wherever you want one of the fonts to appear type `@begin` and the font designation. For example, type `@begin[F2]` when you want the font designated as F2 to appear. Any font can be defined as a SpecialFont. The following example shows the use of three SpecialFonts.

```
@device[penguin]
@specialfont[F1="timesroman10I"]
@specialfont[F2="helvetica14B"]
@specialfont[F3="cream10"]
```

```
@begin[F3]
```

This text will appear in the font Cream10. It is not necessary to use SpecialFonts in order of number.

```
@end[F3]
```

```
@F2[This text will appear in the font Helvetica14B.] @F1[This text
will appear in the font TimesRoman10I.]
```

3.2. Line Spacing

The amount of space between lines in a document is set by default according to the font family being used. If you use a SpecialFont that is much larger than the font family, your lines may run into each other. You can fix this problem by changing the amount of space between the lines with a style command.

Although there is no set rule to follow in choosing line spacing, you can use the chart below as a guide to line spacing for the most common sizes of Penguin fonts.

| | |
|---------------|---------------------------|
| 6-point type | @style[Spacing .125 inch] |
| 7-point type | @style[Spacing .14 inch] |
| 8-point type | @style[Spacing .155 inch] |
| 9-point type | @style[Spacing .17 inch] |
| 10-point type | @style[Spacing .185 inch] |
| 11-point type | @style[Spacing .2 inch] |
| 12-point type | @style[Spacing .225 inch] |
| 14-point type | @style[Spacing .25 inch] |
| 18-point type | @style[Spacing .3 inch] |
| 24-point type | @style[Spacing .35 inch] |
| 30-point type | @style[Spacing .4 inch] |
| 36-point type | @style[Spacing .5 inch] |

3.3. SpecialFont Samples

BRAVOX10

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

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BRAVOX12R

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CREAM10R

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CREAM12R

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ESCHER12R

PENGUIN WAS ORIGINALLY THE COMMON NAME FOR THE NOW EXTINCT GREAT AUK OF THE NORTH ATLANTIC AND IS NOW USED FOR THE UNRELATED ANTARCTIC LIVING BIRDS. PENGUINS ARE THE MOST HIGHLY SPECIALIZED OF ALL BIRDS FOR MARINE LIFE. THEY SWIM ENTIRELY BY MEANS OF THEIR FLIPPERLIKE WINGS, USING THEIR WEBBED FEET AS RUDDERS. SINCE THEIR LEGS ARE SET FAR BACK ON THEIR BODIES, THEY WADDLE AWKWARDLY ON LAND, AND OFTEN TRAVEL BY TOBOGGANING ON THEIR BELLIES OVER THE ICE AS THEY MIGRATE--SOMETIMES GREAT DISTANCES--EACH FALL TO THEIR NESTING SITES. PENGUINS ARE CLASSIFIED IN THE PHYLUM CHORDATA, SUBPHYLUM VERTEBRATA, CLASS AVES, ORDER SPHENISCIFORMES, FAMILY SPHENISCIDAE.

--EXTRACTED FROM
THE NEW COLUMBIA ENCYCLOPEDIA

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GERMAN12R

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MONASTARY10R

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MONASTARY20R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from

The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-

:: .. !""\$%&'()0

?

OLDENGLISH18R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

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

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

1 2 3 4 5 6 7 8 9 0 - ' \ @ [€ ; :] , . / ! " # \$ % & ' () 0 = ~ | ' [€ + *] < > ?

4. Fixed-Width Font Samples

ELITE10R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-@;:./!"#\$%&'()0=+*11?

GACHA8R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNPOQRSTUVWXYZ

abcdefghijklmnpqrstuvwxyz

1234567890-+ \0[+;:;],./!"#\$%&'()0=~| {+*}<>?

GACHA10R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNPOQRSTUVWXYZ

abcdefghijklmnpqrstuvwxyz

1234567890-+ \0[+;:;],./!"#\$%&'()0=~| {+*}<>?

GACHA12R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-+ \@[+;:],./!"#\$%&'()0=~| {+*}<>?

LETTERGOTHIC10

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-@;:./!"#\$%&'()0='+*?

LETTERGOTHIC10B

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-@;:./!"#\$%&'()0='+*?

TITAN10R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-@[:;].,/!"#\$%&'()*0=+'*?

TITANLEGAL12R

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

]234567890-@[:;].,/!"#\$%&'()*0=\$'+*?!?

XEROXBOOK12

Penguin was originally the common name for the now extinct great auk of the North Atlantic and is now used for the unrelated antarctic diving birds. Penguins are the most highly specialized of all birds for marine life. They swim entirely by means of their flipperlike wings, using their webbed feet as rudders. Since their legs are set far back on their bodies, they waddle awkwardly on land, and often travel by tobogganing on their bellies over the ice as they migrate--sometimes great distances--each fall to their nesting sites. Penguins are classified in the phylum Chordata, subphylum Vertebrata, class Aves, order Sphenisciformes, family Spheniscidae.

--extracted from The New Columbia Encyclopedia

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890-33@x1;:1,./!"#\$%&'()0-114÷+*5 ?

5. Special Character Fonts

Math Font

A SpecialFont containing math symbols is available in two sizes, 10 and 12 points. Every font family has access to the Math font. To use the Math font, type @z[] and insert the character representing the symbol you want inside the delimiters. For example, to get \leftrightarrow , type @z[f]. To find the correct character for each math symbol, see the chart below. Notice that upper-case and lower-case letters represent different symbols.

NOTE: A set of Scribe macros, called MATHLM, is available for people who use Scribe to create complex equations containing many special characters. For a short manual on MATHLM, xpress the file <SCRIBE.3C>MATHLM.PRS to the Penguin.

| ASCII | Actual | ASCII | Actual | ASCII | Actual | ASCII | Actual |
|-------|-----------|-------|----------------|-------|------------------|-------|---------------|
| †A | Π | # | ∞ | D | ∇ | e | \approx |
| †B | $<$ | \$ | \pounds | E | \exists | f | \dagger |
| †C | $>$ | % | $+$ | F | \ddagger | g | \Rightarrow |
| †D | | & | \wedge | G | \complement | h | \hbar |
| †E | \pounds | ' | \doteq | H | \mathcal{Q} | i | Γ |
| †F | \int | (| ' | I | \subseteq | j | Γ |
| †G | \oint |) | $\sqrt{\quad}$ | J | \supset | k | Γ |
| †H | none | * | ' | K | \mathcal{D} | l | Γ |
| †I | none | + | \pm | L | \supset | m | $=$ |
| †J | none | . | \ni | M | \mathcal{J} | n | Γ |
| †K | \P | . | \mp | N | \mathcal{E} | o | \cdot |
| †L | none | . | \ddots | O | \emptyset | p | \top |
| †M | none | / | \oslash | P | α | q | \bot |
| †N | none | 0 | \bigcirc | Q | $\#$ | r | \otimes |
| †O | \cdot | 1 | \square | R | \mathcal{R} | s | \rightarrow |
| †P | none | 2 | \triangle | S | \approx | t | \nearrow |
| †Q | none | 3 | \diamond | T | \perp | u | \nwarrow |
| †R | none | 4 | \oplus | U | \cup | v | \checkmark |
| †S | Σ | 5 | \ominus | V | \vee | w | \forall |
| †T | none | 6 | \otimes | W | \equiv | x | ∇ |
| †U | none | 7 | \angle | X | \times | y | ∇ |
| †V | \ddots | 8 | \star | Y | \downarrow | z | ∇ |
| †W | none | 9 | \cdot | Z | \triangleright | { | ∇ |
| †X | none | : | \S | [| \triangleleft | | ∇ |
| †Y | none | : | \blacksquare | \ | \triangleright | } | ∇ |
| †Z | none | $<$ | \leq |] | \triangleright | ~ | ∇ |
| †{ | none | $=$ | \neq | † | \downarrow | | |
| †\ | none | $>$ | \geq | + | \rightarrow | | |
| †] | none | ? | \leq | . | none | | |
| †† | none | @ | $\%$ | a | \mathcal{K} | | |
| †~ | none | A | \forall | b | \mathcal{L} | | |
| space | $_$ | B | \in | c | \mathcal{O} | | |
| ! | \dagger | C | \in | d | \mathcal{O} | | |
| " | \cdot | | | | | | |

Greek Font

A SpecialFont containing the Greek alphabet is available in two sizes, 10 and 12 points. Every font family has access to the Greek font. To use the Greek font, type @g[] and insert the character representing the Greek letter you want inside the delimiters. For example, to get Ψ , type @g[Y]. To find the correct character for each Greek letter, see the chart below.

| ASCII | Actual | ASCII | Actual | ASCII | Actual | ASCII | Actual |
|-------|--------|-------|--------|-------|--------|-------|--------|
| †G | ' | (| (| I | I | j | ς |
| †H | none |) |) | J | none | k | κ |
| †I | none | * | * | K | K | l | λ |
| †J | none | + | + | L | Λ | m | μ |
| †K | none | , | , | M | M | n | ν |
| †L | none | - | - | N | N | o | ο |
| †M | none | . | . | O | O | p | π |
| †N | none | / | / | P | Π | q | θ |
| †O | none | 0 | 0 | Q | Θ | r | ρ |
| †P | none | 1 | 1 | R | P | s | σ |
| †Q | none | 2 | 2 | S | Σ | t | τ |
| †R | none | 3 | 3 | T | T | u | υ |
| †S | — | 4 | 4 | U | T | v | none |
| †T | none | 5 | 5 | V | none | w | ω |
| †U | none | 6 | 6 | W | Ω | x | χ |
| †V | - | 7 | 7 | X | X | y | ψ |
| †W | none | 8 | 8 | Y | Ψ | z | ζ |
| †X | - | 9 | 9 | Z | Z | { | { |
| †Y | none | : | : | [| [| | |
| †Z | none | ; | ; | \ | \ | } | } |
| †[| none | < | < |] |] | ~ | ~ |
| †\ | none | = | = | † | † | | |
| †] | none | > | > | + | + | | |
| †† | none | ? | ? | . | none | | |
| †+ | none | @ | @ | a | α | | |
| space | | A | Α | b | β | | |
| ! | ! | B | Β | c | ξ | | |
| " | " | C | Ξ | d | δ | | |
| # | # | D | Δ | e | ε | | |
| \$ | \$ | E | Ε | f | φ | | |
| % | % | F | Φ | g | γ | | |
| & | & | G | Γ | h | η | | |
| . | . | H | Η | i | ι | | |

"K" Font

The "K" font is a collection of special characters that can be used in mathematical equations and other applications requiring symbols not in the ordinary font family. To use the characters in the K font, include the command @libraryfile[yspecialcharacters] in the header part of your file. Wherever you want a special symbol to appear in your text, type @k[] and refer to the character you want by name inside the delimiters. For example, to get \star , type @k[Star]. To find the name for each special character, see the chart below.

| | | | |
|--------------------------|--------------------------------|------------------------------|-------------------------------|
| Σ Summation | \supseteq Superset | \vee Or | \bullet Bullet |
| Σ Sum | $\not\supseteq$ NotSuperset | \cup Union | \oplus CirclePlus |
| Π Product | \equiv Equivalent | \cap Intersection | \oplus DirectSum |
| \lt LT | \approx ApproxEq | $($ LeftParen | \oslash CircleSlash |
| \lt LeftAngleBracket | \simeq Similar | $)$ RightParen | \otimes CircleTimes |
| \leq LTE | \cong Congruent | $[$ LeftBracket | \ominus CircleMinus |
| $=$ Eq | \lt AsymptLT | $]$ RightBracket | \bigcirc Circle |
| \neq NEq | \leq AsymptLT e | $\{$ LeftBrace | \bigcirc BigCircle |
| \gt GT | \gt AsymptGT | $\}$ RightBrace | \cent CentSign |
| \gt RightAngleBracket | \geq AsymptGTE | $ $ SingleBar | \cent Cent |
| \geq GTE | \rightarrow RightArrow | $ $ Line | \cent Cents |
| \ll MuchLT | \leftarrow LeftArrow | $ $ Modulo | $\%$ CareOf |
| \ll LeftDoubleBracket | \leftarrow Gets | $ $ Mod | \mathbb{C} Complex |
| \gg MuchGT | \rightleftharpoons Exchange | \parallel DoubleBar | \mathbb{R} Real |
| \gg RightDoubleBracket | \uparrow UpArrow | \parallel Parallel | ∂ Partial |
| \in MemberOf | \downarrow DownArrow | \parallel DoubleLine | \int Integral |
| \in Member | \Rightarrow DoubleRightArrow | \lfloor LeftFloor | \oint LineIntegral |
| \in ElementOf | \rightleftharpoons BothWays | \rfloor RightFloor | $^\circ$ Degree |
| \in Element | \downarrow DownCurve | \lceil LeftCeiling | \nearrow NEArrow |
| \notin NotMemberOf | \curvearrowright SCurve | \rceil RightCeiling | \nearrow UpRightArrow |
| \notin NotMember | \dashv LeftTurnstile | \forall ForAll | \nwarrow NWArrow |
| \notin NotElementOf | \vdash RightTurnstile | \forall All | \nwarrow UpLeftArrow |
| \notin NotElement | \perp UpTurnstile | \exists ThereExists | \swarrow SWArrow |
| \ni SuchThat | \perp Perpendicular | \exists Exists | \swarrow DownLeftArrow |
| \ni st | \top DownTurnstile | \dagger Dagger | \searrow SEArrow |
| \emptyset EmptySet | \angle Angle | \ddagger DoubleDagger | \searrow DownRightArrow |
| \emptyset NullSet | $+$ PlusSign | \blacksquare QED | \star Star |
| $-$ EnDash | $-$ MinusSign | \dots Ellipsis | \therefore ThereFore |
| ∞ Infinity | $-$ Negative | \top Transpose | \circledR Registered |
| \propto Proportional | $/$ Slash | \aleph Aleph | \hbar HBar |
| $=_{df}$ DefinedEqual | \cdot Dot | Δ UpperDel | \equiv DoubleTurnstile |
| \subset ProperSubset | \ast Asterisk | δ LowerDel | \equiv RightDoubleTurnstile |
| \subset ContainedIn | \times Cross | $\sqrt{}$ Radical | \square Square |
| \subset IncludedIn | \times Times | ∇ Del | \square Box |
| \subseteq Subset | \div Divide | \S Section | \triangle Triangle |
| $\not\subset$ NotSubset | \pm Plusminus | \P Paragraph | \diamond Diamond |
| \supset ProperSuperset | \mp Minusplus | \copyright Copyright | $-$ Dash |
| \supset Contains | \sim Not | \pounds Pound | $-$ EmDash |
| \supset Includes | \sim Tilde | \pounds Sterling | |
| \supset Implies | \wedge And | \circ SmallCircle | |


































(continued on next page)

(K Font Continued)

| | | | |
|--------------------|--------------------|---------------------|-----------------------|
| α Alpha | ν Nu | A BigAlpha | N BigNu |
| β Beta | χ Xi | B BigBeta | X BigXi |
| γ Gamma | \omicron Omicron | Γ BigGamma | O BigOmicron |
| δ Delta | π Pi | Δ BigDelta | Π BigPi |
| ϵ Epsilon | ρ Rho | E BigEpsilon | P BigRho |
| ζ Zeta | σ Sigma | Z BigZeta | Σ BigSigma |
| η Eta | τ Tau | H BigEta | T BigTau |
| θ Theta | υ Upsilon | Θ BigTheta | Υ BigUpsilon |
| ι Iota | φ Phi | I BigIota | Φ BigPhi |
| κ Kappa | ξ Chi | K BigKappa | Ξ BigChi |
| λ Lambda | ψ Psi | Λ BigLambda | Ψ BigPsi |
| μ Mu | ω Omega | M BigMu | Ω BigOmega |

ARROWS10 Font

The Arrows font is a collection of arrows in different sizes and shapes. To use the Arrows font, define it as a SpecialFont in the header part of your file (see section on SpecialFonts). Find the character on the chart below that represents the arrow you want to use, then go to the place where you want the arrow to appear and begin the SpecialFont. Put the character that represents the arrow inside the delimiters.

| <u>ASCII</u> | <u>Actual</u> | <u>ASCII</u> | <u>Actual</u> | <u>ASCII</u> | <u>Actual</u> | <u>ASCII</u> | <u>Actual</u> |
|--------------|---|--------------|---|--------------|---|--------------|---|
| ! |  | 0 | none | ? | none | N | > |
| " | none | 1 |  | @ |  | O | none |
| # |  | 2 |  | A |  | P | none |
| \$ |  | 3 |  | B |  | Q |  |
| % |  | 4 |  | C |  | R |  |
| & |  | 5 |  | D |  | S | < |
| ' | none | 6 |  | E |  | T |  |
| (| none | 7 |  | F |  | U |  |
|) | none | 8 |  | G |  | V | v |
| * |  | 9 | none | H | > | W | < |
| + | none | : | none | I |  | X | < |
| , |  | : | none | J |  | Y | > |
| - | none | < |  | K |  | Z |  |
| . | none | = | none | L | none | { | none |
| / | none | > | none | M |  | \ | none |

(continued on next page)

(Arrows Font Continued)

| <u>ASCII</u> | <u>Actual</u> | <u>ASCII</u> | <u>Actual</u> |
|--------------|---------------|--------------|---------------|
|] | none | n | ► |
| † | none | o | none |
| + | none | p | none |
| · | none | q | ► |
| a | ▼ | r | ▼ |
| b | ◄ | s | ◄ |
| c | ► | t | ◄ |
| d | ► | u | ◄ |
| e | ► | v | ▼ |
| f | ▼ | w | ◄ |
| g | ◄ | x | ◄ |
| h | ► | y | ► |
| i | ▲ | z | ▼ |
| j | ◄ | { | none |
| k | ▲ | | none |
| l | none | } | none |
| m | ◄ | - | ➤ |

6. Complete List of ISI Fonts

This section contains a list of the fonts that are currently available on the ISI Systems. All of these fonts can be defined as SpecialFonts (see Section 3). Not all of the fonts on the list are shown in this document; to see a sample of any font, you may create a font dump (see Section 1.4) or print a short paragraph of text (similar to the sample paragraphs in this document).

NOTE: If you have trouble using any of the fonts in this list, it could be that the font you are trying to use is still in <NEWSYS>. You may still use it, however, by typing at the Exec level (before running your file through Scribe):

define fon: new:

AVAILABLE ISI FONTS

February 1984

| Family | Description | Face | Point Sizes | Rotation |
|------------|----------------------------|------|-----------------|----------|
| ARROWS | arrowheads | r | 10 | 0,90,270 |
| BKG | backgammon characters | r | 8,16 | 0 |
| BOLDPS | serif text | r | 10 | 0 |
| BRAVOX | white-on-black serif text | r | 10,12 | 0,90,270 |
| CHES | chess characters | r | 16 | 0 |
| CHINESEMCA | Chinese characters | r | 12 | 0 |
| CHINESEMCB | Chinese characters | r | 12 | 0 |
| CHINESEMCC | Chinese characters | r | 12 | 0 |
| CHINESEMCD | Chinese characters | r | 12 | 0 |
| CHINESEMCE | Chinese characters | r | 12 | 0 |
| CHINESEMCF | Chinese characters | r | 12 | 0 |
| CHINESEMCG | Chinese characters | r | 12 | 0 |
| CHINESEMCH | Chinese characters | r | 12 | 0 |
| CHINESEMCJ | Chinese characters | r | 12 | 0 |
| CHINESEMCK | Chinese characters | r | 12 | 0 |
| CHINESEMCL | Chinese characters | r | 12 | 0 |
| CHINESEMCN | Chinese characters | r | 12 | 0 |
| CHINESEMCO | Chinese characters | r | 12 | 0 |
| CHINESEMCP | Chinese characters | r | 12 | 0 |
| CMATHX | math characters | r | 10,12 | 0 |
| CMB | bold CMR text | r | 8,9,10 | 0 |
| CMBI | bold italic CMR text | r | 10 | 0 |
| CMDUNH | serif text | r | 13 | 0 |
| CMFF | sans serif text | r | 10 | 0 |
| CMi | italic CMR text | r | 5,6,7,8,9,10,12 | 0 |
| CMR | serif text | r | 5,6,7,8,9,10,12 | 0 |
| CMS | italic CMR text | r | 8,9,10 | 0 |
| CMSC | small caps CMR text | r | 10 | 0 |
| CMSS | sans serif text | r | 8,12 | 0 |
| CMSSB | bold CMSS text | r | 10 | 0 |
| CMSSBI | bold italic CMSS text | r | 10 | 0 |
| CMSSS | italic CMSS text | r | 8 | 0 |
| CMSY | fancy text & math symbols | r | 5,6,7,8,9,10,12 | 0 |
| CMTI | italic serif text | r | 10 | 0 |
| CMTITL | large bold sans serif text | r | 14 | 0 |
| CMTT | fixed-width serif text | r | 8,9,10 | 0 |
| CMTTI | italic CMTT text | r | 10 | 0 |
| CMU | serif text | r | 10 | 0 |
| CREAM | "calligraphy" | r | 10,12 | 0,90,270 |
| | | r,b | 10 | 90 |
| CREATURES | pictures | r | 25 | 0 |
| CYRILLIC | Russian alphabet | r | 10,12,18 | 0 |
| DANATEN | math symbols | r | 10 | 0 |
| DANATWELVE | math symbols | r,b | 12 | 0 |
| DOTS | for printing bitmaps | r | 7 | 0,90,270 |
| ELITE | fixed-width serif text | r | 10 | 0,90,270 |
| ESCHER | fancy text | r | 12 | 0 |

| Family | Description | Face | Point Sizes | Rotation |
|--------------|---------------------------------|----------|------------------------|----------|
| FIG | lower-case & numbers serif text | r | 4,5,8 | 0 |
| | | r | 4,8 | 0,90 |
| GACHA | fixed-width serif text | r,i,b,bi | 5,6,7,8,9,10,12 | 0 |
| | | r | 6,8,10,12 | 0,90 |
| | | r | 8,10,12 | 0,90,270 |
| GATES | symbols | r | 32 | 0,90,270 |
| GERMAN | German alphabet | r | 12 | 0 |
| Gray | halftone blocks | b | 4,8,16,24,32,40,48,56 | 0 |
| HEBREW | Hebrew alphabet | r | 12 | 0 |
| HELVETICA | sans serif text | r,i,b,bi | 6,7,8,9,10,11,12,14,18 | 0,90,270 |
| | | r | 3,4,5 | 0 |
| HELVETICAD | Helvetica Dense | r | 24,30,36 | 0,90 |
| | | r | 24,36 | 0,90,270 |
| HELVETICASC | large & small caps Helvetica | r,b | 9,10 | 0 |
| HIPPO | Greek alphabet | r | 8,9,10,12,18 | 0 |
| | | r | 8,10 | 0,90,270 |
| HIRAGANAMF | Japanese characters | r | 11 | 0 |
| HNEWVEC | vector font for drawing | r | 2,4,6,8,12,16,24,32 | 0 |
| IFIP | IFIP WG 2.3 logo | r | 24 | 0 |
| KANAMC | Japanese characters | r | 10,12 | 0 |
| KANJIMCA | Japanese characters | r | 10,12 | 0 |
| KANJIMCB | Japanese characters | r | 10,12 | 0 |
| KANJIMCC | Japanese characters | r | 10,12 | 0 |
| KANJIMCD | Japanese characters | r | 10,12 | 0 |
| KANJIMCE | Japanese characters | r | 10,12 | 0 |
| KANJIMCF | Japanese characters | r | 10,12 | 0 |
| KANJIMCG | Japanese characters | r | 10,12 | 0 |
| KANJIMCH | Japanese characters | r | 10,12 | 0 |
| KANJIMCI | Japanese characters | r | 10,12 | 0 |
| KANJIMCJ | Japanese characters | r | 10,12 | 0 |
| KANJIMCK | Japanese characters | r | 10,12 | 0 |
| KANJIMCL | Japanese characters | r | 10,12 | 0 |
| KATAKANAMF | Japanese characters | r | 11 | 0 |
| KEYHOLE | picture | b | 20 | 0,90,270 |
| LETTERGOTHIC | fixed-width serif text | r,b | 10 | 0,90,270 |
| LOGO | Xerox logo | r | 12,18,24 | 0,90,270 |
| LSIGATES | symbols | r | 48 | 0 |
| MALEFEMALE | male/female symbols | r | 10 | 0 |
| MANFNT | Metafont logo | r | 0 | 0 |
| MATH | Scribe Z font (math) | r | 8,10 | 0,90,270 |
| MONASTARY | "calligraphy" | r | 10,20 | 0 |
| NEWLIN | sans serif text | r | 10 | 0 |
| NEWVEC | vector font for drawing | r | 2,4,6,8,12,16,24,32 | 0 |
| Norwegians | Norwegian characters | r | 10 | 0 |
| OLDENGLISH | "calligraphy" | r | 18,24,36,48 | 0 |
| | | r | 18 | 0,90,270 |
| OTHELLO | Othello characters | r,b | 15 | 0 |
| PCC | a few symbols | r | 9 | 0 |
| PEANUT | Charlie B. & gang | r | 16 | 0 |
| ROMAJIMC | symbols | r | 10,12 | 0 |
| ROMANPS | "Roman" text | r,b | 10 | 0,90,270 |
| SANSKRIT | Sanskrit characters | r | 10 | 0 |
| SLIDESCMTX | big math symbols | r | 10 | 0 |
| SLIDESCMI | italic SLIDESCMTX text | r | 5,7,10 | 0 |
| SLIDESCMTX | serif text | r | 5,7,10 | 0 |
| SLIDESCMTY | fancy text | r | 5,7,10 | 0 |
| SNEWVEC | vector font for drawing | r | 2,4,6,8,12,16,24,32 | 0 |

| Family | Description | Face | Point Sizes | Rotation |
|--------------|-------------------------------|----------|------------------------|----------|
| SPLUNK | math symbols | r | 8,10,12,14,18,24,30,36 | 0,90,270 |
| TEMPLATE | Xerox graphics | r | 64 | 0,90,270 |
| TESTFONT | printer test graphics | r | 12 | 0 |
| TIMESROMAN | serif text | r,i,b,bi | 6,7,8,9,10,11,12,14 | 0,90,270 |
| | | r,i,b | 16 | 0,90,270 |
| | | r,i,b,bi | 17 | 0 |
| TIMESROMAND | TimesRoman Dense | r | 24,30,36 | 0,90 |
| | | r | 24,36 | 0,90,270 |
| TIMESROMANSC | large & small caps TimesRoman | r | 9,10 | 0 |
| TITAN | fixed-width serif text | r | 10,12 | 0,90,270 |
| TITALLEGAL | fixed-width serif text | r | 12 | 0,90,270 |
| TITANTEN | fixed-width serif text | r,b | 10 | 0 |
| TRALTO | mimics TimesRoman on ALTO | r | 10 | 0 |
| TRIANGLES | contains only a,b,c, and d | r | 14 | 270 |
| TRSTAR | mimics TimesRoman on STAR | r | 10 | 0 |
| VNEWVEC | vector font for drawing | r | 2,4,6,8,12,16,24,32 | 0 |
| XEROXBOOK | fixed-width serif text | r | 12 | 0 |
| pen | lower-case "calligraphy" | r | 10 | 0 |
| symbol | "calligraphy" & math symbols | r | 10 | 0 |

How to Use This List

Choosing a Font

To determine a specific font name from this list, choose a name from the *Family* column, a size from the *Point Sizes* column, and a style from the *Face* column (R stands for Regular, I for Italic, B for Bold, and BI for Bold Italic). For example, to choose a Helvetica Font, you might use point size 14, face B, then add these symbols to the Family to get Helvetica14B. Notice that three Helvetica point sizes, 3, 4, and 5, are available only in the Regular (R) face. The other point sizes (6, 7, 8, 9, 10, 11, 12, 14, and 18) are available in the R, I, B, and BI face styles.

Two important rules to remember:

- Font names cannot contain spaces.
- The letter representing the face style must be capitalized (as in Helvetica14B).

Rotation

The *Rotation* column refers to the orientation of the characters on the page, measured in degrees. Rotations of 90 and 270 refer to "landscape" printing, where the lines of text are printed parallel to the long edges of the page (lengthwise). A rotation of 0 means that the text is printed in the ordinary way, as in this document. Although the Penguin printer is capable of printing many fonts in Landscape mode, Scribe can only use fonts with a rotation of 0.

