The release 1.2 of the Cork encoded DC fonts and the text companion symbol fonts

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Abstract

I present the release 1.2 of the dc fonts and the companion text symbol fonts. I give an overview of the improvements on the dc fonts from version 1.1 to 1.2. The rationale for introducing a text symbol font is explained and the text symbol encoding TS1 is presented. In the appendix, there are font tables of the mentioned fonts.

1 Introduction

In 1990 at the TUG meeting at Cork, Ireland, the european TEX user groups agreed on a 256 character encoding supporting many european languages with latin writing. This encoding is both an *internal encoding* for TEX and a *font encoding*. This double nature is a consequence of the fact, that both kind of encodings cannot be entirely separated within TEX.

The design goals of the Cork encoding are to allow as many languages as possible to be hyphenated correctly and to guarantee correct kerning for those languages. Therefore it includes many ready-made accented letters.

It also includes some innovative features, which have not become very popular yet, though they deserve to become so. First to mention is a special, zero width invisible character, the compound word mark (cwm). The second is the separation of the two characters <hyphen> and <hyphenchar>. By appropriate design of the hyphenchar glyph, hanging hyphenation can be achieved.

A group around Norbert Schwarz started the implementation of a Cork encoded font in METAFONT in 1990. The first release was published in 1990, called dc fonts. It was stated that after some improvement and bug fixing they should be finally named

ec fonts. A second release was made public in 1993. Unfortunately Norbert Schwarz has not the time to complete the ec fonts, and he has resigned from the work at the DANTE meeting at Münster in spring 1994. The author of this article now coordinates the further development of the ec fonts.

In the meantime, other Cork encoded fonts have become available: The Malvern fonts, a sans serif face, are implemented with METAFONT and contain the full Cork character set. Many commercial faces are available in the Cork encoding implemented as virtual fonts with the fontinst package by Alan Jeffrey [4]. Those fonts lack some characters, especially the dotless j and the letter eng, which are replaced with black blocks and produce warning messages. The reason is, that there are no glyphs for them in the basic fonts and it turns out to be hard to fake them.

The need for a text companion font was first articulated in the discussion of new 256 character mathematical fonts in 1993. In order to achieve a better orthogonality between text and math, some text symbols stored in the math fonts should be moved to the text companion fonts.[1] The text companion fonts are also the ideal place to store some new characters, like currency symbols.

Users of commercial fonts with expert sets want to access the complete set of glyphs provided. Again, a text companion font is the apropriate place to store those glyphs.

2 Improvements to the DC fonts

2.1 Accents

In good typography, the accent marks should look different for capitals and lowercase letters respectively. The accent over a capital should be of a 'flat' design, while the accent on a lowercase letter should be 'steep'. The Computer Modern fonts by D.E. Knuth only have steep accents, well made for lowercase letters. The accented capitals grow too tall, leading to uneven line spacing.

Figure 1: Letters with acute accent in the cmr font

There are no readily accented letters provided which leads to problems with proper hyphenation and kerning. However, the floating accent approach guarantees the consistency of all accented letters.

With the version 1.1 of the dc fonts, the situation is different. We have readily designed accented letters for all languages included in the ISO standards 8859-1 and 8859-2. If an 'exotic' accented letter is needed, it does not fit to the provided ones.

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1. The archives of the math-font-discuss mailing list are available for ftp on `ftp.cogs.susx.ac.uk` in directory `pub/tex/mathfont`.

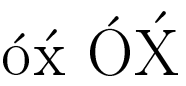

Figure 2: Letters with acute accent in the dcr font (v 1.1)

Note that the floating acute accent is the same for capitals and lowers, but different from both, being even steeper than the lowercase one.

With the version 1.2 of the dc fonts, all inconsistencies have gone. The accents are different between capitals and lowers as they should be, and floating accents can be applied in a consistent manner.

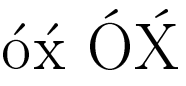

Figure 3: Letters with acute accent in the dcr font (v 1.2)

Since the Cork encoding does only provide one slot for each accent, the capital acute accent is taken from the *text companion* font tcr. This is possible, because TEX allows cross-font accenting.

The acute accent and the readily accented letters were taken with kind permission of the authors from the polish pl fonts [3], which provide the highest available quality for these shapes.

The hungarian double acute accent and the grave accent follow the design of the acute accent.

2.2 Quotation marks

The design of quotation marks provides another challenge to the ec fonts. In the Computer Modern fonts, they are optimised to english usage.

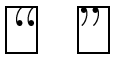

Figure 4: Quotation marks in the cmr font

They lie asymmetrically in their boxes, which widens the space before and after a quotation. However, this kind of design produces a disaster, if the same english opening quotation mark is used as a german or polish closing quotation mark. Currently, macros have to compensate for this.

In the dc fonts v 1.2, the quotation marks are lying symmetrically in a tighter box, the additional space is generated using kerning against the `boundarychar`.

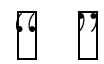

Figure 5: Quotation marks in the dcr font (1.2)

The `boundarychar` feature was introduced with TEX3 and METAFONT2, it is reasonable to assume that nowadays every TEX user has access to these or later versions.[2]

2.3 Miscellaneous

The shapes for polish letters are now taken from the polish pl font, leading to improved shapes on the ogoneked letters and the crossed l.

Figure 6: Polish special letters in the dcr font (1.2)

With the help of the czechoslovak TEX users' group, the shapes of czech and slovak special letters [7] have been improved, too.

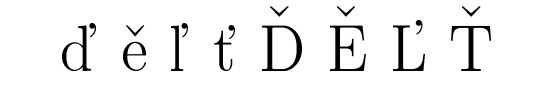

Figure 7: Some czech and slovak special letters in the dcr font (1.2)

The height of umlaut dots has been adjusted to the value contributed by the czechoslovak group (ä occurs in slovak), the value used in the version 1.1 of the dc fonts was considered too low even by german users.

Figure 8: The letter ä in cmr, dcr v1.1, and dcr v1.2

The `hyphenchar` is now designed to hang out of its bounding box, thus allowing for hanging hyphenation.

The release 1.2 also contains a new shape, a classical serif italic font. It was already prepared in version 1.1, but no parameter and driver files were present for it.

2. Maybe it was not a reasonable assumption in 1990, when the Cork encoding was born and the above mentioned versions were brand new.

Figure 9: Hyphen and hyphenchar with their bounding box

It is an italic with upper serifs instead of ingoing hooks. This paragraph is typeset the dcci font to show its appearance.

3 The TC fonts

3.1 A text symbol encoding

Over the years, many reasons have accumulated for a new text symbol encoding. There are some text symbols stashed in the math fonts, the footnote marks (∗, §, ¶, †, ‡, ‖) and the bullet (•) are among them. In 256-character math fonts they should not be preserved, but moved to a text symbol encoding.

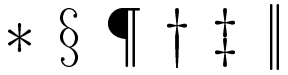

Figure 10: Footnote symbols from the tc font

The ISO standards 8859-1 (Latin 1), 8859-2 (Latin 2), and 6937 contain several custom signs. It will be easier to typeset text encoded according to those standards if the neccessary symbols were easily accessible through a text symbol font.

Figure 11: Some currency signs from the tc font

Finally, I wanted to have different style accents for capitals and lowercase letters. Since the Cork encoding does not have the space for another thirteen accent glyphs, I decided to have the lowercase accents which are far more often needed in the dc fonts, and to put the accents for capital letters into the text companion fonts.

The users of commercial font also want to access all glyphs stored in those fonts. Since most of those glyphs are textual, they all should be included into a text symbol font encoding.

3.2 The font encodings TS1 and TSA

For mainly technical reasons, I think the candidates for a text symbol encoding should be distributed over two fonts, their encoding named TS1 and TSA respectively. There

are important differences between the technology supported by METAFONT and TEX compared to the path most commercial font suppliers choose.

The computer modern family of fonts supports the notion of a designsize, i. e. there are subtle differences between the shapes at different point sizes as illustrated in the next section. TEX is able to raise and lower letters, thus it does not need a readily raised digit to produce a superscript. It can also produce nice fraction using a macro from the TEXbook, exercise 11.6, like $^1/_2$, $^1/_4$, and $^1/_6$.

Most commercial vendors took the easier path, their fonts come in only one size and are scaled up and down to the other sizes. Thus, a small superscript does not look right, and to compensate this a readily designed superscript is added to the fonts. A subscript is also added, because earlier text processors weren't able to raise or lower letters. For similar reasons, fraction glyphs were provided, or fractions were constructed out of a sequence <superscript digit> <fraction> <subscript digit>, where <fraction> is a special slash to construct fractions.

On the other hand, it is almost impossible to follow this path with TEX and METAFONT: The size of the superscripts can be influenced by TEX macros, and therefore there is no unique 'virtual designsize' for ready-made superscripts.

The selection of superscripts offered by commercial vendors is at the moment rather sparse, many often needed ones are lacking.

$2^{\text{ième}}$ 5^{th} M^{c}

Figure 12: Some superscript letters missing in expert fonts

Therefore the rule of thumb for the distribution of glyphs is the following: Put all glyphs which can be conveniently made with METAFONT and are needed with TEX into the encoding TS1, and put the remaining glyphs, mainly superscripts and subscripts, into the encoding TSA. There are some duplications and deviations from this rule of thumb, e. g. superscript 1, 2, and 3 are part of ISO 8859-1, thus they occur in TS1 as well as in TSA.

3.3 Contents of the TS1 encoding

In the first thirteen positions are accents for capital letters. There are two new dashes with a length between endash and emdash, the longer of them corresponding to <threequartersemdash>. Oldstyle digits are included to facilitate the building of virtual fonts with oldstyle digits instead of the usual ones. The genealogical symbols from Knuth's gen fonts are included, as well as the remainder of the latin 1 and latin 2 standards. ISO-6937 contributes the arrows, the musical note, the trademark sign, and the Ohm sign, the mho sign is added for consistency. The two always troublesome glyphs \$ and \$ have found their final rest in the TS1 encoding. Note, that there are also oldstyle

variants of dollar and cent provided, as well as a lira sign different from pounds. According to the dutch authority Karel Treebus, the abbreviation for dutch guilders should just be the letter 'f' out of the current font, therefore the florin sign is designed to be identical to the letter f in the tc fonts. Other designers may not agree here.

There should be a kern between <degree> and <C> to form a proper centigrade sign. Since kerning is impossible (the two characters live in different fonts) a ready-made centigrade symbol is included. Last, but not least, a ready-made per thousand sign is included.

The assigned code points of the TS1 encoding are listed in appendix A of this paper. A font table of the TS1 encoded font tcr1000 can be found in appendix B.

4 Using the full power of the DC fonts

The dc fonts support very strongly the notion of a design size. Just as in the famous example sentence "Ten point type is different from **magnified five point type**" [6] exemplified, linear scaling a font over a large range of sizes gives wrong results. In fact, scaling should be avoided at all. Instead, the designsized fonts should be used.

The file `dcstdedt.tex` generates small parameter files for the standard plain TEX and LATEX sizes. However, a class author may want to use unconventional sizes such as 9.5pt.

4.1 A new naming scheme

Here the problem occurs, how should a font with designsize of 9.5pt should be *uniquely* named. Of course, a completely general soulution to the problem, which is also compatible with the famous 8+3-restriction of some operating systems, cannot be given. For example, any scheme will fail to name dcr with a designsize of 3.14159 dd.

Let us make some reasonable assumptions: The designsize is given in usual TEX's points (1/72.27 inch), it is less then 100pt, and the accuracy is two trailing digits (the same level of accuracy is employed by plain TEX and LATEX). Under these circumstances, the designsize can be given by four digits, the canonical sizes are represented by 0500, 0600, 0700, 0800, 0900, 1000, 1095, 1200, 1440, 1728, 2074, and 2488. The largest possible design size would be 9999 or 99.99pt.

We are left with four (or less) letters for the specification of the font. Here we can resort to the scheme described by Knuth [5] which compressed the Computer Modern font names to six characters, two of them denoting the design size.[3]

With this scheme, the font name consists of the two letters 'dc', one or two letters denoting the weight and shape, and four digits giving the design size. Most font names are unchanged except for the new way of specifying the designsize. Some names

3. This scheme was given by the rule: "Take the first three character + the last three characters to get an unique font name".

which are contracted include `dcbi` < `dcbxti`, `dcsi` < `dcssi`, and `dcsq` < `dcssqi`. An irregularity occurs through `dcqi` < `dcssqi`.

4.2 Exploiting NFSS2

With the New Font Selection Scheme (NFSS2) of LaTeX2ε, it is in principle possible to load the dc fonts at arbitrary size without resorting to magnification.

To achieve this, the following is necessary: Test, if the `tfm` file for the requested size is already available. If not, isue a warning a write an entry to a file `missing.bat`. Proceed with a magnified font, but write a note to the terminal, that the missing font should be generated. This should be progammable in NFSS2, the main difficulty is testing the existence of the tfm file.

There are two possible methods, both having their drawbacks.

1. Actually try to load the font, but do this in `\batchmode` to skip the two errors that could occur. The difficulty is to switch back to the original interaction mode after this. The failure can be detected by looking at some fontdimension.
2. Softly open the tfm file with `\openin`. Here you need to specify the path, where the tfm file is to be searched, except your TeX implementation also searches TEXFONTS if you try to `\openin` a file. This needs an additional entry in the LaTeX2ε file `texsys.cfg`.

At the time this paper is written, no decision on the final algorithm has beeen made, nor does a test implementation exist.

5 Outlook and summary

5.1 Changes to the Cork encoding?

In past years, several people have suggested some changes to the Cork encoding to support one other language, which is currently not completely supported, and to take out one letter or some symbols currently in the Cork encoding. Language missed by just one letter include catalan, azeri, and sami.

On the other hand, the Cork encoding has now really caught on and has a growing user base. It is not only implemented in two METAFONT font families (dc fonts and Malvern fonts), but also in virtual fonts for many popular commercial faces. It has become the `T1` encoding of LaTeX2ε and is well documented in the LaTeX2ε literature [2]. Any change to the encoding would divide the user base. It would also slow down the completion of the dc fonts.

Therefore I suggest not to change the Cork encoding anymore. There are more font encodings (real or virtual) for latin fonts to come. Presently there are `T1`, the Cork encoding covering latin-1 and latin-2, and `T4`, the fc encoding for african latin. At least three more are needed, one for vietnamese which has plenty special letters, one covering

latin-3 and latin-6 (catalan, maltese, esperanto, baltic languages, sami)[4], one for celtic languages (welsh, irish gaelic, breton, scotish gaelic), and maybe a fourth one for native american languages.

5.2 Suggestions to ε-TEX

There are a few points, where an extension to the current TEX is suggested. The first point is the wish to switch between modern and oldstyle digits easily. At the moment, this can be done in math mode by just changing ten `\mathcodes`. However, in text mode one has either to tag each number or digit (including those generated by macros) explicitly as oldstyle, or to resort to virtual fonts, replacing the complete set of text fonts. Both solutions look very much like overkill to me, a decent `\textcode` command would be helpfull here.

Second, TEX can controll the space (both the extension and its stretch or shrink) by the help of the spacefactor. However, there is no mean to influence the space *before* a special character.

5.3 Promotion from DC to EC

The dc font should be promoted to the than fixed ec fonts as soon as possible, but not sooner as possible. As long as I am able to do, I'll stay the contact for bug fixes to the dc fonts. Hopefuly in about a year, we can see the advent of the ec fonts.

References

[1] J.S. Bień. *Polish texts in multilingual environments (a case study)*. Proceedings of the eigth european TEX conference, Gdańsk, Poland, September 1994.

[2] M. Goossens, F. Mittelbach, and A. Samarin. *The LATEX companion*. Addison-Wesley, Reading, Mass, 1994[1].

[3] B. Jackowski and Ryćko M. *Polishing TEX: From ready to use to handy to use*. Proceedings of the seventh european TEX conference, Prague, Czechoslovakia, September 1992.

[4] A. Jeffrey. *Building virtual fonts with* `fontinst`. File `bville.tex`, distributed with fontinst through the CTAN archives, 1994.

[5] D.E. Knuth. *Computers and Typesetting, Vol. E: The Computer Modern Fonts*. Addison-Wesley, Reading, Mass, 1986.

[6] D.E. Knuth. *Computers and Typesetting, Vol. A: The TEXbook*. Addison-Wesley, Reading, Mass, 1989[9].

[7] J. Zlatuška. *Automatic generation of virtual fonts with accented letters for TEX*. Proceedings of the sixth european TEX conference, Paris, France, September 1991.

4. To make an encoding covering these languages was proposed by Janusz Bień at Gdańsk 1994 [1].

Appendix A: The TS1 encoding

position (octal)	description
Accents for capital letters	
000	grave
001	acute
002	circumflex
003	tilde
004	umlaut
005	hungarian
006	ring
007	hachek
010	breve
011	macron
012	dot above
013	cedilla
014	ogonek
Miscellaneous	
015	base single straight quote
022	base double straight quotes
025	twelve u dash
026	three quarters emdash
030	left pointing arrow
031	right pointing arrow
040	blank symbol
044	dollar sign
047	straight quote
052	centered star
057	fraction
Oldstyle digits	
060	oldstyle digit 0
061	oldstyle digit 1
062	oldstyle digit 2
063	oldstyle digit 3
064	oldstyle digit 4
065	oldstyle digit 5
066	oldstyle digit 6
067	oldstyle digit 7
070	oldstyle digit 8
071	oldstyle digit 9
Miscellaneous	
115	mho sign
127	ohm sign
136	arrow up
137	arrow down
140	backtick (ASCII grave)
142	born
144	died
154	leaf
155	married
156	musical note
176	low tilde
177	short equals
TS1-symbols	
200	ASCII-style breve
201	ASCII-style hachek
202	double tick (ASCII double acute)
203	double backtick
204	dagger
205	ddager
206	double vert
207	per thousand
210	bullet
211	centigrade
212	dollaroldstyle
213	centoldstyle
214	florin
215	colon
216	won
217	naira
220	guarani
221	peso

222	lira
223	recipe
224	interrobang
225	gnaborretni
226	dong sign
227	trademark

Symbols from ISO-8859-1 (latin-1)

242	cent
243	sterling
244	currency sign
245	yen
246	broken vertical bar
247	section sign
250	high dieresis
251	copyright
252	feminine ordinal indicator
254	logical not
256	circled R
257	macron
260	degree sign
261	plus-minus sign
262	superscript 2
263	superscript 3
264	tick (ASCII-style acute)
265	micro sign
266	pilcrow sign
267	centered dot
271	superscript 1
272	masculine ordinal indicator
274	fraction one quarter
275	fraction one half
276	fraction three quarters
326	multiplication sign (times)
366	division sign

Appendix B: Font tables

Font table of tcr1000

The layout of the text companion font tcr1000. The table shows the shapes implemented on June 30, 1995. Some more characters will be added to the first release.

	′0	′1	′2	′3	′4	′5	′6	′7	
′00x	`	´	ˆ	˜	¨	˝	°	ˇ	"0x
′01x	˘	¯	˙	¸	˛	'			
′02x			"			—	—		"1x
′03x	←	→							
′04x	ƀ				$			'	"2x
′05x			*					/	
′06x	0	1	2	3	4	5	6	7	"3x
′07x	8	9							
′10x									"4x
′11x						Ʊ			
′12x								Ω	"5x
′13x							↑	↓	
′14x	`		⋆	o|o	†				"6x
′15x						ꝏ	♪		
′16x									"7x
′17x							~	=	
′20x	‿	˘	″	‴	†	‡	‖	‰	"8x
′21x	•		$	¢	f	₡			
′22x	₲		£						"9x
′23x									
′24x			¢	£	¤	¥	¦	§	"Ax
′25x	¨				¬			¯	
′26x		±			´	µ	¶	·	"Bx
′27x									
′32x							×		"Dx
′33x									
′36x							÷		"Fx
′37x									
	"8	"9	"A	"B	"C	"D	"E	"F	

Font table of dcr1000

This table shows the font dcr1000. The encoding is LaTeX2ε's `T1` encoding. The compound word mark in position *´027* is an invisible character of zero width.

	´0	*´1*	*´2*	*´3*	*´4*	*´5*	*´6*	*´7*	
´00x	`	´	^	~	¨	˝	°	ˇ	"0x
´01x	˘	¯	˙	¸	˛	,	‹	›	
´02x	“	”	„	«	»	–	—		"1x
´03x	ı	ȷ	ff	fi	fl	ffi	ffl		
´04x	␣	!	"	#	$	%	&	’	"2x
´05x	(	)	*	+	,	-	.	/	
´06x	0	1	2	3	4	5	6	7	"3x
´07x	8	9	:	;	<	=	>	?	
´10x	@	A	B	C	D	E	F	G	"4x
´11x	H	I	J	K	L	M	N	O	
´12x	P	Q	R	S	T	U	V	W	"5x
´13x	X	Y	Z	[	\	]	^	_	
´14x	‘	a	b	c	d	e	f	g	"6x
´15x	h	i	j	k	l	m	n	o	
´16x	p	q	r	s	t	u	v	w	"7x
´17x	x	y	z	{	|	}	~	-	
´20x	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	"8x
´21x	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	
´22x	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	"9x
´23x	Ÿ	Ź	Ž	Ż	IJ	İ	đ	§	
´24x	ă	ą	ć	č	ď	ě	ę	ğ	"Ax
´25x	Í	ľ	ł	ń	ň	ŋ	ő	ŕ	
´26x	ř	ś	š	ş	ť	ţ	ű	ů	"Bx
´27x	ÿ	ź	ž	ż	ij	¡	¿	£	
´30x	À	Á	Â	Ã	Ä	Å	Æ	Ç	"Cx
´31x	È	É	Ê	Ë	Ì	Í	Î	Ï	
´32x	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	"Dx
´33x	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	

′34x	à	á	â	ã	ä	å	æ	ç	"Ex
′35x	è	é	ê	ë	ì	í	î	ï	
′36x	ð	ñ	ò	ó	ô	õ	ö	œ	"Fx
′37x	ø	ù	ú	û	ü	ý	þ	`	
	"8	"9	"A	"B	"C	"D	"E	"F	

Font table of fcr1000

The aFrican Computer modern font fcr10. The fc encoding is now LaTeX2ε's T4 encoding.

	′0	′1	′2	′3	′4	′5	′6	′7	
′00x	`	´	ˆ	˜	¨	˝	°	ˇ	"0x
′01x	˘	¯	˙	¸	˛	,	‹	›	
′02x	“	”	„	«	»	–	—		"1x
′03x	ı	ȷ	ff	fi	fl	ffi	ffl		
′04x	␣	!	"	#	$	%	&	’	"2x
′05x	(	)	*	+	,	-	.	/	
′06x	0	1	2	3	4	5	6	7	"3x
′07x	8	9	:	;	<	=	>	?	
′10x	@	A	B	C	D	E	F	G	"4x
′11x	H	I	J	K	L	M	N	O	
′12x	P	Q	R	S	T	U	V	W	"5x
′13x	X	Y	Z	[	\	]	^	_	
′14x	‘	a	b	c	d	e	f	g	"6x
′15x	h	i	j	k	l	m	n	o	
′16x	p	q	r	s	t	u	v	w	"7x
′17x	x	y	z	{			}	~	-
′20x	Ƀ	Đ	Ɛ	Ǝ	Ƒ	Ğ	Ɣ	Ħ	"8x
′21x	Ƙ	Ɲ	Ɔ	Ń	Ʃ	Ŋ	Ʊ	Ƴ	
′22x	Ć	Ƥ	Š	Ṅ	Ṉ	Ṣ	Ʒ	Ŧ	"9x
′23x	Ė	Ẹ	Ʈ	Ƭ	ʩ	ʄ	đ	‟	
′24x	ɓ	ɗ	ɛ	ə	ʃ	ě	ɣ	ħ	"Ax
′25x	ƙ	ɲ	ɔ	ń	ʃ	ŋ	ʊ	ƴ	
′26x	ć	ƥ	š	ṅ	ṉ	ṣ	ʒ	ŧ	"Bx
′27x	ė	ẹ	ʈ	ƭ	″	¡	¿	’	

´30x	Ł	Į	Ɛ̃	Ã	Ḿ	Õ	Æ	Ç	"Cx
´31x	È	É	Ê	Ë	Ē	Ō	Ẽ	Ĩ	
´32x	Đ	Ñ	Ò	Ȯ	Ô	Õ	Ö	Œ	"Dx
´33x	Ø	Ọ	Ō	Ō	Ŏ	Ụ	Ũ	-	
´34x	ɩ	į	ɛ̃	ã	ḿ	ɔ̃	æ	ç	"Ex
´35x	è	é	ê	ë	ē	ō	ẽ	ĩ	
´36x	ḍ	ñ	ò	ȯ	ô	õ	ö	œ	"Fx
´37x	ø	ọ	ō	ō	ŏ	ụ	ũ	`	
	"8	"9	"A	"B	"C	"D	"E	"F	

Font table of wnrir10

The Washington Romanised Indic font wnrir10. It is designed for typesetting sanskrit and other indic languages in scientific transscription. It is available from the CTAN archives in `tex-archive/fonts/wnri`.

	´0	*´1*	*´2*	*´3*	*´4*	*´5*	*´6*	*´7*	
´00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
´01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
´02x	ı	ȷ	`	´	ˇ	˘	¯	˚	"1x
´03x	¸	ß	æ	œ	ø	Æ	Œ	Ø	
´04x	-	!	”	#	$	%	&	’	"2x
´05x	(	)	*	+	,	-	.	/	
´06x	0	1	2	3	4	5	6	7	"3x
´07x	8	9	:	;	¡	=	¿	?	
´10x	@	A	B	C	D	E	F	G	"4x
´11x	H	I	J	K	L	M	N	O	
´12x	P	Q	R	S	T	U	V	W	"5x
´13x	X	Y	Z	[	“	]	^	˙	
´14x	‘	a	b	c	d	e	f	g	"6x
´15x	h	i	j	k	l	m	n	o	
´16x	p	q	r	s	t	u	v	w	"7x
´17x	x	y	z	–	—	”	~	¨	
´20x	Ç	ü	é	ķ	ä	à	ġ	ç	"8x
´21x	ḫ	ë	è	ï	Ļ	ì	Ȧ	Ġ	
´22x	É	æ	Æ	Ķ	ö	ò	Ȧ	ù	"9x
´23x	Ŗ	Ö	Ü	ē	Ē	ō	Ō	ŗ	

´24x	á	í	ó	ú	ñ	Ñ	l̃	ṁ	"Ax
´25x	a̋	i̋	ű	ž	Ž	n̲	ḳ	Ḳ	
´26x	č	Č	š	ṛ	ṭ	á̠	à̠	í̠	"Bx
´27x	ì̠	D̲	S̲	T̲	Z̲	ú̠	ù̠	m̓	
´30x	ĕ	ŏ	ɣ	H̆	d̲	l̤	ŕ	r̀	"Cx
´31x	Ẏ	z̲	s̲	N̲	L̲	ẏ	R̲	r̋	
´32x	ã	ĩ	ũ	ẽ	õ	ĕ	ŏ	l̲	"Dx
´33x	ɣ̃	ȧ	ẓ	Š	ǰ	Ẓ	h̆	J̌	
´34x	ā	ß	Ā	ī	Ī	ū	Ū	ṛ	"Ex
´35x	Ṛ	r̄	R̄	l̤	L̤	Ī	L̤	ṅ	
´36x	Ṅ	ṭ	Ṭ	ḍ	Ḍ	ṇ	Ṇ	ś	"Fx
´37x	Ś	ṣ	Ṣ	√	ṃ	Ṃ	ḥ	Γ	
	"8	"9	"A	"B	"C	"D	"E	"F	

Font table of wnpsr10

The Washington Puget Salish font wnpsr10. It is designed for the typesetting of american indian languages. The layout is rather chaotic, because it mimics the layout of some older font. It is available from the CTAN archives in `tex-archive/fonts/wnri`.

	´0	´1	´2	´3	´4	´5	´6	´7	
´00x	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	"0x
´01x	Φ	Ψ	Ω	ff	fi	fl	ffi	ffl	
´02x	ı	ȷ	`	´	ˇ	˘	¯	°	"1x
´03x	¸	ß	æ	œ	ø	Æ	Œ	Ø	
´04x	˝	!	”	#	$	%	&	’	"2x
´05x	(	)	*	+	,	-	.	/	
´06x	0	1	2	3	4	5	6	7	"3x
´07x	8	9	:	;	¡	=	¿	?	
´10x	@	A	B	C	D	E	F	G	"4x
´11x	H	I	J	K	L	M	N	O	
´12x	P	Q	R	S	T	U	V	W	"5x
´13x	X	Y	Z	[	“	]	^	˙	
´14x	‘	a	b	c	d	e	f	g	"6x
´15x	h	i	j	k	l	m	n	o	
´16x	p	q	r	s	t	u	v	w	"7x
´17x	x	y	z	–	—	”	~	¨	

′20x							ƛ	Ƭ	″8x
′21x	ɛ́	è	ɛ̨	ɛ̨́	ɛ̀				
′22x		ạ̀	ẹ̀	ị̀	ọ̀	ụ̀	ẹ̀		″9x
′23x									
′24x		č	ď	ᶻ	ə	ǰ	ǩ	ľ	″Ax
′25x	ł	ǽ	ṁ	ṗ	q̇	š	ť	ẇ	
′26x	ʷ	x̌	ẏ	ł	ʔ	ʔ	ṅ	√	″Bx
′27x	x̣	·	ǯ	a̲	ċ	ŋ	ł	ķ	
′30x		Č	Ď	ᵊ	Ə	J̌	K̇	Ľ	″Cx
′31x	Ł	Ƭ	Ṁ	Ṗ	Q̇	Š	Ṫ	Ẇ	
′32x	ɔ	X̌	Ẏ	Ł	ʔ	ʕ	Ṅ	ɛ	″Dx
′33x	X̣	ɜ	Ǯ	A̲	Ċ	Ŋ	Ł	Ķ	
′34x	á	é	í	ó	ú	ǽ	à	è	″Ex
′35x	ì	ò	ù	ə	ą	ę	ị	ọ	
′36x	ụ	ẹ	ą́	ę́	ị́	ǫ́	ụ́	ẹ́	″Fx
′37x	Ą	Ę	Į	Ǫ	Ų	Ə	ʕ		
	″8	″9	″A	″B	″C	″D	″E	″F	