

Plain T_EX quick reference



Conventions used in this document

The major sections are keyed to the corresponding chapter of Don Knuth's *The T_EXbook*.

<cs>	Control sequence, e.g., \mymacro, \somedimen
<N>	An integer from 0 to 255
<file>	An integer from 0 to 15 (file number), or -1 to read terminal
<int>	An integer
[]	Optional item
...	One or more of the preceding item

Chapter 2: Book printing vs. ordinary typing

-	Hyphen (-)
--	En-dash (–)
---	Em-dash (—)
\thinspace	Thin space:

Chapter 3: Controlling T_EX

\input <file>	Go read <file>
\endinput	Stop reading this file
_	Control space (where _ is a space character)
\TeX	The T _E X logo

Chapter 4: Fonts of type

\rm	Roman (the default)
\it	<i>Italic</i>
\/	Italic correction; use for italic→non-italic transition
\sl	<i>Slanted</i>
\tt	Typewriter
\bf	Bold extended
\tenpoint	Or \ninepoint, etc.
\tenrm	Or \ninesl, etc.
\font<cs> [scaled <int>]	Load a font; <int>=1000 for normal size
\magstephalf	Use after scaled to magnify by 1.095%
\magstep1	Use after scaled to magnify by 1.2

<code>\%</code>	<code>%</code>
<code>\&</code>	<code>&</code>
<code>_</code>	<code>_</code>
<code>\string<cs></code>	E.g., <code>\string\TeX</code> yields <code>\, T, e, X</code> , all in category 12
<code>\csname<token>...\endcsname</code>	Convert tokens to a control sequence
<code>\number<int></code>	Yields the digits of <code><int></code> as a token list
<code>\romannumeral<int></code>	E.g., <code>\romannumeral 23</code> yields <code>x, x, i, i, i</code>
<code>\uppercase{<token>...}</code>	Convert lowercase to uppercase
<code>\lowercase{<token>...}</code>	Convert uppercase to lowercase

Chapter 8: The characters you type

<code>\char<int></code>	Produces the character with decimal code <code><int></code>
<code>\char'<octal></code>	Produces the character with octal code <code><octal></code>
<code>\char"<hex></code>	Produces the character with hex code <code><hex></code>
<code>\chardef<cs>=<int></code>	Associate the character whose code is <code><int></code> with control sequence <code><cs></code>
<code>^^@</code>	The NUL character
<code>^^A</code>	Control A
<code>^^<char></code>	In general, for <code><char></code> less than 64, this produces character <code><char>+64</code> , otherwise it produces <code><char>-64</code>

Chapter 9: T_EX's Roman fonts

Use	To get	
<code>\'e</code>	è	Grave accent
<code>\'e</code>	é	Acute accent
<code>\^o</code>	ô	Circumflex
<code>\"o</code>	ö	Umlaut
<code>\i</code>	ı	Dotless i, for diacriticals over letter i
<code>\j</code>		Dotless j
<code>\~n</code>	ñ	Tilde
<code>\=a</code>	ā	Long mark
<code>\.s</code>	š	Dot accent
<code>\u a</code>	ǎ	Short mark
<code>\d n</code>	ṅ	Dot under
<code>\v c</code>	č	Hacek
<code>\H o</code>	ø	Long umlaut
<code>\t ii</code>	î	Tie-after
<code>\b o</code>	o̅	Bar under
<code>\c c</code>	ç	Cedilla
<code>\aa</code>	å	Circle-a
<code>\L</code>	Ł	Polish l
<code>\ss</code>	ß	Es-zet
<code>\o</code>	ø	Slash-o
<code>\dag</code>	†	Dagger

<code>\ddag</code>	‡	Double dagger
<code>\S</code>	§	Section symbol
<code>\P</code>	¶	Paragraph symbol
<code>\ae</code>	æ	Ligatures
<code>\AE</code>	Æ	
<code>\oe</code>	œ	
<code>\OE</code>	Œ	

Chapter 10: Dimensions

A *<dimen>* can be expressed as a number followed by one of these units:

<code>pt</code>	Point, 1/72.27"
<code>pc</code>	Pica = 12 pt
<code>in</code>	Inch
<code>bp</code>	Big pt., 1/72"
<code>cm</code>	Centimeter
<code>mm</code>	Millimeter
<code>dd</code>	1157 Didot pts. = 1238 pt
<code>cc</code>	Cicero = 12 dd
<code>sp</code>	Scaled point = 1/65536 pt

Use `\magnification=<int>` to change the overall magnification of the document, where unity is 1000.

Use `true <dimen>` to get a dimension that is not affected by any `\magnification` that may be in effect.

Chapter 11: Boxes

<code>\hbox{<text>}</code>	Horizontal box: align baselines
<code>\vbox{<text>}</code>	Vertical box: align reference points

Chapter 12: Glue

A *<glue>* has the form:

<dimen> [plus *<dimen>*] [minus *<dimen>*]

Glue-related control sequences:

<code>\smallskip</code>	3pt plus 1pt minus 1pt
<code>\medskip</code>	Twice <code>\smallskip</code>
<code>\bigskip</code>	Twice <code>\medskip</code>
<code>\vfil, \vfill</code>	Vertical fill, two strengths
<code>\hfil, \hfill</code>	Horizontal fill, two strengths
<code>\hss, \vss</code>	Infinite glue
<code>\line{<text>}</code>	<code>\hbox</code> to <code>hsize{...}</code>

<code>\hbox to <dimen>{...}</code>	Sized hbox; also works with <code>\vbox</code>
<code>\hbox spread <dimen>{...}</code>	Natural size plus <code><dimen></code> ; also <code>\vbox</code>
<code>\baselineskip=<glue></code>	Baseline-to-baseline distance
<code>\lineskip=<glue></code>	Use if baselines closer than <code>\lineskiplimit</code>
<code>\lineskiplimit=<glue></code>	See previous item
<code>\prevdepth</code>	Depth of last box on main vertical list
<code>\nointerlineskip</code>	Suppress next interline glue
<code>\vtop</code>	Likcs <code>\vbox</code> but use top, not bottom, baseline
<code>\strut</code>	An invisible rule with 8.5 points of height and 3.5 points of depth
<code>\llap{<text>}</code>	Set to left of current position, hide width
<code>\rlap{<text>}</code>	Same as <code>\llap</code> , but to right of current position

Chapter 13: Modes

T_EX operates in one of six modes at any given time:

vertical	Building the main vertical list
internal vertical	Constructing a <code>\vbox</code>
horizontal	Building a paragraph
restricted horizontal	Constructing an <code>\hbox</code>
math	<code>\$...\$</code>
display math	<code>\$\$...\$\$</code>

Chapter 14: How T_EX breaks paragraphs into lines

Things that can appear in a horizontal list are placed in two categories:

non-discardable	box, discretionary, whatsit, vertical material
discardable	glue, kern, penalty, math-on

Discardable items disappear at a line break.

<code>\slash</code>	Like <code>/</code> , but allow a line break after it
<code>~</code>	Tie (non-break space)
<code>\obeylines</code>	Treat newline as <code>\par</code>
<code>\break</code>	Break the line here; use <code>\hfil\break</code> to avoid stretching
<code>\discretionary{<pre>}{<post>}{<no>}</code>	Discretionary item: <code><pre></code> is the pre-break text, <code><post></code> is the post-break text, and <code><no></code> is used if there is no break
<code>\-</code>	Discretionary hyphen
<code>\nobreak</code>	Don't break the line here!
<code>\parindent=<glue></code>	Set the paragraph indentation
<code>\parfillskip=<glue></code>	Placed after last line in a paragraph
<code>\leftskip=<glue></code>	Left margin skip