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This topic discusses the file pull down. This selection discusses various elements such as picking a file to print as well as printing with either 4Print or 4Book from Korenthal Associates.

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File to print

The file to print selection will open the file pick window. You may pick any text file that you need to print for either 4Print or 4Book. You may list multiple files using the editable command line that displays just prior to 4Print or 4Book printing.

Print using 4Print

4Print is a program from Korenthal Associates that will print multiple pages on a single sheet of paper. You should be familiar with the 4Print manual before using 4Shell.

Print using 4Book

4Book is a program that shells the 4Print program. Both of these programs are from Korenthal Associates. This program will create booklets from your text files. You should be familiar with the 4Book manual before using 4Shell with 4Book.

Exit

Ok, did you think you might find something else here? Exit still stands for Quit, Exit, Halt, Stop, whatever your heart desires along the lines of being finished.

Setup

The setup pulldown will allow you to set the 4Print switches, create a 4Book command line, assign the directory location and names of your 4PRINT.EXE and 4BOOK.EXE files. You may also save the selected switches and command lines into the 4SHELL.EXE file for repeated use without having to enter the information each time you use the program.

4PRINT.EXE and 4BOOK.EXE locations

Page formatting

Printer mechanics

Fonts and controls

4Book setup

Save setup as default

4PRINT.EXE and 4BOOK.EXE locations

This selection is to enter the full path and file name of the Korenthal Associates programs you're using. You should enter them as full path and file names as in the following examples.

C:\WINDOWS\4PRINT\4PRINT.EXE

C:\WINDOWS\4PRINT\4BOOK.EXE

These two examples assume that you have stored your files in a subdirectory called 4PRINT off of the subdirectory called WINDOWS on your C: drive. Replace the subdirectory and drive designation where applicable.

The 4PRINT.EXE location window will also have a check box for the version number of 4Print you're using. You must have version 4.0 or 4.1 or newer to use this program. If you have version 4.1 or newer click this box on and save the configuration in the defaults.

Page formatting

This selection will allow you to set all of the command line switches as described in the 4Print manual that pertain to page formatting. See the 4Print manual for details.

Printer mechanics

This is the selection to set up the printer specific command line switches. Please see the pertinent chapter on printer mechanics of the 4Print manual.

Fonts and controls

This is the selection to set up the fonts and controls specific command line switches. Please see the pertinent chapter on fonts and controls of the 4Print manual.

4Book setup

This selection will allow you to build a command line as described in the 4Book manual. You may save this command line as a default for use without having to reenter it again.

Save setup as default

This selection will save all of the 4Print and 4Book commands into the 4SHELL.EXE file as your default settings. This way you only have to set the configuration once.

What does 4Shell do?

4Shell is a shell program for Microsoft Windows that will allow users of the popular 4Print and 4Book programs to use them in the Windows environment easily. No more opening DOS Windows and complicated command line switches, set it up with 4Shell and go!

Command Bar

The Command bar has "short cut" buttons for some of the 4Shell features. This will allow fast use of the program using the mouse pointer. The file button will allow you to select the file for printing. The 4Print button will print using 4Print and the 4Book button will print using 4Book. Also the shrinking button will iconize 4Shell for you and last is the Stop sign button which will exit the program.



4Print Commands

All of the 4Print command section has been extracted from the 4Print manual with the permission of Korenthal Associates, Inc.

-#
-[
-1
-2
-3
-4
-a4
-b
-bp
-bp+
-c
-cen
-cenh
-cenv
-d
-dj
-djl
-doc
-ds
-e
-f
-fmt
-h
-i
-l
-lpp
-lu
-m
-max
-mf
-n
-np
-o
-p
-pr
-q
-r
-rf
-ri
-s
-sq
-t
-t#
-t[
-ta
-tab
-tb
-ti
-tiny
-tt

-u
-vc
-ve
-w
-wl
-wp
-ww
-x
-xb
-xf
-z
-zf
-zw

Number of Columns: The -1, -2, -3, and -4 Switches

4Print was originally designed to print exactly two columns ("page images") on a landscape page. Version 3 introduced the "-wide" option to print wide spreadsheets and documents with more characters across in a single "column". Now, with version 4, you can print from one to four columns per landscape page. For consistency, "-wide" has been renamed to "-1" (but the program still accepts "-wide" as a synonym for "-1").

Here are some usage examples:

```
C>4print myfile -1
```

The file will be printed in a single column across the landscape page. A maximum of 165 characters will be printed in each column before lines gets wrapped or truncated. This is the same as typing "4print myfile -wide" in 4Print 3.x.

Note that in the above example, "myfile" might be a wide spreadsheet which was printed to disk in ASCII format. (See "4Print for Spreadsheet Users in Chapter Seven of the 4Print manual."

When you specify "-1", 4Print uses whatever frame style you've specified, but removes the vertical center line to combine the entire page into a single column.

```
C>4print myfile -2
```

The file will be printed in two columns across the landscape page, allowing a maximum of 80 characters per column. This is the default, so the command is the same as simply typing "4print myfile".

```
C>4print myfile -3
```

The file will be printed in three columns across the landscape page, allowing a maximum of 55 characters in each column.

```
C>4print myfile -4
```

The file will be printed in four columns across the landscape page, allowing a maximum of 40 characters in each column.

The frames printed for the "-3" and "-4" options include vertical lines between each column. These lines are considered together as a "center line" when 4Print decides which lines of the frame to print. For example, "-ft" (a "T-frame") would include the top line and all vertical lines between columns in three- and four-column mode.

You can get more characters on each line than the number stated above by using the "-sq" switch to horizontally "squash" the normal font, the "-tiny" option to print in a smaller font, or both "-tiny" and "-sq" to use a "squashed" version of the tiny font. The accompanying tables show the maximum number of characters which may be printed on a line in each column using various options.

Initial Blank Page Handling: The -BP and -BP+ Options

Many ASCII documents, including Microsoft Assembler listing files and documentation obtained from public Bulletin Boards, start with an initial form feed in order to ensure that the printer is at the beginning of a page before starting to print the document. In 4Print, this initial form feed is not necessary, and in fact previous versions of the program would print such documents starting in the right hand "column" of the page.

Starting with version 4.0, 4Print pre-scans the document for an initial blank page (defined as any number of spaces, tabs, carriage returns or line feeds followed by a form feed) and ignores this first blank page when printing the document. Note that 4Print will not suppress more than a single initial blank page, nor will a blank page be suppressed if it doesn't contain an explicit form feed character (or a "1" as the first character of the file if the "-mf" switch is used).

If for some reason there is an initial blank page in your document and you **don't** want it to be suppressed, use this option:

```
C>4print myfile -bp
```

The initial blank page won't be suppressed.

Note that although we've never made a big deal about it in our documentation, 4Print has always tried to save paper by suppressing blank pages at the **end** of a document, whether they're due to trailing form feeds or multiple blank lines. This feature remains in the program, and will not be turned off even if the "-bp" switch is used.

Under certain circumstances, you may wish to **force** an extra blank page to be printed at the beginning of your document. For example, if you are 4Printing ASCII documentation and you want the first page to appear in the right column to preserve facing pages as they would appear in a book, you could do this:

```
C>4print myfile -doc -bp+
```

The document will be word wrapped and centered in each column (see the section describing the "-doc" switch below) and an initial blank page will be forced.

Page Centering: The -CEN, -CENH, and -CENV Switches

You can ask 4Print to center your document on the page either horizontally, vertically, or both horizontally and vertically:

```
C>4print myfile -cen
```

The file will be centered on the page.

```
C>4print myfile -cenh
```

The file will be horizontally centered only.

```
C>4print myfile -cenv
```

The file will be vertically centered only.

There are some important considerations when using the centering switches. First of all, 4Print *must* be allowed to scan the document in order to compute the correct horizontal and vertical indentation necessary for centering. If you specify the "-q" switch (for "Quick print"), centering will be suppressed.

Also, the centering indentation calculations are based on the tallest (for vertical) and widest (for horizontal) page in the entire 4Print scan pass. This means that if you are printing multiple documents in a single run, some documents in that run may be centered based on the page layout of other documents in that run. Normally this does not present a problem, but if exact centering is required for a particular document, 4Print that document on its own command line.

Formatted Documents: The -DOC Switch

A certain combination of 4Print options works well when 4Printing either formatted or unformatted ASCII documentation. We've provided the "-doc" switch as a shortcut for this group of options. Please refer to the relevant sections of the 4Print manual for more detailed information about the options automatically set by "-doc".

If you're printing a document in the default two columns, you probably want to specify "-cen" (to center the document horizontally and vertically) and "-ww" (to word wrap long lines). Simply say:

```
C>4print myfile -doc
```

The file will be printed with centering and word wrapping on.

Centering and word wrapping are also automatically turned on by "-doc" if you print in a single column or in four columns.

Using "-doc" with three columns is handled specially, because 4Print is capable of printing an entire 80 columns across a column in three-column mode. In order to do this, the squashed version of the tiny font must be used, and the line spacing is automatically adjusted for maximum readability of the tiny font:

```
C>4print myfile -3 -doc
```

The file will be printed in three-column document mode (also known as "6Print mode").

```
C>4print myfile -3 -cen -ww -lpp80 -tiny -sq
```

This command is equivalent to the one above.

Note that you can add other options to "-doc", the same as you might with any other option:

```
C>4print myfile -s -doc
```

The file will be printed as a single-sided document.

Frame Styles: The -F<style> Switch

4Print normally prints a full frame around each printed page. The frame consists of lines at the top, bottom, left, center, and right sides of the page. You can use the "-f<style>" switch (not to be confused with the simple "-f" switch) to change the frame style which 4Print uses. The easiest way to use this switch is to specify one of the "canned" frame styles that 4Print provides, as in the following:

```
C>4print myfile -ft
```

The document will be printed using the "T" frame style.

Each of the provided styles is specified as a single letter (which may be in upper or lower case) or symbol. A complete table follows:

<u>Symbol</u>	<u>Frame Style</u>
F	Full frame (the default)
N (or O)	No frame lines at all
T	"T" frame (title and center lines)
I	"I" frame (top, bottom, and center)
!	Center line only
-	Title line only
=	Top and bottom lines
O (the letter)	Full frame, but no center line
M (or W)	Title line, left, center, and right
U	Title line, left, and center

If you want to be even more creative, you can specify a 5-letter "control" string to design a custom frame. The letters in the string control the top, bottom, left, center, and right line of the custom frame, respectively. The codes may be given in upper or lower case, and are:

<u>Code</u>	<u>Meaning</u>
A	Always print the corresponding line.
N	Never print the corresponding line.
T	"Track" the title (print the line only if the title will appear next to this line).

The "T" code only applies to the top or bottom line of the frame, and thus should only be used in the first and/or second position of the code string.

Here are a few examples of custom frames:

```
C>4print myfile -faaaaa
```

All lines of the frame will be printed. This is the same as specifying "-ff", or letting the frame style default.

```
C>4print myfile -fnnnnn
```

No lines of the frame will be printed. This is the same as in specifying "-fn" or "-f0".

```
C>4print myfile -fttnan
```

The top line will be printed only if the title is on top of the page, and the bottom line will be printed only if the title is on the bottom. The left line will never be printed, the center line

will always be printed, and the right line will never be printed. This is "T" frame, which can also be specified as "-ft".

```
C>4print myfile -fntann
```

The top line will never be printed, the bottom line will only be printed if the title is on the bottom, the left line will always be printed, and the center and bottom lines will never be printed. Consider an open three-ring binder with a reverse side page (title on top) above a front side page (title on the bottom). The effect will be that the group of two pages will have a line down the left side, and another line across the bottom of the group.

Column Selection And Line Formatting: The -FMT Option

4Print now has the ability to print only selected columns (character positions) in a document, transpose columns, and insert text in each line to make the printout more readable. The general format of the "-fmt" option is:

```
-fmt<format specifier>,[<format specifier>...]
```

In other words, this means that "-fmt" may be followed by one or more format specifiers separated by commas. A format specifier may be one of these, where "a" and "b" designate character columns in the document to be printed (the leftmost character column has number 1):

<u>Format</u>	<u>Description</u>
a	print only column a
a-	print from column a to the end of the line
a-b	print from columns a through b, inclusive
-b	print from column 1 through column b.
"any text"	insert any text (must not contain quotes)
'any text'	insert any text (must not contain apostrophes)

Here are a number of line formatting examples:

```
C>4print myfile -fmt2-
```

The first character position of each line of the document will be ignored. Everything from the second position to the end of the line will be printed.

See the description of the "-mf" (mainframe carriage control) switch in Chapter Six of the 4Print manual before you use this command to suppress those funny 1's and 0's which appear in some documents originally created on IBM mainframes.

```
C>4print myfile -fmt-40
```

Everything up to and including character position 40 of the document will be printed, and the rest will be ignored.

```
C>4print myfile -fmt10-70
```

Only columns 10 through 70 of the document will be printed.

```
C>4print myfile -fmt"    ",10-70
```

Columns 10 through 70 will be printed, and each line will be preceded by five spaces. Note that the same effect could have been achieved with:

```
C>4print myfile -fmt10-70 -i5
```

```
C>4print myfile -fmt-20,41-50
```

Each line of the printout will be thirty characters wide. The printed lines will consist of the first twenty characters of the corresponding line of the document, immediately followed by columns 41-50 of the same line in the document.

```
C>4print myfile -fmt-20,41-
```


Columns 21-40 of every line of the document will be ignored.

```
C>4print myfile -fmt-20," | ",41-
```

Same as the above, except there will be a vertical bar on each page separating columns 1-20 from columns 41 to the end of each line.

```
C>4print myfile -fmt1-,"!"
```

Every line of the document will be printed with an exclamation point immediately following the line.

```
C>4print myfile -fmt1-79,"!"
```

Every line will be printed up to column 79 (with trailing spaces if necessary), and an exclamation point will appear in column 80.

```
C>4print myfile -fmt160-180," | ",20-30," | ",60-70
```

You might use this to select columns of a very wide spreadsheet and print them separated by vertical bars. Note that the columns selected don't have to be in the order in which they appear in the document or spreadsheet.

```
C>4print myfile -fmt1-10," + ",14-22," = ",26-36
```

This example prints selected columns from a spreadsheet as formulas, where the third spreadsheet column was calculated as the sum of the first two spreadsheet columns.

```
C>4print myfile -fmt80-1
```

If you've read this far, you deserve a special treat. Try this format specification and see what it does!

Changing the Default Header: The -H Option

(See also the tip about operation with keyboard enhancers at the end of "Full Font Selection: The l Option" in Chapter Six of the 4Print manual.)

4Print normally prints the file name, date, and time in boldface on the top of each page, along with the page number and page count of the document. The "-h" option allows you to substitute your own header (or title):

```
C>4print myfile -h
```

Here we are specifying that no title is to be printed.

```
C>4print myfile -hWHOOPIE!
```

In this example, we are replacing the default title with the character string "WHOOPIE!", which will be centered at the top of every printed page.

```
C>4print myfile -h"This is a Title"
```

Here we show that the title may be enclosed in quotes. Single quotes (apostrophes) or double quotes are acceptable, but the surrounding quote character can't occur in the middle of a title (we didn't implement a "doubling" convention for quotes, not having a doubling cube handy). You can, however, get both quotes in a title, if necessary, by using the unquoted title form described in the next example:

```
C>4print myfile -hThis_is_a_Title
```

This example is equivalent to the one above, and doesn't require spaces in the title text.

If the "-h" isn't immediately followed by a single or double quote, or if a quote character is unmatched, the title is considered to be all characters up until the next space or the end of the command line. Since an underscore represents a space in the printed title, you can get both quote characters in a title by using something like:

```
C>4print myfile -h_"Do's" _and_ "Don'ts"
```

Note the underscore after the "-h" to make sure 4Print doesn't think the first quote is meant to surround a title.

A number of characters and character strings cause substitutions when a title is printed. They must all be specified in lower case:

<u>Formats</u>	<u>Description</u>
\$fn	The file name is printed
\$fd	The file's creation or modification date is printed
\$ft	The file's creation or modification time is printed
\$td	Today's date is printed
\$tt	Today's time (the current time) is printed
\$pn	The current page number is printed
\$pp	The number of pages in the document is printed
\$cn	The current column number is printed
\$cc	The number of columns in the document is printed
underscore	A space character is printed
//	Centering is split

[...] Text suppressed if the number of pages is unknown

If a dollar sign appears in any context other than those above, it is eliminated when the title is printed, and the character following the dollar sign is taken literally. Therefore, use "\$_" to print an underscore, and "\$\$" to print the dollar sign character itself.

The purpose of the underscore-to-space substitution is to allow most titles to be specified without surrounding quotes.

Unless split centering is used, 4Print will center the supplied title across the length of the page (across all columns taken together). If "/" appears in the title, 4Print will center everything appearing to the left of the "/" (after substitution) in the left column, and entered title everything appearing to the right of the "/" in the right column.

There is no way to avoid centering or split centering of titles. However, an off-center effect may be achieved by preceding the title text with a number of spaces, in which case centering the title text will appear right of center. By the same token, following the title text with spaces will cause it to appear left of center (within the whole line or, in the case of split centering, within the appropriate column).

Brackets are used to suppress text in the title when the document's page count is unknown (this happens when "-q" is used to eliminate the scan pass). Simply enclose the text to be conditionally suppressed in "[" and "]".

The "\$cn" and "\$cc" forms are a special usage with limited implementation. They allow documents to be printed with "page" numbers corresponding to what 4Print considers to be "columns." The first 66 lines of output, then, would be "column 1," and the next 66 (on the right side of the same "page") would be "column 2."

The limited implementation of \$cn and \$cc works like this: "\$cc" simply prints twice the number of pages in the document, if known (we ignore the fact that the last column of a document may be blank). "\$cn" normally prints twice the page number minus one. If split centering is used (see above), "\$cn" prints twice the page number minus one for the left side, and twice the page number for the right side.

Consider the following example:

```
C>4print myfile -s -h"Page $cn of $cc//Page $cn of $cc"
```

This would print a single-sided document which you could cut down the middle, punch holes in, and insert into an IBM-sized three-ring binder. Notice that we are printing 4Print "column" numbers, but calling them "Page" in the title because that's what they would refer to after the document is cut.

For reference, here is an example where the default title is explicitly specified:

```
C>4print myfile -h"$fn $fd $ft//Page $pn[ of $pp]"
```

Indenting Lines: The -I Option

You can tell 4Print to indent each printed line by a specified number of character positions. This allows you create a "balanced" look for documents which were unformatted, or formatted with a width less than 80 characters. For example:

```
C>4print myfile -i8
```

The document will be printed with every line indented eight character positions.

Note that indentation applies to "wrapped" lines as well, as described in the sections about truncating long lines ("-t") and word wrapping ("-ww", "-WL", "-wp"). See also the section describing the "-ri" option for information about indenting versus right Indented indenting.

Number of Lines Per Page: The -LPP Option

As of Version 4.0, 4Print allows you to change the number of lines printed on each page from the default of 66 lines per page. For example:

```
C>4print myfile -lpp60
```

The file is printed with 60 lines per page. This might be used to see what the file would look like if "dumped" to an HP laser printer which hasn't been set up for a full 66 lines per page.

```
C>4print myfile -lpp50
```

The file is printed with 50 lines per page. Since 4Print automatically adjusts the lines so they are spaced out evenly across the page, the result will be a printout which is much easier to read than a normal 66 line per page listing. This might be used for proofreading a document while still retaining 4Print's formatting.

```
C>4print myfile -tiny -lpp80
```

The document will be printed using the tiny font, with 80 lines per page. Had we not specified the "-tiny" option, the document would still have 80 lines per page, but the larger font would result in a much less readable printout.

Although you can specify values from "-lpp20" through "-lpp200", be warned that the higher values create progressively more "scrunched" outputs, and very high values can cause your printer's internal buffers to overflow (a situation which 4Print can't detect, and which would force you to press RESET on your printer or turn your printer off and on).

Tip: You can create some special purpose 4Print outputs using a combination of the "-lpp" and the "-#" (or "-l") options. For example, you can use a very large font and tell 4Print to only allow 24 lines per page. For very small fonts, you might want to also use the "-tiny" option to allow more characters per line, or perhaps even the "-pr" option to "fake out" 4Print into thinking it's dealing with a proportional font, and thus not truncate or wrap any lines at all.

Maximum Throughput: The -MAX Switch

A certain combination of 4Print options works well to maximize the amount of information printed on a single sheet of paper. We've provided the "-max" switch as a shortcut for this group of options. Please refer to the relevant sections of the 4Print manual for more detailed information about the options automatically set by "-max".

You can maximize the amount of information printed on a single sheet of paper like this:

```
C>4print myfile -max
```

The document will be printed in three columns in a tiny squashed font using 88 lines per page on a LaserJet, and 60 lines per page on a DeskJet. Form feeds and multiple blank lines will be compressed.

```
C>4print myfile -3 -tiny -sq -xf -xb -lpp88  
C>4print myfile -3 -tiny -sq -xf -xb -dj -lpp60
```

These two commands are equivalent to the one above for the LaserJet and the DeskJet, respectively.

Note that 4Print doesn't attempt to print as many lines on a page when maximizing DeskJet printouts. This is due to a hardware limitation in the DeskJet which causes partially-printed pages to be ejected when a program attempts to put too much information on a page.

For completely unformatted ASCII files (no page breaks), "-max" on a LaserJet will print 528 80-character lines on two sides of a single sheet of paper. This is like printing EIGHT pages on a single sheet. If there are page breaks and/or multiple blank line sequences in the file, "-max" will print even more than eight pages on a single sheet!

You can use "-max" and "-doc" together like this:

```
C>4print myfile -max -doc
```

The file will be "maximized" in three columns, and in addition, the pages will be horizontally centered.

Numbering Lines: The -N and -NP Options

4Print can automatically number the lines of your document in two ways. The simplest is as follows:

```
C>4print myfile -n
```

The document will be printed with line numbers starting from 1.

You can control the starting line number of the document like this:

```
C>4print myfile -n201
```

The document will be printed with line numbers starting from 201.

We have provided this line numbering option especially for lawyers:

```
C>4print myfile -np
```

The document will be printed with line numbers starting from one on each page.

IBM-style Binders: The -RI Option

4Print provides limited support for the creation of printouts which will be held in IBM-style binders. The "-ri" option allows you to specify a second indentation level which is only applied to the right-hand column of each page. This allows you to compensate for the margin on the left side of the paper. If you specify both "-i" and "-ri", BOTH INDENTS will be applied to the right-hand column. For example:

```
C>4print myfile -i2 -ri8
```

The document will be printed with the left column indented two character positions, and the right column indented ten (2+8) character positions.

We have found that the combination of "-i2" and "-ri8" shown in the example above adjusts the page in such a manner as to create pages which can be easily cut in half and inserted into an IBM-style binder. Special paper may be purchased which has a micro-perforation down the middle and six holes punched in such a manner as to make splitting each page apart and inserting into an IBM-style binder very easy.

Note that when the "-ri" option is used, the left and right columns will wrap (or be truncated) at different character positions. Thus, you may want to pre-format output designed for IBM binders so as to avoid lines longer than will fit in the right hand column. Note also that when creating IBM-style binders, you may very well want to use the "-f0" (no frame) and "-h" (no header) options (along with the "-ri" option) to create a "clean" looking page. See Chapter Seven in the 4Print manual for more information about printing documentation for IBM-style binders.

Truncating Long Lines: The -T Switch

4Print will print up to 80 characters across in each of the two columns on a sheet of paper. If a file line plus indentation (see the "-i" option above) is longer than 80 columns, 4Print will normally print the first 80 columns, and continue the file line on the next printed line, starting with the characters "=>". Line wrapping will occur across multiple print lines, if necessary.

To truncate (rather than wrap) long lines, use:

```
C>4print myfile -t
```

The "-t" switch tells 4Print that you want long lines to be truncated rather than wrapped. 4Print will simply print the first 80 characters of the long line, and continue with the next file line on the next printed line.

This feature can be useful for documentation files which have a few long lines and are formatted based on exactly 66 lines per page. For more information on 4Print's handling of long lines, see the discussion about word wrapping below.

Overriding Title Placement: The -TT, -TB, and -TA Switches

Under normal circumstances, 4Print will print the title line, or header, at the bottom of the page for the front of your document, and at the top of the page for the back of your document. This causes the title line to always appear on the "outside" when the document is placed in a three-ring binder. If you wish to override the default title placement, use one of the following switches:

```
C>4print myfile -tt
```

All title lines will be printed at the top of the page.

```
C>4print myfile -tb
```

All title lines will be printed at the bottom of the page.

Note that the "-ta" switch (which specifies the default of alternating title placement) is provided for completeness, and also to allow you to obtain alternating titles if you've changed the default (see Appendix C of the 4Print manual).

Top Indent: The -TI Option

You can tell 4Print to leave blank space at the top of each page with the "-ti" option:

```
C>4print myfile -ti4
```

Four blank lines will be printed at the top of each page.

Note that the amount of blank space is dependent upon the current number of lines being printed on a page. For example, to leave the top third of the page blank, you'd normally specify "-ti22" (because 66 lines per page are printed by default). However, if you changed the number of lines per page to 90 (with "-lpp90"), you'd have to specify "-ti30" to leave the top third of each page blank.

See the section on page [centering](#) above for a different strategy for leaving blank lines on the top of the page.

Word Wrapping: The -WW, -WL, and -WP Switches

New with Version 4.0, 4Print can keep words together when it needs to split long lines into multiple pieces. There are three kinds of word wrapping, bringing the total number of 4Print's long line handling options to six. Normal word wrapping is specified like this:

```
C>4print myfile -ww
```

Long lines in the file will be word wrapped, where each continuation line will start at the position of the first non-blank character in the preceding line.

Word wrapping can be useful when printing very wide ASCII documents, or when printing draft copies of documents created with word processors which save paragraphs as if they were very long, single ASCII lines.

Note that when "-ww" is specified, 4Print will not insert the "=>" symbol (see the "-t" switch above) at the beginning of continuation lines, and will not indent those lines.

Here's how to specify another style of word wrapping. Note that we're capitalizing "-wl" simply to distinguish the "L" from the digit "1" (4Print will accept either form):

```
C>4print myfile -WL
```

Long lines in the file will "word wrap left," meaning that each continuation line will start at the column's left margin (the first character position plus any indentation specified with "-i" or "-ri").

We've provided a third style of word wrapping of interest primarily to programmers:

```
C>4print myfile -wp
```

Long lines in the file will be word wrapped, where each continuation line will start at the position of the first non-blank character in the preceding line, plus four character positions.

This latter form of word wrapping results in an especially nice looking output for free-form, normally indented programming languages such as C and Pascal.

It turns out that the "-wp" switch can be used in a manner in which it was not originally intended. When printing ASCII files with very long "lines" (such as those produced by WordPerfect and Microsoft Word export functions), using "-wp" will result in a very nice "hanging indent" for each paragraph of text. In fact, you can even get a good looking draft document by simply using the "-wp" switch and 4printing a Microsoft Word document directly! (This technique does not work well with WordPerfect, however - be sure to export your WordPerfect documents in ASCII form before 4Printing them.)

Compressing Blank Lines: The -XB Switch

You can tell 4Print to replace multiple blank lines with a single blank line. In addition, any blank lines at the top of a page will not be printed:

```
C>4print myfile -xb
```

The document will be printed with blank lines compressed to a single blank line.

Compressing Form Feeds: The -XF Switch

4Print normally skips to the next column when a form feed is encountered in a document. (The same situation occurs when a "1" is encountered as the first character on a line when the "-mf" switch is used.) You can save paper by telling 4Print to replace form feeds with a line of underscores and a blank line, and then continue printing in the same column:

```
C>4print myfile -xf
```

The document will be printed with form feeds replaced by a line of underscores and a blank line.

A4 Paper Handling: The -A4 Switch

If your printer is loaded with A4-type paper (common in Europe), use the following switch:

```
C>4print myfile -a4
```

The document will be printed on A4 paper.

Earlier versions of 4Print could print on A4 paper with no option specified, but the print image wasn't centered horizontally. Using the "-a4" switch corrects this problem.

Note that if you are using A4 paper, you may very well need to vertically compress the print image to get a proper 4Print printout. You can accomplish this for all your 4Print runs by inserting "set 4print=-a4 -vc" (with other desired default options) in your system startup procedure. Alternatively, you can directly specify both options on the command line like this:

```
C>4print myfile -a4 -vc
```

The document will be printed vertically compressed on A4 paper.

Duplex Printing (LJ IID/IIID): The -D Switch

If you have an HP LaserJet IID, IIID or close compatible, you may instruct 4Print to take advantage of your printer's duplex printing capability (and thus complete the entire double-sided print job with no user intervention). For example:

```
C>4print myfile -d
```

The file will be printed in duplex mode on the IID or IIID.

For more information about duplex printing with short binding, see the section describing the "-ds" switch below.

Printing on a Deskjet: The -DJ Switch

The -dj switch will cause the Deskjet printer to print in "Draft" mode. If you want the best possible quality use the -djl switch.

If you are using an HP Deskjet, Deskjet Plus or Deskjet 500, you MUST specify the "-dj" or "-djl" switch on all your 4Print runs.

You must include the switch in all your runs as follows:

```
C>4print myfile -dj
```

The file will be formatted for a Deskjet rather than a Laserjet.

Assuming you had a Laserjet connected to LPT1 and a Deskjet on LPT2, you could make use of both printers like this:

```
C>4print myfile
```

The file will be printed on the Laserjet.

```
C>4print myfile -dj -olpt2
```

The file will be printed on the Deskjet.

Note that if you are using an "original" Deskjet (as opposed to a Plus or a 500), you must have the optional landscape cartridge in order to use 4Print. In addition, the original Deskjet does not allow landscape soft fonts to be downloaded (even if you have the cartridge), so 4Print will only work with the cartridge's built-in fonts.

If you have a Deskjet Plus or 500, 4Print uses the built-in small Courier font for both normal and tiny mode printing. This produces an acceptable print image, but if you have a 128K or 256K RAM cartridge, you can get better results by downloading the two Deskjet shareware soft fonts we've provided with this product. Please don't forget to register these fonts with Elfring Soft Fonts if you use them regularly. See the file REGFONT.S.DOC in the 4Print package for details.

Because of limitations in the Deskjet, 4Print handles frames differently when the -DJ switch is used. The only "frame" available when printing on a Deskjet is a center line column separator in two column mode. This line may be eliminated by using the "-f0" option.

The Deskjet cannot print as many small characters on a page as the Laserjet. If you attempt to print too much on a single page, the Deskjet will print as much as it can on one page and then will skip to the next page before continuing. This is a hardware limitation of the Deskjet, and 4Print cannot detect or compensate for this situation. We've "tuned" the 3-column "-doc" and "-max" options so this overflow situation should not occur when printing most documents.

Duplex With Short Binding: The -DS Switch

If you have a IID, IIID, or other HP-compatible duplex printer, you can tell 4Print to use "short binding", instead of the default long binding, like this:

```
C>4print myfile -ds
```

The document will be printed using short binding.

The result is a document which, instead of being inserted in a binder and read in normal 4Print order, can be saddle stitched, inserted in a "ledger" binder, or otherwise bound on the left hand side of the page. Four pages can then be viewed side by side and flipped over like a regular book.

Selective Printing by Side: The -F, -B, -R and -RF Switches

You can tell 4Print to print only the front side of a listing that would normally be double-sided. Note that this is not the same as using the "-s" switch:

```
C>4print myfile -f
```

Only the front side of a double-sided printout is produced.

This is useful if you need to split a large printout into two 4Print jobs, or if you are printing over a network and don't want to tie up the printer before processing the reverse side.

If you previously aborted 4Print after the front side of a double-sided printout was produced, or if you printed the front side using "-f", use one of the following (they are equivalent) to complete the job:

```
C>4print myfile -b
```

```
C>4print myfile -r
```

Only the back (reverse) side of a double-sided printout is produced.

If you already printed the front side of this job, you could have looked at the title line of any page to determine the maximum page number, and then used a command like:

```
C>4print myfile -b -q28
```

The "-q28" tells 4Print to eliminate the scan pass, but to use the number 28 when printing the number of pages on the title line.

(Note that the "-q" option stops 4Print from doing any centering.)

The -r reverse prints the back side while the -rf reverse prints the front side.

Paper Tray Selection: The -L and -LU Switches

For printers which have two paper trays, 4Print prints using the upper tray by default (unless manual feed is specified with "-m"). If you wish 4Print to print using the lower tray, specify:

```
C>4print myfile -L
```

The document will be printed using the lower paper tray.

Note that you can specify this option in upper ("-L") or lower ("-l") case, just like all the other options. We show it in our example and on the help screen as "-L" simply because a lower case L is easily confused with the digit 1.

The "-L" option is useful in a network environment where unholed paper is normally kept in the upper tray (either blank stock or company letterhead, for example), but programmers wish to generate 4Print listings on punched paper. Simply load punched paper in the lower tray and make sure the command "set 4print=-L" (with other options if desired) appears in every programmer's startup procedure.

If you have a LaserJet IIP printer or any other printer on which it is difficult to add paper to the lower tray, you might have use for the following option:

```
C>4print myfile -Lu
```

The front side of the document will be printed using the lower tray, and the back side will be printed using the upper tray.

This option allows you to keep whatever stock you wish to use for 4Print in your lower tray, but makes it possible for you to reinsert the document on the upper tray, after the front side is printed.

Manual Feed: The -M Switch

4Print normally causes the printer to feed sheets from the paper cassette when printing both the front and reverse sides. To use the manual feeder for the reverse side, specify:

```
C>4print myfile -m
```

The file named "myfile" in the current directory is scanned for a maximum page number. You are then prompted to press <Enter>, whereupon the front side is printed. You then (possibly uncurl and) reverse the sheets and press <Enter> again. The printer will wait for you to insert each page into the manual feeder when the reverse side is printed. When printing finishes, 4Print exits to DOS.

As described under "4Print Operation" in Chapter Three of the 4Print manual, you can use manual feed for the entire print job by pressing "M" (instead of <Enter>) after the scan pass.

Outputting to Other Devices or to a File: The -O Option

By default, 4Print will send the printout to your PRN: device. You can change the output device using the "-o" option:

```
C>4print myfile -olpt2:
```

The output will be sent to LPT2: instead of to PRN:.

If you'd like your output placed in a disk file rather than directly printed, specify the file name (with drive and path if necessary):

```
C>4print myfile -m -omyfile.out
```

The output will be sent to the file "myfile.out."

To print this file later, we would simply type:

```
C>copy myfile.out prn:
```

One caveat, though: if the output is double-sided (as it would be in this example, because we didn't use the "-s" switch), make sure the "-m" switch is used. Otherwise, you'd have no opportunity to reinsert the stack of paper between the front and back printing passes. If necessary, you can always defeat the manual feeder for the reverse side using the technique described under "Network Usage" in Appendix B of the 4Print manual.

Another way to save double-sided output for later printing is to use the "-o" parameter in combination with the "-f" and "-b" parameters, as follows:

```
C>4print myfile -f -ofront  
C>4print myfile -b -oback
```

Later, you can "copy front prn:", flip the stack and reinsert it into the paper cassette, and "copy back prn:"!

Selective Printing by Page: The -P Option

You would normally use 4Print to print an entire document. However, if you need to reprint a single page or range of pages, or if some pages of a full output were munged and you want to reprint only those pages, use the -p option:

```
C>4print myfile -s -p12
```

This command will print page 12 only of a single-sided document.

```
C>4print myfile -s -p12 -q50
```

We're saving time here by telling 4Print that there are 50 pages in the document, thus eliminating the need for a scan pass.

```
C>4print myfile -p12
```

Here we're reprinting only page 12 of a double-sided document. 4Print will adjust the pages to printed, in this case printing page 11 on the front and 12 on the back.

```
C>4print myfile -p-5
```

4Print will reprint the document from the beginning (page 1) through page 6 (because page 6 is on the reverse of page 5).

```
C>4print myfile -p21-
```

Pages 21 through the end of the document will be reprinted.

```
C>4print myfile -b -p21-
```

Same as above, but only print the reverse side from page 21 (actually, page 22) on. This is useful if a long printout gets interrupted in the middle of printing the reverse side.

```
C>4print myfile -p12-14
```

The specified page range (actually, pages 11-14 because page 11 is on the front side of page 12) will be reprinted.

```
C>4print myfile -m -u -q48 -p12-14
```

Same as above, but we're also specifying manual and unattended modes, and we're telling 4Print not to bother with the scan pass because we already know that the document is 48 pages long. This is the form of 4Print that we use most often to reprint "munged" sections of a long document.

It is appropriate to mention here that 4Print was originally designed to process a single file. When multiple file support was added, we simply applied each specified option to all files which were being processed. This means, unfortunately, that the "-q" and "-p" options apply to every file (which doesn't seem to be too useful). Perhaps we'll change this in a future upgrade. For now, do what we do: use the "-q<number>" and the "-p" options only when you are printing a single file.

Quick Printing: The -Q Switch

A scan pass is normally performed to determine the number of pages in the file or files to be printed. This allows 4Print to put "Page mmm of nnn" on the title line of each page. The scan pass also gathers information necessary for 4Print to perform centering, if the "-cen" or the "-doc" option is specified.

You can speed up 4Print by eliminating the scan pass as follows:

```
C>4print myfile -q
```

The scan pass is eliminated, and the default title will contain "Page mmm" instead of "Page mmm of nnn."

The "-q" option with no page count supplied is especially handy when you are printing large documents on a relatively slow computer.

Note that 4Print will perform no centering if "-q" is specified.

If you already know a document's page count, you can eliminate the scan pass and still get "Page mmm of nnn" like this:

```
C>4print myfile -q15
```

The scan pass is eliminated, and the default title will contain "Page mm of 15."

The "-q" option with a page count supplied is useful when you are reprinting a document or a section of a document, since the page count is known before 4Print is invoked.

Single-sided Documents: The -S Switch

The original intent of 4Print was to save paper by printing as much information as possible on a single sheet. Thus, the default method is to print two 66-line pages on the front of the paper, and another two on the back.

Under certain circumstances, it is useful to print single-sided documents. For instance, you might not want to bother with the necessary paper handling to print the reverse side, or you might intend to spread a program listing all over your desk in order to see more than four pages at once.

Tell 4Print to perform single-sided printing with the "-s" switch:

```
C>4print myfile -s
```

A single-sided printout is produced, yielding two 66-line pages per sheet of paper instead of four.

Unattended Mode: The -U Switch

4Print normally prompts you to press <Enter> after the scan pass, and again after the first side is printed (see the section about "4Print Operation" in Chapter Three). Specifying "-u" will eliminate these prompts (4Print continues as if you pressed <Enter> at each prompt). This means that you will not be given an opportunity to reload the paper cassette before the reverse side is printed, so the "-u" switch is usually used with "-s" or "-m":

```
C>4print myfile -s -u
```

A single-sided document will be printed with no prompt after the scan pass.

```
C>4print myfile -m -u
```

A double-sided document will be printed with no prompts. Since the reverse side will be printed in manual mode, the printer will pause before the first page of the reverse side, giving you an opportunity to possibly uncurl and reverse the stack.

We use 4Print most often in this manner for short program listings and documents. See also the "Network Usage" discussion in Appendix B of the 4Print manual.

Tricky Tip: You can use 4Print in unattended mode and still print both sides using the cassette feeder with the following procedure: Print your document using the "-u" and "-m" switches. When the printer waits for you to insert the first sheet for the reverse side, flip the front side, stick it back in the paper cassette, and then take a scrap sheet of paper and CAREFULLY insert it into the manual feeder until the sensor thinks it's got a sheet to manually feed. The trick is not to release the sheet you are holding, but to fake out the printer so sheets feed from the paper cassette! We have found this technique to work well with a Series II, but can't verify that other printers can be fooled in this manner.

Vertical Compression: The -VC Switch

If you find that your document is being printed with some information cut off the top or bottom (like the title or part of the frame), try printing your document like this:

```
C>4print myfile -vc
```

The document will be vertically compressed.

This option was created because some near-HP-compatible printers, and some HP printers manufactured for the European market, have a slightly smaller printing area than the "standard" to which 4Print was originally written. The amount of "compression" necessary to display a full double page image on these printers is very slight, but the difference is visible so you should only use this option if your printer requires it. If necessary, you can use "-vc" in conjunction with the "-Lpp" option for a more pleasing print image:

```
C>4print myfile -vc -Lpp60
```

The document will be vertically compressed, and 60 lines per page will be printed (instead of the default 66), with whitespace adjusted evenly among the sixty printed lines.

Vertical Expansion: The -VE Switch

In previous versions of 4Print, no attention was paid to non-HP printers or HP printers (such as some European models) which didn't exactly conform to the print dimensions of the original HP LaserJet. When we learned that a large number of printers could be used by 4Print except for this small print area incompatibility, we slightly reduced the default dimensions of the 4Print image to achieve wider compatibility. The slight difference in print image is visible, though, and some users asked for an option to print using the old dimensions if their printer could support it. Try this for a short file:

```
C>4print myfile -ve
```

The document will be vertically expanded.

If you can see the entire print image including the title and frame, then your printer supports the full print area and you might as well include "set 4print=-ve" (along with any other default options desired) in your system startup in order to take advantage of a larger print area for all 4Print runs.

Multiple Copies: The -X Option

4Print allows you to print any number of copies of your file(s) in a single run. Specify the number of copies like this:

```
C>4print myfile -x3
```

Three copies of the file will be printed.

Note that if you are printing more than one file, 4Print will print the first copy of ALL FILES before it prints the second copy. This makes it easy, for instance, for you to distribute a printout of three files to fifty people (you only have to separate the output by person, not by file).

Downloaded Fonts: The -# Option

4Print normally depends on the availability of a small landscape font with fixed pitch (but see the section on proportional font support below). If your printer doesn't have an internal landscape line printer font, you may download such a font or provide it via a font cartridge. If your font correctly matches 4Print's requirements, nothing further need be done. For reference, the line printer font characteristics are:

- IBM PC ASCII symbol set
- fixed spacing
- 16.6 pitch
- 8.5 point size
- upright style
- medium weight
- line printer font

4Print calls for a font with these characteristics using the LaserJet escape sequence "Esc (10U Esc (sp16.6h8.5vsbT". Your font will automatically be selected if it conforms to this specification.

You can successfully use 4Print with any other downloaded landscape font by using the "-#" option, as follows:

```
C>4print myfile -#12
```

The file will be printed using downloaded font number 12.

Of course, using the "-#" option presupposes that you have downloaded a permanent font and assigned it the number which was specified in the "-#" option.

Note that 4Print has no way of knowing the actual characteristics of the specified font. If the font is too large, for example, your 4Print output is going to look pretty strange!

Courtesy of Elfring Soft Fonts, we are providing a number of shareware soft fonts suitable for use with 4Print. See the accompanying files on the 4Print distribution disk or archive. Even if you have the line printer font, you may wish to use these fonts because they result in more attractive printed documentation.

Deskjet owners should note that the Plus and 500 models require a 128K or 256K RAM cartridge in order to use the soft fonts, and the original model Deskjet cannot use these landscape soft fonts at all.

Full Font Selection: The -[Option

As described above, 4Print assumes the availability of a landscape, line printer font. If you are downloading this font or providing it on a font cartridge, 4Print will happily select the line printer font. However, if the font you are providing does not conform sufficiently to line printer font characteristics, you must either specify the "-#" option (if you've downloaded the font) or the "-[" option (if you've supplied the font on a cartridge). The "-[" option can be used to select a downloaded font, but it's really much easier to use "-#".

Here is an example using the "-[" option:

```
C>4print myfile -[(0U[(sp16.66h9.5vsb6T
```

The file will be printed using the specified string to select an internal, downloaded, or cartridge font. In this example, the characteristics of the LG095R16.USL font mentioned above are specified.

Note that the symbol "[" is used in the selection string to denote an Escape character (a leading Escape is implied by the "-["). No spaces are allowed in the selection string.

Carriage Returns (Imported Files): The -C Switch

Some files, notably those imported from Apple II or Macintosh systems, only use a carriage return (as opposed to a carriage return, line feed combination) to denote a new line in a file. These files may be 4Printed with the "-c" switch:

```
C>4print myfile -c
```

The file will be printed assuming a new line starts at every carriage return or line feed.

Note that no overprint lines are generated when "-c" is specified, because these lines are denoted in MS-DOS files by a carriage return without an associated line feed. However, backspace processing is still active, so if the foreign file uses backspaces to denote overprinting, then 4Print will accurately display overprinted, boldfaced, and underlined characters.

Tip: You can apply the "-c" switch to MS-DOS files in order to see exactly which lines are meant to be overprinted, and the contents of the overprint lines. The result will be that each normal line in the file (that is, those lines ending in carriage return, line feed) will be followed by a blank line, and a series of lines to be overprinted (that is, one or more lines ending with a carriage return, followed by a line ending in a carriage return, line feed) will be printed on a group of single lines, with a blank line to end the group.

Escape Code Processing: The -E Switch

If you print a document containing escape characters (ASCII character 27, or Hex 1B), the escapes and subsequent characters might be interpreted by the LaserJet in such a way as to interfere with 4Print's formatting of your document. Accordingly, 4Print substitutes a "left arrowhead" (character 17, or Hex 11) for each escape character it finds.

If you wish to override this substitution and send escape characters directly to your printer (to switch fonts in mid-printout, for example), you must specify the "-e" switch as follows:

```
C>4print myfile -e
```

The file will be printed with escape characters sent directly to the LaserJet.

Mainframe Carriage Control: The -MF Switch

If you're 4Printing documents originally created on an IBM mainframe, it's possible that the documents contain printer carriage control characters (sometimes called "Fortran-style control characters") instead of text in column one. You can tell 4Print to interpret these characters correctly like this:

```
C>4print myfile -mf
```

Column one of the document will be considered to contain carriage control characters.

4Print interprets the following carriage control characters:

<u>Character</u>	<u>Description</u>
1	Go to the top of the next page
space	Skip one line down, then print
0	Skip two lines down, then print
-	Skip three lines down, then print
+	Skip no lines - overprint the previous line with the rest of this line.

Any carriage control character not listed above is treated like a space.

Proportional Font Support: The -PR Switch

4Print offers limited support to create printouts using small proportional fonts. Files which are printed using proportional fonts must not contain any lines which will overflow 4Print's column width. The width is normally 80 line printer font characters, or 4.8 inches. If "-1" is used (see Chapter Four), the width is extended to 165 characters, or 9.9 inches. This includes any space inserted at the beginning of the line by the "-i" or the "-ri" options.

Within this limitation, small proportional fonts are aligned properly (vertically and for the second column margin), and can create a very attractive 4Print printout. Here is an example using proportional fonts:

```
C>4print myfile -#5 -pr
```

The file will be printed using downloaded soft font number five. In addition, 4Print is informed that this is a proportional font.

Tip: It is possible to mix fonts in a 4Printed file if you are willing to perform your own line spacing. Any escape strings you include in the file will be sent by 4Print to the printer just as if they were text characters, as long as you specify the "-e" switch. If you also specify "-pr", 4Print will not care how long the "lines" are (including escape sequences), and thus you can switch fonts in mid-file with no ill effect.

If you use this technique, be aware that 4Print will switch to the default line printer font (or to the one you specified with "-#" or "-[" option) at the beginning of each column. Also, 4Print performs indenting (the "-i" and "-ri" options) by inserting the number of spaces you specify at the beginning of each printed line. So if you use indenting, you should keep the indentation consistent by making sure each line ENDS in a known font (so 4Print's spaces for the NEXT line will come out in the known font).

Using a Squashed Font: The -SQ Switch

You can fit a few more characters on each line by telling 4Print to "squash" a font horizontally. This causes each character to be printed very slightly closer to the next character than would be the normal case. The tables given in Chapter Four show how many more characters appear in each column when you squash a normal or tiny font.

There are two special cases worth mentioning. When you print documents or program listings with line numbering (see the "-n" option in Chapter Four of the 4Print manual), 4Print inserts six extra characters (the line number and a space) at the beginning of each line. This causes 80-character lines to be wrapped. You can print the line number and an entire 80-character line like this:

```
C>4print myfile -n -sq
```

The file will be printed in a squashed font, allowing 86 characters to appear on each line.

Version 3 of 4Print allowed you to get a maximum of 230 characters on a line (using the "-tiny" and "-wide" options). To handle the widest Lotus 1-2-3 spreadsheet (240 characters), you can now squash the tiny font to get twelve more characters on a line. Note that the "-wide" option has been replaced by "-1" (although "-wide" is still accepted by the program):

```
C>4print myfile -1 -tiny -sq
```

The file will be printed across the entire landscape page in a squashed tiny font, allowing 242 characters on each line.

If you use squashed fonts often, you might want to use the shareware soft fonts provided with this product. These fonts are specially sized to look their best with either normal or squashed printing. Please don't forget to register these fonts with Elfring Soft Fonts if you use them regularly. See the file REGFONTS.DOC in the 4Print package for details.

Non-standard Tabs: The -TAB Option

4Print normally assumes that if a document contains tab characters (as opposed to blank spaces to separate columns), that the document was created assuming tab columns are eight characters apart. You may change this assumption in the following manner:

```
C>4print myfile -tab3
```

The file will be printed assuming tabs refer to columns which are three character positions apart.

This option is especially useful when printing program source files which use non-standard tab sizes.

Downloaded Tiny Fonts: The -T# Option

When you specify the "-tiny" option, 4Print normally downloads a very small landscape font which is actually part of the program file. (This font has been improved for version 4.0, by the way.) If you specify "-t#" followed by a number, 4Print will not download the internal font, but will instead assume that a very small landscape font has previously been downloaded and made permanent. For example:

```
C>4print myfile -tiny -t#5
```

The document is printed using the same characteristics as would be used for 4Print's internal tiny font, but instead of using the internal font, permanent font number 5 is selected.

Note that the "-t#" option will have no effect unless it is used in conjunction with the "-tiny" option. Thus, you can put "set 4print=-t#nnn" (with other options if desired) in your system startup, and the specified font will only be selected for 4Print runs where "-tiny" is supplied on the command line.

Full Tiny Font Selection: The -T[Option

If you have a suitable tiny font available on a cartridge (see the discussion of the "-t#" option above), you can select it using its full characteristics with this option:

```
C>4print myfile -tiny -t[(0U[(sp16.66h6.0vsb6T
```

The document is printed using the same characteristics the internal tiny font, but instead of downloading the internal font, a font with the specified characteristics is selected.

See the discussion of the "-[" option above for more information on specifying the font selection string. Note also that you must specify "-tiny" for this option to have an effect, as indicated in the discussion of the "-t#" option.

Using the Internal Tiny Font: The -TINY Option

In addition to the single column capability discussed above, 4Print includes a very small font which enables double column printing with 110 characters in each column, or single column ("-1") printing with 230 characters across the page. (Even more characters across can be printed by combining the "-tiny" with the "-sq" option.) This font is internal to the 4Print program, and will be automatically downloaded to the printer (which must recognize HP LaserJet format soft fonts) when the "-tiny" option is specified.

The internal font is quite legible and adequate for most purposes such as printing wide spreadsheets, program listings, and database reports, but it does not include the IBM graphics characters. (If you need IBM graphics characters, use one of the shareware soft fonts provided with the 4Print distribution disk or archive.)

Here's all you need to do to use the internal tiny font:

```
C>4print myfile -tiny
```

The file will be printed in two columns of 110 characters across, using the internal tiny font.

```
C>4print myfile -1 -tiny
```

The file will be printed in a single column of 230 characters across, using the internal tiny font.

Wide Tip: This latter example is especially suitable for printing very wide spreadsheets which have been "printed" to an ASCII file by Lotus 1-2-3 or whatever spreadsheet program you are using. You can also print very wide dBASE or other database program reports using the "-tiny" and/or "-1" options.

In rare cases, you may need to specify additional information when using the "-tiny" option. 4Print needs to specify a "font ID number" when downloading the internal tiny font. This number is 999 by default. If 999 happens to be already used for a permanent font on your printer, you may specify a different ID for 4Print's use as follows:

```
C>4print myfile -tiny57
```

The file will be printed using the internal tiny font, and 4Print will use "57" as a temporary font ID number.

Very Wide Tip: If the "-tiny" option doesn't seem to be working properly, it is possible that you have overloaded your printer's available memory (with other soft fonts, templates, or graphics) and there is no room to hold the 4Print font (4Print has no way of detecting this situation). You can resolve the problem by freeing up some of your printer's memory (don't download so many permanent fonts, for instance), or by purchasing a memory upgrade for your printer.

Widest Tip: If you specify the "-pr" switch (discussed above), 4Print will completely ignore line length and assume each line will fit across the wide column. This means that you can print spreadsheets even wider than 230 characters (or 242 characters with "-tiny -sq") without wrapping or truncation by allowing 4Print to run past its right margin. For example:

```
C>4print myfile -1 -tiny -pr -f=
```

The file will be printed in a single column using the tiny internal font. Line lengths will be

ignored. The "-f=" specifies a frame with lines only on the top and bottom (so you don't print over the right frame line).

WordStar (tm) Files: The -W Switch

You can get quick draft printouts of files created with WordStar version 3 and below or WordStar Professional Release 4 and later by using the "-w" switch:

```
C>4print myfile -w
```

The file is assumed to be in WordStar format, and is printed accordingly.

WordStar files are printed by stripping the high order bit of every character in the file and removing control characters (except for the ending Control-Z). Note that this means that all formatting information (such as headers, boldface, and underlines) are suppressed in the printout.

WordStar dot commands are printed as is, except for the .PA command, which is processed as if a form feed appeared in the file.

Note that the "-w" switch is provided for draft printouts or for very simple lists created using WordStar. If you want full formatting for a WordStar file, you can use the following technique:

1. Tell Wordstar to print your file to disk, using a standard ASCII printer. For WordStar Professional Release 4, this would involve answering something like "draft>myfile.prn" to the "Name of printer?" prompt.
2. Tell 4Print to print the output file, as in "4print myfile.prn". Note that the "-w" switch is not specified to 4Print, since the output file is a straight ASCII file.

Bypassing End Of File Characters: The -Z Switch

If a file contains a Ctrl-Z character (Hex 1A, or Decimal 26), 4Print considers the file to end just before this character. This is because Ctrl-Z was used in the CP/M operating system to indicate EOF (end-of- file), and many MS-DOS programs still manipulate files using this convention.

Most ASCII files won't contain Ctrl-Z characters which mean anything other than EOF, but for those few pesky ones which do, specify "-z":

```
C>4print myfile -z
```

The file will be printed to its full MS-DOS file length. Any Ctrl-Z characters appearing in the file will be printed as "<1A>".

If 4Print seems to be printing only part of your file, try using the "-z" switch; it almost certainly won't hurt (although you may see some garbage at the end of your printout), and it might get your whole file printed.

Zap Watermark

The -zw switch will turn off the printing of the KA "watermark" when printing with 4Print.

DeskJet Letter Quality Mode

The -djl switch will cause 4Print to use the DeskJet's letter quality printing mode. This is slower than the -dj draft mode which is twice as fast.

If you are using an HP DeskJet, DeskJet Plus or DeskJet 500, you MUST specify the "-dj" or "-djl" switch on all your 4Print runs.

You must include the switch in all your runs as follows:

```
C>4print myfile -djl
```

The file will be formatted for a DeskJet rather than a LaserJet.

Assuming you had a LaserJet connected to LPT1 and a DeskJet on LPT2, you could make use of both printers like this:

```
C>4print myfile
```

The file will be printed on the LaserJet.

```
C>4print myfile -djl -olpt2
```

The file will be printed on the DeskJet.

Note that if you are using an "original" DeskJet (as opposed to a Plus or a 500), you must have the optional landscape cartridge in order to use 4Print. In addition, the original DeskJet does not allow landscape soft fonts to be downloaded (even if you have the cartridge), so 4Print will only work with the cartridge's built-in fonts.

If you have a DeskJet Plus or 500, 4Print uses the built-in small Courier font for both normal and tiny mode printing. This produces an acceptable print image, but if you have a 128K or 256K RAM cartridge, you can get better results by downloading the two DeskJet shareware soft fonts we've provided with this product. Please don't forget to register these fonts with Elfring Soft Fonts if you use them regularly. See the file REGFONT.S.DOC in the 4Print package for details.

Because of limitations in the DeskJet, 4Print handles frames differently when the -DJ switch is used. The only "frame" available when printing on a DeskJet is a center line column separator in two column mode. This line may be eliminated by using the "-f0" option.

The DeskJet cannot print as many small characters on a page as the LaserJet. If you attempt to print too much on a single page, the DeskJet will print as much as it can on one page and then will skip to the next page before continuing. This is a hardware limitation of the DeskJet, and 4Print cannot detect or compensate for this situation. We've "tuned" the 3-column "-doc" and "-max" options so this overflow situation should not occur when printing most documents.

Ignore Form Feeds

The -zf switch will ignore all form feeds in your documents.

4Book Commands

All of the 4Book command section has been extracted from the 4Book manual with the permission of Korenthal Associates, Inc.

[Cover Styles](#)

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Cover Styles

A. Basic Styles

4Book has four types of cover styles, and an option to suppress the covers entirely. Each style lets you specify a different combination of outside and inside covers. The available styles are:

-bcBook	Both front and back inside and outside covers guaranteed.
-bcFacing	Front and back outside covers, front inside cover (first page of text starts on the right-hand side).
-bcMin	Front outside cover only.
-bcCompact	Front and back outside covers only.
-bc-	No covers at all. The document is the entire booklet.

Both -bcBook and -bcFacing will print odd-numbered pages on the right and even-numbered pages on the left, as they normally appear in a book.

If you don't specify a cover style, 4Book will print front and back outside covers, and a front inside cover (same as -bcFacing). The first page of text will appear on the right-hand side.

B. Variations

In addition to the basic cover styles, 4Book allows you to change the appearance of the covers by using one or more of the following options:

-bcVanilla	Eliminates the reversal of the back cover title.
-bcBareBack	Makes the back cover, if present, completely blank.
-bcNoFrame	Eliminates the frames on the front and back covers.
-bcLines	Adds horizontal lines around the large cover titles.
-bcNoFooter	Eliminates the duplication of the footer line on the cover.
-bcNoTitle	Eliminates the large titles on both covers.
-bcNoBackTitle	Eliminates the large title on the back cover only.
-bcNoShadow	Eliminates the "shadow" effect on the large titles.

C. The Cover Control String

As 4Book scans the command line, environment variable and configuration files, it creates an eighteen character long cover control string. Each of the "-bc" options described above affects the contents of one or more character positions in the string. When all of the options have been read, 4Book uses the resulting cover control string to determine the characteristics of the booklet covers.

You can directly specify the cover style and any number of cover style variations by following "-bc" with the exact cover control string to be used. In addition to shortening the command line, using the cover control string allows you to apply cover style variations to either the front or the back cover. Otherwise, most specified variations are applied to both the front and back covers.

"123456789123456789"

Front Cover: The First Nine Character Positions

Pos	Option Description	Option Specifier
1	Print front cover?	Y or 1 for yes, N or 0 for no, B or 2 for yes+inside cover
2	Print frame?	Y for yes, N for no
3	Print horizontal lines?	Y for yes, N for no
4	Print footer text under large title?	Y for yes, N for no
5	Print large title?	Y for yes, N for no
6	Gray level of title	0-9 (see table below)
7	Shadow on title?	Y for yes, N for no
8	Reverse title horizontally?	Y for yes, N for no
9	Reverse title vertically?	Y for yes, N for no

Back Cover: The Last Nine Character Positions

Pos	Option Description	Option Specifier
1	Print back cover?	Y or 1 for yes, N or 0 for no, B or 2 for yes+inside cover
2-9	same as for front cover (see above)	

Gray Levels of Titles

0	Very Light
1	Light
2	Dark
3	Black
4	Sunset effect
5	Sunrise effect
6	Sunburst effect
7	Eclipse effect
8	Sunspots effect
9	"Yecch"

Tip: Printing a Cover Separately From the Text

There may be times when you'd like to print the cover separately from the text. For example, you may want to print the cover on a different stock of paper. You can do this with 4Book by breaking the print job into two steps. First, print the booklet text using the "-bc-" option to suppress the printing of a cover. Next, tell 4Book to take its input from the "NUL" DOS device (which generates an immediate end-of-file), and specify a custom title and footer (e.g. "4book nul -btMY//BOOKLET -bf'Copyright 1991'"), or a custom title and no footer (e.g. "4book nul -btMY//BOOKLET -bf-"). 4Book will print a cover without any accompanying document. See Section V below for details on specifying a footer text line.

Cover Titles

A. Specifying Your Own Cover Title

By default, 4Book uses the document's file name and extension as the cover title. The file name is printed on the first line, and the file extension on the second line. You may specify your own cover title using the "-bt" option as follows:

`-bt"Line1//Line2//Line3"`

Each line can contain a maximum of nine letters, and will be printed in upper case. If the title does not contain any spaces, you need not enclose it in quotes (i.e.

`-btLine1//Line2//Line3`).

To suppress the printing of a title on the cover, use the "-bt" option without specifying any title text.

Examples:

`-bt`

No title.

`-bt4BOOK`

Prints 4BOOK on line 1, followed by two blank lines.

`-bt"THIS IS//MY//BOOKLET"`

Prints THIS IS on line 1, MY on line 2, and BOOKLET on line 3.

B. Shadings and Special Effects

By default, 4Book prints front cover titles in solid black, and back cover titles with a light shading. You can change the shadings used and create some fancy special effects by using one of the following options:

`-bcVeryLight`

Lightest shading on the front cover.

`-bcLight`

Light shading.

`-bcDark`

Darker shading.

`-bcBlack`

Front and back covers both use black title letters.

`-bcSunrise`

Sunrise special effect on front cover.

`-bcSunset`

Sunset special effect on front cover.

`-bcSunburst`

Sunburst special effect on front cover.

`-bcEclipse`

Eclipse special effect on front cover.

`-bcSunspots`

Sunspots special effect on front cover.

`-bcYecch`

Special effect which looks ugly, but we bothered to program it so you can try it if you like. <grin>

`-bcBackwards`

Front and back titles come out reversed horizontally.

`-bcUpside-down`

Front and back titles come out reversed vertically.

Footer Text and Page Numbering Styles

A. Footer Text

By default, 4Book prints the document's file name and extension beneath titles and at the bottom of each page of text. You may eliminate the footer line or the footer text, or specify the footer text to be printed by using one of the following options:

-bf-	Footer line is entirely eliminated.
-bf	Footer text is blank; footer prints as a solid horizontal line.
-bf"Text"	Footer text is as specified.

If the footer text you've specified does not contain any blanks, you do not need to enclose it in quotes (e.g. -bfProposal). If you want to include double quotes in the text, enclose the footer text in single quotes instead of double quotes (e.g. -bf'Special "Sunrise" Effect').

B. Page Numbering Styles

4Book has two different page numbering styles, and an option to suppress the printing of page numbers. You select the style to be used by specifying one of the following options:

-bn-	No page numbering.
-bn1	Just the page number is printed.
-bn2	"Page n" is printed, where n is the page number.

Please keep in mind that page numbering works in conjunction with the specified footer text style. If you've used the "-bf-" option to eliminate the footer line, page numbers are automatically eliminated also. If you want page numbers without footer text, use the "-bf" option to eliminate the footer text without eliminating the footer line.

C. Expanded Page Numbering

For the purpose of printing page numbers, 4Book allows you to divide your document into four parts. The first part is printed without page numbers. This part might be a custom cover (not a 4Book cover), followed by a credits page, for example. The second part is printed using lower-case Roman numerals as page numbers. This might be the Table of Contents or the Preface. The third part is printed without page numbers. This might be a series of one or more blank pages before the first page of Chapter 1. Finally, the remainder of the document will be printed with decimal numbers.

To use expanded page numbering, specify the "-bc" option, followed by the style code (1 or 2), followed by one or more of the following parameters:

Start	The number to be printed on the first decimally numbered page.
None1	Number of initial pages with no page numbering.
Roman	Number of pages after initial pages with small Roman numerals.
None2	Number of pages after Roman pages with no numbering.

Each parameter is a decimal number, and any of them may be omitted, as long as you use a comma to hold the place of "missing" parameters.

The "Start" parameter holds the decimal number which will be printed on the first decimally numbered page, as determined by the "None1", "Roman" and "None2" parameters, if any.

You can separate the "parts" of your document with one or more blank pages by preceding the "None1" and/or "None2" parameters with a dash. 4Book will insert the specified number of form feed characters into the document to force the desired page breaks. This can be used to force a page which would have appeared on the left to be printed on the right.

"-None1" and "-None2" also have associated boilerplate tags called ".blank1" and ".blank2", respectively. Any text following these tags will be printed on the blank pages created by using this option.

Please note that blank pages which are created by using "-None1" or "-None2" will not contain a footer line, while blank pages which are part of your document will.

Examples:

-bn2,10,2,2,1 Use "Page n" numbering style. The first two pages have no page numbers, followed by two that use Roman numerals, followed by a page with no page number, followed by "Page 10". Note that "Page 10" is actually the sixth page in the document.

-bn1,,,3 The page number is just the number itself. The first three pages use Roman numerals. The remaining pages use decimal numbers, starting with "1".

-bn1,,,3,-1 Same as above, except that a blank page will be inserted between the last page that uses Roman numerals and the remainder of the document.

More About Configuration Files: Options and Boilerplate Text

4Book's configuration files help you to both standardize and customize the appearance of your booklets. You standardize them by including options which you want to use for all (or most) of them, and customize them by including boilerplate text to be printed on the covers or on blank pages within your document.

4Book always searches for 4BOOK.CFG before any additional configuration and boilerplate files. Options contained in additional configuration files are added to those contained in 4BOOK.CFG, while boilerplate files are substituted for any boilerplate text contained in 4BOOK.CFG. To avoid confusion as to which configuration files have been processed, 4Book will display the name of any and all configuration files which it has read after scanning the document.

A. Options

Configuration files may contain both 4Book and 4Print options. Option lines must start with ".options", followed by one or more spaces and the options themselves. A configuration file may contain any number of option lines, and they may appear anywhere within the file.

Example: .options -bcBook -btMY//BOOKLET

Please note that the period in ".options" must be in column one of the line.

B. Boilerplate Text

You can add text to your document by including one or more of 4Book's boilerplate commands in a configuration file. You may specify the page(s) on which to print the text, and its location on the page, as follows:

Pages on Which to Print Text

.front	Front outside cover
.inside	Front inside cover
.back inside	Back inside cover
.back	Back outside cover
.blank	Any blank pages after the last page of the document
.blank1	Any blank pages created by using the "-None1" parameter in the "-bn" option
.blank2	Any blank pages created by using the "-None2" parameter in the "-bn" option

See "Expanded Page Numbering" in Section V for an explanation of the "-None1" and "-None2" parameters to the "-bn" page numbering option.

Positioning Instructions

center	Center text block in available space
top center	Center text block horizontally only
left center	Center text block vertically only
right	Print text block flush right
bottom	Print text block at bottom of page
bottom right	Print text block in bottom right corner

block Consider text as a block, and position it based upon the length of the longest line

A positioning instruction must be typed on the same line as the "dot command" to which it relates. Any other information on the line is ignored, so make sure that the boilerplate text itself begins on the line following the dot command. Everything up to the next "." is considered part of the boilerplate text.

When centering has been requested, 4Book will center each line of text individually. Use the "block" positioning instruction to tell 4Book to consider the text as a block, and center it based upon the length of the longest line in the block. This applies to right justified text as well.

Boilerplate lines are simple text, except for the following two special lines:

#include <filename> Take text from <filename> before continuing.

#random <filename> Choose text randomly from <filename> before continuing.

The "#include" directive tells 4Book to simply insert the contents of the specified file into the document before printing the remainder of the boilerplate text, if any. The "#random" directive tells 4Book to insert a single block of text from the specified file. Text blocks are separated by a line which contains a period in column one. For example:

Never play leapfrog with a unicorn. - Unknown
.
After a year in therapy, my psychiatrist said to me,
"Maybe life isn't for everyone." - Larry Brown
.
Whenever I'm caught between two evils,
I take the one I never tried. - Mae West

The last text block in the file need not be followed by the period delimiter.

Example: .options -bcBook -bcNoHeader
 .options -btMY//BOOKLET
 .front center

 Korenthal Associates, Inc.
 230 West 13th Street
 New York, NY 10011

 .inside center
 #random SAYINGS.TXT
 .blank pages, top center
 ----- Notes -----

A booklet printed using a configuration file containing the above commands would print our company name and address on the front cover, centered in the space beneath the title. It would also print a text block, chosen at random from a file named SAYINGS.TXT, on the inside front cover, and "----- Notes -----" centered at the top of any blank pages which follow

the last page of the document.

Tip: When you use either "center" or "left center", the text may appear to be below the center of the page. You can compensate for this optical illusion by adding several blank lines after the text. 4Book will include these blank lines as part of the centered text block, resulting in the actual text being shifted upwards.

Tip 2: 4Book ignores any "dot commands" which it does not recognize. This allows you to insert comments in a configuration file by preceding them with something like ".rem" or "..". Everything which follows will be ignored, up to the next dot command.

Other 4Book Options

Certain 4Book/4Print options should always be used if they apply to you:

- a4 Tell 4Print that you're using A4 size (European) paper
- dj Specify that you're using a DeskJet printer
- d Specify that you're using a duplex printer
- z Tell 4Print to ignore EOF characters in your document

You may also want to consider using the following 4Print options with 4Book:

- L Take paper from the lower tray
- Lu Print the front side using the lower tray, and the reverse side using the upper tray
- m Put the printer into manual mode before printing the reverse side
- n[#] Print line numbers before each line of text
- o Re-direct 4Print's output to a device other than PRN
- tab# Convert tab characters to the specified number of spaces
- u Bypass 4Print's prompts
- vc Vertically compress the document
- ve Vertically expand the document
- x# Print the specified number of copies
- zw Zap the "KA 4PRINT" watermark
- #n Use the specified soft font
- [Tell 4Print to process the following font selection string

Other 4Print options may be useful in certain circumstances. Some may produce undesirable results. Please refer to the 4Print manual for a detailed explanation of the above options.

In the remainder of this section, we'll describe certain options which you should consider using with 4Book.

Printing in Reverse Page Order: the -r and -rf Options

Most laser printers eject the paper with the front side facing down in the top output bin. This is usually convenient, as the pages are in the same order as they are in the document.

4Book, however, requires that the paper be fed through the printer twice (unless you have a duplex printer, of course). This means that the pages are in the wrong order when the top output bin is used, and must be rearranged from top to bottom before being reinserted into the paper tray.

You can have the pages come out in the "right" order by opening the rear output tray of the printer (if you have one), or you can use the "-r" option to tell 4Book to print the back pages of the booklet in reverse page order. Simply take the stack of paper and reinsert it into the paper tray.

You may also tell 4Book to reverse the order of the front pages by using the "-rf" option. This option is recommended for DeskJet users, as the DeskJet's paper handling is somewhat different from that of the LaserJet.

One of these two options will relieve you of the necessity to shuffle the pages. If the one you're using doesn't do the trick, use the other!

Don't "Squash" the Font!: the -sq- Option

One of our goals in creating 4Book was to make it easy to create a document that could be cut in half and placed into an IBM-style 3-ring binder. To prevent the punched holes from overlapping the text, 4Book uses a left indent of 6 spaces. In order to fit 80 characters on a line, 4Book uses a "squashed" font, which slightly reduces the amount of space between each character.

If your document doesn't contain any lines which exceed 74 characters, you may reclaim this space by using the "-sq-" option, which tells 4Book not to use the squashed font.

Tip: The shareware soft fonts included with 4Print are designed to be squashed. See the 4Print READ.ME file for details.

Duplex Printing: the -d Option

If you have a duplex printer, such as the HP IID or IIID, and use the "-d" option, 4Print will print both sides of the booklet in a single pass by telling the duplex printer to print on both sides of the paper.

Since there would never be any reason not to use duplex mode, you'll probably want to include the "-d" option in either the 4Book environment variable, or in your 4Book configuration file. Note that you do not need to specify the duplex option to 4Book if it is already included in the 4Print environment variable.

Unattended Operation: the -bu Option

After scanning the input file, 4Book prompts you to confirm that you want to continue. If you'd like to bypass this prompt, use the "-bu" option.

Please note that 4Book's "-bu" option is not the same as 4Print's "-u" option, which tells 4Print not to pause between printing the front side and printing the back side.

Tip: For completely unattended operation on a non-duplex printer, add "-bu --u --m" to the 4Book command line. This combination of options avoids all 4Book and 4Print prompts, and puts your printer in manual mode for the reverse side. See "Tricky Tip" in the "Unattended Mode: The -U Switch" section in Chapter Five of the 4Print manual for a way to use the unattended mode and still print both sides using the cassette feeder.

Bypassing End-Of-File Characters: the -z Option

If a file contains a Ctrl-Z character (Hex 1A or Decimal 26), 4Book considers the file to end just before this character. This is because Ctrl-Z was used in the CP/M operating system to indicate EOF (end-of-file), and many MS-DOS programs still manipulate files using this convention.

Most ASCII files won't contain Ctrl-Z characters which mean anything other than EOF, but for those few pesky ones which do, use the "-z" option:

```
C>4book myfile -z
```

The file will be printed to its full MS-DOS file length. Any Ctrl-Z characters appearing in the file will be printed as "?".

If 4Book seems to be printing only part of your document, try using the "-z" option. It almost certainly won't hurt (although you might see some garbage at the end of your printout), and it might get your whole document printed.

Windows Keys

Cursor Movement Keys

Dialog Box Keys

Editing Keys

Menu Keys

System Keys

Text Selection Keys

Window Keys

Cursor Movement Keys

Key(s)	Function
DIRECTION key	Moves the cursor left, right, up, or down in a field.
End or Ctrl+Right Arrow	Moves to the end of a field.
Home or CTRL+Left Arrow	Moves to the beginning of a field.
PAGE UP or PAGE DOWN	Moves up or down in a field, one screen at a time.

Dialog Box Keys

Key(s)	Function
TAB	Moves from field to field (left to right and top to bottom).
SHIFT+TAB	Moves from field to field in reverse order.
ALT+letter	Moves to the option or group whose underlined letter matches the one you type.
DIRECTION key	Moves from option to option within a group of options.
ENTER	Executes a command button. Or, chooses the selected item in a list box and executes the command.
ESC	Closes a dialog box without completing the command. (Same as Cancel)
ALT+DOWN ARROW	Opens a drop-down list box.
ALT+UP or DN ARROW	Selects item in a drop-down list box.
SPACEBAR	Cancels a selection in a list box. Selects or clears a check box.
CTRL+SLASH	Selects all the items in a list box.
CTRL+BACKSLASH	Cancels all selections except the current selection.
SHIFT+ DIRECTION key	Extends selection in a text box.
SHIFT+ HOME	Extends selection to first character in a text box.
SHIFT+ END	Extends selection to last character in a text box

Editing Keys

Key(s)	Function
Backspace	Deletes the character to the left of the cursor. Or, deletes selected text.
Delete	Deletes the character to the right of the cursor. Or, deletes selected text.

Menu Keys

Key(s)	Function
Alt	Selects the first menu on the menu bar.
Letter key	Chooses the menu, or menu item, whose underlined letter matches the one you type.
Alt+letter key	Pulls down the menu whose underlined letter matches the one you type.
LEFT or RIGHT ARROW	Moves among menus.
UP or DOWN ARROW	Moves among menu items.
Enter	Chooses the selected menu item.

System Keys

The following keys can be used from any window, regardless of the application you are using.

Key(s)	Function
Ctrl+Esc	Switches to the Task List.
Alt+Esc	Switches to the next application window or minimized icon, including full-screen programs.
Alt+TAB	Switches to the next application window, restoring applications that are running as icons.
Alt+PrtSc	Copies the entire screen to Clipboard.
Ctrl+F4	Closes the active window.

Text Selection Keys

Key(s)	Function
SHIFT+LEFT or RIGHT ARROW	Selects text one character at a time to the left or right.
SHIFT+DOWN or UP	Selects one line of text up or down.
SHIFT+END	Selects text to the end of the line.
SHIFT+HOME	Selects text to the beginning of the line.
SHIFT+PAGE DOWN	Selects text down one window. Or, cancels the selection if the next window is already selected.
SHIFT+PAGE UP	Selects text up one window. Or, cancels the selection if the previous window is already selected.
CTRL+SHIFT+LEFT or RIGHT ARROW	Selects text to the next or previous word.
CTRL+SHIFT+UP or DOWN ARROW	Selects text to the beginning (UP ARROW) or end (DOWN ARROW) of the paragraph.
CTRL+SHIFT+END	Selects text to the end of the document.
CTRL+SHIFT+HOME	Selects text to the beginning of the document.

Window Keys

Key(s)	Function
ALT+SPACEBAR	Opens the Control menu for an application window.
ALT+Hyphen	Opens the Control menu for a document window.
Alt+F4	Closes a window.
Alt+Esc	Switches to the next application window or minimized icon, including full-screen programs.
Alt+TAB	Switches to the next application window, restoring applications that are running as icons.
Alt+ENTER	Switches a non-Windows application between running in a window and running full screen.
DIRECTION key	Moves a window when you have chosen Move from the Control menu. Or, changes the size of a window when you have chosen Size from the Control menu.

