

The Use of Reserved (= Undefined) 1252 Code Page Slots in TrueType Fonts

Problem: How do you create a 1252 TrueType **text** font (= **non-symbol** font) with slots 128, 129, 141-144, 157-158, 173, 175, 181, 183, which is compatible with any known version of Word and Windows?

Solution: Use following encoding scheme for the critical character slots. TrueType Fonts with the following encoding for the critical slots are compatible with any known combination of Microsoft Word and Windows: Windows 3.1 and 3.11 + Word 6.0, Windows 1995 + Word 1997, Windows 98 + Word 6.0 and Word 1997, Windows ME + Word 1997, Windows 2000 (NT) + Word 2000, Windows XP + Word XP.

Dec	Hex	Names [and Alias Name]	Code Points	Comments
032	20	space	0020	Not redefinable! Could have both codes 0020 + 00A0
045	2D	hyphen	002D	Not redefinable! Do not combine with minus!
128*	80	Euro [uni20AC]	0080 + 20AC	Must have both codes for backward compatibility.
129*	81	c129	0081	Use "c129". Do not invent any other glyph name.
141*	8D	c141	008D	Use "c141". Do not invent any other glyph name.
142*	8E	Zcaron [c142]	008E + 017D	Must have both codes for backward compatibility.
143*	8F	c143	008F	Use "c143". Do not invent any other glyph name.
144*	90	c144	0090	Use "c144". Do not invent any other glyph name.
157*	9D	c157	009D	Use "c157". Do not invent any other glyph name.
158*	9E	zcaron [c158]	009E + 017E	Must have both codes for backward compatibility.
160	A0	uni00A0 [nbspace]	00A0	Not redefinable! Could have both codes 0020 + 00A0
173*	AD	minus [sfthyphen]	00AD	Redefinable! But do not combine with hyphen!
175*	AF	macron [overscore]	00AF + 02C9	Should have both code points (at least 00AF).
181*	B5	mu [mu1]	00B5 + 03BC	Should have both code points (at least 00B5).
183*	B7	periodcentered [middot]	00B7 + 2219	Must have both codes for backward compatibility.

* = redefinable character slots, which can be redefined, for instance, as diacritical characters for indologists.

1. Do **not** invent other names! For instance, if slot 157 should contain emacron, do not name it "emacron", but stick to c157, because Windows evaluates its internal glyph name list, where it would find emacron.
2. The slots 129, 141, 143, 144, 157 must have **one** code point each. For instance, if you want to put emacron into slot 157, do **not** add to 009D the unicode 0113 for emacron as a second code point.
3. The slots 128, 142, 158 must have **both** code points each. Word 6.0 needs 0080, 008E, 009E, Word 97 and later use 20AC, 017D, 017E, so you must define both code points each for the slots 128, 142, 158.
4. The slot 183 **must** have both code points. Windows NT needs 00B7, other Windows use 00B7 **or** 2219.
5. Use **different** names for the code points 045, 173, if you want to redefine 173 as diacritical character.
6. Slots 175, 181 **should** have **both** code points. The older codes 00AF and 00B5 **must** always be used.
7. If your font editor does not permit of assigning **two** code points to **one** glyph name, **duplicate** the glyph and assign **alias** name and **second** code point to the duplicated glyph, e.g. zcaron = 017E, c158 = 009E.
8. You **cannot** redefine slot 160 as a diacritic, because **Word** will use slot 032, when you enter ALT 0160. (In **Wordpad 98** you would be able to define slot 160 as diacritical character and enter it with this key.)
9. All other slots should have the names and code points as shown in the following 1252 code page table.

Char	Dec	Hex	Adobe Standard Names	Code Points	Descriptive Names
	000	0000	.notdef	0000	NULL
	001	0001	.notdef	0001	START OF HEADING
	002	0002	.notdef	0002	START OF TEXT
	003	0003	.notdef	0003	END OF TEXT
	004	0004	.notdef	0004	END OF TRANSMISSION
	005	0005	.notdef	0005	ENQUIRY
	006	0006	.notdef	0006	ACKNOWLEDGE
	007	0007	.notdef	0007	BELL
	008	0008	.notdef	0008	BACKSPACE
	009	0009	.notdef	0009	HORIZONTAL TABULATION
	010	000A	.notdef	000A	LINE FEED
	011	000B	.notdef	000B	VERTICAL TABULATION
	012	000C	.notdef	000C	FORM FEED
	013	000D	.notdef	000D	CARRIAGE RETURN
	014	000E	.notdef	000E	SHIFT OUT
	015	000F	.notdef	000F	SHIFT IN
	016	0010	.notdef	0010	DATA LINK ESCAPE
	017	0011	.notdef	0011	DEVICE CONTROL ONE
	018	0012	.notdef	0012	DEVICE CONTROL TWO
	019	0013	.notdef	0013	DEVICE CONTROL THREE
	020	0014	.notdef	0014	DEVICE CONTROL FOUR
	021	0015	.notdef	0015	NEGATIVE ACKNOWLEDGE
	022	0016	.notdef	0016	SYNCHRONOUS IDLE
	023	0017	.notdef	0017	END OF TRANSMISSION BLOCK
	024	0018	.notdef	0018	CANCEL
	025	0019	.notdef	0019	END OF MEDIUM
	026	001A	.notdef	001A	SUBSTITUTE
	027	001B	.notdef	001B	ESCAPE
	028	001C	.notdef	001C	FILE SEPARATOR
	029	001D	.notdef	001D	GROUP SEPARATOR
	030	001E	.notdef	001E	RECORD SEPARATOR
	031	001F	.notdef	001F	UNIT SEPARATOR
	032	0020	space	0020	SPACE
!	033	0021	exclam	0021	EXCLAMATION MARK
"	034	0022	quotedbl	0022	QUOTATION MARK
#	035	0023	numbersign	0023	NUMBER SIGN
\$	036	0024	dollar	0024	DOLLAR SIGN
%	037	0025	percent	0025	PERCENT SIGN
&	038	0026	ampersand	0026	AMPERSAND
'	039	0027	quotesingle	0027	APOSTROPHE
(	040	0028	parenleft	0028	LEFT PARENTHESIS
)	041	0029	parenright	0029	RIGHT PARENTHESIS
*	042	002A	asterisk	002A	ASTERISK
+	043	002B	plus	002B	PLUS SIGN
,	044	002C	comma	002C	COMMA
-	045	002D	hyphen	002D	HYPHEN-MINUS
.	046	002E	period	002E	FULL STOP
/	047	002F	slash	002F	SOLIDUS
0	048	0030	zero	0030	DIGIT ZERO
1	049	0031	one	0031	DIGIT ONE
2	050	0032	two	0032	DIGIT TWO
3	051	0033	three	0033	DIGIT THREE
4	052	0034	four	0034	DIGIT FOUR
5	053	0035	five	0035	DIGIT FIVE
6	054	0036	six	0036	DIGIT SIX
7	055	0037	seven	0037	DIGIT SEVEN
8	056	0038	eight	0038	DIGIT EIGHT
9	057	0039	nine	0039	DIGIT NINE
:	058	003A	colon	003A	COLON
;	059	003B	semicolon	003B	SEMICOLON
<	060	003C	less	003C	LESS-THAN SIGN
=	061	003D	equal	003D	EQUALS SIGN
>	062	003E	greater	003E	GREATER-THAN SIGN
?	063	003F	question	003F	QUESTION MARK

Char	Dec	Hex	Adobe Standard Names	Code Points	Descriptive Names
@	064	0040	at	0040	COMMERCIAL AT
A	065	0041	A	0041	LATIN CAPITAL LETTER A
B	066	0042	B	0042	LATIN CAPITAL LETTER B
C	067	0043	C	0043	LATIN CAPITAL LETTER C
D	068	0044	D	0044	LATIN CAPITAL LETTER D
E	069	0045	E	0045	LATIN CAPITAL LETTER E
F	070	0046	F	0046	LATIN CAPITAL LETTER F
G	071	0047	G	0047	LATIN CAPITAL LETTER G
H	072	0048	H	0048	LATIN CAPITAL LETTER H
I	073	0049	I	0049	LATIN CAPITAL LETTER I
J	074	004A	J	004A	LATIN CAPITAL LETTER J
K	075	004B	K	004B	LATIN CAPITAL LETTER K
L	076	004C	L	004C	LATIN CAPITAL LETTER L
M	077	004D	M	004D	LATIN CAPITAL LETTER M
N	078	004E	N	004E	LATIN CAPITAL LETTER N
O	079	004F	O	004F	LATIN CAPITAL LETTER O
P	080	0050	P	0050	LATIN CAPITAL LETTER P
Q	081	0051	Q	0051	LATIN CAPITAL LETTER Q
R	082	0052	R	0052	LATIN CAPITAL LETTER R
S	083	0053	S	0053	LATIN CAPITAL LETTER S
T	084	0054	T	0054	LATIN CAPITAL LETTER T
U	085	0055	U	0055	LATIN CAPITAL LETTER U
V	086	0056	V	0056	LATIN CAPITAL LETTER V
W	087	0057	W	0057	LATIN CAPITAL LETTER W
X	088	0058	X	0058	LATIN CAPITAL LETTER X
Y	089	0059	Y	0059	LATIN CAPITAL LETTER Y
Z	090	005A	Z	005A	LATIN CAPITAL LETTER Z
[	091	005B	bracketleft	005B	LEFT SQUARE BRACKET
\	092	005C	backslash	005C	REVERSE SOLIDUS
]	093	005D	bracketright	005D	RIGHT SQUARE BRACKET
^	094	005E	asciicircum	005E	CIRCUMFLEX ACCENT
_	095	005F	underscore	005F	LOW LINE
`	096	0060	grave	0060	GRAVE ACCENT
a	097	0061	a	0061	LATIN SMALL LETTER A
b	098	0062	b	0062	LATIN SMALL LETTER B
c	099	0063	c	0063	LATIN SMALL LETTER C
d	100	0064	d	0064	LATIN SMALL LETTER D
e	101	0065	e	0065	LATIN SMALL LETTER E
f	102	0066	f	0066	LATIN SMALL LETTER F
g	103	0067	g	0067	LATIN SMALL LETTER G
h	104	0068	h	0068	LATIN SMALL LETTER H
i	105	0069	i	0069	LATIN SMALL LETTER I
j	106	006A	j	006A	LATIN SMALL LETTER J
k	107	006B	k	006B	LATIN SMALL LETTER K
l	108	006C	l	006C	LATIN SMALL LETTER L
m	109	006D	m	006D	LATIN SMALL LETTER M
n	110	006E	n	006E	LATIN SMALL LETTER N
o	111	006F	o	006F	LATIN SMALL LETTER O
p	112	0070	p	0070	LATIN SMALL LETTER P
q	113	0071	q	0071	LATIN SMALL LETTER Q
r	114	0072	r	0072	LATIN SMALL LETTER R
s	115	0073	s	0073	LATIN SMALL LETTER S
t	116	0074	t	0074	LATIN SMALL LETTER T
u	117	0075	u	0075	LATIN SMALL LETTER U
v	118	0076	v	0076	LATIN SMALL LETTER V
w	119	0077	w	0077	LATIN SMALL LETTER W
x	120	0078	x	0078	LATIN SMALL LETTER X
y	121	0079	y	0079	LATIN SMALL LETTER Y
z	122	007A	z	007A	LATIN SMALL LETTER Z
{	123	007B	braceleft	007B	LEFT CURLY BRACKET
|	124	007C	bar	007C	VERTICAL LINE
}	125	007D	braceright	007D	RIGHT CURLY BRACKET
~	126	007E	asciitilde	007E	TILDE
□	127	007F	.notdef	007F	DELETE

Char	Dec	Hex	Adobe Standard Names		Code Points		Descriptive Names
☐	128	0080	.notdef	Euro	0080	20AC	EURO SIGN
☐	129	0081	.notdef	c129	0081		UNDEFINED
,	130	0082	quotingslbase		201A		SINGLE LOW-9 QUOTATION MARK
f	131	0083	florin		0192		LATIN SMALL LETTER F WITH HOOK
,,	132	0084	quotedblbase		201E		DOUBLE LOW-9 QUOTATION MARK
...	133	0085	ellipsis		2026		HORIZONTAL ELLIPSIS
†	134	0086	dagger		2020		DAGGER
‡	135	0087	daggerdbl		2021		DOUBLE DAGGER
^	136	0088	circumflex		02C6		MODIFIER LETTER CIRCUMFLEX ACCENT
‰	137	0089	perthousand		2030		PER MILLE SIGN
Š	138	008A	Scaron		0160		LATIN CAPITAL LETTER S WITH CARON
<	139	008B	guilsinglleft		2039		SINGLE LEFT-POINTING ANGLE QUOTATION MARK
Œ	140	008C	OE		0152		LATIN CAPITAL LIGATURE OE
☐	141	008D	.notdef	c141	008D		UNDEFINED
☐	142	008E	.notdef	Zcaron	008E	017D	LATIN CAPITAL LETTER Z WITH CARON
☐	143	008F	.notdef	c143	008F		UNDEFINED
☐	144	0090	.notdef	c144	0090		UNDEFINED
‘	145	0091	quoteleft		2018		LEFT SINGLE QUOTATION MARK
’	146	0092	quoteright		2019		RIGHT SINGLE QUOTATION MARK
“	147	0093	quotedblleft		201C		LEFT DOUBLE QUOTATION MARK
”	148	0094	quotedblright		201D		RIGHT DOUBLE QUOTATION MARK
•	149	0095	bullet		2022		BULLET
–	150	0096	endash		2013		EN DASH
—	151	0097	emdash		2014		EM DASH
~	152	0098	tilde		02DC		SMALL TILDE
™	153	0099	trademark		2122		TRADE MARK SIGN
š	154	009A	scaron		0161		LATIN SMALL LETTER S WITH CARON
>	155	009B	guilsinglright		203A		SINGLE RIGHT-POINTING ANGLE QUOTATION MARK
œ	156	009C	oe		0153		LATIN SMALL LIGATURE OE
☐	157	009D	.notdef	c157	009D		UNDEFINED
☐	158	009E	.notdef	zcaron	009E	017E	LATIN SMALL LETTER Z WITH CARON
ÿ	159	009F	Ydieresis		0178		LATIN CAPITAL LETTER Y WITH DIAERESIS
	160	00A0	uni00A0		00A0		NO-BREAK SPACE
¡	161	00A1	exclamdown		00A1		INVERTED EXCLAMATION MARK
¢	162	00A2	cent		00A2		CENT SIGN
£	163	00A3	sterling		00A3		POUND SIGN
¤	164	00A4	currency		00A4		CURRENCY SIGN
¥	165	00A5	yen		00A5		YEN SIGN
¦	166	00A6	brokenbar		00A6		BROKEN BAR
§	167	00A7	section		00A7		SECTION SIGN
¨	168	00A8	dieresis		00A8		DIAERESIS
©	169	00A9	copyright		00A9		COPYRIGHT SIGN
^a	170	00AA	ordfeminine		00AA		FEMININE ORDINAL INDICATOR
«	171	00AB	guillemotleft		00AB		LEFT-POINTING DOUBLE ANGLE QUOTATION MARK
¬	172	00AC	logicalnot		00AC		NOT SIGN
-	173	00AD	minus		00AD		SOFT HYPHEN
®	174	00AE	registered		00AE		REGISTERED SIGN
—	175	00AF	macron		00AF	02C9	MACRON
°	176	00B0	degree		00B0		DEGREE SIGN
±	177	00B1	plusminus		00B1		PLUS-MINUS SIGN
²	178	00B2	twosuperior		00B2		SUPERSCRIP TWO
³	179	00B3	threesuperior		00B3		SUPERSCRIP THREE
´	180	00B4	acute		00B4		ACUTE ACCENT
μ	181	00B5	mu		00B5	03BC	MICRO SIGN
¶	182	00B6	paragraph		00B6		PILCROW SIGN
·	183	00B7	periodcentered		00B7	2219	MIDDLE DOT
¸	184	00B8	cedilla		00B8		CEDILLA
¹	185	00B9	onesuperior		00B9		SUPERSCRIP ONE
º	186	00BA	ordmasculine		00BA		MASCULINE ORDINAL INDICATOR
»	187	00BB	guillemotright		00BB		RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK
¼	188	00BC	onequarter		00BC		VULGAR FRACTION ONE QUARTER
½	189	00BD	onehalf		00BD		VULGAR FRACTION ONE HALF
¾	190	00BE	threequarters		00BE		VULGAR FRACTION THREE QUARTERS
¿	191	00BF	questiondown		00BF		INVERTED QUESTION MARK

Char	Dec	Hex	Adobe Standard Names	Code Points	Descriptive Names
À	192	00C0	Agrave	00C0	LATIN CAPITAL LETTER A WITH GRAVE
Á	193	00C1	Aacute	00C1	LATIN CAPITAL LETTER A WITH ACUTE
Â	194	00C2	Acircumflex	00C2	LATIN CAPITAL LETTER A WITH CIRCUMFLEX
Ã	195	00C3	Atilde	00C3	LATIN CAPITAL LETTER A WITH TILDE
Ä	196	00C4	Adieresis	00C4	LATIN CAPITAL LETTER A WITH DIAERESIS
Å	197	00C5	Aring	00C5	LATIN CAPITAL LETTER A WITH RING ABOVE
Æ	198	00C6	AE	00C6	LATIN CAPITAL LETTER AE
Ç	199	00C7	Ccedilla	00C7	LATIN CAPITAL LETTER C WITH CEDILLA
È	200	00C8	Egrave	00C8	LATIN CAPITAL LETTER E WITH GRAVE
É	201	00C9	Eacute	00C9	LATIN CAPITAL LETTER E WITH ACUTE
Ê	202	00CA	Ecircumflex	00CA	LATIN CAPITAL LETTER E WITH CIRCUMFLEX
Ë	203	00CB	Edieresis	00CB	LATIN CAPITAL LETTER E WITH DIAERESIS
Ì	204	00CC	Igrave	00CC	LATIN CAPITAL LETTER I WITH GRAVE
Í	205	00CD	Iacute	00CD	LATIN CAPITAL LETTER I WITH ACUTE
Î	206	00CE	Icircumflex	00CE	LATIN CAPITAL LETTER I WITH CIRCUMFLEX
Ï	207	00CF	Idieresis	00CF	LATIN CAPITAL LETTER I WITH DIAERESIS
Ð	208	00D0	Eth	00D0	LATIN CAPITAL LETTER ETH
Ñ	209	00D1	Ntilde	00D1	LATIN CAPITAL LETTER N WITH TILDE
Ò	210	00D2	Ograve	00D2	LATIN CAPITAL LETTER O WITH GRAVE
Ó	211	00D3	Oacute	00D3	LATIN CAPITAL LETTER O WITH ACUTE
Ô	212	00D4	Ocircumflex	00D4	LATIN CAPITAL LETTER O WITH CIRCUMFLEX
Õ	213	00D5	Otilde	00D5	LATIN CAPITAL LETTER O WITH TILDE
Ö	214	00D6	Odieresis	00D6	LATIN CAPITAL LETTER O WITH DIAERESIS
×	215	00D7	multiply	00D7	MULTIPLICATION SIGN
Ø	216	00D8	Oslash	00D8	LATIN CAPITAL LETTER O WITH STROKE
Ù	217	00D9	Ugrave	00D9	LATIN CAPITAL LETTER U WITH GRAVE
Ú	218	00DA	Uacute	00DA	LATIN CAPITAL LETTER U WITH ACUTE
Û	219	00DB	Ucircumflex	00DB	LATIN CAPITAL LETTER U WITH CIRCUMFLEX
Ü	220	00DC	Udieresis	00DC	LATIN CAPITAL LETTER U WITH DIAERESIS
Ý	221	00DD	Yacute	00DD	LATIN CAPITAL LETTER Y WITH ACUTE
Þ	222	00DE	Thorn	00DE	LATIN CAPITAL LETTER THORN
ß	223	00DF	germandbls	00DF	LATIN SMALL LETTER SHARP S
à	224	00E0	agrave	00E0	LATIN SMALL LETTER A WITH GRAVE
á	225	00E1	aacute	00E1	LATIN SMALL LETTER A WITH ACUTE
â	226	00E2	acircumflex	00E2	LATIN SMALL LETTER A WITH CIRCUMFLEX
ã	227	00E3	atilde	00E3	LATIN SMALL LETTER A WITH TILDE
ä	228	00E4	adieresis	00E4	LATIN SMALL LETTER A WITH DIAERESIS
å	229	00E5	aring	00E5	LATIN SMALL LETTER A WITH RING ABOVE
æ	230	00E6	ae	00E6	LATIN SMALL LETTER AE
ç	231	00E7	cedilla	00E7	LATIN SMALL LETTER C WITH CEDILLA
è	232	00E8	egrave	00E8	LATIN SMALL LETTER E WITH GRAVE
é	233	00E9	eacute	00E9	LATIN SMALL LETTER E WITH ACUTE
ê	234	00EA	ecircumflex	00EA	LATIN SMALL LETTER E WITH CIRCUMFLEX
ë	235	00EB	edieresis	00EB	LATIN SMALL LETTER E WITH DIAERESIS
ì	236	00EC	igrave	00EC	LATIN SMALL LETTER I WITH GRAVE
í	237	00ED	iacute	00ED	LATIN SMALL LETTER I WITH ACUTE
î	238	00EE	icircumflex	00EE	LATIN SMALL LETTER I WITH CIRCUMFLEX
ï	239	00EF	idieresis	00EF	LATIN SMALL LETTER I WITH DIAERESIS
ð	240	00F0	eth	00F0	LATIN SMALL LETTER ETH
ñ	241	00F1	ntilde	00F1	LATIN SMALL LETTER N WITH TILDE
ò	242	00F2	ograve	00F2	LATIN SMALL LETTER O WITH GRAVE
ó	243	00F3	oacute	00F3	LATIN SMALL LETTER O WITH ACUTE
ô	244	00F4	ocircumflex	00F4	LATIN SMALL LETTER O WITH CIRCUMFLEX
õ	245	00F5	otilde	00F5	LATIN SMALL LETTER O WITH TILDE
ö	246	00F6	odieresis	00F6	LATIN SMALL LETTER O WITH DIAERESIS
÷	247	00F7	divide	00F7	DIVISION SIGN
ø	248	00F8	oslash	00F8	LATIN SMALL LETTER O WITH STROKE
ù	249	00F9	ugrave	00F9	LATIN SMALL LETTER U WITH GRAVE
ú	250	00FA	uacute	00FA	LATIN SMALL LETTER U WITH ACUTE
û	251	00FB	ucircumflex	00FB	LATIN SMALL LETTER U WITH CIRCUMFLEX
ü	252	00FC	udieresis	00FC	LATIN SMALL LETTER U WITH DIAERESIS
ý	253	00FD	yacute	00FD	LATIN SMALL LETTER Y WITH ACUTE
þ	254	00FE	thorn	00FE	LATIN SMALL LETTER THORN
ÿ	255	00FF	ydieresis	00FF	LATIN SMALL LETTER Y WITH DIAERESIS