OpenVMS DIGITAL Standard Runoff Reference Manual

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This manual documents the DIGITAL Standard Runoff (DSR) text-formatting utility.

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Intended Audience

This manual is intended for users of the VMS operating system who need to format documents. Users are expected to have some familiarity with VMS system concepts and to know how to use a text editor (such as EDT).

Document Structure

This manual contains six chapters and two appendixes.

- Chapter 1 provides an overview of DSR, describes terms and conventions used in DSR, and gives some simple examples to introduce the user to a few DSR commands and flags.
- Chapter 2 describes all of the DSR commands.
- Chapter 3 describes all of the DSR flags.
- Chapter 4 explains how to run DSR and describes all of the command line qualifiers.
- Chapter 5 describes the features of the Table of Contents utility and how to produce a table of contents and contains the RUNOFF/CONTENTS command qualifiers and command line examples.
- Chapter 6 describes the features of the DSR indexing utility, shows how to produce an index, and contains the RUNOFF/INDEX command qualifiers and command line examples.
- Appendix A contains a list of DSR commands organized by function.
- Appendix B describes to system managers the requirements for printing an LNI file on an LN01 or an LN01E Laser Printer.

Conventions

In this manual, every use of VMS means both the OpenVMS AXP and the OpenVMS VAX operating system.

The following conventions are used in this manual:

Ctrl/*x*	A sequence such as Ctrl/*x* indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.
PF1 *x*	A sequence such as PF1 *x* indicates that you must first press and release the key labeled PF1, then press and release another key or a pointing device button.

$\boxed{\text{Return}}$	In examples, a key name enclosed in a box indicates that you press a key on the keyboard. (In text, a key name is not enclosed in a box.)
. . .	A horizontal ellipsis in examples indicates one of the following possibilities: • Additional optional arguments in a statement have been omitted. • The preceding item or items can be repeated one or more times. • Additional parameters, values, or other information can be entered.
. . .	A vertical ellipsis indicates the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed.
( )	In format descriptions, parentheses indicate that, if you choose more than one option, you must enclose the choices in parentheses.
[ ]	In format descriptions, brackets indicate optional elements. You can choose one, none, or all of the options. (Brackets are not optional, however, in the syntax of a directory name in a VMS file specification, or in the syntax of a substring specification in an assignment statement.)
{ }	In format descriptions, braces surround a required choice of options; you must choose one of the options listed.
boldface text	Boldface text represents the introduction of a new term or the name of an argument, an attribute, or a reason. Boldface text is also used to show user input in online versions of the manual.
italic text	Italic text emphasizes important information, indicates variables, and indicates complete titles of manuals. Italic text also represents information that can vary in system messages (for example, Internal error *number*), command lines (for example, /PRODUCER=*name*), and command parameters in text.
UPPERCASE TEXT	Uppercase text indicates a command, the name of a routine, the name of a file, or the abbreviation for a system privilege.
-	A hyphen in code examples indicates that additional arguments to the request are provided on the line that follows.
numbers	All numbers in text are assumed to be decimal, unless otherwise noted. Nondecimal radixes—binary, octal, or hexadecimal—are explicitly indicated.
mouse	The term *mouse* refers to any pointing device, such as a mouse, a puck, or a stylus.
MB1, MB2, MB3	MB1 indicates the left mouse button, MB2 indicates the middle mouse button, and MB3 indicates the right mouse button. (The buttons can be redefined by the user.)
PB1, PB2, PB3, PB4	PB1, PB2, PB3, and PB4 indicate buttons on the puck.
SB, SB	SB and SB indicate buttons on the stylus.

1 Introduction

This chapter gives an overview of DIGITAL Standard Runoff (DSR) and describes the following:

- DSR command format
- Entering DSR commands
- DSR command defaults
- Printing DSR output files

1.1 Overview of DIGITAL Standard Runoff

DIGITAL Standard Runoff (DSR) is a text-formatting facility consisting of DSR commands, DSR flags, the DCL command RUNOFF, the DSR Table of Contents Utility, and the DSR Indexing Utility. You enter DSR commands and flags in a file along with the text you want to format. The output file that results from DSR processing is a formatted document. Neither the DSR commands nor the DSR flags appear in the final document.

The following steps summarize the process of producing a document with DSR:

1. Use a text editor such as EDT to create or edit a file that contains DSR commands, DSR flags, and text.
2. Use the RUNOFF command to process your file and format the text according to DSR defaults and DSR commands that you enter.
3. Print the formatted document.

DSR commands allow you to specify many formatting items, among them: the size of pages, uneven or justified right margins, the amount of spaces to appear between lines, and the arrangement of items in lists. The procedure for entering DSR commands in your file is described later in this section. Each DSR command is described in detail in Chapter 2.

DSR flags are special characters that you enter to specify emphasis of text, case of characters, spacing of text, and other formatting details. Chapter 3 describes the procedure for using flags and gives a detailed description of each individual flag.

The **RUNOFF command** is a DCL (DIGITAL Command Language) command whose qualifiers allow you to adjust the amount of text on a page, process all or a part of your file, create an intermediate binary file for indexes and tables of contents, among other functions. The RUNOFF command and its qualifiers are described in Chapter 4.

The **DSR Table of Contents Utility** formats a table of contents from the structural commands (.CHAPTER, .HEADER LEVEL, and so on) that you enter in your document. This utility is described in Chapter 5.

The **DSR Indexing Utility** formats an index from the indexing commands (.INDEX, .ENTRY) that you enter in your document. This utility is described in Chapter 6.

1.2 DSR Command Format

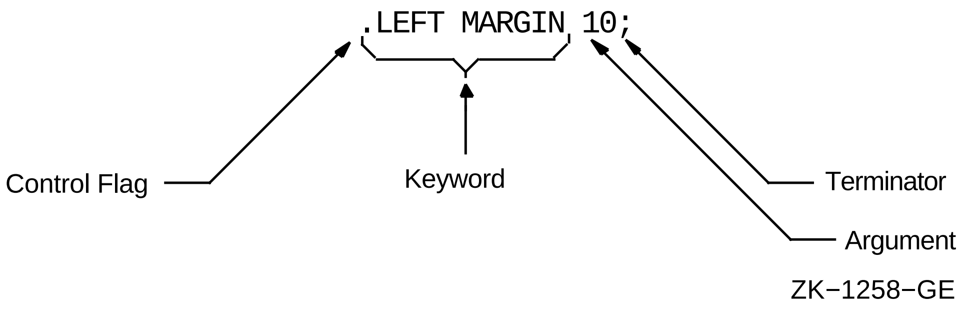
A DSR command consists of the following parts:

- A **Control flag** (.) that introduces a DSR command. Begin a command in column 1 unless it follows other DSR commands on the same line.
- A **keyword** that immediately follows the Control flag to specify the command function. A keyword can be a single word or several words separated by spaces. The letters of a keyword may be entered in uppercase, lowercase, or both. Keywords may be abbreviated to uniqueness.
- An **argument** that provides additional information for some commands. Use commas or spaces to separate multiple arguments (for example, .LAYOUT 1,3).

  Many commands have optional arguments. If you do not enter a value for the argument, DSR supplies a predetermined standard numeric or alphabetic value. This standard value is known as a default.
- A **terminator** that ends the command or string of commands. Commands are most commonly terminated by the end of the line. However, you can terminate a command with a semicolon (;). You can terminate a command and begin a comment with an exclamation point (!). Or you can terminate a command and begin another one with a period (.).

Figure 1–1 shows the parts of a DSR command.

Figure 1–1 DSR Command Format



1.3 Entering DSR Commands

You can put each DSR command on a separate line or you can put several DSR commands on the same line. You must always type the Control flag (.) in column 1 of a line. The following example shows a single command on each line:

```
.BLANK
.LEFT MARGIN 0
.INDENT 10
```

To put more than one DSR command on a line, you must follow these rules:

- You must type the first command in column 1 of a line.

- You can put one command after another if all commands on the line either take no values or take numeric values.
- You can (except where explicitly disallowed) include a command that takes an alphabetic argument, as long as it is the last command on the line.
- You must precede each command with a Control flag (.).

The following example shows multiple commands on a single line:

```
.BLANK.LEFT MARGIN 0.INDENT 10
```

There are exceptions to these rules. Some commands that take alphabetic values (such as the .DISPLAY commands) can appear anywhere in a line of commands. Other commands take text, but they must be followed by a semicolon (;) for another command to follow on the same line. Some commands that take text after them (.TITLE and .CHAPTER) cannot be followed by any other commands. Chapter 2 describes the formats of the individual commands.

To terminate a command or line of commands, you usually enter a carriage return. However, you can terminate a command by typing a semicolon if you want to enter text on the same line with the command. The text must immediately follow the semicolon. For example:

```
We sail the ocean blue,
.BLANK;And our saucy ship's a beauty.
```

In the preceding example, the semicolon after the .BLANK command tells DSR that the command is terminated and that text now follows. DSR inserts a blank line between the two lines of text, as shown in the following output:

```
We sail the ocean blue,

And our saucy ship's a beauty.
```

1.3.1 Separating Command Arguments

There are rules for separating command arguments from keywords and for separating arguments from other arguments. The rule for separating arguments from keywords is as follows:

- if the leading character of the first argument is not a letter, no separator is required
- if the leading character is a letter, the letter must be separated from the final keyword by at least one space or tab.

For example:

```
.TITLE Runoff
```

is acceptable, whereas

```
.TITLERunoff
```

is not, because DSR cannot differentiate between the argument and the keyword.

The rule for separating arguments from other arguments is: if more than one argument is required, you *may* insert a space or a comma as a separator between arguments; but, if you have adjacent letters or numbers in your argument sequence, you *must* insert a separator. A space separator consists of a SPACE or TAB character. A comma separator consists of a single comma, alone or within any number of spaces and tabs.

You must enter separators in the following example because there are adjacent numbers in the argument sequence:

```
.TAB STOPS 10,20,30,40
```

1.3.2 Entering Null Arguments

If you wish to use a default value when you are entering a sequence of arguments, use a comma to indicate a null argument. DSR assigns the appropriate default value to the null argument.

In the following example, the .TAB STOPS command uses default values for the first and second arguments, and uses the value supplied by the user (30) for the third argument:

```
.TAB STOPS ,,30
```

The result of this command is that the user has tab stops of 8, 16, and 30.

1.3.3 Abbreviating DSR Commands

Most DSR commands have standard abbreviations. It is often convenient to enter the abbreviation instead of the full command. The standard abbreviations for DSR commands are given in Chapter 2. The abbreviations for DSR flags are given in Chapter 3.

You can use your own short form of a DSR command instead of the standard abbreviations. However, your short form cannot match any other command name or similarly shortened form of any other command name. For example, the standard abbreviation of the .NO CONTROL CHARACTERS command is:

```
.NCC
```

Two possible short forms of the same command are:

```
.NOCON CHA
```

```
.NO CO CH
```

Standard abbreviations are preferred over your own short forms because the latter cannot be guaranteed to be unique in future versions of DSR.

1.4 DSR Command Defaults

Even if you have not included any DSR commands in your input file, you will see formatting differences between the input file and the output file after processing the input file with DSR. The reason for the changed appearance of the output file is that DSR uses certain basic or default formats when processing a file. These defaults are as follows:

- A standard typewriter page size of 8 1/2 x 11 inches; that is, a width of 70 character positions and a length of 58 lines of text per page (.PAGE SIZE 58,70)
- Sequential page numbering for every page but the first (.PAGING)
- A left margin setting of 0 (just before the first character position of a line) and a right margin setting of 70 (just after the 70th character position of a line) (.LEFT MARGIN 0 and .RIGHT MARGIN 70)
- Line spacing equivalent to the single-space setting on a typewriter (.SPACING 1)

- A tab setting every eighth character position on a line (.TAB STOPS 8,16,24...)
- Filling (.FILL)
- Justification (.JUSTIFY)

These default commands and all the other DSR commands are described in Chapter 2.

1.5 Printing DSR Output Files

After you have used DSR to produce a formatted output file, use the DCL command PRINT to send the file to an output device. On most systems, the print devices are set so that you will get the output that you specified with DSR formatting commands.

However, since the print symbiont, the printer driver, and print devices such as the LN01 can all insert form feeds that cause page breaks in your file, you may not get the output you expect. In case the printed output file has page breaks different from those you specified with DSR, the following sections describe when form feeds are inserted and how to control the number of form feeds that are inserted in your file.

You may also notice a difference in the number of lines per inch on a page, depending upon the device you use. The vertical line spacing LN01 font is 5.73 lines per inch, the LN03 font is 6 lines per inch.

1.5.1 DSR Form Feeds

DSR inserts a form feed at the end of a page, based on the page length specified with the .PAGE SIZE command and the value associated with the /FORM_SIZE qualifier. Both .PAGE SIZE and /FORM_SIZE have default values that you can override by specifying a different value.

The RUNOFF command line qualifier /FORM_SIZE allows you to adjust your DSR file to allow for page breaks that are generated by other software programs or hardware devices. The /FORM_SIZE qualifier suppresses form feeds at the line number that you use as a value for /FORM_SIZE = n. Follow these guidelines when printing a DSR output file:

- If you use the /SIMULATE qualifier on the command line, make the value of /FORM_SIZE equal to the physical size of the form on which the document will be printed.
- If you do not use /SIMULATE on the command line, make the value of /FORM_SIZE equal to one of the following:
  - 200 (the maximum value for /FORM_SIZE) — this causes DSR to suppress form feeds only when there are exactly 200 lines on the output page; in other words, you want DSR to insert form feeds in the file.
  - The number of lines that the physical device will print before it inserts a page break — this causes DSR to suppress form feeds at the point where the hardware device inserts them. If you then use the /NOFEED qualifier on the DCL command PRINT to prevent the print symbiont and the printer driver from inserting form feeds, then only the hardware device inserts form feeds.

1.5.2 Print Symbiont Form Feeds

The print symbiont inserts a form feed at the end of a page, based on a form that is associated with the DCL command PRINT. Someone with OPER privilege must define a form with the DEFINE /FORM command. The following is a sample form definition for an LN01 laser printer (elements required for DSR output are so marked):

```
DEFINE /FORM DSR$LN01 2         ! pick a name and number
       /MARGIN = BOTTOM = 0     ! *** required ***
       /NOWRAP                  ! *** required ***
       /NOTRUNCATE              ! *** required ***
       /STOCK = DEFAULT
       /DESCRIPTION = "DSR/LN01 forms definition"
```

Associate a defined form with the PRINT command in the following way:

```
PRINT /FORM=form-name filespec
```

Since the command that associates a defined form with the PRINT command may be quite long, you can equate this command to a global symbol in your LOGIN.COM file. A sample symbol definition follows (LN01$QUEUE is the name of a generic queue for the LN01):

```
$ DSRLN01PRINT == "PRINT/NOFEED/FORM=DSR$LN01/QUEUE=LN01$QUEUE"
```

1.5.3 Printer Driver Form Feeds

The printer driver may insert a form feed at the end of a page, based on the value of the /PAGE qualifier on the SET PRINTER command. You need LOG_IO privilege to use the SET PRINTER command.

A printer that is to receive DSR output should have the following setting:

```
SET PRINTER /NOTRUNCATE /NOWRAP
```

1.5.4 Printer Device Form Feeds

Printer devices such as the LN01 laser printer and line printers that have Variable Forms Control Units also perform page breaks. Sometimes it is hard to determine how many lines a printer will put on a page (depending upon the font you use, the LN01 puts varying numbers of lines on a page). Use the following steps to produce a test file to determine how many lines a printer puts on a page:

1. Create a sample DSR input file that starts with the .NO PAGING command.

   The following input file puts a unique line number on each line of the output file when processed with DSR:

   ```
   .NO PAGING
   .lm+3.b;.PAGE SIZE 200
   .NO FILL
   1
   2
   3
    .
    .
    .
   197
   198
   199
   200
   ```

2. Process your sample file with the RUNOFF command.

   If you intend to use the /DOWN qualifier when you process your file, use /DOWN to process the sample file also. The /DOWN qualifier affects how many lines of text a printer will put on a page.

   If you are trying to determine how many lines an LN01 will put on a page, use the /DEVICE=LN01 qualifier with the RUNOFF command to produce an LNI file to print on the LN01. (See Chapter 4 for information on the /DEVICE=LN01 qualifier.)

3. Check the setting of the print symbiont (SHOW QUEUE/FORM ...) and the printer driver (SHOW PRINTER) to ensure that they do not insert unwanted page breaks.

4. Print the file with the following command:

   ```
   PRINT /NOFEED filespec
   ```

   Use any other qualifiers for the DCL command PRINT (for example, /FORM=) that you will be using when you print your DSR output file.

5. Examine the printed output to see how many lines there are on the first page.

The printed output of the sample file allows you to determine how many lines the printer puts on a physical page. Use the number of lines per page as the value for the /FORM_SIZE qualifier and also as the upper limit for the length parameter you specify for the .PAGE SIZE command in your input file.

There is information in Appendix B for system managers about setting an LN01[E] laser printer to print LNI files.

2 DSR Commands

This chapter contains an alphabetical list of all DSR commands with a description of each command. The command descriptions are divided, as applicable, into the following parts:

- Overview paragraph
- Format
- Description
- Related Commands
- Default
- Examples

Standard abbreviations for the commands are included in the Format sections. Under Description you can find any side effects of the command, other commands that may be required, and other commands that may be executed by that command.

For a list of DSR commands according to function, see Appendix A.

.APPENDIX

The .APPENDIX command specifies the beginning of an appendix, assigns an identifying letter to it, and allows you to supply a title. Successive .APPENDIX commands assign identifying letters in alphabetical order. (See also .NUMBER APPENDIX and .DISPLAY APPENDIX.)

Format

.APPENDIX [text]

.AX [text]

Parameter

text
The title you give the appendix

Description

1. .APPENDIX executes a .BREAK command before doing its main task.
2. .APPENDIX executes .LEFT MARGIN 0 and .SPACING 1 commands.
3. .APPENDIX executes .FILL and .JUSTIFY commands unless you have entered a .NO AUTOJUSTIFY command. (However, note that if .JUSTIFY was in effect before you entered .APPENDIX, .NO AUTOJUSTIFY does not cancel .JUSTIFY.)
4. .APPENDIX executes the .PAGING command.
5. .APPENDIX executes .PAGE and inserts 12 blank lines.
6. .APPENDIX prints and centers the word *APPENDIX*, following it with a space and a letter identifying the appendix. After printing a blank line, .APPENDIX prints the title in uppercase letters unless you have specified otherwise with case flags. Three blank lines follow the title.
7. If you enter the .APPENDIX command after or instead of the .TITLE command, the appendix title becomes the running-head title and any .SUBTITLE command in effect before the .APPENDIX command is blanked.

.AUTOJUSTIFY, .NO AUTOJUSTIFY

When you enter .AUTOJUSTIFY, the following commands automatically execute .JUSTIFY (as well as .FILL) commands:

.APPENDIX
.CHAPTER
.HEADER LEVEL
.NOTE

If you disable automatic justification by entering .NO AUTOJUSTIFY, DSR does not disturb either the justify/no-justify or the fill/no-fill states that are in effect (whether by default or as a result of a previous .JUSTIFY or .NO JUSTIFY command) at the time you use one of these commands. Whichever state is in effect remains in effect when you enter .NO AUTOJUSTIFY. (See also .JUSTIFY, .NO JUSTIFY, .FILL, and .NO FILL.)

Format

```
.AUTOJUSTIFY

.NO AUTOJUSTIFY

.AJ

.NAJ
```

Default

.AUTOJUSTIFY

.AUTOPARAGRAPH, .NO AUTOPARAGRAPH

The .AUTOPARAGRAPH and .NO AUTOPARAGRAPH commands turn the automatic paragraph capability on and off. If .AUTOPARAGRAPH is in effect, you do not have to insert .PARAGRAPH commands each time you want to format a paragraph. When you start a line with a space or tab or insert a blank line, DSR automatically formats a new paragraph, using the values of .PARAGRAPH or .SET PARAGRAPH. You can specify values for .PARAGRAPH or you can use the default values (see .PARAGRAPH). .AUTOPARAGRAPH functions the same way .AUTOTABLE does, except that .AUTOTABLE starts a new paragraph each time a line does *not* start with a space or tab (see .AUTOTABLE).

Format

.AUTOPARAGRAPH

.NO AUTOPARAGRAPH

.AP

.NAP

Description

1. The .FILL command must be in effect for a space or tab to start a new paragraph.
2. If you enter either .AUTOPARAGRAPH or .NO AUTOPARAGRAPH, you cancel .AUTOTABLE.

Related Commands

If you enter .AUTOTABLE or .NO AUTOTABLE, you cancel .AUTOPARAGRAPH.

Default

If you have not entered .PARAGRAPH or .SET PARAGRAPH, DSR executes .TEST PAGE 2 followed by .SKIP 1 and .INDENT 5.

Example

The following example illustrates the use of the .AUTOPARAGRAPH command.

Input

The input text format before it is processed by DSR:

```
 .AUTOPARAGRAPH
-----------------------------------------------
-------------------------------------------
---------------------------------------------
-----------------------------------------------
TAB-----------------------------------------
--------------------------------------------
----------------------------------------------
```

Output

The output text format looks like this:

```
------------------------------------------------
------------------------------------------------
------------------------------------------------
------------------------------------------------

     -------------------------------------------
------------------------------------------------
------------------------------------------------
```

.AUTOSUBTITLE, .NO AUTOSUBTITLE

The .AUTOSUBTITLE command causes DSR to use .HEADER LEVEL titles for running-head subtitles. Subtitles therefore can change according to the section title that applies to a given page. The .NO AUTOSUBTITLE command cancels the .AUTOSUBTITLE function. (See .HEADERS ON, .SUBTITLE, and .HEADER LEVEL.)

Format

.AUTOSUBTITLE [[+/-]n]

.NO AUTOSUBTITLE

.AST [[+/-]n]

.NAST

Parameters

n
The highest numbered header level whose title will be used as a subtitle. For example, if you enter .AUTOSUBTITLE 2, the titles of header levels 1 and 2 appear as running-head subtitles. Header levels 3, 4, 5, and 6 do not appear as running-head subtitles.

+n
Increases the current highest numbered header level by *n*.

–n
Decreases the current highest numbered header level by *n*.

Description

1. You must enter the .SUBTITLE command for .AUTOSUBTITLE to work.
2. If the text of the header level that is used as a subtitle is wider than the page size currently in effect, the subtitle is truncated and an ellipsis (. . .) is appended to it.

Related Commands

The .DATE command causes the current date to be placed to the right of each subtitle.

Default

1. If you do not enter .AUTOSUBTITLE or .NO AUTOSUBTITLE, the default is .AUTOSUBTITLE 1.
2. If you enter .AUTOSUBTITLE with no value, the default is the value you specified with a previous .AUTOSUBTITLE command. If no .AUTOSUBTITLE command was previously entered, the default value is 1.

.AUTOTABLE, .NO AUTOTABLE

The .AUTOTABLE and .NO AUTOTABLE commands turn the automatic paragraph capability on and off. If .AUTOTABLE is in effect, DSR formats a new paragraph for each line that does not start with a space or tab. It is formatted according to .PARAGRAPH or .SET PARAGRAPH values, whether they are specified or supplied by default (see .PARAGRAPH). .AUTOTABLE functions the same way that .AUTOPARAGRAPH does, except that .AUTOPARAGRAPH starts a new paragraph for each line that starts with a space or tab (see .AUTOPARAGRAPH).

Format

.AUTOTABLE

.NO AUTOTABLE

.AT

.NAT

Description

1. The .FILL command must be in effect for a line without a space or a tab at the beginning to start a new paragraph.
2. If you enter either .AUTOTABLE or .NO AUTOTABLE, you cancel .AUTOPARAGRAPH.

Related Commands

If you enter .AUTOPARAGRAPH or .NO AUTOPARAGRAPH, you cancel .AUTOTABLE.

Default

If you have not entered .PARAGRAPH or .SET PARAGRAPH, the default is .TEST PAGE 2 followed by .SKIP 1 and an .INDENT 5.

Example

The following example illustrates the use of the .AUTOTABLE command.

Input

The input text before it is processed by DSR:

```
.AUTOTABLE
---------------------------------------------
TAB--------------------------------------------
SPACE--------------------------------------------------
-----------------------------------------------------
SPACE---------------------------------------
--------------------------------------------------
TAB------------------------------------------------
TAB----------------------------------------------
```

Output

The output text format looks like this:

```
     -------------------------------------------------
------------------------------------------------------
------------------------------------------------------

     -------------------------------------------------
------------------------------------------------------

     -------------------------------------------------
------------------------------------------------------
------------------------------------------------------
```

.BLANK

The .BLANK command inserts exactly the number of blank lines that you specify. It is different from .SKIP, which inserts a multiple of the number of blank lines specified in the .SPACING command (see .SKIP and .SPACING).

Format

```
.BLANK   [[-]n]

.B   [[-]n]
```

Parameters

n
The number of blank lines you want to insert.

–n
Specifies that the next line will begin exactly *n* lines from the bottom of the current page.

Description

1. The .BLANK command executes .BREAK before doing its main task.
2. .BLANK *n* does not work at the top of a page, that is, immediately following .PAGE or just after .PAGE SIZE length has been exceeded. However, .BLANK –*n* pushes the next line to the bottom of the page, minus n lines, under such conditions. (Use the .FIGURE command to insert blank lines at the top of a page.)
3. If there is not enough room on the current page for .BLANK to do exactly as you specified, .BLANK does as much as it can on that page. It finishes on the next page only if you enter .BLANK –*n* and .SPACING has a value greater than *n*.
4. If DSR encounters a footnote while executing .BLANK, it considers the line directly above the footnote to be the bottom of the page.

Default

If you enter .BLANK without a value, you get .BLANK 1.

.BREAK

The .BREAK command ends the current line immediately, without filling or justifying. Enter .BREAK when .FILL is in effect and you want a few short lines of text with no blank lines in between.

Format

.BREAK

.BR

.$\boxed{\text{RET}}$

Description

The .BREAK command immediately after .PARAGRAPH, .INDENT, .LEFT MARGIN, .AUTOPARAGRAPH, or .AUTOTABLE cancels the indentation you just requested. This also occurs with most of the commands that execute the .BREAK command automatically.

Related Commands

The following DSR commands execute the .BREAK command before doing their main tasks:

.APPENDIX	.LIST and .END LIST
.BLANK	.LIST ELEMENT
.CENTER	.PAGE
.CHAPTER	.PAGE SIZE
.DISPLAY APPENDIX	.PAPER SIZE
.DISPLAY CHAPTER	.PARAGRAPH
.DISPLAY ELEMENTS	.RIGHT
.DISPLAY LEVELS	.RIGHT MARGIN
.DISPLAY NUMBER	.SET DATE
.DISPLAY SUBPAGE	.SKIP
.FIGURE	.SPACING
.FIGURE DEFERRED	.STYLE HEADERS
.FILL and .NO FILL	.SUBPAGE and .END SUBPAGE
.HEADER LEVEL	.TEST PAGE
.INDENT	.TITLE
.LAYOUT	

.CENTER (.CENTRE)

The .CENTER command centers a single line of text around a character position on a line (compare with .RIGHT).

Format

```
.CENTER   [[+/-]n]; text
.CENTER   [[+/-]n] text
.CENTRE   [[+/-]n]; text
.CENTRE   [[+/-]n] text
.C   [[+/-]n]; text
.C   [[+/-]n] text
```

Parameters

n
Twice the value of the character position that you want to center the text around. (Absolute character positions on a line always start with 0 at the leftmost position on the page.)

If you center the line of text between settings of the left and right margins, then *n* is equal to the value specified by the most recent .LEFT MARGIN command added to the value specified by the most recent .RIGHT MARGIN command.

+n
Moves the character position around which the text is centered to the right by *n/2* character positions. This value normally is used to adapt .CENTER to a new setting specified by the .LEFT MARGIN command.

–n
Moves the character position around which the text is centered to the left by n/2 character positions. This value normally is used to adapt .CENTER to a new setting specified by the .RIGHT MARGIN command.

text
The text you want to center. You must enter this text on one line.

Description

1. The .CENTER command executes .BREAK before doing its main task.
2. The line of text being centered can extend past margin settings and even beyond the width setting established by the PAGE SIZE command, but it cannot go to the left of character position 0.
3. You can type the text to be centered on the same line following the .CENTER command. If you end the line after the .CENTER command, the text on the following line is centered.
4. No commands will be recognized on the line following the .CENTER command (or if that line is blank, on the next line). The Control flag (.) is not honored while .CENTER is collecting text to center. Other DSR flags are recognized, however — the Bold and Underline flags, for example.

Default

If you enter .CENTER without specifying *n*, the text is centered between the current left and right margins.

.CHAPTER

The .CHAPTER command specifies the beginning of a chapter, numbers it, and allows you to supply a chapter title. Successive .CHAPTER commands number the chapters sequentially. (See also .NUMBER CHAPTER and .DISPLAY CHAPTER.)

Format

```
.CHAPTER    [text]

.CH    [text]
```

Parameter

text
The title of the chapter.

Description

1. .CHAPTER executes .BREAK before doing its main task.
2. .CHAPTER executes .LEFT MARGIN 0 and .SPACING 1.
3. .CHAPTER executes .FILL and .JUSTIFY, unless you have entered .NO AUTOJUSTIFY. (However, note that if .JUSTIFY was in effect before you entered .CHAPTER, .NO AUTOJUSTIFY does not cancel .JUSTIFY.)
4. .CHAPTER executes the .PAGING command.
5. .CHAPTER executes .PAGE and inserts 12 blank lines.
6. .CHAPTER prints and centers the word *CHAPTER* and a number identifying the chapter. After printing a blank line, .CHAPTER prints the title in uppercase letters unless you have specified otherwise with case flags. Three blank lines follow the title.
7. If you include .CHAPTER after or instead of .TITLE, the chapter title becomes the running-head title and any .SUBTITLE command in effect before the .CHAPTER command is blanked.

.CONTROL CHARACTERS, .NO CONTROL CHARACTERS

The .CONTROL CHARACTERS command causes DSR to accept control characters as normal text in your input file. The characters that are affected by this command are the characters in the DEC Multinational Character set with the following decimal values; 1-31, 128-159, and 255. The control characters 0 (NULL) and 127 (DEL) can only be inserted into a document by using the accept flag (_). A form feed (ASCII 12) must be preceded by the accept flag if used in column 1.

The .NO CONTROL CHARACTERS command does not accept control characters as normal text.

Format

.CONTROL CHARACTERS

.CC

.NO CONTROL CHARACTERS

.NCC

Default

.NO CONTROL CHARACTERS

Example

The following example shows how you might use the .CONTROL CHARACTERS and .NO CONTROL CHARACTERS commands in a command file.

```
.!
.IF DIABLO
.! Switch the Diablo printer to horizontal 12-pitch (12 char/in.)
.! and vertical 7-pitch (7 char/in.). The codes are as follows:
.!
.!                  Codes        Decimal values
.! Horizontal:   <ESC><US><VT>    27 - 31 - 11
.! Vertical:     <ESC><RS><BS>    27 - 30 - 08
.!
.CONTROL CHARACTERS
<ESC>^_<VT>
<ESC>^^^H
.NO CONTROL CHARACTERS
.ENDIF DIABLO
.!
```

This command file allows device-dependent information to pass through DSR to the device (a DIABLO terminal). Without the .CONTROL CHARACTERS command, DSR would send error messages and would then delete the control characters.

.DATE, .NO DATE

The .DATE and .NO DATE commands control whether the current date appears in running heads. The date appears in the following format: 22 August 1988. The .SUBTITLE command must be included for .DATE to be effective. (See also .HEADERS ON and .SET DATE.)

Format

```
.DATE

.NO DATE

.D

.ND
```

Description

The date appears on the right-hand side of the subtitle line.

Related Commands

1. .DATE is not effective if either .LAYOUT 1 or .LAYOUT 2 is in effect.
2. You can specify a different date with the .SET DATE command.

Default

.NO DATE

.DISPLAY APPENDIX

The .DISPLAY APPENDIX command allows you to specify the form that the lettering (or numbering) of appendixes will take. The form you specify appears in the title, the page numbers, and the first character of header level numbers throughout the appendix. This command does not change any values; it only affects the way the values are displayed. (See also .APPENDIX and .NUMBER APPENDIX.)

Format

```
.DISPLAY APPENDIX    y

.DAX    y
```

Parameter

y
One of the following one- or two-letter codes:

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

Description

1. The .DISPLAY APPENDIX command executes .BREAK before doing its main task.
2. Enter .DISPLAY APPENDIX before the .APPENDIX command you want to affect.

Default

Uppercase letters (LU)

Example

The following example illustrates the use of the .DISPLAY APPENDIX command.

Input

The input text format before it is processed by DSR:

```
.RIGHT MARGIN 60
.DISPLAY APPENDIX RU
.NUMBER APPENDIX 5
.APPENDIX
```

```
This is the beginning of the fifth appendix in a book. The
appendix identifiers are displayed as Roman Uppercase Numerals.
```

Output

The output text format looks like this:

```


                         APPENDIX V



This is the beginning of the fifth appendix in a book.   The
appendix  identifiers  are  displayed  as  Roman  Uppercase
Numerals.
```

.DISPLAY CHAPTER

The .DISPLAY CHAPTER command allows you to specify the form that the numbering (or lettering) of chapters will take. The form you specify appears in the title, the page numbers, and the first character of header level numbers throughout the chapter. This command does not change any values; it only affects the way the values are displayed. (See also .CHAPTER and .NUMBER CHAPTER.)

Format

```
.DISPLAY CHAPTER    y

.DCH    y
```

Parameter

y
One of the following one- or two-letter codes:

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

Description

1. The .DISPLAY CHAPTER command executes .BREAK before doing its main task.
2. Enter .DISPLAY CHAPTER before the .CHAPTER command you want to affect.

Default

Decimal numbers (D)

Example

The following example illustrates the use of the .DISPLAY CHAPTER command.

Input

The input text format before it is processed by DSR:

```
.DISPLAY CHAPTER RL
.NUMBER CHAPTER 7
.CHAPTER

This is the beginning of the seventh chapter in a book. The
chapter identifiers are displayed as Roman Lowercase Numerals.
```

Output

The output text format looks like this:

```


                              CHAPTER vii


This is the beginning of the seventh chapter in  a  book.  The
chapter identifiers are displayed as Roman Lowercase Numerals.
```

.DISPLAY ELEMENTS

The .DISPLAY ELEMENTS command allows you to specify the form that sequential numbering or lettering of items in a list will take. This command does not change any values; it only affects the way the values are displayed. (See also .LIST, .END LIST, and .NUMBER LIST.)

Format

```
.DISPLAY ELEMENTS    ["x",] y [,"z"] (or ['x',] y [,'z'])

.DLE    ["x",] y [,"z"] (or ['x',] y [,'z'])
```

Parameters

x
A character, such as a left parenthesis or bracket, that you can specify to precede the number or letter. You must enclose the character within quotation marks ("") or apostrophes (′′).

y
One of the following one- or two-letter codes:

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

z
A character, such as a right parenthesis or bracket, that you can specify to follow the number or letter. You must enclose the character within quotation marks (" ") or apostrophes (′ ′).

Description

1. The .DISPLAY ELEMENTS command executes .BREAK before doing its main task.
2. You must enter .DISPLAY ELEMENTS before the first .LIST ELEMENT command that you want to affect, but after the .LIST command.
3. The .DISPLAY ELEMENTS command remains in effect only for a particular list. A list is defined by the .LIST command and its paired .END LIST command. Other lists, similarly defined, can exist within it and are unaffected by the .DISPLAY ELEMENTS command entered for outer lists (or any other lists).

4. If you omit a value from .DISPLAY ELEMENTS, the current setting remains unchanged, but you must retain any comma that would have followed it. (The final value present, however, need not have a comma after it.)

Default

A space for x, decimal numbers for y, and a period (.) for z

Example

The following example shows how to specify special numbering of the items in a list.

Input

The input specifies that the list has Roman lowercase numerals set off with a right parenthesis.

```
.LIST
.DISPLAY ELEMENTS RL,")"
.LE;First
.LE;Second
.END LIST
```

Output

When the input file is processed with DSR the items in the list are numbered in the following way:

```
 i) First

ii) Second
```

.DISPLAY LEVELS

The .DISPLAY LEVELS command allows you to specify the form that sequential numbering (or lettering) of section headers will take. You can control the form of individual numbers within a section number for a header (that is, those numbers preceding or following a dot). This command does not change any values; it only affects the way the values are displayed. (See also .HEADER LEVEL, .NUMBER LEVEL, and .STYLE HEADERS.)

Default Header Level Numbering

	Nonchapter	Chapter n	Appendix A
.HEADER LEVEL 1	1	n.1	A.1
.HEADER LEVEL 2	1.1	n.1.1	A.1.1
.HEADER LEVEL 3	1.1.1	n.1.1.1	A.1.1.1

Format

```
.DISPLAY LEVELS    [y1] [,y2]...[,y6]

.DHL    [y1][,y2]...[,y6]
```

Parameter

y
One of the following one- or two-letter codes; 1,2, . . . 6 indicate positions of numbers (or letters) for a section header. The commas correspond to the dots in a printed section number. See the example under *Description*. (See also .NUMBER LEVEL.)

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

Description

1. The .DISPLAY LEVELS command executes .BREAK before doing its main task.
2. If you have entered the .DISPLAY LEVELS RU,,LL command, for example, and if you now enter the .HEADER LEVEL command that normally would produce a section number of 2.2.1, the section header number would appear as follows:

   For a document with no chapters,

   .HEADER LEVEL 3 produces II.2.a.

   For a document with chapters,

   .HEADER LEVEL 3 produces 1.II.2.a., if you entered it in Chapter 1.

   Note that this command does not affect the chapter number. However, .CHAPTER, .NUMBER CHAPTER, and .DISPLAY CHAPTER do affect it.
3. *y1*,*y2*,...*y6* are displaced one position to the right if you have entered .CHAPTER or .APPENDIX.

Default

Decimal numbers (D)

.DISPLAY NUMBER

The .DISPLAY NUMBER command allows you to specify the form that sequential numbering (or lettering) of pages will take. This command does not change any values; it only affects the way the values are displayed. (See also .HEADERS ON, .NUMBER PAGE, .NO NUMBER, .LAYOUT, .NUMBER RUNNING, and .NO PAGING.)

Format

```
.DISPLAY NUMBER    y

.DNM    y
```

Parameter

y
One of the following one- or two-letter codes:

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

Description

1. The .DISPLAY NUMBER command executes .BREAK before doing its main task.
2. Enter .DISPLAY NUMBER before the page you want to affect. However, note that if you are using .LAYOUT 1 or .LAYOUT 2 (where the page number appears at the bottom of the page), the .DISPLAY NUMBER command might affect the page on which you enter that command when you are trying to affect the *next* page.

Default

Decimal numbers (D)

.DISPLAY SUBPAGE

The .DISPLAY SUBPAGE command allows you to specify the form that sequential lettering (or numbering) of subpage characters will take. Subpage characters are the characters that are appended to the page numbers of subpages. This command does not change any values; it only affects the way the values are displayed. (See also .SUBPAGE and .NUMBER SUBPAGE.)

Format

```
.DISPLAY SUBPAGE    y

.DSP    y
```

Parameter

y
One of the following one- or two-letter codes:

Code	Form of Sequence and Case
D	Decimal Numbers
O	Octal Numbers
H	Hexadecimal Numbers
RU	Roman Uppercase Numerals
RL	Roman Lowercase Numerals
RM	Roman Mixed Case Numerals—only first numeral is uppercase
LU	Letters, Uppercase
LL	Letters, Lowercase
LM	Letters, Mixed Case—only first letter is uppercase

Description

1. The .DISPLAY SUBPAGE command executes .BREAK before doing its main task.
2. Enter .DISPLAY SUBPAGE before the subpage you want to affect.

Default

Uppercase letters (LU) appended to the page number preceding the subpage

.ENABLE BAR, .DISABLE BAR, .BEGIN BAR, .END BAR

The bar commands control the insertion of vertical bars (|) at the beginning of lines of text. The bars (usually called change bars) are normally inserted to indicate where changes in text have occurred since the previous edition of a document. You can specify a character other than the default character (vertical bars) to indicate changes. (See the description of the /CHANGE_BAR[="character"] qualifier in Chapter 4.)

The .ENABLE BAR command shifts all text following it three spaces to the right to make room for the bars on the left. The width of the lines of actual text is not altered.

The .BEGIN BAR command causes DSR to start inserting vertical bars at the beginning of lines.

The .END BAR command causes DSR to stop putting vertical bars at the beginning of lines.

The .DISABLE BAR command disables the bar commands but does not shift the lines of text back to their original position.

Format

.ENABLE BAR

.DISABLE BAR

.EBB

.DBB

.BEGIN BAR

.END BAR

.BB

.EB

Default

.DISABLE BAR — Operation of the change bar function is not initially enabled. By default, there are no change bars and text is not indented.

Example

The following example shows how to use the bar commands.

Input

The input file with bar commands before it is processed by DSR:

```
.RIGHT MARGIN 50
A .BEGIN BAR command follows this text. The word
"Here" is placed between  .BEGIN BAR and .END BAR
commands. However, you should not see change bars
in the output file (unless this file is processed
with the /CHANGE_BARS qualifier) because you have not
entered an .ENABLE BAR command.
.BLANK
.BEGIN BAR
Here.
.END BAR
.BLANK
No change bars appeared.
.BLANK
Following this sentence, you enter an .ENABLE BAR command.
.BLANK
.ENABLE BAR
The .ENABLE BAR command shifts all text following it three
spaces to the right to prepare for change bars in the left
margin. .ENABLE BAR does not put change bars in the output
file until .BEGIN BAR is specified.
.BLANK
Enter the .BEGIN BAR command.
.BLANK
.BEGIN BAR
This text is barred because it is between .BEGIN BAR
and .END BAR commands when the bar commands are enabled.
.END BAR
.BLANK
Following this sentence, you turn off recognition of
the bar commands with a .DISABLE BAR command.
.BLANK
.DISABLE BAR
Notice that the left margin does not change. It
was offset 3 spaces to the right when bars were
enabled (either with the /CHANGE_BARS qualifier on
the command line or with the .ENABLE BAR command
in the input file). Disabling the recognition of
bar commands with the  .DISABLE BAR command does
not cause the margin to go back to its original
setting.
```

Output

When the input file is processed with DSR (without the /CHANGE_BAR qualifier), the output file is this:

```
A .BEGIN BAR command follows this text.  The  word
"Here"  is  placed between .BEGIN BAR and .END BAR
commands.  However, you should not see change  bars
in  the output file (unless this file is processed
with the /CHANGE_BARS qualifier) because  you  have
not entered an .ENABLE BAR command.

Here.

No change bars appeared.

Following this sentence, you enter an  .ENABLE  BAR
command.

   The .ENABLE BAR command shifts all text  following
   it three spaces to the right to prepare for change
   bars in the left margin.  .ENABLE BAR does not put
   change bars in the output file until .BEGIN BAR is
   specified.

   Enter the .BEGIN BAR command.

|  This text is barred because it is  between  .BEGIN
|  BAR  and  .END  BAR commands when the bar commands
|  are enabled.

   Following this sentence, you turn  off  recognition
   of the bar commands with a .DISABLE BAR command.

   Notice that the left margin does not  change.   It
   was  offset  3  spaces to the right when bars were
   enabled (either with the /CHANGE_BARS qualifier on
   the  command  line or with the .ENABLE BAR command
   in the input file).  Disabling the recognition  of
   bar  commands  with  the .DISABLE BAR command does
   not cause the margin to go  back  to  its  original
   setting.
```

.ENABLE BOLDING, .DISABLE BOLDING

The .ENABLE BOLDING and .DISABLE BOLDING commands enable and disable the bolding function. You can perform bolding only if recognition of the Bold flag (*) is turned on and the bold function is enabled. See the description of the Bold flag in Chapter 3 and the description of .FLAGS BOLD in this chapter.

Format

```
.ENABLE BOLDING

.DISABLE BOLDING

.EBO

.DBO
```

Default

Operation of the Bold function is initially enabled (.ENABLE BOLDING), but recognition of the Bold flag (*) is not turned on (.NO FLAGS BOLD).

.ENABLE HYPHENATION, .DISABLE HYPHENATION

The .ENABLE HYPHENATION and .DISABLE HYPHENATION commands enable and disable the hyphenation function.

You can use hyphenation to close up excessive spacing between words. Extra spaces often are placed between words when margins are narrow and a line contains several long words. See the description of the Hyphenate flag (=) in Chapter 3 and the description of .FLAGS HYPHENATE in this chapter.

Format

.ENABLE HYPHENATION

.DISABLE HYPHENATION

.EHY

.DHY

Default

Operation of the hyphenation function is initially enabled (.ENABLE HYPHENATION), but recognition of the Hyphenate flag (=) is not turned on (.NO FLAGS HYPHENATE).

.ENABLE INDEXING, .DISABLE INDEXING

These commands enable and disable the operation of the indexing commands (.INDEX and .ENTRY), and the Index flag (>). See the description of the Index flag in Chapter 3 and the description of .FLAGS INDEX in this chapter. Chapter 6 has information about the DSR indexing utility.

Format

```
.ENABLE INDEXING

.DISABLE INDEXING

.EIX

.DIX
```

Default

Operation of the index function is initially enabled (.ENABLE INDEXING), but recognition of the Index flag (>) is not turned on (.NO FLAGS INDEX).

.ENABLE OVERSTRIKING, .DISABLE OVERSTRIKING

The .ENABLE OVERSTRIKING and .DISABLE OVERSTRIKING commands enable and disable the overstrike function.

You use the Overstrike flag (%) to create special characters that are not available on the terminal by overstriking any printing character with another. For example, you can overstrike a 7 with a hyphen to create a European 7. See the description of the Overstrike flag in Chapter 3 and .FLAGS OVERSTRIKE in this chapter.

Format

.ENABLE OVERSTRIKING

.EOV

.DISABLE OVERSTRIKING

.DOV

Default

Operation of the overstrike function is initially enabled (.ENABLE OVERSTRIKING), but recognition of the Overstrike flag (%) is not turned on (.NO FLAGS OVERSTRIKE).

.ENABLE TOC, .DISABLE TOC

These commands enable and disable DSR's collection of information for the table of contents. Chapter 5 has information on the DSR table of contents utility.

Format

```
.ENABLE TOC

.DISABLE TOC

.ETC

.DTC
```

Default

Operation of the table of contents function is initially enabled (.ENABLE TOC).

.ENABLE UNDERLINING, .DISABLE UNDERLINING

The .ENABLE UNDERLINING and .DISABLE UNDERLINING commands enable and disable the underline function. You can perform underlining only if recognition of the Underline flag (&) is turned on and the underline function is enabled. See the description of the Underline flag in Chapter 3 and .FLAGS UNDERLINE in this chapter.

Format

```
.ENABLE UNDERLINING

.DISABLE UNDERLINING

.EUN

.DUL
```

Default

Operation of the underline function is initially enabled (.ENABLE UNDERLINING) and recognition of the Underline flag (&) is turned on (.FLAGS UNDERLINE).

.ENTRY

The .ENTRY command creates an index entry without a page number reference. It is usually used for "See . . . " or "See also . . . " index entries. Chapter 6 has a description of the DSR indexing utility.

Format

```
.ENTRY    topic [>subtopic1...  >subtopicn]

.Y    topic [>subtopic1...  >subtopicn]
```

.FIGURE DEFERRED, .FIGURE

The .FIGURE DEFERRED command leaves room on a page for you to insert a figure later. You specify the number of blank lines you need, and DSR leaves that amount of space on the current page if there is enough room.

If there is not enough room on the current page, .FIGURE DEFERRED first adds enough text to complete the page and then puts the required number of blank lines at the top of the next page.

The .FIGURE command is the same as .FIGURE DEFERRED except that, if there is not enough room on the current page, DSR ends the page immediately and then puts the blank lines at the top of the next page.

Format

```
.FIGURE DEFERRED   [n]

.FIGURE   [n]

.FGD   [n]

.FG    [n]
```

Parameter

n
The number of blank lines needed. Values of 0 or less are not valid and *n* cannot exceed the number of lines of text allowed on a page (this would be the page-length value associated with the .PAGE SIZE command minus any header lines, any forced blank spaces after the header information, and any bottom of the page information specified by .LAYOUT 1, .LAYOUT 2, or .LAYOUT 3).

Description

1. The .FIGURE DEFERRED and .FIGURE commands both execute the .BREAK command before doing their main tasks.
2. .FIGURE DEFERRED avoids short pages (a large amount of white space at the bottom of the page).
3. You should not enter two .FIGURE DEFERRED commands in a row. You should enter at least one line of text before executing a second .FIGURE DEFERRED command.
4. You can enter .FIGURE and .PAGE alternately to produce consecutive blank pages. (A series of .PAGE commands alone does not accomplish this action. See also .SKIP and .BLANK.)
5. For a figure ending a page, you can cause a caption to be printed at the bottom of the page by entering the following commands after .FIGURE:

```
.SKIP -1
.CENTER;figure caption
```

Default

1. .FIGURE 1
2. .FIGURE DEFERRED 1

Example

The following examples show how to use the .FIGURE and .FIGURE DEFERRED commands.

Input

The input file before it is processed by DSR:

```
.PAGE SIZE 25,55
.RIGHT MARGIN 55
.LAYOUT 1,2
.FLAGS BOLD
Here are examples of using .FIGURE and .FIGURE
DEFERRED. The results are clearer if you use the
/SEQUENCE qualifier when running off this file.
The page length for this example is 25 lines. The
width is 55 characters.
.BLANK
The following is Figure 1, a 3-line figure:
.BLANK
.CENTER;^*Title for Figure 1\*
.FIGURE 3
.SUBTITLE ^*Title for Figure 2\*
The next figure will be deferred to the following
page. It will be seven lines long and will occur at
the top of page 2.
.FIGURE DEFERRED 7
.BLANK
This text occurs after Figure 1, still on page 1.
It demonstrates that text will continue to fill
the previous page after a .FIGURE DEFERRED
command is processed, but before it is triggered.
.PAGE
Now we are on page 2 after the occurrence of Figure 2.
We are about to set up Figure 3 to occur on page 3.
This time, we will use .PAGE followed by .FIGURE 4.
Page 2 will be left short.
.SUBTITLE ^*Title for Figure 3\*
.PAGE
.FIGURE 4
.SUBTITLE
And here is the text following Figure 3. It
appears physically after the figure on Page 3.
This is in contrast to the .FIGURE DEFERRED
behavior we saw for Figure 2; the text was not
pulled up to fill page 2.
```

Output

The output file is this:

```
Here  are  examples  of  using  .FIGURE   and   .FIGURE
DEFERRED.  The  results  are  clearer  if  you use the
/SEQUENCE qualifier when running off  this  file.   The
page length for this example is 25 lines.  The width is
55 characters.
```

```
The following is Figure 1, a 3-line figure:

                  Title for Figure 1


The next figure will be deferred to the following page.
It  will be  seven lines long and will occur at the top
of page 2.
This text occurs after Figure 1, still on page  1.   It
demonstrates  that  text  will  continue  to  fill  the
previous page  after  a  .FIGURE  DEFERRED  command  is
processed, but before it is triggered.

                           1


                  Title for Figure 2




Now we are on page 2 after the occurrence of Figure  2.
We  are  about  to  set up Figure 3 to occur on page 3.
This time, we will use .PAGE  followed  by  .FIGURE  4.
Page 2 will be left short.




                           2


                  Title for Figure 3


And here is the text following Figure  3.   It  appears
physically  after  the  figure  on  Page 3.  This is in
contrast to the .FIGURE DEFERRED behavior  we  saw  for
Figure 2; the text was not pulled up to fill page 2.


                           3
```

.FILL, .NO FILL

The .FILL command causes DSR to treat line endings exactly like spaces (see also .NO SPACE). Line-filling is the accumulation of words on a line until the addition of one more word would exceed the right margin. If .NO FILL is in effect, line endings in the input file are duplicated in the output file (see also .KEEP).

Format

.FILL

.NO FILL

.F

.NF

Description

1. Both .FILL and .NO FILL execute the .BREAK command before doing their main tasks.
2. The .NO FILL command suspends both line-filling and justification.
3. The .FILL command restores line-filling and normally restores the most recent .JUSTIFY or .NO JUSTIFY setting that was in effect. A no-justify state that was set as a result of a .NO FILL command is not considered when DSR is determining the most recent setting. In other words, .NO FILL turns off both filling and justification, and .FILL restores them.
4. .NO FILL suspends any .AUTOPARAGRAPH or .AUTOTABLE that has been executed; .FILL restores it.
5. You can create an uneven right margin (ragged right text format) by having both .FILL and .NO JUSTIFY in effect.
6. If you want justification of text without lines being filled, you must enter .NO FILL before you enter .JUSTIFY. Under these conditions, the same words appear on each line of the output file as were present in the input file. DSR inserts as much space between words as it needs to expand the lines to the right margin.

Related Commands

1. The following commands execute .FILL commands unless you have entered .NO AUTOJUSTIFY:

   .APPENDIX
   .CHAPTER
   .HEADER LEVEL

2. .NOTE also executes .FILL, but .END NOTE restores the setting to what it was before you entered the .NOTE command.

Default

.FILL

.FIRST TITLE

The .FIRST TITLE command allows running-head information to appear on the first page of a document with no chapters. (See also .HEADERS ON, .LAYOUT, .TITLE, .SUBTITLE, and .AUTOSUBTITLE.)

Format

.FIRST TITLE

.FT

Description

Insert the .FIRST TITLE command before any text on the first page.

Related Commands

If you enter .CHAPTER or .APPENDIX, .FIRST TITLE does not work; but, if .LAYOUT is set to print page numbers (of any kind) at the bottom of pages (.LAYOUT 1 or 2 or 3), you get a page number on the first page, even if you did not enter .FIRST TITLE.

Default

No running-head information on the first page

.FLAGS ACCEPT, .NO FLAGS ACCEPT

The .FLAGS ACCEPT and .NO FLAGS ACCEPT commands turn on and turn off recognition of the Accept flag character (_). See the description of the Accept flag in Chapter 3.

Format

```
.FLAGS ACCEPT   [k]

.NO FLAGS ACCEPT

.FL ACCEPT   [k]

.NFL ACCEPT
```

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS ACCEPT — Recognition of the Accept flag character (_) is turned on.

.FLAGS ALL, .NO FLAGS ALL

The .FLAGS ALL and .NO FLAGS ALL commands function as master switches for all other .FLAGS/.NO FLAGS flag-name command settings, except the .FLAGS/.NO FLAGS COMMENT and .FLAGS/.NO FLAGS CONTROL commands.

The .FLAGS ALL and .NO FLAGS ALL commands turn on and turn off recognition of all flags without disturbing other flag command settings. (An analogy for flag recognition is turning on a master switch [entering .FLAGS ALL] — those lights whose switches are in the ON position will go on and those whose switches are in the OFF position will not go on.) See also .ENABLE /.DISABLE BOLDING, HYPHENATION, INDEXING, OVERSTRIKING, and UNDERLINING commands.

Format

```
.FLAGS ALL
.NO FLAGS ALL
.FLAGS
.NO FLAGS
.FL
.NFL
```

Default

.FLAGS ALL

.FLAGS BOLD, .NO FLAGS BOLD

The .FLAGS BOLD and .NO FLAGS BOLD commands turn on and turn off recognition of the Bold flag character (*). See the description of the Bold flag in Chapter 3 and the description of .ENABLE BOLDING in this chapter.

Format

```
.FLAGS BOLD   [k]

.NO FLAGS BOLD

.FL BOLD   [k]

.NFL BOLD
```

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS BOLD — Recognition of the Bold flag character (*) is turned off.

.FLAGS BREAK, .NO FLAGS BREAK

The .FLAGS BREAK and .NO FLAGS BREAK commands turn on and turn off recognition of the Break flag character (|). See the description of the Break flag in Chapter 3.

Format

.FLAGS BREAK   [k]

.NO FLAGS BREAK

.FL BREAK   [k]

.NFL BREAK

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS BREAK — Recognition of the Break flag character (|) is turned off.

.FLAGS CAPITALIZE, .NO FLAGS CAPITALIZE

The .FLAGS CAPITALIZE and .NO FLAGS CAPITALIZE commands turn on and turn off recognition of the Capitalize flag character (<). See the description of the Capitalize flag in Chapter 3.

Format

.FLAGS CAPITALIZE   [k]

.NO FLAGS CAPITALIZE

.FL CAPITALIZE   [k]

.NFL CAPITALIZE

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS CAPITALIZE — Recognition of the Capitalize flag character (<) is turned off.

.FLAGS COMMENT, .NO FLAGS COMMENT

The .FLAGS COMMENT and .NO FLAGS COMMENT commands turn on and turn off recognition of the Comment flag character (!). See the description of the Comment flag in Chapter 3.

Format

.FLAGS COMMENT   [k]

.NO FLAGS COMMENT

.FL COMMENT   [k]

.NFL COMMENT

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS COMMENT — Recognition of the Comment flag character (!) is turned on.

.FLAGS CONTROL, .NO FLAGS CONTROL

These commands control recognition of the Control flag character (the dot that begins a DSR command). You can enter .FLAGS CONTROL to change the character that precedes the commands from a dot to a character of your choice. You can enter .NO FLAGS CONTROL to turn off recognition of the Control flag character.

Note

There is no way to reenable recognition of the Control flag once you enter the .NO FLAGS CONTROL command.

Format

.FLAGS CONTROL [k]

.NO FLAGS CONTROL

.FL CONTROL [k]

.NFL CONTROL

Parameter

k
Specifies a character to replace the current Control flag character.

Default

.FLAGS CONTROL — Recognition of the Control flag character (.) is turned on.

.FLAGS HYPHENATE, .NO FLAGS HYPHENATE

The .FLAGS HYPHENATE and .NO FLAGS HYPHENATE commands turn on and turn off recognition of the Hyphenate flag character (=). See the description of the Hyphenate flag in Chapter 3 and .ENABLE HYPHENATION in this chapter.

Format

```
.FLAGS HYPHENATE   [k]
.NO FLAGS HYPHENATE
.FL HYPHENATE   [k]
.NFL HYPHENATE
```

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS HYPHENATE — Recognition of the Hyphenate flag character (=) is turned off.

.FLAGS INDEX, .NO FLAGS INDEX

These commands respectively turn on and turn off recognition of the Index flag character (>). See the description on the Index flag in Chapter 3 and .ENABLE INDEXING in this chapter.

Format

.FLAGS INDEX [k]

.NO FLAGS INDEX

.FL INDEX [k]

.NFL INDEX

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS INDEX — Recognition of the Index flag character (>) is turned off.

.FLAGS LOWERCASE, .NO FLAGS LOWERCASE

The .FLAGS LOWERCASE and .NO FLAGS LOWERCASE commands turn on and turn off recognition of the Lowercase flag character (\ ). See Chapter 3 for a description of the Lowercase flag.

Format

.FLAGS LOWERCASE [k]

.NO FLAGS LOWERCASE

.FL LOWERCASE [k]

.NFL LOWERCASE

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS LOWERCASE — Recognition of the Lowercase flag character (\ ) is turned on.

.FLAGS OVERSTRIKE, .NO FLAGS OVERSTRIKE

The .FLAGS OVERSTRIKE and .NO FLAGS OVERSTRIKE commands enable and disable recognition of the Overstrike flag character (%). See the description of the Overstrike flag in Chapter 3 and .ENABLE OVERSTRIKING in this chapter.

Format

```
.FLAGS OVERSTRIKE   [k]
.NO FLAGS OVERSTRIKE
.FL OVERSTRIKE   [k]
.NFL OVERSTRIKE
```

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS OVERSTRIKE — Recognition of the Overstrike flag character (%) is turned off.

.FLAGS PERIOD, .NO FLAGS PERIOD

The .FLAGS PERIOD and .NO FLAGS PERIOD commands turn on and turn off recognition of the Period flag character (+). See the description of the Period flag in Chapter 3.

Format

.FLAGS PERIOD [k]

.NO FLAGS PERIOD

.FL PERIOD [k]

.NFL PERIOD

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS PERIOD — Recognition of the Period flag character (+) is turned off.

.FLAGS SPACE, .NO FLAGS SPACE

The .FLAGS SPACE and .NO FLAGS SPACE commands turn on and turn off recognition of the Space flag character (#). See the description of the Space flag in Chapter 3.

Format

.FLAGS SPACE [k]

.NO FLAGS SPACE

.FL SPACE [k]

.NFL SPACE

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS SPACE — Recognition of the Space flag character (#) is turned on.

.FLAGS SUBINDEX, .NO FLAGS SUBINDEX

The .FLAGS SUBINDEX and .NO FLAGS SUBINDEX commands turn on and turn off recognition of the Subindex flag (>). You can also use the .FLAGS SUBINDEX command to change the Subindex flag to another character. If you enter .NO FLAGS SUBINDEX, the command will cause a right angle bracket (>) to be printed as part of your indexed text, instead of causing subindexing. See Chapter 3 for a description of the Subindex flag. Chapter 6 has information on the DSR indexing utility.

Format

.FLAGS SUBINDEX [k]

.NO FLAGS SUBINDEX

.FL SUBINDEX [k]

.NFL SUBINDEX

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS SUBINDEX — Recognition of the Subindex flag character (>) within .INDEX or .ENTRY commands is turned on. The Subindex flag character is always taken as normal text outside an .INDEX or .ENTRY command.

.FLAGS SUBSTITUTE, .NO FLAGS SUBSTITUTE

The .FLAGS SUBSTITUTE and .NO FLAGS SUBSTITUTE commands turn on and turn off recognition of the Substitute flag character ($). The default Substitute flag character ($) or any replacement character you specify must be used in pairs. See the description of the Substitute flag pair in Chapter 3.

Format

.FLAGS SUBSTITUTE [k]

.NO FLAGS SUBSTITUTE

.FL SUBSTITUTE [k]

.NFL SUBSTITUTE

Parameter

k
Specifies a character to replace the current flag character.

Default

.NO FLAGS SUBSTITUTE — Recognition of the Substitute flag character ($) is turned off.

.FLAGS UNDERLINE, .NO FLAGS UNDERLINE

The .FLAGS UNDERLINE and .NO FLAGS UNDERLINE commands turn on and turn off recognition of the Underline flag character (&). See the description of the Underline flag in Chapter 3 and .ENABLE UNDERLINING in this chapter.

Format

.FLAGS UNDERLINE [k]

.NO FLAGS UNDERLINE

.FL UNDERLINE [k]

.NFL UNDERLINE

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS UNDERLINE — Recognition of the Underline flag character (&) is turned on.

.FLAGS UPPERCASE, .NO FLAGS UPPERCASE

The .FLAGS UPPERCASE and .NO FLAGS UPPERCASE commands turn on and turn off recognition of the Uppercase flag (^). See the description of the Uppercase flag in Chapter 3.

Format

.FLAGS UPPERCASE [k]

.NO FLAGS UPPERCASE

.FL UPPERCASE [k]

.NFL UPPERCASE

Parameter

k
Specifies a character to replace the current flag character.

Default

.FLAGS UPPERCASE — Recognition of the Uppercase flag character (^) is turned on.

.FOOTNOTE, .END FOOTNOTE

The .FOOTNOTE command places the text following it at the bottom of the current page if there is room. If there is not enough room on the current page for the entire footnote, DSR places the entire note at the bottom of the next page.

The .END FOOTNOTE command ends the footnote and restores any case, fill, justify, spacing, or margin settings that you might have changed within the footnote.

The right margin of the footnote will be the same as the right margin in effect for the document at the time the footnote is created. If you change the right margin of the document but want the right margin of all footnotes to be the same, enter the .RIGHT MARGIN command immediately after each .FOOTNOTE command to set the same right margin for each footnote.

The left margin setting of the footnote is defaulted to 0.

Format

```
.FOOTNOTE   [n]

.END FOOTNOTE

.FN   [n]

.EFN
```

Parameter

n
The number of lines the footnote will occupy. This argument is included only for compatibility with older versions of RUNOFF and is not necessary or recommended.

Description

1. .FOOTNOTE does not provide a footnote symbol, such as * or (1), or any separation from the main text just above the footnote.

   - You can create a separator of 15 hyphens (-) as follows:

     ```
     .FOOTNOTE
     .REPEAT 15"-"
     .BREAK
     ```

   - You can put an asterisk (*) before the text of the footnote as follows:

     ```
     .LEFT MARGIN 2
     .INDENT –2;_*#text
     .END FOOTNOTE
     ```

2. DSR tries to put all footnotes at the bottom of the page on which they occur. If this is not possible — that is, if a footnote reference occurs too near the bottom of the page, or if you enter more footnotes than there is room for — DSR puts one or more of the footnotes at the bottom of the following page.

3. DSR does not split a single footnote over two pages.

Related Commands

If you have entered a .NO PAGING command, all footnotes appear at the end of your document.

.HEADER LEVEL

The .HEADER LEVEL command allows you to specify both a section number and a section title. Successive .HEADER LEVEL commands of the same value (all .HEADER LEVEL 1's for example) cause the section numbers to increase sequentially. This happens at all six levels of headers. If your current section is in Chapter 2 and is numbered 2.5.2.4, then the following numbering would result depending upon the .HEADER LEVEL command you used:

- .HL3 (or .HL without a value) would number the next section 2.5.2.5
- .HL2 would number the next section 2.5.3
- .HL1 would number the next section 2.6

(See also .DISPLAY LEVELS, .NUMBER LEVEL, .SET LEVEL, and .STYLE HEADERS.)

Following is a summary of default header level numbering for three levels of three different types of documents:

Default Header Level Numbering

	Nonchapter	Chapter n	Appendix A
.HEADER LEVEL 1	1	n.1	A.1
.HEADER LEVEL 2	1.1	n.1.1	A.1.1
.HEADER LEVEL 3	1.1.1	n.1.1.1	A.1.1.1

Format

```
.HEADER LEVEL    [[+/-]n] [title]

.HL    [[+/-]n] [title]
```

Parameters

n
A number from 1 to 6 that specifies the level of the header. Do not confuse the level numbers with the header numbers that are printed in your document just to the left of the header title.

+n
Adds *n* to the current header level number.

–n
Subtracts *n* from the current header level number.

title
The name of the section you are now starting. Do not precede the title with a semicolon (;).

Description

1. The .HEADER LEVEL command executes .BREAK before doing its main task.
2. .HEADER LEVEL executes .TEST PAGE using seven more than the .PARAGRAPH or .SET PARAGRAPH value (you can change the test-page value by using the .STYLE HEADERS command). If the required number of lines is not available on the current page, DSR puts the header at the beginning of the next page. Note that these paragraph commands take into account the .SPACING value when they interpret the test-page value.
3. .HEADER LEVEL executes .FILL and .JUSTIFY unless you have entered .NO AUTOJUSTIFY. (However, note that, if .JUSTIFY was in effect before you entered .HEADER LEVEL, .NO AUTOJUSTIFY does not cancel .JUSTIFY.)
4. .HEADER LEVEL 1 text is normally printed in all uppercase letters, regardless of how it is typed. All other levels are normally printed with only the first letter of each word in uppercase. You can override the initial capitalization of words like *of* and *the* by preceding any of them with a Lowercase flag (\ ). Alternatively, you can have the letters printed exactly as you type them by preceding the title with the flag pair ^^. (See also .STYLE HEADERS.)
5. Header levels 3 through 6 are normally run into the text but separated from it by a hyphen (-). You can suppress the hyphen by not entering the header level title on the same line as the .HEADER LEVEL command. (See also .STYLE HEADERS.)
6. If the title you specify for the header is wider than the current margins, it is filled (and justified, if justification is in effect) between the right margin and the header level number.

Related Commands

1. If .AUTOSUBTITLE is in effect, titles of specified header levels are used as running subtitles at the tops of pages.
2. You can enter the .SET LEVEL command to preset the level of the next section head without entering a previous .HEADER LEVEL.

Default

If you enter .HEADER LEVEL without specifying a level number, you get the current header level. All header levels, .HEADER LEVEL 1 to .HEADER LEVEL 6, begin their numbering with 1 unless you specify another value with .NUMBER LEVEL.

Examples

The following examples show how header levels number the sections in a chapter-oriented document.

Input

The input produces the section numbers and titles for Chapter 5:

```
.NUMBER CHAPTER 5
.CHAPTER FIFTH CHAPTER
.HEADER LEVEL1  This is the first header level 1
.HEADER LEVEL1  This is the second header level 1
.HEADER LEVEL2  This is the first header level 2
.HEADER LEVEL2  This is the second header level 2
.HEADER LEVEL3  This is the first header level 3
.HEADER LEVEL3  This is the second header level 3
```

Output

When the input file is processed with DSR, the sections in the chapter are numbered and titled in the following way:

```
                              CHAPTER 5

                            FIFTH CHAPTER


5.1  THIS IS THE FIRST HEADER LEVEL 1

5.2  THIS IS THE SECOND HEADER LEVEL 1

5.2.1  This Is The First Header Level 2

5.2.2  This Is The Second Header Level 2

5.2.2.1  This Is The First Header Level 3 -

5.2.2.2  This Is The Second Header Level 3 -
```

The following example illustrates the use of the .HEADER LEVEL command with a long title.

Input

The input text before it is processed by DSR:

```
.RIGHT MARGIN 40
.HEADER LEVEL 2 long header level that exceeds the margins
More text, which will revert to Column 1.
```

Output

The output format looks like this:

```
2.3  Long Header Level That Exceeds  The
     Margins

More text, which will revert  to  Column
1.
```

.HEADERS ON, .NO HEADERS

The .HEADERS ON and .NO HEADERS commands restore and cancel, respectively, the capability of having one or two lines of information at the top of a page. These lines indicate the content of the page and the page number. They are called running heads, which you should not confuse with section heads (specified with .HEADER LEVEL commands).

Format

```
.HEADERS [ON]

.NO HEADERS

.HD [ON]

.NHD

.HD
```

Description

1. Standard running-head information consists of a title at the top left of the page and the page number preceded by the word *page* at the top right (flush with the page width established by the .PAGE SIZE command, not with the right margin). A subtitle normally appears on the second line of the page immediately below the title. You can also have the current date appear on the right, immediately below the page number.

   Note that you can cause information to appear in positions other than these by entering the .LAYOUT command.

2. No running heads appear on the first page unless you enter the .FIRST TITLE command. However, if you have entered the .LAYOUT command that puts page numbers at the bottom of pages, the first page will have a number even if you do not enter .FIRST TITLE.

3. If you are using .CHAPTER commands in your document and if headers are on, DSR uses the title of the current chapter as the running-head title. You can, however, override this function by entering a .TITLE command after the .CHAPTER command. If you are not using .CHAPTER commands, you must enter a .TITLE command to get a running-head title.

4. Use the .SUBTITLE command to specify a subtitle for running heads or to make it possible for you to enter a valid .AUTOSUBTITLE or .DATE command. .AUTOSUBTITLE uses titles of .HEADER LEVEL commands (down to whatever level you specify) as subtitles in running heads.

5. If you are using .CHAPTER or .APPENDIX commands, page numbers appear in the form c-p, where c is the chapter number and p is the page number within the chapter. If your document has no chapters, you get page numbers of the form *n*, where *n* is a running page number. You can control the case of the word **page** by entering the .HEADERS LOWER, .HEADERS UPPER, or .HEADERS MIXED command. You can suppress page numbers in the running heads by entering .NO NUMBER.

6. You can cause the current date to appear in the running heads by entering the .DATE command. You must also have entered .SUBTITLE for .DATE to work.

Default

.HEADERS ON

.HEADERS UPPER, .HEADERS LOWER, .HEADERS MIXED

The .HEADERS UPPER/LOWER/MIXED commands specify the case of the word *page* that precedes the page number. The commands produce, respectively, PAGE, page, and Page. In an index, these commands also affect the word *index* that is part of the page number, for example, Page Index-3. The command normally takes effect on the next page.

Format

```
.HEADERS   UPPER
           LOWER
           MIXED

.HD   UPPER
      LOWER
      MIXED
```

Default

.HEADERS MIXED

.IF, .IFNOT, .ELSE, .ENDIF

The .IF, .IF NOT, .ELSE, and .ENDIF commands (also known as the conditional commands) cause portions of a DSR file to be processed or not processed, according to conditions that you specify. The commands refer to the /VARIANT qualifier that you specify on the DSR command line. (See also /DEBUG=CONDITIONALS and .VARIABLE.)

Format

.IF name

.ELSE name

.ENDIF name (or **.EI** name)

.IFNOT name (or **.IN** name)

Parameter

name
A word that is common to the conditional commands that make up a single .IF or .IFNOT block of text.

Description

The command line qualifier /VARIANT is of the form

```
/VARIANT=x or /VARIANT="x1,x2,...xn"
```

where *x* is a name you give to a portion, or to separate portions, of a DSR file to be processed.

In the following definitions, *A* is a name that may have been specified in a /VARIANT qualifier.

Command	Meaning
.IF A	If A was specified in /VARIANT, then DSR processes the portion of the file following .IF A down to the next .ELSE A or .ENDIF A.
	If A was not specified in /VARIANT, then DSR ignores the portion of the file following .IF A down to the next .ELSE A or .ENDIF A.
.IFNOT A	If A was not specified in /VARIANT, then DSR processes the portion of the file following .IFNOT A down to the next .ELSE A or .ENDIF A.
	If A was specified in /VARIANT, then DSR ignores the portion of the file following .IFNOT A down to the next .ELSE A or .ENDIF A.

Command	Meaning
.ELSE A	If DSR processed the portion of the file following the most recent .IF A or .IFNOT A, it ignores the portion of the file following .ELSE A down to the next .ENDIF A. If DSR ignored the portion of the file following the most recent .IF A or .IFNOT A, it processes the portion of the file following .ELSE A down to the next .ENDIF A.
.ENDIF A	DSR terminates the most recent .IF A or .IFNOT A.

Notes

1. Each of the conditional commands must begin in column one; therefore, each command must be entered on a separate line.
2. You can have .IF/.ELSE/.ENDIF blocks (or .IFNOT/.ELSE/.ENDIF blocks) within other such blocks, as shown in Table 2–1. (See similar discussion in description of .LIST and .END LIST.)
3. You are not required to use the .ELSE command in the .IF or .IFNOT block.
4. You cannot have .IF and .IFNOT with the same name in the same block.
5. For purposes of debugging or analysis, you can distinguish those portions that would normally be processed from those that would not normally be processed. See .VARIABLE and /DEBUG=CONDITIONALS.
6. If /VARIANT and /DEBUG are both present in the command line, /DEBUG overrides /VARIANT.

Related Commands

If you enter a .VARIABLE command in your text file and /DEBUG=CONDITIONALS in the DSR command line (or just /DEBUG if you do not want to limit debugging to conditionals), all the segments in the preceding example will be processed. In addition, you can enter .VARIABLE commands in your text file to distinguish between the portions of text generated by the various segments.

Examples

Table 2–1 shows an example of how you enter three groups of conditional commands (A, B, C) with groups B and C nested within group A. This table explains what DSR does when it encounters each entry. **Segment** refers to a block of text.

Table 2–1 Conditional Commands

Entry	Explanation
.IF A	Begin segment A.
A1 Segment	Process A1 if A was specified.
.IF B	Begin segment B.
B1 Segment	Process B1 if both A and B were specified.

(continued on next page)

Table 2–1 (Cont.) Conditional Commands

Entry	Explanation
.ELSE B	Alternative segment B.
B2 Segment	Process B2 if A was specified and B was not.
.ENDIF B	End segment B.
A2 Segment	Process A2 if A was specified.
.ELSE A	The following segment is processed only if A was not specified.
A3 Segment	Process A3 if A was not specified.
.IF C	Begin segment C.
C1 Segment	Process C1 if A was not specified and C was.
.ELSE C	Alternative segment C.
C2 Segment	Process C2 if neither A nor C was specified.
.ENDIF C	End segment C.
A4 Segment	Process A4 if A was not specified.
.ENDIF A	End segment A.

.INDENT

The .INDENT command causes the first line of text following it to begin at a position relative to the left margin.

Format

```
.INDENT    [[-]n]

.I    [[-]n]
```

Parameters

n
Specifies how many character positions to the right of the left margin setting the first line of text will begin.

–n
Specifies how many character positions to the left of the left margin setting the first line of text will begin. .INDENT cannot begin to the left of character position 0.

Description

The .INDENT command executes .BREAK before doing its main task.

Related Commands

If you enter a .BREAK immediately after .INDENT, you will cancel the indentation just requested. (This effect occurs with most of the commands that execute .BREAK commands.)

Default

If you enter .INDENT without a number, you get the indent value that you specified with .PARAGRAPH or .SET PARAGRAPH. If you did not enter either of these paragraph commands, you get an indentation of 5.

.INDEX

The .INDEX command creates an index entry with a page number reference. See Chapter 6 for information on the DSR indexing utility.

Format

.INDEX topic [>subtopic1... >subtopicn]

.X topic [>subtopic1... >subtopicn]

Example

The following example illustrates the use of the .INDEX command.

Input

The input text before it is processed by DSR and the DSR indexing utility:

```
.PAGE
text text text text text text text text text text text text

.INDEX Parameters >Description

.PAGE
text text text text text text text text text text text text

.INDEX Parameters >Examples

.PAGE
text text text text text text text text text text text text

.INDEX Parameters >Types >Strings
.INDEX Parameters >Types >Integers
```

Output

The following shows the output after the file has been processed with DSR and the DSR indexing utility (see Chapter 6).

```
                      Page Index-1

              INDEX


                .
                .
                .
Parameters
  Description, 1
  Examples, 2
  Types
    Integers, 3
    Strings, 3
                .
                .
                .
```

.JUSTIFY, .NO JUSTIFY

The .JUSTIFY command causes DSR to insert exactly enough space between words so that the last character reaches the right margin. The .NO JUSTIFY command disables justification.

Format

```
.JUSTIFY

.NO JUSTIFY

.J

.NJ
```

Description

1. Both .JUSTIFY and .NO JUSTIFY execute .BREAK before doing their main tasks.
2. You can create an uneven right margin (ragged right text format) by using the .NO JUSTIFY command and the .FILL command.
3. If you want text justified without lines being filled, you must enter .JUSTIFY after you enter .NO FILL.

Related Commands

1. .NO FILL suspends justification as well as line-filling.
2. .FILL normally restores the most recent .JUSTIFY or .NO JUSTIFY setting that was in effect. A .NO JUSTIFY state that was set as a result of .NO FILL is not considered when DSR is determining the most recent setting. In other words, .NO FILL turns off both filling and justification, and .FILL restores them.
3. The following commands execute .JUSTIFY commands unless you have entered .NO AUTOJUSTIFY:

   .APPENDIX
   .CHAPTER
   .HEADER LEVEL
   .NOTE
4. If you have entered .NO AUTOJUSTIFY and if .JUSTIFY is in effect at the time you enter any of the above four commands, .JUSTIFY is not canceled (see .NO AUTOJUSTIFY).

Default

.JUSTIFY

Example

The following example illustrates the use of the .JUSTIFY command.

Input

The input file before it is processed by DSR:

```
.RIGHT MARGIN 55
.NO JUSTIFY
.FILL
This paragraph demonstrates how to use
the .NO JUSTIFY and .FILL commands. This paragraph
will not be justified to the right margin,
but will be filled.
.BLANK
.JUSTIFY
This second paragraph demonstrates how to use the .JUSTIFY
and .FILL commands. This paragraph will be both
filled and justified to the right margin.
```

Output

The text after the file has been processed with the DSR:

```
This paragraph demonstrates how to use the .NO JUSTIFY
and .FILL commands. This paragraph will not be
justified to the right margin, but will be filled.

This  second  paragraph  demonstrates  how  to  use the
.JUSTIFY  and  .FILL  commands.  This paragraph will be
both filled and justified to the right margin.
```

.KEEP, .NO KEEP

The .KEEP command allows you to keep in the output file blank lines that are present in the input file when .NO FILL is in effect. Normally, multiple blank lines in the input file are discarded in the output file while .NO FILL is in effect. .NO KEEP also discards blank lines when .NO FILL is in effect. (See also .LITERAL.)

Format

.KEEP

.NO KEEP

.K

.NK

Description

The combination of the .KEEP and .NO FILL commands differs from .LITERAL in that it allows you to enter commands and flags while .KEEP and .NO FILL are in effect. For example, you can enter a .REQUIRE command after .KEEP and .NO FILL, whereas after .LITERAL no commands are recognized until after an .END LITERAL command.

Default

.NO KEEP

Example

The following example shows how to use the .KEEP command.

Input

The input text format, *without* the .KEEP command, before it is processed by DSR:

```
------------------------------------
-----------------------------------
-------------------------------------
.BLANK
--------------------------------------
-------------------------------------
.BLANK.NO FILL
  ------------------------------

  ----------------------------------

  -------------------------------
.BLANK.FILL
--------------------------------------
```

Output

The output text format. Note that the .NO FILL command does not cause DSR to keep the blank lines as they appear in the input text:

```
-------------------------------------------
-------------------------------------------
-------------------------------------------

-------------------------------------------
-------------------------------------------

  ------------------------------
  ----------------------------------
  -------------------------------

-------------------------------------------
```

Input

Here is the same input file, with the .KEEP command added, before it is processed by DSR:

```
.KEEP
------------------------------------
-----------------------------------
-------------------------------------
.BLANK
--------------------------------------
-------------------------------------
.KEEP
.BLANK.NO FILL
  ------------------------------

  ----------------------------------

  -------------------------------
.BLANK.FILL
-------------------------------------------
```

Output

The output file is this:

```
-------------------------------------------
-------------------------------------------
-------------------------------------------

-------------------------------------------
-------------------------------------------

  ------------------------------

  ----------------------------------

  -------------------------------

-------------------------------------------
```

Note that the .KEEP command causes DSR to keep the blank lines as they appear in the input file.

.LAYOUT

The .LAYOUT command rearranges running-head and running-foot information on pages. (See the .HEADERS ON command.) When the default .LAYOUT operates, page numbering is not displayed on the first page, it starts on page 2.

Format

```
.LAYOUT    n1 [,n2]

.LO    n1 [,n2]
```

Parameters

n1
A number from 0 to 3 that specifies one of the following arrangements of running head information:

.LAYOUT 0	Restores the standard arrangement of title and subtitle in the upper left of a page, and page number and date in the upper right.
.LAYOUT 1	Titles and subtitles are centered at the tops of pages. Page numbers are centered at the bottom. No date is output.
.LAYOUT 2	Titles and subtitles appear at the top right of right-hand (odd-numbered) pages and at the top left of left-hand (even-numbered) pages. Page numbers are centered at the bottom. No date is output.
.LAYOUT 3	Gives the standard page arrangement for title and subtitle (as in .LAYOUT 0), but with the addition of running-page numbers centered at the bottom of pages between two hyphens (for example, - 23 -). Running-page numbers are consecutive through the entire document rather than within chapters; they are not affected by the .NO NUMBER or .NUMBER PAGE commands. (But see .NUMBER RUNNING.)

n2
Specifies how many lines below the last line of text on a page the number will appear. You must specify *n2* if *n1* is 1, 2, or 3. If *n1* is 0, you cannot specify a value for *n2*.

Description

1. The .LAYOUT command executes .BREAK before doing its main task.
2. The page length (.PAGE SIZE) is not affected by this command.

Default

.LAYOUT 0

Examples

The following examples show the output of page 2 using different parameters with the .LAYOUT command. The .DATE command has been entered. The title is “INTRODUCTION TO DSR”; the subtitle is “DSR COMMAND FORMAT.”

.LAYOUT 0 (Default)

```
INTRODUCTION TO DSR                                                  Page 2
DSR COMMAND FORMAT                                         11 December 1988

                                   .
                                   .
                                   .
                           [text of page 2]
                                   .
                                   .
                                   .
```

.LAYOUT 1,2

```
          INTRODUCTION TO DSR
           DSR COMMAND FORMAT
                    .
                    .
                    .
           [text of page 2]
                    .
                    .
                    .

                   2
```

.LAYOUT 2,2 (Even Page)

```
INTRODUCTION TO DSR
DSR COMMAND FORMAT
                                   .
                                   .
                                   .
                          [text of page 2]
                                   .
                                   .
                                   .

                                  2
```

.LAYOUT 2,2 (Odd Page)

```
                                INTRODUCTION TO DSR
                                 DSR COMMAND FORMAT

                    .
                    .
                    .
           [text of page 3]
                    .
                    .
                    .

                   3
```

.LAYOUT 3,2

```
INTRODUCTION TO DSR                                             Page 2
DSR COMMAND FORMAT                                    11 December 1988

                                  .
                                  .
                                  .
                           [text of page 2]
                                  .
                                  .
                                  .
                                - 2 -
```

.LEFT MARGIN

The .LEFT MARGIN command sets the left margin to the specified position.

Format

.LEFT MARGIN [[+/-]n]

.LM [[+/-]n]

Parameters

n
Specifies the number of the character position of the left margin. For example, .LEFT MARGIN 0 sets the left margin just to the left of the first character position.

+n
Sets the left margin *n* character positions to the right of the current left margin.

–n
Sets the left margin *n* character positions to the left of the current left margin.

Description

1. .LEFT MARGIN executes .BREAK before setting the left margin.
2. The value for the left margin must be smaller than the value for the right margin.
3. If you want a left margin value that is larger than 70 (the default for .RIGHT MARGIN), you must enter a .RIGHT MARGIN command with a value greater than the left margin value before you enter the .LEFT MARGIN command.
4. The resulting value for +n must be smaller than the right margin value (see .RIGHT MARGIN).
5. The resulting value for –*n* cannot be less than 0.

Related Commands

.LIST and .NOTE change the left margin; .END LIST and .END NOTE restore it.

Default

.LEFT MARGIN 0

.LIST, .END LIST

The .LIST command specifies the beginning of a list by resetting the left margin farther to the right, by setting a .SKIP command value to take effect before each item in the list, and by executing .TEST PAGE. Use the .LIST ELEMENT command to specify each item in the list. .LIST ELEMENT commands also give you numbers or letters in sequence in the left margin or let you substitute a single character of your choice for each of the numbers or letters (for example, the lowercase letter o, which is known as a “bullet”). (See also .DISPLAY ELEMENTS and .NUMBER LIST.)

The .END LIST command ends a list, restoring any fill, justify, case, margin, or spacing settings that were in effect before you entered the most recent .LIST command. You can also specify a value with .END LIST that puts blank lines after the last item in the list (as with .SKIP).

Format

```
.LIST   [[-]n] ["x"]

.END LIST   [[-]n]

.LIST   [[-]n] ['x']

.END LIST   [[-]n]

.LS   [[-]n] ["x"]

.ELS   [[-]n]

.LS   [[-]n] ['x']

.ELS   [[-]n]
```

Parameters

n
With .LIST, specifies the number of blank lines to appear before each item, but each blank line can result in additional blank lines if the .SPACING setting is greater than 1. (See .SKIP n.)

With .END LIST, behaves the same as *n* with .LIST. However, the blank lines appear after the final item in the current list.

–n
With .LIST, pushes the next line of list text to within *n* lines of the bottom of the current page by inserting blank lines. (See .SKIP –*n* and .BLANK –*n*.)

With .END LIST, pushes the next line of current list text to within n lines of the bottom of the current page by inserting blank lines. (See .SKIP –*n* and .BLANK –*n*.)

x
A character enclosed in quotation marks (“x”) or apostrophes (′x′) that you can specify to appear at the beginning of each list item.

Description

1. A list is defined by .LIST and a paired .END LIST. Other lists, similarly defined, can exist within it. You can nest lists up to 14 levels.
2. .LIST indents the text (not the numbers) of each list element 9 places when .LEFT MARGIN is set to zero. .LIST indents the text of each list element 4 places when any other left margin setting operates. For each list element, the period following the number is positioned three places to the left of the text.
3. .LIST executes .TEST PAGE, adding 2 to the test-page value from either the most recently executed .PARAGRAPH or .SET PARAGRAPH command or from its default value. Paragraph commands take into account the .SPACING value that is in effect when they interpret the test-page value.
4. You can enter .LIST without having to enter .LIST ELEMENT for it.
5. You must pair every .LIST you enter with an .END LIST. It is important to know how the pairing works if you want to make lists within other lists:
   - While you are in a list, you can enter a new .LIST command without having entered .END LIST for the previous .LIST.
   - When you enter the next .END LIST, you end only the new inner .LIST.
   - You can then add more items to the main outer .LIST by entering more .LIST ELEMENT commands. All attributes of the outer list will be restored, including the resumption of any sequence of numbers or letters that was in effect. For example:

     ```
     .LIST (main)
     .LIST ELEMENT
     .LIST ELEMENT

     .LIST (new)
     .LIST ELEMENT
     .LIST ELEMENT

     .END LIST (new)

     .LIST ELEMENT
     .LIST ELEMENT

     .END LIST (main)
     ```

     You can also enter another .END LIST to end the main list immediately after the .END LIST command that ends the new inner list.

Default

1. If you omit *n* from either .LIST or .END LIST, you get the .SKIP value associated with .PARAGRAPH or .SET PARAGRAPH or 1 (if you have not specified such a value).
2. If you omit “x,” you get a sequence of decimal numbers beginning with 1, or you get another kind of sequence if you enter the .DISPLAY ELEMENTS command after the .LIST.

Example

The following example illustrates the use of the .LIST command.

Input

The input file before it is processed by DSR:

```
A list of names of some of the French Impressionists:
.LIST
.LIST ELEMENT;Renoir
.LIST ELEMENT;Manet
.LIST ELEMENT;Monet
.LIST ELEMENT;Seurat
.END LIST
```

Output

The formatted text after the file has been processed with the DSR:

```
A list of names of some of the French Impressionists:

     1.  Renoir

     2.  Manet

     3.  Monet

     4.  Seurat
```

.LIST ELEMENT

The .LIST ELEMENT command specifies the beginning of each item in a list. If you specify a character in a .LIST command, it appears, followed by two spaces, before each item. Otherwise, a sequence of numbers or letters, as defined in the .DISPLAY ELEMENTS command, appears when you enter successive .LIST ELEMENT commands. If you have not entered the .DISPLAY ELEMENTS command, you will get a sequence of decimal numbers, each followed by a period and two spaces. (See .LIST, .END LIST, .DISPLAY ELEMENTS, and .NUMBER LIST.)

Format

```
.LIST ELEMENT;   text

.LE;    text
```

Parameter

text
The text that will appear after the list element delimiter.

Description

1. The .LIST ELEMENT command executes .BREAK before doing its main task.
2. You can specify the number of the next element in the sequence by entering .NUMBER LIST.
3. A sequence is interrupted by the next occurrence of .LIST or .END LIST.
4. If you have not yet ended the current list, a new .LIST command temporarily suspends all the attributes of the old one. The next .END LIST command ends only the new .LIST command and restores all the attributes of the old .LIST command. You can nest lists up to 14 levels.
5. If you have entered the .LIST command, both the number of blank lines before each .LIST ELEMENT item and the left margin setting for the list of items are as noted in the .LIST description.
6. You can enter .LIST ELEMENT without having entered .LIST. If you have not entered a .LIST command, you will get the left margin setting that was in effect before you entered .LIST ELEMENT. If an item is more than one line long, the character or number normally printed in the left margin will be merged with the text of the item instead.

Default

1. If you have not entered the .LIST command with a specified character to appear in the left margin, you will get the kind of sequence that you specified in .DISPLAY ELEMENTS.
2. If you have not entered the .DISPLAY ELEMENTS command, you will get decimal numbers, each followed by a period and two spaces.

Example

See the example for the .LIST command, which also illustrates the use of the .LIST ELEMENT command.

.LITERAL

The .LITERAL command allows you to have your text formatted exactly as you have typed it. This means that you will get a blank line in the output file wherever a blank line occurs in the input file. (If the value specified by the .SPACING command is anything other than one, you will get the spacing value that you specified.)

Commands are not recognized when .LITERAL is in effect and are treated as ordinary text if you enter them. DSR flags are also treated as normal text. Tab stops set prior to the .LITERAL command, however, are still in effect within the block of .LITERAL text (see .TAB STOPS). You must enter .END LITERAL when you want DSR to resume normal formatting.

Format

.LITERAL [n]

.END LITERAL

.LT [n]

.EL

Parameter

n
The number of lines to be produced. This argument is included only for compatibility with older versions of RUNOFF and is not necessary or recommended.

Description

1. .LITERAL executes .BREAK before doing its main task.
2. .LITERAL executes .RIGHT MARGIN 150.
3. If .LITERAL is in effect, a blank line occurs in the output file wherever one occurs in the input file. If .LITERAL (or .KEEP) is not in effect, you cannot produce blank lines by putting them in the input file, even if .NO FILL is in effect.
4. Between .LITERAL and .END LITERAL, all recognition of commands and flags is suspended. In addition, nearly all commands and flags that were in effect before you entered .LITERAL are disabled. For example, previously specified case, fill, and justify operations are disabled. If you want to be able to use commands and flags and still get all the benefits of .LITERAL, you can use the .KEEP and .NO FILL commands instead of .LITERAL.
5. The settings that were in effect for the following commands and flags prior to the .LITERAL command remain in effect for the .LITERAL text:

   .LEFT MARGIN
   .SPACING
   .TAB STOPS
   ^& (Underlining)
   ^* (Bolding)

.NO SPACE

The .NO SPACE command prevents the insertion of the end-of-line space for one line of text only, causing the characters at the end of one line and the beginning of the next to be adjacent.

Without the .NO SPACE command, when .FILL is in effect, DSR treats the end of an input line exactly like a space. That is, it inserts a space in the output file at the place where each input line ended (this is the meaning of “fill\ nospace”).

If you ever have occasion to use this command, you should enter it immediately after the end-of-line space that you want to affect.

Format

.NO SPACE

.NSP

Description

(You cannot enter .NO SPACE either directly before or directly after a .BREAK command or any command that executes a .BREAK command. In other words, you can only use .NO SPACE between two pieces of text.)

Default

You get the normal space when you press the RETURN key unless you execute .NO SPACE.

Example

The following example illustrates the use of the .NO SPACE command. The example contains two files.

Input

The input of the first file, in which there are no .NO SPACE commands:

```
The following diagram illustrates the 16
-bit, bit-slice, byte-encoded configuration:
```

Output

It produces the following output file:

```
The following diagram illustrates the 16 -bit, bit-slice,
byte-encoded configuration:
```

Input

Notice the space between “16” and “-bit.” To avoid having this space, use the .NO SPACE command.

```
The following diagram illustrates the 16
.NO SPACE
-bit, bit-slice, byte-encoded configuration:
```

Output

The processed output file looks like this:

```
The following diagram illustrates the 16-bit, bit-slice,
byte-encoded configuration:
```

Notice that now there is no space between “16” and “-bit.”

.NOTE, .END NOTE

The .NOTE command highlights a portion of text by narrowing the margin settings, centering the text on the page, and printing a title centered over the text.

The .END NOTE command restores the fill, justify, case, margin, and spacing settings that were in effect just before you entered the .NOTE.

Format

```
.NOTE   [text]

.END NOTE   [[-]n]

.NT   [text]

.EN   [[-]n]
```

Parameters

n
Specifies the number of blank lines to follow the note. If .SPACING has a value greater than 1, you will get more lines than you specified. (See also .SKIP n.)

–n
Specifies that the next line of text be pushed to within *n* lines of the bottom of the current page by the insertion of blank lines. (See also .SKIP –*n* and .BLANK –*n*.)

text
A title for the note. If omitted, you get the word NOTE.

Description

1. The .NOTE command executes .BREAK before doing its main task.
2. .NOTE executes .TEST PAGE, taking the test-page value from the most recently executed .PARAGRAPH or .SET PARAGRAPH command and adding 4 to it. Paragraph commands take into account the .SPACING value when they interpret the test-page value. (See also .SKIP.)
3. .NOTE then executes .SKIP 1 above the title and .SKIP 1 below the title.
4. If the left margin is set to 0, .NOTE executes .LEFT MARGIN +8 and .RIGHT MARGIN –8. Otherwise, the margins are set +4 and –4, respectively. (See .LEFT MARGIN and .RIGHT MARGIN.)
5. .NOTE executes .FILL. It also executes .JUSTIFY unless you have entered .NO AUTOJUSTIFY. (However, note that if .JUSTIFY was in effect before you entered .NOTE, .NO AUTOJUSTIFY does not cancel the .JUSTIFY.)
6. .END NOTE executes .SKIP 1 after the text and then restores all settings that were in effect before the .NOTE command was entered.

Default

The word NOTE appears over the text if you do not specify a title. The .END NOTE command leaves 1 blank line after the note.

.NUMBER APPENDIX

The .NUMBER APPENDIX command allows you to specify an identifying letter with which a sequence of appendixes will begin. The next .APPENDIX command starts the sequence. Subsequent .APPENDIX commands cause appendixes to be lettered in alphabetic order. See also .DISPLAY APPENDIX.

Format

```
.NUMBER APPENDIX    [[+/-]n]

.NMAX    [[+/-]n]
```

Parameters

n
The character that specifies what the next appendix letter will be. You can specify the letter itself (A) or you can specify a number corresponding (in order) to the letter that will identify the appendix. For example, 1=A, 26=Z, 27=AA, 28=AB.

+n
Specifies how many alphabetically ordered letters past the current appendix letter the next .APPENDIX character will be. For example, if the current appendix is APPENDIX B, then .NUMBER APPENDIX +2 will cause the next .APPENDIX to produce APPENDIX D.

–n
Specifies how many alphabetically ordered letters before the current appendix letter the next .APPENDIX letter will be.

Description

You can specify a string of up to five characters instead of a single character. An appendix of examples, for instance, could be numbered EXAM and appear in a running head as Page EXAM-1, EXAM-2, ...

Default

Sequential uppercase lettering, beginning with A.

.NUMBER CHAPTER

The .NUMBER CHAPTER command allows you to specify the number with which a sequence of chapters will begin. The next .CHAPTER command starts the sequence. Subsequent .CHAPTER commands will cause each chapter to be numbered one higher than the previous chapter. (See also .DISPLAY CHAPTER.)

Format

.NUMBER CHAPTER [[+/-]n]

.NMCH [[+/-]n]

Parameters

n
The number that the next .CHAPTER will have. Entering .NMCH without an argument gives Chapter 1.

+n
Adds *n* to the number of the most recently issued .CHAPTER. The result is the number that the next .CHAPTER will have.

–n
Subtracts *n* from the number of the most recently entered .CHAPTER. The result is the number that the next .CHAPTER will have.

Default

Sequential decimal numbering, beginning with 1.

.NUMBER LEVEL

The .NUMBER LEVEL command allows you to specify the beginning number of a sequence of headers. Enter this command immediately before the first .HEADER LEVEL command that you want to affect. Subsequent .HEADER LEVEL commands will each be one higher than the preceding one according to its level (see .HEADER LEVEL). (See also .STYLE HEADERS and .DISPLAY LEVELS.)

Default Header Level Numbering

	Nonchapter	Chapter n	Appendix A
.HEADER LEVEL 1	1	n.1	A.1
.HEADER LEVEL 2	1.1	n.1.1	A.1.1
.HEADER LEVEL 3	1.1.1	n.1.1.1	A.1.1.1

Format

```
.NUMBER LEVEL    [[+/-]n1] [,[+/-]n2]...[,[+/-]n6]

.NMLV    [[+/-]n1] [,[+/-]n2]...[,[+/-]n6]
```

Parameters

n1,n2,...n6
Indicate positioned numbers in a section header. The commas correspond to the dots in the printed section number. For example, to set the next .HEADER LEVEL to 3.5.2.4, you would enter the following commands:

```
.NUMBER LEVEL 3,5,2,4
.HEADER LEVEL
```

+n1
Adds *n* to the current value of *n1*.

–n1
Subtracts *n* from the current value of *n1*.

Description

When you enter the first .HEADER LEVEL after .NUMBER LEVEL, do not specify a level number for it (note preceding example). If you specify a level number that does not correspond to the level you indicated in the .NUMBER LEVEL command, you will get unexpected results.

Default

Sequential decimal numbering, beginning with 1.

.NUMBER LIST

The .NUMBER LIST command allows you to specify, anywhere in a list, the number with which a sequence of items in a list will begin. Enter this command just before the .LIST ELEMENT command that you want to affect. Subsequent list elements will each have a number that is one greater than the number for the preceding .LIST ELEMENT command. (See also .DISPLAY ELEMENTS, with which you can specify the form the number will take.)

Format

```
.NUMBER LIST    n

.NMLS    n
```

Parameter

n
Specifies a string of characters or the number with which a following sequence of items in a list will begin. You must enter .LIST ELEMENT following the .NUMBER LIST command.

Description

A list is defined by .LIST and a paired .END LIST and has .LIST ELEMENTS within it. Lists can be “nested”; that is, lists can exist within other lists. Each list must be defined by a .LIST, .END LIST pair of commands.

Default

Sequential decimal numbering, beginning with 1.

.NUMBER PAGE, .NO NUMBER

The .NO NUMBER command suspends normal page numbering. The .NUMBER PAGE command resumes normal page numbering, having kept track of the numbering while .NO NUMBER was in effect; or it allows you to specify the beginning of a new number sequence by specifying a number for the next page. (See also .NUMBER RUNNING, .DISPLAY NUMBER, .NO PAGING, and .HEADERS ON.)

Format

```
.NUMBER PAGE   [[+/-]n]

.NO NUMBER

.NMPG   [[+/-]n]

.NNM
```

Parameters

n
The number that the next page will have.

+n
Sets the number of the next page to *n* more than the number of the current page.

–n
Sets the number of the next page to *n* less than the number of the current page.

Description

1. If you are using .CHAPTER or .APPENDIX commands, page numbers appear as chapter-oriented (2-15, 5-5) or appendix-oriented (A-30, C-10) numbers. If your document has no chapters, page numbers appear as running numbers (77,102).
2. .NO NUMBER and .NUMBER PAGE do not affect running-page numbers (that is, the numbering you get by entering .LAYOUT with an *n1* value of 3). (See also .NUMBER RUNNING.)

Default

Sequential decimal numbering, beginning with 1 or chapter number-1 or appendix letter-1.

.NUMBER RUNNING

The .NUMBER RUNNING command allows you to specify the beginning of a new sequence of running page numbers. This command affects page numbers only if you have entered a .LAYOUT command with an *n1* value of 3. (See .LAYOUT, .HEADERS ON, and .NO NUMBER.)

Format

```
.NUMBER RUNNING    [[+/-]n]

.NMR    [[+/-]n]
```

Parameters

n
The running number that the next page will have.

+n
Sets the running number of the next page to *n* more than the running number of the current page.

–n
Sets the running number of the next page to *n* less than the running number of the current page.

Description

1. Running page numbers appear at the bottom of pages, are enclosed in hyphens (– n –), and run consecutively throughout the entire document.
2. Running page numbers are produced only by .LAYOUT 3,n. (Note that you can get similar numbering [without hyphens], if you are not using .CHAPTER commands and if you enter .LAYOUT 1,n or 2,n. This type of numbering is not affected by the .NUMBER RUNNING command.)

Default

No running page numbers.

.NUMBER SUBPAGE

The .NUMBER SUBPAGE command allows you to specify the beginning of a new sequence of subpage numbers, for example, 1-16A, 1-16B, 1-16C, and so on. This command affects only the letters that the .SUBPAGE command appends to the normally numeric page number. .NUMBER SUBPAGE takes effect on the next page. (See also .SUBPAGE and .DISPLAY SUBPAGE.)

Format

```
.NUMBER SUBPAGE    [[+/-]n]

.NMSPG    [[+/-]n]
```

Parameters

n
The subpage letter that will be appended to the number of the next page. You can specify the letter itself (A) or you can specify a number corresponding (in order) to the letter that the subpage will have. For example, 1=A, 26=Z, 27=AA, 28=AB.

+n
Specifies how many alphabetically ordered letters past the current subpage letter the next subpage letter will be. For example, if the current subpage is page 3-12E, then .NUMBER SUBPAGE +2 will cause the next subpage to be numbered 3-12G.

–n
Specifies how many alphabetically ordered letters before the current subpage letter the next subpage letter will be.

Description

.NUMBER SUBPAGE turns on .SUBPAGE if it was not previously in effect.

Default

Sequential uppercase lettering, beginning with A.

.PAGE

The .PAGE command starts a new page.

Format

```
.PAGE

.PG
```

Description

1. The .PAGE command executes .BREAK before doing its main task.
2. The current page must have at least one line of text for .PAGE to work, so you cannot use .PAGE to generate a series of blank pages.
3. You can generate a series of blank pages by alternately entering .PAGE and .FIGURE commands.
4. If .NO PAGING is in effect, you can still enter .PAGE successfully, but you will not get additional pages as you normally would if the text on a page exceeds the page length associated with .PAGE SIZE.

.PAGE SIZE

The .PAGE SIZE command sets the page "frame" by specifying the page length (the maximum number of lines of text on a page) and the page width for the running heads. (Compare with .RIGHT MARGIN, which sets the text width.) The width component of .PAGE SIZE and the value established by .RIGHT MARGIN are separate values.

Format

```
.PAGE SIZE    [[+/-]n1] [,[+/-]n2]

.PS    [[+/-]n1] [,[+/-]n2]
```

Parameters

n1
(Length) is the maximum number of lines on a page; *n1* cannot be smaller than 13.

+n1
Increases the current page length by *n1* lines.

–n1
Decreases the current page length by *n1* lines.

n2
(Width) is the maximum number of characters on a line for running heads; *n2* cannot be larger than 150.

+n2
Increases the current page width by *n2* characters.

–n2
Decreases the current page width by *n2* characters.

Description

1. The .PAGE SIZE command executes .BREAK before doing its main task.
2. Running heads line up on the right with the page-width setting.
3. Page numbers in .LAYOUT 1, 2, and 3 are centered between 0 and the width set by the PAGE SIZE command. All other centering takes place between the left margin and the right margin.
4. If you have entered the .NO PAGING command, .PAGE SIZE restores the .PAGING state.

Related Commands

1. The width value of .PAGE SIZE and the value of .RIGHT MARGIN do not affect each other. However, they are generally the same value.
2. The .CENTER command uses the .RIGHT MARGIN value rather than the .PAGE SIZE value to center text on a line.

Default

.PAGE SIZE 58,70

.PAGING, .NO PAGING

The .PAGING command enables paging. The .NO PAGING command disables it.

Format

```
.PAGING

.NO PAGING

.PA

.NPA
```

Description

1. .PAGING executes .BREAK before doing its main task.
2. If you have entered .NO PAGING, the document is not split into numbered pages and space is not reserved for running heads. Any mechanical page breaks that a print device causes still occur.
3. If .NO PAGING is in effect and if you want to start a new page after some lines of text, you can use the .PAGING command.
4. If your input file has a file type of RNH (Help file), paging is turned off and the .PAGING command has no effect.

Related Commands

1. If you enter .CHAPTER, .APPENDIX, or .PAGE SIZE, you get .PAGING (unless your input file type is RNH).
2. You can temporarily override a .NO PAGING state by entering .PAGE, but unless you enter .PAGING, you will not get additional pages as you normally would if the text on a page exceeded the page-length value of .PAGE SIZE.

Default

.PAGING

.PARAGRAPH

The .PARAGRAPH command controls spacing and page placement associated with the creation of paragraphs. It executes .TEST PAGE, followed by .SKIP and .INDENT. (See also .SET PARAGRAPH.)

Format

```
.PARAGRAPH    [[-]n1 [,[-]n2 [,n3]]]

.P    [[-]n1 [,[-]n2 [,n3]]]
```

The parameters *n1*, *n2*, and *n3* are identical to the values of the .SET PARAGRAPH command. If you choose not to use one of these optional parameters, you must use a comma as a placeholder for the missing parameter in the parameter list.

Parameters

n1 = spaces indented (The default is 5.)
Specifies (like .INDENT) how many character positions to the right of the left margin setting the first line of text will begin.

–n1
Specifies how many character positions to the left of the left margin setting the first line of text will begin; *–n1* cannot, however, cause the text to begin to the left of character position 0.

n2 = vertical spacing (The default is 1.)
Specifies (like .SKIP) the number of blank lines you want inserted before the paragraph. You get additional blank lines if the .SPACING value is greater than 1 (see .SKIP, .SPACING).

–n2
Specifies that the next line of text be pushed to within *n2* lines of the bottom of the current page by the insertion of blank lines. Every line but the last one retains the line spacing (.SPACING value) that follows it.

n3 = test page lines (The default is 2.)
Specifies (like .TEST PAGE) the number of lines of text required to be on one page. This parameter, unlike the .TEST PAGE command, takes into account any blank lines that the .SPACING command is routinely inserting after each line of text. If there is not enough room on the current page to accommodate that many lines, DSR puts the text on the next page. You can cancel this function by specifying 0 for *n3*.

Description

The .PARAGRAPH command executes .BREAK before doing its main task.

Default

1. .PARAGRAPH 5,1,2
2. If you enter .PARAGRAPH without one or more of the *n* values, you get the corresponding setting from the previous .PARAGRAPH or .SET PARAGRAPH that you entered.
3. If you enter .PARAGRAPH without one or more of the *n* values and if you have not set values in any previous .PARAGRAPH or .SET PARAGRAPH that you might have entered, you get one or more of the following:

   n1=5
   n2=1
   n3=2

The following table shows how to change the default values from 5 for spaces indented, 1 for vertical spaces, and 2 for test page lines:

Format	Actual Arguments
.PARAGRAPH	5,1,2
.PARAGRAPH ,,4	5,1,4
.PARAGRAPH 3	3,1,2
.PARAGRAPH ,2	5,2,2

.PERIOD, .NO PERIOD

DSR normally adds an extra space after any of the following punctuation marks in your text: period (.), colon (:), question mark (?), and exclamation point (!).

The .NO PERIOD command cancels the extra space that DSR inserts after any of the punctuation marks listed above. The .NO PERIOD command is used to differentiate between punctuation used in the syntax of a sentence and punctuation used for other purposes.

The .PERIOD command restores the routine insertion of an extra space following any of the punctuation marks listed above.

Format

.PERIOD

.NO PERIOD

.PR

.NPR

Description

1. The .PERIOD command works as described only if .FILL is in effect and if the punctuation mark is followed by either a space or the end of the line.
2. You can override the effects of .PERIOD at any time by using the Accept flag (_) in front of a punctuation mark.

Related Commands

The Period flag (the plus sign [+] by default) allows you to specify extra space after any character other than the ones mentioned above (see the description of the Period flag in Chapter 3).

Default

.PERIOD

Example

The following example illustrates the use of the .PERIOD and .NO PERIOD commands.

The following shows an input file before it is processed by DSR:

```
.FILL.NO JUSTIFY
Mr. Jones, the ratio of 5! (factorial) to 6! is 5 : 6 but
we will not use the ? character.
Wait a minute! The answers are: yes and no. However, what
if you are not sure? Try not to confuse things. Be more
explicit.
```

The following shows the output of the same file with the .PERIOD command used throughout:

```
Mr. Jones, the ratio of 5!  (factorial) to 6!  is 5 :  6
but we will not use the ?  character. Wait a minute!
The answers are:  yes and no.  However, what if you
are not sure?  Try not to confuse things.  Be more explicit.
```

Notice that there are two spaces after each punctuation mark (except the commas).

The following shows the output of the same file with the .NO PERIOD command used throughout:

```
Mr. Jones, the ratio of 5! (factorial) to 6! is 5 : 6 but
we will not use the ? character. Wait a minute! The
answers are: yes and no. However, what if you are not
sure? Try not to confuse things. Be more explicit.
```

Notice that there is one space after each punctuation mark.

.REPEAT

The .REPEAT command allows you to specify up to 150 characters to be printed a specified number of times, either horizontally or vertically.

Format

```
.REPEAT    n "x" (or n 'x')

.RPT    n "x" (or n 'x')
```

Parameters

n
The number of times you want the characters printed.

x
A string of up to 150 characters. You must enclose the characters within apostrophes (′ ′) or quotation marks (" ").

Description

1. If you enter .REPEAT with .FILL in effect, the characters are repeated horizontally. If you want the repetitions separated by a space, you must include a space at the end of the string of characters to be repeated.
2. If you enter .REPEAT with .NO FILL in effect, the characters are repeated vertically, beginning at the left margin.

.REQUIRE

The .REQUIRE command allows you to process several DSR files at the same time and merge them in an output file.

Format

.REQUIRE "filespec" (or ′filespec′)

.REQ "filespec" (or ′filespec′)

Parameter

filespec
A file specification enclosed in quotation marks or apostrophes. If you just specify a file name, the default file type is RNO. If you do not supply a full file specification, DSR uses your default device and directory. If you want to include (.REQUIRE) files from other devices or directories, you must specify the full file specification.

Description

1. The .REQUIRE command must be the last command on the line if you are putting multiple DSR commands on a line.
2. You can have several .REQUIRE commands in a single file or you can have one or more .REQUIRE commands in files that are themselves specified in .REQUIRE commands. The maximum depth for "nesting" .REQUIRE files in this manner is 10.
3. If you plan to use the .REQUIRE command in several files that might be required in various combinations, you should consider using .SET LEVEL. The .SET LEVEL command causes the section heads in files to be adjusted to the right level in any context. See .HEADER LEVEL and .SET LEVEL.

.RIGHT

The .RIGHT command positions a single line of text relative to the right margin. (See also .CENTER.)

Format

.RIGHT [[-]n]; text

.RIGHT [[-]n]

.R [[-]n]; text

.R [[-]n]

Parameters

n
Specifies how many character positions to the left of the right margin setting the line will be indented.

–n
Specifies the number of character positions to the right of the right margin setting that the line will extend to.

text
The text to be positioned relative to the right margin. No other DSR commands can follow this text on a line.

Description

1. The .RIGHT command executes .BREAK before doing its main task.
2. The line of text being positioned can extend past margin settings and even beyond the .PAGE SIZE width setting, but it cannot go to the left of character position 0.
3. You can enter the text to be positioned on the same line following the .RIGHT command, or you can end the line after the .RIGHT command, in which case the next line of text is positioned.
4. No commands will be recognized on the line following a .RIGHT command (or if it is blank, on the next line). The Control flag (.) is not honored while .RIGHT is collecting text to position. Other DSR flags are recognized, for example, the Bold and the Underline flags.

Default

If you enter .RIGHT without a value, you get a 0, which will push the line of text to the right margin.

.RIGHT MARGIN

The .RIGHT MARGIN command sets the right margin to the position that you specify. This is the position to which a line of text normally extends. If .JUSTIFY is in effect, the .RIGHT MARGIN value is the position against which text is justified. If .NO JUSTIFY is in effect, the .RIGHT MARGIN value specifies the maximum number of characters on any text line. (Compare with .PAGE SIZE, which sets the page width for running heads.)

Format

```
.RIGHT MARGIN    [[+/-]n]

.RM    [[+/-]n]
```

Parameters

n
Specifies the character position of the new right margin; *n* must be greater than the value for the left margin. (For example, .RIGHT MARGIN 60 sets the right margin just to the right of the 60th character position.) The maximum value of *n* is 150.

+n
Sets the right margin *n* character positions to the right of the current right margin.

–n
Sets the right margin *n* character positions to the left of the current right margin.

Description

The .RIGHT MARGIN command executes .BREAK before setting the right margin.

Related Commands

1. .LITERAL executes .RIGHT MARGIN 150, and .END LITERAL restores the previous right margin setting.
2. .CENTER uses the .RIGHT MARGIN setting as the value on which to center text on a page.

Default

1. If you do not enter the .RIGHT MARGIN command, you get .RIGHT MARGIN 70.
2. If you enter .RIGHT MARGIN without a value, you get the default value of 70.

.SAVE, .RESTORE

These commands maintain the formatting context of a document for the user. The files produced by the DSR utilities make changes to the formatting context. In order not to disturb the user's context, the RNT and RNX files execute .SAVE and .RESTORE commands.

.SAVE stores information about the current RUNOFF formatting context; this includes DSR defaults and DSR commands and flags issued by the user.

.RESTORE restores the formatting information saved by the last-issued .SAVE command.

Format

.SAVE

.RESTORE

.SA

.RE

Description

1. You must balance a .SAVE command with a .RESTORE command. A warning message results from a .RESTORE command without a preceding .SAVE command, and no restore is done in this case. Similarly, a warning message results if pending .SAVE commands are not matched by .RESTORE commands by the end of a file.
2. You can nest .SAVE and .RESTORE commands to a depth of 20.
3. The .SAVE command preserves the following items of formatting context:

   Case of the word *Page* that precedes the page number and the word *Index* that precedes index page numbers
   Date (On or Off)
   Fill
   Flags
   Justify
   Keep
   Margins
   Page numbering (On or Off)
   Page size
   Paging (On or Off)
   Paragraph parameters
   Spacing
   Subtitles (On or Off)
   Tab stops

.SEND TOC

The .SEND TOC command allows you to insert DSR commands, DSR flags, and text into the table of contents (RNT) file. The items that you insert affect the appearance of the table of contents. For example, you can send emphasis flag characters to cause bolding and underlining in the table of contents. Chapter 5 has information on the DSR Table of Contents Utility.

Format

.SEND TOC   text

.STC   text

Parameter

text
Specifies the DSR command, DSR flag, or text that you are sending to the table of contents.

Example

The following example illustrates the use of the .SEND TOC command.

Input

The input file before it has been processed with DSR and the DSR Table of Contents Utility:

```
.HEADER LEVEL 1 1st Section
text,text,text
.PAGE

.HEADER LEVEL 1 2nd Section
text,text,text
.PAGE

.SEND TOC .BLANK 2
.HEADER LEVEL 1 3rd Section(.SEND TOC command before this section)
text,text,text
.PAGE

.HEADER LEVEL 1 4th Section
text,text,text
.PAGE

.HEADER LEVEL 1 5th Section
text,text,text
```

The preceding commands will cause the RNT file to have the .BLANK 2 command in it and the table of contents file (MEC) will have the two blank lines before the header level entry for the third section.

Output

The table of contents produced when you process the input file with DSR and the DSR Table of Contents Utility:

```
                             CONTENTS

1       1ST SECTION  . . . . . . . . . . . . . . . . . . . . . 1
2       2ND SECTION  . . . . . . . . . . . . . . . . . . . . . 2

3       3RD SECTION(.SEND TOC COMMAND BEFORE THIS SECTION) . 3
4       4TH SECTION  . . . . . . . . . . . . . . . . . . . . . 4
5       5TH SECTION  . . . . . . . . . . . . . . . . . . . . . 5
```

.SET DATE, .SET TIME

The .SET DATE and .SET TIME commands let you specify a date and time to be inserted in your file when you issue the Substitute flag pair, $$, with any of the appropriate date or time parameters. .SET DATE also sets the date for the .DATE command, which causes the date to appear in running heads. (See .DATE in this chapter and the description of the Substitute flag pair, $$, in Chapter 3.)

Format

```
.SET DATE   d1 ,d2 ,d3

.SET TIME   t1 ,t2 ,t3

.SDT   d1 ,d2 ,d3

.STM   t1 ,t2 ,t3
```

Parameters

d1
A number specifying the day of the month

d2
A number specifying the month of the year

d3
A number specifying the year (either four digits or the last two digits of the year)

t1
A number specifying the hour of the day

t2
A number specifying minutes past the hour

t3
A number specifying seconds past the minute

If you precede any of these values with + or –, you will change the corresponding current value by adding to or subtracting from it the value following the + or –.

Description

1. The .SET DATE and .SET TIME commands execute .BREAK commands before doing their main tasks.
2. The date or time that you specify or that is in effect by default remains in effect until you enter another .SET DATE or .SET TIME.

Default

1. If you do not enter .SET DATE or .SET TIME, entering a $$time, $$date, or any of the appropriate date or time parameters with the substitute flag pair ($$) will give you the date or time that DSR began processing the file.

2. If you enter either of these .SET commands, you can retain a previous value by omitting its value from the command. You must, however, type any comma that would have followed it.
3. If you enter either command without specifying any values for it, you will get the current date or the time as of the second the command is executed.

.SET LEVEL

The .SET LEVEL command allows you to preset the level of the next section head without entering a .HEADER LEVEL command (see .HEADER LEVEL).

Format

```
.SET LEVEL    [+/-]n

.SL    [+/-]n
```

Parameters

n
Specifies the level for the next .HEADER LEVEL command.

+n
Makes the level for the next .HEADER LEVEL command *n* more than the current level.

–n
Makes the level for the next .HEADER LEVEL command *n* less than the current level.

Description

The .SET LEVEL command can be helpful when you are using the .REQUIRE command to combine several text files that are to be processed and output as a single file. By using the .SET LEVEL command, you can "require" your files in different combinations without having to modify them, and without having to make adjustments to .HEADER LEVEL commands throughout any document involved. When using .SET LEVEL in .REQUIRE files, note the following:

1. You should enter all .HEADER LEVEL commands in .REQUIRE files with +*n* or –*n* values rather than with *n* values. Alternatively, you can enter no value with the .HEADER LEVEL command, always specifying the level with .SET LEVEL.
2. At the end of the .REQUIRE file, you can enter .SET LEVEL with a –*n* or +*n* to reset the header level to its value before you entered the current .REQUIRE file.

Example

The following example illustrates the use of the .SET LEVEL command. The file in the example requires the following file, called SL3.EXA.

SL3.EXA file

```
.HEADER LEVEL FIRST HEADER IN SL3.EXA
Here is text following the first header. Now
increment the header level by entering ".SET LEVEL +1":
.SET LEVEL +1
.HEADER LEVEL second header in SL3.EXA
Text following the second header. Again
increment the header level:
.SET LEVEL +1
.HEADER LEVEL third header in SL3.EXA
This is the last text in SL3.EXA. At the end of it,
set the header level back to where it started by
entering ".SET LEVEL -2".
.SET LEVEL -2
```

.SET LEVEL example

Input

The input file before it is processed by DSR:

```
One reason for using this command is that it allows
modularization of an RNO source file or a set of .REQUIRE
files.
.BLANK
Soon you are going to require a file (SL3.EXA) that has
3 levels of headers. They appear the first time
as header levels 1, 2, and 3 (numbered 1, 1.1, and
1.1.1). Following that, you enter a .SET LEVEL +1
command here and then require the 3-level file again.
This time, the same headers appear as header levels
2, 3, and 4 (numbered 1.2, 1.2.1, and 1.2.1.1).
.BLANK
You also pull in the left margin for SL3.EXA to
make it stand out.
.LEFT MARGIN +3
.REQUIRE 'SL3.EXA'
.BLANK.LEFT MARGIN -3
Enter a .SET LEVEL +1 command here at the top
level:
.SET LEVEL +1
You need the file SL3.EXA again:
.LEFT MARGIN +3
.REQUIRE 'SL3.EXA'
.LEFT MARGIN -3
```

Output

The output is this:

```
One reason for  using  this  command  is  that  it
allows  modularization  of  an RNO source file or a
set of require files.

Soon you are going to require a file (SL3.EXA) that
has  3  levels  of  headers.  They appear the
first time as header levels 1, 2, and 3  (numbered
1, 1.1, and 1.1.1).  Following that, you enter
a .SET LEVEL +1 command here and then require  the
3-level  file  again.  This time, the same headers
appear as header levels 2, 3, and 4 (numbered
1.2, 1.2.1, and 1.2.1.1).
```

```
You also pull in the left margin  for  SL3.EXA
to make it stand out.


   1  FIRST HEADER IN SL3.EXA

   Here is text following the first  header.   Now
   you  increment  the  header level by entering
   ".SET LEVEL +1":


   1.1  Second Header In SL3.EXA

   Text following the second header.  Again
   increment the header level:


   1.1.1  Third Header In  SL3.EXA -- This  is  the
   last  text  in  SL3.EXA.   At the end of it, you
   set the header  level  back  to  where  it
   started by entering ".SET LEVEL --2."

Enter a .SET LEVEL +1 command here  at  the
top level:
Now you Require the file SL3.EXA again:


   1.2  First Header In Sl3.exa

   Here is text following the first  header.   Now
   you  increment  the  header level by entering
   ".SET LEVEL +1":


   1.2.1  Second    Header    In    SL3.EXA -- Text
   following  the  second  header.   Now  you again
   increment the header level:


   1.2.1.1  Third Header In SL3.EXA -- This is  the
   last  text  in  SL3.EXA.   At the end of it, you
   set the header  level  back  to  where  it
   started by entering ".SET LEVEL --2."
```

.SET PARAGRAPH

The .SET PARAGRAPH command allows you to set values for .PARAGRAPH without entering .PARAGRAPH. The .SET PARAGRAPH command can be especially useful if you plan to execute .AUTOPARAGRAPH or .AUTOTABLE. (See .PARAGRAPH.)

Format

.SET PARAGRAPH   [[-]n1 [,[-]n2 [,n3]]]

.SPR   [[-]n1 [,[-]n2 [,n3]]]

The parameters *n1*, *n2*, and *n3* are identical to the values of the .PARAGRAPH command. If you choose not to use one of these optional parameters, you must use a comma as a placeholder for the missing parameter in the parameter list.

Parameters

n1 = spaces indented (The default is 5.)
Specifies (like .INDENT) how many character positions to the right of the .LEFT MARGIN setting the first line of text will begin.

–n1
Specifies how many character positions to the left of the .LEFT MARGIN setting the first line of text will begin; *–n1* cannot, however, cause the text to begin to the left of character position 0.

n2 = vertical spacing (The default is 1.)
Specifies (like .SKIP) the number of blank lines you want inserted before the paragraph. You get additional blank lines if the .SPACING value is greater than 1.

–n2
Specifies that the next line of text be pushed to within *n2* lines of the bottom of the current page by the insertion of blank lines. Every line but the last one retains the line spacing (.SPACING value) that follows it.

n3 = test page lines (The default is 2.)
Specifies (like .TEST PAGE) the number of lines of text required to be on one page. Unlike the .TEST PAGE command itself, *n3* takes into account any blank lines that .SPACING routinely inserts after each line of text. If there is not enough room on the current page to accommodate that many lines, DSR puts the text on the next page. You can cancel this function by specifying 0 for *n3*.

.SKIP

The .SKIP command inserts a multiple of the number of blank lines that has been specified by the .SPACING command. Contrast this with .BLANK, which inserts only the number of blank lines specified with the .BLANK command itself. (See .BLANK.)

Format

```
.SKIP    [[-]n]

.S    [[-]n]
```

Parameters

n
The number of .SPACING lines you want to be inserted. For example, if you have specified a .SPACING value of two lines and you enter .SKIP without an *n* value, DSR will insert two blank lines (the .SPACING value) by default. If you enter .SKIP 2, DSR will insert four blank lines (2 times the .SPACING value), and so on.

–n
Specifies that the next line of text be pushed to within *n* lines of the bottom of the current page by the insertion of blank lines. Every line but the last one retains the line spacing (.SPACING value) that follows it.

Description

1. The .SKIP command executes .BREAK before executing its main task.
2. .SKIP *n* does not work at the top of a page, that is, right after a .PAGE or just after .PAGE SIZE length has been exceeded, but .SKIP –*n* does work under such conditions.
3. If there is not enough room on the current page for .SKIP to do exactly as you specified, the .SKIP does as much as it can on that page. It does not finish on the next page.
4. If DSR encounters a footnote while executing .SKIP, it considers the line directly above the footnote to be the bottom of the page.

Default

If you enter no value for .SKIP, you get .SKIP 1.

.SPACING

The .SPACING command changes the amount of spacing between lines of text.

Format

```
.SPACING    n

.SP    n
```

Parameter

n
The amount of spacing that you want between lines of text. For example, 1 denotes single spacing (no blank lines between lines of text) — as the text in this manual normally appears. You must specify *n*, which must be in the range of 1 through 5.

Description

1. The .SPACING command executes .BREAK before doing its main task.
2. The .SPACING setting affects the action of .SKIP.
3. The .SPACING setting affects the action of .LITERAL.
4. The .SPACING setting affects the skip values and the test-page values of .PARAGRAPH, .SET PARAGRAPH, .AUTOPARAGRAPH, and .AUTOTABLE.

Default

If you do not enter a .SPACING command, you get single spacing (.SPACING 1).

.STYLE HEADERS

The .STYLE HEADERS command changes the formats of the various levels of section heads (.HEADER LEVEL n). Do not confuse the numbers that identify the header level (in the range of 1 through 6) with the numbers that get printed just to the left of the header title (3.5.2, for example). See .HEADER LEVEL. (See also .NUMBER LEVEL and .DISPLAY LEVEL.)

Default Header Level Numbering

	Nonchapter	Chapter n	Appendix A
.HEADER LEVEL 1	1	n.1	A.1
.HEADER LEVEL 2	1.1	n.1.1	A.1.1
.HEADER LEVEL 3	1.1.1	n.1.1.1	A.1.1.1

Format

```
.STYLE HEADERS    [n1] [,n2]...[,n9]
.STHL    [n1] [,n2]...[,n9]
```

Parameters

n1 (The default is 3.)
Specifies the lowest-numbered header level to have a run-in title format. Run-in means that the text immediately follows the header on the same line instead of beginning on a new line. All higher-numbered levels also have run-in formats. If *n1*=4, then .HEADER LEVEL 4, 5, and 6 titles are run into the main text.

n2 (The default is 1.)
Specifies the highest-numbered header level to have its title printed entirely in uppercase. All lower-numbered levels will also have titles entirely in uppercase. If *n2*=4, then .HEADER LEVEL 1, 2, 3, and 4 will have titles in uppercase.

n3 (The default is 6.)
Specifies the highest-numbered header level to have only the first letter of each word capitalized in the title. All lower-numbered levels will also have titles in mixed format. If *n3*=6, all levels will have this case format. All uppercase takes precedence over initial capital letters, if there is a conflict.

n4 (The default is 7.)
Specifies the lowest-numbered header level not to have a section number to the left of its title. All higher-numbered levels will also not have section numbers to the left of their titles.

n5 (The default is 7.)
Specifies the lowest numbered non-run-in header level to have its title centered. All higher-numbered non-run-in levels will also have their titles centered.

n6 (The default is 3.)
Specifies the number of blank lines you want before section heads.

n7 (The default is 1.)
Specifies the number of blank lines you want after section heads.

n8 (The default is 9.)
Specifies the number of lines you want to have available on the current page for the test page issued by .HEADER LEVEL. Note that *n8* takes into account any blank lines that .SPACING routinely inserts after each line of text (unlike .TEST PAGE). (See also .SKIP.)

n9 (The default is 2.)
Specifies the number of spaces you want between the section number and the section title. The maximum value is 75.

Description

1. The .STYLE HEADERS command executes .BREAK before doing its main task.
2. You can type 0 or 7 for *n1*, *n2*, *n3*, *n4*, or *n5* to affect all levels of headers, even though both 0 and 7 exceed the range of allowable levels.
3. In a conflict between *n2* and *n3* caused by an overlapping range, *n2* (all uppercase) takes precedence.

Default

1. If you do not specify a value for any given *n*, DSR supplies the following default values:

n1=3	Run-in titles for header levels 3 through 6.
n2=1	Titles in all uppercase for header level 1 only.
n3=6	Titles with only the first letter of every word in uppercase for header level 2 through header level 6.
n4=7	A sequence of numbers (or letters) preceding the section title. (See .DISPLAY LEVELS.)
n5=7	Titles printed starting at the left margin (flush left), not centered.
n6=3	Three blank lines before each header.
n7=1	One blank line after each header.
n8=9	Seven more than the test-page value of the most recent .PARAGRAPH or .SET PARAGRAPH command you have entered. If you have not specified such a value, you get 7 plus the .PARAGRAPH default of 2. (See the description of n8 above for note on .SPACING adjustment.)
n9=2	Two spaces between the section number of the header and the header itself (section title).

.SUBPAGE, .END SUBPAGE

The .SUBPAGE command begins a new page and a new format for page numbering. It numbers the new page by keeping the previous page number and appending the letter A to it. For example, if the previous page is 10, the first subpage is 10A and the next page becomes 10B unless you have entered an .END SUBPAGE in the meantime. (See also .NUMBER SUBPAGE, .DISPLAY SUBPAGE, .HEADERS ON, .LAYOUT, and .PAGE.)

The .END SUBPAGE command begins a new page and goes back to normal page numbering. If you entered the .END SUBPAGE command on page 2-8D, for example, the next page would be numbered 2-9.

Format

```
.SUBPAGE

.END SUBPAGE

.SPG

.ES
```

Description

1. Both the .SUBPAGE and the .END SUBPAGE commands execute .BREAK commands before doing their main tasks.
2. You can use the .SUBPAGE command if you are changing parts of a document you are reprinting and if you do not want to have to renumber the pages in the rest of a chapter (or possibly the rest of the document). You can thus avoid a severe disruption of your index and table of contents.

Default

.SUBPAGE is not in effect.

.SUBTITLE, .NO SUBTITLE

The .SUBTITLE command allows you to specify a subtitle for a running head (see .HEADERS ON). When using the default .LAYOUT command, the subtitle appears on the second line of every page (except page 1) at the leftmost position on a line (character position 0), regardless of the left margin setting. The .NO SUBTITLE command cancels the .SUBTITLE command. (See also .AUTOSUBTITLE, .TITLE, .FIRST TITLE, and .LAYOUT.)

Format

```
.SUBTITLE   [text]

.NO SUBTITLE

.ST   [text]

.NST
```

Parameter

text
The title of the running head you want to appear on the second line of the page.

Description

1. The .SUBTITLE command executes .BREAK before doing its main task.
2. A .SUBTITLE command must be the last command on the line.
3. You must enter .SUBTITLE if you want .AUTOSUBTITLE or .DATE to work.
4. Once you enter the .SUBTITLE command, the running head will occupy four lines at the top of each page (title, subtitle, and two blank lines.) If you never enter .SUBTITLE, or if you enter .NO SUBTITLE, the running head will occupy three lines at the top of each page.

Related Commands

1. You can change the position of a running-head subtitle on pages by entering a .LAYOUT command.
2. If .AUTOSUBTITLE is in effect, it will override the effects of a .SUBTITLE command you have entered. That is, DSR will use .HEADER LEVEL titles for running-head subtitles. Any subtitle you have specified in a .SUBTITLE command will be overridden when the first applicable .HEADER LEVEL is encountered.
3. .NO HEADERS suppresses running heads and therefore the subtitle does not appear at the top of the page. DSR remembers the subtitle, however, and it will appear in the running head if you enter .HEADERS ON.

Default

1. If you do not enter either .SUBTITLE or .NO SUBTITLE, you get .NO SUBTITLE.
2. If you enter the .SUBTITLE command without specifying subtitle text for it, you will get the effects of .AUTOSUBTITLE (provided you have not entered .NO AUTOSUBTITLE).
3. If .AUTOSUBTITLE is in effect and if the text picked up from an applicable .HEADER LEVEL command is wider than the margins in effect when the subtitle is displayed, the subtitle is truncated and an ellipsis (. . .) is appended to the end of it.

.TAB STOPS

The .TAB STOPS command changes the current positions of tab stops. Each tab character in the input file advances the print carriage to the right to the next tab stop.

Format

.TAB STOPS [[+/-]n1] [,[+/-]n2]...[,[+/-]n32]

.TS [[+/-]n1] [,[+/-]n2]...[,[+/-]n32]

Parameters

n1,n2,...n32
Character positions that you are defining as new tab stops. They are absolute positions not related to margin settings and start at 0 (the leftmost position). The highest number of tab stop positions you can have is 32.

n
Specifies the character position for a tab stop.

1,2,...32
The 1st,2nd,...32nd tab stops on a line. Tab stops are defined as such by the commas that follow them.

+n
Changes a given position by adding *n* to its value rather than by directly specifying the value.

–n
Changes a position by subtracting *n* from its value.

Description

1. If you enter .TAB STOPS but do not want to change all the settings, you need not specify those you want to keep. You must, however, retain the commas that would have followed because omissions alter or cancel previous settings. In particular, the previous tab stop settings located after the last number or comma in a .TAB STOPS command are canceled.
2. Each .TAB STOPS command suspends the use of the previous tab stop settings.
3. Tab stop values must increase from left to right to work properly, and each must have a value that is at least two higher than that of the preceding tab stop. Tabs encountered when either of these conditions is not in effect cause DSR to ignore the improper tab setting and bring you to the next valid setting.
4. You can delete a tab stop by setting it to a value that is less than the tab stop just preceding the one you are deleting. For example, if you have entered .TAB STOPS 10,15,20,25,30 and you want to delete the tab stop at position 20, you can enter the following:

   ```
   .TAB STOPS ,,12,,
   ```

5. If text overflows past a tab stop, a following tab brings you to the next valid setting.
6. If DSR encounters a tab character after passing beyond all tab stops, it treats the tab as a space.
7. Tabs work properly inside a .LITERAL block of text.
8. .TAB STOPS commands are not affected by .JUSTIFY.

Default

1. If you enter the .TAB STOPS command without number or comma specifications, the use of all tab stops is suspended and the tab character is equivalent to a space.
2. If you do not enter the .TAB STOPS command, successive tab characters work as if you had set a tab stop every eight positions, that is, as if you had entered .TAB STOPS 8,16,24, and so on. Note, though, that because .PAGE SIZE has a width limit of 150, 149 is the practical limit for .TAB STOPS.

.TEST PAGE

The .TEST PAGE command allows you to keep a specified amount of text entirely on a single page. If there is not enough room on the current page to accommodate that amount, DSR ends the current page and puts the entire text on the next page.

Format

```
.TEST PAGE   n

.TP   n
```

Parameter

n
The number of lines required to be on one page. This number cannot be omitted and must be positive.

Description

The .TEST PAGE command executes .BREAK before doing its main task.

Related Commands

The following commands execute .TEST PAGE commands:

.FIGURE
.FIGURE DEFERRED
.HEADER LEVEL
.LIST
.NOTE
.PARAGRAPH
.SET PARAGRAPH

Unlike .TEST PAGE, however, these commands all take the .SPACING value into account when interpreting *n*. (See also .SKIP.)

Example

The following example illustrates the use of the .TEST PAGE command.

Suppose there are exactly four lines left on the current page.

Example A	Example B
.TEST PAGE 5	[no .TEST PAGE command]
Line one	Line one
Line two	Line two
Line three	Line three
Line four	Line four
Line five	Line five

Produces:	Produces
[new page]	Line one
Line one	Line two
Line two	Line three
Line three	Line four
Line four	[new page]
Line five	Line five

.TITLE

The .TITLE command allows you to specify a title for a running head (see .HEADERS ON). This title normally appears at the top of every page but the first, at the leftmost position on the line (character position 0), regardless of the .LEFT MARGIN setting. (See also .FIRST TITLE, .SUBTITLE, and .LAYOUT.)

Format

```
.TITLE    [text]

.T    [text]
```

Parameter

text
The title of the main running head you want to appear.

Description

1. The .TITLE command executes .BREAK before doing its main task.
2. A .TITLE command must be the last command on the line.

Related Commands

1. You can change the position of a running-head title on pages by entering a .LAYOUT command.
2. .NO HEADERS suppresses running heads and therefore the title does not appear at the top of the page. DSR remembers the title, however, and it will appear in the running head if you enter .HEADERS ON.
3. If you enter .CHAPTER (or .APPENDIX) after or instead of a .TITLE, the chapter or appendix title becomes the running-head title.
4. If your document does not begin with a .CHAPTER command, you can have running heads on the first page by entering the .FIRST TITLE command.

Default

If you do not enter the .TITLE command, you get the title you specified in any .CHAPTER command that is in effect (unless you have entered .NO HEADERS).

.VARIABLE

The .VARIABLE command allows you to specify a character that corresponds to the name you have given the commands and text in an .IF (or .IFNOT) block. This identifying character is placed in the left margin when you process your file with the /DEBUG or /DEBUG=CONDITIONALS command line qualifier.

Format

.VARIABLE   name [t ,f]

.VR name   [t ,f]

Parameters

name
The name you have given to the commands and text in an .IF (or .IFNOT) block.

t
(True) is a single character of your choice that appears in front of lines of text to indicate that they will be processed (.IF block) if you specify /VARIANT, instead of /DEBUG, in the command line.

f
(False) is a single character of your choice that appears in front of lines of text to indicate that they will not be processed (.IFNOT block) if you specify /VARIANT, instead of /DEBUG, in the command line.

Description

1. .VARIABLE commands must occur before conditional commands of the same name.
2. You can enter the .VARIABLE command for as many .IF or .IFNOT blocks as you want, but you should have unique t,f characters for each unique .VARIABLE "name." You can then tell which block will be processed or not processed.
3. If you issue /VARIANT in the command line, only "true" text will appear.

Example

The following example illustrates the use of the .VARIABLE command and also the conditional commands (.IF, .IF NOT, .ELSE, and .ENDIF).

Input

The input file before it is processed by DSR:

```
.VARIABLE COMPLETED c ,0
.VARIABLE USER u ,0
.VARIABLE PASSED p ,0
.VARIABLE DIAG d ,0

.CENTER;Known Bugs and Deficiencies
.BLANK
.CENTER;PCLS Version V1.1-002

.BLANK 2
This file should be processed with the qualifier /DEBUG in
order to get the benefit of the coded information in the
left-hand margin. The key to the marginal coding is:
.BLANK.LEFT MARGIN 8.TAB STOPS 14
.BREAK;d TABDiagnostic notes.
.BREAK;c TABCompleted --- closed.
.BREAK;p TABPassed to another group  --- closed.
.BREAK;u TABUser errors or misunderstandings --- closed.
.LEFT MARGIN 0.BLANK
.LIST
.LEFT MARGIN 6
.IF COMPLETED
.LIST ELEMENT;[1122] (submitted by Adams) Found in
V1.0-004; VMS only.
.BLANK
PCLS miscounts input records if the /RETRY qualifier is
used.
.BLANK
Fixed in 1.0-005, 10-June-1988.
.ENDIF COMPLETED
.BLANK
#
.IF USER
.LIST ELEMENT;[1131] (submitted by Clark) Found in
V1.0-006; all operating systems.
.BLANK
Closed: User error.
.BLANK
Reports sometimes print over the line printer page
perforation when the NEWPAGE command is used.
.ENDIF USER
.BLANK
#
.IF PASSED
.LIST ELEMENT;[1149] (submitted by AUSTIN::PRINE) Found in
V1.0-010; VMS only.
.BLANK
PCLS incurs an access violation upon trying to create a
filein a version-limited directory.
.BLANK
Passed to the I/O group on 6-July-1988.
```

```
.BLANK
Fixed in V1.0-011.
.IF DIAG
.BLANK
A problem with the I/O system. It did not properly handle
the message from VMS that notifies the user that the
oldest version was deleted.
.ENDIF DIAG
.ENDIF PASSED

.BLANK
#
.LIST ELEMENT;[1211] (submitted by Clark) Found before
V1.0-012; VMS only.
.BLANK
PCLS access-violates when trying to open the fourth output
file in a user-defined sequence of output files.
.IF DIAG
.BLANK
Problem is likely to be in the EXTOUT module or in
something it calls.
.ENDIF DIAG
.END LIST 0
.BLANK
[End of BUGLIST.RND]
```

Output

The output file, processed with RUNOFF/DEBUG, is this:

```
                     Known Bugs and Deficiencies

                        PCLS Version V1.1-002

This file should be run off with the qualifier /DEBUG in order to  get
the benefit of the coded information in the left-hand margin.  The key
to the marginal coding is:

        d     Diagnostic notes.
        c     Completed --- closed.
        p     Passed to another group  --- closed.
        u     User errors or misunderstandings --- closed.

c
c   1.   [1122] (submitted by Adams) Found  in  V1.0-004;   VMS
c        only.
c
c        PCLS miscounts input records if the  /RETRY  qualifier
c        is used.
c
c        Fixed in 1.0-005, 10-June-1988.
u   2.   [1131] (submitted by Clark) Found  in  V1.0-006;   all
u        operating systems.
u
u        Closed:  User error.
u
u        Reports sometimes print  over  the  line printer  page
u        perforation when the NEWPAGE command is used.
u
```

```
p
p   3.   [1149] (submitted by AUSTIN::PRINE) Found in V1.0-010;
p         VMS only.
p
p         PCLS incurs an access violation upon trying to  create
p         a file in a version-limited directory.

p
p         Passed to the I/O group on 6-July-1988.
p
p         Fixed in V1.0-011.
d
d        A problem with the I/O system.  It  did  not  properly
d        handle  the  message  from  VMS that notifies the user
d        that the oldest version was deleted.

    4.  [1211] (submitted  by  Clark) Found  before  V1.0-012;
        VMS only.

        PCLS access-violates when trying to  open  the  fourth
        output  file  in  a  user-defined  sequence  of output
        files.
d        Problem is likely to be in the  EXTOUT  module  or  in
d        something it calls.


[End of BUGLIST.RND]
```

.XLOWER, .XUPPER

The .XLOWER command allows you to control the case of index entries specified by the .INDEX and the .ENTRY commands, or by the Index flag (>). The case of the index entries will match exactly the case that you enter when you make the index entry.

The .XUPPER command lets DSR control the case of index entries. If .XUPPER is in effect (as it is by default), DSR capitalizes the first character of every index entry, and drops everything else in the entry to lowercase. Chapter 6 has information on the DSR indexing utility.

Format

```
.XLOWER

.XUPPER

.XL

.XU
```

Default

.XUPPER

3

DSR Flags

This section describes the DSR flags. Flags are special characters that you insert in your text to specify, for example, emphasis of text, case of characters, and spacing of characters.

3.1 DSR Flag Characters

Table 3–1 lists all the flags, the default characters associated with the flags, and the function of each flag.

Table 3–1 DSR Flags

Flag Name	Char.	Purpose
Accept	_	Treat next character as ordinary text
Bold	*	Make next character boldface
Break	|	Allow DSR to break word here if at end of line
Capitalize	<	Capitalize all characters in next word
Comment	!	Begin comment
Control	.	Start DSR command
Hyphenate	=	Allow hyphenation of word here if at end of line
Index	>	Index next word
Lowercase	\	Make next character lowercase
Overstrike	%	Overstrike previous character with next character
Period	+	Insert extra interword space after character
Space	#	Insert unexpandable space
Subindex	>	Subindex next word or phrase if in a .INDEX or .ENTRY command
Substitute	$$	Insert date or time
Underline	&	Underline next character
Uppercase	^	Make next character uppercase

3.1.1 Entering Flag Characters

Enter flag characters in your text file to specify the character or strings of text that you want to underline, bold, capitalize, index, and so on. The following example shows an input file with emphasis flags:

```
^&A Manual of Style\& by the University of Chicago Press
is a source of information on index entries.
.BLANK
.FLAGS BOLD
Do ^*NOT\* remove this book from the reference room.
```

After processing this file with the RUNOFF command, you get the following output:

> A Manual of Style by the University of Chicago Press is a source of information on index entries.
>
> Do **NOT** remove this book from the reference room.

3.1.2 Using Multiple Flag Characters

The following flags can be used alone or with another flag (except as specified):

Accept (can be used with any flag, including itself)
Bold
Capitalize
Comment
Lowercase
Substitute (can be paired only with itself)
Underline
Uppercase

The following flags are used alone (except for pairing with the Accept flag):

Break
Hyphenate
Index
Overstrike
Period
Space
Subindex

3.2 DSR Commands That Control Flags

Two DSR commands affect the DSR flag characters: the .FLAGS flag-name command turns the recognition of a flag character on or off, and the .ENABLE /.DISABLE flag-action command enables or disables the action of certain flags. The following sections discuss the use of these two DSR commands with the flag characters. There are detailed descriptions in Chapter 2 of the DSR commands that control flags. The commands are listed alphabetically under .ENABLE BOLDING, HYPHENATION, OVERSTRIKING, UNDERLINING, and .FLAGS flag-name.

3.2.1 Recognition of Flag Characters

Recognition of flag characters means only that the flag characters will not be taken as text. If a flag is recognized by DSR, it does not appear in output text. A recognized flag may or may not perform its flag task. For example, the Underline flag might be recognized as a flag, but not cause underlining, because you specified the /NOUNDERLINE qualifier on the DSR command line (see Chapter 4).

If a flag is not recognized by DSR, it appears as output text, and it does not perform its flag task.

You cause a flag to be recognized by entering the following .FLAGS flag-name command:

```
.FLAGS BOLD
```

You turn off recognition of a flag character with the following .NO FLAGS flag-name command:

```
.NO FLAGS BOLD
```

You can suspend recognition of all flags simultaneously (except for the Comment flag and the Control flag) by entering .NO FLAGS ALL. If you enter this "master switch" command, even those flags with recognition turned on (either by default or because you entered the .FLAGS flag-name commands for those flags) will not be recognized. If you later enter .FLAGS ALL, flag recognition will be restored for all flags previously turned on. If recognition of a flag character is individually turned off, (for example, .NO FLAGS BOLD), the subsequent recognition of all flag characters (by .FLAGS ALL) will not cause recognition of the individually turned off flag.

For a flag to perform its task, its recognition must be turned on both collectively and individually.

3.2.2 Enabling of Flag Actions

Enabling of flag actions means that their tasks will be performed if the flags are recognized. All flag actions are enabled by default. Therefore, it is not usually necessary to enter .ENABLE flag-action commands.

You can disable the operation of some flags without affecting their recognition. See .ENABLE/.DISABLE BOLDING, HYPHENATION, INDEXING, OVERSTRIKING, and UNDERLINING. Once you have disabled the action of a flag in this way, you can reenable it with the corresponding .ENABLE command.

(See Chapter 2 if you want more information on .ENABLE BOLDING, .ENABLE HYPHENATION, .ENABLE INDEXING, .ENABLE OVERSTRIKING, and .ENABLE UNDERLINING.)

3.2.3 Redefining Flag Characters

You can change a flag from the default character to another character. You redefine a flag character by turning off recognition of the current flag character with .NO FLAGS flag-name and then specifying a new character with the appropriate .FLAGS flag-name command. You might want to do this if, for example, you are frequently using a default flag character as regular text. By redefining the flag as another character, you avoid having to place an Accept flag before the character each time you use it. (The Accept flag allows flag characters to be accepted by DSR as regular text characters.)

For example, suppose you wanted to move files from a RSTS system, which uses the RNO text-formatting program, to a VMS system, which uses DSR. In RNO, the ampersand (&) is the bold flag, and the percent sign (%) is the underline flag. The RNO flags cannot be redefined. In DSR, the asterisk (*) is the bold flag and the ampersand is the underline flag, but they CAN be redefined. Therefore, in order to avoid having to change all the ampersands and percent signs in your RNO file to asterisks and ampersands, respectively, you can simply redefine the flags at the beginning of your DSR file as follows:

```
.NO FLAGS UNDERLINE
.FLAGS BOLD &
```

```
.FLAGS UNDERLINE %
```

In this example, you must first enter .NO FLAGS UNDERLINE to disable the use of the ampersand, the default flag character for underlining. You must enter the .NO FLAGS flag-name command for any flag character that you want to redefine whose recognition is currently turned on.

You can replace a flag character with an ASCII control character, but you must precede the replacement control character with an Accept flag (_). Otherwise, the flag will not be recognized. Note that the operating system may make it difficult for you to input some control characters directly.

In the following example, the Overstrike flag (%) is redefined as the ASCII backspace control character CTRL/H:

```
.FLAGS OVERSTRIKE  CTRL/H
```

In this example, you do not need to enter the .NO FLAGS OVERSTRIKE command, since recognition of the Overstrike flag is not turned on by default.

The following section has detailed descriptions of the individual DSR flags. The flags are listed in alphabetical order.

The Accept Flag (_)

Description

The Accept flag causes any character that directly follows it to be accepted as text.

If the character is a punctuation mark after which DSR normally inserts an extra space (for example, a period), you can precede it with the Accept flag to cancel the extra space. You might want to cancel the extra space when you enter terms in which a period does not necessarily end a sentence, for example:

```
Mr_. or Mrs_.
```

The output would be:

```
Mr. or Mrs.
```

rather than:

```
Mr.  or Mrs.
```

If you want to insert a flag character into your text, the easiest way is to precede it with the Accept flag. For example, to insert & (the Underline flag), you would type _&.

For underlining purposes, you can use the Accept flag to cause the acceptance of an expandable space (one you produce by pressing the SPACE bar), because DSR normally does not underline spaces between words.

Default

Recognition is turned on.

The Bold Flag (*)

Description

The single character occurrence of the Bold flag causes the next character to be printed in boldface, that is, to be overstruck once. You can cause characters to be overstruck more than once by using the /BOLD=number qualifier when processing the file with the RUNOFF command.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS BOLD command.

Example

Input

```
.FLAGS BOLD
Use Types *A and *C
```

Output

Use Types **A** and **C**

In addition, the operation performed by this flag (as opposed to the flag's recognition) can be disabled and reenabled by the .DISABLE BOLDING and .ENABLE BOLDING commands or by the /BOLD and /NOBOLD command line qualifiers.

You can pair the Bold flag with the Uppercase flag (^*) to turn bolding on and pair it with the Lowercase flag (\ *) to turn bolding off. For example:

Input

```
^*These words are in boldface.\*
```

Output

These words are in boldface.

The Break Flag (|)

Description

The Break flag tells DSR where it may break a word that occurs at the end of a line. You might want DSR to be able to break a word after a slash (/) or a hyphen (-) that is part of the word (for example, "a yes/no response"). The Break flag allows a line to end where the flag occurs; no hyphen is ever inserted because of it.

If the flag is turned on and inserted at break points, DSR is able to break the word at any of the specified points. If more than one Break flag is present in a word that DSR is breaking at the end of a line, DSR leaves as much of the word as possible on the line, that is, it breaks the word at the last possible Break flag.

The Break flag works the same whether .JUSTIFY or .NO JUSTIFY is in effect.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS BREAK command.

Example

Input

```
.FILL.RIGHT MARGIN 40
.FLAGS BREAK
.BLANK;This is an example of a phrase (end-|of-|line) with
break points.
```

Output

```
This is an example of a phrase (end-of-
line) with break points.
```

The Capitalize Flag (<)

Description

The Capitalize flag causes all the letters in the word directly following it to be capitalized, except for letters that may be preceded by an Accept (_) or Lowercase (\ ) flag.

Capitalization continues until one of the following is encountered:

An expandable space
A Break flag (|)
A Hyphenate flag (=)
Another Capitalize flag
A pair of Uppercase flags (^^)
A pair of Lowercase flags (\ \ )
The end of the line

You can pair the Capitalize flag with the Uppercase flag (^<) to capitalize all following text up to the next case flag.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS CAPITALIZE command.

The Comment Flag (!)

Description

The Comment flag is used to insert comments in the RNO file. You type the comment text immediately after the Comment flag. Comments do not appear in the output file.

Default

Recognition is turned on.

Examples

Input

```
.LEFT MARGIN 0.RIGHT MARGIN 60!Place comment here.
```

You can use the flag wherever you use a command, except after a semicolon (;) or at the very beginning of a line (character position 0). Because a semicolon terminates a comment, you cannot include one in your comment. You can, however, include a semicolon in regular text without using an Accept flag.

A semicolon can also be used as a comment flag but only when it is paired with a control flag at the beginning of a line:

```
.;This is a comment.
```

When not used as a comment flag, a semicolon can be used to terminate a comment or a string of DSR commands. In this case, text that you type after the semicolon will appear in the output file.

You can pair the Comment flag (!) as follows:

- With a dot (.!), to introduce a comment at the beginning of a line:

  ```
  .!Place comment here.
  ```

- With an Accept flag (_!), which allows the character to be taken as ordinary text.

The Control Flag (.)

Description

The Control flag is placed at the left margin to begin a string of DSR commands. When you want a dot to be accepted as a text character, you do not need to precede it with an Accept flag (_) as long as the dot is not placed at the left margin. If you do need to have a dot in the 0 character position (and it is not part of a DSR command), you must precede it with an Accept flag. Alternatively, you can use two dots at the beginning of a line; the effect is the same as if you had used an Accept flag. (See also .FLAGS CONTROL in Chapter 2.)

Default

Recognition is turned on.

Examples

Input

```
.INDENT 5
The word "indent" is taken as a command by DSR when it
is preceded by a dot in the left margin.
```

Output

```
     The word "indent" is taken as a command by DSR
when it is preceded by a dot in the left margin.
```

(Note that the period at the end of the sentence does not need an Accept flag.)

Input

```
_.FLAGS BOLD enables recognition of the Bold flag.
```

Output

```
 .FLAGS BOLD enables recognition of the Bold flag.
```

(Here an Accept flag is needed in the input text because the period is placed at the left margin.)

Input

```
 ..FLAGS BOLD enables recognition of the Bold flag.
```

Output

```
 .FLAGS BOLD enables recognition of the Bold flag.
```

(Using two dots has the same effect as using the Accept flag.)

The Hyphenate Flag (=)

Description

When the Hyphenate flag is turned on and inserted between syllables of a word, DSR knows where the word can be broken at the end of a line. DSR inserts a hyphen where the break occurs. If DSR does not find it necessary to break the word, however, the hyphen does not appear.

The action of this flag (as opposed to the recognition of the flag) can be disabled or reenabled by the .DISABLE HYPHENATION and .ENABLE HYPHENATION commands.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS HYPHENATE command.

Examples

Input

```
.FLAGS HYPHENATE
This is an example of a hy=phen=at=ed word.
```

Output

```
This is an example of a hy-
phenated word.
```

The Index Flag (>)

Description

With the Index flag you can mark words in the text of your document as index entries. Using the .INDEX command instead of the Index flag is a more common way of marking index entries. Chapter 6 has information on creating indexes.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS INDEX command.

The Lowercase Flag (\ )

Description

The Lowercase flag causes the letter that directly follows it to appear in lowercase. The flag has no effect if the character following it is not a letter.

The Lowercase flag can be paired as follows:

- With the Underline flag (\ &) to stop underlining text.
- With the Bold flag (\ *) to stop bolding characters.
- With itself (\ \ ) to cause the characters following it to be printed in lowercase by default. If you have a file that is in all uppercase, you can put a paired lowercase flag (\ \ ) at the beginning of the file and then, as needed, override the temporary lowercase default by using a circumflex (^) to capitalize the letter following it.

Default

Recognition is turned on.

The Overstrike Flag (%)

Description

When the Overstrike flag is turned on and inserted between two characters, it causes the first of the two characters to be overstruck by the following one.

This capability allows the printing of characters not normally available, for example, a European 7, a 7 overstruck with a dash.

Three or more characters can be overstruck, but only if you specify the /BACKSPACE qualifier in the DSR command line. Otherwise, only the first and last characters in an overstrike sequence will appear.

The action performed by this flag (as opposed to the flag's recognition) can be disabled and reenabled by the .DISABLE OVERSTRIKING and .ENABLE OVERSTRIKING commands.

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS OVERSTRIKE command.

Examples

Input

```
.FLAGS OVERSTRIKE
Overstrike this 7%-.
```

Output

```
Overstrike this 7.
```

The Period Flag (+)

Description

DSR routinely inserts an extra expandable space after a period, colon, question mark, or exclamation point that is followed by the usual end-of-word space.

The Period flag lets you specify the extra space for other characters.

If the flag is turned on and .FILL is in effect, an extra space occurs when the flag (+) is inserted directly after the character. You must, however, insert the end-of-word space after the flag if it is to be effective.

For example, if you have a complete sentence enclosed in quotation marks or parentheses, you may want an extra space after the closing quotation mark or parenthesis. (See also the .PERIOD command in Chapter 2.)

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS PERIOD command.

Examples

Input

```
.FLAGS PERIOD
"What do you mean?"+ There was no response.
```

Output

```
"What do you mean?"  There was no response.
```

The Space Flag (#)

Description

The Space flag produces one unexpandable space (not affected by justification) in the output file for every flag character inserted in the input file. If you insert the flag between two words, DSR treats them as one word (although they will appear as separate words in the output file). Therefore, you should not type any spaces before or after typing the Space flag.

The flag can directly follow an Underline flag (&#) to cause the underlining of an unexpandable space.

Default

Recognition is turned on.

The Subindex Flag (>)

Description

This flag works as a subindex entry flag only if you have issued an .INDEX or .ENTRY command. Subindex entries marked with this flag are collected and alphabetized below the primary entry to which they refer. The Subindex flag indicates that the next word or phrase will be placed on the following line of the index, indented two characters to the right of the preceding entry. For more information on indexing, see Chapter 6.

Default

Recognition is turned on only within .INDEX and .ENTRY commands.

Examples

The following example shows how to produce an index with subindex entries.

Input

The input file with index entries and subindex flags:

```
.PAGE
text text text text text text text text text text text text
.INDEX Parameters >Description

.PAGE
text text text text text text text text text text text text
.INDEX Parameters >Examples

.PAGE
text text text text text text text text text text text text
.INDEX Parameters >Types >Strings
.INDEX Parameters >Types >Integers
```

Output

The index with the subindex entries:

```
                      Page Index-1

              INDEX


        .
        .
        .
Parameters
  Description, 1
  Examples, 2
  Types
    Integers, 3
    Strings, 3
        .
        .
        .
```

The Substitute Flag Pair ($$)

Description

This is the only flag that must be paired with itself. When the flag is turned on, it causes either a date or a time to be output. The output is determined by the word you associate with the flag pair; for example, $$Date. See the output in the following example.

When the Substitute flag is turned on, any dollar sign character ($), even if it is not paired, must be preceded by an Accept flag if it is to be taken as normal text by DSR. (See also .SET DATE and .SET TIME in Chapter 2.)

Default

Recognition is turned off. To turn on recognition, you must use the .FLAGS SUBSTITUTE command.

Examples

The following example shows the use of the substitute flag. The output file will contain the date and time that DSR processing of the file began.

Input

```
.FLAGS SUBSTITUTE
$$Date
$$Time
$$Year
$$Month
$$Day
$$Hours
$$Minutes
$$Seconds
$$Month#$$Day,#$$Year
```

Output

```
10 November 1988
10:55:00
1988
November
10
10
55
00
November 10, 1988
```

The Underline Flag (&)

Description

The Underline flag causes the next character to be underlined.

The operation performed by this flag (as opposed to the flag's recognition) can be disabled and reenabled by the .DISABLE UNDERLINING and .ENABLE UNDERLINING commands.

The Underline flag can be paired as follows:

- With the Uppercase flag (^&) to turn underlining on and with the Lowercase flag (\ &) to turn underlining off.
- With the Space flag (&#) to cause the underlining of unexpandable spaces.

Default

Recognition is turned on.

Examples

You can produce underlined text by placing the begin (^&) and end (\ &) underline flag pairs before and after the words you want to underline. The output will not have a solid underline, DSR does not normally underline spaces between words.

Input

```
^&To be or not to be\&
```

Output

```
To be or not to be
```

You can underline between-word expandable spaces (spaces produced by pressing the space bar) by putting the Accept flag (_) before the spaces.

Input

```
^&To_be_or_not_to_be\&
```

Output

```
To be or not to be
```

You can underline between-word unexpandable spaces (spaces produced with the space flag [#]) by putting the underline flag (&) before the space flag.

Input

```
^&To&#be&#or&#not&#to&#be\&
```

Output

```
To be or not to be
```

The Uppercase Flag (^)

Description

The Uppercase flag serves the same purpose as a typewriter SHIFT key when you use it just before typing a letter. The flag capitalizes any single letter that directly follows it. It has no effect if the character following it is not a letter.

The Uppercase flag can be paired as follows:

- With a Capitalize flag (^<) to turn on the capitalization of the text that follows (the same as using SHIFT-LOCK on a typewriter).
- With an Underline flag (^&) to turn on underlining of the text that follows.
- With a Bold flag (^*) to turn on bolding for the text that follows.
- With itself (^^) if you want to ensure that the case of letters in your input file is maintained in your output file. You can use this flag pair with those commands that control uppercasing and lowercasing (such as .HEADER LEVEL or .CHAPTER). When you specify a title, precede it with ^^.

Default

Recognition is turned on.

4 RUNOFF Command Qualifiers

To run DSR, use the DIGITAL Command Language (DCL) RUNOFF command. The DSR command line consists of the RUNOFF command, input file specifications, and optional qualifiers. Do not confuse the RUNOFF command qualifiers with the DSR formatting commands, which are part of your input text file. /BOLD is a command qualifier, .FLAGS BOLD is a DSR command.

4.1 Input and Output File Specifications

To specify the input file for the RUNOFF command, you must enter the complete file name and file type, unless the file type is RNO. If the input file type is RNO, you can omit it from the command line. Wildcards are not allowed as part of the input file specification.

The output file name will be the same as the input file name. The output file type will depend on what the input file type is. The following list names various input file types and the corresponding output file types:

Input	Output
RNB	BLB
RNC	CCO
RND	DOC
RNE	ERR
RNH	HLP
RNL	PLM
RNM	MAN
RNO	MEM
RNO/DEVICE=LN01	LNI
RNO/DEVICE=LN03	LNI
RNP	OPR
RNS	STD
RNT	MEC
RNX	MEX
None	MEM
Other	MEM

4.2 How to Run DSR

With the DCL command RUNOFF, you can instruct DSR to access an input file, produce a formatted output file, and direct the output either to the disk (for storage and printing) or to the terminal (for display).

To run DSR, you type the word RUNOFF and the name of the input file after the DCL dollar sign prompt:

```
$ RUNOFF TEST.RNO RET
```

You can also just enter RUNOFF. In this case, DSR prompts for the file name:

```
$ RUNOFF  RET
_File:
```

If your file type is RNO (the default file type in DSR), you can omit it when you specify the file name.

4.2.1 Output to Disk

When DSR processes the RNO file, it outputs a MEM file to the disk.

If no errors are detected, the program returns to the VMS command level, as in the following example:

```
$ RUNOFF TEST
$
```

If an error is detected, the program responds by printing an error message and a summary of errors when finished, as in the following:

```
%RUNOFF-W-CJL, Can’t justify line on output page 1; on input line 8
of page 1 of file "_DBB5:[GILBERT]TEST.RNO;1"
DIGITAL Standard Runoff Version V3.2: 1 diagnostic message reported
1 page written to _DBB5:[GILBERT]TEST.MEM;1
$
```

4.2.2 Output to Terminal

If you want to display the processed output file on the terminal instead of saving it in a file, enter the following:

```
$ RUNOFF TEST.RNO/OUTPUT=SYS$OUTPUT
```

(TEST.MEM is displayed on the terminal)

```
$
```

4.2.3 Input from Terminal

If you want to insert additional commands before processing, specify the terminal as the input device, as in the following:

```
$ RUNOFF SYS$INPUT/OUTPUT=TEST.MEM
.FLAGS BOLD~
.REQUIRE "TEST.RNO"
^Z
$
```

Note that you terminate input from the terminal by pressing CTRL/Z (which VMS displays as Exit). If errors are detected, the program prints messages as the errors are encountered.

4.2.4 Terminal Input and Output

If you want to test individual DSR commands, flags, or qualifiers by checking them on the terminal, you can specify the terminal as both the input device and the output device. For example, enter the following:

```
$ RUNOFF SYS$INPUT/OUTPUT=SYS$OUTPUT
.FLAGS CAPITALIZE
<capitalize the first word
. RET
```

The result is the following display:

```
CAPITALIZE the first word.
```

To terminate the session, press CTRL/Z.

4.3 Rules for Command Qualifiers

The RUNOFF command qualifiers allow you to alter the position of the text on all pages of the document, to specify emphasis such as underlining and bolding, and to otherwise control the appearance of printed output.

You can use RUNOFF qualifiers to override DSR commands or flags included in the input file. For example, the following command line would suppress any bolding you may have specified in the input file:

```
$ RUNOFF /NOBOLD MYFILE.RNO
```

The following rules apply to the use of command qualifiers:

- A command line can include as many qualifiers as you want as long as no operational conflicts occur. The command line can be continued on the next line if you specify a hyphen (-) as the last character in the first line.
- You can enter qualifier names in uppercase, lowercase, or both.
- You can enter qualifier names in a truncated form. For example, /BACK is equivalent to /BACKSPACE. VMS looks only at the first four characters of a command or qualifier. Thus, all commands and qualifiers can be abbreviated to four characters or to the shortest unique abbreviation.
- No spaces are allowed between the qualifier symbol (/) and a qualifier name, or between a qualifier name and a numerical or text value (for example, /FORM_SIZE=58).
- The qualifiers can follow either the RUNOFF command or an individual file specification. Qualifiers placed after the RUNOFF command will affect all files listed on the command line; qualifiers placed after a file specification will affect only that file. Exceptions are /FORM_SIZE, /SIMULATE, /PAUSE, and /LOG, which affect all files listed in the command line, regardless of whether the qualifier is placed after the RUNOFF command or after a file specification.
- When you are using the Table of Contents and Indexing Utilities, you must place the name of the utility directly after the RUNOFF command. For example, to invoke the Table of Contents Utility, enter the following command:

  ```
  RUNOFF/CONTENTS
  ```

  Any qualifiers that you want to add to the command line to affect the processing of the Table of Contents Utility must come after the qualifier that invokes the Table of Contents Utility. The following command invokes the Table of Contents Utility and specifies that section numbers are not displayed in the table of contents file:

  ```
  RUNOFF/CONTENTS/NOSECTION_NUMBERS
  ```

4.4 Command Qualifiers

This section describes RUNOFF command qualifiers. The qualifiers are of two types: command qualifiers and positional qualifiers. Both types of qualifiers are merged into a single alphabetized list in the description section.

Command Qualifiers	**Defaults**
/FORM_SIZE=n	/FORM_SIZE=66
/[NO]LOG	/NOLOG

/[NO]PAUSE	/NOPAUSE
/[NO]SIMULATE	/NOSIMULATE

Positional Qualifiers	**Defaults**
/BACKSPACE	None.
/[NO]BOLD[=n]	/BOLD=1
/[NO]CHANGE_BARS[="character"]	None.
/CONTENTS	See Chapter 5.
/[NO]DEBUG[=(option[,...])]	/NODEBUG
/DEVICE=(option[,...])	See text.
/[NO]DOWN[=n]	/NODOWN
/INDEX	See Chapter 6.
/[NO]INTERMEDIATE[=filespec]	/NOINTERMEDIATE
/MESSAGES=(option[,...])	/MESSAGES=(OUTPUT,USER)
/[NO]OUTPUT[=filespec]	See text.
/PAGES=string	All pages output.
/REVERSE_EMPHASIS	None.
/[NO]RIGHT[=n]	/NORIGHT
/SEPARATE_UNDERLINE[="character"]	None.
/[NO]SEQUENCE	/NOSEQUENCE
/[NO]UNDERLINE_CHARACTER[="character"]	/UNDERLINE_CHARACTER="_"
/VARIANT=string	None.

/BACKSPACE

Description

The /BACKSPACE qualifier directs DSR to use the Backspace character to produce three special effects:

- Bolding flagged text (see the Bold flag description in Chapter 3) by backspacing and overstriking each character as it is printed.
- Overstriking flagged characters (see the Overstrike flag description in Chapter 3) by backspacing and overstriking each character as it is printed.
- Underlining flagged text (see the Underline flag description in Chapter 3) by backspacing and underlining each character as it is printed. The default underlining character is an underscore (_).

The /BACKSPACE qualifier generally gives more exact underlining and bolding for files output on letter-quality printers.

Most line printers do not recognize or act on the Backspace character, so the /BACKSPACE qualifier is not recommended for line printer output.

Using /BACKSPACE allows you to overstrike three or more characters by use of the Overstrike flag (see Chapter 3).

If you do not issue the /BACKSPACE qualifier, the printer produces the above effects by issuing a carriage return without a line feed, then printing additional lines that contain only underscores or only the overstruck or bolded text.

Example

```
$ RUNOFF TEST.RNO/BACKSPACE
```

/BOLD[=number]—/NOBOLD

Description

The /NOBOLD qualifier disables the bolding function. The /BOLD=n qualifier specifies the number of times the text is to be overstruck. Neither qualifier affects recognition of the Bold flag; you must turn on recognition of the Bold flag with .FLAGS BOLD.

The default is /BOLD=1. Specifying /BOLD=0 is equivalent to using /NOBOLD. /BOLD=3 gives good results on most line printers.

If you use /NOBOLD to disable bolding, you cannot reenable bolding within that DSR run. The DSR command, .ENABLE BOLDING, is ignored if /NOBOLD is specified.

Examples

```
$ RUNOFF MYFILE/BOLD=4
$ RUNOFF/BOLD=0 SOURCE.1
$ RUNOFF CHAPTER5.V02/NOBOLD
```

/CHANGE_BARS[="character"]—/NOCHANGE_BARS

Description

The /CHANGE_BARS and /NOCHANGE_BARS qualifiers enable and disable the appearance of change bars (|) in the output file.

Using /CHANGE_BARS to enable change bars for an output file is equivalent to entering an .ENABLE BAR command at the beginning of your input file (see .ENABLE BAR in Chapter 2). The /CHANGE_BARS qualifier can also specify a replacement for the change bar character:

```
/CHANGE_BARS="x"
```

The specified replacement can be a character that takes up space (such as * or ?) or a character that does not take up space (such as CTRL/G). A nonspacing character code can be used:

```
/CHANGE_BARS=%O7/OUTPUT=SYS$OUTPUT
```

In this example, the octal code 7 causes the terminal bell to ring every time an altered line of output is encountered.

The change bar qualifier can be disabled by using /NOCHANGE_BARS.

/NOCHANGE_BARS overrides any .ENABLE BAR command in the file.

Examples

```
$ RUNOFF YOURFILE/CHANGE_BARS=%O7
$ RUNOFF TESTS/CHANGE_BARS="*"
$ RUNOFF A.RNT/NOCHANGE_BARS
```

/DEBUG[=(option[,...])]—/NODEBUG

Description

The /DEBUG qualifier traces the operation of certain DSR commands by causing the commands to appear in the output file. The commands that are associated with each of the following option words will appear in the output file if you use the option word as a value for /DEBUG= (for example, /DEBUG=INDEX).

- CONDITIONALS

  Specifying CONDITIONALS causes DSR to ignore all conditional commands (.IF, .IFNOT, .ELSE, .ENDIF) in the input file and to include the conditional commands in the output file. (See .VARIABLE in Chapter 2.)

- FILES

  Specifying FILES causes DSR to print the .REQUIRE command in the output file, in addition to the text of the .REQUIRE files.

- INDEX

  Specifying INDEX causes all indexing commands in the input file to be printed in the output file. Each indexing command appears before the line of text with which it is associated.

  All index entries specified with the .INDEX command or an Index flag are labeled with the word .INDEX, while the entries specified with .ENTRY commands are labeled with the word .ENTRY.

- CONTENTS

  Specifying CONTENTS causes all .SEND TOC commands in the input file to be printed in the output file.

- SAVE_RESTORE

  Specifying SAVE_RESTORE causes all .SAVE and .RESTORE commands in the input file to be printed in the output file.

- ALL

  Specifying ALL causes all five of the above actions.

If you specify more than one option, separate them with commas and enclose the list in parentheses.

If you do not specify /DEBUG, the default is /NODEBUG. If you specify /DEBUG without a qualifier, the default is /DEBUG=ALL.

Examples

```
$ RUNOFF HERFILE/DEBUG=CONDITIONALS

$ RUNOFF/DEBUG=INDEX CHAPTER6

$ RUNOFF SURVEY.DAT/DEBUG=(CONTENTS,INDEX)

$ RUNOFF LIST/DEBUG

$ RUNO A./DEB=FILES
```

/DEVICE=(option[,...])

Description

This qualifier can be used to produce an LNI file that is suitable for printing on an LN01 or LN03 laser printer. You must supply at least one option word (LN01, LN01E, or LN03) to specify whether the file will be printed on a standard LN01, on a European LN01E, or on an LN03. The paper size for the European LN01E printers is A4.

Do not use the /DEVICE=option qualifier with any of the following DSR command qualifiers:

/BACKSPACE
/SEPARATE_UNDERLINE
/UNDERLINE_CHARACTER

In addition to the required option word (LN01, LN01E, or LN03), you can use other option words to specify the layout of the text on the page (PORTRAIT or LANDSCAPE) or the type of emphasis for characters marked with the DSR underline flag (ITALIC or UNDERLINE). If you specify more than one option, separate them with commas and enclose the list in parentheses.

All of the option words are described in the following list:

Option	Function
LN01	This option specifies that the output device is a standard LN01 laser printer. The paper size is 8 1/2 by 11 inches. The default orientation is PORTRAIT and the default emphasis is ITALIC.
LN01E	This option specifies that the output device is a European LN01E laser printer, and the paper size is the European A4. The default orientation is PORTRAIT and the default emphasis is ITALIC.
LN03	This option specifies that the output device is a standard LN03 laser printer. The paper size is 8 1/2 by 11 inches. The default orientation is PORTRAIT. The LN03 laser printer recognizes the flags for UNDERLINE or ITALIC. If the font currently loaded in the laser printer has an ITALIC attribute, the text flagged for emphasis is italicized. If the current font does not have an ITALIC attribute, the default emphasis is underlining.
LANDSCAPE	This option specifies that the text will be arranged on the page with the long dimension of the paper (11 inches) at the top of the page. You can use this option to print files that contain wide examples or tables that will be fold-out pages in your document.
PORTRAIT	This option specifies that the text will be arranged on the page as it is in a standard business letter. The short dimension of the paper (8 1/2 inches) is the top of the page. PORTRAIT is the default mode for the page orientation.

Option	Function
ITALIC	ITALIC is the default type of emphasis for LNI files produced for the LN01 and LN01E. You do not have to specify this option for LN01 and LN01E printers, since it is the default. However, you may want to use the option word ITALIC to override a previously specified UNDERLINE option. The LN03 requires no loading of fonts since default fonts are present. Text flagged for emphasis is printed ITALIC if the font currently loaded on the printer has the Italic attribute otherwise, the default emphasis is underlining. There are four fonts available for LNI files for the LN01 or LN01E laser printers: text, bold, italic, and bold-italic. By default, all four fonts are loaded into the printer. Characters flagged for emphasis with the DSR underline flag (&) will be italicized by default. Since you can nest emphasis flags in DSR, you might have a character or a string of text that is flagged with both the Bold (*) and the Underline (&) flags. You have the option of using the default fonts already present on the LN03 or down-line loading the fonts of your choice.
UNDERLINE	This option causes the characters flagged with the DSR underline flag (&) to be underlined rather than italicized. The text and bold fonts are used for this option. The LN01 allows only 63 underline **segments** per line. You create an LNO1 underline segment each time there is a break in the underlining. If you are not underlining spaces, each underlined word is an underline segment. If you do underline the spaces between words, then the underlined words and spaces make up one segment. For example, the following would be six segments: `To be or not to be` The following would be one underline segment: `To be or not to be` DSR does not report an error if the user exceeds the underline segment limit of the hardware. If you are not getting the output that you expect when you print an LNI file on the LN01 laser printer, check with your system manager. Appendix B contains information for system managers on setting an LN01 to print LNI files. On an LN03, if you have specified underlining and choose this option in the file you are printing, the LN03 does underline the flagged text. It does not default to italic even if the font has the ITALIC attribute.

Examples

```
$ RUNOFF/DEVICE=LN01 TEXT.RNO
$ RUNOFF/DEVICE=(LN01,LANDSCAPE) MEMO.RNO
$ RUNOFF CHAPTER1.RNO/DEVICE=(LN01,LANDSCAPE,UNDERLINE)
```

/DOWN=number

Description

The /DOWN qualifier lets you specify the number of blank lines to be inserted at the top of each page, preceding any header information. The number of blank lines you specify does not affect in any way the number of text lines on a page. For example, if you enter /DOWN=10 with a .PAGE SIZE of 58 lines, up to 58 lines of text will be output after 10 blank lines.

If you do not enter /DOWN, no blank lines are inserted except those associated with the print device. If you enter /DOWN with no value, you get /DOWN=5.

Examples

```
$ RUNOFF HISFILE.RNO/DOWN=10
```

```
$ RUNOFF/DOWN HISTORY
```

/FORM_SIZE=number

Description

The /FORM_SIZE qualifier helps control the number of lines that can be accommodated per page of output, including all running heads and feet. When used with the /SIMULATE qualifier, /FORM_SIZE determines the physical size of the page by putting out line feeds to equal the number you use as *n*. When used with /NOSIMULATE, /FORM_SIZE causes DSR to suppress the form feed it would put out at the line number you specify as a value for *n*. If the number of lines that DSR is going to put on any given page does not match the value of *n*, a form feed character will be written into the output file.

The default value for *n* is derived from the RTL routine LIB$LP_LINES. This will default to 66 unless the logical SYS$LP_LINES is defined, in which case, the assigned value will be used. You can override the default value for /FORM_SIZE by specifying a different value for *n*.

DSR normally starts each new page by writing a form feed character to the output file. However, if the number of lines on a page exactly equals the form size, DSR assumes that the output device (line printer) will advance to the next page under hardware or system control. DSR does not write a form feed in this case, because to do so would leave a blank page.

If you are generating output for a device with other than 66 lines per page, use the /FORM_SIZE qualifier.

You can use the /FORM_SIZE qualifier with the /DEVICE=(LN01,LN01E,LN03) qualifier to specify a page size larger than the default paper size of 8 1/2 by 11 inches.

/INTERMEDIATE[=filespec]—/NOINTERMEDIATE

Description

This qualifier causes DSR to generate an intermediate binary file with the default file type of BRN. This file can be used as input to the DSR table-of-contents utility and the DSR indexing utility. See Sections 5 and 6 for information on producing tables of contents and indexes.

If you use /INTERMEDIATE without specifying a value for filespec, DSR creates an output file that has the same file name as the input file and a file type of BRN. You can rename the output file by supplying a file specification that is different from the default values. If you specify more than one input file, a separate intermediate file is produced for each one.

/NOINTERMEDIATE is the default.

Examples

```
$ RUNOFF MANUAL/INTERMEDIATE
$ RUNOFF/INTERMEDIATE BOOK.REQ
```

/LOG—/NOLOG

Description

The /LOG and /NOLOG qualifiers allow you to control whether DSR writes a termination message to the terminal. The termination message includes the following:

- The version number of DSR
- The number of diagnostic messages reported
- The number of output pages generated
- The output file specification

If you use the qualifier /INTERMEDIATE, the following information will be included in the message:

- The number of index records written to the intermediate file specification
- The number of table-of-contents records written to the intermediate file specification

The default is /NOLOG.

If DSR detects errors in processing a file, it writes the termination message to the terminal even if you specify /NOLOG.

Examples

```
$ RUNOFF PAYROLL/LOG
DIGITAL Standard Runoff Version V3.2: No errors detected
3 pages written to "DBA1:[WHITNEY]PAYROLL.MEM;1"
$
```

```
$ RUNOFF ERRORS.RNO/NOLOG/MESSAGES=USER
RUNOFF-I-CJL, Can’t justify line
on output page 1; on input line 15 of page 1 of file "DBA1:[WHITNEY]
ERRORS.MEM;1"
DIGITAL Standard Runoff Version V3.2: 1 diagnostic message reported
3 pages written to "DBA1:[WHITNEY]ERRORS.MEM;1"
$
```

/MESSAGES=option

Description

The /MESSAGES qualifier lets you specify where you want DSR to display error messages. The options are the following:

OUTPUT	Sends error messages only to the output file
USER	Sends error messages only to the terminal

The default is /MESSAGES=(OUTPUT,USER), which sends messages to the output file and displays them on the terminal. You can cause error messages to go only to the output file or only to the terminal, but you cannot suppress them entirely.

Examples

```
$ RUNOFF OURFILE/MESSAGES=OUTPUT
$ RUNOFF DATA.2/MESSAGES=USER
```

/OUTPUT=filespec—/NOOUTPUT

Description

The /OUTPUT and /NOOUTPUT qualifiers let you specify where the output from DSR processing should go. The default directory is the user directory, the default file name is the name of the input file, and the default file type depends on the input file type (see Section 4.1).

The /OUTPUT qualifier is a positional qualifier. If you enter /OUTPUT=filespec after an input file specification, the file specification you supply applies only to that input file. If you enter /OUTPUT=filespec directly after the RUNOFF command, the filespec you supply applies to all input files (except any that have their own /OUTPUT=name qualifiers).

You can specify /OUTPUT=directory-spec or /OUTPUT=logical-name to send the output file to another directory.

/NOOUTPUT tells DSR not to create an output file. Use /NOOUTPUT with the /INTERMEDIATE qualifier if you want to generate only a BRN file (see Chapters 5 and 6). You can also use /NOOUTPUT to check an input file for errors without creating a formatted output file.

Examples

```
$ RUNOFF FINAL/OUTPUT=SYS$OUTPUT
$ RUNOFF/OUT=CHI::DBA2:[SULLIVAN]MONTHLY.RPT DRAFT.TXT
```

/PAGES=string

Description

The /PAGES qualifier lets you specify one or more pages or groups of pages to be output. If you don't specify certain page numbers, they do not appear in the output. The string is of the form:

```
start[:end]
```

or

```
"start:end[,...],start[:end]"
```

If you omit :end from the last page range, all pages from the start of that page range to the end of the document are output.

Specify multiple page ranges in a quoted string, separating them by commas:

```
/PAGES="start1:end1,start2:end2,...start5:end5"
```

The maximum number of ranges that you may specify is five.

If you want only one page, start and end must be the same number:

```
/PAGE=5-30:5-30
```

To specify output from Chapter 4, page 12, through a single page of the appendix and five pages of the index, enter the following:

```
/PAGES="4-12:A-1,Index-1:Index-5"
```

You must specify page numbers in their default form even if you have a .DISPLAY command in your input file that specifies a different form. For example, for Appendix B, Page B-6, you would specify /PAGE="B-6"; for Chapter V, Page V-13 (the result of a .DISPLAY command specifying uppercase roman numerals), you would specify /PAGE="5-13".

For an entire appendix, only the letter is required (for example, /PAGES="A"). For an entire index, only the word "Index" is required (/PAGES="Index").

Examples

```
$ RUNOFF ITSFILE/OUTPUT=SYS$OUTPUT/PAGE=12
```

```
$ RUNOFF REPORT.TMP/OUTPUT=SYS$OUTPUT/PAGE=2-12
```

```
$ RUNOFF DOCUMENT/PAGES="2-9:2-9,A-1:A-5c"
```

/PAUSE—/NOPAUSE

Description

The /PAUSE qualifier controls whether DSR pauses after printing each page of output. Pausing allows you to insert single sheets of paper or reproduction masters into the output device. This qualifier is intended for use with hardcopy output devices such as “daisy-wheel” printers. Do not use /PAUSE if output for the named device is spooled.

The /PAUSE qualifier temporarily halts output and the terminal bell rings to remind the operator to insert a new form. Processing resumes after the operator presses the space bar. The default condition is /NOPAUSE.

Example

```
$ RUNOFF NEWFILE.RNO/PAUSE/OUT=SYS$OUTPUT/FORM_SIZE=60
```

/REVERSE_EMPHASIS

Description

The /REVERSE_EMPHASIS qualifier directs DSR to change the order of underlining the flagged text on an output device. If you use this qualifier, the printer first prints the characters to be underlined, issues a carriage return without a linefeed, and then prints the underscores to underline the flagged material. If you view your file on the terminal, the flagged characters are overwritten by the underline character.

Some lineprinters require that you use the /REVERSE_EMPHASIS qualifier to process your file to enable the underlining function.

If you do not issue the /REVERSE_EMPHASIS qualifier, the printer first prints the underscores, issues a carriage return without a linefeed, then prints the flagged text above the underscores. If you view your file on the terminal, the flagged characters are visible.

If /DEVICE= LN0x (any laser printer) is specified, the /REVERSE_EMPHASIS qualifier is ignored.

Example

```
$ RUNOFF TEST.RNO/REVERSE_EMPHASIS
```

/RIGHT[=number]—/NORIGHT

Description

The /RIGHT qualifier causes the text on each page (including header information) to be shifted to the right by the number of spaces specified. These characters are not deducted from the page width specified in the input file.

If you issue /RIGHT without a value, you get /RIGHT=5. If you issue /RIGHT=0, no shift occurs. If you omit the /RIGHT qualifier, the default is /NORIGHT.

If you specify /DEVICE=LN01, /DEVICE=LN01E, or /DEVICE=LN03, the default values for /RIGHT depend upon the orientation of the text on the page. Table 4–1 gives the default values for PORTRAIT and LANDSCAPE:

Table 4–1 /RIGHT Default Values with /DEVICE=LN01[E],LN03

	LNO1	LNO1E	LN03
PORTRAIT	2	2	2
LANDSCAPE	9	13	9

You can override the default values by specifying /RIGHT=n or /NORIGHT.

Examples

```
$ RUNOFF OLDFILE/RIGHT=8
```

```
$ RUNOFF X.2/RIGHT
```

```
$ RUNOFF/DEVICE=(LN01,LANDSCAPE) REPORT.RNO
```

The default for /RIGHT in the above example is 9.

/SEPARATE_UNDERLINE[="character"]

Description

The /SEPARATE_UNDERLINE qualifier causes underlining with separate characters on the next line instead of overprinting with underscores on the same line. The character may be expressed as a quoted character or as an octal, decimal, or hexadecimal value. The default separate underlining character is the hyphen (-).

Do not use this qualifier with /UNDERLINE_CHARACTER.

Examples

```
$ RUNOFF NEWFILE/SEPARATE_UNDERLINE
$ RUNOFF CHAPTER4/SEPARATE_UNDERLINE="*"
$ RUNOFF CALENDAR.LIS/SEPARATE_UNDERLINE=%O75
```

/SEQUENCE—/NOSEQUENCE

Description

The /SEQUENCE qualifier controls whether DSR outputs line numbers from the input file. Line numbers show the input lines that generated each output line to assist debugging. If the input file is not line-sequenced, DSR uses sequential numbering.

The default is /NOSEQUENCE, which produces output without line numbers.

Example

```
$ RUNOFF MAILFILE.RNO/SEQUENCE
```

/SIMULATE—/NOSIMULATE

Description

The /SIMULATE qualifier controls whether blank lines or form feeds are used to advance to the top of each page. The default is /NOSIMULATE, which uses form feeds.

Normally, DSR skips to the top of a page by means of a form feed. If you use /SIMULATE, DSR does not generate form feeds. Instead, it leaves enough blank lines to cause a skip to the top of each new page. /SIMULATE also causes a pause before the first page (but before the first page only, whereas /PAUSE causes a pause before every page). To continue after the pause, press the space bar.

You normally use /SIMULATE with hardcopy output devices such as “daisy-wheel” printers.

/UNDERLINE_CHAR[="character"]—/NOUNDERLINE

Description

The /UNDERLINE_CHARACTER qualifier allows you to specify the character to be used for normal (overprint) underlining of flagged text. The character may be expressed as a quoted character or as an octal, decimal, or hexadecimal value. The default underlining character is the underscore (_).

The /NOUNDERLINE qualifier allows you to disable all underlining. If this qualifier is used, the DSR command, .ENABLE UNDERLINING, has no effect.

Note

1. Do not use this qualifier with /SEPARATE_UNDERLINE.
2. You may also use the /BACKSPACE qualifier to specify how underlining is accomplished.

Examples

```
$ RUNOFF DOCFILE/UNDERLINE_CHARACTER="."
$ RUNOFF DOC.DAT/NOUNDERLINE
```

/VARIANT=string

Description

The /VARIANT qualifier controls the execution of the conditional commands (.IF, .IFNOT, .ELSE, .ENDIF) by specifying the names of the segments to be processed. (See Chapter 2 for descriptions of the conditional commands.) If you specify multiple names in a string, you must separate them by commas and enclose the string in quotation marks.

All variant names must be alphanumeric and must begin with a letter; the maximum length of a variant name is 31 characters. You can specify a total of 20 different variants.

Examples

```
$ RUNOFF LASTFILE/VARIANT=A
$ RUNOFF TEST.TMP/VARIANT=BETA
$ RUNOFF T4.2/VARIANT="A,B,C"
```

5 The DSR Table of Contents Utility

The DSR Table of Contents Utility produces tables of contents for documents created with DSR. The input file for the Table of Contents Utility can be either a BRN file (from Version 3 of DSR) or a BTC file (produced by previous versions of DSR). The output from the Table of Contents Utility is an RNT file that can be processed with the RUNOFF command to produce a formatted table of contents.

This section is organized in the following manner:

- Features of the DSR Table of Contents Utility
- Producing a Table of Contents
- RUNOFF/CONTENTS Command Qualifiers
- RUNOFF/CONTENTS Command Line Examples

5.1 Features of the Table of Contents Utility

The DSR Table of Contents Utility provides a variety of features for formatting tables of contents. Some of these features are:

- Control of the display of bolding and underlining for header titles
- Control of the format of page numbers
- Control of the levels of page number references displayed
- Control of the display of section numbers

5.2 Producing a Table of Contents

The DSR Table of Contents Utility creates a formatted table of contents file from the chapter, section, and appendix titles specified by .CHAPTER, .APPENDIX, .HEADER LEVEL, and .SEND TOC commands in your RNO file.

Use the following steps to produce a table of contents:

1. Process the RNO file with RUNOFF/INTERMEDIATE to produce an intermediate binary file (BRN).
2. Process the resulting BRN file with RUNOFF/CONTENTS to produce an RNT file.
3. Process the RNT file with RUNOFF in one of the following ways:
   - Process the RNT file with the RUNOFF command to produce a MEC file that contains the formatted table of contents.
   - Include the RNT file in a master file that uses .REQUIRE commands to include all parts of your document. When you process the master file with the RUNOFF command, the formatted table of contents will be placed in the MEM file where you “require” it.

4. Use the DCL command PRINT on either the MEC or MEM file to get a copy of your table of contents.

These steps are described more fully in the following sections.

5.2.1 Process the RNO file with RUNOFF/INTERMEDIATE

Process the RNO file with RUNOFF/INTERMEDIATE to produce an intermediate binary file that has a default type of BRN. The following command line generates two output files: MANUAL.MEM and MANUAL.BRN.

```
$ RUNOFF/INTERMEDIATE MANUAL.RNO
```

You can process the RNO file using the /NOOUTPUT qualifier, along with the /INTERMEDIATE qualifier. The /NOOUTPUT qualifier suppresses the MEM file and saves processing time. The following command line generates only a BRN file:

```
$ RUNOFF/INTERMEDIATE/NOOUTPUT MANUAL.RNO
```

Use the resulting BRN file as input for the Table of Contents Utility.

5.2.2 Process the BRN file with the Table of Contents Utility

The RUNOFF/CONTENTS command, which invokes the DSR Table of Contents Utility, follows the same format as other VMS DCL commands.

```
$ RUNOFF/CONTENTS[/qualifiers...] filespec[,...] [/qualifiers...]
                              or
$ RUNOFF/CONTENTS[/qualifiers...] filespec[+...] [/qualifiers...]
```

There can be one or more input files for CONTENTS. For single input files, the DSR Table of Contents Utility produces an output file having the same file name as the input file. The output file type is RNT.

If you separate multiple input files with commas, the Table of Contents Utility produces a separate RNT file for each input file. If you separate multiple input files with plus signs, the Table of Contents Utility produces a single RNT file that contains contents information for all of the input files. The default output file name is the same as the first input file name and the default file type is RNT.

Processing multiple files with plus signs is the only way to correctly concatenate BRN files. The DCL commands APPEND and COPY may not accurately concatenate BRN files.

If you do not specify a file type for the input file, the default types are BRN (from Version 3 of DSR) and BTC (from previous versions of DSR). The DSR Table of Contents Utility searches first for a BRN file type and then for a BTC file. You can process both BRN and BTC files in the same run of the DSR Table of Contents Utility.

No wildcard characters are supported as input for RUNOFF/CONTENTS.

5.2.3 Process the RNT file with RUNOFF

The RNT file that RUNOFF/CONTENTS produces must be processed with the RUNOFF command to get a formatted table of contents. There are two ways of processing the RNT file:

- You can process the RNT file separately. Process the RNT file with RUNOFF to produce a MEC file. Use the DCL command PRINT to get a copy of the formatted table of contents.

- You can process the table of contents along with the text files that were used to create the table of contents. Include the RNT file as a “require” file in a RNO file. The RNT file is usually placed after the title page. When you process the RNO file, the table of contents will be placed in the document where you “require” it. (See .REQUIRE in Chapter 2.) Use the DCL command PRINT to get a copy of your table of contents.

5.3 RUNOFF/CONTENTS Command Qualifiers

The RUNOFF/CONTENTS command qualifiers are used to specify how you want to format the table of contents. You can use the following qualifiers:

Command Qualifiers	Defaults
/[NO]BOLD	/NOBOLD
/DEEPEST_HEADER=n	/DEEPEST_HEADER=6
/[NO]IDENTIFICATION	/NOIDENTIFICATION
/[NO]INDENT	/NOINDENT
/[NO]LOG	/NOLOG
/OUTPUT=filespec	See text.
/PAGE_NUMBERS=(option[,...])	/PAGE_NUMBERS=(NORUNNING,LEVEL=6)
/[NO]REQUIRE=filespec	/NOREQUIRE
/[NO]SECTION_NUMBERS	/SECTION_NUMBERS
/[NO]UNDERLINE	/NOUNDERLINE

Command Qualifiers

/BOLD
/NOBOLD

Controls the bolding of header titles in the table of contents. Bolding is often used to emphasize headers within the text; however, bolding and/or underlining of the same headers within the table of contents may not be desirable. Both types of emphasis are suppressed in the table of contents by default, but you have the option of turning them back on with the /BOLD and /UNDERLINE qualifiers.

The default is /NOBOLD.

/DEEPEST_HEADER=n

Displays header levels up to and including level *n*.

The default is /DEEPEST_HEADER=6 (all headers displayed).

/IDENTIFICATION
/NOIDENTIFICATION

Reports the current version number of the DSR Table of Contents Utility.

The default is /NOIDENTIFICATION.

/INDENT
/NOINDENT

Controls the indentation of header-level numbers and header-level titles after level 1.

If you do not use the qualifier or if you specify /NOINDENT, all header levels after header level 1 will be indented the same two spaces.

If you specify /INDENT, each header level after header level 1 will be indented two spaces beyond the preceding header level.

The default is /NOINDENT.

/LOG
/NOLOG
Controls whether the DSR Table of Contents Utility reports the name of each BRN or BTC input file as it is being processed and after it has been processed, plus the name of each output file that is created.

If there are any errors in processing, the DSR Table of Contents Utility will send messages to the terminal even if /NOLOG is in effect.

The default is /NOLOG.

/OUTPUT[=filespec]
/NOOUTPUT
Controls where the DSR Table of Contents Utility sends the output.

If you specify the /OUTPUT qualifier without a file specification or if you omit the qualifier entirely, the Table of Contents Utility creates a file with the same file name as the input file. The default output file type is RNT.

You can change the name of the output file by supplying a file specification for the value filespec. You can change the directory of the output file by supplying a file specification with a directory name for the value filespec.

The /NOOUTPUT qualifier suppresses the creation of an output file. You can use /NOOUTPUT to check an input file for errors without using system resources to generate an output file.

/PAGE_NUMBERS=(option[,...])
Controls the display of page number references and also controls how many levels of headers have page references listed in the table of contents. The following example shows the syntax of the qualifier:

```
$ RUNOFF/CONTENTS/PAGE_NUMBERS=option[,...]
```

You can choose option words from the following list to specify the type of formatting you want:

Option	Purpose
NORUNNING	Specifies chapter-oriented page numbers (such as 1-4 or 10-42). You can specify chapter-oriented numbers for the table of contents even if you displayed the numbers another way in the document. NORUNNING is the default.
RUNNING	Specifies running page numbers (such as 4 or 42). Running page numbers can be specified in the table of contents even if you displayed the page numbers a different way in the document.
LEVEL=n	Specifies the display of page numbers up to and including header level *n*. The default displays page numbers for all six levels of headers. To turn off page numbers in the table of contents, use LEVEL=0.

/REQUIRE=filespec
/NOREQUIRE
Allows you to change the heading on the first page of a table of contents. The default heading is the word CONTENTS, centered on the page, followed by one blank line. You can substitute another word as a heading or not have any heading.

To change the heading, do one of the following:

- If you do not want any heading, merely specify a null file as the filespec for /REQUIRE:

  ```
  $ RUNOFF/CONTENTS/REQUIRE=nl:
  ```

- If you want to change the heading, create or edit a file that specifies the heading that you want. Use the file that you create as the filespec for /REQUIRE.

When you use the /REQUIRE qualifier, the default heading for the first page of the contents is not generated. The file that you specify with the /REQUIRE qualifier must provide the heading. The file can contain DSR commands that change the format of the first page and the text that you want to appear at the top of the page. Or the file can contain only DSR commands to format the first page of the contents. For example, you can put the command .FIGURE 10 in the file. This command generates 10 blank lines at the top of the first page of the table of contents. You can use these blank lines for later pasteup.

/SECTION_NUMBERS
/NOSECTION_NUMBERS
Controls whether the DSR Table of Contents Utility displays section numbers in the table of contents.

The /SECTION_NUMBERS qualifier displays section numbers for all header levels in the table of contents. /NOSECTION_NUMBERS suppresses the display of section numbers for all header levels.

The default is /SECTION_NUMBERS.

/UNDERLINE
/NOUNDERLINE
Controls whether the underlining specified in chapter and header titles in the input file appears in the table of contents.

If you specify /UNDERLINE, the text flagged for underlining in the body of the document is underlined in the table of contents.

If you specify /NOUNDERLINE, the text flagged for underlining in the body of the document is not underlined in the table of contents. Underlining is often used to emphasize headers within the text. However, underlining and/or bolding of the same headers within the table of contents may not be desirable. For this reason, both types of emphasis are suppressed in the table of contents by default.

5.4 RUNOFF/CONTENTS Command Line Examples

The following examples show three command lines that would format the same table of contents differently.

Enter the following command line to produce an RNT file with the default format:

```
$ RUNOFF/CONTENTS BOOKNAME.BRN
```

Enter the following command line to produce an RNT file in which each header level is indented two more than the previous header level. The DSR Table of Contents Utility searches for a BRN file and uses BOOKNAME.BRN by default.

```
$ RUNOFF/CONTENTS/INDENT BOOKNAME
```

Enter the following command line to produce an RNT file in which the bolding and underlining used in the chapter titles and header level titles in the body of the document are used in the table of contents:

```
$ RUNOFF/CONTENTS/BOLD/UNDERLINE BOOKNAME
```

6
The DSR Indexing Utility

The DSR Indexing Utility produces indexes for documents created with DSR. The input file is either a BRN file (from Version 3 of DSR) or a BIX file (produced by previous versions of DSR). The output from the Indexing Utility is an RNX file that can be processed with the RUNOFF command to produce a formatted index.

If you do not know how to design an index, see *The Chicago Manual of Style* (University of Chicago Press). If you do not know how to enter indexing commands in an RNO file, see Example 6–1 for a sample input file.

This section is organized in the following manner:

- Features of the DSR Indexing Utility
- Producing an Index
- RUNOFF/INDEX Command qualifiers
- RUNOFF/INDEX Command line examples

6.1 Features of the DSR Indexing Utility

The DSR Indexing Utility formats an index in the ways described in the following sections.

6.1.1 Punctuation of Index Entries

The DSR Indexing Utility places a comma between an index entry and the page reference. For example:

```
Command qualifiers, 4-10
```

If a top-level index entry is followed by an index subentry rather than a page reference, there is no comma after the top-level entry. The comma is placed after the index subentry to set off the page reference. For example:

```
Command qualifiers
  description, 4-10
  examples, 4-12
```

6.1.2 Case Control of Index Entries

The DSR commands, .XUPPER and .XLOWER, determine the case of index entries:

- The .XLOWER command ensures that index entries are printed exactly as they were in the input file.
- The .XUPPER command capitalizes the first letter of the first word of each index entry and lowercases all subsequent text in the index entry. (This is the default condition.)

You should specify .XLOWER at the top of the file you want to index. Then you can enter the text for the index entries as you want it to appear in the finished index, rather than using case control flags in index entries.

The following example shows the format of an index entry when .XLOWER is used:

Input	Index Entry
.XLOWER	
.X COMMAND QUALIFIERS	COMMAND QUALIFIERS, 4-10

The following example shows the format of the same index entry when .XUPPER is used:

Input	Index Entry
.XUPPER	
.X COMMAND QUALIFIERS	Command qualifiers, 4-10

The explicit use of the Uppercase flag or the Capitalize flag in a .INDEX (.X) or .ENTRY (.Y) command (or after the Index flag) can override the .XUPPER command.

6.1.3 Merging of Index Entries

Index entries merge with other index entries having identical spelling, spacing, punctuation, and emphasis. The following sections discuss the rules for merging entries when the entries are different in case and/or emphasis.

6.1.3.1 Case Merging

If .XLOWER is in effect, entries with differing case will not merge and uppercase characters will sort before lowercase characters. For example:

Input	Index Entries
.XLOWER	
.X Command Qualifiers	COMMAND QUALIFIERS, 4-2
.PAGE	Command Qualifiers, 4-1
.X COMMAND QUALIFIERS	

If .XUPPER is in effect, the DSR Indexing Utility merges entries that are identical in every way except for case. The .XUPPER command causes the first word of the index entry to be uppercase and all subsequent text to be lowercase. For example:

Input	Index Entry
.XUPPER	
.X Command Qualifiers	Command qualifiers, 4-1, 4-2
.PAGE	
.X COMMAND QUALIFIERS	

6.1.3.2 Emphasis Merging

Emphasized (bolded and/or underlined) entries merge only with entries having identical emphasis. Entries with different emphasis sort in the following order:

Bolded and underlined
Bolded
Underlined
No emphasis

6.1.4 Merging of Page Number References

Page number references merge only if they refer to the same page and have identical characteristics.

Index entries that refer to the same page but have different emphasis sort in the following order:

Bolded and underlined
Bolded
Underlined
No emphasis

The Indexing Utility does not merge entries on adjacent pages into a page range.

6.1.5 Sorting of ENTRY (.Y) Entries

Index entries generated by .Y commands are sorted at the top of each subindex level. This is done on the assumption that .Y is used to generate "See" and "See also" information in the index, and that the place for this information is at the top of each subindex level.

6.2 Producing an Index

Use the following steps to produce an index:

1. Enter indexing commands (.X or .Y) in the RNO file.
2. Process the RNO file with RUNOFF/INTERMEDIATE to generate an intermediate binary file (BRN).
3. Process the resulting BRN file with RUNOFF/INDEX to generate an RNX file.
4. Process the RNX file with RUNOFF in one of the following ways:
   - Process the RNX file with RUNOFF to produce a MEX file that contains a formatted index.
   - Include the RNX file in a master file that uses .REQUIRE commands to include all parts of your document. When you process the master file with the RUNOFF command, the formatted index will be placed in your document where you "require" it.
   - If the document is not made up of chapters, the index should be placed at the end of the document.
5. Use the DCL PRINT command on either the MEX or MEM file to see a copy of your index.

These steps are described more fully in the following sections.

6.2.1 Entering Indexing Commands in the RNO File

Example 6–1 shows a sample RNO file that contains .X and .Y indexing commands.

Example 6–1 Input File with Indexing Commands

```
.FLAGS BOLD
.NUMBER CHAPTER 4
.CHAPTER MANIPULATING A CMS LIBRARY
This chapter contains conceptual information about
manipulating  a CMS library and its elements.  It describes
how and when to
               .
               .
               .
.HEADER LEVEL 1 CONCURRENT RESERVATIONS AND REPLACEMENTS
.X Concurrent reservation
When creating an element generation, you reserve an element,
               .
               .
               .
A reservation that is in effect for an element at a given
time is called a current reservation.
.X Current reservation
               .
               .
               .
.X Unusual occurrence
.Y Occurrence, unusual >see Unusual occurrence
.PAGE
The following figure shows the structure of a typical
library.
.FIGURE 10
.CENTER;Figure 4-1:##Sample Library
.X Library >example
.X Library >structure
.PAGE
.HEADER LEVEL 1 UNUSUAL OCCURRENCES
.X Unusual occurrence > definition
An unusual occurrence results from the execution of a CMS
command that may be necessary or helpful in some cases, but
that might have undesirable consequences. The following
actions cause an unusual occurrence:
.X Unusual occurrence > cause
```

Example 6–2 shows the index that these entries create.

Example 6–2 Sample Index

```
                                                        Page Index-1

                                INDEX

                                  .
                                  .
                                  .
Concurrent reservation, 4-1        Occurrence, unusual
Current reservation, 4-1             see unusual occurrence

Library                            Unusual occurrence, 4-1
  example, 4-2                       cause, 4-3
  structure, 4-2                     definition, 4-3
                                  .
                                  .
                                  .
```

6.2.2 Processing the RNO file with RUNOFF/INTERMEDIATE

Process the RNO file with RUNOFF/INTERMEDIATE to produce an intermediate binary file that has a default type of BRN. The following command line generates two output files: USERGUIDE.MEM and USERGUIDE.BRN.

```
$  RUNOFF/INTERMEDIATE USERGUIDE.RNO
```

You can process the RNO file using the /NOOUTPUT qualifier, along with the /INTERMEDIATE qualifier. The /NOOUTPUT command suppresses the MEM file and saves processing time. The following command line generates only a BRN file:

```
$  RUNOFF/INTERMEDIATE/NOOUTPUT USERGUIDE.RNO
```

Use the BRN file as input for the Indexing Utility.

6.2.3 Processing the BRN file with the Indexing Utility

The RUNOFF/INDEX command, which invokes the DSR Indexing Utility, follows the same format as other VMS DCL commands:

```
$ RUNOFF/INDEX[/qualifiers...] filespec[,...] [/qualifiers...]
                              or
$ RUNOFF/INDEX[/qualifiers...] filespec[+...] [/qualifiers...]
```

There can be one or more input files for INDEX. For single input files, the DSR Indexing Utility produces an output file having the same file name as the input file. The output file type is RNX.

If you separate multiple input files with commas, the Indexing Utility produces a separate RNX file for each input file. If you separate multiple input files with plus signs, the Indexing Utility produces a single RNX file that contains indexing information for all of the input files. The default output file name is the same as the first input file name and the default file type is RNX.

Processing multiple files with plus signs is the only way to concatenate BRN files correctly. The DCL APPEND and COPY commands may not accurately concatenate BRN files.

If you do not specify a file type for the input file, the default types are BRN (from Version 3 of DSR) and BIX (from previous versions of DSR). The DSR Indexing Utility searches first for a BRN file type and then for a BIX file. You can process both BRN and BIX files in the same run of the DSR Indexing Utility.

No wildcard characters are supported as input for RUNOFF/INDEX.

6.2.4 Processing the RNX file with RUNOFF

The RNX file that RUNOFF/INDEX produces must be processed with RUNOFF to get a formatted index. There are two ways of processing the RNX file:

- You can process the index separately. Process the RNX file with RUNOFF to generate a MEX file. Then print a copy of the MEX file using the DCL command PRINT.
- You can process the index along with the text files that were used to create the index. Insert the RNX file as a "require" file in your RNO file. The RNX file is usually placed at the end of the RNO file. When the RNO file is processed with RUNOFF, the index is placed at the end of the MEM file, provided the .REQUIRE command is at the end of the RNO file. Use the DCL command PRINT to obtain a copy.

6.3 RUNOFF/INDEX Command Qualifiers

This section describes the RUNOFF/INDEX command qualifiers that are used to produce an index. These qualifiers are listed in alphabetical order.

Command Qualifiers	Defaults
/[NO]IDENTIFICATION	/NOIDENTIFICATION
/LINES_PER_PAGE=n	/LINES_PER_PAGE=55
/[NO]LOG	/NOLOG
/OUTPUT[=filespec]	See text.
/PAGE_NUMBERS=option	/PAGE_NUMBERS=NORUNNING
/[NO]REQUIRE=filespec	/NOREQUIRE
/[NO]RESERVE=n	/NORESERVE

Command Qualifiers

/IDENTIFICATION
/NOIDENTIFICATION
Controls whether the DSR Indexing Utility identifies itself by reporting its current version number during processing. The default is /NOIDENTIFICATION.

/LINES_PER_PAGE=n
The value *n* specifies the number of lines of index entries on each page. The default is 55 lines of index entries. This number does not include the number of lines required for running heads and feet.

The default of 55 lines of index entries is designed to work properly in the default formatting environment for DSR. You must calculate and specify a different value for *n* in any of the following cases:

- Subtitles are in use in the document that requires the RNX file.

  Normally three lines are reserved at the top of each page as the running-head area for DSR. The title appears flush left on the first line, the page number is flush right on the first line, and the title line is followed by two blank lines. However, if you issue the .SUBTITLE command, the running-head area expands to four lines.

- The page length in effect is anything other than 58 lines per page.

  If you change the page-length value (the first parameter of the .PAGE SIZE command) from the default value of 58, you must adjust the /LINES_PER_PAGE value to conform to the new page size.

- Any layout other than zero is being used.

  The three alternate layouts, specified by the commands .LAYOUT 1, .LAYOUT 2, and .LAYOUT 3, require a second parameter that specifies how many lines to reserve at the bottom of each page. You must take these lines into account when you calculate /LINES_PER_PAGE for INDEX. Frequently users wish to provide 3 blank lines between the last line of text and the page number. /LINES_PER_PAGE=52 would be used with a .LO1,3, .LO2,3, or .LO3,3.

To calculate the correct value for /LINES_PER_PAGE, follow this formula:

```
/LINES_PER_PAGE=n

n  = .PAGE SIZE (the first parameter is length value)

     minus  4 if subtitles are used, 3 if no subtitles

     minus  the number of lines reserved for .LO1,.LO2,
            or .LO3
```

/LOG
/NOLOG
Controls whether INDEX reports the file specification of each input file as it is being processed and after it is processed, and the name of the generated output file.

The default is /NOLOG.

/OUTPUT[=filespec]
NOOUTPUT
Controls where the DSR Indexing Utility sends the output.

If you specify the /OUTPUT qualifier without a file specification or if you omit the qualifier entirely, the output file name is the same as the input file name. The default file type is RNX.

You can change the name or the directory of the output file by supplying a file specification for the value filespec.

The /NOOUTPUT qualifier suppresses the creation of an output file. You can use /NOOUTPUT to check an input file for errors without using system resources to generate an output file.

/PAGE_NUMBERS=option
/NOPAGE_NUMBERS
Controls whether the page number references in the index are running page numbers or chapter-oriented page numbers.

To specify the type of page numbers you want, select from the following options:

Option	Purpose
NORUNNING	Specifies chapter-oriented page numbers (such as 1-2, 1-3). You can specify chapter-oriented numbers for the index even if you did not display the page numbers that way in the body of the document. NORUNNING is the default.
RUNNING	Specifies running page numbers (such as 2, 3). You can specify running page numbers for the index even if you did not display the page numbers that way in the body of the document.

Use the /NOPAGE_NUMBERS to turn off the display of page numbers.

The default is /PAGE_NUMBERS=NORUNNING.

/REQUIRE=filespec
/NOREQUIRE
Allows you to change the heading on the first page of an index. The default heading is the word INDEX, centered on the page, followed by three blank lines. You can substitute a preface or a foreword to explain how to interpret special formatting of the index (for example, how the entries are sorted or why certain references are bolded).

To change the heading, do the following:

1. Create or edit a file that specifies the format and the text that you want to use as the heading on the first index page.
2. Use the file you create as the filespec for /REQUIRE.

When you use the /REQUIRE qualifier, the default heading for the first page of the index is not generated. The file that you are “requiring” must provide the heading. The file can contain both DSR commands that change the format of the first page and the text that you want to appear at the top of the page. Or the file can contain only DSR commands to format the first page of the index. For example, you can put the command .FIGURE 10 in the file. This command generates 10 blank lines at the top of the first page of the index. You can use these blank lines for later pasteup.

If you are adding lines of text or blank space to the heading on the first page of the index, you must provide space for this addition. Use the /RESERVE=n qualifier to provide the space you need. See /RESERVE for more information.

The default is /NOREQUIRE.

/RESERVE=n
/NORESERVE
Allows you to reserve space at the top of the first page of the index for text or blank space that you want to include with the /REQUIRE=filespec qualifier. Determine how many lines of text or blank space you want to add to the top of the first page of the index, and use this number as the value *n*.

The default is /NORESERVE.

6.4 RUNOFF/INDEX Command Line Examples

The following examples show how to use the DSR Indexing Utility to produce draft or finished indexes. Enter the following command line to produce an RNX file with the default index format:

```
$ RUNOFF/INDEX BOOKNAME.BRN
```

Enter the following command line to produce an RNX file with 52 lines of index entries per page rather than the default of 55 lines per page. The /LINES_PER_PAGE=52 qualifier has to be used because .LAYOUT 1,3 was specified.

```
$ RUNOFF/INDEX/LINES_PER_PAGE=52 BOOKNAME
```

Enter the following command line to change the default heading on the first page of the index:

```
$ RUNOFF/INDEX/RESERVE=10/REQUIRE=INDEX_HEADER BOOKNAME
```

A DSR Commands Organized by Function

This appendix contains a list of DSR commands grouped according to function. These commands are described in Chapter 2, where they are listed alphabetically. The flags are described in Chapter 3.

A.1 Page-Formatting Commands

Page formatting commands allow you to control the following items:

- The size of the text area relative to the size of the paper on which it is printed
- The appearance and format of running heads
- The appearance and format of page numbering
- Optional subpaging

A.1.1 Page Size and Running Heads

The following commands allow you to control page size and running-head formats:

.AUTOSUBTITLE and .NO AUTOSUBTITLE
.DATE and .NO DATE
.FIRST TITLE
.HEADERS ON and .NO HEADERS
.HEADERS UPPER, .HEADERS LOWER, and .HEADERS MIXED
.LAYOUT
.PAGE SIZE
.SUBTITLE and .NO SUBTITLE
.TITLE

A.1.2 Paging and Page-Number Control

The following commands allow you to control page numbering format:

.DISPLAY NUMBER
.NUMBER PAGE and .NO NUMBER
.NUMBER RUNNING
.PAGING and .NO PAGING

A.1.3 Subpaging

The following commands allow you to control subpaging format:

.DISPLAY SUBPAGE
.NUMBER SUBPAGE
.SUBPAGE and .END SUBPAGE

A.2 Text-Formatting Commands

Text-formatting commands allow you to control the following items:

- Margin settings
- The amount of spacing between lines of text
- Filling and justification of text
- Indent and tab stop settings
- Paragraph formation
- The appearance of figures, lists, notes, and footnotes
- Text emphasis (for example, bolding or underlining)

A.2.1 Margin Setting

The following commands allow you to control the margin settings:

```
.LEFT MARGIN
.RIGHT MARGIN
```

A.2.2 Filling and Justifying

The following commands allow you to control filling and justifying:

```
.AUTOJUSTIFY and .NO AUTOJUSTIFY
.FILL and .NO FILL
.JUSTIFY and .NO JUSTIFY
```

A.2.3 Vertical Spacing

The following commands allow you to control paging and the amount of spacing between lines of text:

```
.BLANK
.BREAK
.KEEP and .NO KEEP
.SKIP
.SPACING
.PAGE
.TEST PAGE
```

A.2.4 Horizontal Spacing

The following commands allow you to control the spacing and positioning of text:

```
.CENTER
.INDENT
.PERIOD and .NO PERIOD
.RIGHT
.TAB STOPS
```

A.2.5 Paragraph Formatting

The following commands allow you to control the format of paragraphs:

```
.AUTOPARAGRAPH and .NO AUTOPARAGRAPH
.AUTOTABLE and .NO AUTOTABLE
.PARAGRAPH
.SET PARAGRAPH
```

A.2.6 Text Emphasis

The following commands allow you to control the appearance of text emphasis (such as bolding or underlining):

.ENABLE BAR, .DISABLE BAR, .BEGIN BAR, and .END BAR
.ENABLE BOLDING and .DISABLE BOLDING
.ENABLE HYPHENATION and .DISABLE HYPHENATION
.ENABLE OVERSTRIKING and .DISABLE OVERSTRIKING
.ENABLE UNDERLINING and .DISABLE UNDERLINING

A.2.7 Figures

The following commands allow you to control the format of figures:

.FIGURE DEFERRED and .FIGURE
.LITERAL and .END LITERAL

A.2.8 Lists

The following commands allow you to control the appearance and format of lists:

.DISPLAY ELEMENTS
.LIST and .END LIST
.LIST ELEMENT
.NUMBER LIST

A.2.9 Notes and Footnotes

The following commands allow you to insert notes and footnotes:

.FOOTNOTE and .END FOOTNOTE
.NOTE and .END NOTE

A.3 Section-Formatting Commands

Section formatting commands allow you to divide your document into chapters or sections and to include tables of contents, appendixes, and indexes.

A.3.1 Appendixes and Chapters

The following commands allow you to control the appearance and format of appendixes and chapters:

.APPENDIX
.CHAPTER
.DISPLAY APPENDIX
.DISPLAY CHAPTER
.NUMBER APPENDIX
.NUMBER CHAPTER

A.3.2 Sections

The following commands allow you to control the appearance and format of sections:

.DISPLAY LEVELS
.HEADER LEVEL
.NUMBER LEVEL
.SET LEVEL
.STYLE HEADERS

A.3.3 Indexes

The following commands allow you to control the appearance of indexes and index entries:

.ENABLE INDEXING and .DISABLE INDEXING
.ENTRY
.FLAGS INDEX and .NO FLAGS INDEX
.FLAGS SUBINDEX and .NO FLAGS SUBINDEX
.INDEX
.XLOWER and .XUPPER

A.3.4 Tables of Contents

The following commands allow you to control the appearance of tables of contents and table-of-contents entries:

.ENABLE TOC and .DISABLE TOC
.SEND TOC

A.4 Flag-Recognition Commands

Flag recognition commands enable or disable DSR's recognition of flag characters as flags rather than as text. (See Chapter 3).

.FLAGS ACCEPT and .NO FLAGS ACCEPT
.FLAGS ALL and .NO FLAGS ALL
.FLAGS BOLD and .NO FLAGS BOLD
.FLAGS BREAK and .NO FLAGS BREAK
.FLAGS CAPITALIZE and .NO FLAGS CAPITALIZE
.FLAGS COMMENT and .NO FLAGS COMMENT
.FLAGS HYPHENATE and .NO FLAGS HYPHENATE
.FLAGS LOWERCASE and .NO FLAGS LOWERCASE
.FLAGS OVERSTRIKE and .NO FLAGS OVERSTRIKE
.FLAGS PERIOD and .NO FLAGS PERIOD
.FLAGS SPACE and .NO FLAGS SPACE
.FLAGS SUBSTITUTE and .NO FLAGS SUBSTITUTE
.FLAGS UNDERLINE and .NO FLAGS UNDERLINE
.FLAGS UPPERCASE and .NO FLAGS UPPERCASE

A.5 Miscellaneous Commands

The following commands allow you to do various things, such as inserting a date and time, repeating characters, and include other files:

.CONTROL CHARACTERS and .NO CONTROL CHARACTERS
.IF, .IFNOT, .ELSE, and .ENDIF
.NO SPACE
.REPEAT
.REQUIRE
.SET DATE and .SET TIME
.VARIABLE

B
Requirements for Printing LNI Files on an LN01 Laser Printer

This appendix is for system managers. The following sections describe the requirements for printing an LNI file (produced with the RUNOFF /DEVICE=LN01[E] command) on an LN01 or LN01E Laser Printer.

To ensure that LNI files produced with DSR default settings are printed with the proper spacing and emphasis of characters, the system manager must do the following things:

1. Install an LN01 font kit with a character set that is appropriately sized and that has the proper emphasis characters.
2. Put the modules that contain DSR font definitions in the device control library.
3. Use the command SET PRINTER/NOTRUNCATE so that the printer driver does not truncate long lines of text. Some lines of text in the DSR LNI file contain complex escape sequences that make them longer than the buffer size of the device.
4. Initialize the LN01 queue with /NOFEED so that the print symbiont and the printer driver don't insert unwanted form feeds.
5. Define a form to use with the DCL PRINT /FORM= command when printing LNI files on an LN01[E]. The following is a sample form definition:

   ```
   $ DEFINE / FORM DSR$LN01 2 /MARGIN=BOTTOM=0 /NOWRAP -
   $_ /NOTRUNCATE /STOCK=DEFAULT /DESCRIPTION="DSR/LN01 form definition"
   ```

The following sections describe items 1 and 2, font kits and font definitions. For more information on items 3 - 5, see Section 1.5, and the system documentation on these DCL commands and command qualifiers.

B.1 LN01 Font Kits for LNI Files

There are two factors that determine whether an LN01 font kit is suitable for printing LNI files:

Size of the characters
Special emphasis characters

DSR is designed to format files with fixed-width characters. The default margin settings and page-size dimensions for DSR are calculated for character sets that have 10 characters to an inch.

Any LN01 font kits with fixed-width characters that are 30 pixels wide (10 characters to an inch) should print LNI files with the spacing normally expected in DSR output files.

The RUNOFF/DEVICE=LN01[E] command allows the user to specify emphasis for characters in an LNI file. To provide for all the options that RUNOFF /DEVICE=LN01[E] allows, an LN01 font kit used for printing LNI files must have characters of the following types:

Text
Bold
Italic
Bold italic

Any LN01 font kits that have a character set of the proper size and that have fonts for the types of emphasis that DSR supports can be used to print LNI files. The Courier (10 pitch) font kit is used in the examples in this appendix.

B.1.1 Directory Listing of Font Files

The appropriate font kit must be installed on the system. The *LN01 Font Kit Installation Guide* has complete information on installing font kits.

When you install a font kit, you create a directory named LN01$ROOT:[DOC] that has font files in it. Example B–1 shows the LN01 listing for the Courier (10 pitch) character set.

Example B–1 Directory Listing for Courier (10 pitch)

```
LN01$ROOT:[FNT.96]961001.SIX;1
  002782L10F010001C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER 10        BASIC ASCII (GL)         10 point   13062 bytes
LN01$ROOT:[FNT.96]961002.SIX;1
  002782L10F010002C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER 10        MULTINATIONAL (GR)         10 point   12958 bytes
LN01$ROOT:[FNT.96]961011.SIX;1
  002782P10F010001C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER 10        BASIC ASCII (GL)         10 point   10896 bytes
LN01$ROOT:[FNT.96]961012.SIX;1
  002782P10F010002C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER 10        MULTINATIONAL (GR)         10 point   12420 bytes
LN01$ROOT:[FNT.96]961021.SIX;1
  002791L10F010001C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER BOLD 10        BASIC ASCII (GL)         10 point   13516 bytes
LN01$ROOT:[FNT.96]961022.SIX;1
  002791L10F010002C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER BOLD 10        MULTINATIONAL (GR)         10 point   13712 bytes
LN01$ROOT:[FNT.96]961031.SIX;1
  002791P10F010001C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER BOLD 10        BASIC ASCII (GL)         10 point   10888 bytes
LN01$ROOT:[FNT.96]961032.SIX;1
  002791P10F010002C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER BOLD 10        MULTINATIONAL (GR)         10 point   12556 bytes
LN01$ROOT:[FNT.96]961041.SIX;1
  002810L10F010001C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER IT 10        BASIC ASCII (GL)         10 point   13522 bytes
LN01$ROOT:[FNT.96]961042.SIX;1
  002810L10F010002C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER IT 10        MULTINATIONAL (GR)         10 point   13396 bytes
```

(continued on next page)

Example B–1 (Cont.) Directory Listing for Courier (10 pitch)

```
LN01$ROOT:[FNT.96]961051.SIX;1
  002810P10F010001C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER IT 10         BASIC ASCII (GL)         10 point   11030 bytes
LN01$ROOT:[FNT.96]961052.SIX;1
  002810P10F010002C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER IT 10         MULTINATIONAL (GR)         10 point   12542 bytes
LN01$ROOT:[FNT.96]961061.SIX;1
  002811L10F010001C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER BD IT 10         BASIC ASCII (GL)         10 point   13630 bytes
LN01$ROOT:[FNT.96]961062.SIX;1
  002811L10F010002C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER BD IT 10         MULTINATIONAL (GR)         10 point   13530 bytes
LN01$ROOT:[FNT.96]961071.SIX;1
  002811P10F010001C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER BD IT 10         BASIC ASCII (GL)         10 point   11212 bytes
LN01$ROOT:[FNT.96]961072.SIX;1
  002811P10F010002C    portrait  fixed     5.769 lines/in    10.000 chars/in
  COURIER BD IT 10         MULTINATIONAL (GR)         10 point   12790 bytes
```

Notice that there are two character sets listed in Example B–1, (GL) and (GR). The font files identified as BASIC ASCII (GL) are the files that you should use when you load the DSR font definitions in the device control library. The (GL) character set consists of the standard ASCII character set. The (GR) character set is a supplemental set that has the multinational characters that are supported on 8-bit terminals. If you need to provide font definitions for the full multinational character set, see the *LN01 Font Utility User's Guide* for instructions on combining two character sets.

When you create the DSR font definition modules in the device control library, you will need to use the internal font name that is in the LN01 listing. The internal font name is printed in boldface in the following example:

```
LN01$ROOT:[FNT.96]961001.SIX;1
  002782L10F010001C    landscape fixed     5.769 lines/in    10.000 chars/in
  COURIER 10         BASIC ASCII (GL)         10 point   13062 bytes
```

Internal font names are case sensitive. When you use the internal font name, you must enter it exactly as it appears in the LN01 listing.

B.2 DSR Font Definitions for LNI Files

DSR font definition modules in the device control library allow you to specify the character set that will be used to print LNI files. The print symbiont looks in the device control library for the modules that DSR specifies before printing an LNI file. DSR may specify any of the definition modules listed in Example B–2.

Section B.2.1 explains how to load the modules that DSR may require into the device control library.

Example B–2 DSR Modules in the Device Control Library

```
These modules should contain the LN01 escape sequences that do the
following:

DSR$FONT_LOAD (Initiate loading of fonts)
ST (Designate the end of a string of characters)
DSR$PAGE_SIZE (Override the default LN01 setting)

Module names for standard fonts:

DSR$FONT_TP            Portrait text font
DSR$FONT_BP            Portrait bold font
DSR$FONT_IP            Portrait italic font
DSR$FONT_BIP           Portrait bold italic font
DSR$FONT_TL            Landscape text font
DSR$FONT_BL            Landscape bold font
DSR$FONT_IL            Landscape italic font
DSR$FONT_BIL           Landscape bold italic font
Module names for European sized fonts:

DSR$FONT_TPE           Portrait text font
DSR$FONT_BPE           Portrait bold font
DSR$FONT_IPE           Portrait italic font
DSR$FONT_BIPE          Portrait bold italic font
DSR$FONT_TLE           Landscape text font
DSR$FONT_BLE           Landscape bold font
DSR$FONT_ILE           Landscape italic font
DSR$FONT_BILE          Landscape bold italic font

Module names for escape sequences that define standard fonts:

DSR$FONT_DEFINE_TP     Portrait text font
DSR$FONT_DEFINE_BP     Portrait bold font
DSR$FONT_DEFINE_IP     Portrait italic font
DSR$FONT_DEFINE_BIP    Portrait bold italic font
DSR$FONT_DEFINE_TL     Landscape text font
DSR$FONT_DEFINE_BL     Landscape bold font
DSR$FONT_DEFINE_IL     Landscape italic font
DSR$FONT_DEFINE_BIL    Landscape bold italic font
Module names for escape sequences that define European fonts:

DSR$FONT_DEFINE_TPE    Portrait text font
DSR$FONT_DEFINE_BPE    Portrait bold font
DSR$FONT_DEFINE_IPE    Portrait italic font
DSR$FONT_DEFINE_BIPE   Portrait bold italic font
DSR$FONT_DEFINE_TLE    Landscape text font
DSR$FONT_DEFINE_BLE    Landscape bold font
DSR$FONT_DEFINE_ILE    Landscape italic font
DSR$FONT_DEFINE_BILE   Landscape bold italic font
```

B.2.1 Loading DSR Font Definitions into the Device Control Library

Use the VMS Librarian Utility to load the modules that DSR may require into the device control library. You can use the Librarian Utility at DCL level or you can create a command procedure to load the modules. Example B–3 shows a sample command procedure that loads DSR modules for standard portrait fonts for Courier (10 pitch).

Example B–3 Command Procedure for Loading Font Definitions

```
$ ! This sample command file adds a set of four fonts to the VMS V4
$ ! system device control library, SYS$LIBRARY:SYSDEVCTL.TLB, for
$ ! use with DSR. This sample file shows how to load standard portrait
$ ! fonts.
$ !
$   if p1.eqs."" then inquire/nopunc p1 "Text font?"
$   if p2.eqs."" then inquire/nopunc p2 "Bold font?"
$   if p3.eqs."" then inquire/nopunc p3 "Italic font?"
$   if p4.eqs."" then inquire/nopunc p4 "Bold italic font?"
$ !
10: if f$loc(".six",p1).eqs.f$len(p1) then p1 := 'p1'.six
$   if f$loc(".six",p2).eqs.f$len(p2) then p2 := 'p2'.six
$   if f$loc(".six",p3).eqs.f$len(p3) then p3 := 'p3'.six
$   if f$loc(".six",p4).eqs.f$len(p4) then p4 := 'p4'.six
$ !
$ ! Insert sixel files into library
$ !
$   lib/rep/text/log sys$library:sysdevctl 'p1'/mod=dsr$font_tp
$   lib/rep/text/log sys$library:sysdevctl 'p2'/mod=dsr$font_bp
$   lib/rep/text/log sys$library:sysdevctl 'p3'/mod=dsr$font_ip
$   lib/rep/text/log sys$library:sysdevctl 'p4'/mod=dsr$font_bip
$ !
$ type sys$input:

        You will now be prompted to enter the internal names
        of the font files inserted in the library. These names
        can be found in the file FKnnm.DOC that comes with DIGITAL-
        supplied font kits, or by using the LN01 Font Utility.

        The internal names are case sensitive. You must enter the
        names exactly as they appear in the directory listing.

$ !
$ ! Text portrait
$ !
$   inquire/nopunc fontname "Internal font name of TEXT font?"
$   open/write tmp tmp.tmp
$   write tmp "<ESC>P1;12}''fontname'<ESC>\"
$ ! Press the ESC key on the terminal twice to enter the ESC character
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$font_define_tp
```

(continued on next page)

Example B–3 (Cont.) Command Procedure for Loading Font Definitions

```
$ !
$ ! Bold
$ !
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$   open/write tmp tmp.tmp
$   inquire/nopunc fontname "Internal font name of BOLD font?"
$   write tmp "<ESC>P1;13}''fontname'<ESC>\"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$font_define_bp
$ !
$ ! Italic
$ !
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$   inquire/nopunc fontname "Internal font name of ITALIC font?"
$   open/write tmp tmp.tmp
$   write tmp "<ESC>P1;14}''fontname'<ESC>\"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$font_define_ip
$ !
$ ! Bold Italic
$ !
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$   inquire/nopunc fontname "Internal font name of BOLD ITALIC font?"
$   open/write tmp tmp.tmp
$   write tmp "<ESC>P1;15}''fontname'<ESC>\"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$font_define_bip
$ !
$ ! Define Font Load sequence, in module DSR$FONT_LOAD
$ !
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$   open/write tmp tmp.tmp
$   write tmp "<ESC>P1;1y"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$font_load
$ !
$ ! Add String Terminator, module ST
$ !
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$   open/write tmp tmp.tmp
$   write tmp "<ESC>\"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=st
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;
$ !
$   open/write tmp tmp.tmp
$   write tmp "<ESC>[3300t"
$   clo tmp
$   lib/rep/text/log sys$library:sysdevctl tmp.tmp/mod=dsr$page_size
$   if f$sea("tmp.tmp").nes."" then delete tmp.tmp;*
$   exit
```

The numbers that are associated with font names can be found in the *LN01 Font Kit Installation Guide.* If you need more information on the LN01 escape sequences, see the *LN01 Programmer Reference Manual.*

When an appropriate LN01 font kit is installed on your system and the required font definition modules are in the device control library, LNI files should print on the LN01 Laser Printer with the proper spacing and emphasis.

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