

# Adobe CID Fonts

## Questions and Answers

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**Q. What are CID fonts?**

**A.** CID fonts are a new format of composite (multibyte) Type 1 fonts that better address the requirements of Far East markets. Adobe developed the CID-keyed font file format to support large character set fonts for use with PostScript® language printing, Adobe Type Manager® (ATM®) software, Configurable PostScript Interpreter (CPSI), and Display PostScript® (DPS). It is the ideal format for Chinese, Japanese, or Korean fonts, and may also be used for roman fonts with very large character sets. CID-keyed refers to the character identifier (CID) numbers that are used to index and access the characters in the font. A CID (character identifier) font consists of a large font file that contains all the character outlines and a small CMap file that contains a list of characters, encodings, and character identifiers. The combination of the font file and the CMap file yields a font that is a specific character set and encoding information. Each CID font can support many character set and encoding combinations.

**Q. Why did Adobe create yet another font format?**

**A.** The CID font format specifies a new file organization that provides improved flexibility and performance and is optimized for the latest generation of Adobe PostScript interpreters. The CID font format is not a change to the Type 1 specification; character outlines are still represented in the Type 1 format.

**Q. How are CID fonts different from OCF (Original Composite Format) fonts?**

**A.** The CID-keyed format is more flexible and simpler than OCF. However, the character outlines for the same typeface are identical in both formats, and the characters will look identical on a printed page. A CID font may contain additional character glyphs and encodings, compared to the corresponding OCF font.

**Q. What are the advantages of CID over OCF?**

**A.** Although OCF fonts offer high quality and many will continue to use them, that format does not offer the flexibility and simplicity that are the key benefits of the CID-keyed format. OCF uses a complex font structure and disk file organization. Because CID-keyed fonts have a much simpler structure, they use less memory and the interpreter can retrieve and rasterize character outlines much faster. Some advantages of CID over OCF include smaller font size, easier installation, greatly improved performance (especially with an Adobe PostScript interpreter 2015 or greater), flexible encoding to allow easy addition or modification of character sets, and compatibility with a wide range of PostScript language devices and host platforms. In many cases, Adobe's CID-keyed fonts will ship with characters and encoding, such as JIS90, not found in OCF fonts. Also, Adobe's Chinese and Korean character sets are supported only with CID-keyed font technology.

**Q. Adobe did not publish the composite font extensions to the Type 1 format. What about the new CID format?**

**A.** The CID-keyed font format is an open, published format that is specified in Adobe Technical Specification #5014, *The CMap and CID-Keyed Font Files Specification*. It is openly published and supported to encourage all font developers to use it.

**Q. Can you put CID fonts on a disk or in ROM?**

**A.** Yes, CID fonts can be bundled on disk or in ROM. They can be delivered in all the same ways that OCF fonts are delivered. The retail package will include a new font installer and a new font downloader.

**Q. What about CID font downloaders?**

**A.** Adobe is supplying CID font downloaders with its after-market font packages, including the Type On Call<sup>®</sup>-J products, as well as single font packages. The Adobe CID font downloader will allow the font to be installed on both a host computer (for use with Adobe Type Manager software) and on a PostScript printer. Third-party font vendors are expected to develop their own font downloader.

**Q. What platforms support (and are supported by) CID?**

**A.** Because the characters in CID-keyed fonts are in the industry-standard Type 1 format, they are compatible with a wide variety of operating systems, applications software, and output devices. CID fonts are supported by the same platforms that have supported OCF historically: Macintosh<sup>®</sup>, Windows<sup>®</sup>, and UNIX<sup>®</sup>.

**Q. Will CID fonts work under GX? Copland? Windows 95?**

**A.** Adobe intends for CID fonts to be compatible with each of these operating systems.

**Q. What about Chinese and Korean CID fonts?**

**A.** Adobe has prototype Korean and Chinese fonts in CID format. These fonts are scheduled to become available in mid-1996. The CID format makes it easy to add support for new languages, character sets, and encoding.

**Q. Will Adobe continue to support OCF fonts?**

**A.** OCF fonts will continue to work with Adobe's software products, including Adobe Type Manager and Adobe PostScript. However, Adobe plans to transition the Adobe<sup>®</sup> Type Library to the CID format in 1996, and intends to ship only CID fonts thereafter.

**Q. What is Adobe's schedule for releasing CID fonts to OEMs and in after-market packages?**

**A.** Macintosh CID fonts will ship in after-market packages in early 1996. Type On Call-J, available in early 1996, will be the delivery vehicle for CID fonts for the Windows platform. Fonts will be available to OEMs simultaneously with the release of retail packages.

**Q. Can the CID font format support the ISO 10646 and Unicode character encoding standards?**

**A.** The CID format does allow the double-byte character addressing that is required for Unicode fonts. The only other requirement is the addition of a CMap file, available from Adobe, that specifies the correspondence between Unicode character code values and the CID numbers contained in the font. This flexibility makes it easy for developers to add Unicode support to their font products.

## CID and Other Technologies

**Q. Will CID support TrueType<sup>™</sup>?**

**A.** Adobe has extended the CID format to include Type 42 support for two-byte TrueType<sup>®</sup>. However, compatibility and downloader support would be the responsibility of the font vendor. Adobe has no plans to develop TrueType fonts at this time.

**Q. Does CID work with the Type 1 Coprocessor?**

**A.** Yes, Type 1 CID fonts are compatible with the Type 1 Coprocessor. Font rasterization performance is greatly improved with releases 2015 and beyond of the PostScript interpreter, and the Type 1 Coprocessor further enhances the speed.

**Q. Will CID fonts work with every PostScript release?**

**A.** CID-keyed fonts will work with every two-byte capable PostScript release (all Level 2 devices that are 2011 and beyond and Level 1 devices that include the composite font extensions). However, the CID Support Library is required so that the CID-keyed font can be printed on any PostScript Level 2 printer containing versions of the PostScript language before 2015 (see below). Adobe CID font downloaders will also download the CID Support Library to the printer, if the library is not already present and the printer has at least 2 MB of available RAM.

**Q. Will CID fonts work with PostScript language clones?**

**A.** Clone vendors are responsible for ensuring compatibility of their products with the Adobe standard. Adobe has done nothing to explicitly exclude clone support for the CID format, but the Adobe PostScript interpreter, beginning with release 2015, has been optimized to perform extremely well with the new format.

**Q. How can I use CID after-market fonts on my roman printer product (one that was sold and installed outside of Japan)?**

**A.** The CID fonts will ship with an installer that downloads the CID Support Library if it is not present, so it will explicitly support downloading fonts on a PostScript Level 2 roman printer as long as there is a hard disk and sufficient virtual memory (and the resolution restrictions are adhered to). This is intended to service the Japanese language printing segments—primarily universities, local offices of Japanese companies, and service bureaus—in countries other than Japan.

**Q. What versions of ATM are required to support CID?**

**A.** CID fonts will work with ATM-J software v3.5 (available today) and beyond on the Macintosh. On Windows systems, CID fonts are supported, beginning with ATM-J v3.2, due out in early 1996.

**Q. How does CID relate to Adobe Type Composer and Adobe Type Connection technologies?**

**A.** Adobe Type Composer is a technology that allows a font to be rearranged so that it contains elements extracted from multiple fonts. Adobe Type Connection (ATCx) is an Adobe-developed font substitution technology. ATCx allows substitution of printer-resident fonts for Mac® and Windows host-based fonts. ATCx ensures a match of style and metrics, and WYSIWYG is achieved for certain font combinations. Because this technology lets users avoid downloading host-rendered fonts as image data, performance is improved.

**Q. Will CID work with CPSI with standard packages/downloaders? Will it work with DPS?**

**A.** The CID fonts can be installed on PostScript printers or imagesetters, CPSI software, and Display PostScript applications for the Macintosh, Windows, or UNIX environments. Installation of the fonts on some platforms may require a custom installer.

**Q. Will Adobe make CID creation tools available to third parties?**

**A.** To help third parties build CID-keyed fonts, Adobe has published Technical Note #5014, *Adobe CMap and CIDFont Files Specification*. This is a specification of the format of CIDFont files and the accompanying CMap (character mapping files). Technical Note #5092, *CID-Keyed Font Technology Overview*, is an overview describing the format in an understandable way. The CID-keyed font format is an open, published format. Adobe intends to aid third parties wanting to build CID-keyed fonts be successful at doing so. Adobe Developer Support is handling all technical calls from third-party vendors building CID-keyed fonts. Although Adobe will not, in general, license tools to build CID-keyed fonts, software is available from other vendors to make the Type 1 character files contained in a CIDFont. Using those tools and the specification, developers can build a CID-keyed font. The utilities to install CID-keyed fonts for a host or printer are a separate consideration. Technical Note #5014 contains information on building an installer and downloader for these fonts.

**Q. How can font developers get information and support from Adobe for developing CID-keyed fonts?**

**A.** Any developer may contact the Adobe Developer Association (ADA) for help. Technical Note #5014 and #5092 are available on the PostScript SDK version 2.0 CD-ROM. Printed versions are also available through the ADA. Information is also available on the ADA's World Wide Web site at <http://ada.mv.adobe.com>

**Q. Who will develop and distribute CID-keyed fonts?**

**A.** Adobe expects that many third-party developers building Chinese, Japanese, and Korean fonts will choose to develop CID-keyed fonts. The characters contained in a CID-keyed font are in the standard PostScript Type 1 format that is the industry standard for high-quality, cross-platform printing. Adobe will ship its Japanese font library as CID-keyed fonts. Adobe plans to add Chinese and Korean fonts to its library in the future. Adobe is encouraging developers to make CID-keyed fonts available.

## Font Developer Issues

## The CID Support Library (CSL)

### Q. What is the CID Support Library (CSL)?

A. The CID Support Library, or CSL, is a set of core and language- or script-specific files that accompany a CID-keyed font. These files are installed along with the font so that the CID-keyed font can be printed on any existing PostScript Level 2 composite-font-capable printer containing versions of the PostScript language before 2015. PostScript printers prior to version 2015 understand the original composite font format. The CID support library was developed to enable Adobe to go forward with a faster and easier font file format and to give users continued compatibility with their PostScript printers. The CSL includes files that make a CID-keyed font look like an original composite font to the PostScript interpreter. Users with a CID-keyed font should not notice a difference between the printing capability of the original format fonts and that of the CID-keyed fonts. The CSL also includes character map (CMap) files for specific platform encoding and language-dependent character sets. The CMap files are needed for both printer and host installation of CID fonts. The CSL is also recommended to ensure compatibility of applications that make explicit assumptions about the file structure of a composite font.

### Q. Who needs the CSL?

A. Adobe recommends that CSL ship with each CID-keyed font produced. To make this possible, Adobe is making the CSL available to font vendors for distribution with only a simple license agreement. The license is free and there is no royalty. The CSL is needed for every PostScript printer installation to ensure compatibility.

### Q. What does the CSL cost?

A. There is no cost for the CSL. It is freely available by license from Adobe Developer Support.

### Q. How do I license the CSL?

A. To license the CSL, contact Adobe Developer Support. A support engineer will provide you with a license agreement. Once the agreement is signed and returned to the support engineer, a copy of the CID support library files and instructions for their use will be sent to you.

## SFNT Technology in CID Fonts

### Q. How does Adobe's SFNT concept differ from Apple's and Microsoft's?

A. Adobe's SFNT fonts will be cross-platform, which means that users can count on the same results when they use a font on a Macintosh, PC, or UNIX.

### Q. When is Adobe releasing the first SFNT-wrapped fonts on the Macintosh? On Windows?

A. The Macintosh release will come first and is targeted to ship with Adobe Illustrator® 5.5J in January 1996. Windows SFNT-wrapped fonts will be available later in 1996.

### Q. List the FTP and Web sites where CID tech notes are posted.

A. <ftp://ftp.adobe.com/pub/adobe/DeveloperSupport/TechNotes/PSfiles/>  
<ftp://ftp.adobe.com/pub/adobe/DeveloperSupport/TechNotes/PDFfiles/>

## Bibliography

*Installing CID-Keyed Fonts on PostScript Interpreters*, Technical Note #5014, Appendix A, 18 pp.

*CID-Keyed Font Technology Overview*, Technical Note #5092, 12 September 1994, 18 pp.

*Adobe-Japan1-2 Character Collection for CID-Keyed Fonts (Bitmap Character Image Version)*, Technical Note #5078-b, 4 October 1994, 92 pp.

Technical Notes 5079 (Adobe-GB1-0) 5080 (Adobe-CNS1-0) 5093 (Adobe-Korea1-0), 5097 (Adobe-Japan2-0)

*Adobe CJK Character Collections and CMaps for CID-Keyed Fonts*, Technical Note #5094, 10 February 1995, 14 pp.

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