Chapter 9: Font Selection

Contents of this Chapter

This chapter discusses the following PCL commands:

9.1 Introduction to Fonts

A font is a group of symbols that have similar characteristics. A font is described by its **symbol set**, **spacing**, **height**, **pitch**, **style**, **stroke weight**, **typeface**, and **orientation**. The user selects one font for printing at any one time. Fonts may be selected by ID or by their characteristics. This chapter describes the PCL commands that select a font.

Font Sources

The fonts used by a printer may be supplied with the printer (internal), may be added as ROM memory (cartridge and/or SIMM), or may be downloaded from the host (soft or RAM fonts). (Chapters 10 and 11 describe font downloading.)

Bitmap Fonts

Bitmap fonts have a fixed bit-pattern for each character. The initial size of each character is fixed, since the bit-pattern is fixed. Algorithmic enhancements to bitmpap fonts can create effects such as half-height, half-width, double-width, double-height, slant, and bold.

Scalable Fonts

Scalable fonts are stored as outlines that are not limited to a fixed size. An algorithm scales the outline to create fonts of different sizes.

Unbound Fonts

Unbound fonts are not limited to a single symbol set. The other font characteristics — spacing, style, stroke weight, and typeface — are all fixed. (Unbound fonts are discussed in Chapter 12.)

How Fonts are Selected

A font is a set of printable images specified by a collection of attributes. A change in just one attribute may indicate a different font. For example, 10-point Times Roman bold is a different font than 10-point Times Roman italics, or 12-point Times Roman bold.

The user "designates" a font by specifying its attributes. The printer "selects" a font by comparing requested attributes with those in its available fonts. Each font attribute has a different priority (e.g., symbol set has a higher priority than height, which has a higher priority than typeface).

The Font Select Table

The printer maintains a table containing all the attributes of the currently requested font. Font selection is made by specifying all the desired font's characteristics using the font selection escape sequences in this chapter. For example, after specifying a Roman-8, fixed-space, 10 pitch, 12 point, upright, bold, Courier font, the font select table will appear as follows:

    Symbol Set................................Roman-8
    Spacing ....Fixed
    Pitch...10 cpi
    Height ....12 point
    Style...Upright
    Stroke Weight ....Bold
    Typeface ....Courier

The table is updated whenever a new attribute is specified. For example, to select a similar font with a medium stroke weight, only that single attribute must be specified. (Note, however, that HP recommends that driver writers specify all attributes of a font for each font requested.) The table then looks like this:

    Symbol Set................................Roman-8
    Spacing ....Fixed
    Pitch...10 cpi
    Height ....12 point
    Style...Upright
    Stroke Weight ....**Medium**
    Typeface ....Courier

Before printing, the printer performs the **Font Selection Algorithm** described below to find the available font most closely matching the attributes in the font select table.

Many- HP products provide font selection from the control panel. This may establish different default values for some attributes.

NOTE: Downloadable fonts may be designated by font ID as well as attribute (see Chapter 10). When a font is selected using the ID number, the characteristics in the font select table are updated to reflect that font's characteristics.

Attribute Priority

The printer selects a font based on its characteristics (attributes), its physical location in the printer, and its orientation. Font selection priority is then:

1. Orientation [5]
2. Symbol set
3. Spacing
4. Pitch [1] [2]
5. Height [1] [2]
6. Style [6]
7. Stroke weight [2] [6]
8. Typeface family
9. Resolution [3]
10. Quality [2]
11. Location [4]

[1] For scalable fonts, pitch and height are operators, not attributes. Any legal pitch (fixed fonts) or height (proportional fonts) can be satisfied by a scalable font.

[2] DEVICE NOTE: These are operators on DeskJets below 660. Quality is not used on LaserJets.

[3] Bitmap fonts designed at 600 dpi are not available for selection at 300 dpi. In 600 dpi mode, font priority is: 600 dpi bitmap, scalable, 300 dpi bitmap. In 300 dpi mode, font priority is: 300 dpi bitmap, scalable

[4] Although location is not a font characteristic, it is a font selection consideration.

[5] DEVICE NOTE: Orientation is an operator on LJIII and later, and DeskJet 850C and above.

[6] Native (actual) weight and style take precedence over algorithmically-obtained weight and style.

NOTE: Character enhancements have a lower priority than native(actual) fonts.

EXAMPLE

Assume the user designates a font with a symbol set of Roman-8 and a height of 16 points. If the printer contains 10-point Roman-8 and 16-point ISO 8859/1 Latin 1, the printer will select 10-point Roman-8 because symbol set has the highest priority.

The process the printer uses for selecting a font is called the "Font Selection Algorithm", which is described in detail below.

The Font Selection Algorithm

Selection by attribute is an elimination process. The device scans the available font libraries for the font whose attributes most closely match the user's font request. The requested attribute with the highest priority is compared with the corresponding attribute in the available fonts. If only one font contains the matching attribute, that font is selected. If more than one font contains the matching attribute, the printer compares the next highest priority attribute, and so on, until only one font remains. The following summarizes the procedure used to select a font from the available fonts. The steps are performed in the given order.

1. **Orientation:** For bitmap fonts similar in all the above characteristics, the font with the orientation that matches the page orientation is selected. The Logical Page Orientation command (Esc&l#O) may be necessary for some printers in order to match font orientation to logical page orientation. Devices with "auto-rotation" automatically rotate the font to match the logical page orientation; all fonts are then available in all page orientations.

2. **Symbol set:** A symbol set is a unique ordering of the characters in a font. If the requested symbol set is unavailable, the device-dependent default is selected.

    DEVICE NOTE: LJs default symbol set to Roman-8 if a user-selected symbol set does not exist.

3. **Spacing:** The inter-character spacing of fonts is either "fixed", or "proportional" to the shape of the character. If proportional spacing is requested but unavailable, fixed spacing is selected in the current pitch as described in the next paragraph.

4. **Pitch:** Pitch is the number of characters printed per inch (cpi). Pitch applies only to fixed-space fonts. If fixed spacing is available, the requested pitch is selected. For bitmap fonts, if the requested pitch is unavailable, the closest greater pitch is selected; if a greater pitch is unavailable, the closest lesser pitch is selected. For scalable fonts, the closest achievable pitch (greater or lesser) is rendered. For dual-pitch fonts, the full (nominal)width is used.

5. **Height:** Font height is an approximate measure of the body of the type in points (e.g., 24 points). A point is about 1/72 inch. Since point size may vary among vendors, height is a relative measurement for selection purposes, not a metric indicating absolute character height.

    The device selects an available height closest to the requested height. "Closest" means the smallest absolute difference. For example, if 10 is requested when 6, 8, and 12 point fonts are available, both 8 and 12 point fonts are picked for the next selection criteria.

    No font having a height within 0.25 points of the closest absolute difference is eliminated. For example, if a 12 point font is requested, all fonts between 11.75 and 12.25 are considered. Or, if 6, 8, and 11.75 point fonts are available and 10 is requested, both 8 and 11.75 are considered (i.e., the *range*, not the endpoints, is considered).

    NOTE: Any legal height is available for proportionally spaced scalable fonts.

6. **Style:** Describes the posture, width, and structure of the font symbols. (e.g., upright, italic). Style is ignored if the requested style is unavailable in the remaining fonts.

7. **Stroke Weight:** Stroke weight is the thickness of the strokes that compose characters.

    If the requested weight is unavailable and 0 or greater, the closest thicker weight is selected. If a thicker weight is unavailable, the closest thinner weight is selected.

    If the requested weight is unavailable and less than 0, the closest thinner weight is selected. If a thinner weight is unavailable, the closest thicker weight is selected.

8. **Typeface Family:** Typeface describes the unique distinguishing features of a font's graphics symbols (e.g. Times Roman, Helvetica). Typeface is ignored if the requested typeface is unavailable in the remaining fonts.

9. **Resolution:** All scalable fonts will automatically print at any resolution. A 600 dpi font has priority over a 300 dpi font with the same characteristics and location. A bitmap font designed at 300 dpi can be printed on a 600 dpi printer; but a bitmap font designed at 600 dpi cannot be printed at 300 dpi.

10. **Quality:** Quality (also called "density") describes the definition of the printed symbols. The nearest fit to the requested quality is selected.

11. **Location:** PCL and HP-GL/2 font location ordering, from highest to lowest priority, is:

Soft font (lowest ID) — bitmap
Soft font (lowest ID) — scalable
Read/Write removeable disk (lowest ID) — bitmap
Read/Write removeable disk (lowest ID) — scalable
Read/Write removeable flash (lowest ID) — bitmap
Read/Write removeable flash (lowest ID) — scalable
Read/Write permanent disk (lowest ID) — bitmap
Read/Write permanent disk (lowest ID) — scalable
Read/Write permanent flash (lowest ID) — bitmap
Read/Write permanent flash (lowest ID) — scalable
Cartridge font[1] — bitmap
Cartridge font[1] — scalable
SIMM font[2] — bitmap
SIMM font[2] — scalable
Internal font — bitmap
Internal font — scalable

[1] DEVICE NOTE: On LJIII the left cartridge has priority over the right cartridge. On DJ the back cartridge has priority over the front.

[2] SIMM1 has highest priority, then SIMM2, SIMM3, etc.

9.2 Primary and Secondary Fonts

PCL devices may maintain two independent font select tables. This provides access to a *primary* font and a *secondary* font, only one of which is selected at a time.

Power-on, reset, or the *SI* (15) control code invoke the primary font. *SO* (14) invokes the secondary font, which remains invoked until receipt of an *SI* or reset. The default fonts for the primary and secondary fonts in a PCL device are user configurable.

Font attribute selection is independent of primary/secondary font selection. Font attributes, including symbol set, need not be the same for primary and secondary fonts, since these are independent fonts.
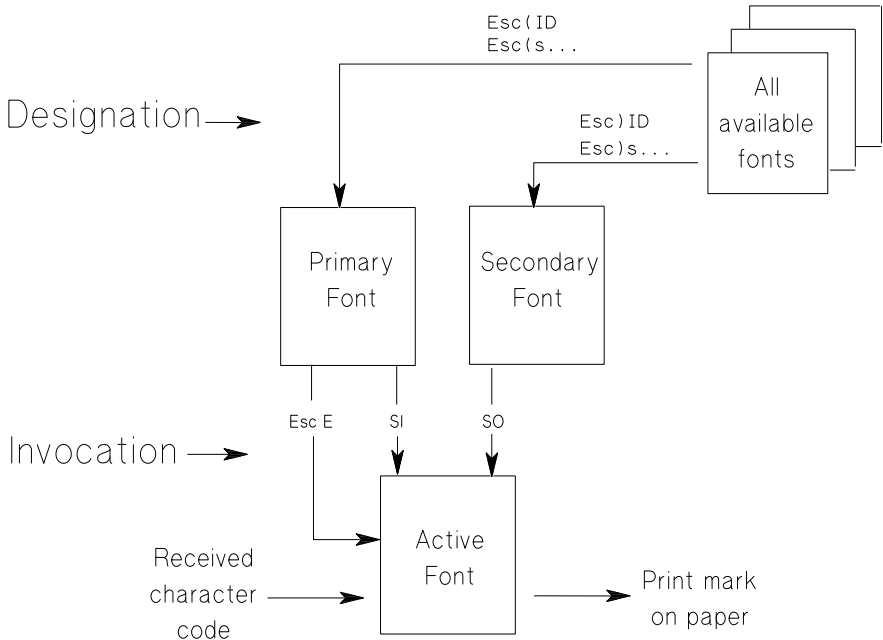
Primary Font   *<SI>*
Secondary Font   *<SO>*

Activates the currently designated primary or secondary font. The primary font remains invoked until receipt of *SO*, *EscE*, or device reset. The default state is *SI*. Switching between the primary and secondary fonts defaults CMI.

9.3 Selection by Attribute

The user requests a font by designating its attributes with the following commands.

Font Symbol Set (Primary)   *Esc (ID*
Font Symbol Set (Secondary)   *Esc) ID*

Identifies the set of symbols in a font.

ID   =   Identification value from the table: consists of a decimal value and a letter value
Default =   Device dependent
Range =   NA

The ID (identification number) consists of a number portion and a letter portion. For example, to specify ASCII (0U) as the symbol set for the primary font, send *Esc(0U*. Some of the possible values for the identification number (ID) are listed on the symbol set tables on the following pages.

The legal range of the number portion of ID is 0 to 2047. The legal range of the letter portion of ID is the upper-case ASCII characters "A" through "Z", except for "X". Symbol sets with ID's of "X" can only be selected with the Font ID. "Q" is used with HP "Specials" symbol sets and not recommended for general use. "Y" is used for barcode symbol sets. "Z" is reserved.

The device-dependent default is selected if the specified symbol set does not exist or cannot be satisfied by any font.

If an unbound scalable font is selected by ID, this command should be used to specify the symbol set. Otherwise, the symbol set of the former font (as listed in the font select table) will be used. (See "Font Selection by ID" later in this chapter.)

To specify a user-defined symbol set, use the symbol set value defined by the Symbol Set ID command (*Esc*c#R*). (See Chapter 12.)

The following table of HP-supported symbol sets and IDs is current as of 1/01/95, but users should reference *The Book of Characters* (HP BPR division).

For convenience, the table is repeated with the symbol set names sorted alphanumerically.

ID	Symbol Set Name	ID	Symbol Set Name
0A	Math-7 (same as 0M)	4J	Engravers Subset
0B	Line Draw-7 (same as 0L)	5J	Engravers
0C	HP Large Characters	6J	Microsoft Publishing
17C	Adobe Cyrillic	7J	DeskTop
18C	GB 2312 (1980 mainland China)	8J	Document
30C	Chemical Pi Set #0	9J	PC-1004
31C	Chemical Pi Set #1	10J	PS Text
32C	Chemical Pi Set #2	11J	PS ISO Latin 1
33C	Chemical Pi Set #3	12J	MC Text
34C	Chemical Pi Set #4	13J	Ventura International
35C	Chemical Pi Set #5	14J	Ventura US
36C	Chemical Pi Set #6	15J	Lotus LICS set
37C	Chemical Pi Set #7	16J	Swash Characters
0D	ISO 60: Danish/Norwegian	17J	Small Caps and Old Style Figures
1D	ISO 61: Norwegian Version 2	18J	Old Style Figures
2D	Devanagari	19J	Fractions
0E	Roman Extension	21J	Lining Figures
1E	ISO 4: United Kingdom	22J	Small Caps and Lining Figures
9E	Windows 3.1 Latin 2	23J	Alternate Caps
17E	Adobe East European	25J	Lotus LMBCS Group 0
0F	ISO 25: French (obsolete)	50J	Lotus LMBCS Set
1F	ISO 69: French	512J	Kanji Ward #0 - Bitstream
33F	reserved 33-255 for future Asian	611J	Kanji Ward #99 - Bitstream
255F	reserved 33-255 for future Asian	0K	ISO 14: JIS ASCII
0G	HP German	1K	ISO 13: Katakana
1G	ISO 21: German	2K	ISO 57: Chinese
8G	Greek-8	8K	Kana-8 (JIS 210)
9G	Windows 3.1 Latin/Greek	9K	Korean-8
10G	PC-851 Latin/Greek	17K	JIS 208 (1990)
11G	PC-869 Latin/Greek	18K	JIS flavored Unicode
12G	PC-8 Latin/Greek	19K	Windows 3.1J DBCS
13G	Varityper/Ancient Greek	20K	JIS C 6226-1978
14G	Epson Latin/Greek based on 437	21K	JIS X 0208-1983
17G	Adobe Greek	32K	UNIX Cyrillic set
33G	reserved 33-255 for future Asian	33K	Illuminae Kyrillikae
255G	reserved 33-255 for future Asian	50K	JIS Kanji 6226-1983 Level 1
0H	Hebrew-7	51K	JIS Kanji 6226-1983 Level 2
7H	ISO 8859/8 Latin/Hebrew	0L	Line Draw-7
8H	Hebrew-8	1L	HP Block Characters
9H	Windows 3.1 Latin/Hebrew	2L	Tax Line Draw
10H	Varityper/Kivun Hebrew	8L	Line Draw-8
15H	PC-862 Latin/Hebrew	9L	Ventura ITC Zapf Dingbats
18H	KS C 5601 (1993 Korean)	10L	PS ITC Zapf Dingbats
19H	KS C 5601 (1987 Korean)	11L	ITC Zapf Dingbats Series 100
161H	1st row Korean KS C 5601 (1987	12L	ITC Zapf Dingbats Series 200
254H	94th row Korean KS C 5601 (1987	13L	ITC Zapf Dingbats Series 300
281H	-1st set KS C 5601 1993	19L	Windows 3.1 Baltic
394H	-114th set KS C 5601 1993	20L	Carta
0I	ISO 15: Italian	21L	Ornaments
33I	reserved 33-255 for future Asian	22L	Universal News & Commercial Pi
255I	reserved 33-255 for future Asian	23L	Chess
3J	Studio Script	24L	Astrology 1

ID	Symbol Set Name	ID	Symbol Set Name
25L	Astrology 2	297L	Logos: Company 2

30L	Pi Set #0	298L	Logos: Company 3
31L	Pi Set #1	299L	Logos: Company 4
32L	Pi Set #2	300L	Logos: Company 5
33L	Pi Set #3	301L	Logos: Company 6
34L	Pi Set #4	302L	Logos: Company 7
35L	Pi Set #5	303L	Logos: Company 8
36L	Pi Set #6	304L	Logos: Company 9
37L	Pi Set #7	305L	Logos: Company 10
38L	Pi Set #8	306L	Logos: Company 11
39L	Pi Set #9	307L	Logos: Company 12
256L	Animals	308L	Logos: Company 13
257L	Astrology 1	309L	Logos: Company 14
258L	Astrology 2	310L	Logos: Company 15
259L	Astrology 3	311L	Logos: Company 16
260L	Borders & Ornaments 1	312L	Logos: Company 17
261L	Borders & Ornaments 2	313L	Logos: Company 18
262L	Borders & Ornaments 3	314L	Logos: Company 19
263L	Borders & Ornaments 4	315L	Logos: Company 20
264L	Borders & Ornaments 5	316L	Logos: Company 21
265L	Borders & Ornaments 6	317L	Logos: Company 22
266L	Business & Services 1	318L	Logos: Company 23
267L	Business & Services 2	319L	Logos: Company 24
268L	Business & Services 3	320L	Logos: Company 25
269L	Commercial 1	321L	Logos: Company 26
270L	Commercial 2	322L	Logos: Company 27
271L	Communication 1	323L	Logos: Company 28
272L	Communication 2	324L	Logos: Company 29
273L	Communication 3	325L	Logo: Services 1
274L	Communication 4	326L	Logo: Services 2
275L	Communication 5	327L	Logo: Services 3
276L	Communication 6	328L	Math & Technical 1
277L	Communication 7	329L	Math & Technical 2
278L	Communication 8	330L	Math & Technical 3
279L	Credit Cards	331L	Math & Technical 4
280L	Ecology	332L	Math & Technical 5
281L	Games & Sports 1	333L	Math & Technical 6
282L	Games & Sports 2	334L	Math & Technical 7
283L	Games & Sports 3	335L	Math & Technical 8
284L	Games & Sports 4	336L	Math & Technical 9
285L	General Symbols 1	337L	Math & Technical 10
286L	General Symbols 2	338L	Math & Technical 11
287L	General Symbols 3	339L	Math & Technical 12
288L	General Symbols 4	340L	Math & Technical 13
289L	General Symbols 5	341L	Math & Technical 14
290L	Holidays 1	342L	Math & Technical 15
291L	Industry & Engineering 1	343L	Math & Technical 16
292L	Industry & Engineering 2	344L	Math & Technical 17
293L	International Symbols 1	345L	Medical & Pharmaceutical 1
294L	International Symbols 2	346L	Medical & Pharmaceutical 2
295L	Legal Trademarks	347L	Military 1
296L	Logos: Company 1	348L	Military 2

ID	Symbol Set Name	ID	Symbol Set Name
349L	Musical	578L	Lucida Stars
350L	Numerics 1	579L	Wingdings
351L	Numerics 2	580L	Wingdings 2

352L	Numerics 3	581L	Wingdings 3
353L	Numerics 4	0M	Math-7
354L	Numerics 5	1M	Tech-7
355L	Numerics 6	5M	PS Math
356L	Numerics 7	6M	Ventura Math
357L	Numerics 8	8M	Math-8
358L	Numerics 9	10M	Universal Greek & Math Pi
359L	Numerics 10	11M	T$_E$X Math Extension
360L	Numerics 11	12M	T$_E$X Math Symbol
361L	Phonetics 1	13M	T$_E$X Math Italic
362L	Phonetics 2	14M	Lucida Bright Math Extension
363L	Phonetics 3	15M	Lucida Bright Math Symbol
364L	Religious	16M	Lucida Bright Math Italic
365L	Seals 1	19M	Adobe Symbol
366L	Seals 2	30M	Math Pi Set #0
367L	Special Alphabets 1	31M	Math Pi Set #1
368L	Special Alphabets 2	32M	Math Pi Set #2
369L	Special Alphabets 3	33M	Math Pi Set #3
370L	Special Alphabets 4	34M	Math Pi Set #4
371L	Special Alphabets 5	35M	Math Pi Set #5
372L	Special Alphabets 6	36M	Math Pi Set #6
373L	Special Alphabets 7	37M	Math Pi Set #7
374L	Special Alphabets 8	38M	Math Pi Set #8
375L	Special Alphabets 9	39M	Math Pi Set #9
376L	Special Alphabets 10	0N	ISO 8859/1 Latin 1
377L	Special Alphabets 11	2N	ISO 8859/2 Latin 2
378L	Television 1	3N	ISO 8859/3 Latin 3
379L	Television 2	4N	ISO 8859/4 Latin 4
380L	Transportation 1	5N	ISO 8859/9 Latin 5
381L	Transportation 2	6N	ISO 8859/10 Latin 6
512L	Varityper Logos	10N	ISO 8859/5 Latin/Cyrillic
513L	Varityper Logos	11N	ISO 8859/6 Latin/Arabic
514L	Varityper Logos	12N	ISO 8859/7 Latin/Greek
515L	Varityper Logos	18N	ISO 10646-1
516L	Varityper Logos	0O	OCR-A
517L	Varityper Logos	1O	OCR-B
518L	Varityper Logos	2O	OCR-M
519L	Varityper Logos	10O	MICR (E13B)
520L	Varityper Logos	17O	International Phonetic Alph.
521L	Varityper Logos	18O	American Phonetic Alphabet
522L	Varityper Logos	0P	Typewriter Paired APL
523L	Varityper Logos	1P	Bit Paired APL
524L	Varityper Logos	5P	Premier
525L	Varityper Logos	6P	Premier Subset
526L	Varityper Logos	10P	Expert
527L	Varityper Logos	11P	Alternate
528L	Varityper/Marking Numbers-Sqrs	12P	Fraktur
576L	Lucida Arrows	30P	Phonetic Pi Set
577L	Lucida Icons	768P	Xerox Prudential Sig. 1

ID	Symbol Set Name	ID	Symbol Set Name
769P	Xerox Prudential Sig. 2	1U	Legal
***Q	reserved (Specials)	2U	ISO 2: International Reference
0R	Cyrillic ASCII (8859/5-1986)	5U	HPL
1R	Cyrillic	7U	OEM-1
3R	PC Cyrillic	8U	Roman-8

9R	Windows 3.1 Latin/Cyrillic	9U	Windows 3.0 Latin 1
10R	PC Latin/Cyrillic (don't use)	10U	PC-8, Code Page 437
11R	Extended Cyrillic (OEM)	11U	PC-8 D/N, Danish/Norwegian
12R	USSR Gost (Russian, OEM)	12U	PC-850, Multilingual
13R	Bulgarian based on PC-850	15U	Pi Font
0S	ISO 11: Swedish	16U	PC Latin 5 (not PC Latin/Turkish)
1S	HP Spanish	17U	PC-852, Latin 2
2S	ISO 17: Spanish	18U	PC Latin 3
3S	ISO 10: Swedish	19U	Windows 3.1 Latin 1
4S	ISO 16: Portuguese	20U	PC-860 Portugal
5S	ISO 84: Portuguese	21U	PC-861 Iceland
6S	ISO 85: Spanish	23U	PC-863 Canada-French
7S	HP European Spanish	25U	PC-865 Norway
8S	HP Latin Spanish	26U	PC-775 Baltic
16S	HP-GL Download	27U	special Latvian/Russian set
17S	HP-GL Drafting	28U	special Lithuanian/Russian set
18S	HP-GL Special Symbols	29U	special Baltic/Russian set
20S	Sonata	0V	Arabic (Professor McKay's version)
33S	1st Row simplified Chinese GB	8V	Arabic-8
126S	94th row simp. Chinese GB	9V	Windows 3.1 Latin/Arabic
0T	Thai-8	10V	Code Page 864 Latin/Arabic
1T	TISI 620-2533 (Thai)	11V	Varityper/Traditional Arabic
5T	Windows 3.1 Latin 5	12V	Varityper/Simplified Arabic
8T	Turkish-8	13V	Varityper/Display Arabic
9T	PC-8 T, Turkish	14V	Varityper/Traditional Farsi
10T	Teletex	15V	Varityper/Simplified Farsi
17T	CNS 11643 (1986 Taiwan)	16V	Varityper/Display Farsi
18T	Big 5 (Taiwan)	0Y	3 of 9 Barcode
19T	Windows 3.1 Latin/Thai	1Y	Industrial 2 of 5 Barcode
20T	TCA (Taiwan)	2Y	Matrix 2 of 5 Barcode
30T	Mixed Pi Set #0	4Y	Interleaved 2 of 5 Barcode
31T	Mixed Pi Set #1	5Y	CODABAR Barcode
32T	Mixed Pi Set #2	6Y	MSI/Plessey Barcode
33T	Mixed Pi Set #3	7Y	Code 11 Barcode
34T	Mixed Pi Set #4	8Y	UPC/EAN Barcode
35T	Mixed Pi Set #5	14Y	CMC-7 MICR
36T	Mixed Pi Set #6	15Y	USPS ZIP
37T	Mixed Pi Set #7	16Y	Varityper/Postal Barcodes
38T	Mixed Pi Set #8	17Y	Varityper/UPC Barcodes
39T	Mixed Pi Set #9	18Y	Varityper/Code39
161T	1st row Traditional Chinese Big 5	20Y	Agfa Interleaved 2 of 5 1996
254T	94th row Traditional Chinese Big 5	21Y	Agfa Interleaved 2 of 5 1861
0U	ISO 6: ASCII	22Y	Agfa Interleaved 2 of 5 1863

For convenience, the above table is repeated below with the symbol set names in alphanumeric order.

Symbol Set Name	ID	Symbol Set Name	ID
1st row Korean KS C 5601 (1987	394H	Chemical Pi Set #6	36C
1st set KS C 5601 1993	281H	Chemical Pi Set #7	37C
1st Row simplified Chinese GB	161H	Chess	23L
1st row Traditional Chinese Big 5	33S	CMC-7 MICR	14Y
3 of 9 Barcode	161T	CNS 11643 (1986 Taiwan)	17T
94th row Korean KS C 5601 (1987	0Y	CODABAR Barcode	5Y
94th row simp. Chinese GB	254H	Code 11 Barcode	7Y
94th row Traditional Chinese Big 5	126S	Code Page 864 Latin/Arabic	10V
114th set KS C 5601 1993	254T	Commercial 1	269L
Adobe Cyrillic	17C	Commercial 2	270L
Adobe East European	17E	Communication 1	271L
Adobe Greek	17G	Communication 2	272L
Adobe Symbol	19M	Communication 3	273L
Agfa Interleaved 2 of 5 1861	21Y	Communication 4	274L
Agfa Interleaved 2 of 5 1863	22Y	Communication 5	275L
Agfa Interleaved 2 of 5 1996	20Y	Communication 6	276L
Alternate	11P	Communication 7	277L
Alternate Caps	23J	Communication 8	278L
American Phonetic Alphabet	18O	Credit Cards	279L
Animals	256L	Cyrillic	1R
Arabic (Professor McKay's version)	0V	Cyrillic ASCII (8859/5-1986)	0R
Arabic-8	8V	DeskTop	7J
Astrology 1	24L	Devanagari	2D
Astrology 1	257L	Document	8J
Astrology 2	258L	Ecology	280L
Astrology 2	25L	Engravers	5J
Astrology 3	259L	Engravers Subset	4J
Big 5 (Taiwan)	18T	Epson Latin/Greek based on 437	14G
Bit Paired APL	1P	Expert	10P
Borders & Ornaments 1	260L	Extended Cyrillic (OEM)	11R
Borders & Ornaments 2	261L	Fractions	19J
Borders & Ornaments 3	262L	Fraktur	12P
Borders & Ornaments 4	263L	Games & Sports 1	281L
Borders & Ornaments 5	264L	Games & Sports 2	282L
Borders & Ornaments 6	265L	Games & Sports 3	283L
Bulgarian based on PC-850	13R	Games & Sports 4	284L
Business & Services 1	266L	GB 2312 (1980 mainland China)	18C
Business & Services 2	267L	General Symbols 1	285L
Business & Services 3	268L	General Symbols 2	286L
Carta	20L	General Symbols 3	287L
Chemical Pi Set #0	30C	General Symbols 4	288L
Chemical Pi Set #1	31C	General Symbols 5	289L
Chemical Pi Set #2	32C	Greek-8	8G
Chemical Pi Set #3	33C	Hebrew-7	0H
Chemical Pi Set #4	34C	Hebrew-8	8H
Chemical Pi Set #5	35C		

Symbol Set Name	ID	Symbol Set Name	ID
Holidays 1	290L	ISO 8859/7 Latin/Greek	12N
HP Block Characters	1L	ISO 8859/8 Latin/Hebrew	7H
HP European Spanish	7S	ISO 8859/9 Latin 5	5N
HP German	0G	ITC Zapf Dingbats Series 100	11L
HP Large Characters	0C	ITC Zapf Dingbats Series 200	12L
HP Latin Spanish	8S	ITC Zapf Dingbats Series 300	13L
HP Spanish	1S	JIS 208 (1990)	17K
HP-GL Download	16S	JIS C 6226-1978	20K
HP-GL Drafting	17S	JIS flavored Unicode	18K
HP-GL Special Symbols	18S	JIS Kanji 6226-1983 Level 1	50K
HPL	5U	JIS Kanji 6226-1983 Level 2	51K
Illuminae Kyrillikae	33K	JIS X 0208-1983	21K
Industrial 2 of 5 Barcode	1Y	Kana-8 (JIS 210)	8K
Industry & Engineering 1	291L	Kanji Ward #0 - Bitstream	512J
Industry & Engineering 2	292L	Kanji Ward #99 - Bitstream	611J
Interleaved 2 of 5 Barcode	4Y	Korean-8	9K
International Phonetic Alph.	17O	KS C 5601 (1987 Korean)	19H
International Symbols 1	293L	KS C 5601 (1993 Korean)	18H
International Symbols 2	294L	Legal	1U
ISO 10: Swedish	3S	Legal Trademarks	295L
ISO 10646-1	18N	Line Draw-7	0L
ISO 11: Swedish	0S	Line Draw-7 (same as 0L)	0B
ISO 13: Katakana	1K	Line Draw-8	8L
ISO 14: JIS ASCII	0K	Lining Figures	21J
ISO 15: Italian	0I	Logo: Services 1	325L
ISO 16: Portuguese	4S	Logo: Services 2	326L
ISO 17: Spanish	2S	Logo: Services 3	327L
ISO 2: International Reference	2U	Logos: Company 1	296L
ISO 21: German	1G	Logos: Company 10	305L
ISO 25: French (obsolete)	0F	Logos: Company 11	306L
ISO 4: United Kingdom	1E	Logos: Company 12	307L
ISO 57: Chinese	2K	Logos: Company 13	308L
ISO 6: ASCII	0U	Logos: Company 14	309L
ISO 60: Danish/Norwegian	0D	Logos: Company 15	310L
ISO 61: Norwegian Version 2	1D	Logos: Company 16	311L
ISO 69: French	1F	Logos: Company 17	312L
ISO 84: Portuguese	5S	Logos: Company 18	313L
ISO 85: Spanish	6S	Logos: Company 19	314L
ISO 8859/1 Latin 1	0N	Logos: Company 2	297L
ISO 8859/10 Latin 6	6N	Logos: Company 20	315L
ISO 8859/2 Latin 2	2N	Logos: Company 21	316L
ISO 8859/3 Latin 3	3N	Logos: Company 22	317L
ISO 8859/4 Latin 4	4N	Logos: Company 23	318L
ISO 8859/5 Latin/Cyrillic	10N	Logos: Company 24	319L
ISO 8859/6 Latin/Arabic	11N	Logos: Company 25	320L

Symbol Set Name	ID	Symbol Set Name	ID
Logos: Company 26	321L	Math Pi Set #8	38M
Logos: Company 27	322L	Math Pi Set #9	39M
Logos: Company 28	323L	Math-7	0M
Logos: Company 29	324L	Math-7 (same as 0M)	0A
Logos: Company 3	298L	Math-8	8M
Logos: Company 4	299L	Matrix 2 of 5 Barcode	2Y
Logos: Company 5	300L	MC Text	12J
Logos: Company 6	301L	Medical & Pharmaceutical 1	345L
Logos: Company 7	302L	Medical & Pharmaceutical 2	346L
Logos: Company 8	303L	MICR (E13B)	10O
Logos: Company 9	304L	Microsoft Publishing	6J
Lotus LICS set	15J	Military 1	347L
Lotus LMBCS Group 0	25J	Military 2	348L
Lotus LMBCS Set	50J	Mixed Pi Set #0	30T
Lucida Arrows	576L	Mixed Pi Set #1	31T
Lucida Bright Math Extension	14M	Mixed Pi Set #2	32T
Lucida Bright Math Italic	16M	Mixed Pi Set #3	33T
Lucida Bright Math Symbol	15M	Mixed Pi Set #4	34T
Lucida Icons	577L	Mixed Pi Set #5	35T
Lucida Stars	578L	Mixed Pi Set #6	36T
Math & Technical 1	328L	Mixed Pi Set #7	37T
Math & Technical 10	337L	Mixed Pi Set #8	38T
Math & Technical 11	338L	Mixed Pi Set #9	39T
Math & Technical 12	339L	MSI/Plessey Barcode	6Y
Math & Technical 13	340L	Musical	349L
Math & Technical 14	341L	Numerics 1	350L
Math & Technical 15	342L	Numerics 10	359L
Math & Technical 16	343L	Numerics 11	360L
Math & Technical 17	344L	Numerics 2	351L
Math & Technical 2	329L	Numerics 3	352L
Math & Technical 3	330L	Numerics 4	353L
Math & Technical 4	331L	Numerics 5	354L
Math & Technical 5	332L	Numerics 6	355L
Math & Technical 6	333L	Numerics 7	356L
Math & Technical 7	334L	Numerics 8	357L
Math & Technical 8	335L	Numerics 9	358L
Math & Technical 9	336L	OCR-A	0O
Math Pi Set #0	30M	OCR-B	1O
Math Pi Set #1	31M	OCR-M	2O
Math Pi Set #2	32M	OEM-1	7U
Math Pi Set #3	33M	Old Style Figures	18J
Math Pi Set #4	34M	Ornaments	21L
Math Pi Set #5	35M	PC Cyrillic	3R
Math Pi Set #6	36M	PC Latin 3	18U
Math Pi Set #7	37M	PC Latin 5 (not PC Latin/Turkish)	16U

Symbol Set Name	ID	Symbol Set Name	ID
PC Latin/Cyrillic (don't use)	10R	Small Caps and Old Style Figures	17J
PC-1004	9J	Sonata	20S
PC-775 Baltic	26U	Special Alphabets 1	367L
PC-8 D/N, Danish/Norwegian	11U	Special Alphabets 10	376L
PC-8 Latin/Greek	12G	Special Alphabets 11	377L
PC-8 T, Turkish	9T	Special Alphabets 2	368L
PC-8, Code Page 437	10U	Special Alphabets 3	369L
PC-850, Multilingual	12U	Special Alphabets 4	370L
PC-851 Latin/Greek	10G	Special Alphabets 5	371L
PC-852, Latin 2	17U	Special Alphabets 6	372L
PC-860 Portugal	20U	Special Alphabets 7	373L
PC-861 Iceland	21U	Special Alphabets 8	374L
PC-862 Latin/Hebrew	15H	Special Alphabets 9	375L
PC-863 Canada-French	23U	special Baltic/Russian set	29U
PC-865 Norway	25U	special Latvian/Russian set	27U
PC-869 Latin/Greek	11G	special Lithuanian/Russian set	28U
Phonetic Pi Set	30P	Studio Script	3J
Phonetics 1	361L	Swash Characters	16J
Phonetics 2	362L	Tax Line Draw	2L
Phonetics 3	363L	TCA (Taiwan)	20T
Pi Font	15U	Tech-7	1M
Pi Set #0	30L	Teletex	10T
Pi Set #1	31L	Television 1	378L
Pi Set #2	32L	Television 2	379L
Pi Set #3	33L	TEX Math Extension	11M
Pi Set #4	34L	TEX Math Italic	13M
Pi Set #5	35L	TEX Math Symbol	12M
Pi Set #6	36L	Thai-8	0T
Pi Set #7	37L	TISI 620-2533 (Thai)	1T
Pi Set #8	38L	Transportation 1	380L
Pi Set #9	39L	Transportation 2	381L
Premier	5P	Turkish-8	8T
Premier Subset	6P	Typewriter Paired APL	0P
PS ISO Latin 1	11J	Universal Greek & Math Pi	10M
PS ITC Zapf Dingbats	10L	Universal News & Commercial Pi	22L
PS Math	5M	UNIX Cyrillic set	32K
PS Text	10J	UPC/EAN Barcode	8Y
Religious	364L	USPS ZIP	15Y
reserved (Specials)	***Q	USSR Gost (Russian, OEM)	12R
reserved 33-255 for future Asian	255F	Varityper Logos	512L
reserved 33-255 for future Asian	255G	Varityper Logos	513L
reserved 33-255 for future Asian	255I	Varityper Logos	514L
reserved 33-255 for future Asian	33F	Varityper Logos	515L
reserved 33-255 for future Asian	33G	Varityper Logos	516L
reserved 33-255 for future Asian	33I	Varityper Logos	517L
Roman Extension	0E	Varityper Logos	518L
Roman-8	8U	Varityper Logos	519L
Seals 1	365L	Varityper Logos	520L
Seals 2	366L	Varityper Logos	521L
Small Caps and Lining Figures	22J	Varityper Logos	522L

Symbol Set Name	ID	Symbol Set Name	ID
Varityper Logos	523L	Ventura Math	6M
Varityper Logos	524L	Ventura US	14J
Varityper Logos	525L	Windows 3.0 Latin 1	9U
Varityper Logos	526L	Windows 3.1 Baltic	19L
Varityper Logos	527L	Windows 3.1 Latin 1	19U
Varityper/Ancient Greek	13G	Windows 3.1 Latin 2	9E
Varityper/Code39	18Y	Windows 3.1 Latin 5	5T
Varityper/Display Arabic	13V	Windows 3.1 Latin/Arabic	9V
Varityper/Display Farsi	16V	Windows 3.1 Latin/Cyrillic	9R
Varityper/Kivun Hebrew	10H	Windows 3.1 Latin/Greek	9G
Varityper/Marking Numbers-Sqrs	528L	Windows 3.1 Latin/Hebrew	9H
Varityper/Postal Barcodes	16Y	Windows 3.1 Latin/Thai	19T
Varityper/Simplified Arabic	12V	Windows 3.1J DBCS	19K
Varityper/Simplified Farsi	15V	Wingdings	579L
Varityper/Traditional Arabic	11V	Wingdings 2	580L
Varityper/Traditional Farsi	14V	Wingdings 3	581L
Varityper/UPC Barcodes	17Y	Xerox Prudential Sig. 1	768P
Ventura International	13J	Xerox Prudential Sig. 2	769P
Ventura ITC Zapf Dingbats	9L		

NOTE: The *WP PS Character* symbol set (ID=20J) is HP Confidential.

Font Spacing (Primary)   *Esc (s # p/P*
Font Spacing (Secondary)   *Esc) s #p/P*

Value(#)	=	0	Fixed Spacing	
	=	1	Proportional Spacing	
	=	2	Dual-Fixed Spacing	
Default	=	0		
Range	=	0 to 2		

If proportional spacing is specified and a proportional font is unavailable in the requested symbol set, a fixed spacing font with the current pitch specification is chosen. If fixed spacing is requested but unavailable, proportional is chosen. If dual-fixed spacing is requested but unavailable, a fixed spacing font with the current pitch is chosen.

For fixed space bitmap fonts, both pitch and height are used for selection of font character size. For proportional bitmap and scalable fonts, only height is used for selection.

Dual-fixed pitch spacing is designed for fonts that have full-width characters with one spacing and half-width characters with a different spacing. The *nominal space* is the largest width for a space character in a dual-fixed pitch font. CMI (*Esc&k#H*) directly affects the nominal space of the font. The other spacings are linearly scaled according to the current CMI value: character widths are multiplied by the ratio of the CMI to nominal width.

Font Pitch (Primary)   *Esc (s # h/H*
Font Pitch (Secondary)   *Esc) s # h/H*

Designates the horizontal spacing of a fixed-space (bitmap or scalable) font in characters per inch (cpi).

Value(#)   =   Pitch
Default   =   10 cpi
Range   =   > 0.00 (fractional values are allowed; valid to 2 decimal places)

If the exact pitch is unavailable, the next larger pitch is selected. If a larger pitch is unavailable, the closest smaller pitch is selected.

Pitch is ignored when selecting proportional fonts, but saved in the font select table and available when a fixed space font is selected.

For fixed space bitmap fonts, both pitch and height are used for font selection. For proportional scalable fonts, only height is used for selection.

INTELLIFONT FIXED PITCH TO POINT SIZE CONVERSION: The pitch of a fixed-space scalable font is converted to a corresponding point size (height. Fonts are scaled in quarter-point increments. The formula for converting pitch to point size for scalable fixed-pitch fonts is:

$$\text{Height} = \frac{1}{(\text{Desired Pitch})(\text{Master Design Pitch in Font Header} \div \text{Scale Factor})(0.01383)}$$

The resulting height value is then plugged into the range from .25 point to 999.75 point, with the closest point size being selected.

TRUETYPE FIXED PITCH TO POINT SIZE CONVERSION: Truetype scales to a requested point size by first rounding the number of pixels per em (ppm) requested. The following calculations are necessary to arrive at the correct point size from a user-requested pitch, and at the same time account for the ppem rounding.

First calculate the user units per em (units of measure per em) and truncate the result:

$$\text{UUpem} = \text{TRUNC}\left(\frac{\text{UserUnits} \times \text{ScaleFactor}}{\text{UserPitch}} \div \text{Pitch}\right)$$

Next, compute the real point size:

$$\text{real ps} = \text{ROUND}\left(\frac{72 \text{ pts}}{1 \text{ in}} \times \frac{\text{UUpem UserUnits}}{1 \text{ em}} \times \frac{1 \text{ in}}{\text{UserUnits}} \times \frac{16 \text{ 16ths}}{1 \text{ pts}}\right)$$

DEVICE NOTE: On LJIIIs and above, all fonts within .05 cpi of the requested pitch are treated as the same pitch.

Font Height (Primary) *Esc (s # v/V*
Font Height (Secondary)   *Esc) s # v/V*

Specifies font height in points (1/72.0 inch).

Value(#)   =   Height in points
Default   =   12 points
Range   =   > 0.00 (fractional values are allowed; valid to 2 decimal places)

If the requested height is unavailable, the closest heights are chosen for the next selection criteria. The closest value is in terms of absolute difference: e.g., if 6, 8, and 12 point fonts are available and 10 is requested, both 8 and 12 point fonts are considered.

Fractional values may be specified when requesting height. All bitmap fonts within 0.25 points of the closest absolute difference are considered. If a 12 point font is requested, fonts between 11.75 and 12.25 are considered. Or, to put it another way, if 6, 8, and 11.75 point fonts are available and 10 is requested, both the 8 and 11.75 fonts are considered.

Height is ignored when selecting a fixed space scalable font; but the value is saved in the font select table and available when a proportional font is selected.

NOTE: The Height command should be sent whenever selecting a scalable proportional font with an ID number; otherwise, the current height in the font select table determines the point size.

DEVICE NOTE: For scalable fonts on LJIIIs and above, the value is from .25 to 999.75 points in increments of 0.25 point.

DEVICE NOTE: If no font within .25 points is available, DeskJets below 1200 select the next smaller height. If no smaller height is available, the next larger height is selected. When two fonts have heights that are equidistant from the designated height, the smaller is chosen.

Font Style (Primary)   *Esc (s # s/S*
Font Style (Secondary)   *Esc) s # s/S*

Identifies the posture, width, and structure of the font symbols. The partial sums for posture, width, and structure are added together to determine the desired value (#). The composition of the style word is shown below.

Style Word = Posture + (4 x Width) + (32 x Structure)

15	14		10	9		5	4		2	1	0
X	reserved			structure			width			posture	

Value(#)   =   **Posture** (style word partial sum)

0	-	Upright
1	-	Italic
2	-	Alternate Italic
3	-	Reserved

=   **Width** (style word partial sum multiplied by 4)

0	-	Normal
1	-	Condensed
2	-	Compressed or extra condensed
3	-	Extra compressed
4	-	Ultra compressed
5	-	Reserved
6	-	Extended or expanded
7	-	Extra extended or extra expanded

=   **Structure** (style word partial sum multiplied by 32)

0	-	Solid
1	-	Outline
2	-	Inline
3	-	Contour, Edge effects
4	-	Solid with shadow
5	-	Outline with shadow
6	-	Inline with shadow
7	-	Contour with shadow
8-11	-	Patterned (complex patterns, subjective to typeface)
12-15	-	Patterned with shadow
16	-	Inverse
17	-	Inverse in open border
18-30	-	Reserved
31	-	Unknown structure

Default =   0

Range =   0 to 32767 (values greater than 32767 are clamped)

DEVICE NOTE: Pre-DJ 500 and pre-LJII printers cannot "see" bits 8-15.

The reserved bits (10 to 15) should be set to 0.

MATCHING ALGORITHM

The following procedure matches requested styles with available styles:

1.   Printers recognizing only style values 0, 1, and 2 discard requests for larger values.

2.   Printers recognizing style values from 0 to 255 convert requests for larger values to 255. The request is discarded if an exact match is not found after conversion.

3.   An exact match is required for style selection. If the requested value is within the range of the printer and a match is not made, the request is ignored, but saved in the font select table, available for the next selection.

Whenever a requested font parameter is ignored, the parameter is retained in the font select table for future font selections; and the current font selection process continues as if the parameter had never been requested.

In some PCL machines, the style word may be an operator: slanting, condensing, expanding, outlining, and shadowing operations are all theoretically possible. For example, if italic is unavailable, slant may be added to the upright face. No new command sequence is required to support such operations.

EXAMPLE

Assume a font style of "italic compressed contour" is desired. Then the value(#) would be

$$1 + (2 \times 4) + (3 \times 32) = 105$$

Font Stroke Weight (Primary)   *Esc (s # b/B*
Font Stroke Weight (Secondary)   *Esc) s # b/B*

Designates the thickness of the strokes that compose the characters of a font.

Value (#)	=	-7	Ultra thin
		-6	Extra thin
		-5	Thin
		-4	Extra light
		-3	Light
		-2	Demi-light
		-1	Semi-light
		0	Medium ("Book" or "Text" weight)
		1	Semi-bold
		2	Demi-bold
		3	Bold
		4	Extra bold
		5	Black
		6	Extra black
		7	Ultra black

Default   = 0
Range   = -7 to 7 (less than -7 maps to -7; greater than 7 maps to 7)

If the designated stroke weight is unavailable and 0 or greater, the closest thicker weight is selected. If a thicker weight is unavailable, the closest thinner weight is selected.

If the designated stroke weight is unavailable and less than 0, the closest thinner weight is selected. If a thinner weight is unavailable, the closest thicker weight is selected.

NOTE: Many typefaces were designed for advertising, and a "medium" was used to describe the standard treatment. Later, additional treatments were designed for text use. Therefore, the typeface treatment designation "medium" may not always take a PCL value of 0. This value may be assigned to "book" or "text" instead.

DEVICE NOTE: DeskJets below 800 provide algorithmic bolding on fixed medium internal fonts when a value of 1 is used.

Font Typeface (Primary)   *Esc (s # t/T*
Font Typeface (Secondary)   *Esc) s # t/T*

Specifies the HP typeface number. Three versions of this field are used: the obsolete single-byte version, the DeskJet 500 / LaserJet III version, and the current version.

CURRENT VERSION

The current version is shown below. The typeface word may be treated as a single value; the request is ignored if a match cannot be made (however, the font select table is updated). The procedure for allocating typeface numbers for the font products of various vendors considers the typeface number to be composed of two distinct fields: a vendor field consisting of the four most significant bits and a typeface family field consisting of the 12 least significant bits. If a match with the full 16-bit word cannot be obtained, bits 12-15 are masked and a match is attempted with bits 0-11.

 DEVICE NOTE: LJs use only the lower 9 bits if the requested typeface value is less than 512.

15 12	11 0
Vendor	Typeface Family
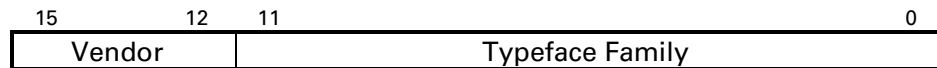
Vendor Number (bits 12-15) ── This HP-assigned value is between 0 and 15.

Value	Vendor
0	Reserved
1	Agfa Division, Miles Inc.
2	Bitstream Inc.
3	Linotype Company
4	The Monotype Corporation plc
5	Adobe Systems, Inc
6-15	Reserved

Typeface Family Number (bits 0-11) ── This value is between 0 and 4095 and is calculated according to the following formula using the typeface base values listed below.

$$Typeface\ Family\ Number = Typeface\ Base\ Value + (Vendor\ Value \times 4096)$$

A requested font parameter that is ignored is retained for future font selections; and the current font selection process continues as if the parameter had never been requested.

For example, the HP typeface number for Agfa Dom Casual typeface is 4157 (typeface base value = 61 and vendor value =1) or 61 + (1 x 4096).

SINGLE-BYTE VERSION

Pre-DeskJet 500s and pre-LaserJet IIIs used only a 1-byte field (for a range of 0-255). Printers recognizing only values of 0-255 treat requests for larger numbers as 255.

LASERJET III / DESKJET 500 VERSION

The typeface word includes a 4-bit field for the vendor number, a 2-bit field for the version number, and a 9-bit field for the typeface number. The most significant bit of the most significant byte is zero.

Typeface Family = Typeface Base Value + (Version x 512) + (Vendor x 2048)

	MSB						LSB	
15	14		11	10	9	8		0
0	Vendor			Version		Typeface Base Value		
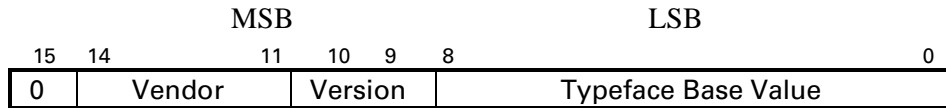
Typeface Base Value

0	Line Printer or Line Draw
3	Courier
4	Helvetica
5	Times Roman
6	Letter Gothic

... (See the table below for a complete list)

Version (typeface word partial sum multiplied by 512)

0	1st version
1	2nd version
2	3rd version
3	4th version

Vendor (typeface word partial sum multiplied by 2048)

0	Reserved for generic typeface selection
1	Reserved for HP use only
2	Agfa Division, Miles Inc.
4	Bitstream Inc.
6	Linotype Company
8	The Monotype Corporation plc
10	Adobe Systems, Inc.
3, 5, 7, 9, 11-15	reserved

Default   3
Range   0 to 65535

Vendor Number (bits 11 to 14) **-** This HP-assigned value is between 0 and 15.

Vendor Version (bits 9, 10) **-** This value is between 0 and 3. It will change when the vendor changes the width of a font or adds new characters to a font. A vendor code of 0 is reserved for generic typeface selection so that older one-byte typeface values can still be used in the generic typeface selection process.

Typeface Base Value (bits 0 to 8) **-** This value is between 0 and 511. Some of these values include appearance width and structure information (i.e., Helvetica Compressed and Helvetica Outline, etc.). See the list below for valid typeface families and their numbers.

A typeface family value in which both Vendor and Version numbers are 0 is reserved for generic typeface selection. For typeface family values less than 512, the printer exactly matches the LSB typeface base value field. For typeface values greater than or equal to 512, the full 16-bit word is used.

For example, the HP typeface number for Agfa's Dom Casual typeface is 4157 (vendor value = 2, version value = 0, and typeface value = 61). That is, $61 + (0 \times 512) + (2 \times 2048) = 4157$

The following is a list of typeface values as of 1/01/95. These typeface names may be registered trademarks of a third party. Use of these fonts may be conditional upon a license grant from the owners of the fonts. Hewlett-Packard makes no representation as to the quality or performance of the fonts, and any reference to the fonts does not grant license or right to use the fonts.

Value	Typeface	Value	Typeface
0	Line Printer	45	ITC Zapf Dingbats
2	Elite	46	Cooper
3	Courier	47	ITC Bookman
4	Helvetica	47	Noparat (Thai)
5	Times Roman	48	Stick
6	Letter Gothic	49	HP-GL Drafting
7	Script	50	HP-GL Spline
8	Prestige	51	Gill Sans
9	Caslon 540 & No. 3	51	Unesco (Thai)
9	Caslon Antique (contour)	52	Univers
9	Caslon Open Face (inline)	53	Bodoni
10	Orator	53	Poster Bodoni (black)
11	Presentation	53	Greek Apla
13	Serifa	54	Rockwell
14	Futura	55	Melior
14	Greek Futura	56	ITC Tiffany
15	Palatino	57	ITC Clearface
16	ITC Souvenir	58	Amelia
16	ITC Souvenir Greek	59	Park Avenue (italic)
17	Optima	59	Falstaff (black)
17	Safeer (Arabic)	60	Handel Gothic
17	Komain (Thai)	61	Dom Casual
17	Greek Oracle	62	ITC Benguiat
18	ITC Garamond	63	ITC Cheltenham
20	Coronet (italic)	64	Century Expanded
20	Chevalier (bold expanded pattern 0)	65	Franklin Gothic
21	Broadway	65	Paetai (Thai)
23	Century Schoolbook	68	Plantin
23	Greek & Math Serif	69	Trump Mediaeval
24	University Roman	70	Futura Black
27	ITC Korinna	71	ITC American Typewriter
28	Naskh	72	Antique Olive
29	Cloister Black	72	Greek Antique Olive
30	ITC Galliard	73	Uncial
31	ITC Avant Garde Gothic	74	ITC Bauhaus
31	Tom (Thai)	75	Century Old Style
32	Brush (italic)	76	ITC Eras
32	Stop	77	Friz Quadrata (ITC)
33	Blippo (black)	78	ITC Lubalin Graph
33	Tea Chest (condensed)	79	Eurostile
34	Hobo	79	Intanon (Thai)
35	Windsor	79	Greek Microstyle
38	Peignot	80	Mincho (Japanese)
39	Baskerville	80	Myoungjo (Korean)
41	Trade Gothic	81	ITC Serif Gothic
41	Pemai (Thai)	81	Saemmul (Korea)
41	CG Trade	81	Sammul (Korea)
42	Goudy Old Style	82	Snell Roundhand
43	ITC Zapf Chancery	82	Pilgy (Korean)
44	Clarendon	83	Souvenir Gothic

Value	Typeface	Value	Typeface
84	Stymie	159	Post Antiqua
87	Bernhard Modern	160	Aerospace Pi
89	Excelsior	160	Devanagari (Hindi)
90	Gando Ronde Script	161	Maritime Pi
91	Ondine	161	Krishna (Gujarati)
91	EACT (Thai)	162	Bits Pic Pi
92	P. T. Barnum	162	Ranjit (Gurmukhi)
93	Kaufmann	163	Keycap Pi
93	U-Thong (Thai)	163	Raj Raja (Tamil)
94	ITC Bolt (extended)	164	Tieman
94	ITC Machine (condensed)	164	Gyosho
97	Revue	165	David
101	Garamond (Stempel)	166	Nork
102	Garth Graphic	167	Ousbouh
103	ITC Ronda	168	Koufi
104	OCR-A	169	Italia (ITC)
105	Cochin	169	Hadassah
106	Englische Schreibschrift (italic)	170	Bembo
106	Mister Earl (condensed)	170	Sharif
107	Flash (italic)	171	Aachen
107	Woodstock	171	Malik
108	Gothic (numbered)	172	Americana
109	Stencil (ATF)	173	Arnold Boecklin
110	OCR-B	174	Copperplate Gothic (text)
111	Akzidenz-Grotesk	175	Belwe
112	Black White (patterned, outline, inline)	176	ITC Berkeley Oldstyle
112	Logos	177	Frutiger
113	Shannon	178	Candida
114	ITC Stone Informal	179	Folio
115	ITC Stone Sans	180	Corona
116	ITC Stone Serif	181	ITC Kabel
117	Schneidler Mediaeval	181	Zeppelin (inline)
118	ITC Symbol	182	Garamond No. 3
119	ITC Weidemann	183	Sabon
120	Copperplate Gothic (display)	184	ITC Novarese
121	Trajan	185	Weiss
122	Concorde	186	Hiroshige
123	Janson Text	187	French Script
124	Linotype Centennial	188	Meridien
125	Life	189	Mistral
126	Minister	190	Aster
127	New Century Schoolbook	191	Caledonia
152	Maru Gosikku (round gothic Japan)	192	Nuptial Script
153	Gosikku (Kaku, gothic Japan)	193	Lucida
153	Gothic (Japan)	194	Song (China)
154	Socho	194	Adobe Wood Series 1
155	Kyokasho (text book)	195	Memphis
156	Kaisho	196	Lucida Sans
157	Traditional Arabic Script	197	Syntax
158	Arabic News	198	Utopia

Value	Typeface	Value	Typeface
199	Berthold Walbaum Buch	237	Communication 6
200	Minion	238	Modern
201	Marigold	238	PL Modern
202	ITC Tiepolo	238	Games & Sports 1
203	Versailles	239	Artistik
204	ITC Leawood	239	Games & Sports 2
205	ITC Caslon No. 224	240	Flintstones
206	ITC Cushing	240	Games & Sports 3
207	ITC Fenice	241	SnowCap
208	ITC Usherwood	241	Games & Sports 4
209	ITC Benguiat Gothic	242	Bedrock
210	Spartan	242	Holidays 1
210	ITC Ozwald (fatface)	243	Star Fleet
211	Neuzeit Grotesk	243	Industry & Engineering 1
212	PMN Caecilia	244	Star Trek Film
213	ITC Busorama	244	Industry & Engineering 2
214	Agfa Wile Roman	245	Star Trek
215	ITC Zapf International	245	Transportation 1
216	Poppl-Pontifex	246	Hei (China)
217	ITC Quay Sans	246	Star Trek Pi
218	Arial	246	Transportation 2
219	Fairfield	247	ITC Mendoza
220	ITC Zapf Book	248	Boton
221	Lucida Casual	249	Jaeger Daily News
221	Linotype Technical Pi 1 & 2	250	ITC Officina Serif
222	Graphite	251	ITC Officina Sans
222	Linotype Textil Pi 1 & 2	252	Goudy Modern
223	Poetica	253	Scotch Roman
223	Century Schoolbook Monospace	254	Temporary-Only Font
224	Berliner Grotesk	255	-reserved
225	Christiana	256	Bar Codes
226	Comenius-Antiqua	257	Hadriano
227	Delta	258	Joanna
228	Italian Old Style	259	Onyx
229	Zingo	260	Cyrillic Helvetica
230	Octavian	260	Greek Helvetica
230	Borders & Ornaments 1	260	East Asian Helvetica
231	Footlight	261	Cyrillic Times
231	Borders & Ornaments 4	261	Greek Times
232	Apollo	261	East Asian Times
232	Borders & Ornaments 5	262	ITC Quorum
233	Bremen	263	Engravers' Old English
233	Borders & Ornaments 6	264	Kennerley
234	Oranda	265	Adobe Caslon
234	Communication 1	266	Albertus
235	Nubian	267	New Aurora Grotesque
235	Communication 2	268	TBG Omnia
236	Cataneo	269	Glypha
236	Communication 3	270	Tempo
237	Wittenberger Fraktur	270	Umbra (open shadow)

Value	Typeface	Value	Typeface
271	American Text	312	Letraset Bramley
272	Pasquale	313	Isabella
273	ITC Elan	314	Cascade Script
274	Monotype Goudy Sans	315	VAG Rounded
275	Lutheresche Fraktur	316	Russell Square
275	Universal News & Commercial Pi	317	Liberty
276	Thunderbird (extra condensed)	318	ITC Esprit
276	ITC Honda (black)	319	Clairvaux
277	Shelley	320	Raphael
277	Mr. Big	321	ITC Franklin Gothic
278	Macbeth	322	Murray Hill
278	Universal Greek & Math Pi	323	Baker Signet
279	ITC Century	324	Mythos
280	Vineta	324	Gambling Pi
281	TBG Duc de Berry	325	San Marco
282	Times Europa	326	Typo Roman
283	ITC Jamille	327	Engravers Text (inline)
284	Flyer	327	New Berolina (italic)
285	Wedding Text	328	Orbit-B
286	Carolina	329	McCollough
287	Avenir	330	ITC Isadora
288	Lucia	331	Giddyup
289	Tekton	331	Audio Pi
290	Charme	332	Letraset Crillee
291	ITC Flora	333	Agfa Nadianne
292	Basilica	334	Compliment
293	Auriol	335	ITC Giovanni
294	Kuenstler Script	336	Neuzeit S
295	ITC New Baskerville	337	Erbar
296	Berling	338	Parisian
297	News Gothic	339	Nofret
298	Critter	340	City
298	Linotype Holiday Pi 1, 2, & 3	341	Old Style 7
299	Medici Script	342	Bell Centennial
300	Aurora	343	Lydian
301	Carta	344	Monotype Ellington
302	Adobe Symbol	345	Impressum
303	Insignia	346	Reporter No. 2
304	Perpetua	347	Freestyle Script
305	Raleigh	348	Serpentine
306	Romic	349	Lithos
307	Formata	350	Basilia
308	Cyrillic Univers	351	Simplified Arabic
308	Chuan Pim (like Univers)	352	Maximus
308	Narkis Tam (like Univers)	353	ITC Slimbach
308	Greek Univers II	357	Berthold Garamond
309	Bauer Bodoni	358	Rad
310	Industria	358	Land Pi
311	Cutout	359	Oxford (italic)
311	Decoration Pi	359	Kino (bold condensed)

Value	Typeface	Value	Typeface
360	Looney Tunes	401	Akzidens Grotesk Buch Schulbuch
360	E13B MICR	402	Bookman
361	Imperial	403	Bruce Old Style
361	CMC-7 MICR	404	Bulmer
362	Charlemagne	405	Madison
363	Present Script	406	Textype
364	Repro Script (italic)	407	Primer
364	Matura (bold)	408	Garamond (Simoncini)
365	Baskerville No. 2	409	Adobe Wood Series 2
366	Engravers' Roman	410	Rotis Serif
367	VGC Egyptian 505	410	Caravan LH One
368	TBG Herculanum	411	Rotis Semiserif
369	Clearface Gothic	411	Caravan LH Two
370	Studz	412	Rotis Sans Serif
370	Border Pi 1515-9	412	Caravan LH Three
371	Toolbox	413	Rotis Semisans
371	Bundesbahn Pi	413	Caravan LH Four
372	Quake	414	Arcadia
372	Chemical Pi	415	ITC Veljovik
373	Neuland	416	Armenian Aramian
373	Warning Pi	417	Armenian Barz
374	Harry	418	Helvetica Rounded
375	Alternate Gothic (numbered)	419	Olympian
376	Figaro	420	DIN Engschrift (condensed)
377	Formal Script	420	DIN Mittelschrift
378	Holland Title	421	Granjon
379	ITC Barcelona	422	Guardi
380	Cartier	423	Impact
381	Deepdene	424	Sassoon Primary
382	Delphin	425	Packard
383	Parsons	426	Baskerville Book
384	Brighton	427	ITC Pacella
385	Berthold Barmeno	428	Rusticana
386	Berthold Colossalis	429	Eccentric
387	Berthold Cosmos	430	Embassy Script
388	ITC Isbell	430	Greek Florentine Script II
389	ITC Mixage	431	PL Latin Bold
390	Sonata	431	PL Latin Elongated (condensed)
390	Badr, or Bayaan II	431	Latin Antique
391	ITC Newtext	431	Latin Wide (extended)
392	Happening	432	ITC Modern 216
393	Menue	433	Serlio
394	Doric	434	Piranesi
395	S'maragd	435	Imago
396	Pierrot	436	Wilke
396	Ornaments	437	Cyrillic 22
397	Berthold Bodoni Old Face	438	Adobe Garamond
398	Schadow	439	Seagull
399	Akzidens Grotesk Buch	440	Latin MT
400	Akzidens Grotesk Buch Stencil	441	Runic MT

Value	Typeface	Value	Typeface
442	Moore Computer	481	Catull
443	Commercial Script	482	Cremona
444	Dominante	483	Audrey No. 2
445	Wilhelm Klingspor Gotisch	484	Lo-Type
446	Trajanus	485	Madame (patterned with shadow)
447	TSI Caxton	486	Roundy
447	Letraset Caxton	486	Animals
448	Fette Fraktur	487	Ruling Script
448	Sapphire (pattern 0)	487	Business & Services 1
448	Saphir (pattern 0)	488	Sho
449	Rainbow Bass (pattern 0)	488	Business & Services 2
449	European Pi	489	Wiesbaden Swing
450	Banco	489	Commercial 1
451	Bodoni Antiqua	490	Star Trek Next
452	Sallwey Script	490	Commercial 2
452	Mathematical Pi	491	ITC Highlander
453	Congress	491	Ecology
454	Cheq	492	Helios II
455	Berthold Walbaum Buch (B.metrics)	492	General Symbols 1
456	Huxley Vertical	493	Kai Medium
457	Grayda	493	General Symbols 2
458	Penfield No. 3	494	Medical & Pharmaceutical 1
459	Michelangelo	495	Space
460	Neo Didot	495	Musical
461	Berthold Caslon Buch	496	Special Alphabets 4
462	Sans No. 1	497	Special Alphabets 5
463	Torino	498	Special Alphabets 6
464	Photina	499	Inflex
465	Calligraphiques	500	Monotype Old Style
466	Concorde Nova	501	Ming
467	Franco	502	FangSong
468	Goudy Text	503	Helinda Rook
469	Balloon (italic)	504	Original Script
470	Eusebius	505	Citadel Script
470	Eusebius Open (inline)	506	Old Fashion Script
471	Digital	507	ITC Legacy Serif
471	Noris Script (italic)	508	ITC Legacy Sans
472	Poppl-Pontifex (B.metrics)	509	Athenaeum
473	Amigo	509	Athenaeum Negative (pattern 0)
473	Pelican (italic)	509	Athenaeum Positive (pattern 1)
473	Visigoth (bold italic)	510	ITC Anna (condensed)
474	Letraset Arta	510	ITC Beesknees (black)
475	Post Mediaval	511	ITC Studio Script (italic)
476	Adsans	511	ITC Mona Lisa Recut (inline)
477	Ariadne	511	ITC Mona Lisa Solid (upright)
478	Calligraphy	512	Sackers Square Gothic
479	Didot	512	Sackers English Script
480	Ashley Script (italic)	513	Heritage
480	Ashley Crawford (bold)	514	Sackers Gothic
480	Ashley Inline (inline)	516	Greek Helios II

Value	Typeface	Value	Typeface
517	Times (Ten, New, etc.)	558	Broadpen
518	Berthold Script	559	Amazone
519	Bernhard Tango (italic)	560	Frank Ruehl
520	Castellar (inline)	561	Cloe
521	Else	562	Discus
522	Basque (condensed)	563	Myriad
522	Palace Script (italic)	565	WTC Our Bodoni
523	Centaur	566	Ideal Schreibschrift
524	Fine Hand	567	Print
525	Linotype Astrology Pi	568	Lucida Blackletter
526	Sackers Roman	569	Lucida Calligraphy
527	Kompakt (ultra black italic)	570	Data 70
527	Monoline Script (italic)	571	Compacta (expanded)
528	Othello (bold condensed)	571	Helvetica Inserat (condensed)
529	Sackers Classic Roman	572	Lucida Handwriting
529	Sackers Italian Script (italic)	572	Milestones
530	Musketeer	573	Biffo
530	Riviera (inline)	574	Calvert
531	Poppl-Residenz	575	Cantoria
532	Rotation	576	Dorchester Script
533	Bank Gothic	577	Grotesque
534	Delphian (inline)	578	Pepita
534	Greeting Monotone	579	Vectora
535	Sackers Antique Roman	580	Script Bold
536	Schwabacher	581	Spectrum
537	Egyptienne (condensed)	582	Boulevard
538	Artisan Roman (inline)	583	Cheltenham
538	Forte (bold italic)	584	De Vinne
539	Burin Roman	585	London Text (inline)
539	Burin Sans (light)	585	Profil (bold italic inline)
540	Hellenic Wide (extended)	586	Imprint
541	Thompson Quillscript	587	Allegro (bold italic)
542	Kartoon	587	Engraver's Gothic (text)
543	Classic Roman	588	Bernhard (bold condensed)
544	AG Old Face	588	Eckmann (text)
545	Lucian	589	Cloister Open Face (outline)
546	Della Robbia	589	Davida (text)
547	Libra	589	Klang (italic)
548	Brody (bold upright)	590	Fry's Baskerville
549	Ad Lib (bold)	591	Metro
550	Choc (black)	592	Mandate
551	Handle Oldstyle	593	Star Trek Gen
552	Roman	594	Virile
553	Antique Roman	595	Bingham Script (text)
554	Goudy Catalogue, addt'l Old Style faces	595	Block (bold)
554	Goudy Handtooled (inline)	596	ITC Gorilla (text)
554	Goudy Heavyface (black)	596	ITC Pioneer (outline shadow)
555	Calligrapher	597	Ruzicka
556	Lucida Bright	598	Bodoni Campanile
557	Pi Collection	599	Linotype Modern

Value	Typeface	Value	Typeface
600	Monterey Script (italic)	642	Eclipse (pattern 0)
600	Playbill (condensed)	643	Capone Light
601	Normande	643	Victorian Silhouette (contour)
602	Wave	644	Dynamo (extra bold)
603	Bernhard Fashion (extra light)	644	Modernistic (inline)
603	Mercurius	645	Gallia (inline)
604	Stuyvesant (inline)	645	Skjald
605	Impuls (italic)	646	Bell Gothic
605	Romana (text & bold)	647	Gillies Gothic Bold (italic)
606	Shotgun	648	Quaint Roman
607	Ehrhardt	648	Chic (inline)
608	ITC Grizzly	649	PL Westerveldt Light (condensed)
609	ITC Grouch	650	PL Davison Americana
610	ITC Tom's New Roman	651	TC Jasper
611	Palette (italic)	652	Poppl-Laudatio
611	Hanseatic (ultrabold condensed)	653	TC Europa Bold
612	Bison	654	Siena Black (italic)
613	Jefferson	655	Yearbook
614	Electra	656	Koloss (extra bold)
615	Antique No. 3	657	Phenix American (extra condensed)
616	Flemish Script (italic)	658	PL Bernhardt
617	Hallmark Bodoni	659	Orlando Caps
618	Modern #20	659	PL Barclay Outline (outline)
619	Westinghouse Gothic	660	PL Britannia Bold
620	Bloc (outline)	661	PL Fiorello Condensed
620	Empire (ultra condensed)	662	Fluidum Bold (italic)
621	Oscar	663	Woodblock (bold)
622	Eagle Bold	663	Sinaloa (pattern 0)
622	Joanna Solotype (inline)	664	Stratford Extra Bold
623	Akzidenz-Grotesk (B.metrics)	664	Matra (pattern 0)
624	Koch Antiqua	665	PL Tower Condensed
625	Mirarae	666	Section Bold Condensed
626	Horley Old Style	667	Miehle Condensed
627	Tango	668	Phyllis
628	Pifont Circle Numbers	669	Modernique (extra bold)
629	Pifont OCRA Numbers	670	Egyptienne F
630	Pifont Square Numbers	671	Post Antiqua (B.metrics)
631	Pifont Triangle Numbers	672	Diotima
632	Bank Script (italic)	673	Aldus
633	Serlio Dekoration (pi numbers)	674	Chaplin (italic)
634	Concorde (B.metrics)	675	Uncle Sam Stars (pattern 0, shadow)
635	Jets	675	Uncle Sam Stripes (pattern 1, shadow)
636	Jetsons	676	Wildstyle
637	Looney Type	677	Logan (pattern 0)
638	Pompeijana	677	Eon Age (pattern 1)
639	Rusticana (Frutiger)	677	System X3 (pattern 2)
640	Notre Dame	677	Galaxy Run (pattern 3)
641	Beverly Hills (inline)	678	Jukebox (bold condensed)
641	Lotus (pattern 0)	679	Marking Numbers Squares
642	Advertisers Gothic Light	679	Al Harf Al Jadid

Value	Typeface	Value	Typeface
680	Vivaldi	726	Hollandse Mediaeval
681	Codex	727	Holland Seminar
682	Metronome Gothic (bold extra condensed)	728	CG Cloister
683	Salut (bold)	729	Adroit
684	Lucida Fax	730	Claire News
685	Bellevue	731	Triplett
686	Architect	732	Accolade
687	Beton Extra Bold	733	Claridge
688	Metropolis (extra bold)	734	Alpin Gothic
689	PL Davison Zip Bold	735	Geometric
690	Neon (Nebiolo)	736	Heldustry
691	PL Benguiat Frisky	737	Busorama
692	PL Bartuska Trophy Oblique	738	Salto
693	Cable	739	Fehrle Display
694	PL Brazilia	740	Kismet
695	PL Radiant	741	Digi Fraktur
696	Ritmo Bold (italic)	742	Anglia
697	PL Fiedler Gothic Bold	743	Jiffy
698	Egiziano Black	744	Rosewood
699	Studio	745	Zebrawood
700	PL Futura Maxi	746	Pepperwood (condensed)
701	Solemnis	747	Copal (solid)
702	Quirinus Bold (condensed)	747	Copal (outline, patterned)
703	PL West Behemoth Semi Condensed (XBd Cd)	748	Motter Corpus (extrabold)
704	Renault	749	Cerigo
705	Forbes Bold	750	Caflisch Script
706	Mobil	751	Mezz
707	Becket	752	Nueva
708	Lucida Sans Typewriter	753	Penumbra
709	Cartoon Script Roman	754	Sanvito
710	Campanula	755	Viva
711	Odilia	756	Alexa (italic)
712	Lino Letter	756	Balzano
713	Henche	756	Caliban (condensed italic)
714	Mahlau (condensed)	757	Ex Ponto
715	Aquarias No. 8 (bold)	760	LiShu (China)
716	CG Frontiera	761	Yuang (Yuan, XiYuang - China)
717	Globe Gothic	762	Miryam
718	Signature	763	Ryadh
719	Sans Serif Stencil	774	Strider
720	Boldface PS	930	Akzidenz Grotesk Buch Rounded
721	Title PS	1030	Isil Gothic
725	Hess Neobold	2730	Wingdings

For convenience, the above table is shown below with typefaces sorted in alphanumeric order.

Typeface	Value	Typeface	Value
-reserved	255	Aster	190
Aachen	171	Athenaeum	509
Accolade	732	Athenaeum Negative (pattern 0)	509
Ad Lib (bold)	549	Athenaeum Positive (pattern 1)	509
Adobe Caslon	265	Audio Pi	331
Adobe Garamond	438	Audrey No. 2	483
Adobe Symbol	302	Auriol	293
Adobe Wood Series 1	194	Aurora	300
Adobe Wood Series 2	409	Avenir	287
Adroit	729	Badr, or Bayaan II	390
Adsans	476	Baker Signet	323
Advertisers Gothic Light	642	Balloon (italic)	469
Aerospace Pi	160	Balzano	756
AG Old Face	544	Banco	450
Agfa Nadianne	333	Bank Gothic	533
Agfa Wile Roman	214	Bank Script (italic)	632
Akzidens Grotesk Buch	399	Bar Codes	256
Akzidens Grotesk Buch Schulbuch	401	Basilia	350
Akzidens Grotesk Buch Stencil	400	Basilica	292
Akzidenz Grotesk Buch Rounded	930	Baskerville	39
Akzidenz-Grotesk	111	Baskerville Book	426
Akzidenz-Grotesk (B.metrics)	623	Baskerville No. 2	365
Al Harf Al Jadid	679	Basque (condensed)	522
Albertus	266	Bauer Bodoni	309
Aldus	673	Becket	707
Alexa (italic)	756	Bedrock	242
Allegro (bold italic)	587	Bell Centennial	342
Alpin Gothic	734	Bell Gothic	646
Alternate Gothic (numbered)	375	Bellevue	685
Amazone	559	Belwe	175
Amelia	58	Bembo	170
American Text	271	Berliner Grotesk	224
Americana	172	Berling	296
Amigo	473	Bernhard (bold condensed)	588
Anglia	742	Bernhard Fashion (extra light)	603
Animals	486	Bernhard Modern	87
Antique No. 3	615	Bernhard Tango (italic)	519
Antique Olive	72	Berthold Barmeno	385
Antique Roman	553	Berthold Bodoni Old Face	397
Apollo	232	Berthold Caslon Buch	461
Aquarias No. 8 (bold)	715	Berthold Colossalis	386
Arabic News	158	Berthold Cosmos	387
Arcadia	414	Berthold Garamond	357
Architect	686	Berthold Script	518
Ariadne	477	Berthold Walbaum Buch	199
Arial	218	Berthold Walbaum Buch (B.metrics)	455
Armenian Aramian	416	Beton Extra Bold	687
Armenian Barz	417	Beverly Hills (inline)	641
Arnold Boecklin	173	Biffo	573
Artisan Roman (inline)	538	Bingham Script (text)	595
Artistik	239	Bison	612
Ashley Crawford (bold)	480	Bits Pic Pi	162
Ashley Inline (inline)	480	Black White (patterned, outline, inline)	112
Ashley Script (italic)	480	Blippo (black)	33

Typeface	Value	Typeface	Value
Bloc (outline)	620	Catull	481
Block (bold)	595	Centaur	523
Bodoni	53	Century Expanded	64
Bodoni Antiqua	451	Century Old Style	75
Bodoni Campanile	598	Century Schoolbook	23
Boldface PS	720	Century Schoolbook Monospace	223
Bookman	402	Cerigo	749
Border Pi 1515-9	370	CG Cloister	728
Borders & Ornaments 1	230	CG Frontiera	716
Borders & Ornaments 4	231	CG Trade	41
Borders & Ornaments 5	232	Chaplin (italic)	674
Borders & Ornaments 6	233	Charlemagne	362
Boton	248	Charme	290
Boulevard	582	Cheltenham	583
Bremen	233	Chemical Pi	372
Brighton	384	Cheq	454
Broadpen	558	Chevalier (bold expanded pattern 0)	20
Broadway	21	Chic (inline)	648
Brody (bold upright)	548	Choc (black)	550
Bruce Old Style	403	Christiana	225
Brush (italic)	32	Chuan Pim (like Univers)	308
Bulmer	404	Citadel Script	505
Bundesbahn Pi	371	City	340
Burin Roman	539	Claire News	730
Burin Sans (light)	539	Clairvaux	319
Business & Services 1	487	Clarendon	44
Business & Services 2	488	Claridge	733
Busorama	737	Classic Roman	543
Cable	693	Clearface Gothic	369
Caflisch Script	750	Cloe	561
Caledonia	191	Cloister Black	29
Caliban (condensed italic)	756	Cloister Open Face (outline)	589
Calligrapher	555	CMC-7 MICR	361
Calligraphiques	465	Cochin	105
Calligraphy	478	Codex	681
Calvert	574	Comenius-Antiqua	226
Campanula	710	Commercial 1	489
Candida	178	Commercial 2	490
Cantoria	575	Commercial Script	443
Capone Light	643	Communication 1	234
Caravan LH Four	413	Communication 2	235
Caravan LH One	410	Communication 3	236
Caravan LH Three	412	Communication 6	237
Caravan LH Two	411	Compacta (expanded)	571
Carolina	286	Compliment	334
Carta	301	Concorde	122
Cartier	380	Concorde (B.metrics)	634
Cartoon Script Roman	709	Concorde Nova	466
Cascade Script	314	Congress	453
Caslon 540 & No. 3	9	Cooper	46
Caslon Antique (contour)	9	Copal (outline, patterned)	747
Caslon Open Face (inline)	9	Copal (solid)	747
Castellar (inline)	520	Copperplate Gothic (display)	120
Cataneo	236	Copperplate Gothic (text)	174

Typeface	Value	Typeface	Value
Corona	180	Engravers Text (inline)	327
Coronet (italic)	20	Engravers' Old English	263
Courier	3	Engravers' Roman	366
Cremona	482	Eon Age (pattern 1)	677
Critter	298	Erbar	337
Cutout	311	European Pi	449
Cyrillic 22	437	Eurostile	79
Cyrillic Helvetica	260	Eusebius	470
Cyrillic Times	261	Eusebius Open (inline)	470
Cyrillic Univers	308	Ex Ponto	757
Data 70	570	Excelsior	89
David	165	Fairfield	219
Davida (text)	589	Falstaff (black)	59
De Vinne	584	FangSong	502
Decoration Pi	311	Fehrle Display	739
Deepdene	381	Fette Fraktur	448
Della Robbia	546	Figaro	376
Delphian (inline)	534	Fine Hand	524
Delphin	382	Flash (italic)	107
Delta	227	Flemish Script (italic)	616
Devanagari (Hindi)	160	Flintstones	240
Didot	479	Fluidum Bold (italic)	662
Digi Fraktur	741	Flyer	284
Digital	471	Folio	179
DIN Engschrift (condensed)	420	Footlight	231
DIN Mittelschrift	420	Forbes Bold	705
Diotima	672	Formal Script	377
Discus	562	Formata	307
Dom Casual	61	Forte (bold italic)	538
Dominante	444	Franco	467
Dorchester Script	576	Frank Ruehl	560
Doric	394	Franklin Gothic	65
Dynamo (extra bold)	644	Freestyle Script	347
E13B MICR	360	French Script	187
EACT (Thai)	91	Friz Quadrata (ITC)	77
Eagle Bold	622	Frutiger	177
East Asian Helvetica	260	Fry's Baskerville	590
East Asian Times	261	Futura	14
Eccentric	429	Futura Black	70
Eckmann (text)	588	Galaxy Run (pattern 3)	677
Eclipse (pattern 0)	642	Gallia (inline)	645
Ecology	491	Gambling Pi	324
Egiziano Black	698	Games & Sports 1	238
Egyptienne (condensed)	537	Games & Sports 2	239
Egyptienne F	670	Games & Sports 3	240
Ehrhardt	607	Games & Sports 4	241
Electra	614	Gando Ronde Script	90
Elite	2	Garamond (Simoncini)	408
Else	521	Garamond (Stempel)	101
Embassy Script	430	Garamond No. 3	182
Empire (ultra condensed)	620	Garth Graphic	102
Englische Schreibschrift (italic)	106	General Symbols 1	492
Engraver's Gothic (text)	587	General Symbols 2	493

Typeface	Value	Typeface	Value
Geometric	735	Hobo	34
Giddyup	331	Holidays 1	242
Gill Sans	51	Holland Seminar	727
Gillies Gothic Bold (italic)	647	Holland Title	378
Globe Gothic	717	Hollandse Mediaeval	726
Glypha	269	Horley Old Style	626
Gosikku (Kaku, gothic Japan)	153	HP-GL Drafting	49
Gothic (Japan)	153	HP-GL Spline	50
Gothic (numbered)	108	Huxley Vertical	456
Goudy Catalogue, addt'l Old Style faces	554	Ideal Schreibschrift	566
Goudy Handtooled (inline)	554	Imago	435
Goudy Heavyface (black)	554	Impact	423
Goudy Modern	252	Imperial	361
Goudy Old Style	42	Impressum	345
Goudy Text	468	Imprint	586
Granjon	421	Impuls (italic)	605
Graphite	222	Industria	310
Grayda	457	Industry & Engineering 1	243
Greek & Math Serif	23	Industry & Engineering 2	244
Greek Antique Olive	72	Inflex	499
Greek Apla	53	Insignia	303
Greek Florentine Script II	430	Intanon (Thai)	79
Greek Futura	14	Isabella	313
Greek Helios II	516	Isil Gothic	1030
Greek Helvetica	260	Italia (ITC)	169
Greek Microstyle	79	Italian Old Style	228
Greek Oracle	17	ITC American Typewriter	71
Greek Times	261	ITC Anna (condensed)	510
Greek Univers II	308	ITC Avant Garde Gothic	31
Greeting Monotone	534	ITC Barcelona	379
Grotesque	577	ITC Bauhaus	74
Guardi	422	ITC Beesknees (black)	510
Gyosho	164	ITC Benguiat	62
Hadassah	169	ITC Benguiat Gothic	209
Hadriano	257	ITC Berkeley Oldstyle	176
Hallmark Bodoni	617	ITC Bolt (extended)	94
Handel Gothic	60	ITC Bookman	47
Handle Oldstyle	551	ITC Busorama	213
Hanseatic (ultrabold condensed)	611	ITC Caslon No. 224	205
Happening	392	ITC Century	279
Harry	374	ITC Cheltenham	63
Hei (China)	246	ITC Clearface	57
Heldustry	736	ITC Cushing	206
Helinda Rook	503	ITC Elan	273
Helios II	492	ITC Eras	76
Hellenic Wide (extended)	540	ITC Esprit	318
Helvetica	4	ITC Fenice	207
Helvetica Inserat (condensed)	571	ITC Flora	291
Helvetica Rounded	418	ITC Franklin Gothic	321
Henche	713	ITC Galliard	30
Heritage	513	ITC Garamond	18
Hess Neobold	725	ITC Giovanni	335
Hiroshige	186	ITC Gorilla (text)	596

Typeface	Value	Typeface	Value
ITC Grizzly	608	Jetsons	636
ITC Grouch	609	Jiffy	743
ITC Highlander	491	Joanna	258
ITC Honda (black)	276	Joanna Solotype (inline)	622
ITC Isadora	330	Jukebox (bold condensed)	678
ITC Isbell	388	Kai Medium	493
ITC Jamille	283	Kaisho	156
ITC Kabel	181	Kartoon	542
ITC Korinna	27	Kaufmann	93
ITC Leawood	204	Kennerley	264
ITC Legacy Sans	508	Keycap Pi	163
ITC Legacy Serif	507	Kino (bold condensed)	359
ITC Lubalin Graph	78	Kismet	740
ITC Machine (condensed)	94	Klang (italic)	589
ITC Mendoza	247	Koch Antiqua	624
ITC Mixage	389	Koloss (extra bold)	656
ITC Modern 216	432	Komain (Thai)	17
ITC Mona Lisa Recut (inline)	511	Kompakt (ultra black italic)	527
ITC Mona Lisa Solid (upright)	511	Koufi	168
ITC New Baskerville	295	Krishna (Gujarati)	161
ITC Newtext	391	Kuenstler Script	294
ITC Novarese	184	Kyokasho (text book)	155
ITC Officina Sans	251	Land Pi	358
ITC Officina Serif	250	Latin Antique	431
ITC Ozwald (fatface)	210	Latin MT	440
ITC Pacella	427	Latin Wide (extended)	431
ITC Pioneer (outline shadow)	596	Letraset Arta	474
ITC Quay Sans	217	Letraset Bramley	312
ITC Quorum	262	Letraset Caxton	447
ITC Ronda	103	Letraset Crillee	332
ITC Serif Gothic	81	Letter Gothic	6
ITC Slimbach	353	Liberty	317
ITC Souvenir	16	Libra	547
ITC Souvenir Greek	16	Life	125
ITC Stone Informal	114	Line Printer	0
ITC Stone Sans	115	Lino Letter	712
ITC Stone Serif	116	Linotype Astrology Pi	525
ITC Studio Script (italic)	511	Linotype Centennial	124
ITC Symbol	118	Linotype Holiday Pi 1, 2, & 3	298
ITC Tiepolo	202	Linotype Modern	599
ITC Tiffany	56	Linotype Technical Pi 1 & 2	221
ITC Tom's New Roman	610	Linotype Textil Pi 1 & 2	222
ITC Usherwood	208	LiShu (China)	760
ITC Veljovik	415	Lithos	349
ITC Weidemann	119	Lo-Type	484
ITC Zapf Book	220	Logan (pattern 0)	677
ITC Zapf Chancery	43	Logos	112
ITC Zapf Dingbats	45	London Text (inline)	585
ITC Zapf International	215	Looney Tunes	360
Jaeger Daily News	249	Looney Type	637
Janson Text	123	Lotus (pattern 0)	641
Jefferson	613	Lucia	288
Jets	635	Lucian	545

Typeface	Value	Typeface	Value
Lucida	193	Monoline Script (italic)	527
Lucida Blackletter	568	Monotype Ellington	344
Lucida Bright	556	Monotype Goudy Sans	274
Lucida Calligraphy	569	Monotype Old Style	500
Lucida Casual	221	Monterey Script (italic)	600
Lucida Fax	684	Moore Computer	442
Lucida Handwriting	572	Motter Corpus (extrabold)	748
Lucida Sans	196	Mr. Big	277
Lucida Sans Typewriter	708	Murray Hill	322
Lutheresche Fraktur	275	Musical	495
Lydian	343	Musketeer	530
Macbeth	278	Myoungjo (Korean)	80
Madame (patterned with shadow)	485	Myriad	563
Madison	405	Mythos	324
Mahlau (condensed)	714	Narkis Tam (like Univers)	308
Malik	171	Naskh	28
Mandate	592	Neo Didot	460
Marigold	201	Neon (Nebiolo)	690
Maritime Pi	161	Neuland	373
Marking Numbers Squares	679	Neuzeit Grotesk	211
Maru Gosikku (round gothic Japan)	152	Neuzeit S	336
Mathematical Pi	452	New Aurora Grotesque	267
Matra (pattern 0)	664	New Berolina (italic)	327
Matura (bold)	364	New Century Schoolbook	127
Maximus	352	News Gothic	297
McCollough	329	Noparat (Thai)	47
Medical & Pharmaceutical 1	494	Noris Script (italic)	471
Medici Script	299	Nork	166
Melior	55	Normande	601
Memphis	195	Notre Dame	640
Menue	393	Nubian	235
Mercurius	603	Nueva	752
Meridien	188	Nuptial Script	192
Metro	591	OCR-A	104
Metronome Gothic (bold extra condensed)	682	OCR-B	110
Metropolis (extra bold)	688	Octavian	230
Mezz	751	Odilia	711
Michelangelo	459	Old Fashion Script	506
Miehle Condensed	667	Old Style 7	341
Milestones	572	Olympian	419
Mincho (Japanese)	80	Ondine	91
Ming	501	Onyx	259
Minion	200	Optima	17
Minister	126	Oranda	234
Mirarae	625	Orator	10
Miryam	762	Orbit-B	328
Mister Earl (condensed)	106	Original Script	504
Mistral	189	Orlando Caps	659
Mobil	706	Ornaments	396
Modern	238	Oscar	621
Modern #20	618	Othello (bold condensed)	528
Modernique (extra bold)	669	Ousbouh	167
Modernistic (inline)	644	Oxford (italic)	359

Typeface	Value	Typeface	Value
P. T. Barnum	92	Poppl-Laudatio	652
Packard	425	Poppl-Pontifex	216
Paetai (Thai)	65	Poppl-Pontifex (B.metrics)	472
Palace Script (italic)	522	Poppl-Residenz	531
Palatino	15	Post Antiqua	159
Palette (italic)	611	Post Antiqua (B.metrics)	671
Parisian	338	Post Mediaval	475
Park Avenue (italic)	59	Poster Bodoni (black)	53
Parsons	383	Present Script	363
Pasquale	272	Presentation	11
Peignot	38	Prestige	8
Pelican (italic)	473	Primer	407
Pemai (Thai)	41	Print	567
Penfield No. 3	458	Profil (bold italic inline)	585
Penumbra	753	Quaint Roman	648
Pepita	578	Quake	372
Pepperwood (condensed)	746	Quirinus Bold (condensed)	702
Perpetua	304	Rad	358
Phenix American (extra condensed)	657	Rainbow Bass (pattern 0)	449
Photina	464	Raj Raja (Tamil)	163
Phyllis	668	Raleigh	305
Pi Collection	557	Ranjit (Gurmukhi)	162
Pierrot	396	Raphael	320
Pifont Circle Numbers	628	Renault	704
Pifont OCRA Numbers	629	Reporter No. 2	346
Pifont Square Numbers	630	Repro Script (italic)	364
Pifont Triangle Numbers	631	Revue	97
Nofret	339	Ritmo Bold (italic)	696
Pilgy (Korean)	82	Riviera (inline)	530
Piranesi	434	Rockwell	54
PL Barclay Outline (outline)	659	Roman	552
PL Bartuska Trophy Oblique	692	Romana (text & bold)	605
PL Benguiat Frisky	691	Romic	306
PL Bernhardt	658	Rosewood	744
PL Brazilia	694	Rotation	532
PL Britannia Bold	660	Rotis Sans Serif	412
PL Davison Americana	650	Rotis Semisans	413
PL Davison Zip Bold	689	Rotis Semiserif	411
PL Fiedler Gothic Bold	697	Rotis Serif	410
PL Fiorello Condensed	661	Roundy	486
PL Futura Maxi	700	Ruling Script	487
PL Latin Bold	431	Runic MT	441
PL Latin Elongated (condensed)	431	Russell Square	316
PL Modern	238	Rusticana	428
PL Radiant	695	Rusticana (Frutiger)	639
PL Tower Condensed	665	Ruzicka	597
PL West Behemoth Semi Condensed (XBd Cd)	703	Ryadh	763
PL Westerveldt Light (condensed)	649	S'maragd	395
Plantin	68	Sabon	183
Playbill (condensed)	600	Sackers Antique Roman	535
PMN Caecilia	212	Sackers Classic Roman	529
Poetica	223	Sackers English Script	512
Pompeijana	638	Sackers Gothic	514

Typeface	Value	Typeface	Value
Sackers Italian Script (italic)	529	Star Trek Film	244
Sackers Roman	526	Star Trek Gen	593
Sackers Square Gothic	512	Star Trek Next	490
Saemmul (Korea)	81	Star Trek Pi	246
Safeer (Arabic)	17	Stencil (ATF)	109
Sallwey Script	452	Stick	48
Salto	738	Stop	32
Salut (bold)	683	Stratford Extra Bold	664
Sammul (Korea)	81	Strider	774
San Marco	325	Studio	699
Sans No. 1	462	Studz	370
Sans Serif Stencil	719	Stuyvesant (inline)	604
Sanvito	754	Stymie	84
Saphir (pattern 0)	448	Syntax	197
Sapphire (pattern 0)	448	System X3 (pattern 2)	677
Sassoon Primary	424	Tango	627
Schadow	398	TBG Duc de Berry	281
Schneidler Mediaeval	117	TBG Herculanum	368
Schwabacher	536	TBG Omnia	268
Scotch Roman	253	TC Europa Bold	653
Script	7	TC Jasper	651
Script Bold	580	Tea Chest (condensed)	33
Seagull	439	Tekton	289
Section Bold Condensed	666	Tempo	270
Serifa	13	Temporary-Only Font	254
Serlio	433	Textype	406
Serlio Dekoration (pi numbers)	633	Thompson Quillscript	541
Serpentine	348	Thunderbird (extra condensed)	276
Shannon	113	Tieman	164
Sharif	170	Times (Ten, New, etc.)	517
Shelley	277	Times Europa	282
Sho	488	Times Roman	5
Shotgun	606	Title PS	721
Siena Black (italic)	654	Tom (Thai)	31
Signature	718	Toolbox	371
Simplified Arabic	351	Torino	463
Sinaloa (pattern 0)	663	Trade Gothic	41
Skjald	645	Traditional Arabic Script	157
Snell Roundhand	82	Trajan	121
SnowCap	241	Trajanus	446
Socho	154	Transportation 1	245
Solemnis	701	Transportation 2	246
Sonata	390	Triplett	731
Song (China)	194	Trump Mediaeval	69
Souvenir Gothic	83	TSI Caxton	447
Space	495	Typo Roman	326
Spartan	210	U-Thong (Thai)	93
Special Alphabets 4	496	Umbra (open shadow)	270
Special Alphabets 5	497	Uncial	73
Special Alphabets 6	498	Uncle Sam Stars (pattern 0, shadow)	675
Spectrum	581	Uncle Sam Stripes (pattern 1, shadow)	675
Star Fleet	243	Unesco (Thai)	51
Star Trek	245	Univers	52

Typeface	Value	Typeface	Value

Universal Greek & Math Pi	278	Weiss	185
Universal News & Commercial Pi	275	Westinghouse Gothic	619
University Roman	24	Wiesbaden Swing	489
Utopia	198	Wildstyle	676
VAG Rounded	315	Wilhelm Klingspor Gotisch	445
Vectora	579	Wilke	436
Versailles	203	Windsor	35
VGC Egyptian 505	367	Wingdings	2730
Victorian Silhouette (contour)	643	Wittenberger Fraktur	237
Vineta	280	Woodblock (bold)	663
Virile	594	Woodstock	107
Visigoth (bold italic)	473	WTC Our Bodoni	565
Viva	755	Yearbook	655
Vivaldi	680	Yuang (Yuan, XiYuang - China)	761
Warning Pi	373	Zebrawood	745
Wave	602	Zeppelin (inline)	181
Wedding Text	285	Zingo	229

Expanded Style descriptor makes these family codes obsolete:

Value	Typeface	Value	Typeface
1	Pica	40	ITC Garamond Condensed
12	Helvetica Condensed	66	Franklin Gothic Condensed
19	Cooper Black	67	Franklin Gothic Extra Condensed
22	Bauer Bodoni Condensed	85	Univers Condensed
25	Helvetica Outline	86	Univers Extended
26	Futura Condensed	88	ITC American Typewriter Condensed
36	Helvetica Compressed	95	Antique Olive Compact
37	Helvetica Extra Compressed	96	Helvetica Monospaced

The following family codes are only for Type Director use:

Value	Typeface	Value	Typeface
98	-reserved-Limited Serif Proportional	1540	-reserved
98	-reserved-Limited Serif Fixed Pitch	1541	-reserved
99	-reserved-Limited Sans Serif Proportionl	1588	-reserved
99	-reserved-Limited Sans Serif Fixed Pitch	2051	-reserved
100	-reserved-Universal	2052	-reserved
100	-reserved-Limited Weight Sensitive Prop	2053	-reserved
100	-reserved-Universal Sans Fixed	2100	-reserved
100	-reserved-Universal Serif Fixed	2563	-reserved
354	-reserved-future buckets	2564	-reserved
355	-reserved-future buckets	2565	-reserved
356	-reserved-future buckets	2612	-reserved
515	-reserved-Cour	3075	-reserved
516	-reserved-Helv	3076	-reserved
564	-reserved-Univ	3077	-reserved
1027	-reserved	3124	-reserved
1028	-reserved	3587	-reserved
1029	-reserved (other Times)	3588	-reserved
1076	-reserved	3589	-reserved
1539	-reserved	3636	-reserved

The following family codes are assigned to font vendors and are not to be distributed outside the company in any literature.

Value	Typeface	Value	Typeface
128	-reserved-Arabic	141	Old Dreadful
129	Naskh	142	Carmina
130	Naskh Hollow	143	Arrus
131	Advertisers Naskh	144	Oz
132	-reserved-Arabic	145	-reserved Bitstream Proprietary
133	Koufi	146	Iowan Old Style
134	Oberon	147	-reserved Bitstream Proprietary
135	Callisto	148	-reserved Bitstream Proprietary
136	Charter	149	-reserved Bitstream Proprietary
137	Serif Proportional	150	-reserved Bitstream Proprietary
138	Sans Serif Monospace	151	-reserved Bitstream Proprietary
139	Amerigo	773	Copal(??)
140	PiFont		

NOTE: Some of the typeface names in the above tables may be registered trademarks of a third party. Use of these fonts may be conditional upon a license grant from the owners of the fonts. Hewlett-Packard makes no representation as to the quality or performance of the fonts, and references to the fonts does not grant any license or right to use the fonts.

9.4 Font Selection by ID

Downloaded fonts can be specified by their ID numbers (see Chapter 10 for the Font ID command).

Font Selection by ID (Primary)   *Esc (# X*
Font Selection by ID (Secondary)   *Esc) # X*

Designates a downloaded font by ID as primary or secondary.

Value(#)   =   Font ID number
Default   =   NA
Range   =   0 to 2^{32} -1

The designated font, if present, is selected as the primary/secondary font; and all the attributes in the primary/secondary font select table are changed to match those of the designated font. However, Pitch is not changed if the designated font is proportional.

No action occurs if the designated font is unavailable or if the device does not implement Font IDs.

NOTE: Pitch and height are unchanged if the designated font is scalable.

NOTE: If a proportional-space scalable font is selected by ID, the Height command should be sent **prior** to the Font Selection ID command to specify point size. Otherwise, the size will be determined by the height of the former font (as listed in the font select table).

NOTE: For an unbound font, symbol set is determined from the font select table. To specify a different symbol set, the Symbol Set selection command should be sent prior to the Font Selection by ID command.

NOTE: For shared or multi-user environments, HP recommends that soft fonts be selected by attribute rather than by ID.