NAME
groff_man - groff man macros to support generation of man pages

SYNOPSIS
groff -man [options . . .] [files . . .]
groff -m man [options . . .] [files . . .]

DESCRIPTION
The man macros used to generate man pages with groff were written by James Clark. This document provides a brief summary of the use of each macro in that package.

OPTIONS
The man macros understand the following command line options (which define various registers).
-rcR=1 This option (the default if in nroff mode) creates a single, very long page instead of multiple pages. Say -rcR=0 to disable it.
-rc1 If more than one manual page is given on the command line, number the pages continuously, rather than starting each at 1.
-rD1 Double-sided printing. Footers for even and odd pages are formatted differently.
-rFT=dist Set distance of the footer relative to the bottom of the page if negative or relative to the top if positive. The default is -0.5i.
-rHY=flags Set hyphenation flags. Possible values are 1 to hyphenate without restrictions, 2 to not hyphenate the last word on a page, 4 to not hyphenate the last two characters of a word, and 8 to not hyphenate the first two characters of a word. These values are additive; the default is 14.
-rIN=width Set body text indentation to width. The default is 7n for nroff, 7.2n for troff. For nroff, this value should always be an integer multiple of unit 'n' to get consistent indentation.
-rLL=line-length Set line length. If this option is not given, the line length is set to respect any value set by a prior '.ll' request (which must be in effect when the '.TH' macro is invoked), if this differs from the built-in default for the formatter; otherwise it defaults to 78n in nroff mode and 6.5i in troff mode. Note that the use of a '.ll' request to initialize the line length is supported for backward compatibility with some versions of the man program; direct initialization of the 'LL' register should always be preferred to the use of such a request. In particular, note that a ‘.ll 65n’ request does not preserve the normal nroff default line length, (the man default initialization to 78n prevails), whereas, the ‘-rLL=65n’ option, or an equivalent ‘.nr LL 65n’ request preceding the use of the ‘TH’ macro, does set a line length of 65n.
-rLT=title-length Set title length. If this option is not given, the title length defaults to the line length.
-rPnn Enumeration of pages start with nnn rather than with 1.
-rSxx Base document font size is xx points (xx can be 10, 11, or 12) rather than 10 points.
-rSN=width Set sub-subheading indentation to width. The default is 3n.
-rXnn After page nnn, number pages as nnnn, nnmb, nnmc, etc. For example, the option ‘-rX2’ produces the following page numbers: 1, 2, 2a, 2b, 2c, etc.

USAGE
This section describes the available macros for manual pages. For further customization, put additional macros and requests into the file man.local, which is loaded immediately after the man package.
Example/End Example. After .EX, filling is disabled and the font is set to constant-width. This is useful for formatting code, command, and configuration-file examples. The EE macro restores filling and restores the previous font.

These macros are defined on many (but not all) legacy Unix systems running classic troff. To be certain your page will be portable to those systems, copy their definitions from the an-ext.tmac file of a groff installation.

.HP [nnn]
Set up a paragraph with hanging left indentation. The indentation is set to nnn if that argument is supplied (the default unit is ‘n’ if omitted), otherwise it is set to the previous indentation value specified with .TP, .IP, or .HP (or to the default value if none of them have been used yet). Font size and face are reset to its default values. The following paragraph illustrates the effect of this macro with hanging indentation set to 4 (enclosed by .RS and .RE to set the left margin temporarily to the current indentation):

This is a paragraph following an invocation of the HP macro. As you can see, it produces a paragraph where all lines but the first are indented.

Use of this presentation-level macro is deprecated. While it is universally portable to legacy Unix systems, a hanging indentation cannot be expressed naturally under HTML, and many HTML-based manual viewers simply interpret it as a starter for a normal paragraph. Thus, any information or distinction you tried to express with the indentation may be lost.

.IP [designator] [nnn]
Set up an indented paragraph, using designator as a tag to mark its beginning. The indentation is set to nnn if that argument is supplied (the default unit is ‘n’ if omitted), otherwise it is set to the previous indentation value specified with .TP, .IP, or .HP (or to the default value if none of them have been used yet). Font size and face of the paragraph (but not the designator) are reset to its default values.

To start an indented paragraph with a particular indentation but without a designator, use ‘””’ (two doublequotes) as the second argument.

For example, the following paragraphs were all set up with bullets as the designator, using ‘.IP \bu 4’. The whole block has been enclosed with .RS and .RE to set the left margin temporarily to the current indentation value.

• IP is one of the three macros used in the man package to format lists.
• HP is another. This macro produces a paragraph with a left hanging indentation.
• TP is another. This macro produces an unindented label followed by an indented paragraph.

_LP
_PP
_P
These macros are mutual aliases. Any of them causes a line break at the current position, followed by a vertical space downwards by the amount specified by the PD macro. The font size and shape are reset to the default value (normally 10pt Roman). Finally, the current left margin and the indentation is reset to the default values.

.RE [nnn]
This macro moves the left margin back to level nnn, restoring the previous left margin. If no argument is given, it moves one level back. The first level (i.e., no call to .RS yet) has number 1, and each call to .RS increases the level by 1.

.RS [nnn]
This macro moves the left margin to the right by the value nnn if specified (default unit is ‘n’); otherwise it is set to the previous indentation value specified with .TP, .IP, or .HP (or to the default value if none of them have been used yet). The indentation value is then set to the default.
Calls to the RS macro can be nested.

.SH [text for a heading]
Set up an unnumbered section heading sticking out to the left. Prints out all the text following .SH up to the end of the line (or the text in the next input line if there is no argument to .SH) in bold face (or the font specified by the string HF), one size larger than the base document size. Additionally, the left margin and the indentation for the following text is reset to the default values.

.SS [text for a heading]
Set up a secondary, unnumbered section heading. Prints out all the text following .SS up to the end of the line (or the text in the next input line if there is no argument to .SS) in bold face (or the font specified by the string HF), at the same size as the base document size. Additionally, the left margin and the indentation for the following text is reset to the default values.

.TH title section [extra1] [extra2] [extra3]
Set the title of the man page to title and the section to section, which must take on a value between 1 and 8. The value section may also have a string appended, e.g. `.pm’, to indicate a specific sub-section of the man pages. Both title and section are positioned at the left and right in the header line (with section in parentheses immediately appended to title. extra1 is positioned in the middle of the footer line. extra2 is positioned at the left in the footer line (or at the left on even pages and at the right on odd pages if double-sided printing is active). extra3 is centered in the header line.

For HTML output, headers and footers are completely suppressed.

Additionally, this macro starts a new page; the new line number is 1 again (except if the ‘-rC1’ option is given on the command line) -- this feature is intended only for formatting multiple man pages; a single man page should contain exactly one TH macro at the beginning of the file.

.TP [nnn]
Set up an indented paragraph with label. The indentation is set to nnn if that argument is supplied (the default unit is ‘n’ if omitted), otherwise it is set to the previous indentation value specified with .TP, .IP, or .HP (or to the default value if none of them have been used yet).

The first input line of text following this macro is interpreted as a string to be printed flush-left, as it is appropriate for a label. It is not interpreted as part of a paragraph, so there is no attempt to fill the first line with text from the following input lines. Nevertheless, if the label is not as wide as the indentation the paragraph starts at the same line (but indented), continuing on the following lines. If the label is wider than the indentation the descriptive part of the paragraph begins on the line following the label, entirely indented. Note that neither font shape nor font size of the label is set to a default value; on the other hand, the rest of the text has default font settings.

The TP macro is the macro used for the explanations you are just reading.

.TQ
The TQ macro sets up header continuation for a TP macro. With it, you can stack up any number of labels (such as in a glossary, or list of commands) before beginning the indented paragraph. For an example, look up the documentation of the LP, PP, and P macros.

This macro is not defined on legacy Unix systems running classic troff. To be certain your page will be portable to those systems, copy its definition from the an-ext.tmac file of a groff installation.

To summarize, the following macros cause a line break with the insertion of vertical space (which amount can be changed with the PD macro): SH, SS, TP, TQ, LP (PP, P), IP, and HP. The macros RS, RE, EX, and EE also cause a break but no insertion of vertical space.

MACROS TO SET FONTS
The standard font is Roman; the default text size is 10 point.

.B [text]
Causes text to appear in bold face. If no text is present on the line where the macro is called the text of the next input line appears in bold face.
.BI text  Causes text on the same line to appear alternately in bold face and italic. The text must be on the same line as the macro call. Thus
   .BI this "word and" that
   would cause ‘this’ and ‘that’ to appear in bold face, while ‘word and’ appears in italics.

.BR text  Causes text on the same line to appear alternately in bold face and roman. The text must be on the same line as the macro call.

.I [text]   Causes text to appear in italic. If no text is present on the line where the macro is called the text of the next input line appears in italic.

.IB text  Causes text to appear alternately in italic and bold face. The text must be on the same line as the macro call.

.IR text  Causes text on the same line to appear alternately in italic and roman. The text must be on the same line as the macro call.

.RB text  Causes text on the same line to appear alternately in roman and bold face. The text must be on the same line as the macro call.

.RI text  Causes text on the same line to appear alternately in roman and italic. The text must be on the same line as the macro call.

.SB [text]  Causes the text on the same line or the text on the next input line to appear in boldface font, one point size smaller than the default font.

.SM [text]  Causes the text on the same line or the text on the next input line to appear in a font that is one point size smaller than the default font.

MACROS TO DESCRIBE HYPERLINKS AND EMAIL ADDRESSES
The following macros are not defined on legacy Unix systems running classic troff. To be certain your page will be portable to those systems, copy their definitions from the an-ext.tmac file of a groff installation.

Using these macros helps ensure that you get hyperlinks when your manual page is rendered in a browser or other program that is Web-enabled.

.MT address
.ME [punctuation]
Wrap an email address. The argument of .MT is the address; text following, until .ME, is a name to be associated with the address. Any argument to the ME macro is pasted to the end of the link text. On a device that is not a browser,

   contact
   .MT fred.foonly@\:fubar.net
   Fred Foonly
   .ME
   for more information

usually displays like this: “contact Fred Foonly <fred.foonly@fubar.net> for more information”.

The use of \ to insert hyphenless breakpoints is a groff extension and can be omitted.

.UR URL
.UE [punctuation]
Wrap a World Wide Web hyperlink. The argument to .UR is the URL; thereafter, lines until .UE are collected and used as the link text. Any argument to the UE macro is pasted to the end of the text. On a device that is not a browser,
The following macros are not defined on legacy Unix systems running classic troff. To be certain your page will be portable to those systems, copy their definitions from the \texttt{an-ext.tmac} file of a groff installation.

These macros are a convenience for authors. They also assist automated translation tools and help browsers in recognizing command synopses and treating them differently from running text.

\textbf{MACROS TO DESCRIBE COMMAND SYNOPSES}

\texttt{.OP key value}

Describe an optional command argument. The arguments of this macro are set surrounded by option braces in the default Roman font; the first argument is printed with a bold face, while the second argument is typeset as italic.

\texttt{.SY command}

Begin synopsis. Takes a single argument, the name of a command. Text following, until closed by \texttt{.YS}, is set with a hanging indentation with the width of \texttt{command} plus a space. This produces the traditional look of a Unix command synopsis.

\texttt{.YS}

This macro restores normal indentation at the end of a command synopsis.

Here is a real example:

\begin{verbatim}
.SY groff
.OF \-abcegklpstzCEGNRSUVXZ
.OF \-d cs
.OF \-f fam
.OF \-F dir
.OF \-I dir
.OF \-K arg
.OF \-L arg
.OF \-m name
.OF \-M dir
.OF \-n num
.OF \-o list
.OF \-P arg
.OF \-r cn
.OF \-T dev
.OF \-w name
.OF \-W name
.RI \[ file
.IR .\.\.] .
.YS
\end{verbatim}

produces the following output:

\begin{verbatim}
\end{verbatim}

If necessary, you might use \texttt{br} requests to control line breaking. You can insert plain text as well; this looks like the traditional (ornamented) syntax for a required command argument or filename.
MISCELLANEOUS
The default indentation is 7.2n in troff mode and 7n in nroff mode except for grohtml, which ignores indentation.

.AT [system [release]]
Alter the footer for use with AT&T man pages. This command exists only for compatibility; don’t use it. See the groff info manual for more.

.BT
Print the footer string. Redefine this macro to get control of the footer.

.DT
Set tabs every 0.5 inches. Since this macro is always called during a TH macro, it makes sense to call it only if the tab positions have been changed.

Use of this presentation-level macro is deprecated. It translates poorly to HTML, under which exact whitespace control and tabbing are not readily available. Thus, information or distinctions that you use .DT to express are likely to be lost. If you feel tempted to use it, you should probably be composing a table using tbl(1) markup instead.

.PD [nnn]
Adjust the empty space before a new paragraph or section. The optional argument gives the amount of space (default unit is ‘v’); without parameter, the value is reset to its default value (1 line in nroff mode, 0.4v otherwise). This affects the macros SH, SS, TP, LP (resp. PP and P), IP, and HP.

Use of this presentation-level macro is deprecated. It translates poorly to HTML, under which exact control of inter-paragraph spacing is not readily available. Thus, information or distinctions that you use .PD to express are likely to be lost.

.PT
Print the header string. Redefine this macro to get control of the header.

.UC [version]
Alter the footer for use with BSD man pages. This command exists only for compatibility; don’t use it. See the groff info manual for more.

The following strings are defined:

\*R  The ‘registered’ sign.
\*S  Switch back to the default font size.
\*[lq  Left and right quote. This is equal to ‘\(lq’ and ‘\(rq\)[cq], respectively.
\*[HF The typeface used to print headings and subheadings. The default is ‘B’.
\*[Tm The ‘trademark’ sign.

If a preprocessor like tbl or eqn is needed, it has become common to make the first line of the man page look like this:

" word

Note the single space character after the double quote. word consists of letters for the needed preprocessors: ‘e’ for eqn, ‘r’ for refer, and ‘t’ for tbl. Modern implementations of the man program read this first line and automatically call the right preprocessor(s).

PORTABILITY AND TROFF REQUESTS
Since the man macros consist of groups of groff requests, one can, in principle, supplement the functionality of the man macros with individual groff requests where necessary. See the groff info pages for a complete reference of all requests.

Note, however, that using raw troff requests is likely to make your page render poorly on the (increasingly common) class of viewers that render it to HTML. Troff requests make implicit assumptions about things like character and page sizes that may break in an HTML environment; also, many of these viewers don’t interpret the full troff vocabulary, a problem that can lead to portions of your text being silently dropped.
For portability to modern viewers, it is best to write your page entirely in the requests described on this page. Further, it is best to completely avoid those we have described as ‘presentation-level’ (.HP, .PD, and .DT).

The macros we have described as extensions (.EX/.EE, .SY/.OP/.YS, .UR/UE, and .MT/.ME) should be used with caution, as they may not yet be built in to some viewer that is important to your audience. If in doubt, copy the implementation onto your page.

**FILES**

```plaintext
man.tmac
an.tmac
    These are wrapper files to call andoc.tmac.
andoc.tmac
    Use this file in case you don't know whether the man macros or the mdoc package should be used. Multiple man pages (in either format) can be handled.
an-old.tmac
    Most man macros are contained in this file.
an-ext.tmac
    The extension macro definitions for .SY, .OP, .YS, .TQ, .EX/.EE, .UR/UE, and .MT/.ME are contained in this file. It is written in classic troff, and released for free re-use, and not copylefted; manual page authors concerned about portability to legacy Unix systems are encouraged to copy these definitions into their pages, and maintainers of troff or its workalikes are encouraged to reuse them.
    Note that the definitions for these macros are read after the call of TH, so they will replace macros of the same names given at the beginning of your file. If you must use your own definitions for these macros, they must be given after calling TH.
man.local
    Local changes and customizations should be put into this file.
```

**SEE ALSO**

tbl(1), eqn(1), refer(1), man(1), man(7), groff_mdoc(7)

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**AUTHORS**

This manual page was originally written for the Debian GNU/Linux system by Susan GKleinmann.

It was corrected and updated by Werner Lemberg.

The extension macros were documented (and partly designed) by Eric SRaymond; he also wrote the portability advice.