The TX Fonts*

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*Special thanks to those who reported problems of TX fonts and provided suggestions!

1 Introduction

The TX fonts consist of

1. virtual text roman fonts using Adobe Times (or URW NimbusRomNo9L) with some modified and additional text symbols in OT1, T1, TS1, and LY1 encodings
2. virtual text sans serif fonts using Adobe Helvetica (or URW NimbusSanL) with additional text symbols in OT1, T1, TS1, and LY1 encodings
3. monospaced typewriter fonts in OT1, T1, TS1, and LY1 encodings
4. math alphabets using Adobe Times (or URW NimbusRomNo9L) with modified metrics
5. math fonts of all symbols corresponding to those of Computer Modern math fonts (CMSY, CMMI, CMEX, and Greek letters of CMR)
6. math fonts of all symbols corresponding to those of AMS fonts (MSAM and MSBM)
7. additional math fonts of various symbols

All fonts are in the Type 1 format (in afm and pfb files). Necessary tfm and vf files together with LaTeX 2_ε package files and font map files for dvips are provided.

The TX fonts and related files are distributed without any guaranty or warranty. I do not assume responsibility for any actual or possible damages or losses, directly or indirectly caused by the distributed files. The TX fonts are distributed under the GNU public license (GPL). The fonts will be improved and additional glyphs will be added in the future.

2 Changes

1.0 (October 25, 2000) 1st public release

2.0 (November 2, 2000)

- An encoding error in txi and txbi ('$' "24) is fixed.
- Mistakes in symbol declarations for 'Å' and 'å' in txfonts.sty are fixed.
- λ ("15 of txmi and txbmi), λ ("6E of txsyc and txbsyc), and λ ("6F of txsyc and txbsyc) are updated to be more slanted.
- More symbols added in txexa and txbexa ("29–"2E) and in txsyc and txbsyc ("80–"94).
- Some fine tuning of a few glyphs.
- Math italic font metrics are improved.
- Text font metrics are improved.
- T1 and TS1 encodings are supported. (Not all TS1 encoding glyphs are implemented.)

2.1 (November 18, 2000)

- Complete implementation of TS1 encoding fonts.
- Various improvements of font metrics and font encodings. For instance, the bogus entry of char '27 in T1 encoding virtual font files are removed. (This bogus entry caused "warning char 23 replaced by ".notdef" with PDFTeX/PDFLaTeX.)

- Helvetica-based TX sans serif fonts in OT1, T1, and TS1 encodings.
- Monospaced TX typewriter fonts, which are thicker than Courier (and thus may look better with Times), in OT1, T1, and TS1 encodings.

2.2 (November 22, 2000)

- LY1 encoding support
- Monospaced typewriter fonts redone (Uppercase letters are tall enough to match with Times.)
- Various glyph and metric improvement

2.3 (December 6, 2000)

- Math extension fonts (radical symbols) updated
- Alternative blackboard bold letters ($\mathbb{A}\ldots\mathbb{Z}$ and $\Bbbk$) introduced. (Enter `$\varmathbb{...}$` and `$\varBbk$` to get them.)
- More large operators symbols
- Now `\lbag` ($\lbag$) and `\rbag` ($\rbag$) are delimiters.
- Alternative math alphabets g and y added

2.4 (December 12, 2000)

- An encoding mistake in text companion typewriter fonts fixed
- Bugs in LaTeX input files fixed

3.0 (December 14, 2000)

- Minor problem fixes.

3.1 (December 15, 2000)

- Alternative math alphabets v and w added
- Hopefully, this is the final release ...

3 A Problem: `DVIPS` Partial Font Downloading

It was reported that when `TX` fonts are partially downloaded with `dvips`, some HP Laserprinters (with Postscript) cannot print documents. To resolve this problem, turn the partial font downloading off. See the `dvips` document for various ways to turn off partial font downloading.

Even though one does observe such a problem, I would like to strongly recommend to turn off `dvips` partial font downloading.

4 Installation

Put all files in `afm`, `tfm`, `vf`, and `pfb` files in proper locations of your TEX system. For MikTEX, they may go

```
\localtexmf\fonts\afm\txr\
\localtexmf\fonts\tfm\txr\
\localtexmf\fonts\vf\txr\
\localtexmf\fonts\type1\txr\
```

The all files of the `input` directory must be placed where LATEX finds its package files. For MikTEX, they may go

```
\localtexmf\tex\latex\txr\
```

Put the `txr.map`, `txr1.map`, `txr2.map`, and `tx8r.enc`[1] files of the `dvips` directory in a proper place that `dvips` refers to. For MikTEX, they may go

```
\localtexmf\dvips\config\
```

Also add the reference to `txr.map` in the `dvips` configuration file (`config.ps`)

```
. . .
% Configuration of postscript type 1 fonts:
p psfonts.map
p +txr.map
. . .
```

and in the PDFTEX configuration file (`pdftex.cfg`)

```
. . .
% pdftex.map is set up by texmf/dvips/config/updmap
map pdftex.map
map +txr.map
. . .
```

(The `txr.map` file has only named references to the Adobe Times fonts; the `txr1.map` file makes `dvips` load Adobe Times font files; and the `txr2.map` file makes `dvips` load URW NimbusRomNo9L font files.)

5 Using the TX Fonts with LATEX

It is as simple as

```
\documentclass{article}
\usepackage{txfonts}
%\normalfont                    % Just in case ...
%\usepackage[T1]{fontenc}       % To use T1 encoding fonts
```

[1] The `tx8r.enc` file is identical to `8r.enc`. I included `tx8r.enc` because (1) some TEX installation might not have `8r.enc` and (2) including `8r.enc` would result in multiple copies of `8r.enc` for TEX systems that already have it.

```
%\usepackage[LY1]{fontenc}       % To use LY1 encoding fonts
%\usepackage{textcomp}           % To use text companion fonts

\begin{document}

This is a very short article.

\end{document}
```

The standard LaTeX distribution does not include files supporting the LY1 encoding. One needs at least `ly1enc.def`, which is available from both CTAN and Y&Y (`www.yandy.com`). At the time this document was written, CTAN had an old version (1997/03/21 v0.3); `ly1enc.def` available from Y&Y's downloads sites was dated on 1998/04/21 v0.4.

6 Additional Symbols in the TX Math Fonts

All CM symbols are included in the `TX` math fonts. In addition, the `TX` math fonts provide or modify the following symbols, including all of AMS and most of LaTeX symbols.

Binary Operator Symbols

○	\medcirc	●	\medbullet	⅋	\invamp
⍟	\circledwedge	⍱	\circledvee	⦶	\circledbar
⦸	\circledbslash	⊞	\nplus	⊠	\boxast
⧅	\boxbslash	⧈	\boxbar	⧄	\boxslash
≀	\Wr	⊞	\sqcupplus	⊞	\sqcapplus
▷	\rhd	◁	\lhd	⊵	\unrhd
⊴	\unlhd				

Binary Relation Symbols

⟻	\mappedfrom	⟻	\longmappedfrom	⊨	\Mapsto
⟹	\Longmapsto	⟸	\Mappedfrom	⟸	\Longmappedfrom
⊩	\mmapsto	⟼	\longmmapsto	⟻	\mmappedfrom
⟻	\longmmappedfrom	⊨	\Mmapsto	⟹	\Longmmapsto
⟸	\Mmappedfrom	⟸	\Longmmappedfrom	//	\varparallel
\\	\varparallelinv	∦	\nvarparallel	∦	\nvarparallelinv
:≈	\colonapprox	:~	\colonsim	::≈	\Colonapprox
::~	\Colonsim	≐	\doteq	⊶	\multimapinv
⊶	\multimapboth	⊸	\multimapdot	⊷	\multimapdotinv
⊷	\multimapdotboth	⊶	\multimapdotbothA	⊷	\multimapdotbothB
⊫	\VDash	⊫	\VvDash	≅	\cong

≦	\preceqq	≧	\succeqq	≴	\nprecsim
≵	\nsuccsim	≰	\nlesssim	≱	\ngtrsim
≶	\nlessapprox	≷	\ngtrapprox	⋠	\npreccurlyeq
⋡	\nsucccurlyeq	≸	\ngtrless	≵	\nlessgtr
≠	\nbumpeq	≠	\nBumpeq	≁	\nbacksim
≠	\nbacksimeq	≠	\neq, \ne	≁	\nasymp
≢	\nequiv	≁	\nsim	≉	\napprox
⊄	\nsubset	⊅	\nsupset	≪	\nll
≫	\ngg	≉	\nthickapprox	≋	\napproxeq
≶	\nprecapprox	≵	\nsuccapprox	≦	\npreceqq
≵	\nsucceqq	≠	\nsimeq	∉	\notin
∌	\notni, \notowns	⊄	\nSubset	⊅	\nSupset
⋤	\nsqsubseteq	⋥	\nsqsupseteq	:=	\coloneqq
=:	\eqqcolon	:−	\coloneq	−:	\eqcolon
::=	\Coloneqq	=::	\Eqqcolon	::−	\Coloneq
−::	\Eqcolon	⇁	\strictif	↾	\strictfi
↾⇁	\strictiff	⊖	\circledless	⊖	\circledgtr
⋉	\lJoin	⋊	\rJoin	⋈	\Join, \lrJoin
⋋	\openJoin	⋈	\lrtimes	×	\opentimes
⋢	\nsqsubset	⋣	\nsqsupset	⇠	\dashleftarrow
⇢	\dashrightarrow	⇿	\dashleftrightarrow	↜	\leftsquigarrow
↠	\ntwoheadrightarrow	↞	\ntwoheadleftarrow	↗	\Nearrow
↘	\Searrow	↖	\Nwarrow	↙	\Swarrow
⫫	\Perp	∼	\leadstoext	⇝	\leadsto
□→	\boxright	←□	\boxleft	⊡→	\boxdotright
←⊡	\boxdotleft	◇→	\Diamondright	←◇	\Diamondleft
⟐→	\Diamonddotright	←⟐	\Diamonddotleft	□⇒	\boxRight
⇐□	\boxLeft	⊡⇒	\boxdotRight	⇐⊡	\boxdotLeft
◇⇒	\DiamondRight	⇐◇	\DiamondLeft	⟐⇒	\DiamonddotRight
⇐⟐	\DiamonddotLeft	○→	\circleright	←○	\circleleft
⊙→	\circleddotright	←⊙	\circleddotleft	⧟	\multimapbothvert
⧺	\multimapdotbothvert	⧟	\multimapdotbothAvert	⧺	\multimapdotbothBvert

Ordinary Symbols

α	\alphaup	β	\betaup	γ	\gammaup
δ	\deltaup	ϵ	\epsilonup	ε	\varepsilonup
ζ	\zetaup	η	\etaup	θ	\thetaup
ϑ	\varthetaup	ι	\iotaup	κ	\kappaup

$\lambdaup$ \lambdaup	$\muup$ \muup	$\nuup$ \nuup
$\xiup$ \xiup	$\piup$ \piup	$\varpiup$ \varpiup
$\rhoup$ \rhoup	$\varrhoup$ \varrhoup	$\sigmaup$ \sigmaup
$\varsigmaup$ \varsigmaup	$\tauup$ \tauup	$\upsilonup$ \upsilonup
$\phiup$ \phiup	$\varphiup$ \varphiup	$\chiup$ \chiup
$\psiup$ \psiup	$\omegaup$ \omegaup	$\Diamond$ \Diamond
$\Diamonddot$ \Diamonddot	$\Diamondblack$ \Diamondblack	$\lambdaslash$ \lambdaslash
$\lambdabar$ \lambdabar	$\varclubsuit$ \varclubsuit	$\vardiamondsuit$ \vardiamondsuit
$\varheartsuit$ \varheartsuit	$\varspadesuit$ \varspadesuit	$\Top$ \Top
$\Bot$ \Bot		

Math Alphabets

g \varg v \varv w \varw y \vary

In order to replace math alphabets *g*, *v*, *w*, and *y* by these alternatives, use the `varg` option with the `txfonts` package:

```
\usepackage[varg]{txfonts}
```

Then, `$g$`, `$v$`, `$w$`, and `$y$` will produce these g, v, w, and y (instead of *g*, *v*, *w*, and *y*). Notice that v (the alternative *v*) is more clearly distingiushed from ν (the lowercase Greek nu). However, this is not without cost: it looks similar to υ (the lowercase Greek upsilon).

Large Operator Symbols

$\bignplus$ \bignplus	$\bigsqcupplus$ \bigsqcupplus	$\bigsqcapplus$ \bigsqcapplus
$\bigsqcap$ \bigsqcap	$\bigsqcap$ \bigsqcap	$\varprod$ \varprod
$\oiint$ \oiint	$\oiiint$ \oiiint	$\ointctrclockwise$ \ointctrclockwise
$\ointclockwise$ \ointclockwise	$\varointctrclockwise$ \varointctrclockwise	$\varointclockwise$ \varointclockwise
$\sqint$ \sqint	$\sqiintop$ \sqiintop	$\sqiiintop$ \sqiiintop
$\fint$ \fint	$\iint$ \iint	$\iiint$ \iiint
$\iiiint$ \iiiint	$\idotsint$ \idotsint	$\oiintctrclockwise$ \oiintctrclockwise
$\oiintclockwise$ \oiintclockwise	$\varoiintctrclockwise$ \varoiintctrclockwise	$\varoiintclockwise$ \varoiintclockwise
$\oiiintctrclockwise$ \oiiintctrclockwise	$\oiiintclockwise$ \oiiintclockwise	$\varoiiintctrclockwise$ \varoiiintctrclockwise
$\varoiiintclockwise$ \varoiiintclockwise		

Delimiters

⟦ \llbracket ⟧ \rrbracket ⦇ \lbag ⦈ \rbag

Miscellaneous

`$\mathfrak{...}$` produces $\mathfrak{A}\ldots\mathfrak{Z}$ and $\mathfrak{a}\ldots\mathfrak{z}$. `$\varmathbb{...}$` produces $\mathbb{A}\ldots\mathbb{Z}$ (lowercase letters only); `\varBbbk` produces $\mathbb{k}$. Note that the $\mathcal{AMS}$ math font command `$\mathbb{...}$` produces $\mathbb{A}\ldots\mathbb{Z}$; `\Bbbk` produces $\Bbbk$. If you find the alternative blackboard letters are better, then do

```
\let\mathbb=\varmathbb
\let\Bbbk=\varBbbk
```

7 Remarks

7.1 Some Font Design Issues

The Adobe Times fonts are thicker than the CM fonts. Designing math fonts for Times based on the rule thickness of Times '=', '−', '+', '/', '<', etc. would result in too thick math symbols, in my opinion.[2] In the TX fonts, these glyphs are thinner than those of original Times fonts. That is, the rule thickness of these glyphs is around 85% of that of the Times fonts, but still thicker than that of the CM fonts.

For negated relation symbols, the CM fonts composes relation symbols with the negation slash ("36 in CMSY). Even though the CM fonts were very carefully designed to look reasonable when negated relation symbols are composed (except '$\notin$' `\notin`, which is composed of '$\in$' and the normal slash '/'), the AMS font set includes many negated relation symbols, mainly because the vertical placement and height/depth of the negation slash are not optimal when composed with certain relation symbols, I guess. The TX fonts include the negation slash symbol ("36 in txsy), which could be composed with relation symbols to give reasonably looking negated related symbols. I believe, however, explicitly designed negated relation symbols are looking better than composed relation symbols. Thus, in addition to negated relation symbols matching those of the AMS fonts, many negated symbols such as '$\neq$' are introduced in the TX fonts.

Further, in order to maintain editing compatibility with vanilla LaTeX 2_ε typesetting, `\not` is redefined in `txfonts.sty` so that when `\not\XYZ` is processed, if `\notXYZ` or `\nXYZ` is defined, it will be used in place of `\not\XYZ`; otherwise, `\XYZ` is composed with the negation slash. For instance, '$\nprecsim$' is available as `\nprecsim` in the TX fonts. Thus, if `\not\precsim` is typed in the document, the `\nprecsim` symbol, instead of `\precsim` composed with the negation slash, is printed.

7.2 Times vs. Times New Roman

The recent version of Acrobat is shipped with Times New Roman instead of Times fonts. Times New Roman fonts' italic letters (e.g., '*A*') are substantially different from those of Times fonts. Thus, when documents with the TX fonts are processed with Acrobat, accents may not be correctly placed. If this

[2] I have designed many math symbols (corresponding to those in CMMI and CMSY) based on the rule thickness of original Times '=', etc. At that time, I noticed that the symbols, especially some bold math symbols, are extremely thick. Perhaps, in the future, I will complete all math symbols based on the rule thickness of original Times '=', etc. and release in public, so that users will judge whether they are acceptable or not ....

is a noticeable problem, use the NimbusRomNo9L fonts (included in the Ghostscript distribution) with the TX fonts through txr2.map.

7.3 PDFTEX/PDFLATEX and Standard Postscript Fonts

PDFTEX/PDFLATEX does not handle slanting of fonts not embedded in the document. Note, in the standard setup, PDFTEX/PDFLATEX does not embed the 14 standard Postscript fonts (Times × 4, Helvetica × 4, Courier × 4, Symbol, and ZapfDingbats). As the result, PDFTEX/PDFLATEX issues warning (and may try to generate and use bitmapped fonts for these fonts). If it is not desirable, a solution would be to use URW NimbusRomNo9L and NimbusSanL fonts which are an Adobe Times and Helvetica fonts clone. That is, in the PDFTEX/PDFLATEX configuration file (pdftex.cfg), put txr2.map instead of txr.map

```
. . .
% pdftex.map is set up by texmf/dvips/config/updmap
map pdftex.map
map +txr2.map
. . .
```

Be sure to properly install URW NimbusRomNo9L and NimbusSanL fonts (which are included in the Ghostscript distribution) in your texmf tree.

If you have Adobe Times and Helvetica font files, and want to embed them in your PDF document file, do the following trick to fool PDFTEX/PDFLATEX.

1. Copy txr1.map in the dvips configuration directory to txrpdf.map in the PDFTEX/PDFLATEX configuration directory.
2. Edit txrpdf.map and have

   ```
   rtxptmb "TeXBase1Encoding ReEncodeFont" <tx8r.enc <tib_____.pfb
   rtxptmbo ".167 SlantFont TeXBase1Encoding ReEncodeFont" <tx8r.enc <tib_____.pfb
   rtxptmbi "TeXBase1Encoding ReEncodeFont" <tx8r.enc <tibi____.pfb
   rtxptmr "TeXBase1Encoding ReEncodeFont" <tx8r.enc <tir_____.pfb
   rtxptmro ".167 SlantFont TeXBase1Encoding ReEncodeFont" <tx8r.enc <tir_____.pfb
   rtxptmri "TeXBase1Encoding ReEncodeFont" <tx8r.enc <tii_____.pfb
   . . .
   ```

   instead of

   ```
   rtxptmb Times-Bold "TeXBase1Encoding ReEncodeFont" <tx8r.enc <tib_____.pfb
   . . .
   . . .
   ```

   Note, the actual standard Postscript fonts names such as "Times-Bold" are removed. As the result, PDFTEX/PDFLATEX will embed these standard Postscript fonts and there will be no warning for slanting them.
3. Put txrpdf.map in the PDFTEX/PDFLATEX configuration file (pdftex.cfg).

   ```
   . . .
   % pdftex.map is set up by texmf/dvips/config/updmap
   map pdftex.map
   map +txrpdf.map
   . . .
   ```

7.4 Glyph Hinting

The hinting of the TX fonts is far from ideal. As a result, when documents with the TX fonts are *viewed* with Gsview (or Ghostview), you might notice some display quality problem. When they are *viewed* with Acrobat, they look much better. However, when they are *printed* in laser printers, there will be no quality problem. (Note, hinting is to improve display quality on low resolution devices such as display screens.)

7.5 Glyphs in Low Positions

It is known that Acrobat often does not properly handle CM font glyphs placed between `"00` and `"1F`. Thus, most Type 1 versions of CM fonts publicly available have these glyphs in higher positions above `"7F`. When the `-G` flag is used with `dvips`, those glyphs in low positions are shifted to higher positions. The TX text fonts have glyphs in the low positions between `"00` and `"1F`. As of now, these glyphs are not available in higher positions above `"7F`. Thus, when run `dvips`, do not use the `-G` flag (or remove `G` in the `dvips` configuration file). Especially, do not use `config.pdf`. In my computer systems, Acrobat correctly handles glyphs in low positions. However, if this known Acrobat problem occurs in other computer systems, I will modify the TX fonts so that glyphs in low positions are also available in higher positions.

8 Font Charts

The original Computer Modern (CM) text fonts (aka TEX text fonts) have the OT1 encoding. The OT1 TX text fonts follow the CM fonts' encoding as much as possible, but have some variations and additions:

- The position `"24` of text italic fonts has the dollar symbol (*$*), not the sterling symbol (£).
- The uppercase and lowercase lslash (Ł, ł) and aring (Å, å) letters are added.
- The cent (¢) and sterling (£) symbols are added.

The original CM text fonts have somewhat different encodings in CAP & SMALL CAP and `typewriter` fonts. TX fonts corresponding to them have the original CM encodings, not the strict OT1 encoding.

The T1 encoding text fonts (known as EC fonts) are designed to replace the CM text fonts in the OT1 encoding. The LY1 encoding is another text font encoding, which is based on both TEX and ANSI encodings. Both T1 and LY1 encoding fonts are especially useful to typeset European languages with proper hyphenation. The TS1 encoding text companion fonts (known as TC fonts) have additional text symbols. All corresponding TX fonts are implemented.

The Computer Modern (CM) math fonts (aka TEX math fonts) consist of three fonts: math italic (CMMI), math symbols (CMSY), and math extension (CMEX). The American Mathematical Society provided two additional math symbol fonts (MSAM and MSBM). The TX math fonts include those exactly corresponding to them. In addition, the TX math fonts include math italic A, math symbols C, and math extension A fonts.

8.1 OT1 (CM) Encoding Text Fonts

These fonts' encodings are identical to those of corresponding CM fonts, except 6 additional glyphs.

Text Roman Upright – `txr`

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

Text Roman Italic – `txi`

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

Text Roman Slanted – `txsl`

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

TEXT ROMAN CAP & SMALL CAP – txsc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Θ	Δ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	↑	↓	'	¡	¿	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	¸	ß	Æ	Œ	ø	Æ	Œ	Ø	1
2	´	!	”	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	“	]	ˆ	˙	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	–	—	˝	˜	¨	7
8											Ł						8
A			¢	£							ł						A
C						Å											C
E						å											E
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Upright – txss

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

Text Sans Serif Slanted – txsssl

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

Text Sans Serif Cap & Small Cap – txsssc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	↑	↓	'	¡	¿	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	¸	ss	Æ	œ	ø	Æ	Œ	Ø	1
2	´	!	”	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	“	]	ˆ	˙	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	–	—	˝	˜	¨	7
8											Ł						8
A			¢	£							ł						A
C						Å											C
E						å											E
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Upright – txtt

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	↑	↓	'	¡	¿	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	¸	ß	æ	œ	ø	Æ	Œ	Ø	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	ˆ	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	˜	¨	7
8											Ł						8
A			¢	£							ł						A
C						Å											C
E						å											E
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Slanted – txttsl

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	*Γ*	*Δ*	*Θ*	*Λ*	*Ξ*	*Π*	*Σ*	*Υ*	*Φ*	*Ψ*	*Ω*	↑	↓	'	¡	¿	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	¸	ß	æ	œ	ø	Æ	Œ	Ø	1
2	␣	*!*	*"*	*#*	*$*	*%*	*&*	*’*	*(*	*)*	***	*+*	*,*	*-*	*.*	*/*	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*:*	*;*	*<*	*=*	*>*	*?*	3
4	*@*	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	**	*]*	*^*	*_*	5
6	*‘*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	*|*	*}*	*~*	*¨*	7
8											Ł						8
A			¢	£							ł						A
C						Å											C
E						å											E
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Cap & Small Cap – txttsc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	↑	↓	'	¡	¿	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	¸	ss	æ	œ	ø	Æ	Œ	Ø	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8											Ł						8
A			¢	£							ł						A
C						Å											C
E						å											E
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

8.2 T1 (EC) Cork Encoding Text Fonts

These fonts’ encodings are identical to those of corresponding EC fonts.

Text Roman Upright – `t1xr`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	·	¸	˛	,	‹	›	0
1	“	”	„	«	»	–	—		*o*	ı	ȷ	ff	fi	fl	ffi	ffl	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ð	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	IJ	İ	đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	ĺ	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ij	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ß	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Roman Italic – `t1xi`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	·	¸	˛	,	‹	›	0
1	“	”	„	«	»	–	—		*o*	ı	ȷ	*ff*	*fi*	*fl*	*ffi*	*ffl*	1
2	␣	*!*	*"*	*#*	*$*	*%*	*&*	’	*(*	*)*	*	+	,	-	.	/	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	:	;	<	=	>	*?*	3
4	@	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	\	*]*	^	_	5
6	‘	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	|	*}*	~	-	7
8	*Ă*	*Ą*	*Ć*	*Č*	*Ď*	*Ě*	*Ę*	*Ğ*	*Ĺ*	*Ľ*	*Ł*	*Ń*	*Ň*	*Ð*	*Ő*	*Ŕ*	8
9	*Ř*	*Ś*	*Š*	*Ş*	*Ť*	*Ţ*	*Ű*	*Ů*	*Ÿ*	*Ź*	*Ž*	*Ż*	*IJ*	*İ*	*đ*	*§*	9
A	*ă*	*ą*	*ć*	*č*	*ď*	*ě*	*ę*	*ğ*	*ĺ*	*ľ*	*ł*	*ń*	*ň*	*ŋ*	*ő*	*ŕ*	A
B	*ř*	*ś*	*š*	*ş*	*ť*	*ţ*	*ű*	*ů*	*ÿ*	*ź*	*ž*	*ż*	*ij*	*¡*	*¿*	£	B
C	*À*	*Á*	*Â*	*Ã*	*Ä*	*Å*	*Æ*	*Ç*	*È*	*É*	*Ê*	*Ë*	*Ì*	*Í*	*Î*	*Ï*	C
D	*Đ*	*Ñ*	*Ò*	*Ó*	*Ô*	*Õ*	*Ö*	*Œ*	*Ø*	*Ù*	*Ú*	*Û*	*Ü*	*Ý*	*Þ*	*SS*	D
E	*à*	*á*	*â*	*ã*	*ä*	*å*	*æ*	*ç*	*è*	*é*	*ê*	*ë*	*ì*	*í*	*î*	*ï*	E
F	*ð*	*ñ*	*ò*	*ó*	*ô*	*õ*	*ö*	*œ*	*ø*	*ù*	*ú*	*û*	*ü*	*ý*	*þ*	*ß*	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Roman Slanted – `t1xsl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	·	¸	˛	,	‹	›	0
1	“	”	„	«	»	–	—		*o*	*ı*	*j*	*ff*	*fi*	*fl*	*ffi*	*ffl*	1
2	␣	*!*	*"*	*#*	*$*	*%*	*&*	*’*	*(*	*)*	***	*+*	*,*	*-*	*.*	*/*	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*:*	*;*	*<*	*=*	*>*	*?*	3
4	*@*	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	**	*]*	*^*	*_*	5
6	*‘*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	*|*	*}*	*~*	*-*	7
8	*Ă*	*Ą*	*Ć*	*Č*	*Ď*	*Ě*	*Ę*	*Ğ*	*Ĺ*	*Ľ*	*Ł*	*Ń*	*Ň*	*Ŋ*	*Ő*	*Ŕ*	8
9	*Ř*	*Ś*	*Š*	*Ş*	*Ť*	*Ţ*	*Ű*	*Ů*	*Ÿ*	*Ź*	*Ž*	*Ż*	*IJ*	*İ*	*đ*	*§*	9
A	*ă*	*ą*	*ć*	*č*	*ď*	*ě*	*ę*	*ğ*	*ĺ*	*ľ*	*ł*	*ń*	*ň*	*ŋ*	*ő*	*ŕ*	A
B	*ř*	*ś*	*š*	*ş*	*ť*	*ţ*	*ű*	*ů*	*ÿ*	*ź*	*ž*	*ż*	*ij*	*¡*	*¿*	*£*	B
C	*À*	*Á*	*Â*	*Ã*	*Ä*	*Å*	*Æ*	*Ç*	*È*	*É*	*Ê*	*Ë*	*Ì*	*Í*	*Î*	*Ï*	C
D	*Đ*	*Ñ*	*Ò*	*Ó*	*Ô*	*Õ*	*Ö*	*Œ*	*Ø*	*Ù*	*Ú*	*Û*	*Ü*	*Ý*	*Þ*	*SS*	D
E	*à*	*á*	*â*	*ã*	*ä*	*å*	*æ*	*ç*	*è*	*é*	*ê*	*ë*	*ì*	*í*	*î*	*ï*	E
F	*ð*	*ñ*	*ò*	*ó*	*ô*	*õ*	*ö*	*œ*	*ø*	*ù*	*ú*	*û*	*ü*	*ý*	*þ*	*ß*	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

TEXT ROMAN CAP & SMALL CAP – `t1xsc`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	·	¸	˛	,	‹	›	0
1	“	”	„	«	»	–	—		*o*	I	J	FF	FI	FL	FFI	FFL	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	IJ	İ	Đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	ĺ	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ij	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	đ	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ss	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Upright – `t1xss`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	’	‹	›	0
1	“	”	„	«	»	–	—		˛	ı	ȷ	ff	fi	fl	ffi	ffl	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	IJ	¡	đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	í	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ij	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ß	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Slanted – `t1xsssl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	’	‹	›	0
1	“	”	„	«	»	–	—		˛	ı	ȷ	*ff*	*fi*	*fl*	*ffi*	*ffl*	1
2	␣	*!*	"	#	*$*	*%*	*&*	’	*(*	*)*	*	*+*	*,*	*-*	*.*	*/*	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*:*	*;*	<	=	>	*?*	3
4	@	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	\	*]*	^	_	5
6	‘	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	*|*	*}*	~	-	7
8	*Ă*	*Ą*	*Ć*	*Č*	*Ď*	*Ě*	*Ę*	*Ğ*	*Ĺ*	*Ľ*	*Ł*	*Ń*	*Ň*	*Ŋ*	*Ő*	*Ŕ*	8
9	*Ř*	*Ś*	*Š*	*Ş*	*Ť*	*Ţ*	*Ű*	*Ů*	*Ÿ*	*Ź*	*Ž*	*Ż*	*IJ*	*¡*	*đ*	*§*	9
A	*ă*	*ą*	*ć*	*č*	*ď*	*ě*	*ę*	*ğ*	*í*	*ľ*	*ł*	*ń*	*ň*	*ŋ*	*ő*	*ŕ*	A
B	*ř*	*ś*	*š*	*ş*	*ť*	*ţ*	*ű*	*ů*	*ÿ*	*ź*	*ž*	*ż*	*ij*	*¡*	¿	£	B
C	*À*	*Á*	*Â*	*Ã*	*Ä*	*Å*	*Æ*	*Ç*	*È*	*É*	*Ê*	*Ë*	*Ì*	*Í*	*Î*	*Ï*	C
D	*Đ*	*Ñ*	*Ò*	*Ó*	*Ô*	*Õ*	*Ö*	*Œ*	*Ø*	*Ù*	*Ú*	*Û*	*Ü*	*Ý*	*Þ*	*SS*	D
E	*à*	*á*	*â*	*ã*	*ä*	*å*	*æ*	*ç*	*è*	*é*	*ê*	*ë*	*ì*	*í*	*î*	*ï*	E
F	*ð*	*ñ*	*ò*	*ó*	*ô*	*õ*	*ö*	*œ*	*ø*	*ù*	*ú*	*û*	*ü*	*ý*	*þ*	*ß*	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Cap & Small Cap – t1xsssc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	’	‹	›	0
1	“	”	„	«	»	–	—		ı	ȷ	ff	fi	fl	ffi	ffl		1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	IJ	İ	Đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	ĺ	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ij	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ss	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Upright – t1xtt

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	’	‹	›	0
1	“	”	„	«	»	-	-		ı	ȷ	ff	fi	fl	ffi	ffl		1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	IJ	İ	đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	ĺ	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ij	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ß	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Slanted – t1xttsl

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	‚	‹	›	0
1	“	”	„	«	»	–	–		ı	ȷ	ff	fi	fl	ffi	ffl		1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	Ĳ	İ	đ	§	9
A	ă	ą	ć	č	ď	ě	ę	ğ	ĺ	ľ	ł	ń	ň	ŋ	ő	ŕ	A
B	ř	ś	š	ş	ť	ţ	ű	ů	ÿ	ź	ž	ż	ĳ	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	œ	ø	ù	ú	û	ü	ý	þ	ß	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Cap & Small Cap – t1xttsc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	˚	ˇ	˘	¯	·	¸	‚	‚	‹	›	0
1	“	”	„	«	»	–	–		ı	I	J	FF	FI	FL	FFI	FFL	1
2	␣	!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	{	|	}	~	-	7
8	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	8
9	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	Ĳ	İ	Đ	§	9
A	Ă	Ą	Ć	Č	Ď	Ě	Ę	Ğ	Ĺ	Ľ	Ł	Ń	Ň	Ŋ	Ő	Ŕ	A
B	Ř	Ś	Š	Ş	Ť	Ţ	Ű	Ů	Ÿ	Ź	Ž	Ż	Ĳ	¡	¿	£	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	SS	D
E	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	E
F	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	Œ	Ø	Ù	Ú	Û	Ü	Ý	Þ	ss	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

8.3 LY1 TEX and ANSI Encoding Text Fonts

Text Roman Upright – `tyxr`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	·	˝	¸	fl			ff	fi		ffi	ffl	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	˛	ß	æ	œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8	Ł	'	‚	*f*	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	ł	‘	’	“	”	•	–	—	~	™	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	2	3	´	µ	¶	·	¸	1	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Đ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Roman Italic – `tyxi`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	·	˝	¸	*fl*			*ff*	*fi*		*ffi*	*ffl*	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	˛	*ß*	*æ*	*œ*	*ø*	*Æ*	*Œ*	*Ø*	1
2		*!*	*"*	*#*	*$*	*%*	*&*	*’*	*(*	*)*	*	+	,	-	.	/	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*:*	*;*	<	=	>	*?*	3
4	@	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	\	*]*	^	_	5
6	‘	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	|	*}*	~	¨	7
8	*Ł*	*'*	‚	*f*	„	…	*†*	*‡*	ˆ	‰	*Š*	‹	*Œ*	*Ž*	^	–	8
9	*ł*	‘	’	“	”	•	–	—	~	™	*š*	›	*œ*	*ž*	~	*Ÿ*	9
A		*¡*	*¢*	*£*	*¤*	*¥*	*¦*	*§*	¨	©	*ª*	«	¬	-	®	¯	A
B	°	±	*2*	*3*	´	*µ*	*¶*	·	¸	*1*	*º*	»	*¼*	*½*	*¾*	*¿*	B
C	*À*	*Á*	*Â*	*Ã*	*Ä*	*Å*	*Æ*	*Ç*	*È*	*É*	*Ê*	*Ë*	*Ì*	*Í*	*Î*	*Ï*	C
D	*Đ*	*Ñ*	*Ò*	*Ó*	*Ô*	*Õ*	*Ö*	×	*Ø*	*Ù*	*Ú*	*Û*	*Ü*	*Ý*	*Þ*	*ß*	D
E	*à*	*á*	*â*	*ã*	*ä*	*å*	*æ*	*ç*	*è*	*é*	*ê*	*ë*	*ì*	*í*	*î*	*ï*	E
F	*ð*	*ñ*	*ò*	*ó*	*ô*	*õ*	*ö*	÷	*ø*	*ù*	*ú*	*û*	*ü*	*ý*	*þ*	*ÿ*	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Roman Slanted – `tyxsl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			⁄	˙	˝	¸	ﬂ			ﬀ	ﬁ		ﬃ	ﬄ	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	˛	ß	æ	œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8	Ł	'	,	ƒ	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	ł	‘	’	“	”	•	–	—	~	™	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

TEXT ROMAN CAP & SMALL CAP – `tyxsc`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			⁄	˙	˝	¸	FL			FF	FI		FFI	FFL	0
1	I	J	`	´	ˇ	˘	¯	°	˛	SS	Æ	Œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	{	|	}	~	¨	7
8	Ł	'	,	ƒ	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	Ł	‘	’	“	”	•	–	—	~	™	š	›	Œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ss	D
E	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	E
F	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	÷	ø	Ù	Ú	Û	Ü	Ý	Þ	Ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Upright – `tyxss`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			⁄	˙	˝	¸	fl			ff	fi		ffi	ffl	0
1	ı	ȷ	`	´	ˇ	˘	¯	˚	˛	ß	æ	œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8	Ł	'	‚	ƒ	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	ł	‘	’	“	”	•	–	—	˜	™	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Sans Serif Slanted – `tyxsssl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			⁄	˙	˝	¸	*fl*			*ff*	*fi*		*ffi*	*ffl*	0
1	ı	ȷ	`	´	ˇ	˘	¯	˚	˛	*ß*	*æ*	*œ*	*ø*	*Æ*	*Œ*	*Ø*	1
2		*!*	*"*	*#*	*$*	*%*	*&*	*’*	*(*	*)*	*	*+*	,	-	.	/	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*:*	*;*	<	=	>	*?*	3
4	*@*	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	4
5	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*	*[*	\	*]*	^	_	5
6	‘	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	6
7	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*{*	*|*	*}*	~	¨	7
8	Ł	'	‚	*ƒ*	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	*ł*	‘	’	“	”	•	–	—	˜	™	š	›	*œ*	*ž*	~	Ÿ	9
A		*¡*	*¢*	£	*¤*	¥	*¦*	*§*	¨	©	ª	«	¬	-	®	¯	A
B	°	±	*²*	*³*	´	*µ*	¶	·	¸	*¹*	º	»	¼	½	¾	*¿*	B
C	*À*	*Á*	*Â*	*Ã*	*Ä*	*Å*	*Æ*	*Ç*	*È*	*É*	*Ê*	*Ë*	*Ì*	*Í*	*Î*	*Ï*	C
D	Ð	*Ñ*	*Ò*	*Ó*	*Ô*	*Õ*	*Ö*	×	*Ø*	*Ù*	*Ú*	*Û*	*Ü*	*Ý*	Þ	*ß*	D
E	*à*	*á*	*â*	*ã*	*ä*	*å*	*æ*	*ç*	*è*	*é*	*ê*	*ë*	*ì*	*í*	*î*	*ï*	E
F	*ð*	*ñ*	*ò*	*ó*	*ô*	*õ*	*ö*	÷	*ø*	*ù*	*ú*	*û*	*ü*	*ý*	*þ*	*ÿ*	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

TEXT SANS SERIF CAP & SMALL CAP – tyxsssc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	·	˝	¸	FL			FF	FI		FFI	FFL	0
1	ı	ȷ	`	´	ˇ	˘	¯	˚	˛	SS	Æ	Œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	{	|	}	~	¨	7
8	Ł	'	,	*f*	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	–	8
9	ł	‘	’	“	”	•	–	—	˜	TM	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	2	3	´	µ	¶	·	¸	1	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ss	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Upright – tyxtt

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	·	˝	¸	fl			ff	fi		ffi	ffl	0
1	ı	ȷ	`	´	ˇ	˘	¯	˚	˛	ß	æ	œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8	Ł	'	,	*f*	„	...	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	-	8
9	ł	‘	’	“	”	•	-	-	˜	TM	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	2	3	´	µ	¶	·	¸	1	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Slanted – tyxttsl

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	˙	˝	¸	*fl*			*ff*	*fi*		*ffi*	*ffl*	0
1	ı	ȷ	`	´	ˇ	˘	¯	°	˛	ß	æ	œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	¨	7
8	Ł	'	,	ƒ	„	...	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	-	8
9	ł	‘	’	“	”	•	–	—	˜	™	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	D
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	E
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Typewriter Cap & Small Cap – tyxttsc

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0		€			/	˙	˝	¸	FL			FF	FI		FFI	FFL	0
1	I	J	`	´	ˇ	˘	¯	°	˛	SS	Æ	Œ	ø	Æ	Œ	Ø	1
2		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/	2
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	3
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	5
6	‘	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	6
7	P	Q	R	S	T	U	V	W	X	Y	Z	{	|	}	~	¨	7
8	Ł	'	,	ƒ	„	...	†	‡	ˆ	‰	Š	‹	Œ	Ž	^	-	8
9	Ł	‘	’	“	”	•	–	—	˜	™	š	›	œ	ž	~	Ÿ	9
A		¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	A
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿	B
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	C
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ss	D
E	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï	E
F	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	÷	ø	Ù	Ú	Û	Ü	Ý	Þ	Ÿ	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

8.4 TS1 (TC) Encoding Text Companion Fonts

These fonts' encodings are identical to those of corresponding TC fonts.

Text Companion Roman Upright – `tcxr`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	˛	'			0
1			"			–	—		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	−	⟩		3
4														Ʊ		◯	4
5								Ω				‖		‖	↑	↓	5
6	`		★	o|o	†									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	†	‡	‖	‰	•	°C	$	¢	ƒ	₵	₩	₦	8
9	₲	₱	£	R	‽	¡	₫	™	‰	¶	฿	№	℅	e	○	SM	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	⅋	¬	Ⓟ	®	¯	A
B	°	±	2	3	´	µ	¶	·	※	1	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Roman Italic – `tcxi`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	˛	'			0
1			"			–	—		←	→	‿	‿	‿	‿			1
2	*ƀ*				*$*			*'*			*		,	=	.	/	2
3	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*			⟨	−	⟩		3
4														*Ʊ*		◯	4
5								*Ω*				*‖*		*‖*	↑	↓	5
6	`		★	*o|o*	*†*									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	*†*	*‡*	‖	‰	•	*°C*	*$*	*¢*	*ƒ*	*₵*	₩	₦	8
9	*₲*	*₱*	*£*	*R*	*‽*	*¡*	*₫*	™	‰	*¶*	*฿*	*№*	*℅*	*e*	○	SM	9
A	*{*	*}*	*¢*	*£*	*¤*	*¥*	*¦*	*§*	¨	*©*	*ª*	*⅋*	¬	Ⓟ	®	¯	A
B	°	±	*2*	*3*	´	*µ*	*¶*	·	※	*1*	*º*	√	*¼*	*½*	*¾*	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Roman Slanted – `tcxsl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	˛	ˈ			0
1			"			—	—		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	−	⟩		3
4														Ʊ		◯	4
5								Ω				‖		‖	↑	↓	5
6	`		★	o|o	†									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	†	‡	‖	‰	•	°C	$	¢	ƒ	₵	₩	₦	8
9	₲	₱	£	₹	?	¿	₫	™	‰	ʃ	฿	№	℅	e	o	SM	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	ⓒ	¬	Ⓟ	Ⓡ	¯	A
B	°	±	2	3	´	µ	¶	·	※	1	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Sans Serif Upright – `tcxss`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	˛	ˈ			0
1			"			—	—		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	−	⟩		3
4														Ʊ		◯	4
5								Ω				‖		‖	↑	↓	5
6	`		★	o|o	†									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	†	‡	‖	‰	•	°C	$	¢	ƒ	₵	₩	₦	8
9	₲	₱	£	₹	?	¿	₫	™	‰	¶	฿	№	℅	e	o	SM	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	ⓒ	¬	Ⓟ	Ⓡ	¯	A
B	°	±	2	3	´	µ	¶	·	※	1	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Sans Serif Slanted – `tcxsssl`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	‹	'			0
1			"			—	—		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	−	⟩		3
4														Ʊ		◯	4
5								Ω				⟦		⟧	↑	↓	5
6	`		★	o/o	†									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	†	‡	‖	‰	•	℃	$	¢	ƒ	₵	₩	₦	8
9	₲	₱	£	₨	?	¿	₫	™	‰	¶	฿	№	℅	℮	○	℠	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	ⓞ	¬	Ⓟ	Ⓡ	¯	A
B	°	±	2	3	´	µ	¶	·	※	1	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Typewriter Upright – `tcxtt`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	‹	'			0
1			"			-	-		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	-	⟩		3
4														Ʊ		O	4
5								Ω				⟦		⟧	↑	↓	5
6	`		★	o/o	†									⚭	♪		6
7															~	=	7
8	˘	ˇ	˝	ˋ	†	‡	‖	‰	•	℃	$	¢	ƒ	₵	₩	₦	8
9	₲	₱	£	R	?	¿	₫	™	‰	¶	฿	№	℅	℮	○	℠	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	ⓞ	¬	Ⓟ	Ⓡ	¯	A
B	°	±	2	3	´	µ	¶	·	※	1	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Text Companion Typewriter Slanted – tcxttsl

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	`	´	ˆ	˜	¨	˝	°	ˇ	˘	¯	˙	¸	‘	’			0
1			"			–	–		←	→	‿	‿	‿	‿			1
2	ƀ				$			'			*		,	=	.	/	2
3	0	1	2	3	4	5	6	7	8	9			⟨	-	⟩		3
4														Ʊ		O	4
5								Ω				⟦		⟧	↑	↓	5
6	`		⋆	o/o	†									∞	♪		6
7															~	=	7
8	˘	ˇ	˝	˛	†	‡	‖	‰	•	℃	$	¢	£	¢	₩	₦	8
9	₲	₽	£	₹	?	¿	₫	™	‰	¶	฿	№	℅	e	∘	℠	9
A	{	}	¢	£	¤	¥	¦	§	¨	©	ª	⅋	¬	℗	®	¯	A
B	°	±	²	³	´	μ	¶	·	※	¹	º	√	¼	½	¾	€	B
D							×										D
F							÷										F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

8.5 Math Fonts

These fonts' encodings are identical to those of corresponding CM and AMS Math fonts. Additional math fonts are provided.

Math Italic (Corresponding to CMMI) – txmi

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	α	β	γ	δ	ϵ	0
1	ζ	η	θ	ι	κ	λ	μ	ν	ξ	π	ρ	σ	τ	υ	ϕ	χ	1
2	ψ	ω	ε	ϑ	ϖ	ϱ	ς	φ	↼	↽	⇀	⇁	˂	˃	▹	◃	2
3	0	1	2	3	4	5	6	7	8	9	.	,	<	/	>	⋆	3
4	∂	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	♭	♮	♯	⌢	⌣	5
6	ℓ	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	ı	ȷ	℘	→	⌢	7
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Math Italic (Corresponding to CMMI) used with the varg option – txmi1

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	α	β	γ	δ	ϵ	0
1	ζ	η	θ	ι	κ	λ	μ	ν	ξ	π	ρ	σ	τ	υ	ϕ	χ	1
2	ψ	ω	ε	ϑ	ϖ	ϱ	ς	φ	↼	↽	⇀	⇁	˂	˃	▹	◃	2
3	0	1	2	3	4	5	6	7	8	9	.	,	<	/	>	⋆	3
4	∂	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	4
5	P	Q	R	S	T	U	V	W	X	Y	Z	♭	♮	♯	⌢	⌣	5
6	ℓ	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	6
7	p	q	r	s	t	u	v	w	x	y	z	ı	ȷ	℘	→	⌢	7
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

Math Italic A – `txmia`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Γ	Δ	Θ	Λ	Ξ	Π	Σ	Υ	Φ	Ψ	Ω	α	β	γ	δ	ϵ	0
1	ζ	η	θ	ι	κ	λ	μ	ν	ξ	π	ρ	σ	τ	υ	ϕ	χ	1
2	ψ	ω	ε	ϑ	ϖ	ϱ	ς	φ									2
3		*g*	*y*	*v*	*w*												3
4		𝔄	𝔅	ℭ	𝔇	𝔈	𝔉	𝔊	ℌ	ℑ	𝔍	𝔎	𝔏	𝔐	𝔑	𝔒	4
5	𝔓	𝔔	ℜ	𝔖	𝔗	𝔘	𝔙	𝔚	𝔛	𝔜	ℨ						5
6		𝔞	𝔟	𝔠	𝔡	𝔢	𝔣	𝔤	𝔥	𝔦	𝔧	𝔨	𝔩	𝔪	𝔫	𝔬	6
7	𝔭	𝔮	𝔯	𝔰	𝔱	𝔲	𝔳	𝔴	𝔵	𝔶	𝔷					̂	7
8		𝔸	𝔹	ℂ	𝔻	𝔼	𝔽	𝔾	ℍ	𝕀	𝕁	𝕂	𝕃	𝕄	ℕ	𝕆	8
9	ℙ	ℚ	ℝ	𝕊	𝕋	𝕌	𝕍	𝕎	𝕏	𝕐	ℤ						9
A												𝕜					A
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

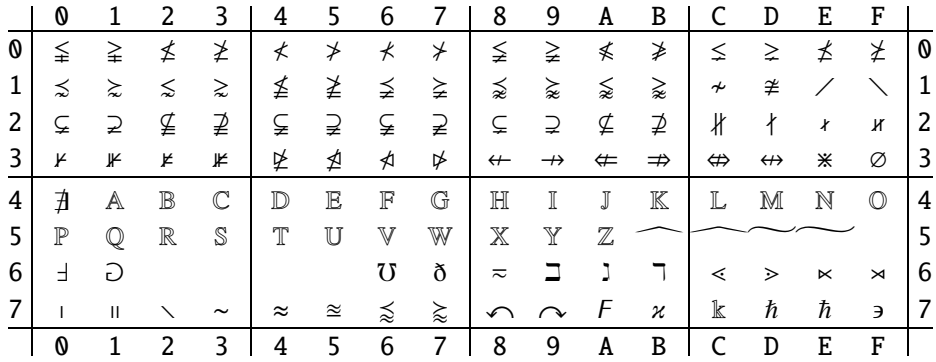
Math Symbols (Corresponding to CMSY) – `txsy`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	−	·	×	∗	÷	◇	±	∓	⊕	⊖	⊗	⊘	⊙	◯	∘	•	0
1	≍	≡	⊆	⊇	≤	≥	≼	≽	∼	≈	⊂	⊃	≪	≫	≺	≻	1
2	←	→	↑	↓	↔	↗	↘	≃	⇐	⇒	⇑	⇓	⇔	↖	↙	∝	2
3	′	∞	∈	∋	△	▽	/	∤	∀	∃	¬	∅	ℜ	ℑ	⊤	⊥	3
4	ℵ	𝒜	ℬ	𝒞	𝒟	ℰ	ℱ	𝒢	ℋ	ℐ	𝒥	𝒦	ℒ	ℳ	𝒩	𝒪	4
5	𝒫	𝒬	ℛ	𝒮	𝒯	𝒰	𝒱	𝒲	𝒳	𝒴	𝒵	∪	∩	⊎	∧	∨	5
6	⊢	⊣	⌊	⌋	⌈	⌉	{	}	⟨	⟩	|	∥	↕	⇕	\	≀	6
7	√	⨿	∇	∫	⊔	⊓	⊑	⊒	§	†	‡	¶	♣	♢	♡	♠	7
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

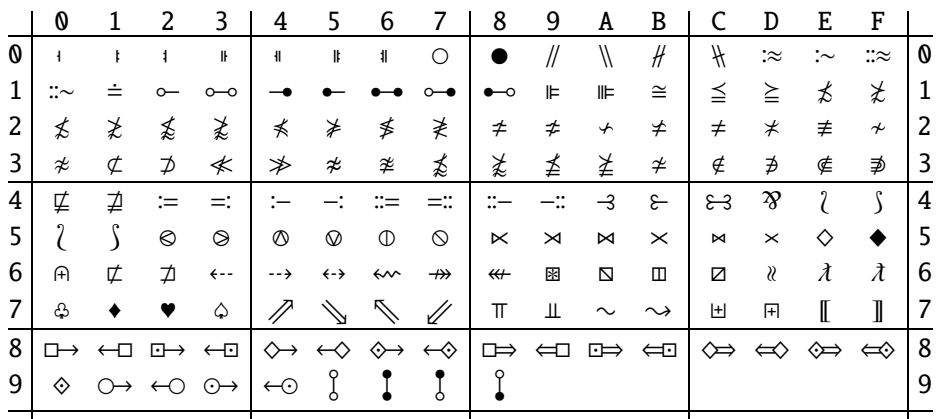
Math Symbols A (Corresponding to MSAM) – `txsya`

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	⊡	⊞	⊠	□	■	∎	◊	⧫	↻	↺	⇌	⇋	⊟	⊩	⊪	⊨	0
1	↠	↞	⇇	⇉	↑	↓	↾	↿	⇂	⇃	↣	↢	⇆	⇄	↰	↱	1
2	⇝	⇜	↫	↬	≏	≳	≳	≋	⊸	∴	∵	÷	≙	≲	≲	≋	2
3	⩽	⩾	⩽	⩾	⩽	≦	⩽	≦	∖	-	≒	≒	⩾	≧	⩾	≋	3
4	⊏	⊐	▷	◁	⊵	⊴	★	⧫	▼	▶	◀	⇢	⇠	△	▲	▽	4
5	≠	≦	≧	≦	≧	¥	⇛	⇚	✓	⩡	⩝	⩝	∠	∡	≺	∝	5
6	⌣	⌢	⋐	⋑	⋓	⋒	∧	∨	⟋	⟍	⊆	⊇	≐	≒	⋘	⋙	6
7	⌜	⌝	®	Ⓢ	⫛	+	∽	≃	⌞	⌟	✠	∁	⊤	◎	⊛	⊖	7
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	

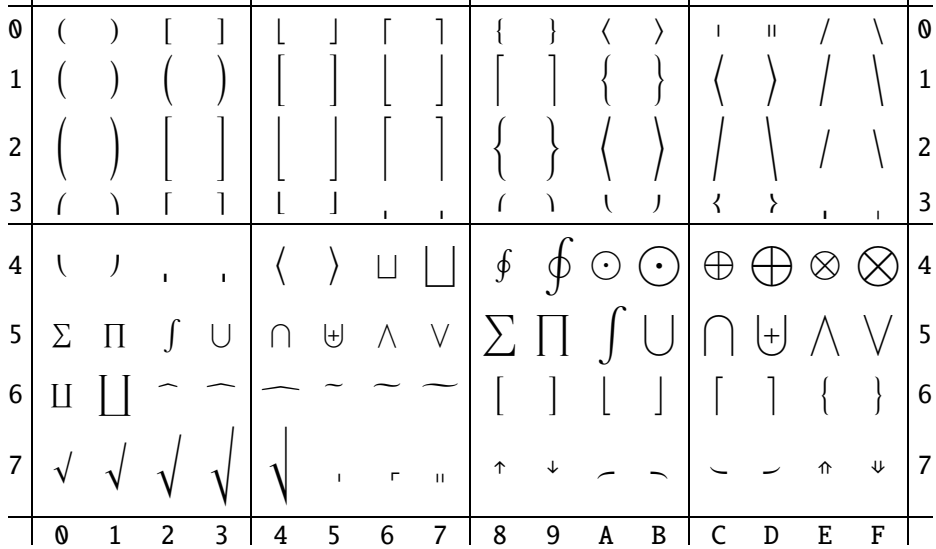
Math Symbols B (Corresponding to MSBM) – `txsyb`



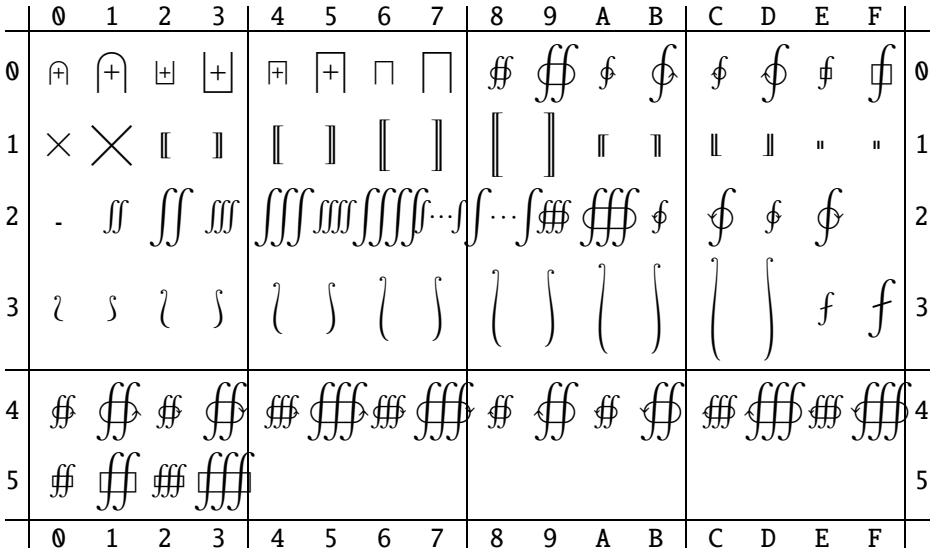
Math Symbols C – `txsyc`



Math Extension (Corresponding to CMEX) – `txex`



Math Extension A – `txexa`



Bold versions of all fonts are available.