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User Note 42

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Title:

A Proportional Spacing Version of LAYOUT: Notes for Experienced LAYOUT Users

Author: John M. Murison

Contact: Advisory Service

Software Support Category: C

Synopsis

This note is intended for experienced users of the original, single character set version of LAYOUT, and assumes a knowledge of the ERCC 'LAYOUT' manual. It summarises the differences between that version (OLAYOUT) and a new LAYOUT (NLAYOUT) which can generate output for proportional spacing devices, specifically those accessible on the ERCC network via '.DP' queues. At the time of writing, these are the Philips GP300 dot matrix printers (.DP15, .DP25, .DPERCC) and the Xerox 2700 laser printer (.DP23).

The Note also summarises the characteristics of the printers for which NLAYOUT can generate output, and discusses the conversion of LAYOUT-input files from OLAYOUT to NLAYOUT, and from one printer to another.

A description of NLAYOUT which assumes no previous experience of any version of LAYOUT is given in User Note 43.

Keywords

Document formatting, LAYOUT, text formatting

Edinburgh Regional Computing Centre

James Clerk Maxwell Building, The King's Buildings, Mayfield Road, Edinburgh, EH9 3JZ. Telephone 031-667 1081

This Note is intended for experienced users of the original, single character set service version of LAYOUT. It summarises the differences between that version (OLAYOUT) and a new LAYOUT (NLAYOUT) which can generate output for proportional spacing devices, such as the Philips GP300 and Xerox 2700 printers, accessible on the ERCC network via '.DP' queues (e.g. .DP15).

The Note was produced on a Xerox 2700 laser printer using a proportionally spaced Kosmos font. In addition, the text was right justified.

Hamish Dewar of the Department of Computer Science wrote this version of LAYOUT (as he did the previous one), and he took the opportunity to tidy up some out-of-date parameters and default settings. He also changed the handling of space and newline characters.

Major Differences between Old and New LAYOUT

* In the old LAYOUT multiple spaces between words in the input file were treated as a single space, and newline characters were merely regarded as an alternative way of separating words. This approach is followed in the new LAYOUT, except where the input contains blank lines, or an input line starts with one or more space characters: in these cases the preceding newline(s) and the space characters are preserved, i.e. transferred to the output file. Thus the user can express the paragraph structure of his document by use of newlines and spaces, without recourse to `$B` or `$P` directives.

* Proportional spacing fonts are catered for (see **Changing Fonts**, below). This means that when constructing output lines, LAYOUT works with the widths of the characters on the line, not simply the number of characters. The line break positions thus depend on the font in use.

* Directives which do not cause a line break in the output may now be specified within the lines controlled by a `$L` directive; e.g., `$T`, `$C`, `$R`.

* `$L` now has a modifier `B` which causes the lines controlled by the `$L` to be bold printed.

* The first print position on a line is numbered 0, not 1. Thus `$C0` and `$T0` are equivalent - both cause the next text atom to be placed at the start of the current line.

* The rules defining the start and end of a sentence have been extended to allow for bracketed sentences.

Access to New LAYOUT

```
Command:OPTION(SEARCHDIR=CONLIB.GENERAL)        (once only)

Command:NLAYOUT(input1, input2/ draft, document)
```

There can be two input files. `input2`, if given, is read by LAYOUT first, then `input1`. Thus, put your standard parameter settings into `input2`, and your main text into `input1`. You do not have to specify an `input2` file if you prefer to work with a single input, but you must specify an `input1`.

There are two output files (or devices):
`draft` is intended to be listed on a line printer or at your terminal. It gives an

indication of how LAYOUT has formatted your text, but since you might have selected proportional spacing character fonts, the result on a line printer will not necessarily look very pretty - but it does enable you to see where line and page breaks have occurred. The default value for draft is .OUT. If you choose not to have it, the form of your call should be

```
Command:NLAYOUT( .... / .NULL, document)
```

document is intended to be listed to an appropriate printer. The type of printer which is to be used must be specified at the start of the input file - i.e. at the start of input2 if given, or else at the start of input1. The printer to be used is specified by assigning a value to a new parameter, DEVICE. Thus, for example:

```
$A DEVICE=GP300          (Philips GP300 dot matrix printer)

$A DEVICE=X2700          (Xerox 2700 laser printer)
```

Recognised assignments to DEVICE:

```
LP   DIABLO   SANDERS   GP300   X2700   LX2700
```

These devices are described below. The default value for DEVICE is LP.

For compatibility with earlier versions of the proportional spacing LAYOUT, there are two other entry points:

1) DPLAY - identical to NLAYOUT except that the default value of DEVICE is GP300.

2) SANLAY - identical to NLAYOUT except that the default value of DEVICE is SANDERS.

Either of these entry point names can be used to process a file containing an assignment to the DEVICE parameter - it simply means that the default value implied by the entry point is overridden.

Devices Recognised by NLAYOUT

LP Standard network line printer.
Default document page parameters (i.e., those parameters which determine the appearance of pages in the output document):
MARK=0; TOP=2; PAGE=60; BOTTOM=4; LEFT=0; LINE=72
Underlining and bold printing are dealt with by using Carriage Return and overprinting lines. Font changes and superscripts subscripts are ignored.
Only one output file is produced when DEVICE=LP.

DIABLO Output is intended to be listed on a Diablo daisy-wheel printer attached via the Computer Science Department interface. Provides for bold printing, underlining, superscripts subscripts.
Font 0 (default) is 10 cpi (i.e. a fixed-pitch font printing at 10 characters per inch).
Font 1 is 12 cpi.
Default document page parameters:
MARK=0; TOP=1; PAGE=60; BOTTOM=4; LEFT=0; LINE=72

SANDERS Output is intended to be listed on a Computer Science Department Sanders dot matrix printer (for which fonts 0-4 have been defined). Provides for bold printing, underlining, superscripts subscripts and multiple character fonts.
Default document page parameters:

```
MARK=0; TOP=1; PAGE=60; BOTTOM=4; LEFT=0; LINE=72
```

GP300 Output is intended to be listed on an ERCC network Philips GP300 dot matrix printer. At the time of writing there are three:

.DP15	Job Reception, JCMB, KB
.DP25	Job Reception, Appleton Tower Basement, George Sq
.DPERCC	Job Reception, ERCC, KB

(In addition some University departments have private GP300 printers.)
Provides for bold printing, underlining, superscripts subscripts and multiple character fonts. Details of the available fonts are given in User Note 50 and summarised below.
Default document page parameters:

```
MARK=2; TOP=0; PAGE=60; BOTTOM=4; LEFT=5; LINE=72
```

The network GP300 printers produce output on separate sheets of A4 paper. These defaults cause each page of output to contain 60 6" lines of text centrally placed on the sheet.
Note that if LEFT is set to 0, a margin of approximately 2/3" is obtained (cf. X2700, below).

X2700 Output is intended to be listed on an ERCC network Xerox 2700 Laser printer. At the time of writing there is one:

.DP23	Job Reception, ERCC, KB

Provides for bold printing, underlining, superscripts subscripts and multiple character fonts. Details of the available fonts will be given in User Note 68; they are summarised below.
Default document page parameters:

```
MARK=2; TOP=0; PAGE=60; BOTTOM=4; LEFT=14; LINE=72
```

Note that if LEFT is set to 0, no margin on the A4 output sheets is given - the text is right at the edge of the paper.

LX2700 Output is intended to be listed on an ERCC network Xerox 2700 Laser printer with forms queue 50 selected. This causes the output to be printed on the (A4) sheets of paper with long side horizontal (instead of long side vertical as usual). This orientation is known as 'Landscape'; the normal orientation is known as 'Portrait'.
Default document page parameters:

```
MARK=2; TOP=3; PAGE=66; BOTTOM=1.7; LEFT=8; LINE=132
```

When font 0 is used, these parameters enable 66 lines each of up to 132 characters to be printed on each sheet of A4 paper (i.e. a 'line printer substitute').
Note that when using DEVICE=LX2700, the output must be to a file which is then listed:

```
Command:NLAYOUT(input/draft,output)

  (first line of file input: $A DEVICE=LX2700 )

Command:LIST(output,.DP23,,50)
```

Differences in Parameters

In the new LAYOUT, none of the symbol parameters has a default value, except ESCAPE (which is still $). This means that %, ~, _, ., @, etc. initially stand for themselves and are treated as part of the text. If you want various effects (underlining, bold printing, etc.) you must assign the relevant parameters in your input file (or in the input2 file).

Old	New	Comments
UNDSH (%)	WUNDER (0)	(Word UNDERline) Switches on underlining. Switched off by next symbol which is neither a letter nor a digit, apart from a symbol preceded by the escape symbol (e.g. $-, $/).
UND (_)	UNDER (0)	This is now a switch - everything, including spaces, is underlined until the next UNDER symbol is encountered. The text thus underlined is treated by LAYOUT as a single text atom. Thus no line breaks will be introduced by LAYOUT within such text, and it will not be right justified.
INVERT (1)	INVERT (0)	Default is now 0, so no need to set it unless you are giving LAYOUT an upper-case-only input file.
INVO (1)	-	Not available - there is no secondary input file generated by this version of LAYOUT. The other secondary input parameters are not available either - CAPO, CAPSHO, UNDO, UNDSHO, etc.

Old	New	Comments
BODD, BEVEN, TODD, TEVEN		All gone - no equivalent facilities.
DAISY (0)	-	Not available (it was used to pass ERCC daisy wheel printer control codes through without affecting the formatting).
-	SECTNO (0)	Used in conjunction with $S to cause a new output page to be taken, and the page number to be printed in the form 's-p', where s is the section number and p is the page-within-section number. This format is not used if SECTNO or PAGENO are 0 (their default values).
-	BOLD (0)	A symbol parameter ('~' conventionally used). A switch - all text enclosed between two BOLD symbols is bold printed. Note also the $L modifier B, which causes the lines controlled by $L to be bold printed.
-	SUP (0)	A symbol parameter ('\' conventionally used). It causes the next symbol (only) to be placed in a superscript position on the output line. If you need several superscript symbols together, each must be preceded by the SUP symbol.
-	SUB (0)	A symbol parameter ('/' conventionally used). It causes the next input symbol (only) to be placed in a subscript position on the output line.
-	ONETAB (0)	A symbol parameter ('|' conventionally used). It has exactly the effect of $T+; thus |2 = $T+2. It is provided for convenience, when laying out tables.

- PNFONT (0) The number of the font to be used when the page number is printed (at the foot of each page, if requested via parameter PAGENO).
- DEVICE (LP) The type of device to be used when the output is printed (see above).

The meanings of the following parameters are unchanged:

ESCAPE, CAP, CAPSH, INVERT, ASCII, FLIP, JUST, MARK, IGNORE, START, FINISH, PAGENO, INDENT, TOP, BOTTOM, PAGE, NLS, LEFT, ELEFT, OLEFT, LINE, SGAP, PGAP, TAB.

Note that FLIP, ELEFT and OLEFT are available (they were not available in a previous version of NLAYOUT).

The last eleven parameters (from TOP onwards) can be assigned fractional values. They all refer to vertical or horizontal measures on the output page. For example, by setting

```
$A NLS=1.5
```

one gets 1.5 line spacing, instead of the usual single spacing (assuming that the output device is able to produce it).

Differences in LAYOUT Directives

$S New directive. Means "take a new section". PAGENO and SECTNO must both be greater than zero. Causes SECTNO to be incremented, PAGENO to be set to 1 and a new page to be taken.

$L Now has the modifier B, which causes all the lines controlled by the $L to be bold printed.
The directives $T and $C as well as the font changing command (see below) and any of the symbol parameters may be given within the line or lines controlled by a $L directive.

$D Font definition; see the next section for details.

Note that $R and $F are available (they were not available in a previous version of NLAYOUT).

The meanings of the other directives have not changed.

Changing Fonts

Many printers now available have more than one font. For example, some fonts on GP300 and Xerox 2700 printers are illustrated below.

LAYOUT assigns to each font a numerical code, and a specific font is selected by use of a directive consisting of the escape symbol (usually '$') followed by an integer. Thus

```
..... $3 text $0 .....
```

causes text to be rendered in font 3 and the subsequent material in font 0. The font specified is used until another is selected.

In general, a standard set of fonts is not available on all printers and so font 1, for example, on one printer may be quite different from font 1 on another. This means that a Layout-input file prepared for one printer (a GP300, for example) will not produce similar output on another printer (a Xerox 2700, for example) by merely changing the assignment to parameter DEVICE at the start of the file.

To simplify such a conversion, a new directive, $D ('Define'), has been introduced. It is similar in use to $A; for example:

```
$D3 "Kosmos10B"
```

This is interpreted to mean that font 3 is henceforth defined to be Kosmos10B (a Xerox 2700 font). A fault will be flagged if the given font name is not available for the currently selected device.

At present only the GP300, X2700 and LX2700 devices have fonts with names which can be nominated in $D statements. The font name can be given in upper or lower case, and embedded spaces are ignored.

The $D facility was primarily intended to simplify conversion of GP300 documents to X2700 documents. For example, if GP300 fonts 14 (Orator ps), 2 (Gothic ps) and 6 (Courier 12) had been used in a document, the following $D directives inserted at the start of the Layout-input file

```
$A DEVICE=X2700
$D14 "Kosmos14"
$D2 "Kosmos10"
$D6 "Titan12iso"
```

would have the effect of using, on the Xerox laser printer, fonts similar to those previously used on the GP300 printer.

N.B. When carrying out a file conversion from GP300 to X2700, note the different effects of parameter LEFT:

The GP300 default for LEFT (LEFT=5) gives a left margin of about 1"

The X2700 default for LEFT (LEFT=14) gives a left margin of about 1"

Thus, in general, add 9 to any assignment to parameter LEFT when translating from GP300 to X2700. A reliable approach is always to change the value of LEFT by use of a relative assignment:

```
$A LEFT=+6
```

This has the same effect on both printers.

GP300 Fonts

Most of the fonts available on the GP300 printers are fixed-pitch - each character has the same width. Fonts 2, 5, 8, 14, 17, 20 and 23, however, are proportionally spaced - each character takes up as much space as it needs (e.g. 'w' needs more than 'i').

The fonts currently defined for the GP300 printer are detailed in User Note 50 and illustrated below:

0	Gothic 12	The default font (12 cpi).
1	Gothic 10	Slightly more spread out than font 0 (10 cpi).
2	Gothic ps	This font actually gets more on a line than font 0 (proportionally spaced).
3	**Gothic Bold 12**	**There are two ways of getting Gothic bold text: either use fonts 0-2 with the BOLD symbol, or use fonts 3-5.**
4	**Gothic Bold 10**	**Slightly more spread out than font 3.**
5	**Gothic Bold ps**	**Proportionally spaced text is easier to read!**
6	Courier 12	I think this font looks rather cramped.
7	Courier 10	That's much better.
8	Courier ps	Better still. Note that Courier ps takes up more space than Gothic ps (font 2).
9	Micro 12	Rather small - but the symbols are still well-formed.
10	Micro 10	Too spread out - looks a bit strange.
11	Micro 15	Much better! Note that there is no Micro ps font available. Micro fonts are useful for superscripts and subscripts (15 cpi).
12	*ORATOR 12*	*GOOD FOR HEADINGS. 12CPI IS RATHER CRAMPED.*
13	*ORATOR 10*	*THAT'S BETTER! BUT STILL, A LITTLE GOES A LONG WAY.*
14	*ORATOR PS*	*THAT'S BETTER! BUT STILL, A LITTLE GOES A LONG WAY.*
15	*Gothic Italic 12*	*This font is designed to go with Gothic 12 (font 0), although it looks good on its own.*
16	*Gothic Italic 10*	*This font is designed to go with Gothic 10 (font 1).*
17	*Gothic Italic ps*	*This font is designed to go with Gothic ps (font 2) - it does not look good with Courier ps.*
18	Scientific 12	│┌┐└┘├┤┬┴─◊‰∽■±≡≈∽ ϱψεσυ™ ΡΨΕΣΥ⌠⌡ ατδζη ΑΤΔΖΗ

19	Scientific 10	|┌ ┐└ ┘├ ┤┬ ┴ —◊%.~▪±≡≈∽ ϱψεσυ™ ΡΨΕΣΥ∫J ατδζη ΑΤΔΖΗ
20	Scientific ps	|┌ ┐└ ┘├ ┤┬ ┴ —◊%.~▪±≡≈∽ ϱψεσυ™ ΡΨΕΣΥ∫J ατδζη ΑΤΔΖΗ
21	Greek 12	αβχδεφγιηκλμνοπ ΑΒΧΔΕΦΓΙΗΚΛΜΝΟΠ 1234 *+:;
22	Greek 10	αβχδεφγιηκλμνοπ ΑΒΧΔΕΦΓΙΗΚΛΜΝΟΠ 1234 *+:;
23	Greek ps	αβχδεφγιηκλμνοπ ΑΒΧΔΕΦΓΙΗΚΛΜΝΟΠ 1234 *+:;
24	Data 12	This is a draft font - the printer goes at twice its normal speed, but the resolution is poorer.
25	Data 10	Rather spread out, but it will give you the right line structure if you eventually want to use another 10cpi font.
26	Data 15	Quite an attractive font, but could cause eye-strain if used too much.

Portrait Xerox 2700 (X2700) Fonts

The fonts currently defined for the Xerox 2700 laser printer when used in the standard 'Portrait' mode are detailed in User Note 68 and illustrated below. It is intended to make more fonts available shortly.

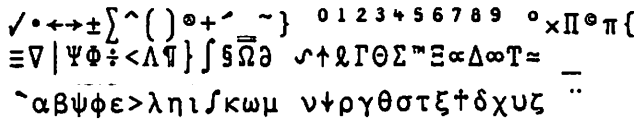
0	Titan12iso	The default font (12 cpi).
1	Kosmos6	The first of a family of Kosmos fonts available on the Xerox 2700 Laser Printer. The '6' in the name indicates the 'point size', and unlike the 'pitch' value given with fixed-pitch fonts (see font 0), the point size is larger the larger the font. This font is intended to be used for superscripts and subscripts. Note that all the Kosmos fonts are proportionally spaced. Single line spacing with Kosmos6 gives 10 lines per inch.
2	Kosmos 10	This is intended to be the standard 'running text' font when the Kosmos fonts are used in a document. The rest of this Note uses this font, which at single line spacing gives 6 lines per inch.
3	**Kosmos10B**	**The 'B' in the title stands for 'Bold'. There are two ways of getting Kosmos10 bold text: either use font 2 with the BOLD symbol, or use font 3. Use of font 3 will give a slightly better appearance. Kosmos10B is intended to be used for subheadings in a document, or for emphasis within running text.**

4	**Kosmos12B**	**Kosmos12 is available in the Bold version only. It is intended to be used for section headings in a document. Single line spacing with Kosmos12B gives 5 lines per inch.**
5	Kosmos14	This is the largest font available on the Xerox 2700 Laser Printer. It is intended to be used for centred titles (chapter headings, etc). Note that it is not a Bold text - if you want Kosmos14 Bold then you must use the BOLD symbol. Single line spacing with Kosmos14 gives 4.29 lines per inch.
6	Titan 12iso	Currently gives the same as font 0.
7	Titan 12iso	Currently gives the same as font 0.
8	Titan 12iso	Currently gives the same as font 0.
9	SymbolC10	A 10 cpi symbol font. It does not have the same symbols as the GP300 Scientific fonts. ✓•←→±^( )°+´ ~} 0123456789 °×Π°π{ ≡∇|ΨΦ÷<Λ¶}∫§Ωð ∽†ℓΓΘΣ™Ξ∝Δ∞Τ≈ ˜αβψφε>ληιʃκωμ νϟργθστξ†δχυζ ¯

Landscape Xerox 2700 (LX2700) Fonts

The fonts currently defined for the Xerox 2700 laser printer when printing in 'Landscape' mode (see DEVICE=LX2700 above) are detailed in User Note 68 and illustrated below. It is intended to make more fonts available shortly. It will be noted that the assignment of fonts to font numbers is similar to that used for the Portrait fonts (see above). However, the Kosmos fonts are two points smaller throughout. This is to simplify the production of A5 documents - it is hoped that software will be provided shortly to enable two A5 sheets to be printed side by side.

0	XCP12.5iso	The default font (12.5 cpi). Single line spacing with XCP12.5iso gives 8.57 lines per inch.
1	Kosmos6	The first of a family of Kosmos fonts available on the Xerox 2700 Laser Printer. The '6' in the name indicates the 'point size', and unlike the 'pitch' value given with fixed-pitch fonts (see font 0), the point size is larger the larger the font. This font is intended to be used for superscripts and subscripts. Note that all the Kosmos fonts are proportionally spaced. Single line spacing with Kosmos6 gives 10 lines per inch.
2	XCP12.5iso	Currently gives the same as font 0. Will shortly be replaced by Kosmos8, which is intended to be the standard 'running text' font when the Kosmos fonts are used in a document. Single line spacing with Kosmos8 gives 7.5 lines per inch.
3	XCP12.5iso	Currently gives the same as font 0. Will shortly be replaced by Kosmos8B, the 'B' in the title standing for 'Bold'. There will be two ways of getting Kosmos8 bold text: either use font 2 with the BOLD symbol, or use font 3. Use of font 3 will give a slightly better appearance. Kosmos8B is intended to be used for subheadings in a document, or for emphasis within running text.
4	**Kosmos10B**	**Kosmos10 is available in the Bold version only when the Xerox Laser Printer is used in Landscape mode. This font is intended to be used for section headings in a document. Single line spacing with Kosmos10B gives 6 lines per inch.**
5	**Kosmos12B**	**This is the largest font available on the Xerox 2700 Laser Printer when used in Landscape mode. It is intended to be used for centred titles (chapter headings, etc). Single line spacing with Kosmos12B gives 5 lines per inch.**
6	XCP12.5iso	Currently gives the same as font 0.
7	XCP12.5iso	Currently gives the same as font 0.
8	XCP12.5iso	Currently gives the same as font 0.
9	SymbolC10	A 10 cpi symbol font. It does not have the same symbols as the GP300 Scientific fonts.



Proportional Spacing Fonts

It is necessary to delve a little into the implications of using proportional spacing fonts, to indicate where curious effects might occur and how to avoid them.

The values of the "horizontal measure" parameters, such as LEFT, LINE and TAB, when assigned values by use of $A directives, are understood to be in units of the width of the space character of the currently selected font. If LEFT, LINE, etc. are defined at the start of the input file then the font in use is font 0, the default - a 12 character per inch font for the GP300 and X2700 devices. Thus the unit of measurement is 1/12", and a LINE value of 72 (the default) results in a line of 6". The default tabs are spaced 1/2" apart (6,12,18,24,...).

The space character width for all the proportional spacing fonts available with the GP300 (but not the X2700) is 1/10". This does not mean that if one changes to font 2 (Gothic ps) then the line length suddenly changes from 6" to 7.2": the current font only affects the horizontal measurements when the corresponding parameters are explicitly assigned new values.

To illustrate the effect of these rules, consider the following input file:

```
$A DEVICE=GP300
 :
$0
$A LINE=72
This text will be printed in font 0 with LINE=72 (72 x 1/12" = 6").
$8
This text will be printed in font 8 (Courier ps), with a line
length of 6" - the change to font 8 has not changed the line length.
$A LINE=72
This text will also be printed in font 8, but with a
line length of 7.2" - really too wide for an A4 sheet.
(The redefinition of LINE means that the text will be 72 space
characters wide.  Since the space character in font 8 is 1/10",
the line length is now 7.2".)
 :
 :
```

Sometimes $L is used to preserve the line structure of the input file, e.g. for tables or columns of figures. Note that this will probably not work if a proportional spacing font is used. You should either switch to a fixed-pitch font, or use $T (or the ONETAB symbol) to obtain the column structure.

Conversion of an Old LAYOUT Input File

The original LAYOUT is now called OLAYOUT. To convert an OLAYOUT input file to an equivalent NLAYOUT input file it is necessary to do the following:

1) Edit your OLAYOUT input file (OLFILE, say) so that the following line appears after the $A statements at the start of the file:

```
$A INVO=0; CAPO=0; CAPSHO=0; UNDSHO=UNDSH
```

2) Give the command

```
Command:OLAYOUT(OLFILE/.NULL,NLFILE)
```

3) This produces a second Layout input file, called NLFILE. NLFILE must be further modified before it is ready for processing by NLAYOUT: the line starting $A INVO=.... which was added to the original file is reproduced in NLFILE. It must now be replaced by an assignment to the parameter WUNDER, which should be set to the value given to UNDSH in file OLFILE (if it was given a value), or to the value '%' (otherwise). Thus:

```
$A WUNDER='%'
```

4) Finally remove from NLFILE all references to parameters not provided in NLAYOUT:

```
BODD, BEVEN, TODD, TEVEN, UND, UNDSH,
all parameters with names ending "..O"
```

Once all this has been done, the result should be a reasonable translation of your original file into the format required by NLAYOUT, but no guarantees are given that it will work in every case. It is advisable to test the method on a test file of, say, 5-10 pages, before using it on a much larger document.

Example

The LAYOUT input for page 2 of this note starts as follows:

```
$a device=x2700
$a tab=4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,70,74
$a bold='~'
$a wunder='%'
$a just=1
$N$2 This note is intended for experienced users of the original,
single-character version of LAYOUT. It summarises the differences
      :
      :
$B3 ~Major Differences between Old and New LAYOUT~
$a indent=1
$b1$C-2*$T1 In the old LAYOUT multiple spaces between words in
the input file were treated as a single space, and newline characters
were merely regarded as an alternative way of separating words.
This approach is followed in the new LAYOUT, %except where
      :
      :
```