Doulos SIL Font Documentation

NRSI staff,
SIL Non-Roman Script Initiative (NRSI)
2007-01-31

Note

Updates to this font and the documentation are available online at:
http://scripts.sil.org/DoulosSILfont.

Table of Contents

'Thanks for this brilliant resource !'

'I appreciate the exact multiple accent placement of Doulos SIL.'

'Capital and small B with bar/stroke (U+0243 Ƀ/U+0180 ƀ) much appreciated..'

Introduction to the Doulos SIL Font Package

Welcome to the Doulos SIL font package. The goal for this product was to provide a single Unicode-based font family that would contain a comprehensive inventory of glyphs needed for almost any Roman- or Cyrillic-based writing system, whether used for phonetic or orthographic needs. In addition, there is provision for other characters and symbols useful to linguists. This font makes use of state-of-the-art font technologies to support complex typographic issues, such as the need to position arbitrary combinations of base glyphs and diacritics optimally.

Doulos is very similar to Times/Times New Roman, but only has a single face - regular. It is intended for use alongside other Times-like fonts where a range of styles (italic, bold) are not needed.

One font from this typeface family is included in this release:

- Doulos SIL Regular

Overview of the Doulos SIL Font

This Doulos SIL font is essentially the same design as the SIL Doulos font first released by SIL in 1992. The design has been changed from the original in that it has been scaled down to be a better match with contemporary digital fonts, such as Times New Roman®. This current release is a regular typeface, with no bold or italic version available or planned.

> **Note:**
>
> We reserve the right to alter metrics in future releases. Future versions of the font may result in different lines, line spacing, or paragraph lengths. Do not expect that a document laid out in one version will always have the same page breaks, etc., in future fonts.

The Doulos SIL font differs significantly from SIL Doulos in the following ways:

- SIL Doulos, as other fonts included in the *SIL Encore Fonts* package, was provided not as a working font but as a "library" font from which working fonts could be made using the *TypeCaster* program. In contrast, Doulos SIL is a working font to be used as is, not as a basis for derivative fonts.

- Doulos SIL is a Unicode-encoded font. The encoding is *entirely* different from the old font, or most working fonts produced from it. Data created for use with the old font (or its derivatives) will most likely have to be re-typed or converted before it will display with the Doulos SIL font.

- Doulos SIL is a TrueType font with "smart font" capabilities added using the Graphite, OpenType®, and AAT font technologies. This means that complex typographic issues such as the placement of diacritics or the formation of ligatures are handled by the *font*, provided you are running an application that provides an adequate level of support for one of these smart font technologies. With the old font (and its derivatives), diacritic placement was handled using non-standard character encodings that incorporated multiple versions of a diacritic as distinctly-encoded characters.

Documentation

System requirements

The Doulos SIL font is designed to work on systems and with applications that provide support for TrueType fonts and for Unicode character encoding. This includes all 32-bit versions of Microsoft Windows®, as well as recent versions of the Mac OS (version 9.0 and later), and also some implementations of Unix / Linux (TrueType font support on Unix and Linux may depend upon the particular applications in use). On some systems (true, at least, of 32-bit Windows), it can also be used with older applications that use legacy, industry-standard, 8-bit character encodings.

The preceding characterization of system requirements describes the minimum needed to display characters. *Realizing the full capabilities of this font involves additional requirements.* The first release of this font was designed to work with either of two advanced font technologies, Graphite or OpenType; beginning with release 4.0.12, it also contains AAT tables to offer selection of alternate glyphs on Mac OS X. To take advantage of the advanced typographic capabilities of this font, you must be using applications that provide an adequate level of support[1] for Graphite and OpenType. At the time of release, no application supports all of the OpenType features of this font (see discussion on OpenType features[2]). Paratext 6 and Microsoft Office 2003 support many of the automatic ligatures as well as dynamic positioning of most diacritics. While Adobe InDesign 2/CS/CS2 does not offer support for dynamic diacritic positioning, it is one of the few applications to offer selection of alternate glyphs from OpenType fonts. There are currently few applications which make use of the Graphite capabilities of the font. These are WorldPad[3], a beta version of Mozilla[4], all applications in the FieldWorks Suite[5] (such as Data Notebook) as well as a Graphite integration into OpenOffice 2.0[6].

Features of the font

The Doulos SIL font contains near-complete coverage of all the characters defined in Unicode 5.0 for Latin and Cyrillic. In total, over 2,600 glyphs are included, providing support for over 1,800 characters as well as a large number of ligated character sequences (e.g., contour tone letters used in phonetic transcription of tonal languages).

In addition, alternately-designed glyphs are also provided for a number of characters for use in particular contexts. The glyphs are accessible in applications that support advanced font technologies, specifically the Graphite or OpenType technologies. These technologies are also utilized to provide automatic positioning of diacritics relative to base characters in arbitrary base+diacritic combinations (including combinations involving multiple diacritics).

---

[1]   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSIL_AdLvSup

[2]   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSILfontFAQ#OTfeatures

[3]   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=WorldPadDownload

[4]   http://sila.mozdev.org/

[5]   http://www.sil.org/computing/fieldworks/index.html

[6]   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=OOo_20_graphite

Some important issues with respect to Unicode need to be borne in mind. Unicode is a character encoding and not a glyph encoding. Thus you should endeavor to use the character that reflects your character needs rather than finding a glyph that looks right and using its character code. Thus, for example, there is only one code for CAPITAL ENG (U+014A), although there are 4 different glyph shapes for this character in use around the world. Therefore it is necessary to use other means, such as user-selectable font features, to ensure that your document displays the right glyph for the character that you are anticipating. The advanced typographic capabilities mentioned above provide this very capability.

See also "How do I use a feature?"[7]

Samples

Type samples showing some of the unusual inventory of glyphs and features can be downloaded. A sample from one page is shown below. For a complete list of characters included in Doulos SIL, see Supported character ranges, below.

Doulos SIL Sample - Precomposed Latin Diacritics

Installation

This font can be installed using standard font installation procedures for the given operating-system platform. There are no additional installation steps required to use Graphite-related functionality. Note that certain applications may not see the new font immediately. You may have to quit and restart the application for the font to become available.

Supported character ranges

This font supports over 1,800 characters from the Unicode 5.0 standard as well as over 226 Private Use Area (PUA)[8] characters. In total, over 2,600 glyphs are included, supporting stylistic alternates for a number of characters as well as a large number of ligated sequences (e.g., contour tone letters used in phonetic transcription of tonal languages). The following character ranges constitute many of the characters supported by this font:

C0 Controls and Basic Latin	U+0020..U+007E
C1 Controls and Latin-1 Supplement	U+00A0..U+00FF
Latin Extended-A	U+0100..U+017F

---

7   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSILfontFAQ#features

8   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=PUA_home

Latin Extended-B	U+0180..U+024F
IPA Extensions	U+0250..U+02AF
Spacing Modifier Letters	U+02B0..U+02FF
Combining Diacritical Marks	U+0300..U+0320, U+0323..U+033F, U+0346..U+036F
Greek and Coptic	U+0387, U+0393..U+0394, U+0398, U+03A9, U+03B1..U+03B4, U+03B8, U+03BB, U+03C0, U+03C3, U+03C7
Cyrillic	U+0400..U+045F, U+0472..U+0473, U+048A..U+04FF
Cyrillic Supplementary	U+0500..U+0513
Phonetic Extensions	U+1D00..U+1D7F
Phonetic Extensions Supplement	U+1D80..U+1DBF
Combining Diacritical Marks Supplement	U+1DC2, U+1DC4..U+1DCA, U+1DFE..U+1DFF
Latin Extended Additional	U+1E00..U+1E9B, U+1EA0..U+1EF9
General Punctuation	U+2000..U+2030, U+2032..U+203A, U+203C, U+203F, U+2040, U+2044, U+2053, U+2057, U+2060..U+2063, U+206A..U+206F
Superscripts and Subscripts	U+2070..U+2071, U+2074..U+208E, U+2090..U+2094
Currency Symbols	U+20A0..U+20B5
Combining Diacritical Marks for Symbols	U+20EC..U+20EF
Letterlike Symbols	U+2116, U+211F, U+2122..U+2123, U+2126
Number Forms	U+2153..U+2184
Arrows	U+2190..U+219B, U+21A8, U+21D0..U+21D5
Mathematical Operators	U+2202, U+2205..U+2206, U+220F, U+2211..U+2213, U+2219..U+221A, U+221E, U+222B, U+223C, U+2248, U+225F, U+2260..U+2261, U+2264..U+2265
Miscellaneous Technical	U+2308..U+230B
Control Pictures	U+2423
Geometric Shapes	U+25CA, U+25CC
Dingbats	U+2713, U+274D
Misc. Math. Symbols-A	U+27E6..U+27E7
Latin Extended-C	U+2C60..U+2C6C, U+2C74..U+2C77
Modifier Tone Letters	U+A700..U+A71A
Latin Extended-D	U+A720..U+A721
PUA: Specials	U+F130..U+F135
PUA: Combining Marks	U+F170..U+F176, U+F178..U+F17B
PUA: Modifier letters (e.g. superscripts)	U+F180..U+F182, U+F18B, U+F18B, U+F195..U+F1CE, U+F1D0..U+F1EA, U+F1F1..U+F1F9
PUA: Latin	U+F208..U+F26A
PUA: Cyrillic	U+F320..U+F32B
Alphabetic Presentation Forms	U+FB00..U+FB04
Combining Half Marks	U+FE20..U+FE23
Arabic Presentation Forms-B	U+FEFF (zero-width no-break space)
Mathematical Alphanumeric Symbols	U+1D510, U+1D52D

Supported character ranges

Private-use (PUA) characters

There are 226 private-use characters that are supported in this font. These conform to SIL International's corporate registry[9] for usage of the Unicode private-use areas. Characters which are not yet in Unicode are shown below.

Specials

U+F130 ˺ FONT BASELINE AND SIDE-BEARING MARKER LEFT

U+F131 ˻ FONT BASELINE AND SIDE-BEARING MARKER RIGHT

U+F132 ˼ FONT VERTICAL METRICS MARKER LEFT

U+F133 ˹ FONT VERTICAL METRICS MARKER RIGHT

Combining Marks

U+F17B ≈ COMBINING ALMOST EQUAL TO BELOW

Modifier Letters

U+F19C ˆ MODIFIER LETTER RAISED UP ARROW

U+F19D ˇ MODIFIER LETTER RAISED DOWN ARROW

U+F19E ˙ MODIFIER LETTER AFRICANIST DOWNSTEP

> = *MODIFIER LETTER RAISED EXCLAMATION MARK*

U+F19F ˙ MODIFIER LETTER AFRICANIST UPSTEP

U+F1A1 ᴁ MODIFIER LETTER SMALL AE

U+F1A3 ᴲ MODIFIER LETTER SMALL REVERSED E

U+F1A4 ᴈ MODIFIER LETTER SMALL CLOSED REVERSED OPEN E

U+F1AB ᴓ MODIFIER LETTER SMALL O WITH STROKE

U+F1AD ᴔ MODIFIER LETTER SMALL LIGATURE OE

U+F1AE ᴔ MODIFIER LETTER SMALL CAPITAL OE

U+F1B4 ᵞ MODIFIER LETTER SMALL CAPITAL Y

U+F1B5 ᵷ MODIFIER LETTER SMALL RAMS HORN

U+F1BC ʰ MODIFIER LETTER SMALL H WITH STROKE

U+F1CD ᵫ MODIFIER LETTER SMALL CAPITAL U BAR

U+F1CE ᴁ MODIFIER LETTER SMALL TURNED Y

U+F1E7 ˬ MODIFIER LETTER LOW CIRCUMFLEX ACCENT

U+F1E9 ː MODIFIER LETTER COLON

U+F1EA = MODIFIER LETTER SHORT EQUAL

---

9   http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=PUA_home

U+F1F1 ⎽ MODIFIER LETTER PITCH ONE

U+F1F2 ⎽ MODIFIER LETTER PITCH TWO

U+F1F3 ⎽ MODIFIER LETTER PITCH THREE

U+F1F4 ⎯ MODIFIER LETTER PITCH FOUR

U+F1F5 ⎯ MODIFIER LETTER PITCH FIVE

U+F1F6 ⎺ MODIFIER LETTER PITCH SIX

U+F1F7 ⎺ MODIFIER LETTER PITCH SEVEN

U+F1F8 ⎺ MODIFIER LETTER PITCH EIGHT

U+F1F9 ⎺ MODIFIER LETTER PITCH NINE

Latin

U+F208 Ɑ LATIN CAPITAL LETTER SMALL ALPHA

U+F209 Ɒ LATIN CAPITAL LETTER SMALL TURNED ALPHA

U+F20D Đ LATIN CAPITAL LETTER D WITH STROKE AND HOOK

U+F21A ⱳ LATIN SMALL LETTER W WITH HOOK

U+F21B Ⱳ LATIN CAPITAL LETTER W WITH HOOK

U+F21D ' MODIFIER LETTER STRAIGHT APOSTROPHE

> = *LATIN LETTER DOTLESS EXCLAMATION*
>
> =*MODIFIER LETTER STRAIGHT APOSTROPHE*

U+F225 ꞔ LATIN SMALL LETTER C WITH PALATAL HOOK

U+F234 Ⱬ LATIN CAPITAL LETTER Z WITH PALATAL HOOK

U+F235 ʓ LATIN SMALL LETTER EZH WITH PALATAL HOOK

U+F245 ꞇ LATIN LETTER TRESILLO

U+F246 ꞓ LATIN LETTER CUATRILLO

U+F247 @ LATIN SMALL LETTER AT

U+F248 @ LATIN CAPITAL LETTER AT

U+F258 ᵻ LATIN LETTER SMALL CAPITAL I OVER SMALL SCHWA

U+F259 ᵿ LATIN LETTER SMALL UPSILON OVER SMALL SCHWA

U+F25A ꜧ LATIN SMALL LETTER HENG

U+F25B Ɱ LATIN CAPITAL LETTER M WITH HOOK

U+F25F ⱱ LATIN SMALL LETTER V WITH RIGHT HOOK

U+F266 ꞁ LATIN SMALL LETTER L WITH RETROFLEX HOOK AND BELT

U+F267 ⅄ LATIN SMALL LETTER TURNED Y WITH BELT

U+F268 ⌐ LATIN LETTER SMALL CAPITAL L WITH BELT

U+F269 ⌐ LATIN SMALL LETTER TURNED R WITH LONG LEG AND HOOK

U+F26A ˈ LATIN CAPITAL LETTER SALTILLO

Cyrillic

U+F326 Ғ CYRILLIC CAPITAL LETTER GHE WITH STROKE AND DESCENDER

U+F327 ғ CYRILLIC SMALL LETTER GHE WITH STROKE AND DESCENDER

Deprecated PUA characters

These PUA characters have been added to Unicode and are being deprecated. This page lists those PUA characters along with the appropriate Unicode codepoints. Please use the Unicode codepoint instead of the PUA codepoint. Our SIL Unicode Roman fonts will continue to support the PUA codepoint for backwards compatibility purposes.

Advanced typographic capabilities

This font supports various advanced typographic capabilities using the Graphite, OpenType, or AAT font technologies.

- Automatic conversion of sequences of pitch letters (U+02E5..U+02E9) into ligatures.

- Automatic *fi*-type ligatures.

- Auto placement of diacritics to a sufficient level of stacking.

- Auto placement of double-width diacritics (U+035D..U+0362, and the private-use characters U+F176 and U+F17A) according to heights and depths of adjacent clusters (in Graphite only)

- Vietnamese diacritic placement handling (enabled via a user-selectable font feature).

The automatic placement of diacritics is supported for data that may or may not be canonically ordered (as defined by the Unicode Standard). This should normally be the responsibility of application software and text-processing resources (such as input methods), however, and not the user.

These capabilities are available in any application that supports the Graphite technology. They are also available via the OpenType technology, though this requires applications that provide a sufficient level of support for OpenType features. (See System Requirements.) With AAT applications, only limited combinations of base characters and diacritics will work correctly; beyond the supported set of combinations, diacritic placement may be inferior.

Additional capabilities available via font features

When Charis SIL[10] or Doulos SIL[11] are used in applications that support Graphite and that provide an appropriate user interface, various user-controllable font features are available that allow access to certain alternately-designed glyphs that would be appropriate for use in certain contexts. These font features are also available for use in InDesign 2 (and above) and on Mac OS X. The following font features[12] are available in this font:

---

[10] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=CharisSILfont

[11] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSILfont

[12] Most of the glyphs in this chart are from Doulos SIL[12] rather than Charis SIL[12] (with the exception of feature 1053 which relates to italic fonts only). However, features work the same in both fonts. See also "How do I use a feature?".[12]

| Capital Eng alternates (ID=1024)		Four forms of U+014A LATIN CAPITAL LETTER ENG are available:	
		Large eng with descender: a taller form of the lowercase eng, with a curved tail that hangs below the baseline. This is the default rendering. (Value = 0)	Ŋ
		Large eng on baseline: a taller form of the lowercase eng, with the right vertical stroke curving to the left above the baseline. (Value = 1)	Ŋ
		Large eng with short stem: a taller form of the lowercase eng, with the right vertical stroke curving to the left above the baseline and a shorter left stem. (Value = 2)	ŋ
		Capital N with tail: resembles the uppercase N, with a curved tail hanging from the right vertical stroke. (Value = 3)	Ŋ
Rams horn alternates (ID=1025)		Three forms of U+0264 LATIN SMALL LETTER RAMS HORN are available:	
		Small bowl (Value = 0)	ɤ
		Large bowl (Value = 1)	ɤ
		Small gamma (Value = 2)	ɣ
Tone numbers (ID=1026)		Modifies appearance of U+02E5 through U+02E9, the modifier letter tone bars, and of ligatures formed from sequences of these characters. Possible settings are:	˩ / ¹¹⁵
		Characters: characters are represented by tone bars. This is the default rendering. (Value = 0)	
		Numbers: characters are represented using superscript numerals. (Value = 1)	
Cyrillic E alternates (ID=1027)		Provides alternates for Cyrillic letters with the central horizontal stroke slightly curved, as is appropriate for Mongolian. (0=Normal; 1=Mongolian style)	
		U+042D CYRILLIC CAPITAL LETTER E	Э / Э
		U+044D CYRILLIC SMALL LETTER E	э / э
Combining breve Cyrillic form (ID=1028)		Provides alternates for U+0306 COMBINING BREVE that is appropriate for Cyrillic script. (0=Normal breve; 1=Cyrillic-style breve)	ŏ / ŏ
Vietnamese-style diacritics (ID=1029)		Turning this feature on causes some pairs of diacritics to be rendered side-by-side as is appropriate for Vietnamese. When the feature is off, the result is standard stacking diacritics. (0=Normal diacritic placement; 1=Vietnames-style diacritic placement)	ấ / ấ
Show invisible characters (ID=1030)		Provides visible alternates for invisible characters. (U+00AD, U+034F, U+200B..U+200F, U+202A..U+202E, U+2060..U+2063, U+FE00..U+FE0F, U+FEFF) (0=Normal; 1=Show invisible)	/ [SHY]
Barred-bowl forms (ID=1031)		Provides alternates for variants of characters that are needed for phonetic transcriptions conforming to Americanist linguistic traditions: (0=Bar on stroke; 1=Bar through bowl)	
		U+0111 LATIN SMALL LETTER D WITH STROKE	đ / đ
		U+0180 LATIN SMALL LETTER B WITH STROKE	ƀ / ƀ
		U+01E5 LATIN SMALL LETTER G WITH STROKE	ǥ / ǥ
Literacy alternates (ID=1032)		Provides alternates for literacy forms: (0=Normal; 1=Literacy form)	

		U+0061 LATIN SMALL LETTER A	a / ɑ
		U+0067 LATIN SMALL LETTER G	g / ɡ
		U+01E5 LATIN SMALL LETTER G WITH STROKE	ǥ / ǥ
Small v-hook alternate (ID=1033)	Provides an alternate for U+028B LATIN SMALL LETTER V WITH HOOK. (0=Curved, 1=Straight)		ʋ / ʋ
Capital Y-hook alternate (ID=1034)	Provides an alternate for U+01B3 LATIN CAPITAL LETTER Y WITH HOOK. (0=Left hook, 1=Right hook)		Ƴ / Ƴ
Capital N-left-hook alternate (ID=1035)	Provides an alternate for U+019D LATIN CAPITAL LETTER N WITH LEFT HOOK. (0=Uppercase style, 1=Lowercase style)		Ɲ / Ɲ
Small ezh-curl alternate (ID=1036)	Provides an alternate for U+0293 LATIN SMALL LETTER EZH WITH CURL. (0=Small bowl, 1=Large bowl)		ʓ / ʓ
Capital T-hook alternate (ID=1037)	Provides an alternate for U+01AC LATIN CAPITAL LETTER T WITH HOOK. (0=Left hook, 1=Right hook)		Ƭ / Ƭ
Capital H-stroke alternate (ID=1038)	Provides an alternate for U+0126 LATIN CAPITAL LETTER H WITH STROKE. (0=Horizontal stroke, 1=Vertical stroke)		Ħ / Ħ
Capital R-tail alternate (ID=1039)	Provides an alternate for U+2C64 Ɽ LATIN CAPITAL LETTER R WITH TAIL. (0=Uppercase style, 1=Lowercase style)		Ɽ / ɽ
Small p-hook alternate (ID=1040)	Provides an alternate for U+01A5 LATIN SMALL LETTER P WITH HOOK. (0=Left hook, 1=Right hook)		ƥ / ƥ
Romanian-style diacritics (ID=1041)	Provides alternates for Romanian-style variants: (0=cedilla-style; 1=comma-style)		
		U+015E LATIN CAPITAL LETTER S WITH CEDILLA	Ş / Ş
		U+015F LATIN SMALL LETTER S WITH CEDILLA	ş / ş
		U+0162 LATIN CAPITAL LETTER T WITH CEDILLA	Ţ / Ţ
		U+0163 LATIN SMALL LETTER T WITH CEDILLA	ţ / ţ
Capital Ezh alternates (ID=1042)	Provides alternates for:		
		U+01B7 LATIN CAPITAL LETTER EZH	Ʒ / Ʒ
		U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE	Ӡ / Ӡ
Ogonek alternates (ID=1043)	Provides straight form alternates for characters using the ogonek rather than curved forms. (0=Curved; 1=Straight)		ǫ / ǫ
Modifier apostrophe alternates (ID=1044)	Provides large alternates for: (0=Small, 1=Large)		
		U+02BC MODIFIER LETTER APOSTROPHE	' / '
		U+F21D LATIN SMALL LETTER SALTILLO and U+F26A LATIN CAPITAL LETTER SALTILLO	' / '
OU alternates (ID=1045)	Provides open top alternates for: (0=Closed, 1=Open)		
		U+0222 LATIN CAPITAL LETTER OU	Ȣ / Ȣ
		U+0223 LATIN SMALL LETTER OU	ȣ / ȣ

Empty set alternates (ID=1046)	Provides an alternate for U+2205 EMPTY SET. (0=Circle, 1=Zero)	∅ / ∅
Modifier colon alternate (ID=1047)	Provides an alternate (wider) for U+F1E9 MODIFIER LETTER COLON. (0=Tight, 1=Expanded)	꞉ / ꞉
Orthographic glottal alternate (ID=1048)	Provides an x-height alternate for U+0294 LATIN LETTER GLOTTAL STOP. (0=Cap-height, 1=x-height)	ʔ / ʔ
J stroke hook alternate (ID=1049)	Provides a top serifed alternate for U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK. (0=no top serif, 1=top serif)	ʄ / ʄ
Hide tone contour staves (ID=1050)	Provides alternates without the staff. (0=with staves; 1=without staves)	꜓ / ꜓
Diacritic selection (ID=1051)	Allows independent selection of diacritics. (0=False; 1=True)	
Bridging diacritics (ID=1052)	Diacritic specials for Naso and Konai languages. (0=Normal diacritic behavior; 1=Bridging diacritic behavior)	
	Naso: L + U+0308 + L	L̈L L̈l l̈l / L̈L L̈l l̈l
	Konai: O + U+0311 + U and O + U+0311 + U+035F + U	ÔU Ôu ôu / ÔU Ôu ôu ÔU Ôu ôu / ÔU Ôu ôu
Slant italic specials (ID=1053)	Provides special italic versions of U+0061 a LATIN SMALL LETTER A, U+00E3 ã LATIN SMALL LETTER A WITH TILDE, U+1EA1 ạ LATIN SMALL LETTER A WITH DOT BELOW, , U+0250 ɐ LATIN SMALL LETTER TURNED A, U+00E6 æ LATIN SMALL LETTER AE, U+0066 f LATIN SMALL LETTER F, U+0069 i LATIN SMALL LETTER I, U+0131 ı LATIN SMALL LETTER DOTLESS I, U+0269 ɩ LATIN SMALL LETTER IOTA, U+006C l LATIN SMALL LETTER L, U+0076 v LATIN SMALL LETTER V, U+007A z LATIN SMALL LETTER Z, U+0493 ғ CYRILLIC SMALL LETTER GHE WITH STROKE, U+F327 ҕ CYRILLIC SMALL LETTER GHE WITH STROKE AND DESCENDER and U+04FB ӻ CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK) (0=Normal italics; 1=Slanted)	a, ã, ạ, æ, ɒ, æ, f, i, ı, ɩ, l, v, z, e, ę, ę a, ã, ạ, æ, ɐ, æ, f, i, ı, ɩ, l, v, z, ғ, ғ, ғ .
Cyrillic shha alternate (ID=1056)	Provides an alternate for U+04BB CYRILLIC SMALL LETTER SHHA. (0=Normal; 1=Smaller version of uppercase)	h / h
Chinantec tones (ID=1057) [13]	Turning this feature on modifies the appearance of U+02C8 ˈ MODIFIER LETTER VERTICAL LINE, U+02C9 ˉ MODIFIER LETTER MACRON, U+02CA ˊ MODIFIER LETTER ACUTE ACCENT and U+02CB ˋ MODIFIER LETTER GRAVE ACCENT. The size of the Chinantec tones has been slightly increased and some of the sidebearings are modified. These orthographic tones are used in some Chinantec languages. (0=Normal; 1=Square-style modifiers)	ˈ ˉ ˊ ˋ , , , ˈ ˉ ˊ ˋ , , ,
Open o alternate (ID=1059)	Turning this feature on will change from a bottom serifed open o to a top serif. Characters affected by this feature: U+0254 ɔ LATIN SMALL LETTER OPEN O, U+0186 Ɔ LATIN CAPITAL LETTER OPEN O, U+1D10 ᴐ LATIN LETTER SMALL CAPITAL OPEN O, U+1D53 ᵓ MODIFIER LETTER SMALL OPEN O, U+1D97 ᶗ LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK. (0=bottom serif; 1=top serif)	ɔ, ᵓ, Ɔ, ɔ, ᶗ ɔ, ᵓ, Ɔ, ɔ, ᶗ
9-level pitches (ID=1062)	Turning this feature allows for use of tramlines with the 9-pitch contours. Ligation can be turned on or off. Characters affected by this feature: U+F1F1, U+F1F2, U+F1F3, U+F1F4, U+F1F5, U+F1F6, U+F1F7, U+F1F8, U+F1F9, U+0020 SPACE.	

---

[13] Because U+F195..U+F197 were deemed by UTC to be the same as U+02CB, U+02C8 and U+02CA. they now have a different appearance because of the double-encoding. To use the Chinantec glyphs, the feature *Chinantec tones* must be used.

	Ligated (Value=0)	
	Show tramlines (Value=1)	
	Non-ligated (Value=2)	
	Show tramlines, non-ligated (Value=3)	

Font features

AAT

This font includes AAT tables that provide limited diacritic placement, automatic ligatures, and selection of alternate glyphs in applications that fully support Unicode and Apple Advanced Typography. However, diacritic placement for arbitrary base+diacritic combinations may be less than ideal because of limitations in the AAT technology.

The user-selectable features for choosing alternate glyph shapes are typically accessed via the Typography palette, available in applications such as TextEdit via a pop-up menu in the Fonts panel. (The user interface may differ in other applications.)

Conversion

In order to use this font with existing data that was created for use with fonts developed using the *Encore Fonts* system, or with custom-encoded fonts created by other means, it is necessary to re-type or convert data to produce data that is encoded in conformance with the Unicode Standard. TECkit is one program that can be used for character encoding conversion. TECkit allows users to write their own custom conversion mappings.

The TECkit package is available for download from SIL's TECkit[14] Web site.

Some TECkit mapping files[15] have already been created for some of the more widely used SIL legacy fonts.

The Unicode 4.1 standard included 139 characters that were previously allocated to codepoints in the Private Use Area by SIL's PUA committee. The Unicode 5.0 standard includes 45 characters that were previously allocated to codepoints in the Private Use Area by SIL's PUA committee.

All processes (input methods, mappings) that create Unicode data should be revised to generate the proper Unicode values instead of PUA codes.

If you have data that contains these PUA codes, it should be updated by replacing each PUA character with its official Unicode counterpart. This will facilitate data interchange and the use of standard fonts and software. SIL PUA to Unicode 5.0 Mapping[16] is provided for converting your data.

Keyboarding

The ability to obtain full benefits of this font is also dependent upon having means for Unicode character input. This package does not include keyboard input methods. Most current operating systems provide keyboard input methods for a number of different languages that have writing systems based on the Roman or Cyrillic scripts. Various means may be available for different operating-system platforms to create additional input methods for other languages. For instance, Microsoft Keyboard Layout Creator[17]

---

[14] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=TECkitIntro

[15] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=MappingFiles

[16] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=MappingFiles#SILPUAtoUnicode

[17] http://www.microsoft.com/globaldev/tools/msklc.mspx

or Tavultesoft Keyman[18] version 5 or later can be used for this purpose on Microsoft Windows. Some existing Keyman keyboards can also be downloaded from here[19]. For the Mac, version 10.2 of Mac OS X includes a mechanism for users to create custom Unicode keyboard layouts (see http://developer.apple.com/technotes/tn2002/tn2056.html).

License

License details:

Doulos SIL is released under the SIL Open Font License[20] - please read it carefully and do not download the fonts unless you agree to the terms of the license:

This Font Software is Copyright (c) 1994-2006, SIL International (http://scripts.sil.org/). All Rights Reserved.

"Doulos SIL" is a Reserved Font Name for this Font Software. "SIL" is a Reserved Font Name for this Font Software.

This Font Software is licensed under the SIL Open Font License, Version 1.0. No modification of the license is permitted, only verbatim copy is allowed. This license is copied below, and is also available with a FAQ at: http://scripts.sil.org/OFL

SIL OPEN FONT LICENSE

Version 1.0 - 22 November 2005

PREAMBLE

The goals of the Open Font License (OFL) are to stimulate worldwide development of cooperative font projects, to support the font creation efforts of academic and linguistic communities, and to provide an open framework in which fonts may be shared and improved in partnership with others.

The OFL allows the licensed fonts to be used, studied, modified and redistributed freely as long as they are not sold by themselves. The fonts, including any derivative works, can be bundled, embedded, redistributed and sold with any software provided that the font names of derivative works are changed. The fonts and derivatives, however, cannot be released under any other type of license.

DEFINITIONS

"Font Software" refers to any and all of the following:

- font files

- data files

- source code

- build scripts

- documentation

---

[18] http://www.tavultesoft.com

[19] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=inputtoollinks

[20] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=OFL

"Reserved Font Name" refers to the Font Software name as seen by users and any other names as specified after the copyright statement.

"Standard Version" refers to the collection of Font Software components as distributed by the Copyright Holder.

"Modified Version" refers to any derivative font software made by adding to, deleting, or substituting — in part or in whole -- any of the components of the Standard Version, by changing formats or by porting the Font Software to a new environment.

"Author" refers to any designer, engineer, programmer, technical writer or other person who contributed to the Font Software.

PERMISSION & CONDITIONS

Permission is hereby granted, free of charge, to any person obtaining a copy of the Font Software, to use, study, copy, merge, embed, modify, redistribute, and sell modified and unmodified copies of the Font Software, subject to the following conditions:

1) Neither the Font Software nor any of its individual components, in Standard or Modified Versions, may be sold by itself.

2) Standard or Modified Versions of the Font Software may be bundled, redistributed and sold with any software, provided that each copy contains the above copyright notice and this license. These can be included either as stand-alone text files, human-readable headers or in the appropriate machine-readable metadata fields within text or binary files as long as those fields can be easily viewed by the user.

3) No Modified Version of the Font Software may use the Reserved Font Name(s), in part or in whole, unless explicit written permission is granted by the Copyright Holder. This restriction applies to all references stored in the Font Software, such as the font menu name and other font description fields, which are used to differentiate the font from others.

4) The name(s) of the Copyright Holder or the Author(s) of the Font Software shall not be used to promote, endorse or advertise any Modified Version, except to acknowledge the contribution(s) of the Copyright Holder and the Author(s) or with their explicit written permission.

5) The Font Software, modified or unmodified, in part or in whole, must be distributed using this license, and may not be distributed under any other license.

TERMINATION

This license becomes null and void if any of the above conditions are not met.

DISCLAIMER

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

Notes to contributors

The release of Doulos SIL version 4.0.14 (and any subsequent versions) under the OFL license provides a means for people to contribute to the project. For information on what you're allowed to change or modify, consult the OFL and OFL-FAQ. The OFL-FAQ also gives a very general rationale regarding why you would want to contribute to the project.

Anyone can make their own modified version of Doulos SIL (using a different name), but SIL International will continue to maintain and develop the canonical version of the Doulos SIL fonts. As the package maintainer, we warmly welcome contributions. Here are some things to keep in mind:

- **Format:** We are open to contributions in various formats, but if you want to maximise the chances of us including your work, please make it available to us (via email or a URL) as either a FontLab database (preferred) or a PostScript Type 1 (or OT-CFF) font.

- **Source files:** We are not yet making the source files available, because our build system is rather complex and difficult to reproduce. We hope to include an easier process in the future.

- **Copyright attribution:** If you submit something for inclusion in the main Doulos SIL font, we will ask you to affirm that it is your original work, and ask you to assign the copyright of your work to SIL International. This is to ensure that future releases can be made under improved versions of the OFL without needing to track you down for further permission. This follows the same principle used by the FSF. Keep in mind that we are a not-for-profit organization committed to free/libre and open source software, and that any contributions incorporated in the fonts will always be available under the OFL or a similar license.

- **Quality:** Because we want to be able to guarantee a high level of quality for the primary Doulos SIL font, we will review submissions carefully. Please don't be discouraged if we do not include a submission for this reason, or ask you to make specific revisions.

- **Types of contributions:** If you wish to make a contribution - a set of additional glyphs, scripts, code, etc. - please contact us before you do any work to see if it is a contribution we currently need. Every addition adds to the complexity of the project and needs to be carefully planned. This also avoids two people working on the same type of addition at the same time.

- **Linux packages:** Please contact the upstream maintainer of the various packages - Nicolas Spalinger - if you want to help package or maintain a package.

- **When submissions will be included:** We hope to have a revised version completed by Nov-2007. To do this we will need submissions by mid-year.

Installation and Use

If you are uncertain what to do with a `.zip` file, see Decompression Utilities[21]. Within the archive is the font file and documentation.

Otherwise, if you downloaded the `.exe` package you can double-click on it to install the files in a temporary folder.

Note that these packages only include the font itself. If you want to use the font to type languages that use special non-European letters, or to type Cyrillic, then you may need a separate keyboard manager.

This font can be installed using standard font installation procedures for the given operating-system platform (**Windows:** put the font in `WindowsFonts`. **Macintosh:** put the font in `/Library/Fonts`). There are no additional installation steps required to use Graphite-related functionality. Note that certain applications may not see the new font immediately. You may have to quit and restart the application for the font to become available.

For tips on using the GNU/Linux package, see the Gentium GNU/Linux page[22].

---

[21] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DecompressUtil

Release History

31 January, 2007 Official release of Doulos SIL 4.1.00.

1 March, 2006 Release of Doulos SIL Literacy version (4.0.14)

31 January, 2006 Official release (4.0.14)

9 December, 2005 Public beta 2 release (4.0.14)

21 October, 2005 Public beta 1 release (4.0.14)

22 October, 2004 Maintenance beta release (4.0.12)

31 March, 2004 First official release of Doulos SIL (4.0.10 and 4.0.04)

Related Packages

Tavultesoft Keyman

Keyman is a keyboard management utility that makes it practical to input many different languages in almost any Windows application. Keyman allows you to have arbitrarily long input sequences and to have diacritics typed after the base character.

Some tools and resources for character input

Links to useful tools for character input.

IPA Unicode 1.1 Keyman Keyboard

The "IPA Unicode 1.1" keyboard, developed by Martin Hosken, is a mnemonic compiled Keyman 6 keyboard. It is intended to provide a text input method for Unicode-based applications, in order to access IPA characters. Although greatly expanded, the keyboard layout is similar to that provided for the old pre-Unicode SIL IPA93 fonts.

TECkit

TECkit is a low-level toolkit intended to be used by other applications that need to perform encoding conversions (e.g., when importing legacy data into a Unicode-based application).

Mapping Files

These are currently available TECkit mapping files.

Other Resources

Search the SIL Ethnologue[23]

Fonts In Cyberspace[24]

Free Adobe Acrobat Reader[25]

---

[22] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=Gentium_linux

[23] http://www.ethnologue.com/

[24] http://www.sil.org/computing/fonts/

[25] http://www.adobe.com/products/acrobat/readstep2.html

Appendix A: Additional capabilities available via font features

Users who do not require dynamically positioned diacritics, ligatures, or alternate glyphs can use almost any application with the font, but otherwise there are three basic categories of font usage:

Uniscribe

Uniscribe users should be aware that base+diacritic combinations that exist in Unicode (and the font) as precomposed chars are handled differently than those that are not (Uniscribe favors the use of the precomposed). (Note however: PUA characters needing special handling, e.g., diacritics, will not work properly in Uniscribe-based apps. Nor do the double-wide diacritics).

- Office2003 (Word and Publisher)

- Paratext 6 (http://paratext.ubs-translations.org)

- OpenOffice 2.0.1 [26]

- NotePad (will work only if you put the Uniscribe DLL from Paratext 6 or Office 2003 in a directory along with a copy of Notepad.exe and then use that Notepad.exe)

- In order for dynamic positioning of diacritics to render correctly in a Uniscribe application, Uniscribe version 1.468.4015.0 or later must be available for that application to use.

Non-Uniscribe OpenType

- InDesign 2, CS and CS2 [27] — Available on Mac and Windows. Adobe applications do not yet handle dynamic diacritic placement. But one thing they permit that Uniscribe-based apps do not is selection of alternate glyphs.

- Mellel [28] — Available on MacOS X. Supports ligatures and diacritic placement via OpenType.

- XeTeX [29] — Available on MacOS X, Linux and Windows. Supports ligatures and diacritic placement via OpenType.

Graphite

Graphite handles the double-diacritics and PUA chars correctly and presents a menu for changing font features.

- WorldPad 2.0 [30] or greater

- SILA Beta 2 RC1 (Mozilla) [31]

- Data Notebook (FieldWorks) [32]

---

[26] http://download.openoffice.org/2.0.1/

[27] http://www.adobe.com/products/indesign/main.html

[28] http://www.redlers.com/

[29] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=xetex

[30] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=WorldPadDownload

[31] http://sila.mozdev.org/

- [Graphite in OpenOffice.org 2.0.0](#)[33] — a beta release.

AAT

AAT (Apple Advanced Typography) handles limited diacritic placement (not all arbitrary combinations will work well), and offers user-selectable features for choosing alternate glyph shapes.

- [XeTeX](#)[34]

- [Intaglio](#)[35]

- [Create](#)[36]

- [iWork](#)[37] (Keynote and Pages applications)

- TextEdit, and most software that uses the standard Mac OS X text frameworks, from utilities such as Stickies and [iChat](#)[38] to applications such as [OmniWeb, OmniOutliner](#)[39], [MacJournal](#)[40], and more.

[32] http://www.sil.org/computing/fieldworks/datanotebook.html

[33] http://scripts.sil.org/OOo_20_graphite

[34] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=xetex

[35] http://www.purgatorydesign.com/Intaglio/index.html

[36] http://www.stone.com/Create/Create.html

[37] http://www.apple.com/iwork/

[38] http://www.apple.com/macosx/features/ichat/

[39] http://www.omnigroup.com/

[40] http://www.marinersoftware.com/sitepage.php?page=85

Appendix B: FAQ and Known Issues

Frequently Asked Questions

Question: It seems like U+027F ɿ LATIN SMALL LETTER REVERSED R WITH FISHHOOK and U+0285 ʅ LATIN SMALL LETTER SQUAT REVERSED ESH are not correct. Why is the shape different than what is in the Unicode book?

Answer: In the Unicode book U+027F ɿ LATIN SMALL LETTER REVERSED R WITH FISHHOOK and U+027E ɾ LATIN SMALL LETTER R WITH FISHHOOK are the same height and shape, just mirrored. Our understanding is that the U+027F ɿ LATIN SMALL LETTER REVERSED R WITH FISHHOOK and U+0285 ʅ LATIN SMALL LETTER SQUAT REVERSED ESH glyphs in our SIL Unicode Roman fonts are correct and the ones in the Unicode book are wrong. As used in China the stem of U+027F ɿ LATIN SMALL LETTER REVERSED R WITH FISHHOOK and U+0285 ʅ LATIN SMALL LETTER SQUAT REVERSED ESH always extend below the baseline.

Question: Why is the line spacing so much looser than other fonts, such as Times New Roman or [Gentium](#)[41]?

Answer: Our SIL Unicode Roman fonts include characters with multiple stacked diacritics that need a much looser line spacing (for example, U+1EA8 Ẩ). We cannot make the line spacing tighter without experiencing "clipping" of those characters. You may be able to overcome this by adjusting the line spacing in the application. For example, in Microsoft Word select **Format / Paragraph** and set the line spacing to use the **Exactly** setting and a value more suited to your needs. For example, if the font size is 12 pt, select line spacing of **Exactly** 13 pt. This will give a tighter line spacing. You can adjust the value up or down depending on how many diacritics you need to stack. With HTML you should also be able to change the line spacing; add the line-height property to your tag ("`line-height:105%;`" or "`line-height: 12pt;`") and play around with the value until you get the spacing desired.

Question: How do I use a feature? For example, I see there are four **Eng** (Ŋ) variants. How do I choose which variant displays?

Answer: The answer depends on the application in question:

- **Graphite-enabled apps**: Assuming they support features, then you can select the desired Eng variant from the **Format / Font / Feature** menu (or however the interface is arranged).

- **InDesign and similar Adobe apps**: Select an Eng in your text and then use the glyph palette (select **Type / Glyphs / Access All Alternates** to pick an alternate. (The available features will depend on the font selected.)

- **Word and other Uniscribe-based apps**: Sorry, but at this time there is no mechanism to select features or alternate glyphs.

- **TextEdit and other AAT-enabled applications on Mac OS X**: Open the **Typography** palette, available from the **tools** (gear icon) menu in the **Font** panel (enlarge the window if necessary to make this visible). Using the Typography palette you can choose different settings for a variety of features, including Uppercase Eng shape in our SIL Unicode Roman fonts. (The available features will depend on the font selected.)

- **With the XeTeX typesetting system**: Include "`feature=setting`" pairs in the font specification within the source document or stylesheet; e.g., `fontbodytext="Doulos SIL/AAT:Uppercase Eng alternates=Large eng with short stem" at 12pt`

  For more information and examples, see [XeTeX](#)[42] documentation and sample files.

---

[41] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=Gentium

[42] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=XeTeX

So, anticipating your (or someone's) next question: What do I do if I'm using Word or other Uniscribe-based apps?

- In the long run, we hope that future versions of the Windows OS and application software will provide an architecture and user interface that supports some form of user-selectable font feature mechanism. We'll see.

- In the meantime, the only alternative is to create derivative fonts that have the desired behaviors (e.g., alternate glyphs) "turned on" by default. So one could imagine a font such as "Doulos En4 SIL" that is just like Doulos SIL except it renders Eng using the 4th alternate. The NRSI is currently investigating mechanisms to allow for creation of derivative fonts.

Question: Will documents created with earlier (legacy) fonts such as the SIL IPA and IPA93 fonts be compatible with the new (Unicode) version?

Answer: No, documents which were created (encoded) with legacy fonts are not compatible with Unicode fonts. You will need to convert your data to Unicode. You can use TECkit[43] for this process. We have mapping files[44] (which work with TECkit) for converting documents which used SIL's IPA fonts to Unicode. For instructions, see SIL IPA93 Data Conversion[45].

Question: Why is there an inversion of names? (eg SIL Doulos -> Doulos SIL and SIL Charis -> Charis SIL)

Answer: If SIL is in *front* of a font name then that probably means it is a legacy font. If it is *after* the font name it probably means it is Unicode.

Question: How do I tell what version of Uniscribe I'm using? I've been told I have to have Uniscribe 1.0468.4015.0 (main.030328-1500) or later for accurate diacritic positioning. I put `usp10.dll` in with `notepad.exe` in a directory, but I am not sure that it is actually using that Uniscribe.

Answer: The key is a program called `msinfo32.exe`. It certainly will be on your machine if you have MS Office, but may be provided in other configurations. On some machines it is in `C:\Program Files\Common Files\Microsoft Shared\MSInfo\msinfo32.exe`. (This is the app that is launched if you click the **System Info** button on an Office application's About button.)

First, launch `msinfo32.exe`. Under **Software Environment**, select **Loaded Modules**. It will take a bit to load the list. Then scroll down looking for `usp10.dll`. You may see it loaded several times, from several different directories. But if you haven't yet launched your special copy of Notepad.exe, then you probably won't see that directory mentioned. Now launch your Notepad and then refresh the **System Info** display — you should see a `usp10.dll` loaded from your directory — a sure sign that Notepad is using the local copy.

Question: I am using Word 2003 and some of the diacritics are not shown, although they are there (as can be proven with the Show Unicode Macro of the UnicodeWordMacros.dot[46] and also when I copy/paste data from Word to Notepad). What is going on?

Answer: Check to see if **Tools / Options / Complex Scripts / Show Diacritics** is set. If you do not have a **Complex Scripts** tab under **Tools / Options**, you should:

- Close down all Office applications

- If you do not have the **Microsoft Office 2003 Language Settings** applet available (typically in **Start / Programs / Microsoft Office 2003 / Microsoft Office Tools**), use **Add/Remove programs** to add the this component to your Microsoft Office 2003 configuration (under **Office Tools** category, it is the **Language Settings Tool**)

---

[43] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=TECkitIntro

[44] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=MappingFiles

[45] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=SILIPA93DataConversion

[46] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=UnicodeWordMacrosIntro

- Fire up **Microsoft Office 2003 Language Settings** applet and enable a language like Arabic or Hebrew. After clicking OK , you should find the **Complex Scripts** tab is available under **Tools / Options**.

- Once you have ticked the box and confirmed this fixes the problem, you may remove those languages (from **Microsoft Office 2003 Language Settings** applet) if you want.

Question: Can the SIL Unicode Roman fonts be used with Word 2004 on Mac OS X?

Answer: Since Word 2004 is Unicode-based, and the SIL Unicode Roman fonts are Unicode fonts, you would expect to be able to use them with Word 2004. And you can — to a point. The SIL Unicode Roman fonts rely on Uniscribe, Graphite and AAT "smart rendering" technologies to position diacritics, contour tone letters, handle ligatures, etc.

Microsoft has not implemented "smart rendering" in Word 2004, and therefore our SIL Unicode Roman fonts will not position diacritics properly, contour tone letters, or handle ligatures.

So, the combination of Word 2004 and our SIL Unicode Roman fonts is not a complete solution. Whether it's adequate for you depends on whether you need the capabilities that are missing due to the lack of smart rendering in Word 2004. You may wish to use one of the applications listed here (Applications that provide an adequate level of support for SIL Unicode Roman fonts[47]) instead.

Question: Why do the SIL Unicode Roman fonts have some Greek characters, but not all?

Answer: While it is true that the font includes some Greek characters, it is not intended to provide general support for the Greek language. Those Greek characters that were included were done so in order to support various (primarily linguistic) notational systems. If Greek language support is needed, the Galatia SIL[48] and Gentium[49] fonts are two available options.

Question: I noticed that when I put a cedilla under some characters it renders it as a "comma". When I do "Show Unicode[50]", it gives me the same Unicode codepoint for both, so it is just a rendering issue. Is this intentional?

Answer: A careful study of the Unicode repertoire shows that, for example, character U+0157 LATIN SMALL LETTER R WITH CEDILLA (which decomposes to `<0072 + 0327>` typically is drawn with the comma-shape rather than cedilla shape. This happens for a number of characters, including g/G, k/K, l/L, n/N, and r/R. (Interesting aside: notice that for lower case g the cedilla, drawn as a comma mark, is actually rendered *above* the g)

Additionally, s/S and t/T with cedilla are *sometimes* rendered with the comma shape — thus we have a feature in the Graphite code (**Romanian Style**) and language-specific behavior in the OpenType code (attached to language "Romanian") that cause these combinations to be rendered with the comma style. (This alternate rendering predates the introduction into Unicode 3.0 of s/S and t/T with comma below [U+0218, U+0219, U+021A and U+021B] which are now the preferred way to distinguish these characters).

Question: Will font and glyph metrics stay the same in future versions?

Answer: We do not guarantee to keep metrics stable in future versions. The practical result of this means that you should expect to have different line lengths, paragraph length may be different, and line spacing may even be different. *You should not expect your document to have the same page layout as you do with the current font.*

Question: Do I still need to use the "SIL Unicode IPA font beta" (SILDoulosUnicodeIPA) font or can I just use "Doulos SIL" or "Charis SIL"?

Answer: Everything in the "SIL Unicode IPA font beta" is included in the SIL Unicode Roman fonts so you no longer need the IPA font.

---

[47] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSIL_AdLvSup

[48] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=silgrkuni

[49] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=Gentium

[50] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=UnicodeWordMacrosIntro

Question: Why don't my tonebars ligate?

Answer: See "Why don't my diacritics position properly?"

Question: When I type data, I get the proper characters, but the stacked diacritics show up on top of one another, rather than stacked, and not properly centered. What am I doing wrong?

Answer: See "Why don't my diacritics position properly?"

Question: Why don't my diacritics position properly?

Answer: **Cause 1:** The application you are using is neither Graphite-aware nor OpenType-aware, or your Uniscribe needs to be updated, or you are using characters from the Private Use Area (PUA)[51] in a Uniscribe-based application.

> **More info:**
>
> In order for complex behaviors such as diacritic positioning and ligatures to work, the application must be able to use the Graphite or OpenType tables in the font. For example, until Microsoft Office 2003 was released there were no versions of Microsoft Office and of the system component Uniscribe that had the ability to use either of these for Latin script. Unfortunately, even the latest versions of Uniscribe ignore OpenType information for characters from the PUA area, so neither diacritic positioning nor ligation occur. Microsoft says this is by design.

Cause 2: If you are using Word 2000 or Word XP with an updated version of Uniscribe, some kinds of display problems can be fixed by saving and reopening the file.

Cause 3: While some of these problems are font errors (that we want to know about), another common cause is formatting issues within the application. In order for diacritic positioning or ligatures to work correctly, the application must render the complete character sequence in one operation. The most common reason for this condition to fail is if some characters in the sequence have different formatting than the others. If there is any difference at all in the formatting (e.g., in character spacing or color, font names or sizes, etc.) the application may have to break the sequence into separate runs.

Solution: In order to rule out formatting problems, make absolutely sure that the characters in the sequence are formatted identically. Some applications let you copy the affected text to the clipboard and then use **Edit / Paste Special** to paste unformatted text back into the document. Another approach, available in Microsoft Word, is to select the text and press Ctrl – space to reset all character formatting to the paragraph default. (This assumes your default paragraph style is formatted with one of our SIL Unicode Roman fonts).

> **Note**
>
> In Word, even formatting such as Complex Scripts font and Asian Text font settings must match exactly for the entire sequence, even though these settings aren't actually used to render Latin text.

Cause 4: Adobe applications (and thus InDesign) do not yet handle dynamic diacritic placement.

Question: Why don't my diacritics positioned above or below characters appear onscreen, but they do show up in print?

Answer: **Solution:** The vertical metrics for this font have been set to accomodate the majority of situations, but in some scenarios, especially with stacking diacritics, you may get clipping onscreen. You may be able to overcome this by adjusting the line spacing in the application. For example, in Microsoft Word select **Format / Paragraph** and set the line spacing to use the **Exactly** setting and a value approximately twice the font size. For example, if the font size is 12 pt, select line spacing of **Exactly** 24 pt. You can adjust the value up or down depending on how many diacritics you need to stack.

---

[51] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=PUA_home

Question: Why don't the PUA characters work properly (diacritic positioning, tone ligation, etc)?

Answer: Uniscribe ignores complex behaviors that have been provided in fonts for PUA characters[52], and thus in Uniscribe-based applications such as Paratext 6 and Microsoft Word the PUA characters will not display correctly.

Question: In certain combinations, two upper diacritics (e.g., tilde over macron) display in a fixed order (the tilde below the macron), no matter what order they are typed in. Why is that?

Answer: See "Combining mark sequences may be incorrectly rendered".

Question: Why don't the overlaid combining marks render properly in the font?

Answer: See "The font does not support some combining marks".

Question: Why don't some of my characters render in Internet Explorer?

Answer: See "Some characters do not render properly in Internet Explorer".

Question: Why are some of my diacritics colliding with nearby letters?

Answer: When combined with some narrow glyphs (such as 'i'), wide diacritics (such as the tilde) may collide with adjacent glyphs. In many cases this is not a problem (it is sometimes OK for glyphs to collide). If this causes difficulty with the legibility of the text, then manually space those letters apart in your text using manual kerning or character spacing settings in your application. We do not have a generally feasible solution for this problem, but will continue to look for one.

Question: I would like to bundle one of the SIL Unicode Roman fonts with my application - can I?

Answer: The SIL Open Font License[53] allows bundling with applications, even commercial ones, with some restrictions.

See the OFL[54] web page.

Question: Can I use one of the SIL Unicode Roman fonts on my web site?

Answer: You can certainly create web pages that request one of the SIL Unicode Roman fonts be used to display them (if that font is available on the user's system). According to the license, you are even allowed to place the font on your site for people to download it. We would strongly recommend, however, that you direct users to our site to download the font. This ensures that they are always using the most recent version with bug fixes, etc.

Question: Are the SIL Unicode Roman fonts going to stay free?

Answer: There is no intention to ever charge users for using the SIL Unicode Roman fonts. The current versions are licensed under a free/open license and future versions will be similar.

Question: I would like to modify one of the SIL Unicode Roman fonts to add a couple of characters I need. Can I?

Answer: Yes - that is allowed as long as you abide by the conditions of the SIL Open Font License[55].

Question: So will you add glyphs to one of the SIL Unicode Roman fonts upon request?

Answer: If you have a special symbol that you need (say, for a particular transcription system), the best means of doing so will be to ensure that the symbol makes it into the Unicode Standard. It is impossible for us to add every glyph that every person desires, but we do place a high priority on adding pretty much anything that falls in certain Unicode ranges (extended Latin, Cyrillic). You can send us your requests, but

---

[52] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=PUA_home

[53] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=OFL

[54] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=OFL

[55] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=OFL

please understand that we are unlikely to add symbols where the user base is very small, unless they have been accepted into Unicode.

Question: Can I send you work I've done to be incorporated into the SIL Unicode Roman fonts?

Answer: Yes! See the FONTLOG for information on becoming a contributor.

Question: I'm having problems making PDFs — why won't my document distill?

Answer: The SIL Unicode Roman fonts are large fonts, with lots of glyphs. As a result, some printers can balk at PDFs that have the complete font embedded. The easiest way to avoid this is to have Acrobat/Distiller subset the font. This is generally a good idea anyway (with any font) and can reduce the size of your files.

Known Issues

U+0358 COMBINING DOT ABOVE RIGHT is not positioned correctly

We hope to correct this issue in the next release of Doulos SIL (Charis SIL is okay).

Left-stemmed tone marks U+A712..U+A716 do not shape in Word 2003.

This is an issue with Word 2003. It has been reported to Microsoft. Even with a very new version of Uniscribe, Left-stem tone bars (U+A712..U+A716) may not ligate properly in Word 2003. We have found that if you type a Right-stem tone bar (U+02E5..U+02E9) *immediately preceding* the Left-stem tone bars they *sometimes* ligate. (However, that might not be desired in your document!) They *do* ligate properly in Notepad and OpenOffice if you have an appropriate version of Uniscribe (version 1.420.2600.2180 or later).

WordArt

WordArt has struggles with Unicode. Font linking may be going on, but the problem has not been clarified.

Some characters do not render properly in Internet Explorer

This is a problem in Internet Explorer for the following characters:

- U+02C8 ˈ MODIFIER LETTER VERTICAL LINE

- U+02C9 ˉ MODIFIER LETTER MACRON

- U+02CA ˊ MODIFIER LETTER ACUTE ACCENT

- U+02CB ˋ MODIFIER LETTER GRAVE ACCENT

- U+02CC ˌ MODIFIER LETTER LOW VERTICAL LINE

- U+F198 ꞈ MODIFIER LETTER DOT VERTICAL BAR

- U+F199 ꞉ MODIFIER LETTER DOT SLASH

Microsoft has been alerted but we do not know a solution as yet.

The font does not support some combining marks

The following **overlaid combining marks** *are* present in the font but do not have attachment points and so will not render properly:

- U+0334 ̴ COMBINING TILDE OVERLAY

- U+0335 ◌̵ COMBINING SHORT STROKE OVERLAY

- U+0336 ◌̶ COMBINING LONG STROKE OVERLAY

- U+0337 ◌̷ COMBINING SHORT SOLIDUS OVERLAY

- U+0338 ◌̸ COMBINING LONG SOLIDUS OVERLAY

Cause: This is by design. For various technical reasons it is best to avoid using overlay combining marks. That is why, for instance, Unicode does not define a decomposition of U+026B ɫ LATIN SMALL LETTER L WITH MIDDLE TILDE to U+006C l LATIN SMALL LETTER L + U+0334 ◌̴ COMBINING TILDE OVERLAY.

The following **combining marks** *are not* present in the font:

- U+0321 ◌̡ COMBINING PALATALIZED HOOK BELOW

- U+0322 ◌̢ COMBINING RETROFLEX HOOK BELOW

- U+0340 ◌̀ COMBINING GRAVE TONE MARK

- U+0341 ◌́ COMBINING ACUTE TONE MARK

- U+0342 ◌͂ COMBINING GREEK PERISPOMENI

- U+0343 ◌̓ COMBINING GREEK KORONIS

- U+0344 ◌̈́ COMBINING GREEK DIALYTIKA TONOS

- U+0345 ◌ͅ COMBINING GREEK YPOGEGRAMMENI

For reasons similar to the overlay diacritics, U+0321 ◌̡ COMBINING PALATALIZED HOOK BELOW and U+0322 ◌̢ COMBINING RETROFLEX HOOK BELOW are absent from the font ... by design. In this and the overlay diacritic case, Unicode provides for most uses of these marks through precomposed characters.

The Unicode standard deprecates U+0340 and U+0341, so we omitted those. The marks U+0342..U+0345 are primarily for Greek usage and, as mentioned above, the font is not intended to provide general support for Greek.

There is an oddity in the way MS Word 2004 under Mac OS 10.4 handles the SIL Unicode Roman fonts

The font installs fine and works normally in TextEdit and AppleWorks except that it appears in the part of the font menu grouped with the Cyrillic fonts. There may be similar issues with other system and/or application versions and other applications (such as FileMaker Pro 7). Under Word it causes a switch to the Russian Phonetic keyboard and Cyrillic characters are inserted unless Word's preferences are used to disable "match font with keyboard". At the moment we do not know what is causing this behavior.

Combining mark sequences may be incorrectly rendered

This is not a bug in the font, but it is a Uniscribe bug which has been reported to Microsoft (update:it is reportedly fixed in Uniscribe version 1.0606.5078.0). It will only be a problem in applications using OpenType, not applications using Graphite. Failure depends on surrounding text. The following table lays out which character sequences will be a problem.

First combining mark		Second combining mark								
		0301	0302	0303	0304	0306	0307	0308	030A	030C
		Acute	Circumflex	Tilde	Macron	Breve	Dot	Diaeresis	Ring	Caron
0300	Grave		AaEeOo		EeOo	Aa		Uu		
0301	Acute		AaEeOo	OoUu	EeOo	Aa		IiUu	Aa	
0303	Tilde		AaEeOo			Aa				
0304	Macron			Oo			AaOo	AaOo		
0307	Dot	Ss								Ss
0308	Diaeresis			Oo						
0309	Hook		AaEeOo			Aa				
030C	Caron							Uu		

Base characters for which the indicated combining mark sequence may be incorrectly rendered.

Also, with versions of Uniscribe prior to Windows XP SP2 and Office 2003, the sequence U+006E 𝐧 LATIN SMALL LETTER N + U+0329 ̩ COMBINING VERTICAL LINE BELOW is incorrectly rendered as U+019E 𝛈 LATIN SMALL LETTER N WITH LONG RIGHT LEG

Combining marks in the U+1DC0..U+1DFF range

Combining marks in the U+1DC0..U+1DFF range may not position correctly unless you have an appropriate version of Uniscribe (version 1.420.2600.2180 or later). Even then, they may not position properly in Word 2003. They position nicely in Notepad and OpenOffice.

Dotted digraphs with diacritics

Unicode specifies that, unlike i or j, etc., these characters do not lose their dots:

- U+0133 ĳ LATIN SMALL LIGATURE IJ

- U+01C8 Lj LATIN CAPITAL LETTER L WITH SMALL LETTER J

- U+01C9 lj LATIN SMALL LETTER LJ

- U+01CB Nj LATIN CAPITAL LETTER N WITH SMALL LETTER J

- U+01CC nj LATIN SMALL LETTER NJ

Support

As this font is distributed at no cost, we are unable to provide a commercial level of personal technical support. We will, however, try to resolve problems that are reported to us.

Please note that this font is intended for use by experienced computer users. Installing and using this font is not a trivial matter. The most effective technical support is usually provided by an experienced computer user who can personally sit down with you at your computer to troubleshoot the problem.

Before requesting technical support, please:

- Carefully read all the documentation provided with the font.

- Check out all the links on this and the other SIL Unicode Roman fonts web pages, and read all the information and instructions the web pages contain.

- Review the list of Frequently Asked Questions above and on the general Font FAQ[56] page to see if your question has already been answered.

If that fails to answer your question, or for more information, contact:

User Support
SIL International
Non-Roman Script Initiative
7500 W. Camp Wisdom Rd.
Dallas, TX 75236
USA
Telephone: (972) 708-7495 FAX: (972) 708-7388
Email: SIL_fonts@sil.org

---

[57] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSILfont

[58] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=CharisSILfont

[59] http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=DoulosSILfontFAQ#features

---

[56] http://scripts.sil.org/FontFAQ