IBM AFP Font Collection for i

# Font Summary

G544-5846-03

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**Note:**
Before using this information and the product it supports, read the information in “Notices” on page 55.

**Fourth edition (October 2010)**

This edition applies to the IBM AFP Font Collection for IBM i, Version 3.1, and to all subsequent releases and modifications until otherwise indicated in new editions.

# Contents

# Chapter 1. About the IBM AFP Font Collection, Version 3.1, for IBM i

The IBM AFP Font Collection provides fonts that can be used to create a robust AFP presentation environment. Version 3.1 of AFP Font Collection replaces IBM AFP Font Collection for Workstations and OS/400 (product number 5648-B45), Version 2.1.

Version 3.1 provides two features: AFP Outline Font Feature and AFP Raster Font Feature.

## AFP Outline Font Feature

Resolution-independent outline fonts require no conversion as printer resolutions increase. Also, they require only a small amount of storage space compared to raster fonts. The AFP Outline Font Feature includes larger character sets that allow you to extend your business reach:

- Euro support for Eastern European and Asia Pacific language
- SAP support for Asia Pacific languages
- GB 18030 support for China
- JIS X0213 support for Japan

Multiple options allow separate installation of each DBCS font set and the SBCS font set.

The AFP Outline Font Feature replaces the Infoprint Fonts for Multiplatforms (5648-E77) product and provides an upgrade for users of version 2.1 of the AFP Font Collection (5648-B45) product.

In this document, the SBCS outline fonts are referred to as General Library fonts, and the DBCS outline fonts are referred to as CJK Outline Fonts.

**Note:** The AFP Outline Font feature is also shipped with PSF/400 (options 36-38 of the IBM i operating system).

## AFP Raster Font Feature

IBM continues to market raster fonts in 240 and 300 dpi resolutions through the AFP Raster Font Feature for those customers using older AFP printers and applications that are dependent upon them.

These fonts come in specific sizes and resolutions which require more storage space. Multiple options allow separate installation of the 240 dpi, 300 dpi, and each large DBCS font set.

## Differences between Version 3.1 and Version 2.1

- Version 3.1 is organized into 11 options. The license program commands are used to install, save, restore, and check the product. Version 2.1 consisted of save files containing libraries of font resources. The license program commands were not used with the previous version.
- Version 3.1 is installed into specific libraries: QFNT16 (300 dpi SBCS raster fonts), QFNT17 (240 dpi SBCS raster fonts), QFNT18 (SBCS outline fonts),

QFNT67 (240 dpi DBCS fonts), and QFNT68 (DBCS outline fonts). Version 2.1 required users to determine their method of organization.

- The libraries used by Version 3.1 are automatically appended to the library list associated with a spooled file when printing with PSF for IBM i and when the List Spooled File AFPDS Resources (QGSLRSC) API is used.
- Version 3.1 does not include font utilities as Version 2.1 did.
- Version 3.1 does not include Type 1 outline fonts, as Version 2.1 did. Version 3.1 provides the AFP outline equivalent of the Type outline fonts.
- Version 3.1 provides font resources specifically for IBM i.

## Related Font Products

**Option 8 of the IBM i operating system**
AFP Compatibility Fonts

**Option 43 of the IBM i operating system**
IBM WorldType Fonts that provide Unicode printing within AFP data. Based on the OpenType font technology, these fonts are also utilized by non-AFP applications.

**Advanced Function Printing Fonts/400, 5769-FNT**
Legacy AFP 240 dpi raster fonts continue to be offered for backward compatibility. The Legacy AFP 240 dpi raster fonts include the Sonoran, Century Schoolbookand ITC Avant Garde Gothic typefaces.

**Advanced Function Printing DBCS Fonts/400, 5769-FN1**
Legacy AFP DBCS 240 dpi raster fonts continue to be offered for backward compatibility. The Legacy AFP DBCS 240 dpi raster fonts include a limited character set support for Japanese, Korean, Simplified and Tradition Chinese languages.

**Font Tools and Utilities**
Tools available for download offer flexibility in viewing or manipulating fonts. You can create new fonts or make changes to existing fonts, edit font code pages and coded fonts. The tools are available at `http://www-01.ibm.com/support/docview.wss?uid=psd1P4000840`.

Documentation is available at:

`http://publib.boulder.ibm.com/infocenter/iseries/v5r3/topic/books/g5445853.pdf`.

# Chapter 2. Font concepts

## Representation of characters

An important concept to understand is how fonts are represented. For the fonts printed by page printers using Advanced Function Presentation (AFP) licensed programs, characters are represented by mathematical formulas (outline fonts) or by data describing each dot to be printed (raster or bitmap fonts).

**Pels and print resolution**

A dot is called a *picture element* or pel. The sequence of dots forming a character is called a *raster pattern*. The number of dots per inch that a printer generates is called the *print resolution*, or density. A resolution of 240 pels means that a printer prints 240 pels per inch both vertically and horizontally, or 57,600 pels per square inch (240 × 240).

Figure 1 shows two images of different print resolutions. The image on the right has more pels per inch and greater print resolution than the image on the left.

*Figure 1. Print resolution examples*

The ability to print at a given pel density is determined by the type of printer. Because AFP Raster Fonts are provided for specific resolutions, different fonts are available for printers with different resolutions (for example, 240-pel and 300-pel printers).

**Outline fonts**

Characters in outline fonts are described by mathematical formulas rather than by pels. These formulas are used by rasterizing software to create bitmap characters based on two variables: resolution and point size. This means that a single outline font can offer many print resolutions and point sizes. “Hints” are also contained in the outline fonts to make sure that typographic characteristics of the typeface are maintained in a consistent manner throughout all printed characters. Some of these characteristics include horizontal and vertical stroke widths, serifs, and curve radii.

**Rotation of characters**

The ability to print in different directions and with different character rotations is also determined by the type of printer. *Print direction* shows the direction in which characters are added to a line of text. *Character rotation* is the clockwise rotation of a character with respect to the character baseline. The *character baseline* is a reference on which characters are aligned as they are added to the page in the print direction. The character baseline is always parallel to the print direction.

Figure 2 on page 4 shows how print direction and character rotation can be combined to print in many orientations.

| Print Direction | Character Rotation (in degrees) | | | |
|---|---|---|---|---|
| | 0 | 90 | 180 | 270 |
| Across (0) | ABCD | DCBA | DCBA | ABCD |
| Down (90) | A<br>B<br>C<br>D | D<br>C<br>B<br>A | D<br>C<br>B<br>A | A<br>B<br>C<br>D |
| Back (180) | ABCD | DCBA | DCBA | DCBA |
| Up (270) | A<br>B<br>C<br>D | D<br>C<br>B<br>A | D<br>C<br>B<br>A | D<br>C<br>B<br>A |

*Figure 2. Print direction and character rotation combinations (print orientations)*

## Font spacing characteristics

Fonts can be classified according to their spacing characteristics as well as by their format.

### Uniformly spaced fonts

*Uniformly spaced fonts,* or monospaced fonts, are similar to typewriter fonts, for which each character increment [1] is the same width. Thus, the lowercase *i* and the . each occupy as much space as the uppercase *M*. Examples of uniformly spaced fonts include Courier and Letter Gothic.

i.M.i.M.i.M.i.M.i.M.i.M.i.M.i.M.

### Duospace fonts

Duospace fonts are similar to uniformly spaced fonts or monospaced fonts. Duospace fonts can be two character widths instead of a single character width. Ideographic characters are designed on full-width increments while other characters can be designed for half-width increments. This concept allows the half-width and full-width characters in the Box Size examples in Figure 7 on page 7 to be implemented in a single font.

**Note:** As additional language support is implemented in Duospace fonts, more character widths can be used. However, the characters widths are always a multiple of the half-width character increment. This function allows a monospaced appearance of the data using this font spacing.

### Typographic fonts

*Typographic fonts* are proportionally spaced fonts. The character increment is part of the design and varies on a character-by-character basis. Thus, the lowercase *i* and the . occupy narrow spaces. The uppercase *M* occupies a wide space. Examples of typographic fonts include Helvetica and Times New Roman.

i.M.i.M.i.M.i.M.i.M.i.M.i.M.

1. A character increment is the distance that the current print position is increased for the particular character printed.

**Pitch** Uniformly spaced fonts are often described or referred to in *pitch*, or the number of characters printed in 1 horizontal inch (Figure 3). Pitch is also referred to as characters per inch (CPI).

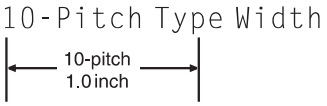



*Figure 3. Type size in pitch*

**Points**

All fonts are measured in *points*, the vertical size of the font. One inch is equal to approximately 72 points. Point size is a baseline-to-baseline measurement, which includes minimal white space. The *baseline* is the line upon which the characters rest. Thus, the actual height of the characters in an 18-point font is less than 18 points (Figure 4). The line spacing usually includes one or more additional points of white space between lines of type.


*Figure 4. Type size in points*

**Box size**

DBCS raster fonts were formerly measured in *box size*, the number of pels in the character box. Box size can be either a horizontal or a vertical measurement. Usually both dimensions are given, the box width first. If only one dimension is given, it is the box height. In full-width fonts, the box width is usually equal to the box height. In half-width fonts, the box width is one-half the box height.

## Point and pitch sizes

This section illustrates various point and pitch sizes. See the figures in “AFP font naming conventions” on page 16 for the character position in the font naming conventions that represent the point or pitch size.

Uniformly spaced SBCS fonts are measured horizontally in pitch and specified as points in the coded font or character set name. Proportionally spaced and mixed-pitch fonts are measured vertically in points. Although the DBCS fonts are uniformly spaced, they are measured vertically in points.

## Point examples

Point size is a vertical measurement.

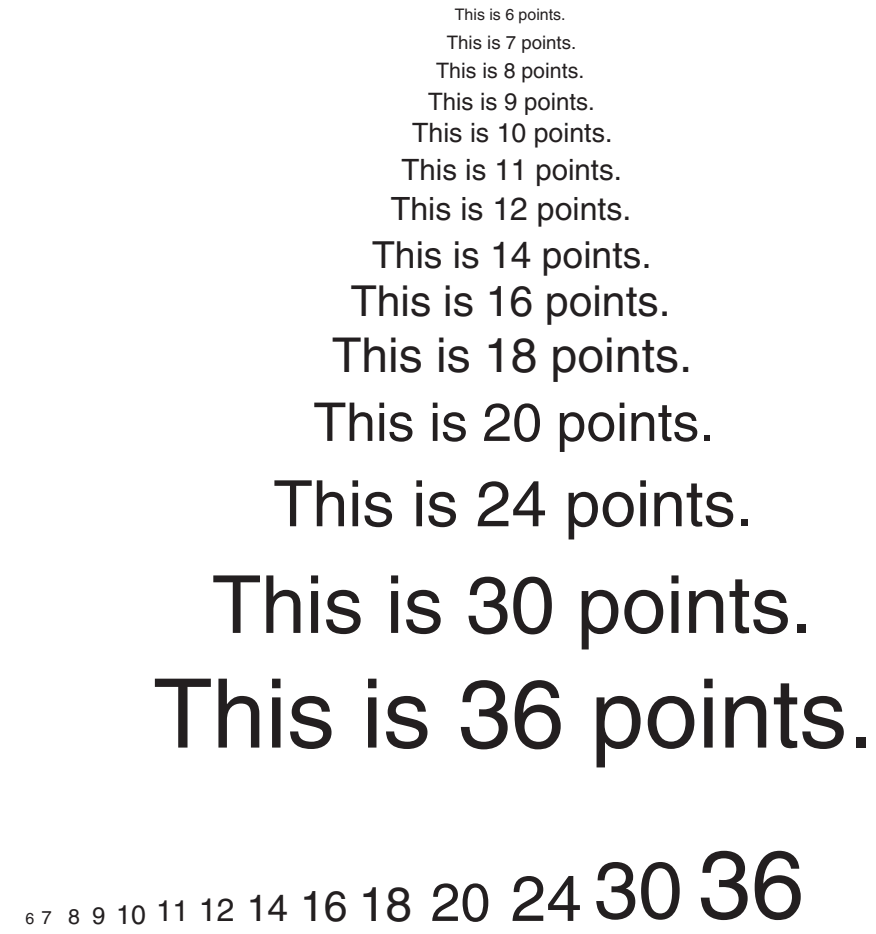



*Figure 5. Point size examples*

## Pitch examples

Pitch size is a horizontal measurement.

1234567890
This is 10 pitch or 10 characters per inch.

123456789012
This is 12 pitch or 12 characters per inch.

1234567890123
This is 13.3 pitch or 13.3 characters per inch.

123456789012345
This is 15 pitch or 15 characters per inch.

123456789012345678
This is 18 pitch or 18 characters per inch.

12345678901234567890
This is 20 pitch or 20 characters per inch.

123456789012345678901234567
This is 27 pitch or 27 characters per inch.

*Figure 6. Pitch size examples*

## Box size examples

Box size is a 240-pel measurement.

Full-Width ａｂｃｄｅｱｨｳｫｯ１２３４５ＡＢＣＤＥＺｱｲｳｵﾂ
Half-Width abcdeｱｨｳｫｯ12345ABCDEZｱｲｳｵｼ
Box height of 48 or Point size of 14.4

Full-Width ａｂｃｄｅｱｨｳｫｯ１２３４５ＡＢＣＤＥＺｱｲｳｵﾂ
Half-Width abcdeｱｨｳｫｯ12345ABCDEZｱｲｳｵｼ
Box height of 40 or Point size of 12.0

Full-Width ａｂｃｄｅｱｨｳｫｯ１２３４５ＡＢＣＤＥＺｱｲｳｵﾂ
Half-Width abcdeｱｨｳｫｯ12345ABCDEZｱｲｳｵｼ
Box height of 32 or Point size of 9.6

Full-Width ａｂｃｄｅｱｨｳｫｯ１２３４５ＡＢＣＤＥＺｱｲｳｵﾂ
Half-Width abcdeｱｨｳｫｯ12345ABCDEZｱｲｳｵｼ
Box height of 24 or Point size of 7.2

*Figure 7. Box size examples*

# Chapter 3. AFP fonts

## AFP font concepts

This section introduces you to font terminology and how characters are represented in digitized type. The AFP Fonts are FOCA (Font Object Content Architecture) structures. For more information about FOCA structures, see *Data Stream and Object Architectures: Font Object Content Architecture (FOCA) Reference*, S544-3285. The structure of AFP fonts is then presented along with the format of the fonts and spacing characteristics. In addition, the ways in which IBM® supplies fonts are described, and the naming conventions for the fonts are included.

## Font definitions

To understand FOCA font structure, you must first understand some definitions about fonts. Figure 8 shows the basic components of a type family, including typeface, style, weight, width, complement, type font, and type size. These terms are illustrated and defined in this section.

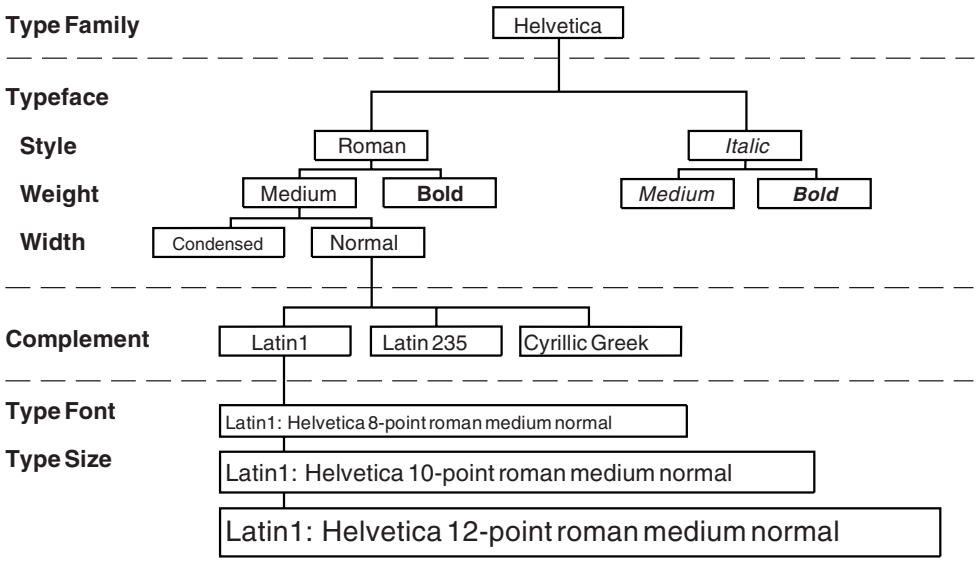



*Figure 8. Helvetica type family*

**Type family**

A *type family* is a group of typefaces that share basic design characteristics and encompass many size and style variations. Examples of type families include:

- Courier
- Helvetica (Figure 8)
- Times New Roman

**Typeface**

A *typeface* is a collection of characters having the same style, weight, and width. Examples of these attributes are shown in Figure 8.

- *style* is the inclination of a letter around a vertical axis; for example, roman (upright) or *italic* (slanted).
- *weight* is the degree of boldness of a typeface; for example, medium or **bold**.

- *width* is the horizontal variation in a character design; for example, normal or condensed.

**Type font, type size, and complement**

A *type font,* or font, is a collection of characters sharing the same type family, typeface, and type size. Collections of characters for Expanded Core Fonts are referred to as *complements*.

## AFP font structure

In FOCA font terminology, a font has three components (see Figure 9). They are:
- Coded font
- Character set
- Code page

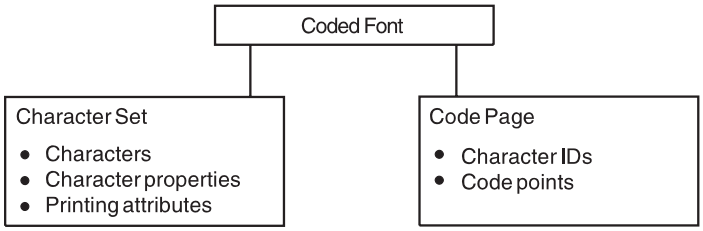



*Figure 9. Font components*

## Coded font

In FOCA font structure, a *coded font* translates your request for type (for example, text you previously entered at a computer terminal) into characters for printing. A raster coded font consists of two parts:
- References to specific character sets
- References to specific code pages

A character must be included in the specified character set and listed on the specified code page before it can be printed. A coded font pairs a specific code page with a specific character set.

An outline coded font consists of three parts:
- References to specific character sets
- References to specific code pages
- References to point size

## Font character set

In FOCA font structure, a *font character set* corresponds to the definition of a font; it contains the characters of a single type family, typeface, and type size. In addition, a character set specifies *character properties* and printing attributes (see Figure 10 on page 11).

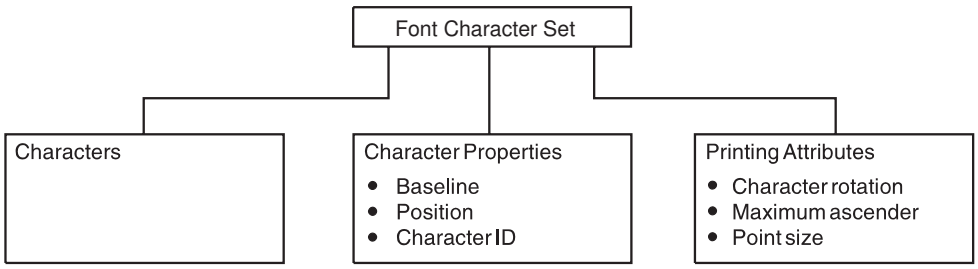



*Figure 10. Composition of a character set*

**Characters**

Characters are the letters, numerals, punctuation marks, or other symbols of a font.

**Character properties**

Character properties detail how a character is positioned relative to the characters around it. Some character properties include:

- The baseline of a character showing its general alignment
- The dimensions of space in which the character is printed
- The position of the character in that space
- The identifier of the character (the character ID)

One of the character properties is the *character ID* (or graphic character ID). Each character is assigned a character ID; for example, the character A (uppercase A) is assigned the character ID LA020000.

The purpose of a character ID is to distinguish the character from similar characters. For example, these characters look similar; however, they are different and are assigned different character IDs.

**Minus sign (-)**: Character ID SA000000

**Hyphen (-)**: Character ID SP100000

**Em dash (—)**: Character ID SM900000

For a list of character IDs, the character each represents, and the code pages where the characters are found, see the *IBM AFP Fonts: Technical Reference for Code Pages*.

**Printing attributes**

The printing attributes define how the character set will be printed. Some printing attributes include rotation of characters, maximum ascender, and point size.

## Code page

In FOCA font structure, a *code page* maps each character of text to the characters in a character set. There are 2 types of code pages in FOCA. A traditional code page (CDP) contains the mapping information between a code point and a character ID. Code pages are designed to be used with FOCA character sets, and extended code pages are designed to be used with TrueType/OpenType fonts. An *extended code page* (ECP) contains the mapping information for a code point, a character ID, and a Unicode point.

When a code page is used with a FOCA font character set, as you enter your text at a computer terminal, each keyboard character is translated into a *code point*. When the text is printed, each code point is matched to a character ID on the code page you specified. The character ID is then matched to the image (*raster pattern*

or *outline pattern*) of the character in the character set you specified. The image in the character set is the image that is printed in your text. To be a valid code page for a particular character set, all character IDs in the code page must be included in that character set (Figure 11).

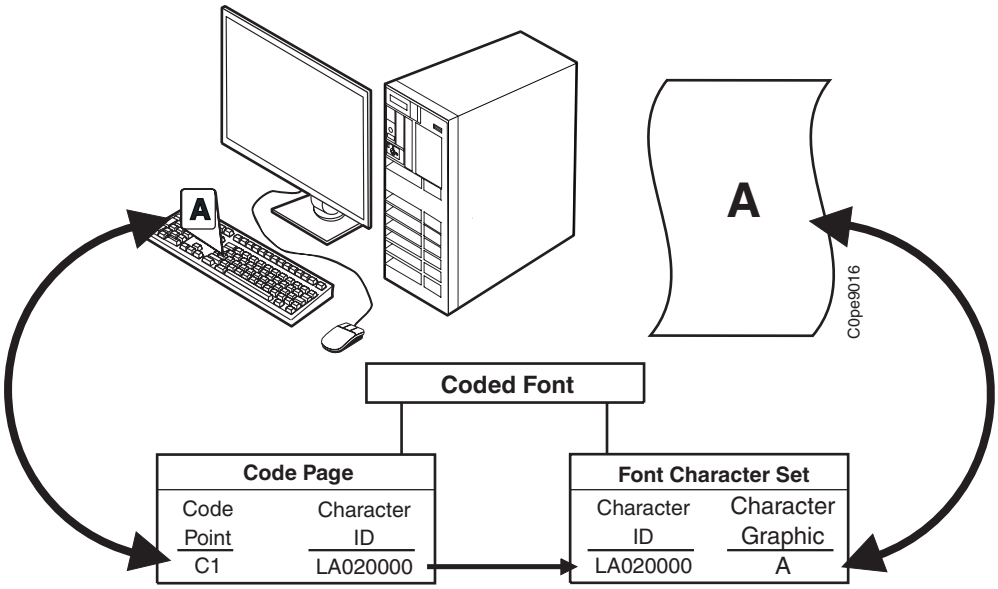



*Figure 11. Translation of a keyboard character into a printed character with a code page and FOCA font character set*

When a code page is used with a TrueType/OpenType font, each code point is matched to the character ID on the code page you specified. The character ID is then matched to a Unicode point on the GUM (Graphic character global identification to Unicode Mapping) Table on your printer. The Unicode point is then matched to the image of the TrueType/OpenType font you specified (Figure 12 on page 13).

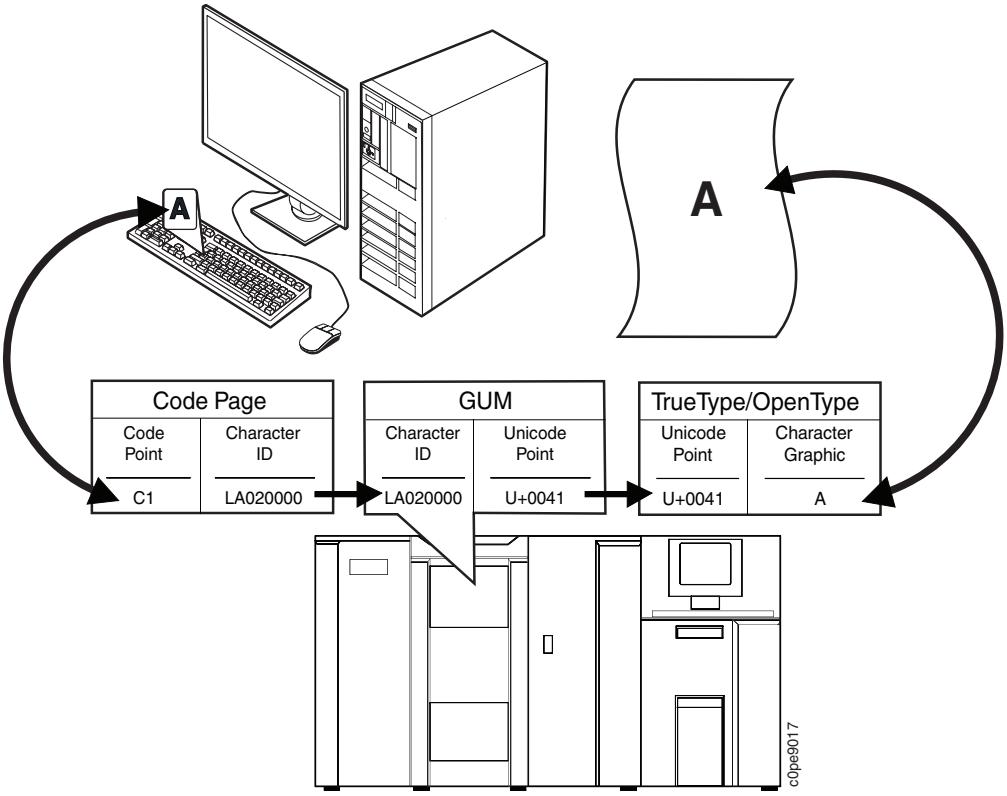



*Figure 12. Translation of a keyboard character into a printed character using a code page and a TrueType/OpenType font*

When an extended code page is used with a TrueType/Open Type font, each code point is matched to the Unicode point on the extended code page you specified without referring to the GUM on your printer. The Unicode point is then matched to the image of the TrueType/OpenType font you specified (see Figure 13 on page 14).

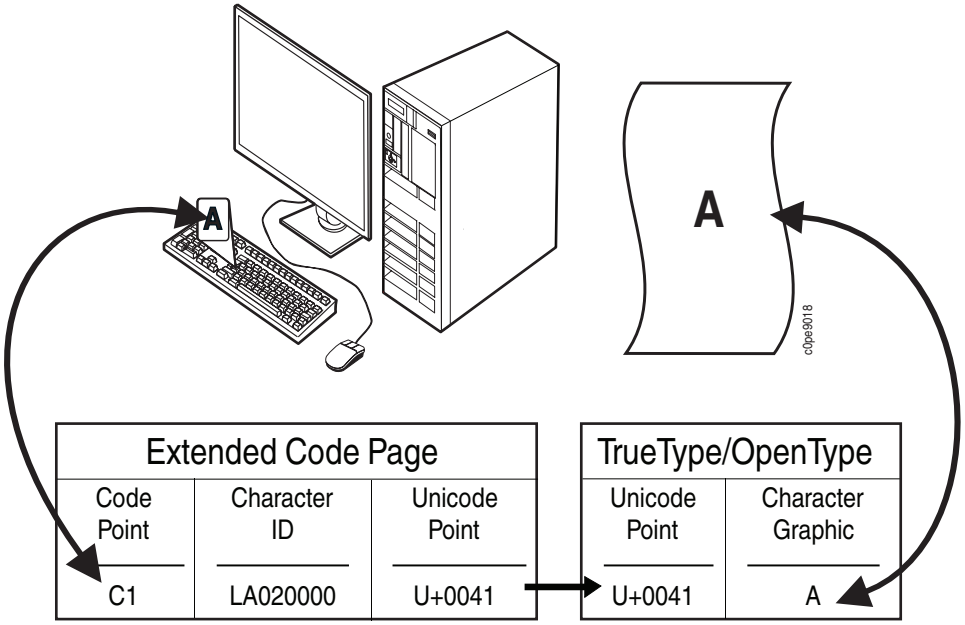



*Figure 13. Translation of a keyboard character into a printed character using an extended code page and a TrueType/OpenType font*

A character ID is an 8-byte character data string. A code point is an 8-bit binary number representing one of 256 potential characters (the maximum number of characters available on a code page). Code points are usually shown as hexadecimal representations of their binary values.

| | |
|---|---|
| **Binary** | 11000001 |
| **Decimal** | 193 |
| **Hexadecimal** | C1 |

Figure 14 on page 15 shows an example of a code page. When the printer receives hexadecimal code point C1 for the code page shown (code page T1V10037), it prints an uppercase A (character ID LA020000).

T1V10037 Country Extended: United States, Canada

| CPGID | GCSGID |
|---|---|
| 37 | 697 |

| Hex Codes 1st→ 2nd↓ | 4- | 5- | 6- | 7- | 8- | 9- | A- | B- | C- | D- | E- | F- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -0 | SP010000 | & SM030000 | - SP100000 | ø LO610000 | Ø LO620000 | ° SM190000 | µ SM170000 | ^ SD150000 | { SM110000 | } SM140000 | \ SM070000 | 0 ND100000 |
| -1 | SP300000 | é LE110000 | / SP120000 | É LE120000 | a LA010000 | j LJ010000 | ~ SD190000 | & SC020000 | A LA020000 | J LJ020000 | ÷ SA060000 | 1 ND010000 |
| -2 | â LA150000 | ê LA150000 | Â LA160000 | Ê LE160000 | b LB010000 | k LK010000 | s LS010000 | ¥ SC050000 | B LB020000 | K LK020000 | S LS020000 | 2 ND020000 |
| -3 | ä LA170000 | ë LE170000 | Ä LA180000 | Ë LE180000 | c LC010000 | l LL010000 | t LT010000 | · SD630000 | C LC020000 | L LL020000 | T LT020000 | 3 ND030000 |
| -4 | à LA130000 | è LE130000 | À LA140000 | È LE140000 | d LD010000 | m LM010000 | u LU010000 | © SM520000 | D LD020000 | M LM020000 | U LU020000 | 4 ND040000 |
| -5 | á LA110000 | í LI110000 | Á LA120000 | Í LI120000 | e LE010000 | n LN010000 | v LV010000 | § SM240000 | E LE020000 | N LN020000 | V LV020000 | 5 ND050000 |
| -6 | ã LA190000 | î LI150000 | Ã LA200000 | Î LI160000 | f LF010000 | o LO010000 | w LW010000 | ¶ SM250000 | F LF020000 | O LO020000 | W LW020000 | 6 ND060000 |

*Figure 14. Code page T1V10037*

**Different code pages**

Code pages accommodate various national languages by using characters and special symbols appropriate to the language. Different code pages can have identical character IDs assigned to different code points. For example, the character é (lowercase e accent acute, character ID LE110000) has these code point assignments in two different code pages:

- Hexadecimal code point 51 in code page T1V10037 (Country Extended: United States, Canada)
- Hexadecimal code point 5A in code page T1V10280 (Country Extended: Italy)

**General Library and CJK code pages**

A *General Library code page* contains 256 or fewer one-byte code points. General Library code pages are large enough for languages with alphabetic writing systems, such as English, Greek, and Arabic.

A *CJK code page* can contain as many as 65,536 two-byte code points. Languages with non-alphabetic writing systems, such as Chinese, Japanese, and Korean, require CJK code pages.

**Code page sections**

If you think of a CJK code page as a collection of general library code pages, a CJK character code has two parts: the first byte indicating a section of the code page and the second byte a code point in the section.

Raster coded fonts treat double-byte code pages this way. The coded font is divided into sections, each with its own general library code page. Each character in the section has a general library code point.

Outline coded fonts treat CJK code pages as general library code pages. Each character has a CJK code point.

## AFP font naming conventions

You can select a font from the tables in this publication without understanding the naming conventions. However, to know how the naming conventions identify a specific font and its characteristics, this section helps you.

Naming conventions for the code pages are described under “Naming conventions for code pages” on page 43.

## First character in the naming convention

This table shows the first letter of the naming convention and the type of font component that each letter represents.

| First character | Font component |
|---|---|
| **C** | Character set |
| **X** | Coded font |
| **T** | Code page |

## Remaining characters in the naming convention

The remainder of each name has been assigned according to different conventions, for each of these font groups:

- General Library Fonts (see “Naming conventions for General Library Fonts” on page 19)
- CJK Fonts (see “CJK Full-Width Fonts” on page 30 and “CJK Half-Width Fonts” on page 31)
- CJK Simulation Fonts (see “Coded font” on page 36)

Character set and coded font names are usually distinctive and can be used to determine whether a font is General Library Font or a CJK Font.

Code page names are usually not distinctive enough to determine for which font group the code page is supplied.

For character set, code page, and coded font names associated with AFP Outline Fonts, see:

- “Summary tables for the General Library Fonts” on page 23
- “Summary tables for the CJK Fonts” on page 31
- “Summary tables for the CJK Simulation Fonts” on page 38

## Format of AFP character sets

InfoPrint Solutions Company supplies character sets in these formats:

- 240-pel bounded-box raster format
- 300-pel raster format
- AFP outline format

**240-pel raster**

*240-pel raster* fonts are bounded-box fonts used on 240-pel printers. The resolution of these fonts is 240 dots per inch. All character positioning metrics in these fonts are expressed in whole-pel (fixed-metric) values.

**300-pel raster**

*300-pel raster* fonts are used on printers where the resolution is 300 dots per inch. The character positioning values are expressed in *relative metrics* and the exact pel count is determined at print time.

**AFP outline**

*AFP outline* is the format by which PSF and other AFP applications can identify Type 1 outline fonts. The Type 1 or CID-keyed outlines are encapsulated in Font Object Content Architecture (FOCA) wrappers that allow them to be accessed as AFP resources. AFP outlines utilize *relative metrics* in exactly the same way as 300-pel fonts.

**Fixed metrics**

*Fixed-metric* fonts have all character positioning metrics expressed in whole-pel values. All 240-pel fonts are fixed-metric fonts. For example, the character increment of the 'A' in 240-pel Helvetica Latin1 roman medium 10pt is 22 pels. When 240-pel fonts are created, any fractional pels found are eliminated by rounding up or down to whole-pel values.

**Relative metrics**

*Relative metrics* were developed for scaleable outline fonts where a single metric value could be used to determine a pel value given a desired resolution and point size. Relative metrics are based on 1000 units per "em space," which means the fonts are designed for a hypothetical 1000 dpi, 72-point font where each side of the bounding box is 1000 pels. All AFP outlines and 300-dpi fonts contain relative metrics. The exact pel values are determined when the font is used, such as during document formatting or printing. For example, the character increment for *A* in 300-pel Helvetica Latin1 roman medium is 667 relative units. In the hypothetical 1000 dpi, 72-point font, the *A* would have a character increment of 667 pels, but at 10 points and 300-dpi resolution, the character increment of the *A* is 27.8 pels. The fractional pel (.8 in this case) is accumulated by the printer and a whole white pel is inserted when the accumulator = 1. Constantly adjusting the character increments in this way makes sure that the output text is as close to the original outline specification as possible.

## General Library Fonts

The General Library Fonts combine the Core Interchange Fonts, Coordinated Fonts, and BookMaster® Fonts.

The General Library Fonts are all derived from Adobe® Type 1 font technology and are provided in the AFP™ outline format supported by AFP software for SBCS fonts.

The General Library Fonts include these font families:

- Boldface in Roman Bold typeface
- BookMaster Latin1 in Roman Medium, Roman Bold, Italic Medium, and Italic Bold typefaces
- BookMaster Reverse in Roman Medium typeface
- BookMaster Specials in Roman Medium, Roman Bold, Italic Medium, and Italic Bold typefaces
- BookMaster Specials Reverse in Roman Medium typeface
- Courier in Roman Medium, Roman Bold, Italic Medium, and Italic Bold typefaces
- Courier APL2® in Roman Medium and Roman Bold
- Gothic Katakana in Roman Medium typeface
- Gothic Text in Roman Medium typeface

- Helvetica™ in Roman Medium, Roman Bold, Italic Medium, and Italic Bold typefaces
- IBM Logo in Roman Medium typeface
- Letter Gothic in Roman Medium and Roman Bold typefaces
- OCR-A in Roman Medium typeface
- OCR-B in Roman Medium typeface
- Prestige in Roman Medium, Italic Medium, and Roman Bold typefaces
- Times New Roman in Roman Medium, Roman Bold, Italic Medium, and Italic Bold typefaces

Courier, Helvetica, and Times New Roman contain characters for the International Standards Organization (ISO) language groups listed under “Languages supported.” A symbol collection is also provided for each of these three type families that contains scientific, mathematical, and special-purpose characters in Roman Medium and Roman Bold typefaces.

## Languages supported

Language groups identified in items 2 through 10 are defined in the International Organization for Standardization (ISO) standard 8859.

**Note:** Not every font provides characters for every language listed.

1. The Latin language group includes Latin1 through Latin5 and Vietnamese.
2. The Latin1 language group (ISO 8859-1) includes Danish, Dutch, English, Faeroese, Finnish, French, German, Icelandic, Irish, Italian, Norwegian, Portuguese, Spanish, and Swedish. The Latin1 language group also provides the euro currency symbol and all Latin9 (ISO 8859-15) characters.
3. The Latin2 language group (ISO 8859-2) includes Albanian, Czech, English, German, Hungarian, Polish, Romanian, Serbocroatian, Slovak, and Slovenian.
4. The Latin3 language group (ISO 8859-3) includes Afrikaans, Catalan, Dutch, English, Esperanto, French, German, Italian, Maltese, Spanish, and Turkish.
5. The Latin4 language group (ISO 8859-4) includes Danish, English, Finnish, French, German, Greenlandic, Lap, Latvian, Lithuanian, Estonian, and Norwegian.
6. The Latin/Cyrillic language group (ISO 8859-5) includes Bulgarian, Byelorussian, English, Macedonian, Russian, Serbocroatian, and Ukrainian.
7. The Latin/Arabic language group (ISO 8859-6) includes Latin and Arabic scripts.
8. The Latin/Greek language group (ISO 8859-7) includes Latin and Greek scripts.
9. The Latin/Hebrew language group (ISO 8859-8) includes Latin and Hebrew scripts.
10. The Latin5 language group (ISO 8859-9) includes Danish, Dutch, English, Finnish, French, Irish, Italian, Norwegian, Portuguese, Spanish, Swedish, and Turkish.
11. The Latin/Lao language group provides support for the Lao language.
12. The Latin/Thai language group provides support for the Thai language.

13. Katakana/Gothic Katakana contains phonetic syllabic characters used for writing non-Japanese words, such as foreign names, borrowed words, or company names.

## Naming conventions for General Library Fonts

The next three figures illustrate the naming conventions for General Library Font naming conventions.

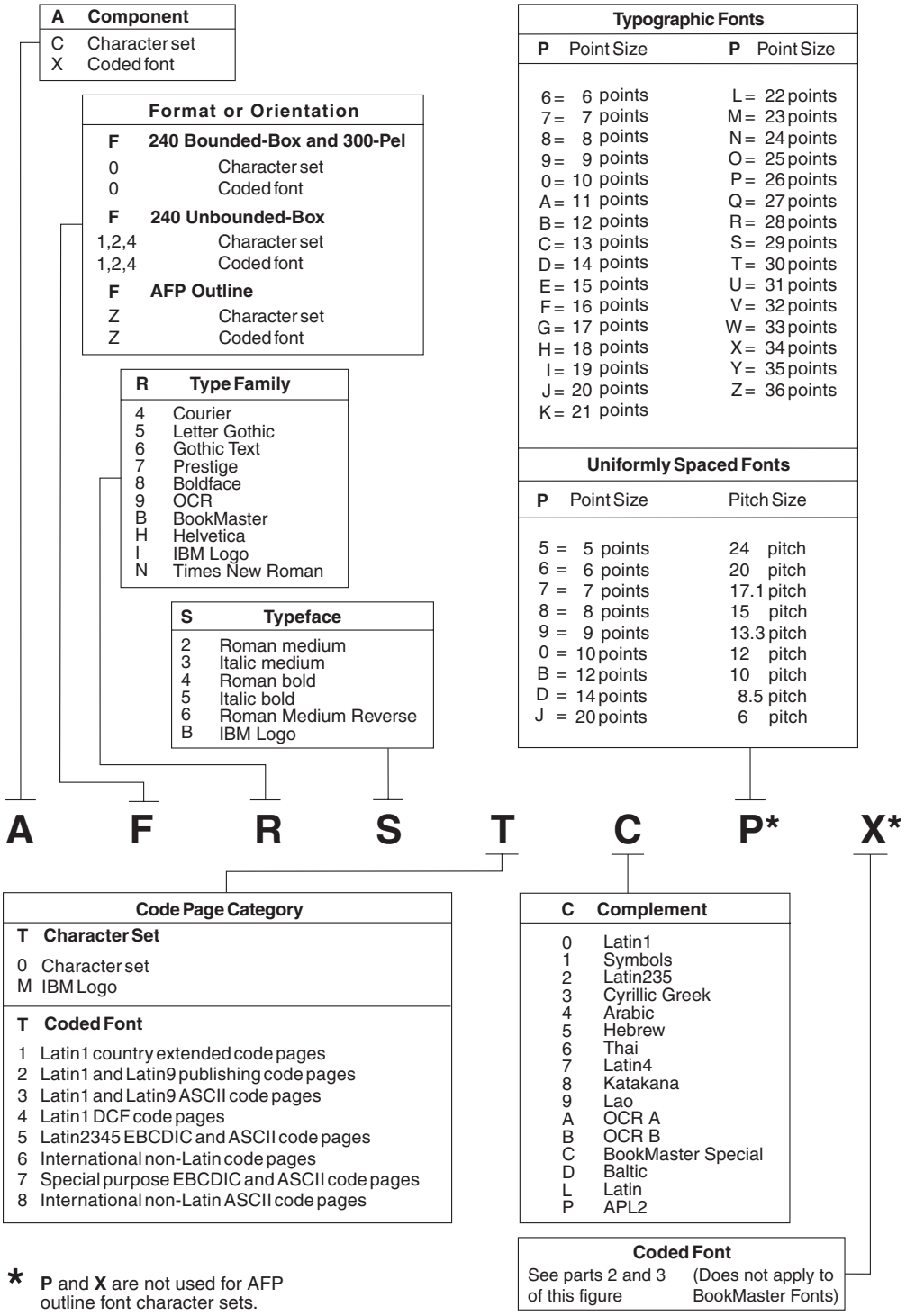



*Figure 15. Part 1 of the naming conventions for the General Library Fonts (AFP outlines). The raster font information provided in this figure is provided for your convenience. However, no raster fonts are included with the AFP Outline Fonts CD-ROM.*

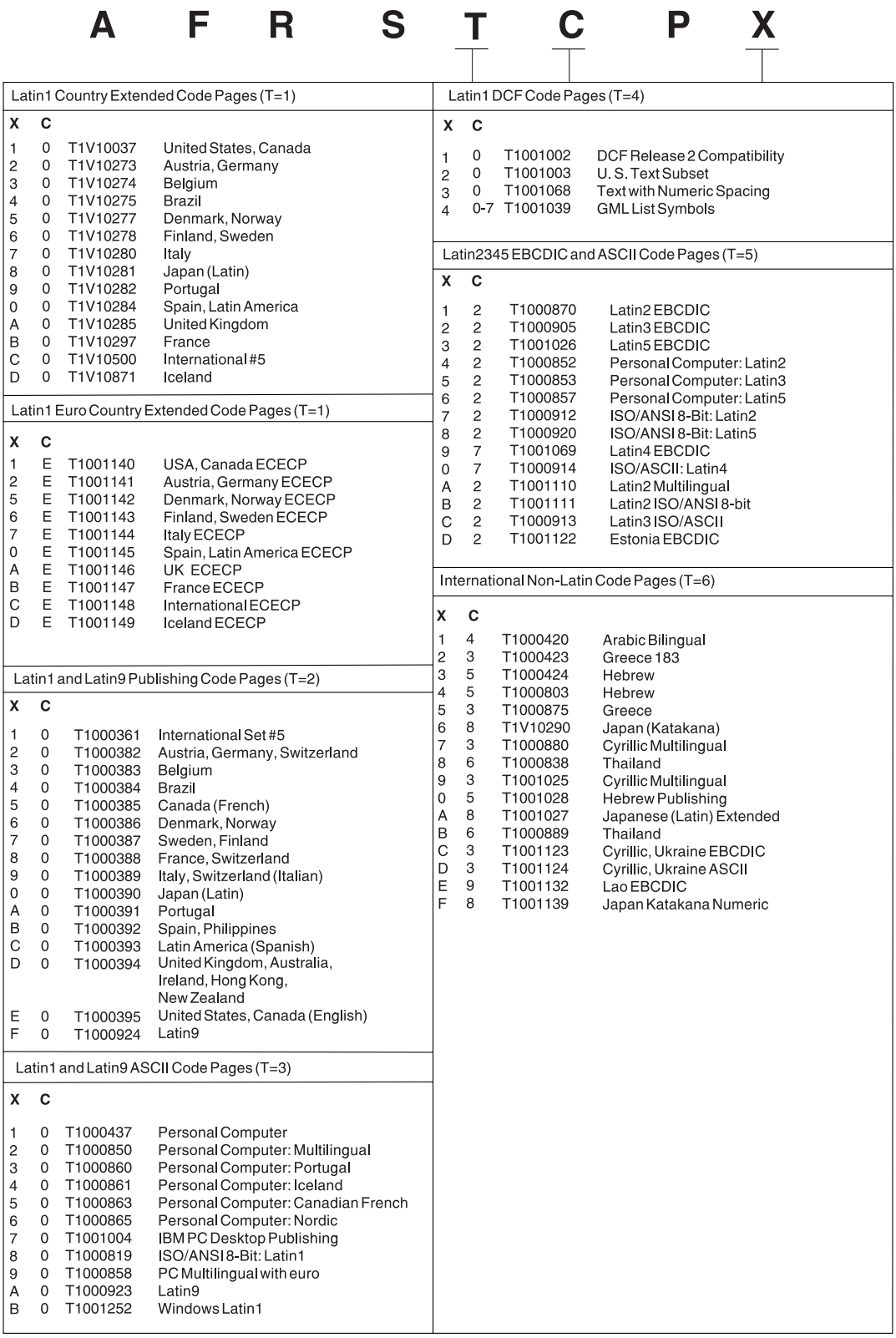



*Figure 16. Part 2 of the naming convention overview for the General Library Fonts (AFP outlines)*

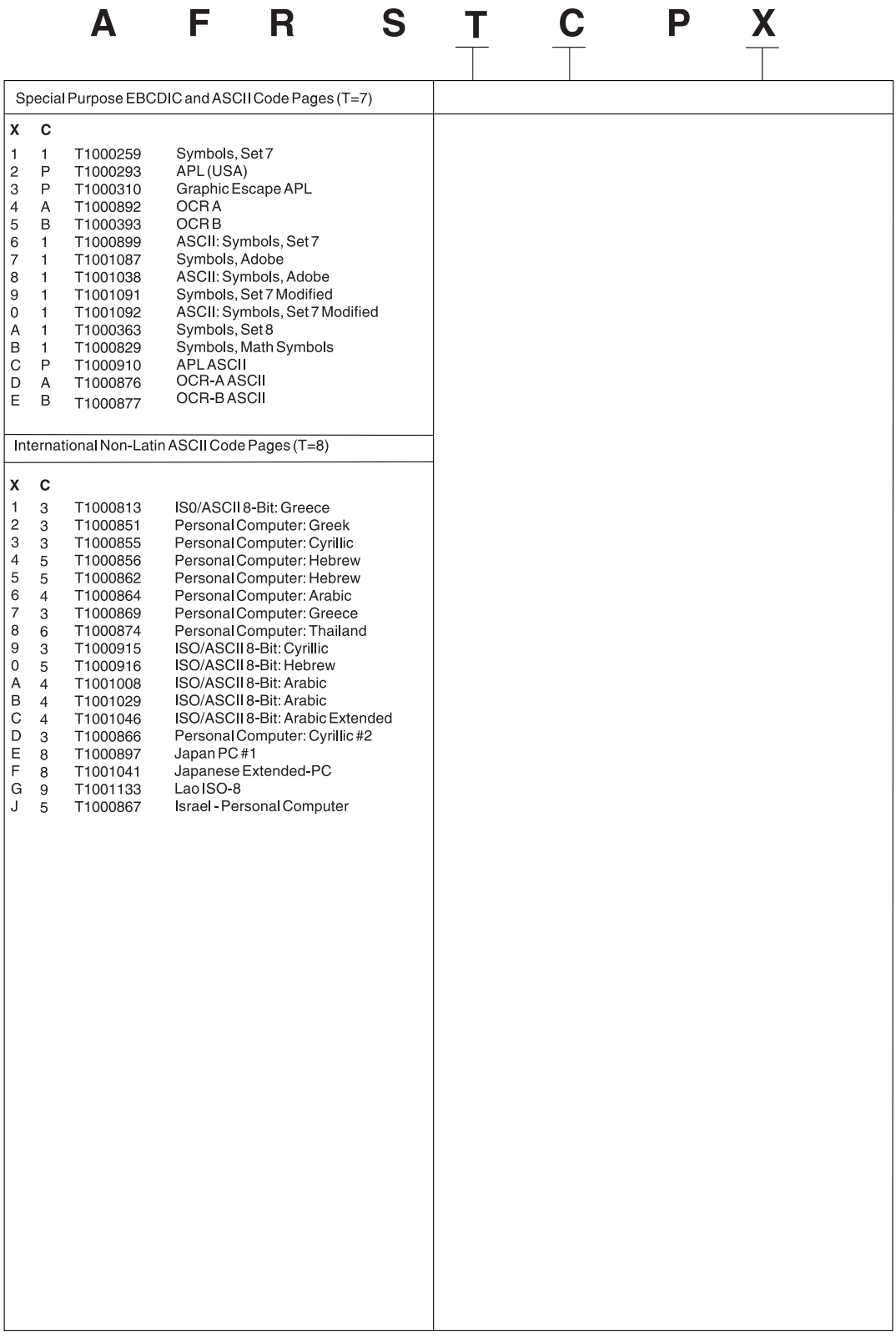



*Figure 17. Part 3 of the naming convention overview for the General Library Fonts (AFP outlines)*

## Summary tables for the General Library Fonts

The General Library Fonts contain various typefaces and font sizes (include typographic and uniformly spaced typeface families) suitable for printing a variety of documents.

The General Library Fonts summary tables provide this information:

- **AFP typeface name**: This is the IBM name for the typeface.
- **Type 1 typeface name**: This is the Type 1 outline font name for the typeface.
- **Style and weight**: Possible values are:
  **RB** Roman Bold
  **RM** Roman Medium
  **IM** Italic Medium
  **IB** Italic Bold
- **Character set identifier**: A 6- or 8-character name used to identify AFP character sets. The second character identifies the character set as raster or outline.
- **Type 1 file name**: Extensions are `AFM`, `INF`, and `PFB`.
- **Graphic Character Set Global Identifier (GCSGID)**: The GCSGID is a collection of characters registered with a unique number and sometimes used for font and code page selection.
- **Font Global Identifier (FGID)**: The FGID is a number assigned to each typeface and is sometimes used for font selection.

*Table 1. General Library Fonts*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| | | **APL** | | | | |
| Courier APL2 | | | | | | |
| | Courier APL2 | RM | CZ420P | APL | 1364 | 307 |
| | " Bold | RB | CZ440P | APLB | | 322 |
| | | **Arabic** | | | | |
| Boutros Typing Arabic | | | | | | |
| | Typing | RM | CZ4204 | COU_A | 1506 | 416 |
| | " Bold | RB | CZ4404 | COU_AB | | 420 |
| | " Italic | IM | CZ4304 | COU_AI | | 424 |
| | " Bold Italic | IB | CZ4504 | COU_ABI | | 428 |
| ITC Boutros Modern Rokaa Arabic | Rokaa | RM | CZH204 | HEL_A | 1506 | 2304 |
| | " Bold | RB | CZH404 | HEL_AB | | 2305 |
| | " Italic | IM | CZH304 | HEL_AI | | 2306 |
| | " Bold Italic | IB | CZH504 | HEL_ABI | | 2307 |
| ITC Boutros Setting Arabic | Setting | RM | CZN204 | TNR_A | 1506 | 2308 |
| | " Bold | RB | CZN404 | TNR_AB | | 2309 |
| | " Italic | IM | CZN304 | TNR_AI | | 2310 |
| | " Bold Italic | IB | CZN504 | TNR_ABI | | 2311 |
| | | **BookMaster Specials** | | | | |

*Table 1. General Library Fonts (continued)*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| BookMaster Specials | | | | | | |
| | BookMaster Specials | RM | CZB20C | EDFBS | 1241 | 335 |
| | " Bold | RB | CZB40C | EDFBSB | | 336 |
| | " Italic | IM | CZB30C | EDFBSI | | 337 |
| | " Bold Italic | IB | CZB50C | EDFBSBI | | 338 |
| BookMaster Specials Reverse | BookMaster Specials Reverse | RM | CZB60C | EDFBSR | 1241 | 339 |
| **Cyrillic** | | | | | | |
| Courier Cyrillic Greek | | | | | | |
| | Courier Cyr Grk | RM | CZ4203 | COU_CG | 1504 | 416 |
| | " Bold | RB | CZ4403 | COU_CGB | | 420 |
| | " Italic | IM | CZ4303 | COU_CGI | | 424 |
| | " Bold Italic | IB | CZ4503 | COU_CGBI | | 428 |
| Helvetica Cyrillic Greek | | | | | | |
| | Helvetica Cyr Grk | RM | CZH203 | HEL_CG | 1504 | 2304 |
| | " Bold | RB | CZH403 | HEL_CGB | | 2305 |
| | " Italic | IM | CZH303 | HEL_CGI | | 2306 |
| | " Bold Italic | IB | CZH503 | HEL_CGBI | | 2307 |
| Times New Roman Cyrillic Greek | Times New Roman Cyr Grk | RM | CZN203 | TNR_CG | 1504 | 2308 |
| | | RB | CZN403 | TNR_CGB | | 2309 |
| | " Bold | IM | CZN303 | TNR_CGI | | 2310 |
| | " Italic | IB | CZN503 | TNR_CGBI | | 2311 |
| | " Bld It | | | | | |
| **Greek** | | | | | | |
| Courier Cyrillic Greek | | | | | | |
| | Courier Cyr Grk | RM | CZ4203 | COU_CG | 1504 | 416 |
| | " Bold | RB | CZ4403 | COU_CGB | | 420 |
| | " Italic | IM | CZ4303 | COU_CGI | | 424 |
| | " Bold Italic | IB | CZ4503 | COU_CGBI | | 428 |
| Helvetica Cyrillic Greek | | | | | | |
| | Helvetica Cyr Grk | RM | CZH203 | HEL_CG | 1504 | 2304 |
| | " Bold | RB | CZH403 | HEL_CGB | | 2305 |
| | " Italic | IM | CZH303 | HEL_CGI | | 2306 |
| | " Bold Italic | IB | CZH503 | HEL_CGBI | | 2307 |
| Times New Roman Cyrillic Greek | Times New Roman Cyr Grk | RM | CZN203 | TNR_CG | 1504 | 2308 |
| | | RB | CZN403 | TNR_CGB | | 2309 |
| | " Bold | IM | CZN303 | TNR_CGI | | 2310 |
| | " Italic | IB | CZN503 | TNR_CGBI | | 2311 |
| | " Bld It | | | | | |
| **Hebrew** | | | | | | |
| Shalom Hebrew | | | | | | |
| | Shalom Hebrew | RM | CZ4205 | COU_H | 1362 | 416 |
| | " Bold | RB | CZ4405 | COU_HB | | 420 |
| | " Italic | IM | CZ4305 | COU_HI | | 424 |
| | " Bold Italic | IB | CZ4505 | COU_HBI | | 428 |

*Table 1. General Library Fonts (continued)*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| Narkiss Tam Hebrew | | | | | | |
| | Narkiss Tam Hebrew | RM | CZH205 | HEL_H | 1362 | 2304 |
| | " Bold | RB | CZH405 | HEL_HB | | 2305 |
| | " Italic | IM | CZH305 | HEL_HI | | 2306 |
| | " Bold Italic | IB | CZH505 | HEL_HBI | | 2307 |
| Narkissim Hebrew | | | | | | |
| | Narkissim Hebrew | RM | CZN205 | TNR_H | 1362 | 2308 |
| | " Bold | RB | CZN405 | TNR_HB | | 2309 |
| | " Italic | IM | CZN305 | TNR_HI | | 2310 |
| | " Bold Italic | IB | CZN505 | TNR_HBI | | 2311 |
| | | **IBM Logo** | | | | |
| IBM Logo | | | | | | |
| | IBM Logo | RM | CZIBM0 | LOGOIBM | 2040 | 51767 |
| | | **Katakana** | | | | |
| Gothic Katakana | | | | | | |
| | Gothic Katakana | RM | CZ6208 | GOT_K | 1306 | 304 |
| | | **Lao** | | | | |
| Courier Lao | | | | | | |
| | Courier Lao | RM | CZ4209 | COU_L | 1341 | 416 |
| | " Bold | RB | CZ4409 | COU_LB | | 420 |
| | " Italic | IM | CZ4309 | COU_LI | | 424 |
| | " Bold Italic | IB | CZ4509 | COU_LBI | | 428 |
| Pusuwan | | | | | | |
| | Pusuwan | RM | CZH209 | HEL_L | 1341 | 2304 |
| | " Bold | RB | CZH409 | HEL_LB | | 2305 |
| | " Italic | IM | CZH309 | HEL_LI | | 2306 |
| | " Bold Italic | IB | CZH509 | HEL_LBI | | 2307 |
| Kaewfah | | | | | | |
| | Kaewfah | RM | CZN209 | TNR_L | 1341 | 2308 |
| | " Bold | RB | CZN409 | TNR_LB | | 2309 |
| | " Italic | IM | CZN309 | TNR_LI | | 2310 |
| | " Bold Italic | IB | CZN509 | TNR_LBI | | 2311 |
| | | **Latin** | | | | |
| Courier Latin | | | | | | |
| | Courier | RM | CZ420L | COU | 1503 | 416 |
| | " Bold | RB | CZ440L | COUB | | 420 |
| | " Italic | IM | CZ430L | COUI | | 424 |
| | " Bold Italic | IB | CZ450L | COUBI | | 428 |
| Helvetica Latin | | | | | | |
| | Helvetica | RM | CZH20L | HEL | 1503 | 2304 |
| | " Bold | RB | CZH40L | HELB | | 2305 |
| | " Italic | IM | CZH30L | HELI | | 2306 |
| | " Bold Italic | IB | CZH50L | HELBI | | 2307 |
| Times New Roman Latin | | | | | | |
| | Times New Roman | RM | CZN20L | TNR | 1503 | 2308 |
| | " Bold | RB | CZN40L | TNRB | | 2309 |
| | " Italic | IM | CZN30L | TNRI | | 2310 |
| | " Bold Italic | IB | CZN50L | TNRBI | | 2311 |

*Table 1. General Library Fonts (continued)*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| | | **Latin1** | | | | |
| Boldface Latin1 | | | | | | |
| | Boldface | RB | CZ8400 | BFC | 2041 | 20224 |
| BookMaster Latin1 | | | | | | |
| | BookMaster | RM | CZB200 | EDFBL | 2041 | 335 |
| | " Bold | RB | CZB400 | EDFBLB | | 336 |
| | " Italic | IM | CZB300 | EDFBLI | | 337 |
| | " Bold Italic | IB | CZB500 | EDFBLBI | | 338 |
| BookMaster Latin1 Reverse | BookMaster Reverse | RM | CZB600 | EDFBLR | 2041 | 339 |
| Courier Latin1 | | | | | | |
| | Courier | RM | CZ4200 | COU | 2041 | 416 |
| | " Bold | RB | CZ4400 | COUB | | 420 |
| | " Italic | IM | CZ4300 | COUI | | 424 |
| | " Bold Italic | IB | CZ4500 | COUBI | | 428 |
| Gothic Text Latin1 | | | | | | |
| | Gothic Text | RM | CZ6200 | GOT | 2041 | 304 |
| Helvetica Latin1 | | | | | | |
| | Helvetica | RM | CZH200 | HEL | 2041 | 2304 |
| | " Bold | RB | CZH400 | HELB | | 2305 |
| | " Italic | IM | CZH300 | HELI | | 2306 |
| | " Bold Italic | IB | CZH500 | HELBI | | 2307 |
| Letter Gothic Latin1 | | | | | | |
| | Letter Gothic | RM | CZ5200 | LGO | 2041 | 400 |
| | " Bold | RB | CZ5400 | LGOB | | 404 |
| Prestige Latin1 | | | | | | |
| | Prestige | RM | CZ7200 | PRS | 2041 | 432 |
| | " Bold | RB | CZ7400 | PRSB | | 318 |
| | " Italic | IM | CZ7300 | PRSI | | 319 |
| Times New Roman Latin1 | | | | | | |
| | Times New Roman | RM | CZN200 | TNR | 2041 | 2308 |
| | " Bold | RB | CZN400 | TNRB | | 2309 |
| | " Italic | IM | CZN300 | TNRI | | 2310 |
| | " Bold Italic | IB | CZN500 | TNRBI | | 2311 |
| | | **Latin2, Latin3, Latin5** | | | | |
| Courier Latin235 | | | | | | |
| | Courier | RM | CZ4202 | COU | 1261 | 416 |
| | " Bold | RB | CZ4402 | COUB | | 420 |
| | " Italic | IM | CZ4302 | COUI | | 424 |
| | " Bold Italic | IB | CZ4502 | COUBI | | 428 |
| Helvetica Latin235 | | | | | | |
| | Helvetica | RM | CZH202 | HEL | 1261 | 2304 |
| | " Bold | RB | CZH402 | HELB | | 2305 |
| | " Italic | IM | CZH302 | HELI | | 2306 |
| | " Bold Italic | IB | CZH502 | HELBI | | 2307 |

*Table 1. General Library Fonts (continued)*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| Times New Roman Latin235 | Times New Roman | RM | CZN202 | TNR | 1261 | 2308 |
| | " Bold | RB | CZN402 | TNRB | | 2309 |
| | " Italic | IM | CZN302 | TNRI | | 2310 |
| | " Bold Italic | IB | CZN502 | TNRBI | | 2311 |
| **Latin4** | | | | | | |
| Courier Latin4 | | | | | | |
| | Courier | RM | CZ4207 | COU | 1268 | 416 |
| | " Bold | RB | CZ4407 | COUB | | 420 |
| | " Italic | IM | CZ4307 | COUI | | 424 |
| | " Bold Italic | IB | CZ4507 | COUBI | | 428 |
| Helvetica Latin4 | | | | | | |
| | Helvetica | RM | CZH207 | HEL | 1268 | 2304 |
| | " Bold | RB | CZH407 | HELB | | 2305 |
| | " Italic | IM | CZH307 | HELI | | 2306 |
| | " Bold Italic | IB | CZH507 | HELBI | | 2307 |
| Times New Roman Latin4 | | | | | | |
| | Times New Roman | RM | CZN207 | TNR | 1268 | 2308 |
| | " Bold | RB | CZN407 | TNRB | | 2309 |
| | " Italic | IM | CZN307 | TNRI | | 2310 |
| | " Bold Italic | IB | CZN507 | TNRBI | | 2311 |
| **Optical Character Recognition (OCR)** | | | | | | |
| OCRA | | | | | | |
| | OCR A | RM | CZ920A | OCR_A | 968 | 305 |
| OCRB | | | | | | |
| | OCRBMT | RM | CZ920B | OCR_B | 1502 | 306 |
| **Symbols** | | | | | | |
| Courier Symbols | | | | | | |
| | Courier Symbols | RM | CZ4201 | COU_S | 1275 | 416 |
| | " Bold | RB | CZ4401 | COU_SB | | 420 |
| Helvetica Symbols | | | | | | |
| | Helvetica Symbols | RM | CZH201 | HEL_S | 1275 | 2304 |
| | " Bold | RB | CZH401 | HEL_SB | | 2305 |
| Times New Roman Symbols | Times New Roman | RM | CZN201 | TNR_S | 1275 | 2308 |
| | Symbols | RB | CZN401 | TNR_SB | | 2309 |
| | " Bold | | | | | |
| **Thai** | | | | | | |
| Courier Thai | | | | | | |
| | Courier Thai | RM | CZ4206 | COU_T | 1505 | 416 |
| | " Bold | RB | CZ4406 | COU_TB | | 420 |
| | " Italic | IM | CZ4306 | COU_TI | | 424 |
| | " Bold Italic | IB | CZ4506 | COU_TBI | | 428 |
| Thonburi | | | | | | |
| | Thonburi | RM | CZH206 | HEL_T | 1505 | 2304 |
| | " Bold | RB | CZH406 | HEL_TB | | 2305 |
| | " Italic | IM | CZH306 | HEL_TI | | 2306 |
| | " Bold Italic | IB | CZH506 | HEL_TBI | | 2307 |

*Table 1. General Library Fonts (continued)*

| AFP typeface name | Type 1 typeface name | Style and weight | Character set identifier | Type 1 file name | GCSGID | FGID |
|---|---|---|---|---|---|---|
| Burirum | | | | | | |
| | Burirum | RM | CZN206 | TNR_T | 1505 | 2308 |
| | " Bold | RB | CZN406 | TNR_TB | | 2309 |
| | " Italic | IM | CZN306 | TNR_TI | | 2310 |
| | " Bold Italic | IB | CZN506 | TNR_TBI | | 2311 |

## CJK Fonts

The CJK (Chinese Japanese Korean) Fonts are provided on the AFP Outline Fonts CD-ROM. Code pages and coded fonts compatible with the CJK Fonts are also provided. The CJK Fonts are derived from the Adobe CID-Keyed font technology. The CJK Fonts are available in AFP outline format.

The CJK Fonts contain the following typefaces suitable for printing a variety of Chinese, Japanese, and Korean documents:

- Chinese:
  - Simplified Chinese:
    - Fang Song (GB)
    - Hei (GB18030)
    - Kai (GB)
    - Song (GB18030)
  - Traditional Chinese:
    - Kai
    - Sung
- Japanese:
  - Japanese Heisei Kaku Gothic
  - Japanese Heisei Maru Gothic
  - Japanese Heisei Mincho
- Korean:
  - Korean Gothic
  - Korean Myengjo

These fonts contain various typefaces suitable for printing a variety of Chinese, Japanese, and Korean documents.

Type Transformer and the CID-keyed fonts are all part of the Type Transformer and Utilities for Windows CD-ROM shipped with IBM Infoprint Fonts for Multiplatforms (program number 5648-E77). AFP Fonts are all part of the CJK Fonts feature of IBM Infoprint Fonts for z/OS (program number 5648-E76).

**Note:** Although the Type Transformer and Utilities for Windows CD-ROM is no longer orderable, you can download the Type Transformer Utilities and example jobs at `http://www.ibm.com`.

## Naming conventions for CJK Fonts

This section describes the naming conventions for the CJK Fonts.

## CJK Outline Fonts

*Table 2. CJK Outline Font naming convention overview. This naming convention is used for CID-keyed outlines and AFP outline character sets.*

| PP | Prefix |
|---|---|
| **IB** | CID outline |
| **IL** | CID outline (GB18030) |
| **CZ** | AFP outline |

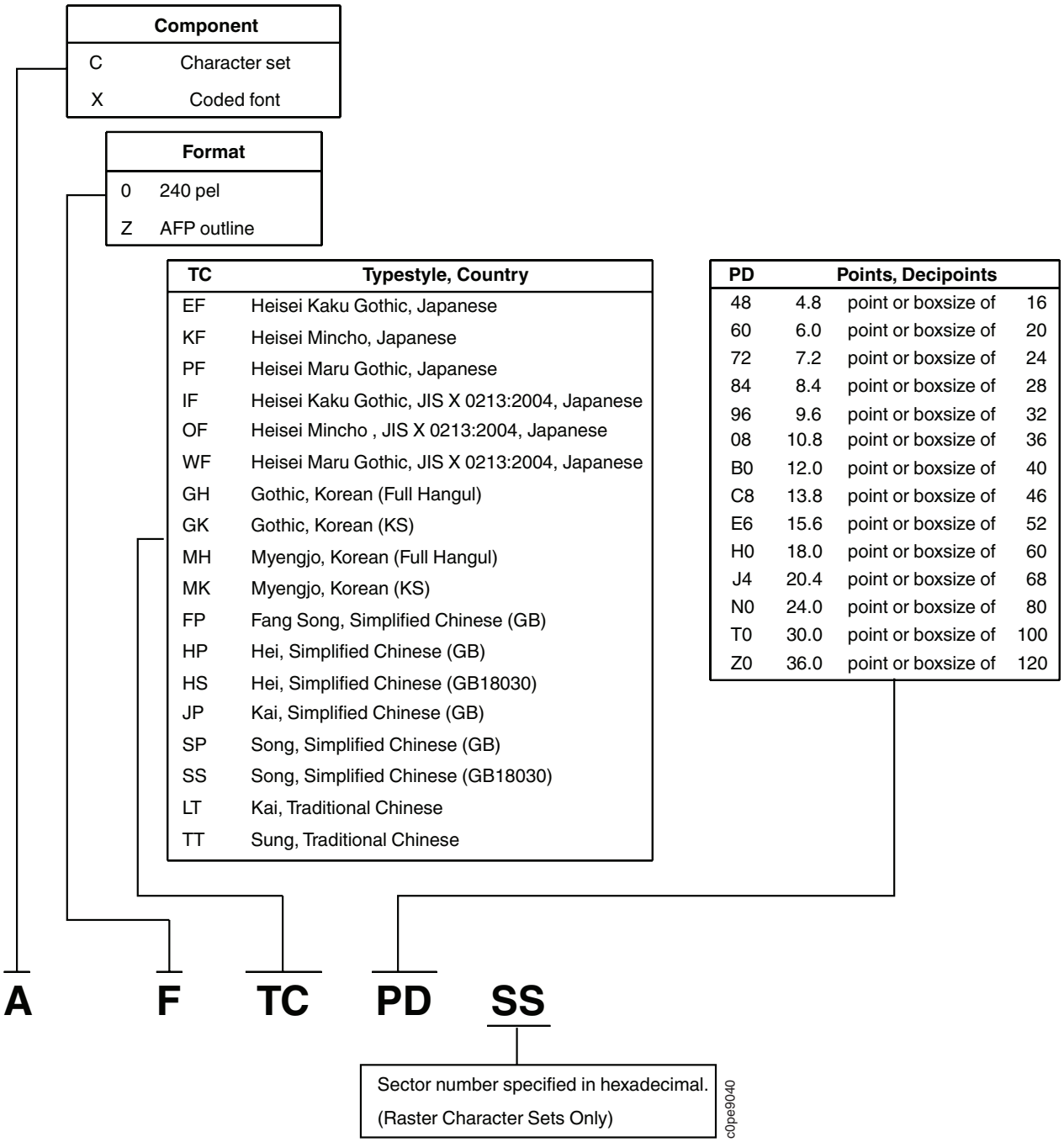
| XXXX | Language and Typeface |
|---|---|
| **JHKG** | Japanese Heisei Kaku Gothic |
| **JHMG** | Japanese Heisei Maru Gothic |
| **JHMN** | Japanese Heisei Mincho |
| **HKG2** | Korean Gothic |
| **HSM2** | Korean Myengjo |
| **SFSG** | Simplified Chinese Fang Song (GB) |
| **SHEI** | Simplified Chinese Hei (GB18030) |
| **SKAI** | Simplified Chinese Kai (GB) |
| **SSNG** | Simplified Chinese Song (GB18030) |
| **TKAI** | Traditional Chinese Kai |
| **TSNG** | Traditional Chinese Sung |

| Wn | Weight |
|---|---|
| **W3** | Light |
| **W4** | Semilight |
| **W5** | Medium |
| **W6** | Semibold |

**Note:** Wn is not used when PP is CZ.

## CJK Full-Width Fonts

This section illustrates the naming conventions for the CJK Full-Width Fonts.




**KS**: Korean Industrial Standard Code for information interchange (Hangul and Hanja) KSC 5601-1989

**Full Hangul**: Korean Industrial Standard Code for information interchange (Hangul and Hanja) KSC 5700-199

**GB**: Code of Chinese Graphic Character Set for Information Interchange GB 2312-80

**GB18030**: Code of Chinese Graphic Character Set for Information Interchange GB 18030-2000

*Figure 18. CJK Full-Width Font naming convention overview*

### CJK Half-Width Fonts

This section illustrates the naming conventions for the CJK Half-Width Fonts.

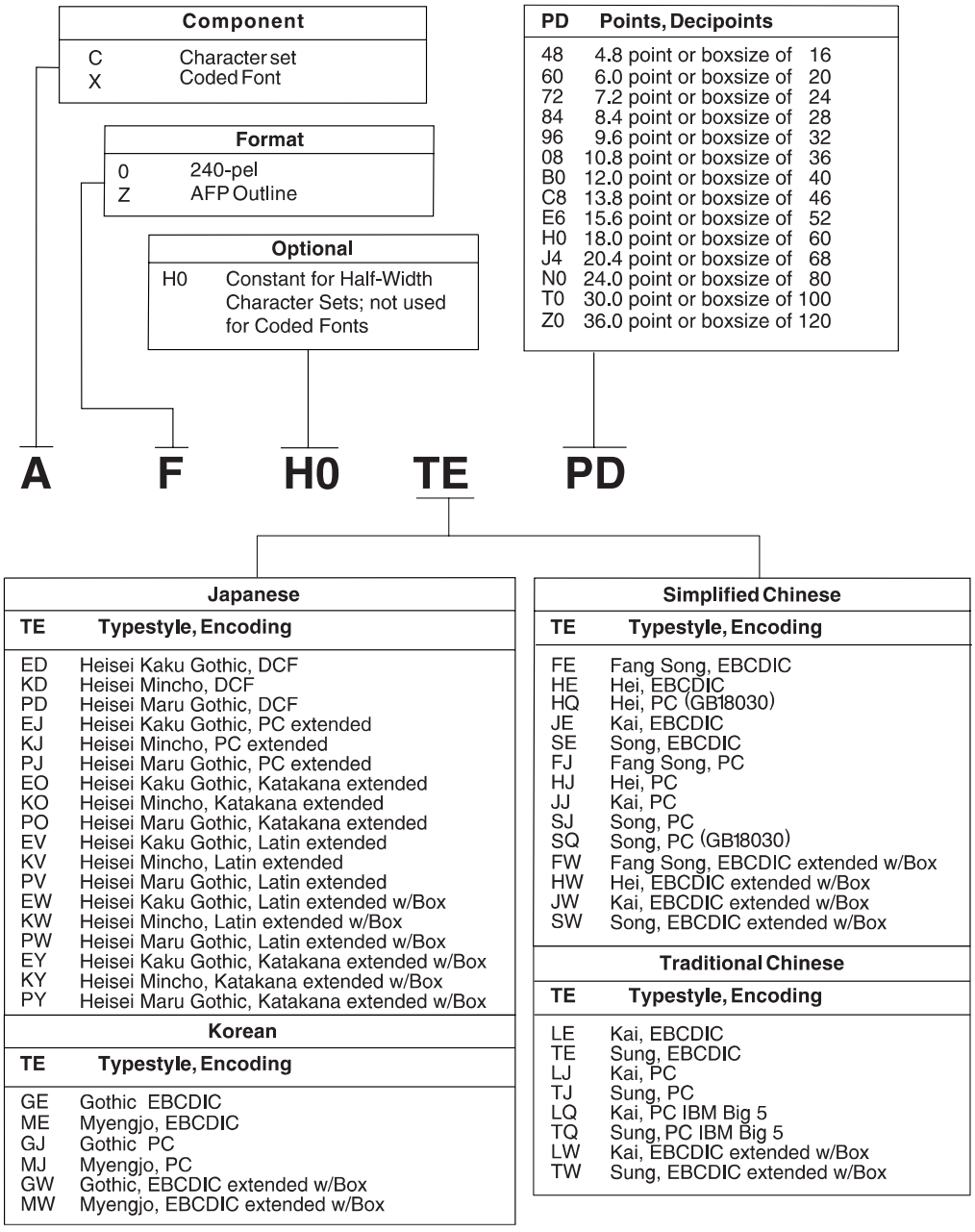



*Figure 19. CJK Half-Width Font naming convention overview*

## Summary tables for the CJK Fonts

The summary tables for the CJK Fonts provide this information:

**AFP/CID typeface name**
This is the IBM name for the typeface.

**CID file name**
Extensions are CID and CMP.

**Weight**
Possible values are: **Medium**, **Semi-Light**, **Light**, and **Semi-bold**.

**Width** Possible values are: **Full** (for Full-Width) or **Half** (for Half-Width).

**Coded font**
Characters of the coded font beginning with "XO" (Raster) or "XZ" (Outline). It is used to identify the combination of code page and character set.

**Character set**
A 6- or 8-character name used to identify AFP character sets. This identifies the character set as "C0" (raster) or "CZ" (outline).

**Code page**
A 6- to 8 characdter name of the code page beginning with "T1".

**GCSGID (Graphic Character Set Global Identifier)**
The GCSGID is a collection of characters registered with a unique number and sometimes used for font and code page selection.

**FGID (Font Global Identifier)**
The FGID is a number assigned to each typeface and is sometimes used for font selection.

*Table 3. CJK Fonts for Chinese (Simplified)*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| **Simplified Chinese - GB Fang Song** | | | | | | | | |
| Fang Song | IBSFSGW4 | Semi-Light | Full | XZFPpd | CZSFSG | T10837 | 1020 | 54566 |
| | | | Half | XZFEpd | CZSFSG | T1H00836 | 1174 | |
| | | | Half | XZFJpd | CZSFSG | T1H01115 | 1240 | |
| | | | Half | XZFWpd | CZSFSG | T1H01151 | 1366 | |
| **Simplified Chinese - GB18030 Hei** | | | | | | | | |
| Hei | ILSHEIW6 | Semi-Bold | Full | XZHPpd | CZSHEI | T10837 | 1020 | 54565 |
| | | | Full | XZHSpd | CZSHEI | T1K837 | 2103 | |
| | | | Half | XZHEpd | CZSHEI | T1H00836 | 1174 | |
| | | | Half | XZHJpd | CZSHEI | T1H01115 | 1240 | |
| | | | Half | XZHQpd | CZSHEI | T1H01252 | 0103 | |
| | | | Half | XZHWpd | CZSHEI | T1H01151 | 1366 | |
| **Simplified Chinese - GB Kai** | | | | | | | | |
| Kai | IBSKAIW5 | Medium | Full | XZJPpd | CZSKAI | T10837 | 1020 | 54568 |
| | | | Half | XZJEpd | CZSKAI | T1H00836 | 1174 | |
| | | | Half | XZJJpd | CZSKAI | T1H01115 | 1240 | |
| | | | Half | XZJWpd | CZSKAI | T1H01151 | 1366 | |
| **Simplified Chinese - GB18030 Song** | | | | | | | | |

*Table 3. CJK Fonts for Chinese (Simplified) (continued)*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| Song | | | | | | | | |
| | ILSSNGW5 | Medium | Full | XZSPpd | CZSSNG | T10837 | 1020 | 54567 |
| | | | Full | XZSSpd | CZSSNG | T1K837 | 2103 | |
| | | | Half | XZSEpd | CZSSNG | T1H00836 | 1174 | |
| | | | Half | XZSJpd | CZSSNG | T1H01115 | 1240 | |
| | | | Half | XZSQpd | CZSSNG | T1H01252 | 0103 | |
| | | | Half | XZSWpd | CZSSNG | T1H01151 | 1366 | |

*Table 4. CJK Fonts for Chinese (Traditional)*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| **Traditional Chinese Kai** | | | | | | | | |
| Kai | | | | | | | | |
| | IBTKAIW5 | Medium | Full | XZLTpd | CZTKAI | T10835 | 2074 | 54568 |
| | | | Half | XZLEpd | CZTKAI | T1H00037 | 1175 | |
| | | | Half | XZLJpd | CZTKAI | T1H01043 | 1189 | |
| | | | Half | XZLQpd | CZTKAI | T1H01114 | 1500 | |
| | | | Half | XZLVpd | CZTKAI | T1H01159 | 1399 | |
| | | | Half | XZLWpd | CZTKAI | T1H01152 | 1367 | |
| **Traditional Chinese Sung** | | | | | | | | |
| Sung | | | | | | | | |
| | IBTSNGW3 | Light | Full | XZTTpd | CZTSNG | T10835 | 2074 | 54563 |
| | | | Half | XZTEpd | CZTSNG | T1H00037 | 1175 | |
| | | | Half | XZTJpd | CZTSNG | T1H01043 | 1189 | |
| | | | Half | XZTQpd | CZTSNG | T1H01114 | 1500 | |
| | | | Half | XZTVpd | CZTSNG | T1H01159 | 1399 | |
| | | | Half | XZTWpd | CZTSNG | T1H01152 | 1367 | |

*Table 5. CJK Fonts for Japanese*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| **Japanese Heisei Kaku Gothic** | | | | | | | | |
| Heisei Kaku Gothic | IBJHKGW5 | Medium | Full | XZEFpd | CZJHKG | T10300 | 2093 | 53249 |
| | | | Half | XZEDpd | CZJHKG | T1H01002 | 1132 | |
| | | | Half | XZEJpd | CZJHKG | T1H01041 | 1187 | |
| | | | Half | XZEOpd | CZJHKG | T1H00290 | 1398 | |
| | | | Half | XZEVpd | CZJHKG | T1H01027 | 1398 | |
| | | | Half | XZEWpd | CZJHKG | T1H01031 | 1363 | |
| | | | Half | XZEYpd | CZJHKG | T1H01030 | 1363 | |
| **Japanese Heisei Kaku Gothic JIS X 0213:2004** | | | | | | | | |
| Heisei Kaku Gothic | IBJHKGW5 | Medium | Full | XZIFpd | CZJHKG | T1K300 | 2093 | 53249 |
| **Japanese Heisei Maru Gothic** | | | | | | | | |

*Table 5. CJK Fonts for Japanese (continued)*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| Heisei Maru Gothic | IBJHMGW4 | Semi-Light | Full | XZPFpd | CZJHMG | T10300 | 2093 | 53250 |
| | | | Half | XZPDpd | CZJHMG | T1H01002 | 1132 | |
| | | | Half | XZPJpd | CZJHMG | T1H01041 | 1187 | |
| | | | Half | XZPOpd | CZJHMG | T1H00290 | 1398 | |
| | | | Half | XZPVpd | CZJHMG | T1H01027 | 1398 | |
| | | | Half | XZPWpd | CZJHMG | T1H01031 | 1363 | |
| | | | Half | XZPYpd | CZJHMG | T1H01030 | 1363 | |
| **Japanese Heisei Maru Gothic JIS X 0213:2004** | | | | | | | | |
| Heisei Maru Gothic | IBJHMGW4 | Semi-Light | Full | XZWFpd | CZJHMG | T1K300 | 2093 | 53250 |
| **Japanese Heisei Mincho** | | | | | | | | |
| Heisei Mincho | IBJHMNW3 | Light | Full | XZKFpd | CZJHMN | T10300 | 2093 | 53248 |
| | | | Half | XZKDpd | CZJHMN | T1H01002 | 1132 | |
| | | | Half | XZKJpd | CZJHMN | T1H01041 | 1187 | |
| | | | Half | XZKOpd | CZJHMN | T1H00290 | 1398 | |
| | | | Half | XZKVpd | CZJHMN | T1H01027 | 1398 | |
| | | | Half | XZKWpd | CZJHMN | T1H01031 | 1363 | |
| | | | Half | XZKYpd | CZJHMN | T1H01030 | 1363 | |
| **Japanese Heisei Mincho JIS X 0213:2004** | | | | | | | | |
| Heisei Mincho | IBJHMNW3 | Light | Full | XZOFpd | CZJHMN | T1K300 | 2093 | 53248 |

*Table 6. CJK Fonts for Korean*

| AFP/CID typeface name | CID file name | Weight | Width | Coded font | Character set | Code page | GCSCID | FGID |
|---|---|---|---|---|---|---|---|---|
| **Korean Gothic** | | | | | | | | |
| Gothic | IBHKG2W5 | Medium | Full | XZGKpd | CZHKG2 | T10834 | 1010 | 53816 |
| | | | Full | XZGHpd | CZHKG2 | T1K834 | 1098 | |
| | | | Half | XZGEpd | CZHKG2 | T1H00833 | 1173 | |
| | | | Half | XZGJpd | CZHKG2 | T1H01126 | 1267 | |
| | | | Half | XZGWpd | CZHKG2 | T1H01150 | 1365 | |
| **Korean Myengjo** | | | | | | | | |
| Myengjo | IBHSM2W5 | Medium | Full | XZMKpd | CZHSM2 | T10834 | 1010 | 53560 |
| | | | Full | XZMHpd | CZHSM2 | T1K834 | 1098 | |
| | | | Half | XZMEpd | CZHSM2 | T1H00833 | 1173 | |
| | | | Half | XZMJpd | CZHSM2 | T1H01126 | 1267 | |
| | | | Half | XZMWpd | CZHSM2 | T1H01150 | 1365 | |

## CJK Simulation Fonts

The CJK Simulation Fonts are provided in AFP Outline Font format that simulates these raster font products:

*Table 7. Raster font products associated with CJK Simulation Fonts*

| Product Name | Product ID | Host | IBM i | AIX | OS/2 | Status |
|---|---|---|---|---|---|---|
| **Simplified Chinese** | | | | | | |
| AFP Simplified Chinese Font | 5771-AEK | X | | | | Withdrawn |
| AFP Simplified Chinese Font | 5765-545 | | | X | | Withdrawn |
| AFP Simplified Chinese Font/2 | 5605-3L0 | | | | X | Withdrawn |
| **Traditional Chinese** | | | | | | |
| AFP Traditional Chinese Font | 5771-AFZ | X | | | | Withdrawn |
| AFP Traditional Chinese Font | 5765-546 | | | X | | Withdrawn |
| AFP Traditional Chinese Font/2 | 5606-TL0 | | | | X | Withdrawn |
| **Japanese** | | | | | | |
| AFP Japanese Font V2 | 5771-AGB | X | | | | Available |
| AFP Japanese Heisei Font | 5648-104 | X | | | | Available |
| AFP AIX Japanese Font/6000 | 5765-345 | | | X | | Available |
| AFP Japanese Font/2 | 5605-0L0 | | | | X | Withdrawn |
| **Korean** | | | | | | |
| AFP Korean Font | 5771-AFW | X | | | | Withdrawn |
| AFP Korean Font | 5765-547 | | | X | | Withdrawn |
| **CJK** | | | | | | |
| Advanced Function Printing CJK Fonts for AS/400 | 5769-FN1 | | X | | | Available |
| Advanced Function Printing CJK for IBM i | 5716-FN1 | | X | | | Withdrawn |
| Advanced Function Printing CJK Fonts/400 | 5763-FN1 | | X | | | Withdrawn |
| IBM AS/400 Advanced Function Printing Fonts for CJK Japan Version 2 | 5738-FN1 | | X | | | Withdrawn |
| **Note:** Host operating systems include MVS, VM, and VSE. | | | | | | |

## Character set

*Table 8. CJK Simulation Font naming convention overview for character sets*

| **CZ** | **Character set** | **XXXX** | **Language and typeface** |
|---|---|---|---|
| **CZ** | AFP outline character set | **JHKG** | Japanese Heisei Kaku Gothic |
| | | **JHMG** | Japanese Heisei Maru Gothic |
| | | **JHMN** | Japanese Heisei Mincho |
| | | **HKG2** | Korean Gothic |
| | | **HSM2** | Korean Myengjo |
| | | **SHEI** | Simplified Chinese Hei |
| | | **SSNG** | Simplified Chinese Song |
| | | **TSNG** | Traditional Chinese Sung |

## Coded font

*Table 9. CJK Simulation Fonts naming convention overview for coded fonts. See Figure 20 on page 37 for detailed information.*

| **XZ** | **Coded font** | **XXXX** | |
|---|---|---|---|
| **XZ** | AFP outline coded font | **T** | Typestyle |
| | | **BX** | Box Size |
| | | **E** | Encoding |

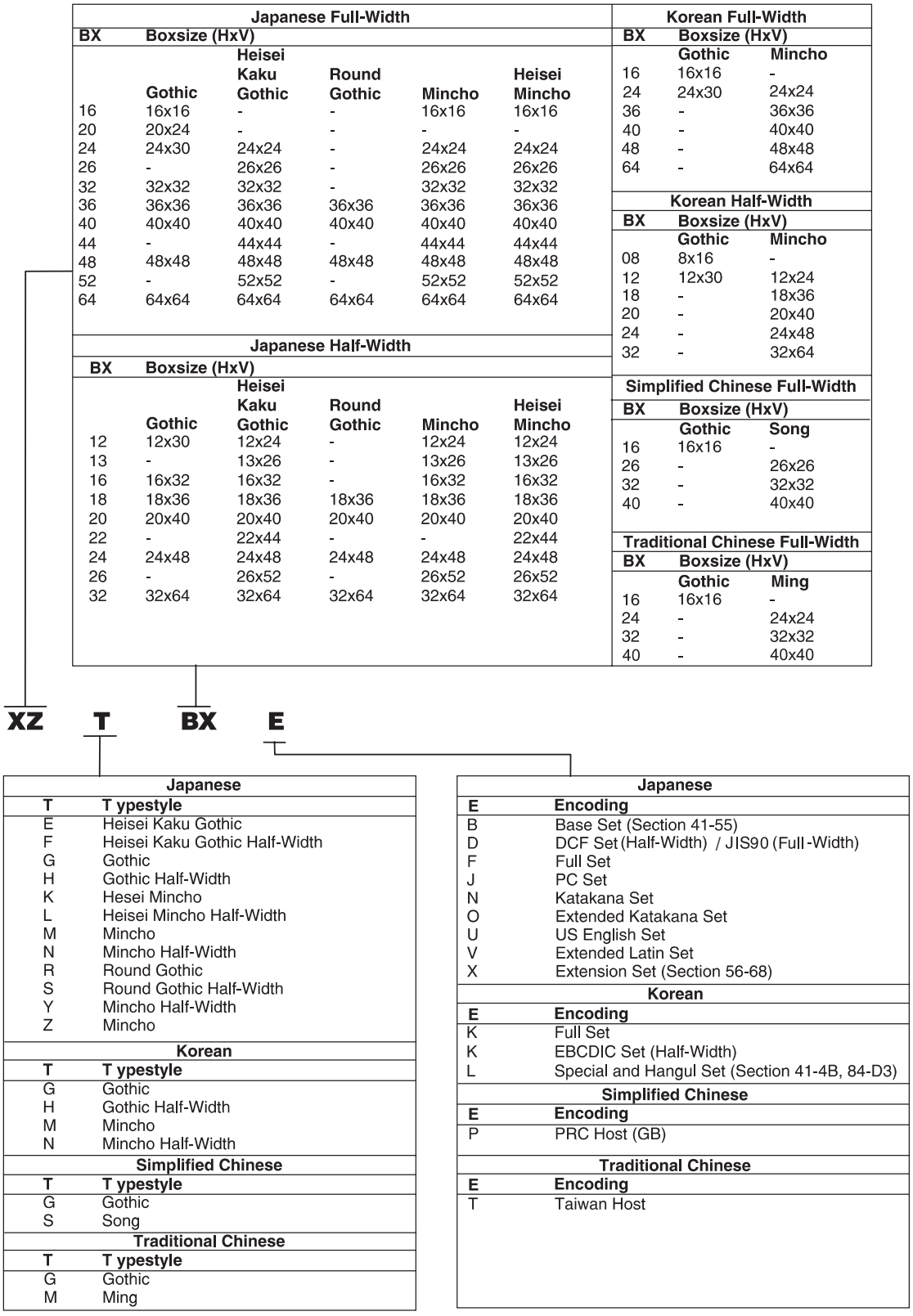



*Figure 20. Simulation Font naming convention*

## Summary tables for the CJK Simulation Fonts

This section describes the CJK Simulation Fonts available for use with Print Services Facility™ (PSF) licensed programs. The CJK Simulation Fonts are provided in AFP outline font format that simulates the raster font products.

The CJK Simulation Fonts summary tables provide this information:

**CID file name**
Extensions are CID and CMP.

**Weight**
Possible values are: **Medium**, **Semi-Light**, **Light**, and **Semi-bold**.

**Width** Possible values are: **Full** (for Full-Width) or **Half** (for Half-Width).

**Coded font**
Characters of the coded font beginning with "XO" (Raster) or "XZ" (Outline). It is used to identify the combination of code page and character set.

**Character set**
A 6- or 8-character name used to identify AFP character sets. This identifies the character set as "C0" (raster) or "CZ" (outline).

**Code page**
A 6- to 8 characdter name of the code page beginning with "T1".

**GCSGID (Graphic Character Set Global Identifier)**
The GCSGID is a collection of characters registered with a unique number and sometimes used for font and code page selection.

**FGID (Font Global Identifier)**
The FGID is a number assigned to each typeface and is sometimes used for font selection.

**Box Size 240-pel (HxV)**
The box size of the fonts shown numerically as **H**eight by (**x**) **V**ertical size.

See Table 10 for the summary of the CJK simulation fonts.

*Table 10. CJK Simulation Fonts*

| CID file name | Weight | Width | Coded font | Character set | Code page | GCSGID | FGID | Box Size 240 pel (HxV) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Simplified Chinese Gothic simulated by Hei** | | | | | | | | | | |
| ILSHEIW6 | Semi-bold | Full | XZGbxP | CZSHEI | T10837 | 1020 | 54565 | | | 16x16 |
| **Simplified Chinese Song simulated by Song** | | | | | | | | | | |
| ILSSNGW5 | Medium | Full | XZSbxP | CZSSNG | T10837 | 1020 | 54567 | 26x26 | 32x32 | 40x40 |
| **Traditional Chinese Gothic simulated by Sung** | | | | | | | | | | |
| IBTSNGW3 | Light | Full | XZGbxT | CZTSNG | T10835 | 2074 | 54563 | | | 16x16 |
| **Traditional Chinese Ming simulated by Sung** | | | | | | | | | | |
| IBTSNGW3 | Light | Full | XZMbxT | CZTSNG | T10835 | 2074 | 54563 | 24x24 | 32x32 | 40x40 |
| **Japanese Gothic simulated by Heisei Kaku Gothic** | | | | | | | | | | |

*Table 10. CJK Simulation Fonts (continued)*

| CID file name | Weight | Width | Coded font | Character set | Code page | GCSGID | FGID | Box Size 240 pel (HxV) |
|---|---|---|---|---|---|---|---|---|
| IBJHKGW5 | | | | | | | | |
| | Medium | Full | XZGbxB | CZJHKG | T1I300 | 2093 | 53249 | 16x16 20x24 24x30 32x32 36x36 40x40 48x48 64x64 |
| | | Full | XZGbxF | | T1I300 | 2093 | | 16x16 20x24 24x30 32x32 36x36 40x40 48x48 64x64 |
| | | Full | XZGbxX | | T1I300 | 2093 | | 48x48 64x64 |
| | | Half | XZHbxD | | T1H01002 | 1132 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| | | Half | XZHbxJ | | T1H01041 | 1187 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| | | Half | XZHbxN | | T1HK0290 | 332 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| | | Half | XZHbxO | | T1H00290 | 1398 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| | | Half | XZHbxU | | T1HK0037 | 101 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| | | Half | XZHbxV | | T1H10027 | 1398 | 12x30 16x32 | 18x36 20x40 24x48 32x64 |
| **Japanese Gothic (JIS90) simulated by Heisei Kaku Gothic** | | | | | | | | |
| IBJHKGW5 | | | | | | | | |
| | Medium | Full | XZGbxD | CZJHKG | T1J300 | 2093 | 53249 | 16x16 20x24 24x30 32x32 36x36 40x40 48x48 64x64 |
| **Japanese Heisei Kaku Gothic simulated by Heisei Kaku Gothic** | | | | | | | | |
| IBJHKGW5 | | | | | | | | |
| | Medium | Full | XZEbxB | CZJHKG | T10300 | 2093 | 53249 | 24x24 26x26 32x32 36x36 40x40 44x44 48x48 52x52 64x64 |
| | | Full | XZEbxF | | T10300 | 2093 | 24x24 | 26x26 32x32 36x36 40x40 44x44 48x48 52x52 64x64 |
| | | Half | XZFbxD | | T1H01002 | 1132 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZFbxJ | | T1H01041 | 1187 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZFbxN | | T1HK0290 | 332 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZFbxO | | T1H00290 | 1398 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZFbxU | | T1HK0037 | 101 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZFbxV | | T1H01027 | 1398 | 12x24 | 13x26 16x32 18x36 20x40 22x44 24x48 26x52 32x64 |
| **Japanese Round Gothic simulated by Heisei Maru Gothic** | | | | | | | | |
| IBJHMGW4 | | | | | | | | |
| | Semi-light | Full | XZRbxB | CZJHMG | T1I300 | 2093 | 53250 | 36x36 40x40 48x48 64x64 |
| | | Full | XZRbxF | | T1I300 | 2093 | | 36x36 40x40 48x48 64x64 |
| | | Full | XZRbxX | | T1I300 | 2093 | | 48x48 64x64 |
| | | Half | XZSbxD | | T1H01002 | 1132 | | 18x36 20x40 24x48 32x64 |
| | | Half | XZSbxJ | | T1H01041 | 1187 | | 18x36 20x40 24x48 32x64 |
| | | Half | XZSbxN | | T1HK0290 | 332 | | 18x36 20x40 24x48 32x64 |
| | | Half | XZSbxO | | T1H00290 | 1398 | | 18x36 20x40 24x48 32x64 |
| | | Half | XZSbxU | | T1HK0037 | 101 | | 18x36 20x40 24x48 32x64 |
| | | Half | XZSbxV | | T1H01027 | 1398 | | 18x36 20x40 24x48 32x64 |
| **Japanese Round Gothic (JIS90) simulated by Heisei Maru Gothic** | | | | | | | | |
| IBJHMGW4 | | | | | | | | |
| | Semi-Light | Full | XZRbxD | CZJHMG | T1J300 | 2093 | 53250 | 36x36 40x40 48x48 64x64 |
| **Japanese Mincho simulated by Heisei Mincho** | | | | | | | | |

*Table 10. CJK Simulation Fonts (continued)*

| CID file name | Weight | Width | Coded font | Character set | Code page | GCSGID | FGID | Box Size 240 pel (HxV) |
|---|---|---|---|---|---|---|---|---|
| IBJHMNW3 | | | | | | | | |
| | Light | Full | XZMbxB | CZJHMN | T1I300 | 2093 | 53248 | 16x16 24x24 26x26 32x32 36x36 |
| | | | | | | | | 40x40 44x44 48x48 52x52 64x64 |
| | | Full | XZMbxF | | T1I300 | 2093 | | 16x16 24x24 26x26 32x32 36x36 |
| | | | | | | | | 40x40 44x44 48x48 52x52 64x64 |
| | | Full | XZMbxX | | T1I300 | 2093 | | 48x48 64x64 |
| | | Full | XZZbxB | | T1I300 | 2093 | | 24x24 |
| | | Full | XZZbxF | | T1I300 | 2093 | | 24x24 |
| | | Half | XZNbxD | | T1H01002 | 1132 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZNbxJ | | T1H01041 | 1187 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZNbxN | | T1HK0290 | 332 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZNbxO | | T1H00290 | 1398 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZNbxU | | T1HK0037 | 101 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZNbxV | | T1H01027 | 1398 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 24x48 26x52 32x64 |
| | | Half | XZYbxD | | T1H01002 | 1132 | | 12x24 |
| | | Half | XZYbxJ | | T1H01041 | 1187 | | 12x24 |
| | | Half | XZYbxN | | T1HK0290 | 332 | | 12x24 |
| | | Half | XZYbxO | | T1H00290 | 1398 | | 12x24 |
| | | Half | XZYbxU | | T1HK0037 | 101 | | 12x24 |
| | | Half | XZYbxV | | T1H01027 | 1398 | | 12x24 |
| **Japanese Mincho (JIS90) simulated by Heisei Mincho** | | | | | | | | |
| IBJHMNW3 | | | | | | | | |
| | Light | Full | XZMbxD | CZJHMN | T1J300 | 2093 | 53248 | 16x16 24x24 26x26 32x32 36x36 |
| | | | | | | | | 40x40 44x44 48x48 52x52 64x64 |
| | | Full | XZZbxD | | T1J300 | 2093 | | 24x24 |
| **Japanese Heisei Mincho simulated by Heisei Mincho** | | | | | | | | |
| IBJHMNW3 | | | | | | | | |
| | Light | Full | XZKbxB | CZJHMN | T10300 | 2093 | 53248 | 16x16 24x24 26x26 32x32 36x36 |
| | | | | | | | | 40x40 44x44 48x48 52x52 64x64 |
| | | Full | XZKbxF | | T10300 | 2093 | | 16x16 24x24 26x26 32x32 36x36 |
| | | | | | | | | 40x40 44x44 48x48 52x52 64x64 |
| | | Half | XZLbxD | | T1H01002 | 1132 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZLbxJ | | T1H01041 | 1187 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZLbxN | | T1HK0290 | 332 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZLbxO | | T1H00290 | 1398 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZLbxU | | T1HK0037 | 101 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| | | Half | XZLbxV | | T1H01027 | 1398 | | 12x24 13x26 16x32 18x36 |
| | | | | | | | | 20x40 22x44 24x48 26x52 32x64 |
| **Korean Gothic simulated by Gothic** | | | | | | | | |

*Table 10. CJK Simulation Fonts (continued)*

| CID file name | Weight | Width | Coded font | Character set | Code page | GCSGID | FGID | Box Size 240 pel (HxV) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IBHKG2W5 | | | | | | | | | | | | |
| | Medium | Full | XZGbxK | CZHKG2 | T10834 | 1010 | 53816 | | | | 16x16 | 24x30 |
| | | Full | XZGbxL | | T10834 | 1010 | | | | | 16x16 | 24x30 |
| | | Half | XZHbxK | | T1H00833 | 1173 | | | | | 8x16 | 12x30 |
| **Korean Mincho simulated by Myengjo** | | | | | | | | | | | | |
| IBHSM2W5 | | | | | | | | | | | | |
| | Medium | Full | XZMbxK | CZHSM2 | T10834 | 1010 | 53560 | 24x24 | 32x32 | 36x36 | 40x40 | 48x48 |
| | | Full | XZMbxL | | T10834 | 1010 | | | | | | 64x64 |
| | | Half | XZNbxK | | T1H00833 | 1173 | | 24x24 | 32x32 | 36x36 | 40x40 | 48x48 |
| | | | | | | | | | | | | 64x64 |
| | | | | | | | | 12x30 | 16x32 | 18x36 | 20x40 | 24x48 |
| | | | | | | | | | | | | 32x64 |

# Chapter 4. Code pages and Extended Code Pages

Traditional code pages include EBCDIC encoding only, but Extended Code Pages (ECPs) include EBCDIC encoding and Unicode encoding. ECPs are code pages that include multiple encodings within a code page. In ECPs, each code point can be mapped to one or more Unicode values. It allows code pages that contain user-defined characters (that is, those characters that have not been registered with IBM and assigned a GCGID value) to be used with TrueType/OpenType fonts.

## Naming conventions for code pages

The name of a code page makes it possible to recognize it as a code page. The resource names of all AFP code pages begin with **T1**.

## General Library code pages

The name of the code pages used with the General Library character sets makes it possible to identify its code page number or name.

The last 6 characters of the code page name are used to identify the code page. In all cases where the first two characters are **00**, **V1**, or **B0**, these 4 characters are the Code Page Global Identifier, a number registered by IBM to uniquely identify each code page. All future code pages provided by IBM will be named in this manner.

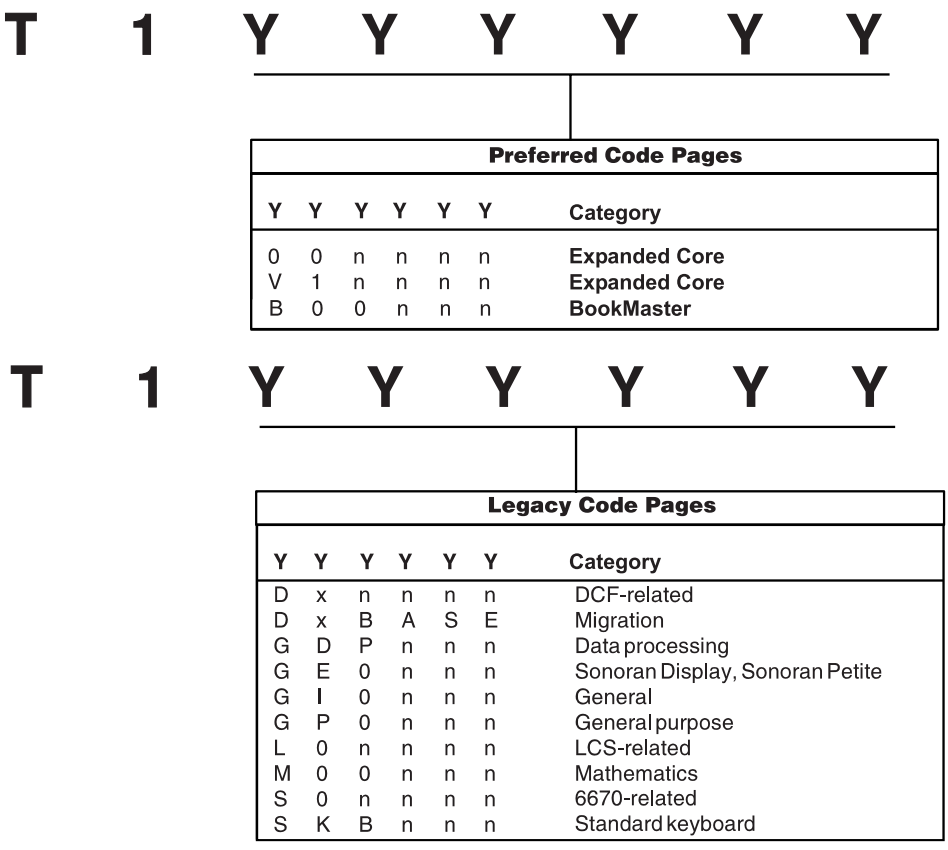



*Figure 21. Code page name and category or version level*

## CJK code pages using full-width characters

The names of CJK code pages supplied for use with CJK fonts follow a new convention, so you might see some older CJK code pages with different names.

You can recognize a CJK code page used with an outline font because its name is only 6 characters long instead of the usual 8.

*Table 11. CJK code pages using full-width characters naming convention overview*

| | | | | | |
|---|---|---|---|---|---|
| **T1** | Always T1 | **XXXX** | Code page global identifier (CPGID)<br>**Exceptions:**<br>• Korean Full Hangul code page is K834 for CPGID:0834<br>• Korean KS code page is 0834 for CPGID:65283<br>• Simplified Chinese GB18030 code page is K837 for CPGID:0837<br>• Simplified Chinese GB code page is 0837 for CPGID:65284<br>• Japanese JIS X 0213:2004 code page is K300 for CPGID:0300<br>• Japanese JIS X 0213:2000 code page is 0300 for CPGID:65280<br>• Japanese IBM JIKEI code page is I300 for CPGID:65281<br>• Japanese IBM JIKEI with JIS90 code page is J300 for CPGID:65282 | **SS** | **Section number**<br>**SS** Code page used with a raster font<br>**blank** Code page used with an outline font |

## CJK code pages using half-width characters

You can recognize a new General Library code page used with CJK character sets because the third and fourth characters of its name are H0. Some older code pages follow a different naming convention.

*Table 12. CJK code pages using half-width characters naming convention overview*

| | | | | | |
|---|---|---|---|---|---|
| **T1** | Always T1 | **H0** | Always H0<br>**Exception:** Japanese CPGID:0037,00290 and Simplified Chinese CPGID:1114 take HK. | **XXXX** | Code page global identifier (CPGID) |

## Summary table for code pages and extended code pages

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General | T1000038 | X | X | US-ASCII Character Set |
| | T1000259 | X | | Symbols, Set 7 |
| | T1000260 | X | X | Canadian French - 116 |
| | T1000276 | X | X | Canada (French) - 94 |
| | T1000286 | X | X | Austria/Germany F.R., Alt (3270) |
| | T1000287 | X | X | Denmark/Norway, Alternate (3270) |
| | T1000288 | X | X | Finland/Sweden, Alternate (3270) |
| | T1000289 | X | X | Spain, Alternate (3270) |
| | T1000290 | X | X | Gothic Katakana, Katakana 10, Katakana 12 |
| | T1000293 | X | | APL (USA) |
| | T1000310 | X | | APL Graphic Escape |
| | T1000361 | X | X | Publishing: International #5 |
| | T1000363 | X | | Symbols, Set 8 |
| | T1000367 | X | X | ASCII |
| | T1000382 | X | X | Publishing: Austria, Germany, Switzerland |
| | T1000383 | X | X | Publishing: Belgium |
| | T1000384 | X | X | Publishing: Brazil |
| | T1000385 | X | X | Publishing: Canada (French) |
| | T1000386 | X | X | Publishing: Denmark, Norway |
| | T1000387 | X | X | Publishing: Finland, Sweden |
| | T1000388 | X | X | Publishing: France, Switzerland |
| | T1000389 | X | X | Publishing: Italy, Switzerland |
| | T1000390 | X | X | Publishing: Japan (Latin) |
| | T1000391 | X | X | Publishing: Portugal |
| | T1000392 | X | X | Publishing: Spain, Philippines |
| | T1000393 | X | X | Publishing: Latin America (Spanish) |
| | T1000394 | X | X | Publishing: United Kingdom, Australia, Hong Kong, Ireland, New Zealand |
| | T1000395 | X | X | Publishing: United States, Canada (English) |
| | T1000420 | X | X | Arabic Bilingual |
| | T1000423 | X | X | Greece 183 |
| | T1000424 | X | X | Hebrew |
| | T1000437 | X | X | Personal Computer: ASCII |
| | T1000803 | X | | Hebrew Character Set A |
| | T1000808 | X | X | Hebrew Character Set A |
| | T1000813 | X | X | ISO/ANSI 8-Bit Greek |
| | T1000819 | X | X | ISO/ANSI 8-Bit Latin1 |
| | T1000829 | X | | Math Symbols |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1000836 | X | | People's Republic of China |
| | T1000838 | X | | Thailand |
| | T1000848 | X | X | Personal Computer: Cyrillic, Ukraine with euro |
| | T1000849 | X | X | Personal Computer: Cyrillic, Belo Russian with euro |
| | T1000850 | X | X | Personal Computer Multilingual |
| | T1000851 | X | X | Personal Computer: Greece |
| | T1000852 | X | X | Personal Computer: Latin2 |
| | T1000853 | X | X | Personal Computer: Latin3 |
| | T1000855 | X | X | Personal Computer: Cyrillic |
| | T1000856 | X | X | Personal Computer: Hebrew |
| | T1000857 | X | X | Personal Computer: Latin5 |
| | T1000858 | X | X | Personal Computer – Multilingual with euro |
| | T1000860 | X | X | Personal Computer: Portugal |
| | T1000861 | X | X | Personal Computer: Iceland |
| | T1000862 | X | X | Personal Computer: Hebrew (ASCII) |
| | T1000863 | X | X | Personal Computer: France, Canada (French) |
| | T1000864 | X | X | Personal Computer: Arabic |
| | T1000865 | X | X | Personal Computer: Nordic—Denmark, Norway |
| | T1000866 | X | X | Personal Computer: Cyrillic #2 |
| | T1000867 | X | X | Israel – Personal Computer |
| | T1000869 | X | X | Personal Computer: Greece |
| | T1000870 | X | X | Personal Computer: Latin2 Multilingual |
| | T1000872 | X | X | Cyrillic Personal Computer with euro |
| | T1000874 | X | | Personal Computer: Thailand |
| | T1000875 | X | X | Greece |
| | T1000876 | X | | OCR-A ASCII |
| | T1000877 | X | | OCR-B ASCII |
| | T1000880 | X | X | Cyrillic Multilingual |
| | T1000889 | X | X | Thailand |
| | T1000892 | X | | OCR-A |
| | T1000893 | X | | OCR-B |
| | T1000897 | X | X | Katakana Personal Computer |
| | T1000899 | X | | ASCII Symbol Set 7 |
| | T1000901 | X | X | Personal Computer Baltic Multilingual with euro |
| | T1000902 | X | X | Multilingual with euro |
| | T1000903 | X | | People's Republic of China (Latin) |
| | T1000904 | X | X | Taiwan (Latin) |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1000905 | X | X | Latin3 Multilingual |
| | T1000910 | X | | APL ASCII |
| | T1000912 | X | X | Latin2 ISO/ANSI 8-Bit |
| | T1000913 | X | X | Latin3 ISO/ASCII |
| | T1000914 | X | X | Latin4 ISO/ANSI |
| | T1000915 | X | X | Cyrillic ISO/ANSI 8-Bit |
| | T1000916 | X | X | Hebrew ISO/ANSI 8-Bit |
| | T1000920 | X | X | Latin5 ISO/ANSI 8-Bit |
| | T1000921 | X | X | Personal Computer Baltic Multilingual |
| | T1000922 | X | X | Estonia Personal Computer |
| | T1000923 | X | X | Latin9 |
| | T1000924 | X | X | Latin9 EBCDIC |
| | T1001002 | X | X | DCF |
| | T1001003 | X | X | United States Text Subset |
| | T1001004 | X | X | Personal Computer: Desktop Publishing |
| | T1001008 | X | X | Arabic ISO/ASCII 8-Bit |
| | T1001025 | X | X | Cyrillic Multilingual |
| | T1001026 | X | X | Cyrillic Multilingual |
| | T1001027 | X | X | Katakana |
| | T1001028 | X | X | Hebrew Publishing |
| | T1001029 | X | | Arabic ISO/ASCII 8-Bit |
| | T1001038 | X | | ASCII Symbols Abode |
| | T1001039 | X | X | GML List Symbols |
| | T1001041 | X | X | Katakana Personal Computer |
| | T1001042 | X | | Simplified Chinese Extended |
| | T1001043 | X | X | Traditional Chinese Extended |
| | T1001046 | X | X | Arabic Extended ISO/ASCII 8-Bit |
| | T1001068 | X | X | Text with numeric spacing |
| | T1001069 | X | X | Latin4 |
| | T1001087 | X | | Symbols Abode |
| | T1001091 | X | | Symbols, Set 7 Modified |
| | T1001092 | X | | ASCII Symbols, Set 7 Modified |
| | T1001093 | X | X | IBM Logo |
| | T1001110 | X | X | Latin2 Multilingual |
| | T1001111 | X | X | Latin3 Multilingual |
| | T1001112 | X | X | Baltic – Multilingual EBCDIC |
| | T1001122 | X | X | Estonia EBCDIC |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1001123 | X | X | Cyrillic, Ukraine EBCDIC |
| | T1001124 | X | X | Cyrillic, Ukraine ISO–8 |
| | T1001125 | X | X | Personal Computer: Cyrillic, Ukraine |
| | T1001129 | X | X | Vietnamese ISO-8 |
| | T1001130 | X | X | Vietnamese EBCDIC |
| | T1001131 | X | X | Personal Computer: Cyrillic, Belo Russian |
| | T1001132 | X | X | Lao EBCDIC |
| | T1001133 | X | X | Lao ISO–8 |
| | T1001139 | X | X | Japan Alphanumeric Katakana |
| | T1001140 | X | X | USA, Canada ECECP |
| | T1001141 | X | X | Austria, Germany ECECP |
| | T1001142 | X | X | Denmark, Norway ECECP |
| | T1001143 | X | X | Finland, Sweden ECECP |
| | T1001144 | X | X | Italy ECECP |
| | T1001145 | X | X | Spain, Latin America ECECP |
| | T1001146 | X | X | UK ECECP |
| | T1001147 | X | X | France ECECP |
| | T1001148 | X | X | International ECECP |
| | T1001149 | X | X | Iceland ECECP |
| | T1001153 | X | X | Latin2 Multilingual with euro |
| | T1001154 | X | X | EBCDIC Cyrillic, Multilingual with euro |
| | T1001155 | X | X | EBCDIC Turkey with euro |
| | T1001156 | X | X | EBCDIC Baltic Multilingual with euro |
| | T1001157 | X | X | EBCDIC Estonia with euro |
| | T1001158 | X | X | EBCDIC Cyrillic, Ukraine with euro |
| | T1001160 | X | | Thailand EBCDIC with euro |
| | T1001161 | X | | Thailand Personal Computer with euro |
| | T1001162 | X | X | Windows Thailand |
| | T1001163 | X | X | Vietnamese ISO-8 with euro |
| | T1001164 | X | X | Vietnamese, EBCDIC with euro |
| | T1001166 | X | X | EBCDIC Cyrillic, Multilingual with euro |
| | T1001250 | X | X | Windows Latin2 |
| | T1001251 | X | X | Windows Cyrillic |
| | T1001252 | X | X | Windows Latin1 |
| | T1001253 | X | X | Windows Greek |
| | T1001254 | X | X | Windows Turkish |
| | T1001257 | X | X | Windows Baltic Rim |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1001258 | X | X | Windows Vietnamese |
| | T1001300 | X | | Generic Bar Code/OCR-B |
| | T1B00037 | X | X | BookMaster: United States, Canada |
| | T1B00273 | X | X | BookMaster: Austria, Germany, Switzerland |
| | T1B00274 | X | X | BookMaster: Belgium |
| | T1B00275 | X | X | BookMaster: Brazil |
| | T1B00277 | X | X | BookMaster: Denmark, Norway |
| | T1B00278 | X | X | BookMaster: Finland, Sweden |
| | T1B00280 | X | X | BookMaster: Italy, Switzerland |
| | T1B00281 | X | X | BookMaster: Japan (Latin) |
| | T1B00282 | X | X | BookMaster: Portugal |
| | T1B00284 | X | X | BookMaster: Spain, Latin America |
| | T1B00285 | X | X | BookMaster: United Kingdom |
| | T1B00297 | X | X | BookMaster: France |
| | T1B00361 | X | X | BookMaster International |
| | T1B00382 | X | X | BookMaster: Austria, Germany, Switzerland |
| | T1B00383 | X | X | BookMaster: Belgium |
| | T1B00384 | X | X | BookMaster: Brazil |
| | T1B00385 | X | X | BookMaster: Canada (French) |
| | T1B00386 | X | X | BookMaster: Denmark, Norway |
| | T1B00387 | X | X | BookMaster: Finland, Sweden |
| | T1B00388 | X | X | BookMaster: France, Switzerland |
| | T1B00389 | X | X | BookMaster: Italy, Switzerland |
| | T1B00390 | X | X | BookMaster: Japan (Latin) |
| | T1B00391 | X | X | BookMaster: Portugal |
| | T1B00392 | X | X | BookMaster: Spain, Philippines |
| | T1B00393 | X | X | BookMaster: Latin America (Spanish) |
| | T1B00394 | X | X | BookMaster: United Kingdom, Australia, China (Hong Kong S.A.R.), Ireland, New Zealand |
| | T1B00395 | X | X | BookMaster: United States, Canada (English) |
| | T1B00500 | X | X | BookMaster: International #5 |
| | T1B00871 | X | X | BookMaster: Iceland |
| | T1B00BGS | X | | BookMaster: Specials |
| | T1D0BASE | X | X | Migration: DCF |
| | T1D0GP12 | X | X | DCF Gothic Tri-Pitch |
| | T1DABASE | X | X | Migration: Austria, Germany |
| | T1DBBASE | X | X | Migration: Belgium, Luxemburg, Switzerland |
| | T1DCDCFS | X | X | U.S. Text Subset |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1DDBASE | X | X | Migration: Denmark, Iceland, Norway |
| | T1DEBASE | X | X | Migration: Finland, Sweden |
| | T1DFBASE | X | X | Migration: France |
| | T1DIBASE | X | X | Migration: Italy |
| | T1DNBASE | X | X | Migration: Netherlands, Portugal |
| | T1DSBASE | X | X | Migration: Spain, Latin America |
| | T1DUBASE | X | X | Migration: United Kingdom |
| | T1E00420 | X | X | Arabic Bilingual with euro |
| | T1E00813 | X | X | Greece – ISO 8859-7 |
| | T1E00852 | X | X | Latin2 Multilingual Personal Computer with euro |
| | T1E00857 | X | X | Latin5 Turkey Personal Computer with euro |
| | T1E00864 | X | X | Arabic Personal Computer with euro |
| | T1E00869 | X | X | Greece – Personal Computer |
| | T1E00875 | X | X | Greece – EBCDIC |
| | T1E00877 | X | | OCR B Personal Computer with euro |
| | T1E00893 | X | | OCR B with euro |
| | T1E01008 | X | X | Arabic ISO with euro |
| | T1E01046 | X | X | Arabic Extended ISO with euro |
| | T1GE0200 | X | X | Sonoran Display Fonts |
| | T1GE0300 | X | X | Sonoran Petite Fonts |
| | T1GI0361 | X | X | International Set 5 |
| | T1GI0382 | X | X | Austria, Germany, Switzerland |
| | T1GI0383 | X | X | Belgium |
| | T1GI0384 | X | X | Brazil |
| | T1GI0385 | X | X | Canada (French) |
| | T1GI0386 | X | X | Denmark/Norway |
| | T1GI0387 | X | X | Sweden/Finland |
| | T1GI0388 | X | X | France, Luxembourg, Switzerland |
| | T1GI0389 | X | X | Italy, Switzerland (Italian) |
| | T1GI0390 | X | X | Japan (Latin) |
| | T1GI0391 | X | X | Portugal |
| | T1GI0392 | X | X | Spain/Philippines |
| | T1GI0393 | X | X | Latin America (Spanish) |
| | T1GI0394 | X | X | U.K., Austral., Ire., H.K., N.Z. |
| | T1GI0395 | X | X | United States, Canada (English) |
| | T1GPI363 | X | | PI Fonts |
| | T1L000GN | X | X | LCS Gothic |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1L000RN | X | X | LCS Gothic |
| | T1L000SN | X | X | LCS Text-1 and Text-2 |
| | T1L000XN | X | X | LCS Gothic |
| | T1L000YN | X | X | LCS Gothic |
| | T1L00A11 | X | X | LCS Gothic |
| | T1L00APL | X | | APL2 |
| | T1L00FMT | X | | LCS Format Characters |
| | T1L00KN1 | X | X | LCS Gothic, Katakana (KN1) |
| | T1L00QNC | X | X | LCS Gothic |
| | T1L02773 | X | X | LCS Gothic, Katakana (2773) |
| | T1L02774 | X | X | LCS Gothic, Katakana (2774) |
| | T1L038BA | X | X | LCS Gothic |
| | T1L038TE | X | X | LCS Text-1 and Text-2 |
| | T1L0AD10 | X | | APL2 |
| | T1L0AG10 | X | | APL2 |
| | T1L0AG12 | X | | APL2 |
| | T1L0AG15 | X | | APL2 |
| | T1L0AI10 | X | | APL2 |
| | T1L0AT10 | X | | APL2 |
| | T1L0DUMP | X | X | LCS Dump Character Set |
| | T1L0FOLD | X | X | LCS Gothic Folded |
| | T1L0OCR1 | X | X | LCS OCR A |
| | T1L0OCR2 | X | X | LCS Gothic and OCR A |
| | T1L0OCR3 | X | X | LCS Gothic and OCR A |
| | T1L0OCRB | X | X | LCS Gothic and OCR B |
| | T1L0PCAN | X | X | LCS Gothic |
| | T1L0PCHN | X | X | LCS Gothic |
| | T1M00829 | X | X | Math Symbols |
| | T1M00830 | X | | Math Format |
| | T1S0AE10 | X | | APL (AE10) |
| | T1S0AP10 | X | | APL2 |
| | T1S0S192 | X | | 6670 Symbol Set |
| | T1S0S193 | X | | 6670 Symbol Set |
| | T1S0S198 | X | | 6670 Symbol Set |
| | T1V10037 | X | X | Country Extended: United States, Canada |
| | T1V10273 | X | X | Country Extended: Austria, Germany, Switzerland |
| | T1V10274 | X | X | Country Extended: Belgium |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| General (contd.) | T1V10275 | X | X | Country Extended: Brazil |
| | T1V10277 | X | X | Country Extended: Denmark, Norway |
| | T1V10278 | X | X | Country Extended: Finland, Sweden |
| | T1V10280 | X | X | Country Extended: Italy, Switzerland |
| | T1V10281 | X | X | Country Extended: Japan (Latin) |
| | T1V10282 | X | X | Country Extended: Portugal |
| | T1V10284 | X | X | Country Extended: Spain, Latin America |
| | T1V10285 | X | X | Country Extended: United Kingdom |
| | T1V10290 | X | X | Japan (Katakana) |
| | T1V10297 | X | X | Country Extended: France |
| | T1V10500 | X | X | Country Extended: International #5 |
| | T1V10871 | X | X | Country Extended: Iceland |
| Simplified Chinese | T10837 | X | X | Simplified Chinese Host DBCS GB |
| | T10837U | X | X | Simplified Chinese Host DBCS GB with User Defined Characters |
| | T1H00836 | X | X | Simplified Chinese Host |
| | T1H01115 | X | X | Simplified Chinese Personal Computer, GB |
| | T1H01151 | X | X | Simplified Chinese Latin with Box |
| | T1H01252 | X | X | Simplified Chinese Personal Computer, GB18030 |
| | T1HK1114 | X | X | Simplified Chinese Personal Computer GBK |
| | T1K837 | X | X | Simplified Chinese Host DBCS GB18030 |
| | T1K837U | X | X | Simplified Chinese Host DBCS GB18030 with User Defined Characters |
| Traditional Chinese | T10835 | X | X | Traditional Chinese Host DBCS |
| | T10835U | X | X | Traditional Chinese Host DBCS with User Defined Characters |
| | T1H00037 | X | X | Traditional Chinese Host DBCS GB |
| | T1H01043 | X | X | Traditional Chinese Host SBCS |
| | T1H01114 | X | X | Traditional Chinese Personal Computer SBCS |
| | T1H01152 | X | X | Traditional Chinese SBCS with box characters |
| | T1H01159 | X | X | Traditional Chinese SBCS with Euro |

| Language | Code page ID | CDP | ECP | Description |
|---|---|---|---|---|
| Japan | T10300 | X | X | Japanese DBCS-Host: JIS X0213-2000 character shape |
| | T10300U | X | X | Japanese DBCS-Host: JIS X0213-2000 character shape |
| | T1H00290 | X | X | Japanese Katakana Extended |
| | T1H01002 | X | X | Japanese DCF Compatibility |
| | T1H01027 | X | X | Japanese Latin Extended |
| | T1H01030 | X | X | Japanese Katakana Extended with box |
| | T1H01031 | X | X | Japanese (Latin) Extended with box |
| | T1H01041 | X | X | Japanese Personal Computer Extended |
| | T1HK0037 | X | X | Japanese Latin |
| | T1HK0290 | X | X | Japanese Katakana |
| | T1I300 | X | X | Japanese DBCS—Host: Supports 751 unique IBM character shapes |
| | T1J300 | X | X | Japanese DBCS—Host: Supports 751 unique IBM character shapes with 14 of them changed according to JIS90 |
| | T1K300 | X | X | Japanese DBCS—Host: JIS X 0213-2004 character shape |
| | T1K300U | X | X | Japanese DBCS—Host: JIS X 0213-2004 character shape with User Defined Characters |
| Korean | T10834 | X | X | Korean Host DBCS KS |
| | T10834U | X | X | Korean Host DBCS KS with User Defined Char |
| | T1H00833 | X | X | Korean SBCS Host |
| | T1H01088 | X | X | Korean SBCS Personal Computer |
| | T1H01126 | X | X | Korean SBCS Personal Computer |
| | T1H01150 | X | X | Korean Latin with Box |
| | T1K834 | X | X | Korean Host DBCS Full Hangul |
| | T1K834U | X | X | Korean Host DBCS Full Hangul with User Defined Characters |

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| Monotype ™ | Monotype Imaging, Inc. |
| Times New Roman® | Monotype Imaging, Inc. |
| WorldType® | Monotype Imaging, Inc. |
| WT ™ | Monotype Imaging, Inc. |

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## Numerics



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## C



## D



## F



## G

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