Infoprint Fonts

Font Summary

G544-5846-00

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Note!
Before using this information and the product it supports, read the information in “Notices” on page 57.

First Edition (December 2002)

This edition of *IBM Infoprint Fonts: Font Summary* applies to IBM Infoprint Fonts for z/OS, Version 1 Release 1 Modification 0, program number 5648–E76; to IBM Infoprint Fonts for Multiplatforms, Version 1 Release 1 Modification 0, program number 5648–E77; and to all subsequent releases of these products until otherwise indicated in new releases or technical newsletters.

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Chapter 1. About IBM® Infoprint® Fonts

The IBM Infoprint Fonts provide fonts and font utilities that can be used to create a robust AFP™ presentation environment. The IBM Infoprint Fonts is actually two separate products:

- **IBM Infoprint Fonts for z/OS™** (Program Number 5648-E76)
- **IBM Infoprint Fonts for Multiplatforms** (Program Number 5648-E77)

IBM Expanded Core Fonts

The IBM Expanded Core Fonts are provided with Infoprint Fonts. Code pages and coded fonts compatible with the Expanded Core Fonts are also provided.

The IBM Expanded Core Fonts combine the IBM Core Interchange Fonts, IBM Coordinated Fonts, and IBM BookMaster® Fonts.

The IBM Expanded Core 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 IBM Expanded Core Fonts are provided in the following formats:

Table 1. Format and operating systems for General Font Library

Format	Operating systems
AFP outline fonts	z/OS, OS/400®, AIX®, Windows®
Type 1	AIX, Windows

The Expanded Core Fonts include the following 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” on page 2

on page 2. Each of these three type families also contains a symbols collection of scientific, mathematical, and special-purpose characters in Roman Medium and Roman Bold typefaces.

Languages supported

The IBM Expanded Core Fonts include characters for the following language groups defined in ISO standard 8859:

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

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

DBCS fonts

The DBCS fonts are derived from the Adobe CID-Keyed font and Type 1 technologies. The DBCS fonts are available in AFP outline format.

DBCS Fonts are provided in the following formats:

Table 2. Format and operating systems for DBCS fonts

Format	Operating systems
AFP outline fonts	z/OS, OS/400, AIX, Windows
CID-Keyed fonts	AIX, Windows

DBCS Core Fonts

The DBCS Core Fonts are available for use with IBM Print Services Facility™ (PSF) licensed programs. These fonts contain the following typefaces suitable for printing a variety of Chinese, Japanese, and Korean documents:

- Japanese:

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

DBCS Simulation Fonts

The DBCS Simulation Fonts are available for use with IBM Print Services Facility (PSF) licensed programs. The DBCS Simulation Fonts are provided in AFP Outline Font format that simulates the following raster font products:

- Japanese
  - AFP Japanese Font V2 (5771-AGB)
  - AFP Japanese Heisei Font (5648-104)
- Korean
  - AFP Korean Font (5771-AFW)
- Simplified Chinese
  - AFP Simplified Chinese Font (5771-AEK)
- Traditional Chinese
  - AFP Traditional Chinese Font (5771-AFZ)

Type Transformer and Utilities

The Type Transformer single-byte program converts Type 1 outlines to 240 dpi, 300 dpi, and AFP outline fonts.

The Type Transformer double-byte program converts CID-Keyed fonts to 240 dpi and AFP outline fonts.

The Type Transformer Utilities include the following:

- AFP Font Editor
  - GUI display of Character Set information
  - GUI editing of Code Page and Coded Font information
- Improved GUI for RMARKing font data with DUVRMARK
- User Designed Character (UDC) Generation Tool that allows migration from 240 dpi UDC raster fonts to an outline format
- CID to EPS transform with Type Transformer Double Byte

About this release of Infoprint Fonts

This section lists the enhancements and limitations of the Infoprint Fonts, Version 1.1.0, compared with the AFP Font Collection, Version 2.1.1.

The following applies to the Infoprint Fonts product in general:

- With Infoprint Fonts, there are fewer installation selections, components, and procedures.
- File extensions were added to the AIX and Windows media features for Code Pages (CDP) and Coded Fonts (CFT) to better utilize file associations in the environment.

Infoprint Fonts limitations

- Infoprint Fonts provides **only** AFP Outline Fonts. That is, no AFP Raster Fonts, such as 240 or 300 dpi, are included.
- No additional coded fonts are provided in the General Library.
- The Compatibility Fonts are no longer provided with any media feature; they are now included with the print servers (PSF and Infoprint Manager).
- The following FontLab components are no longer supplied:
  - Composer for CID font editing
  - TypeTool for simple Type1 font editing.
  - Sigmaker for converting signatures to font characters
- No new coded fonts are provided in the General Library.
- Increased BLOCKSIZE and LRECL dataset allocations on z/OS systems.
- The store fonts function for z/OS and OS/400 have been removed from Type Transformer. You can use FTP to transfer fonts and then invoke the AFP Reblocker program shipped with PSF to store fonts on z/OS, and you can use the AFP Manager feature of Client Access to store fonts on OS/400.

General Font Library

The General Font Library contains the fonts referred to as single-byte fonts in the AFP Font Collection. The General Font Library also contains fonts that were not labeled in the AFP Font Collection, such as Arabic, Cyrillic/Greek, Latin, OCR, and Thai. The Infoprint Fonts includes the following regional enhancements for the General Font Library:

Arabic

- Enhanced the existing 12 AFP Outline Characters Sets as follows:
  - Added Euro support
  - Height of Arabic and Latin numbers now match the height of Latin letters
- Added four new code pages that support the euro:
  - T1E00420: Arabic Bilingual with euro
  - T1E00864: Arabic Personal Computer with euro
  - T1E01008: Arabic ISO with euro
  - T1E01046: Arabic Extended ISO with euro

Cyrillic/Greek

- Enhanced the existing 12 AFP Outline Characters Sets as follows:
  - Added Euro support
  - Added Kazakhstan support
  - Added Microsoft® Windows support
- Added 14 new code pages as follows:
  - Greece:
    - T1E00813: Greece—ISO 8859-7
    - T1E00869: Greece—Personal Computer
    - T1E00875: Greece—EBCDIC
    - T1001253: Windows Greek
  - Russia:

T1000808: Personal Computer, Cyrillic, Russian with euro
T1001154: EBCDIC Cyrillic, Multilingual with euro
T1001251: Windows Cyrillic

- Belarus:
  - T1000849: Personal Computer, Cyrillic, Belo Russian with euro
  - T1001131: Personal Computer, Cyrillic, Belo Russian
- Ukraine:
  - T1000848: Personal Computer, Cyrillic, Ukraine with euro
  - T1001125: Personal Computer, Cyrillic, Ukraine
  - T1001158: EBCDIC Cyrillic, Ukraine with euro
- Bulgaria, Macedonia, Serbia (Cyrillic):
  - T1000872: Cyrillic Personal Computer with euro
- Kazakhstan:
  - T1001166: EBCDIC Cyrillic, Multilingual with euro

Latin

- Created a new Latin character compliment to remove divisional boundaries of the Latin1, Latin235, and Latin4 character compliments
- Created 12 new AFP Outline Character Sets for:
  - All Latin characters
  - Euro for Latin235
  - Baltic
  - Vietnam
- Added 18 new code pages as follows:
  - Czech Republic, Hungary, Poland, Croatia, Serbia (Latin), Slovakia, Slovenia, Romania (Latin):
    - T1E00852: Latin2 Multilingual Personal Computer with euro
    - T1001153: Latin2 Multilingual with euro
    - T1001250: Windows Latin2
  - Turkey:
    - T1E00857: Latin5 Turkey Personal Computer with euro
    - T1001155: EBCDIC Turkey with euro
    - T1001254: Windows Turkish
  - Estonia:
    - T1000902: 8-bit Estonia with euro
    - T1000922: Estonia, Personal Computer
    - T1001157: EBCDIC Estonia with euro
  - Latvia, Lithuania:
    - T1000901: Personal Computer Baltic Multilingual with euro
    - T1000921: Personal Computer Baltic Multilingual
    - T1001156: EBCDIC Baltic Multilingual with euro
    - T1001257: Windows Baltic Rim
  - Vietnam:
    - T1001129: Vietnamese ISO-8
    - T1001130: Vietnamese EBCDIC
    - T1001163: Vietnamese ISO-8 with euro
    - T1001164: Vietnamese EBCDIC with euro
    - T1001258: Windows Vietnamese
- Latin235 was updated with an IBM character name to Adobe Character Name mapping that better reflects the IBM Corporate Standards
- Latin1 and Latin4 are unchanged

OCR

- OCR-A was not changed

- OCR-B was updated as follows:
  - New Letterpress design using the objectives of the following specifications:
    - CEN/TC304 N992 specification (draft dated 29 October 2001)
    - ISO 1073 II
  - Added Euro support
  - Added two new OCR-B code pages:
    - T1E00893: OCR B with euro
    - T1E00877: OCR B Personal Computer with eruo

Thai Enhanced the existing 12 AFP Outline Character Sets as follows:

- Added Euro support
- Added Microsoft Windows support
- Added three new code pages:
  - T1001160: Thailand EBCDIC with euro
  - T1001161: Thailand Personal Computer with euro
  - T1001162: Windows Thailand

The following character complements remain unchanged from the AFP Font Collection:

- APL
- BookMaster
- Hebrew
- Katakana
- Lao
- Symbols

Japanese Font Library

The Japanese Font Library was enhanced as follows:

- Enhanced to support the new Japanese standard for JIS X-0213
- Added new support for SAP
- Added 4 new code pages as follows:
  - Full-width code page for the JIS X-0213 standard supporting glyphs
  - Full-width code page for the HYOGAI KANJI JITAIHYO
  - Two full-width code pages for IBM unique character shapes

Korean Font Library

The Korean Font Library was enhanced as follows:

- Added support for Euro Phase 2
- Added support for a registered trademark
- Added new support for SAP
- Enhancements to full- and half-width code pages

Simplified Chinese Font Library

The Simplified Chinese Font Library was enhanced as follows:

- The Hei and Song typefaces are enhanced for GB18030 Phase 1 Support, including the euro
- Fang Song and Kai typefaces are enhanced with the euro
- Added new support for SAP
- Enhancements to full- and half-width code pages

Traditional Chinese Font Library

The Traditional Chinese Font Library was enhanced as follows:

- Added new support for SAP
- Improved glyph designs for better clarity.

Type Transformer and Utilities

The following enhancements have been made to the Type Transformer and utilities available with Infoprint Fonts:

Type Transformer

The Type Transformer program was revised to create the AFP Font media features included with Infoprint Fonts.

Font utilties

- AFP Font Editor
  - GUI display of Character Set information
  - GUI editing of Code Page and Coded Font information
- Improved GUI for RMARKing font data with DUVRMARK
- User Designed Character (UDC) Generation Tool that allows migration from 240 dpi UDC raster fonts to an outline format
- CID to EPS transform with Type Transformer Double Byte

FontLab

- FontLab product has been updated to Version 4.5.

IBM Logo fonts

The use of the IBM Logo fonts is restricted to printing softcopy documents provided by IBM or such other use as may be consistent with IBM softcopy publication distribution.

About this publication

This publication summarizes the contents of the Infoprint Fonts products: Infoprint Fonts for z/OS (product number 5648-E76), and Infoprint Fonts for Multiplatforms (product number 5648-E77).

This publication is organized as follows:

- Chapter 2, “IBM font concepts” on page 11 explains some basic font concepts, explains the difference between pitch and point size, identifies the languages supported by the various fonts, and provides figures that explain the naming conventions for fonts and code pages.
- Chapter 3, “Font summary tables” on page 37 contains tables that identify the operating systems, media shipped on, formats available, major font types, code page identifiers, coded font identifiers, character set identifiers, and available point or pitch size for the following:
  - Expanded Core Fonts
  - DBCS Core Fonts
  - Simulation Fonts
- Chapter 4, “Code pages” on page 49 contains a table that lists the code pages included with Infoprint Fonts.

For more information about character sets, code pages, coded fonts, warranty, and usage information, refer to the following publications:

- *Licensed Information for IBM Infoprint Fonts for z/OS and IBM Infoprint Fonts for Multiplatforms*, G544-5847, which provides warranty information for both products.
- *IBM AFP Fonts: Introduction to Typography*, G544-3122, which introduces the concepts of typography to help the user design documents and print them using Advanced Function Presentation™ (AFP) software.
- *IBM AFP Fonts: Technical Reference for Code Pages*, S544-3802, which provides in-depth Expanded Core font information including character set attributes, tables that show all AFP characters and the language complements that contain them.
- *IBM Technical Reference for AFP Font Collection Expanded Core Fonts*, S544-5228
- *IBM AFP Fonts: Font Samples*, G544-3792, which provides printed samples of all AFP fonts.
- *IBM Infoprint Fonts: Japanese Font Library Technical Reference*, S544-5849, which provides technical details for the Japanese character sets and code pages.
- *IBM Infoprint Fonts: Korean Font Library Technical Reference*, S544-5850, which provides technical details for the Korean character sets and code pages.
- *IBM Infoprint Fonts: Simplified Chinese Font Library Technical Reference*, S544-5851, which provides technical details for the Simplified Chinese character sets and code pages.
- *IBM Infoprint Fonts: Traditional Chinese Font Library Technical Reference*, S544-5852, which provides technical details for the Traditional Chinese character sets and code pages.

  Note: The Infoprint Fonts technical references are available only as PDF files at http://www.printers.ibm.com/psc.nsf/support/manuals.

For more information about Type Transformer, refer to *IBM Infoprint Fonts: Introduction to Type Transformer and Utilities for Windows*, G544-5853.

For information about the font formats supported by IBM printers, refer to *IBM Printing Systems: Printer Information*, S544-5750.

For more information on fonts, visit the **Printing Systems Font Database** that you can access through the **Printing Systems Information Center** at:

http://publib.boulder.ibm.com/printer/psindex.htm

From the pull-down list under **Select Navigation View**, select **Fonts**.

Summary of releases

This publication reflects the following licensed program releases:

Table 3. Summary of font releases

Licensed program	Description	Release level
5648-113	IBM AFP Font Collection for IBM Operating System (contains IBM Expanded Core Fonts, 4028 Font Metrics, IBM Compatibility Fonts.	1.1.0
5648-B33	IBM AFP Font Collection for MVS™, OS/390®, VM, and VSE (contains IBM Expanded Core Fonts)	2.1.0

Table 3. Summary of font releases (continued)

Licensed program	Description	Release level
5648-B45	IBM AFP Font Collection for Workstations and OS/400 (contains Expanded Core Fonts and features that provide Compatibility Fonts, Type Transformer plus other font utilities, and DBCS Core Fonts)	2.1.1
5648-E76	IBM Infoprint Fonts for z/OS (contains IBM Expanded Core Fonts)	1.1.0
5648-E77	IBM Infoprint Fonts for Multiplatforms (contains Expanded Core Fonts, as well as font utilities, including Type Transformer)	1.1.0

Chapter 2. IBM font concepts

This section introduces you to font terminology and how characters are represented in digitized type. The structure of IBM 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 IBM font structure, you must first understand some definitions about fonts. Figure 1 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.

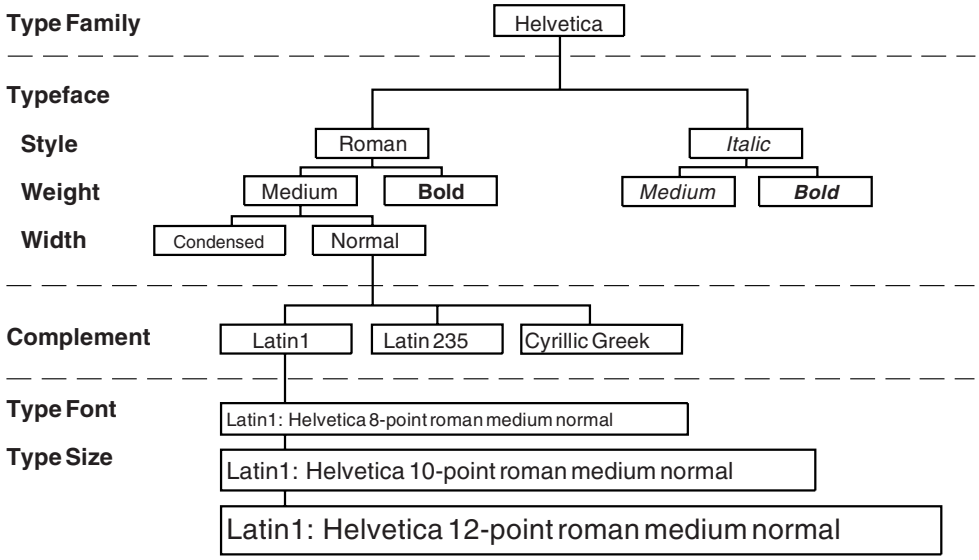


Figure 1. Helvetica type family

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 1)
- 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 1.

- *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*.

Note: In IBM Type Transformer, complements are called *character lists*.

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 2 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 2. Print resolution examples

The ability to print at a given pel density is determined by the type of printer. Because IBM 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 ensure 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 3 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	D C B A	D C B A	A B C D
Down (90)	A B C D	A B C D	D C B A	A B C D
Back (180)	A B C D	D C B A	DCBA	D C B A
Up (270)	A B C D	D C B A	D C B A	D C B A

Figure 3. Print direction and character rotation combinations (print orientations)

IBM font structure

In IBM AFP terminology, a font has three components (Figure 4). They are:
- Coded font
- Character set
- Code page

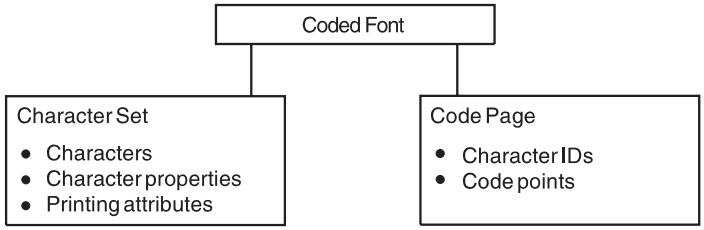


Figure 4. Font components

Coded font

In IBM 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

Character set

In IBM font structure, a *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 (Figure 5).

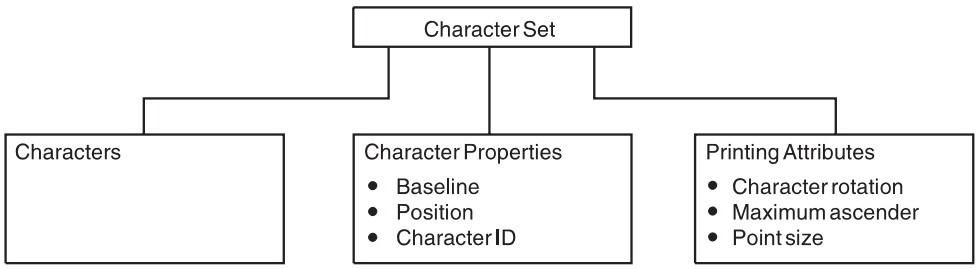


Figure 5. Composition of a character set

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 following:

- The baseline of a character showing its general alignment
- The dimensions of space in which the character is printed
- The position of the character within 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, the following 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, refer to *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.

Single- and double-byte character sets

A single-byte character set (SBCS) is a font character set intended for use with a single-byte code page (see 16).

A double-byte character set (DBCS) is a font character set intended for use with a double-byte code page. Double-byte character sets contain some single-byte characters, usually romaji (Western characters) and katakana. Single-byte code pages are used with these characters.

Code page

In IBM font structure, a *code page* maps each character of text to the characters in a character set (Figure 6). 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.

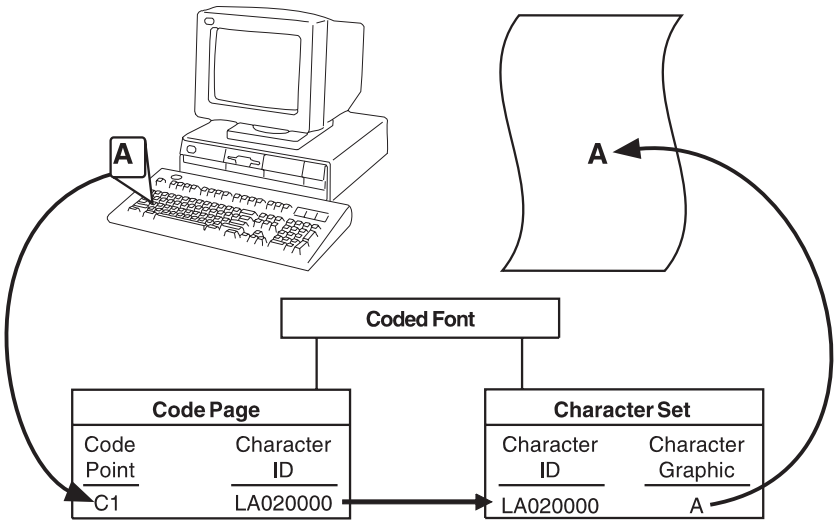


Figure 6. Translation of a keyboard character into a printed character

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 7 on page 16 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 7. IBM 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 the following 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)

Single- and double-byte code pages

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

A *double-byte 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 double-byte code pages.

Double-byte character sets contain some single-byte characters, usually romaji (Western characters) and katakana. Single-byte code pages are used with these characters. Because the characters are either half-width (see 19) or proportionally spaced, these code pages are sometimes called *half-width* code pages.

Code page sections

If you think of a double-byte code page as a collection of single-byte code

pages, a double-byte character code has two parts: the first byte indicating a section of the code page and the second byte a code point within the section.

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

Outline coded fonts treat double-byte code pages as single large code pages. Each character has a double-byte code point.

Format of IBM character sets

IBM supplies character sets in these formats:

- 240-pel bounded-box raster format
- 300-pel raster format
- Type 1 outline format for IBM Type Transformer
- CID-keyed outline format for IBM Type Transformer
- 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.

Type 1 Outline

Type 1 outline is the format used with IBM Type Transformer for SBCS fonts. This format includes outlines of the various type families, which can be transformed for use by advanced function printers in sizes from 1–999 points (AFP outline fonts) or from 1–72 points (raster fonts). For more information, refer to *IBM Infoprint Fonts: Introduction to Type Transformer and Utilities for Windows*.

CID-keyed outline

CID-keyed outline is the format used with IBM Type Transformer for DBCS fonts. This format includes outlines of the various type families, which can be transformed for use by advanced function printers in sizes from 1–999.9 points (AFP outline fonts) or from 1–72 points (raster fonts). For more information, refer to *IBM Infoprint Fonts: Introduction to Type Transformer and Utilities for Windows*.

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 encountered 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 ensures that the output text is as close to the original outline specification as possible.

Spacing characteristics of IBM fonts

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.
```

Typographic fonts

Typographic fonts are proportionally spaced fonts. The character increment[1] 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.

Pitch Uniformly spaced fonts are often described or referred to in *pitch*, or the number of characters printed in 1 horizontal inch (Figure 8). Pitch is also referred to as characters per inch (CPI).

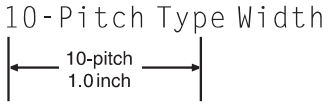


Figure 8. Type size in pitch

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

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

an 18-point font is less than 18 points (Figure 9). The line spacing usually includes one or more additional points of white space between lines of type.

Figure 9. 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 “IBM font naming conventions” on page 25 for the character position within 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.

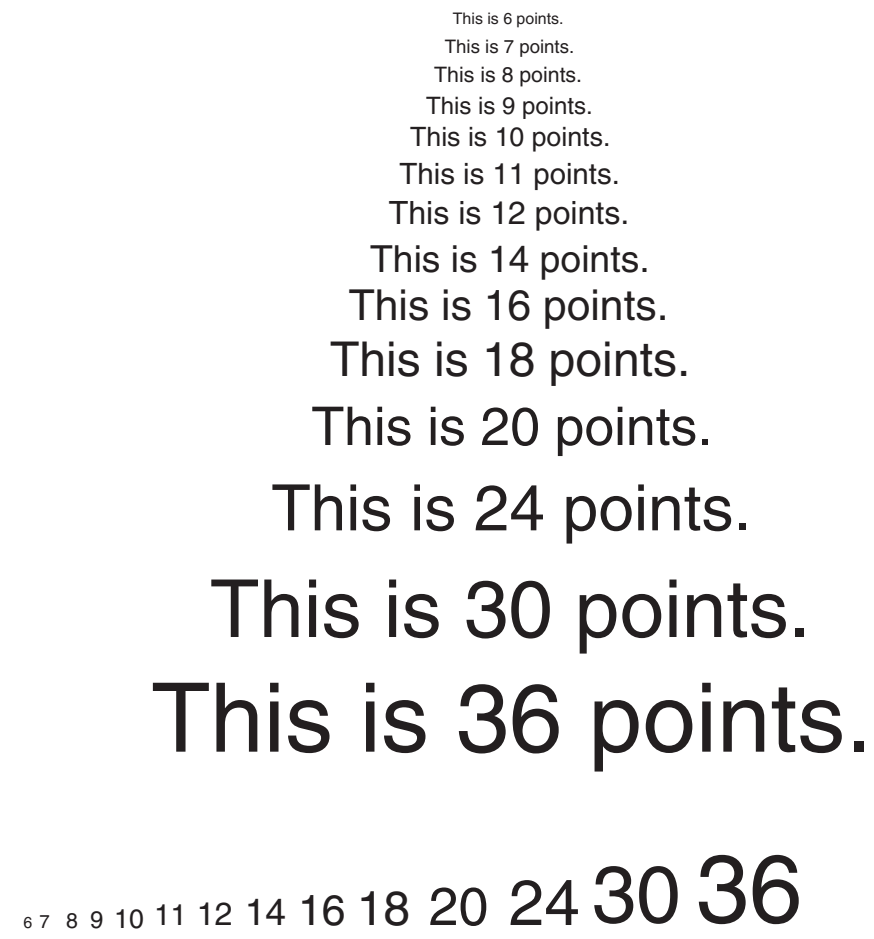


Figure 10. Point size examples

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 11. 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 12. Box size examples

How IBM supplies fonts

Three IBM font groups that can be used with advanced function printers are included in Infoprint Fonts:

- Expanded Core Fonts
- DBCS Core Fonts
- DBCS Simulation Fonts

Other fonts are available separately as licensed programs.

Expanded Core Fonts

The SBCS type families provided in the Infoprint Fonts are called the Expanded Core Fonts and include:

- Boldface Latin1 (with euro)
- BookMaster Latin1 and Specials (with euro)
- Courier (with euro)
- Courier APL2
- Gothic Katakana
- Gothic Text Latin1 (with euro)
- Helvetica (with euro)
- IBM Logo (for BookMaster)
- Letter Gothic Latin1 (with euro)
- OCR-A
- OCR-B
- Prestige Latin1 (with euro)
- Times New Roman (with euro)

The Expanded Core Fonts are summarized in “Expanded Core Fonts” on page 38.

DBCS Core Fonts

DBCS type families and languages provided on the Infoprint Fonts: Type Transformer and Utilities for Windows CD-ROM include:

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

DBCS Simulation Fonts

DBCS Simulation Fonts include the following font families:

- Japanese
  - Heisei Kaku Gothic
  - Heisei Maru Gothic
  - Heisei Mincho
- Korean
  - Gothic
  - Myengjo
- Simplified Chinese
  - Hei
  - Song
- Traditional Chinese
  - Sung

The IBM DBCS Simulation Fonts are summarized in “DBCS Simulation Fonts” on page 45.

Distribution

The following table summarizes the packaging for Infoprint Fonts:

Table 4. Packaging for Infoprint fonts

Operating system	General Font Library	Japanese, Korean, Simplified Chinese, and Traditional Chinese Font Libraries		Outline fonts	
	Expanded Core	DBCS Core	DBCS Simulation	CID-keyed	Type 1
z/OS	Yes	Yes	Yes	No	No
OS/400	Yes	Yes	Yes	No	No
AIX and Windows	Yes	Yes	Yes	Yes	Yes

The following tables summarize the distribution numbers and media for Infoprint Fonts:

Table 5. General Font Library distribution information for z/OS

Operating system	Distribution medium	Media feature number	OTC feature number	Material ID
z/OS	3480	5802	0001	N/A

Table 6. General Font Library distribution for OS/400, AIX, and Windows

Operating system	OTC feature number	Media feature number	Medium	Material ID
AIX and Windows Fonts	0001	5957	CD-ROM	LCD4-5587
OS/400 Fonts	0001	5829	CD-ROM	LCD4-5588

Table 7. DBCS Fonts distribution information for z/OS

Language	Operating system	Distribution medium	Media feature number	OTC feature number	Material ID
Japanese	z/OS	3480	5812	0002	N/A
Korean	z/OS	3480	5822	0003	N/A
Simplified Chinese	z/OS	3480	5832	0004	N/A
Traditional Chinese	z/OS	3480	5842	0005	N/A

Table 8. DBCS Font Feature for AIX and Windows on CD-ROM medium

Language	OTC feature mumber	Media feature number	Material ID
Japanese	0002	5849	LCD4-5589
Korean	0003	5889	LCD4-5591
Simplified Chinese	0004	5879	LCD4-5593

Table 8. DBCS Font Feature for AIX and Windows on CD-ROM medium (continued)

Language	OTC feature mumber	Media feature number	Material ID
Traditional Chinese	0005	5809	LCD4-5595

Table 9. DBCS Font Feature for OS/400

Language	OTC feature number	Media feature number	Medium	Material ID
Japanese	0002	5839	CD-ROM	LCD4-5590
Korean	0003	5819	CD-ROM	LCD4-5592
Simplified Chinese	0004	5869	CD-ROM	LCD4-5594
Traditional Chinese	0005	5859	CD-ROM	LCD4-5596

Table 10. Type Transformer and Utilities distribution for Windows

Operating system	OTC feature number	Media feature number	Medium	Material ID
Windows	0006	5899	CD-ROM	LCD4-5597

Supported languages

Language groups identified in items 1 through 9 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.
14. The DBCS Fonts contain characters for Simplified Chinese, Traditional Chinese, Japanese, and Korean.

IBM font naming conventions

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

Naming conventions for the code pages are described under “IBM code page naming conventions” on page 34.

First character in the IBM naming convention

The following list 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 IBM naming convention

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

- Expanded Core Fonts (see Figure 13 on page 26)
- DBCS Core Fonts (see Figure 14 on page 30 and Figure 15 on page 31)
- DBCS Simulation Fonts (Figure 16 on page 33)

Character set and coded font names are usually distinctive and can be used to determine whether a font is an Expanded Core Font or a DBCS Core Font.

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

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

- “Expanded Core Fonts” on page 38
- “DBCS Core Fonts” on page 42
- “DBCS Simulation Fonts” on page 45

Note: For the naming conventions for fonts produced by IBM Type Transformer, refer to *IBM Infoprint Fonts: Introduction to Type Transformer and Utilities for Windows*.

Expanded Core Fonts

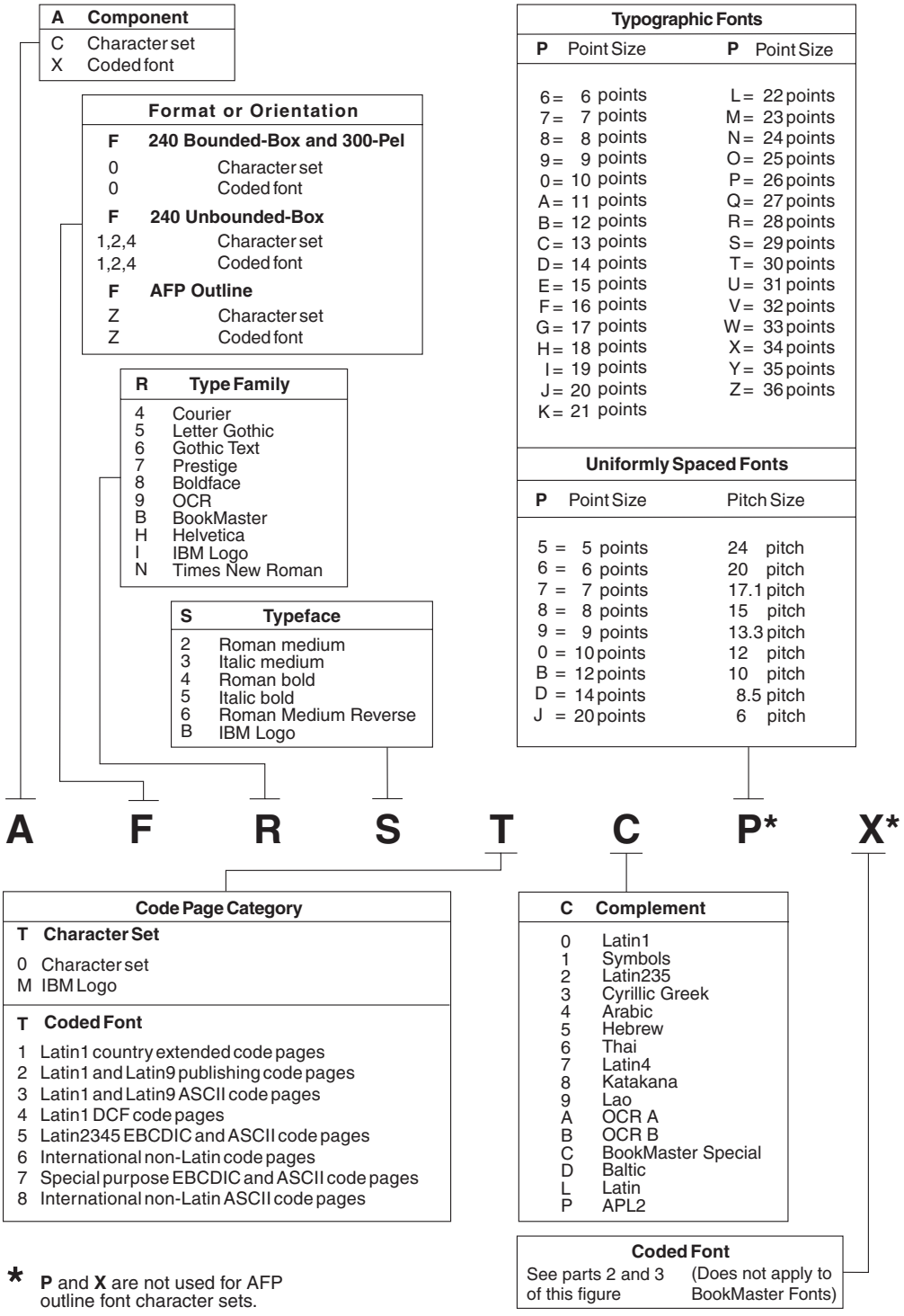


Figure 13. Expanded Core Font naming convention overview (Part 1 of 3). The raster font information provided in Part 1 of this figure is provided for your convenience. However, no raster fonts are included with Infoprint Fonts. Code pages not listed in Part 2 and Part 3 of this figure do not have a corresponding coded font.

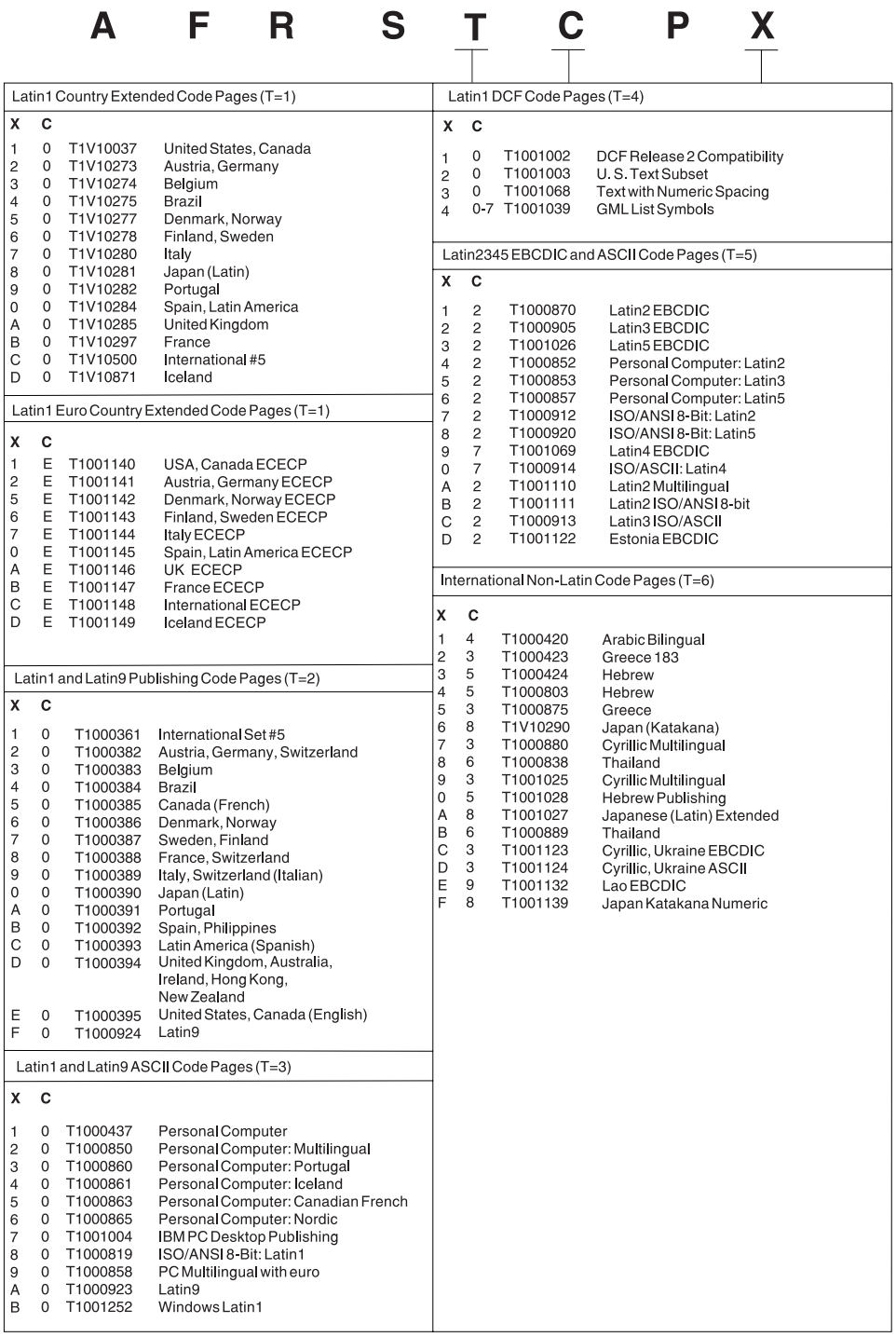


Figure 13. Expanded Core Font naming convention overview (Part 2 of 3). The raster font information provided in Part 1 of this figure is provided for your convenience. However, no raster fonts are included with Infoprint Fonts. Code pages not listed in Part 2 and Part 3 of this figure do not have a corresponding coded font.

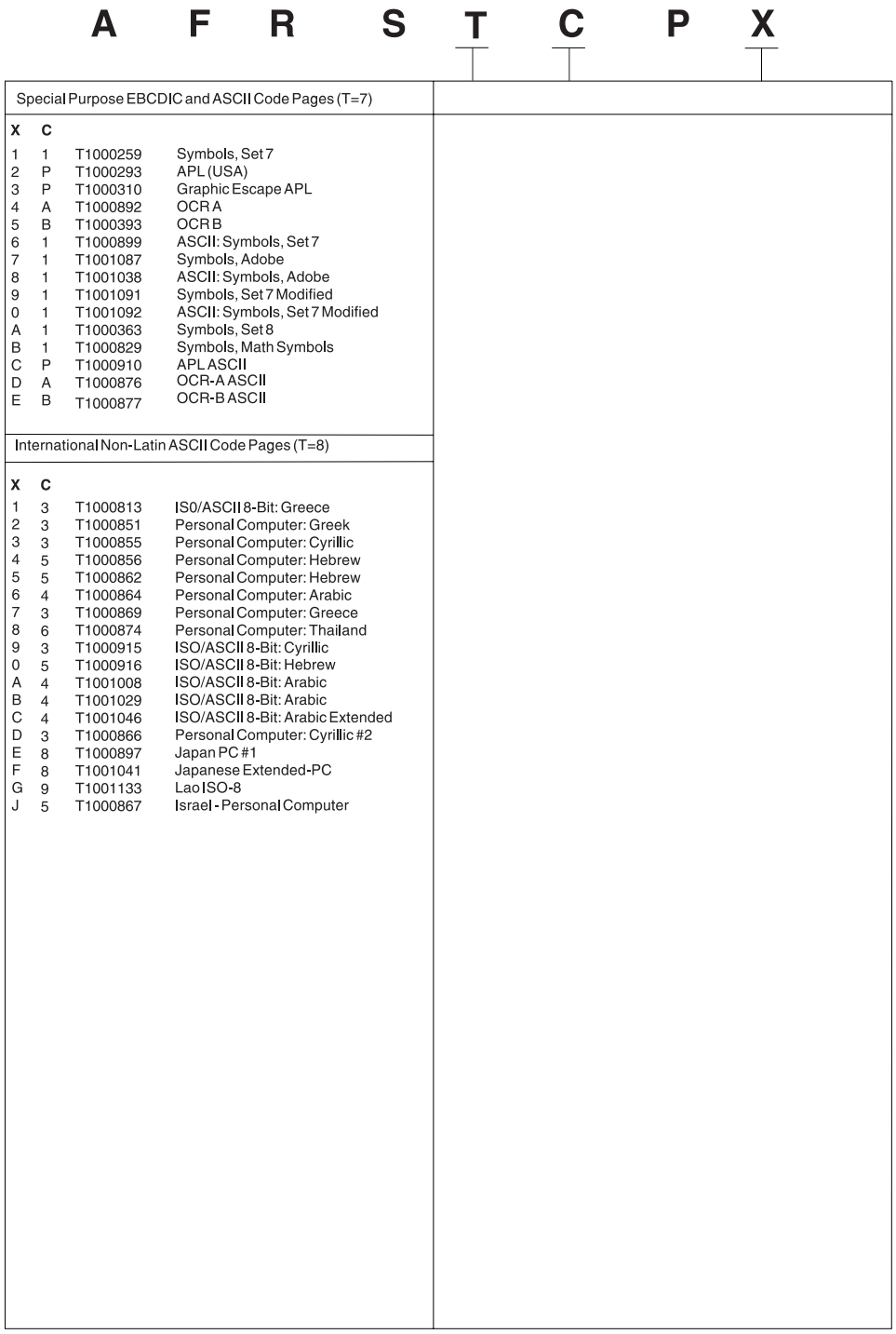


Figure 13. Expanded Core Font naming convention overview (Part 3 of 3). The raster font information provided in Part 1 of this figure is provided for your convenience. However, no raster fonts are included with Infoprint Fonts. Code pages not listed in Part 2 and Part 3 of this figure do not have a corresponding coded font.

DBCS Core Outline Fonts

Table 11. DBCS Core Outline Font naming convention overview. This naming convention is used for CID-keyed outlines and AFP outline character sets.

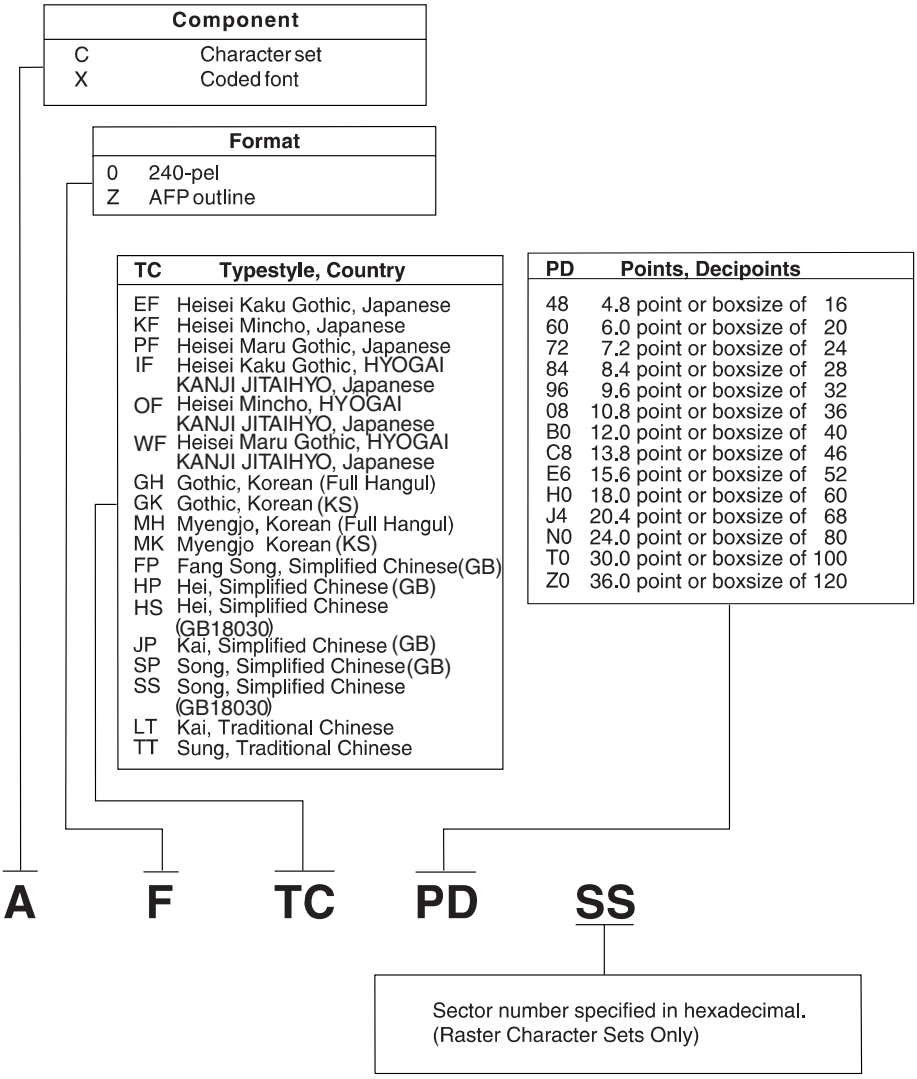
PP	Prefix
IB	CID outline
IL	CID outline (GB18030)
CZ	AFP outline

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.

DBCS Core 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 5700-1995

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 14. DBCS Core Full-Width Font naming convention overview

DBCS Core Half-Width Fonts

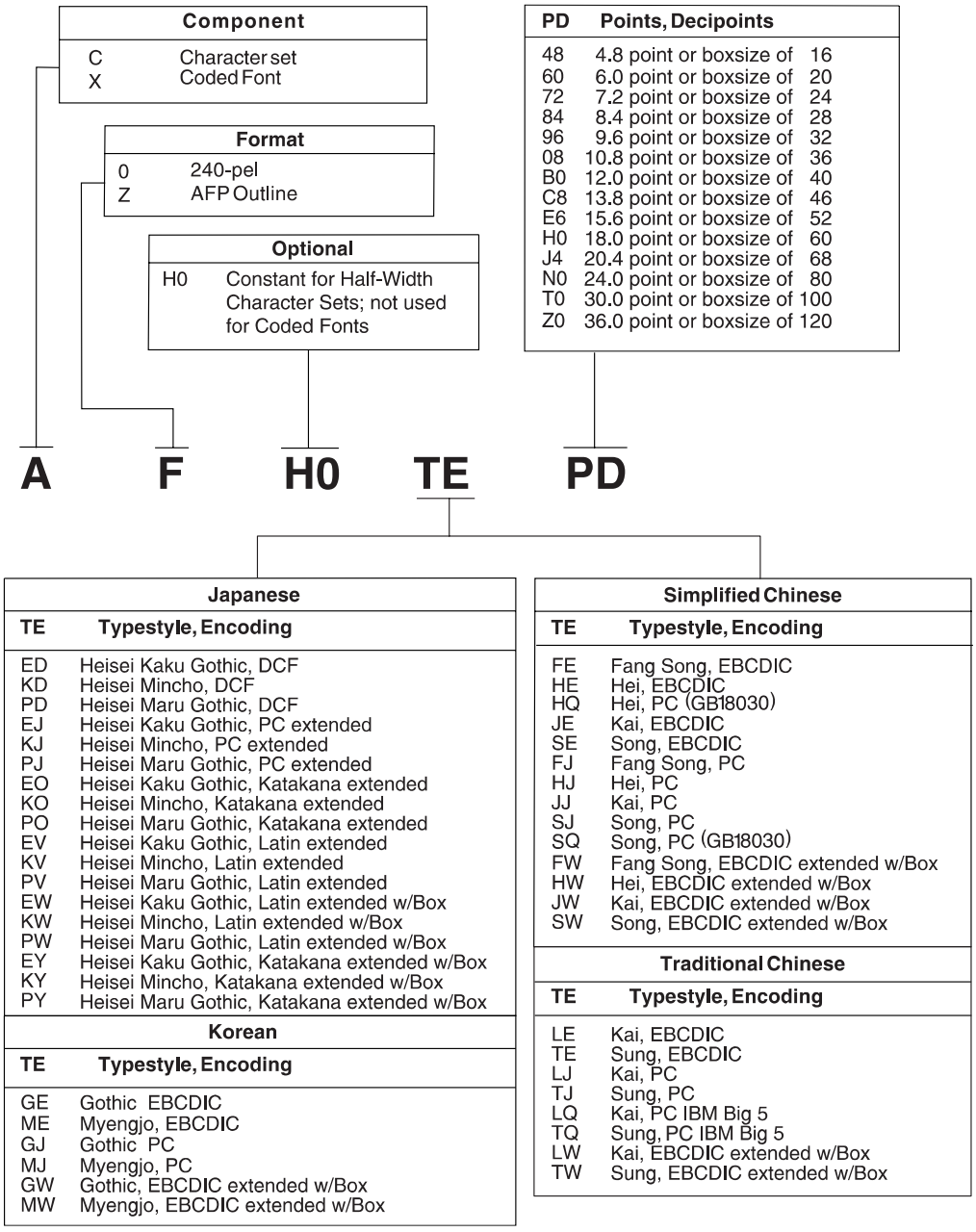


Figure 15. DBCS Core Half-Width Font naming convention overview

DBCS Simulation Fonts

Character set

Table 12. DBCS 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 13. DBCS Simulation Fonts naming convention overview for coded fonts. See Figure 16 on page 33 for detailed information.

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

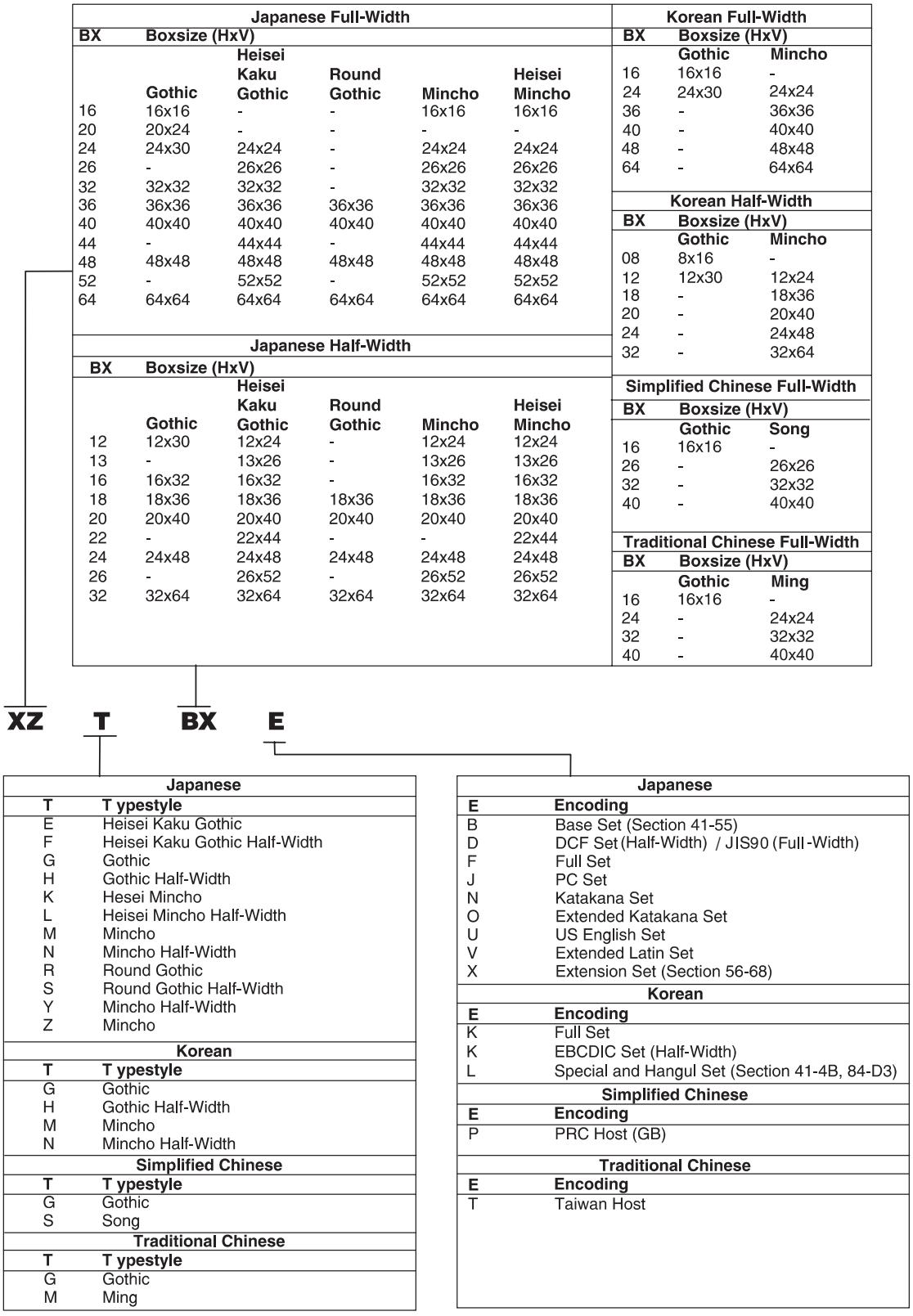


Figure 16. Simulation Font naming convention

IBM code page naming conventions

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

Single-byte code pages

The name of a single-byte code page used with single-byte character sets makes it possible to identify its code page number or name. For more information on fonts, visit the **Printing Systems Font Database** that you can access through the **Printing Systems Information Center** at:

http://publib.boulder.ibm.com/printer/psindex.htm

From the pull-down list under **Select Navigation View**, select **Fonts**.

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**, the following 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.

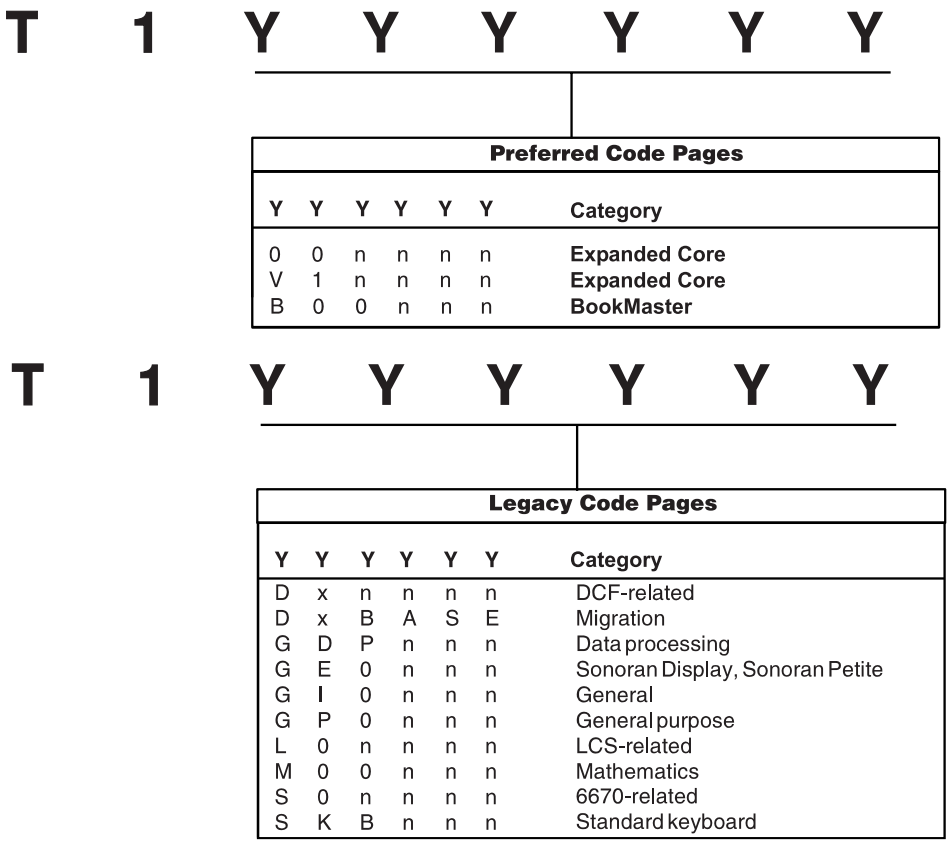


Figure 17. Code page name and category or version level

DBCS code pages using half-width characters

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

Table 14. DBCS code pages using half-width characters naming convention overview

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

DBCS code pages using full-width characters

The names of double-byte code pages supplied for use with IBM CJK fonts follow a new convention, so you may see some older double-byte code pages with different names.

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

Table 15. DBCS code pages using full-width characters naming convention overview

T1	Always T1	**XXXX**	Code page global identifier (CPGID) **Exceptions:** • Korean Full Hangul code page is K834 for CPGID:0834. • Simplified Chinese GB18030 code page is K837 for CPGID:0837. • Japanese HYOGAI KANJI JITAIHYO code page is K300 for CPGID:0300. • Japanese IBM JIKEI code page is I300 for CPGID:0300. • Japanese JIS90 JIKEI code page is J300 for CPGID:0300.	**SS** **SS** **blank**	**Section number** Code page used with a raster font Code page used with an outline font

Chapter 3. Font summary tables

The font summary tables provide the following information for Infoprint Fonts font resources:

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. It is used in the Typefaces window of SBCS Type Transformer.

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.

CID-keyed file name
Extensions are CID and CMP.

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.

Note: Not all information applies to all font groups.

Expanded Core Fonts

This section describes the Expanded Core Fonts available for use with IBM Print Services Facility (PSF) licensed programs. These fonts contain various typefaces and font sizes (include typographic and uniformly spaced typeface families) suitable for printing a variety of documents. They are provided in the following formats:

Table 16. Format and operating systems for Expanded Core Fonts

Format	Operating systems
AFP outline fonts	z/OS, OS/400, AIX, Windows
Type 1 outline fonts	AIX, Windows

Table 17. Expanded Core 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			
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
	″ Bold	RB	CZN403	TNR_CGB		2309
	″ Italic	IM	CZN303	TNR_CGI		2310
	″ Bld It	IB	CZN503	TNR_CGBI		2311
			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

Table 17. Expanded Core Fonts (continued)

AFP typeface name	Type 1 typeface name	Style and weight	Character set identifier	Type 1 file name	GCSGID	FGID
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
	″ Bold	RB	CZN403	TNR_CGB		2309
	″ Italic	IM	CZN303	TNR_CGI		2310
	″ Bld It	IB	CZN503	TNR_CGBI		2311
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
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 17. Expanded Core 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	CZ4304	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
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	CZ920AB0	OCR_A	968	305

Table 17. Expanded Core Fonts (continued)

AFP typeface name	Type 1 typeface name	Style and weight	Character set identifier	Type 1 file name	GCSGID	FGID
OCRB	OCRBMT	RM	CZ920BB0	OCR_B	969	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 Symbols	RM	CZN201	TNR_S	1275	2308
	″ Bold	RB	CZN401	TNR_SB		2309
		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
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

DBCS Core Fonts

This section describes the DBCS Core Fonts available for use with IBM Print Services Facility (PSF) licensed programs. These fonts contain various typefaces suitable for printing a variety of Chinese, Japanese, and Korean documents. They are provided with the Outline Fonts and Programs feature as PostScript CID-keyed fonts. These CID-keyed fonts can be used with example jobs provided with Infoprint Font Utilities to create the fonts listed in Table 19 on page 43. The fonts can then be stored on the z/OS operating system. The CID-keyed fonts can be used directly by the AIX and Windows environments.

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

DBCS Core Fonts are provided in the following formats:

Table 18. Format and operating systems for DBCS Core Fonts

Format	Operating systems
AFP outline fonts	z/OS, OS/400, AIX, Windows
CID-keyed fonts	AIX, Windows

The following list shows the values to be used in Table 19 on page 43:

- 4.8 point size/box size of 16
- 6.0 point size/box size of 20
- 7.2 point size/box size of 24
- 8.4 point size/box size of 28
- 9.6 point size/box size of 32
- 10.8 point size/box size of 36
- 12.0 point size/box size of 40
- 13.8 point size/box size of 46
- 15.6 point size/box size of 52
- 18.0 point size/box size of 60
- 24.0 point size/box size of 80
- 30.0 point size/box size of 100
- 36.0 point size/box size of 120

Substitute the box size value from this list for the lowercase **pd** (point deci–point) used in the coded font and character set names in Table 19 on page 43. For example, if you want a point size of 12.0, substitute 40 for the lowercase **pd**.

Table 19. DBCS Core 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 (HYOGAI KANJI JITAIHYO)								
Heisei Kaku Gothic	IBJHKGW5	Medium	Full	XZIFpd	CZJHKG	T1K300	2093	53249
Japanese Heisei Maru Gothic								
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 (HYOGAI KANJI JITAIHYO)								
Heisei Maru Gothic	IBJHKGW4	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 (HYOGAI KANJI JITAIHYO)								
Heisei Mincho	IBJHMNW3	Light	Full	XZOFpd	CZJHMN	T1K300	2093	53248

Table 20. DBCS Core 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	

Table 21. DBCS Core Fonts for Simplified Chinese

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								
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 22. DBCS Core Fonts for Traditional Chinese

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	

DBCS Simulation Fonts

This section describes the DBCS Simulation Fonts available for use with IBM Print Services Facility (PSF) licensed programs. The DBCS Simulation Fonts are provided in AFP Outline Font format that simulates the following raster font products:

- Japanese
  - AFP Japanese Font V2 (5771-AGB)
  - AFP Japanese Heisei Font (5648-104)
- Korean
  - AFP Korean Font (5771-AFW)
- Simplified Chinese
  - AFP Simplified Chinese Font (5771-AEK)
- Traditional Chinese
  AFP Traditional Chinese Font (5771-AFZ)

DBCS Simulation Fonts are provided in the following formats:

Table 23. Format and operating systems for DBCS Simulation Fonts

Format	**Operating systems**
AFP outline fonts	z/OS, OS/400, AIX, Windows
CID-keyed fonts	AIX, Windows

See Table 24 on page 46 for the summary of the DBCS simulation fonts.

Table 24. DBCS Simulation Fonts

CID file name	Weight	Width	Coded font	Character set	Code page	GCSGID	FGID	Box Size 240 pel (HxV)
Japanese Gothic simulated by Heisei Kaku Gothic								
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

Table 24. DBCS Simulation Fonts (continued)

CID file name	Weight	Width	Coded font	Character set	Code page	GCSGID	FGID	Box Size 240 pel (HxV)
Japanese Mincho simulated by Heisei Mincho								
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								
IBHKG2W5	Medium	Full	XZGbxK	CZHKG2	T10834	1010	53816	16x16 24x30
		Full	XZGbxL		T10834	1010		16x16 24x30
		Half	XZHbxK		T1H00833	1173		8x16 12x30

Table 24. DBCS Simulation Fonts (continued)

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

Chapter 4. Code pages

Table 25 lists, in code page ID sequence, all the code pages included with Infoprint Fonts.

To see a grid for each code page, visit the **Printing Systems Font Database** that you can access through the **Printing Systems Information Center** at:

http://publib.boulder.ibm.com/printer/psindex.htm

From the pull-down list under **Select Navigation View**, select **Fonts**.

Table 25. Code pages shipped with Infoprint Fonts

Code page ID	Description
T1000259	Symbols, Set 7
T1000290	Gothic Katakana, Katakana 10, Katakana 12
T1000293	APL (USA)
T10300	Japanese DBCS—Host: JISX0213-2000 character shape
T1000310	APL Graphic Escape
T1000361	Publishing: International #5
T1000363	Symbols, Set 8
T1000382	Publishing: Austria, Germany, Switzerland
T1000383	Publishing: Belgium
T1000384	Publishing: Brazil
T1000385	Publishing: Canada (French)
T1000386	Publishing: Denmark, Norway
T1000387	Publishing: Finland, Sweden
T1000388	Publishing: France, Switzerland
T1000389	Publishing: Italy, Switzerland
T1000390	Publishing: Japan (Latin)
T1000391	Publishing: Portugal
T1000392	Publishing: Spain, Philippines
T1000393	Publishing: Latin America (Spanish)
T1000394	Publishing: United Kingdom, Australia, Hong Kong, Ireland, New Zealand
T1000395	Publishing: United States, Canada (English)
T1000420	Arabic Bilingual
T1000423	Greece 183
T1000424	Hebrew
T1000437	Personal Computer: ASCII
T1000803	Hebrew Character Set A
T1000813	ISO/ANSI 8-Bit Greek
T1000819	ISO/ANSI 8-Bit Latin1
T1000829	Math Symbols

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T10834	Korean Host DBCS KS
T10835	Traditional Chinese Host DBCS
T10837	Simplified Chinese Host DBCS GB
T1000808	Personal Computer: Cyrillic, Russian with euro
T1000836	People's Republic of China
T1000838	Thailand
T1000848	Personal Computer: Cyrillic, Ukraine with euro
T1000849	Personal Computer: Cyrillic, Belo Russian with euro
T1000850	Personal Computer: Multilingual
T1000851	Personal Computer: Greece
T1000852	Personal Computer: Latin2
T1000853	Personal Computer: Latin3
T1000855	Personal Computer: Cyrillic
T1000856	Personal Computer: Hebrew
T1000857	Personal Computer: Latin5
T1000858	Personal Computer – Multilingual with euro
T1000860	Personal Computer: Portugal
T1000861	Personal Computer: Iceland
T1000862	Personal Computer: Hebrew (ASCII)
T1000863	Personal Computer: France, Canada (French)
T1000864	Personal Computer: Arabic
T1000865	Personal Computer: Nordic—Denmark, Norway
T1000866	Personal Computer: Cyrillic #2
T1000867	Israel – Personal Computer
T1000869	Personal Computer: Greece
T1000870	Personal Computer: Latin2 Multilingual
T1000872	Cyrillic Personal Computer with euro
T1000874	Personal Computer: Thailand
T1000875	Greece
T1000876	OCR-A ASCII
T1000877	OCR-B ASCII
T1000848	Personal Computer: Cyrillic, Ukraine with euro
T1000849	Personal Computer: Cyrillic, Belo Russian with euro
T1000880	Cyrillic Multilingual
T1000889	Thailand
T1000892	OCR-A
T1000893	OCR-B
T1000897	Katakana Personal Computer
T1000899	ASCII Symbol Set 7
T1000901	Personal Computer Baltic Multilingual with euro

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T1000902	8-bit Estonia wih eurotin)
T1000903	People's Republic of China (Latin)
T1000904	Taiwan (Latin)
T1000905	Latin3 Multilingual
T1000910	APL ASCII
T1000912	Latin2 ISO/ANSI 8-Bit
T1000913	Latin3 ISO/ASCII
T1000914	Latin4 ISO/ANSI
T1000915	Cyrillic ISO/ANSI 8-Bit
T1000916	Hebrew ISO/ANSI 8-Bit
T1000920	Latin5 ISO/ANSI 8-Bit
T1000921	Personal Computer Baltic Multilingual
T1000922	Estonia Personal Computer
T1000923	Latin9
T1000924	Latin9 EBCDIC
T1001002	DCF
T1001003	United States Text Subset
T1001004	Personal Computer: Desktop Publishing
T1001008	Arabic ISO/ASCII 8-Bit
T1001025	Cyrillic Multilingual
T1001026	Latin5
T1001027	Katakana
T1001028	Hebrew Publishing
T1001029	Arabic ISO/ASCII 8-Bit
T1001038	ASCII Symbols Abode
T1001039	GML List Symbols
T1001041	Katakana Personal Computer
T1001042	Simplified Chinese Extended
T1001043	Traditional Chinese Extended
T1001046	Arabic Extended ISO/ASCII 8-Bit
T1001068	Text with numeric spacing
T1001069	Latin4
T1001087	Symbols Abode
T1001091	Symbols, Set 7 Modified
T1001092	ASCII Symbols, Set 7 Modified
T1001093	IBM Logo
T1001110	Latin2 Multilingual
T1001111	Latin3 Multilingual
T1001112	Baltic – Multilingual EBCDIC
T1001122	Estonia EBCDIC

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T1001123	Cyrillic, Ukraine EBCDIC
T1001124	Cyrillic, Ukraine ISO–8
T1001125	Personal Computer: Cyrillic, Ukraine
T1001129	Vietnamese ISO-8
T1001130	Vietnamese EBCDIC
T1001131	Personal Computer: Cyrillic, Belo Russian
T1001132	Lao EBCDIC
T1001133	Lao ISO–8
T1001139	Japan Alphanumeric Katakana
T1001140	USA, Canada ECECP
T1001141	Austria, Germany ECECP
T1001142	Denmark, Norway ECECP
T1001143	Finland, Sweden ECECP
T1001144	Italy ECECP
T1001145	Spain, Latin America ECECP
T1001146	UK ECECP
T1001147	France ECECP
T1001148	International ECECP
T1001149	Iceland ECECP
T1001153	Latin2 Multilingual with euro
T1001154	EBCDIC Cyrillic, Multilingual with euro
T1001155	EBCDIC Turkey with euro
T1001156	EBCDIC Baltic Multilingual with euro
T1001157	EBCDIC Estonia with euro
T1001158	EBCDIC Cyrillic, Ukraine with euro
T1001160	Thailand EBCDIC with euro
T1001161	Thailand Personal Computer with euro
T1001162	Windows Thailand
T1001163	Vietnamese ISO-8 with euro
T1001164	Vietnamese, EBCDIC with euro
T1001166	EBCDIC Cyrillic, Multilingual with euro
T1001250	Windows Latin2
T1001251	Windows Cyrillic
T1001252	Windows Latin1
T1001253	Windows Greek
T1001254	Windows Turkish
T1001257	Windows Baltic Rim
T1001258	Windows Vietnamese
T1B00037	BookMaster: United States, Canada
T1B00273	BookMaster: Austria, Germany, Switzerland

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T1B00274	BookMaster: Belgium
T1B00275	BookMaster: Brazil
T1B00277	BookMaster: Denmark, Norway
T1B00278	BookMaster: Finland, Sweden
T1B00280	BookMaster: Italy, Switzerland
T1V00281	BookMaster: Japan (Latin)
T1B00282	BookMaster: Portugal
T1B00284	BookMaster: Spain, Latin America
T1B00285	BookMaster: United Kingdom
T1B00297	BookMaster: France
T1B00382	BookMaster: Austria, Germany, Switzerland
T1B00383	BookMaster: Belgium
T1B00384	BookMaster: Brazil
T1B00385	BookMaster: Canada (French)
T1B00386	BookMaster: Denmark, Norway
T1B00387	BookMaster: Finland, Sweden
T1B00388	BookMaster: France, Switzerland
T1B00389	BookMaster: Italy, Switzerland
T1B00390	BookMaster: Japan (Latin)
T1B00391	BookMaster: Portugal
T1B00392	BookMaster: Spain, Philippines
T1B00393	BookMaster: Latin America (Spanish)
T1B00394	BookMaster: United Kingdom, Australia, China (Hong Kong S.A.R.), Ireland, New Zealand
T1B00395	BookMaster: United States, Canada (English)
T1B00500	BookMaster: International #5
T1B00871	BookMaster: Iceland
T1B00BGS	BookMaster: Specials
T1DABASE	Migration: Austria, Germany
T1DBBASE	Migration: Belgium, Luxemburg, Switzerland
T1DDBASE	Migration: Denmark, Iceland, Norway
T1DEBASE	Migration: Finland, Sweden
T1DFBASE	Migration: France
T1DIBASE	Migration: Italy
T1DNBASE	Migration: Netherlands, Portugal
T1DSBASE	Migration: Spain, Latin America
T1DUBASE	Migration: United Kingdom
T1D0BASE	Migration: DCF
T1D0GP12	DCF Gothic Tri-Pitch
T1E00420	Arabic Bilingual with euro

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T1E00813	Greece – ISO 8859-7
T1E00852	Latin2 Multilingual Personal Computer with euro
T1E00857	Latin5 Turkey Personal Computer with euro
T1E00864	Arabic Personal Computer with euro
T1E00869	Greece – Personal Computer
T1E00875	Greece – EBCDIC
T1E00877	OCR B Personal Computer with euro
T1E00893	OCR B with euro
T1E01008	Arabic ISO with euro
T1E01046	Arabic Extended ISO with euro
T1H00037	Traditional Chinese Host SBCS
T1H00290	Japanese Katakana Extended
T1H00833	Korean SBCS Host
T1H00836	Simplified Chinese Host
T1H01002	Japanese DCF Compatibility
T1H01027	Japanese Latin Extended
T1H01030	Japanese Katakana Extended with box
T1H01031	Japanese (Latin) Extended with box
T1H01041	Japanese Personal Computer Extended
T1H01043	Traditional Chinese Host SBCS
T1H01088	Korean SBCS Personal Computer
T1H01114	Traditional Chinese Personal Computer SBCS
T1H01115	Simplified Chinese Personal Computer, GB
T1H01126	Korean SBCS Personal Computer
T1H01150	Korean Latin with Box
T1H01151	Simplified Chinese Latin with Box
T1H01152	Traditional Chinese SBCS with box characters
T1H01159	Traditional Chinese SBCS with Euro
T1H01252	Simplified Chinese Personal Computer, GB18030
T1HK0037	Japanese Latin
T1HK0290	Japanese Katakana
T1HK1114	Simplified Chinese Personal Computer GBK
T1I300	Japanese DBCS—Host: Supports 751 unique IBM chatacter shapes
T1J300	Japanese DBCS—Host: Supports 751 unique IBM chatacter shapes with 14 of them changed according to JIS90
T1K300	Japanese DBCS—Host: JISX0213-2003 character shape
T1K834	Korean Host DBCS Full Hangul
T1K837	Simplified Chinese Host DBCS GB18030
T1L0DUMP	LCS Dump Character Set
T1L0FOLD	LCS Gothic Folded

Table 25. Code pages shipped with Infoprint Fonts (continued)

Code page ID	Description
T1L0OCRB	LCS Gothic and OCR B
T1L0OCR1	LCS OCR A
T1L0OCR2	LCS Gothic and OCR A
T1L0OCR3	LCS Gothic and OCR A
T1L0PCAN	LCS Gothic
T1L0PCHN	LCS Gothic
T1L00A11	LCS Gothic
T1L00FMT	LCS Format Characters
T1L00KN1	LCS Gothic, Katakana (KN1)
T1L00QNC	LCS Gothic
T1L000GN	LCS Gothic
T1L000RN	LCS Gothic
T1L000SN	LCS Text-1 and Text-2
T1L000XN	LCS Gothic
T1L038BA	LCS Gothic
T1L038TE	LCS Text-1 and Text-2
T1L000YN	LCS Gothic
T1L02773	LCS Gothic, Katakana (2773)
T1L02774	LCS Gothic, Katakana (2774)
T1S0AE10	APL (AE10)
T1S0S192	6670 Symbol Set
T1S0S193	6670 Symbol Set
T1S0S198	6670 Symbol Set
T1V10037	Country Extended: United States, Canada
T1V10273	Country Extended: Austria, Germany, Switzerland
T1V10274	Country Extended: Belgium
T1V10275	Country Extended: Brazil
T1V10277	Country Extended: Denmark, Norway
T1V10278	Country Extended: Finland, Sweden
T1V10280	Country Extended: Italy, Switzerland
T1V10281	Country Extended: Japan (Latin)
T1V10282	Country Extended: Portugal
T1V10284	Country Extended: Spain, Latin America
T1V10285	Country Extended: United Kingdom
T1V10290	Japan (Katakana)
T1V10297	Country Extended: France
T1V10500	Country Extended: International #5
T1V10871	Country Extended: Iceland

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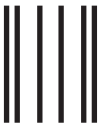

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