User Guide for Greek GGT-Fonts

by Graham G. Thomason

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Revised with the addition of GGTAlexandrinus.ttf on 27 May 2018

Revised GGTEphesian with an inverse colour P on 20 July 2022

Revised with minor changes on 27 March 2023

**Sample text:** Matthew 5:30, which contains all letters of the Greek alphabet. All at 12 point.

|  |  |
| --- | --- |
| GGTEphesian | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTGalatian | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTPhilippian | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTColossian | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTSinaiticusAcc | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTSinaiticusNac | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTAlexandrinus | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTP75 | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTEvst150 | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |
| GGTDublinensis | kai\ ei0 h9 decia& sou xei\r skandali/zei se, e1kkoyon au0th\n kai\ ba&le a)po\ sou=:sumfe/rei ga&r soi i3na a)po/lhtai e4n tw~n melw~n soukai\ mh\ o3lon to\ sw~ma& sou blhqh|= ei0j ge/ennan. |

***About these fonts***

* These fonts (named with prefix GGT-) are provided *as is*, subject to some restrictions, and with no warranty or liability.
* The fonts map character codes in the range 32-255 into letters and nonspacing diacritics. This is the old way of doing things (ISO/IEC 8859, but with our characters), not the Unicode way.
* The zero-space accenting technique works well with Word, and pdf from Word, and with Firefox and Chrome, but not with earlier versions of Internet Explorer.
* See the user manuals (below, in pdf) for sample texts rendered and more information.
* The GGTSinaiticusNac and P75Nac fonts have zero space characters where the -Acc equivalents have accents and other diacritics, so diacritics can be removed and restored simply by a font change. For other fonts, the diacritics must be removed by editing the textual document. Obviously, the Masoretic symbols are incongruous when used with some of the fonts, but their availability does no harm.
* Download the fonts by clicking and selecting *save* (not *open*, which just displays some characters in the font) and copying to your Fonts directory. On some browsers you need to right click and save the target.

**Conditions of use for ...**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| GGTEphesian | GGTGalatian | GGTColossian | GGTPhilippian | GGTSinaiticusAcc |
| GGTSinaiticusNac | GGTAlexandrinus | GGTEvst150 | GGTDublinensis |  |

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*This document uses the GGTEphesian.ttf font, available from* [*www.FarAboveAll.com*](http://www.FarAboveAll.com)

**Conditions of use for ...**

|  |  |
| --- | --- |
| GGTP75Acc | GGTP75Nac |

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*This document uses the GGTSinaiticusAcc.ttf font, available from* [*www.FarAboveAll.com*](http://www.FarAboveAll.com)

***More about these fonts***

The fonts all have the same basic coding convention, so texts can be switched between fonts at will. This applies to the standard letters and diacritics, but not digamma qoppa, sampi, and other symbols, which may be a font-specific character, such as a digraph.

The fonts use **<**, **>**, and **&** for Greek coding, which are HTML sensitive, ***so care should be taken***. However, alternatives for these characters are provided: codes 0206, 0207, 0208 respectively.

The fonts specialise in heaped-up diacritics, e.g: a|>"& a`#? i^3 i<[ i/+< u^+/.

GGTEphesian

GGTEphesian is a vertical cursive handwritten-style Greek font with high readability under low resolution, since it uses little calligraphic pen width variation. It was drawn by Graham G. Thomason. It specialises in heaped-up diacritics, e.g: a|>"& a`#? i^3 i^[ i/+< u^+/ or alternatively, with lowered i and u, Á/À< Á/À^ Â<À\ ÂÀ^\. The font even supports aå# aç}. It enables Q656 to be written. It also contains Roman numerals (albeit in high order codes), thus facilitating verse numbering.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

GGTGalatian

GGTGalatian is a much bolder version of GGTEphesian. It should have exactly the same spacing as GGTEphesian. A bold version is needed because the bold setting in a word processor only makes GGTEphesian significantly bolder up to about font size 9 or 10pt.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

**GGTPhilippian**

A modern printed cursive font. GGTPhilippian is mainly based on samples of Greek letters in the following (19th century, uncopyrighted) books by E.W.Bullinger: *Number in Scripture*, p.49; *Figures of Speech Used in the Bible*, App VII.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

GGTColossian

GGTColossian imitates an early cursive manuscipt hand. It was drawn by Graham G. Thomason. It does not currently support any digraphs.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

GGTSinaiticusAcc / GGTSinaiticusNac

The GGTSinaiticus- fonts are based on the lithographs of the Sinaitic (è) manuscript as exhibited in Scrivener's Plain Introduction to the Criticism of the New Testament, published in 1894, plates I-2 and IV-11b. The Sinaiticus fonts have v=v (digraph for HN). The -Nac font expunges accents.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

GGTAlexandrinus

The GGTAlexandrinus font is based on lithographs of the codex, but is slightly stylized, typically by thinning (parts of) the letters slightly. It contains accents as for GGTEphesian, but they are not ideal for use with GGTAlexandrinus, as the font has relatively large letter for a given point size, and the font is best used without accents.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

**GGTP75Acc / GGTP75Nac**

A font based on characters in the ò75 papyrus manuscript, from the page containing Luke 16:9-21.

A scan of this sheet is available at

http://chrles.multiply.com/photos/album/53/Bible\_Papyrus\_p75#62

A scan of the same page is reproduced on page 9 of *Manuscripts of the Bible* by Bruce M. Metzger.

The -Nac font expunges accents.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

**GGTEvst150**

A font based on characters in Evangelistary 150 (now British Library Harley 5598), exhibited in Scrivener's Plain Introduction to the Criticism of the New Testament, published in 1894, plate III. With accents.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

**GGTDublinensis**

A font based on characters in Dublinensis (Codex Z), exhibited in Scrivener's Plain Introduction to the Criticism of the New Testament, published in 1894, plate VII. With accents.

ABGDEZHQIKLMNCOPRSTUFXYW

abgdezhqiklmncoprstufxyw j

***Letters and symbols for GGTEphesian:*** In *Word*, enter direct key or ALT/0*nnn* as appropriate.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a | b | g | d | e | z | h | q | i | k | l | m | n | c | o | p | r | s | t | u | f | x | y | w |
| a | b | g | d | e | z | h | q | i | k | l | m | n | c | o | p | r | s | t | u | f | x | y | w |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A | B | G | D | E | Z | H | Q | I | K | L | M | N | C | O | P | R | S | T | U | F | X | Y | W |
| A | B | G | D | E | Z | H | Q | I | K | L | M | N | C | O | P | R | S | T | U | F | X | Y | W |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| j | 5 | Í | V | J | v | â | ã | è | ï | ð | ñ | ò | ó | ¡ | ¢ | £ | ¤ | ¥ | ¦ | ¨ | © | « | ¬ |
| j | 5 | 0205 | V | J | v | 0226 | 0227 | 0232 | 0239 | 0240 | 0241 | 0242 | 0243 | 0161 | 0162 | 0163 | 0164 | 0165 | 0166 | 0168 | 0169 | 0171 | 0172 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ¯ | ° | ± | ² | ³ | ´ | µ | ¶ | · | ¸ | ¹ | º | » | ¼ | ½ | ¾ | ¿ |  À | Á | Â | Ñ | Ò | Û | Ý |
| 0175 | 0176 | 0177 | 0178 | 0179 | 0180 | 0181 | 0182 | 0183 | 0184 | 0185 | 0186 | 0187 | 0188 | 0189 | 0190 | 0191 | 0192 | 0193 | 0194 | 0209 | 0210 | 0219 | 0221 |

***Diacritics:*** enter to the **right** of the letter. There are no compounds with dieresis.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Description** |  | **Narr ch** | **KEY** |  | **Wide ch** | **KEY** |  | **Std-alone** | **KEY** |
| Iota subscript |  | h| | | |  | a% w% | % |  |  |  |
| Smooth |  | i0 e0 h0 o0 u0 | 0 |  | a)) w)) r) | ) |  | z 870A | z 870A |
| Rough |  | i9 e9 h9 o9 u9 | 9 |  | a( w( r( | ( |  | z 879E | z 879E |
| Acute |  | i/ e/ h/ o/ u/ | / |  | a& w& | & *or*0206 |  |  |  |
| Grave |  | i\ e\ h\ o\ u\ | \ |  | a\_ w\_ | \_ us |  |  |  |
| Circumflex |  | i= e= h= o= u= | = |  | a~ w~ | ~ |  |  |  |
| Smooth Acute |  | i1 e1 h1 o1 u1 | 1 |  | a! w! | ! |  |  |  |
| Smooth Grave |  | i2 e2 h2 o2 u2 | 2 |  | a@ w@ | @ |  |  |  |
| Smooth Circumflex |  | i] e] h] o] u] | ] |  | a} w} | } |  |  |  |
| Rough Acute |  | i3 e3 h3 o3 u3 | 3 |  | a# w# | # |  |  |  |
| Rough Grave |  | i4 e4 h4 o4 u4 | 4 |  | a$ w$ | $ |  |  |  |
| Rough Circumflex |  | i[ e[ h[ o[ u[ | [ |  | a{ w{ | { |  |  |  |
| Dieresis |  | i+ e+ h+ o+ u+ | + |  | a" w" | " |  |  |  |
| *Altern. with 0193/0194* |  | ÁÀ ÂÀ | 0192 |  |  | " |  |  |  |
| Macron |  | i< u< | < *or*0207 |  | a> | > *or*0208 |  |  |  |
| Breve |  | i^ u^ | ^ |  | a` | ` |  |  |  |
| BreveOnMacron |  | iä uä | 0228 |  | aå | 0229 |  |  |  |
| MacronOnBreve |  | iæ uæ | 0230 |  | aç | 0231 |  |  |  |
| Grk Sublinear Dot |  | i? a? | ? |  |  |  |  |  |  |
| UncialOverline |  | Q656 | 6 |  |  |  |  |  |  |

***Punctuation and Scansion***

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***punctuation*** |  | KEY |  | ***punctuation*** |  | KEY |  | ***scansion*** |  | KEY |
| Grk Comma | , | , |  | Non Brk Space |  | 7 |  | scansion macron | Ä | 0196 |
| Grk Raised Dot | : | : |  | Non Brk Dash | Ü | 0220 |  | scansion macron | Å | 0197 |
| Grk Full Stop | . | . fs |  | 1/2 width nbrk sp |  | 8 |  | scansion micron | Æ | 0198 |
| Grk Quest Mark | ; | ; sc |  | Space |  | sp |  | scansion micron | Ç | 0199 |
| Grk Dash | - | - |  | Asterisk | \* | \* |  | macron/micron | È | 0200 |
| Thousands | ª | 0170 |  | Grk Elis./Num | di' | ' |  | macrons/microns | É | 0201 |
|  |  |  |  |  |  |  |  | foot divider | Ê | 0202 |
|  |  |  |  |  |  |  |  | caesura  | Ë | 0203 |

***Explanation of some of the symbols***

ï ð Received Text / Textus Receptus

ó Egyptian manuscripts

 as defined by Hodges and Farstad in *The New Testament According to the Majority Text*.

ñ Majority Text

ò Papyrus

è Sinaiticus manuscript

¡ Nonrecessive accent

Ò Progressive accent (an alternative name for nonrecessive)

¦ Recessive accent

¤ Contracted form

¿ Pluperfect (alternative forms)

¾ Optative (alternative forms)

***Examples***

diu<+li/zontej ¯ diÂÀ<li/zontej *straining out* [Mt 23:24]

***To expunge all diacritics and punctuation***

Use a NAC (no accent) font. Use an editor to remove:

* space 7 8 (which are nonbreaking spaces)
* ' (apostrophe, Greek elision)
* ; : , . (perhaps replace . by a space or half space, 8)
* | % iota subscript

***Character map of GGTEphesian***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 0 |  | w! | w" | w# | w$ | w% | w& | ' | w( | w) | \* | e+ | , | - | . | e/ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2010 |  |  |
| key | sp | ! | " | # | $ | % | & | ' | ( | ) | \* | + | , | - | . | / |
| Hex | $20 | $21 | $22 | $23 | $24 | $25 | $26 | $27 | $28 | $29 | $2A | $2B | $2C | $2D | $2E | $2F |
| Alt/ | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 | 0046 | 0047 |
| 1 | w@ | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | @ | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| Hex | $40 | $41 | $42 | $43 | $44 | $45 | $46 | $47 | $48 | $49 | $4A | $4B | $4C | $4D | $4E | $4F |
| Alt/ | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | 0072 | 0073 | 0074 | 0075 | 0076 | 0077 | 0078 | 0079 |
| 2 | a` | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | ` | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o |
| Hex | $60 | $61 | $62 | $63 | $64 | $65 | $66 | $67 | $68 | $69 | $6A | $6B | $6C | $6D | $6E | $6F |
| Alt/ | 0096 | 0097 | 0098 | 0099 | 0100 | 0101 | 0102 | 0103 | 0104 | 0105 | 0106 | 0107 | 0108 | 0109 | 0110 | 0111 |
| 3 | € |  | ‚ | ƒ | u„ | a… | u† | a‡ | ˆ | ‰ | Š | ‹ | Œ |  | Ž |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | € |  | ‚ | ƒ | „ | … | † | ‡ | ˆ | ‰ | Š | ‹ | Œ |  | Ž |  |
| latin1 | **20AC** | undef | **201A** | **0192** | **201E** | **2026** | **2020** | **2021** | **02C6** | **2030** | **0160** | **2039** | **0152** | undef | **017D** | undef |
| Hex | $80 | $81 | $82 | $83 | $84 | $85 | $86 | $87 | $88 | $89 | $8A | $8B | $8C | $8D | $8E | $8F |
| Alt/ | 0128 | 0129 | 0130 | 0131 | 0132 | 0133 | 0134 | 0135 | 0136 | 0137 | 0138 | 0139 | 0140 | 0141 | 0142 | 0143 |
| 4 |  | ¡ | ¢ | £ | ¤ | ¥ | ¦ | § | ¨ | © | ª | « | ¬ | ­ | ® | ¯ |
|  | nbrk |  |  |  |  |  |  |  |  |  |  |  |  | sft-hy |  |  |
| key |  | ¡ | ¢ | £ | ¤ | ¥ | ¦ | § | ¨ | © | ª | « | ¬ | ­ | ® | ¯ |
| latin1 | 00A0 | 00A1 | 00A2 | 00A3 | 00A4 | 00A5 | 00A6 | 00A7 | 00A8 | 00A9 | 00AA | 00AB | 00AC | 00AD | 00AE | 00AF |
| Hex | $A0 | $A1 | $A2 | $A3 | $A4 | $A5 | $A6 | $A7 | $A8 | $A9 | $AA | $AB | $AC | $AD | $AE | $AF |
| Alt/ | 0160 | 0161 | 0162 | 0163 | 0164 | 0165 | 0166 | 0167 | 0168 | 0169 | 0170 | 0171 | 0172 | 0173 | 0174 | 0175 |
| 5 | iÀ | Á | Â | Ã | Ä | Å | Æ | Ç | È | É | Ê | Ë | Ì | Í | wÎ | uÏ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | À | Á | Â | Ã | Ä | Å | Æ | Ç | È | É | Ê | Ë | Ì | Í | Î | Ï |
| latin1 | 00C0 | 00C1 | 00C2 | 00C3 | 00C4 | 00C5 | 00C6 | 00C7 | 00C8 | 00C9 | 00CA | 00CB | 00CC | 00CD | 00CE | 00CF |
| Hex | $C0 | $C1 | $C2 | $C3 | $C4 | $C5 | $C6 | $C7 | $C8 | $C9 | $CA | $CB | $CC | $CD | $CE | $CF |
| Alt/ | 0192 | 0193 | 0194 | 0195 | 0196 | 0197 | 0198 | 0199 | 0200 | 0201 | 0202 | 0203 | 0204 | 0205 | 0206 | 0207 |
| 6 | à | á | â | ã | uä | aå | uæ | aç | è | é | ê | ë | ì | í | î | ï |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | à | á | â | ã | ä | å | æ | ç | è | é | ê | ë | ì | í | î | ï |
| latin1 | 00E0 | 00E1 | 00E2 | 00E3 | 00E4 | 00E5 | 00E6 | 00E7 | 00E8 | 00E9 | 00EA | 00EB | 00EC | 00ED | 00EE | 00EF |
| Hex | $E0 | $E1 | $E2 | $E3 | $E4 | $E5 | $E6 | $E7 | $E8 | $E9 | $EA | $EB | $EC | $ED | $EE | $EF |
| Alt/ | 0224 | 0225 | 0226 | 0227 | 0228 | 0229 | 0230 | 0231 | 0232 | 0233 | 0234 | 0235 | 0236 | 0237 | 0238 | 0239 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 0 | e0 | e1 | e2 | e3 | e4 | 5 | 56 | 7 | 8 | e9 | : | ; | u< | e= | a> | a? |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| Hex | $30 | $31 | $32 | $33 | $34 | $35 | $36 | $37 | $38 | $39 | $3A | $3B | $3C | $3D | $3E | $3F |
| Alt/ | 0048 | 0049 | 0050 | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 |
| 1 | P | Q | R | S | T | U | V | W | X | Y | Z | e[ | e\ | e] | u^ | w\_ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | P | Q | R | S | T | U | V | W | X | Y | Z | [ | \ | ] | ^ | \_ |
| Hex | $50 | $51 | $52 | $53 | $54 | $55 | $56 | $57 | $58 | $59 | $5A | $5B | $5C | $5D | $5E | $5F |
| Alt/ | 0080 | 0081 | 0082 | 0083 | 0084 | 0085 | 0086 | 0087 | 0088 | 0089 | 0090 | 0091 | 0092 | 0093 | 0094 | 0095 |
| 2 | p | q | r | s | t | u | v | w | x | y | z | w{ | a| | w} | w~ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | p | q | r | s | t | u | v | w | x | y | z | { | | | } | ~ | c/I |
| Hex | $70 | $71 | $72 | $73 | $74 | $75 | $76 | $77 | $78 | $79 | $7A | $7B | $7C | $7D | $7E | $7F |
| Alt/ | 0112 | 0113 | 0114 | 0115 | 0116 | 0117 | 0118 | 0119 | 0120 | 0121 | 0122 | 0123 | 0124 | 0125 | 0126 | 0127 |
| 3 |  | ‘ | ’ | “ | ” | • | – | — | ˜ | ™ | š | › | œ |  | ž | Ÿ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key |  | ‘ | ’ | “ | ” | • | – | — | ˜ | ™ | š | › | œ |  | ž | Ÿ |
| latin1 | undef | **2018** | **2019** | **201C** | **201D** | **2022** | **2013** | **2014** | **02DC** | **2122** | **0161** | **203A** | **0153** | undef | **017E** | **0178** |
| Hex | $90 | $91 | $92 | $93 | $94 | $95 | $96 | $97 | $98 | $99 | $9A | $9B | $9C | $9D | $9E | $9F |
| Alt/ | 0144 | 0145 | 0146 | 0147 | 0148 | 0149 | 0150 | 0151 | 0152 | 0153 | 0154 | 0155 | 0156 | 0157 | 0158 | 0159 |
| 4 | ° | ± | ² | ³ | ´ | µ | ¶ | · | ¸ | ¹ | º | » | ¼ | ½ | ¾ | ¿ |
|  |  |  |  |  |  |  |  | 2219 |  |  |  |  |  |  |  |  |
| key | ° | ± | ² | ³ | ´ | µ | ¶ | · | ¸ | ¹ | º | » | ¼ | ½ | ¾ | ¿ |
| latin1 | 00B0 | 00B1 | 00B2 | 00B3 | 00B4 | 00B5 | 00B6 | 00B7 | 00B8 | 00B9 | 00BA | 00BB | 00BC | 00BD | 00BE | 00BF |
| Hex | $B0 | $B1 | $B2 | $B3 | $B4 | $B5 | $B6 | $B7 | $B8 | $B9 | $BA | $BB | $BC | $BD | $BE | $BF |
| Alt/ | 0176 | 0177 | 0178 | 0179 | 0180 | 0181 | 0182 | 0183 | 0184 | 0185 | 0186 | 0187 | 0188 | 0189 | 0190 | 0191 |
| 5 | aÐ | Ñ | Ò | Ó | Ô | Õ | Ö | × | Ø | Ù | Ú | Û | Ü | Ý | Þ | ß |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | Ð | Ñ | Ò | Ó | Ô | Õ | Ö | × | Ø | Ù | Ú | Û | Ü | Ý | Þ | ß |
| latin1 | 00D0 | 00D1 | 00D2 | 00D3 | 00D4 | 00D5 | 00D6 | 00D7 | 00D8 | 00D9 | 00DA | 00DB | 00DC | 00DD | 00DE | 00DF |
| Hex | $D0 | $D1 | $D2 | $D3 | $D4 | $D5 | $D6 | $D7 | $D8 | $D9 | $DA | $DB | $DC | $DD | $DE | $DF |
| Alt/ | 0208 | 0209 | 0210 | 0211 | 0212 | 0213 | 0214 | 0215 | 0216 | 0217 | 0218 | 0219 | 0220 | 0221 | 0222 | 0223 |
| 6 | ð | ñ | ò | ó | ô | õ | ö | ÷ | ø | ù | ú | û | ü | ý | þ | ÿ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| key | ð | ñ | ò | ó | ô | õ | ö | ÷ | ø | ù | ú | û | ü | ý | þ | ÿ |
| latin1 | 00F0 | 00F1 | 00F2 | 00F3 | 00F4 | 00F5 | 00F6 | 00F7 | 00F8 | 00F9 | 00FA | 00FB | 00FC | 00FD | 00FE | 00FF |
| Hex | $F0 | $F1 | $F2 | $F3 | $F4 | $F5 | $F6 | $F7 | $F8 | $F9 | $FA | $FB | $FC | $FD | $FE | $FF |
| Alt/ | 0240 | 0241 | 0242 | 0243 | 0244 | 0245 | 0246 | 0247 | 0248 | 0249 | 0250 | 0251 | 0252 | 0253 | 0254 | 0255 |