WordPerfect Program
The following features have been changed in or added to the WordPerfect program since the first release of WordPerfect 5.1 (11/06/89):

Alignment (05/31/91)
You can now turn off an alignment code (e.g., [Center], [DEC TAB], [Flsh Rgt] at a specific location on a line by inserting the new End of Centering/Alignment code.

To turn off alignment:
1 Press **Format** (Shift-F8), then select **O**ther (4).
2 Select **E**nd Centering/Alignment (9).

WordPerfect will insert an End of Centering/Alignment code [End C/A] in your document.

Previously, you could only turn off [DEC TAB] and [Center] by pressing **Enter** or **Tab**, and you could only turn off [Flsh Rgt] by pressing **Enter.**

Note: If you retrieve a document containing the [End C/A] code within WordPerfect 5.0 or with WordPerfect 5.1 dated 12/31/90 or earlier, the code will display in Reveal Codes as an [UNKNOWN] code and will have no effect in the document. However, the code will revert back to a [End C/A] when retrieved with WordPerfect 5.1 dated after 12/31/90.

ATI.VRS (03/30/90)
 Added 800x600 16 color mode for the ATI VGA Wonder video board.

ATI.VRS (09/26/90)
Previously when using the ATI EGA Wonder graphics card with the Hercules 720x348 Mono graphics mode selected as the type, WordPerfect would place unnecessary lines across the screen. Now the ATI driver has a ATI Hercules 720x348 mode which will work for this configuration.

ATI.VRS (09/26/90)
A new driver for the ATI.VGA Wonder 1024x768 Color card has been added to the ATI.VRS file. Also, the menus for the Wonder card have been modified, so that they are more consistent.

ATI.VRS (12/31/90)
Added support for the ATI VGA Wonder card (version 4.0 or greater) with 640x480 resolution and 256 colors.

ATI.VRS (12/31/90)
Added support for the ATI VGA Wonder card (800x600 256 color resolution).

ATI.VRS (9/25/91)
Added support for the VGA Wonder+ and VGA Wonder XL graphic cards
with 1 megabyte of memory to allow graphic resolutions of
1024x768 in 256 colors.

Automatic Font Changes (03/30/90)
Previously, WP would only select a font for the Large AFC that was at least 15% bigger than the base font. If you have entered a percentage of less than 115% for the large Size Attribute Ratio, this minimum size difference is no longer required when WP selects the Large AFC.

Backup, Timed (12/31/90)
WordPerfect now checks at startup to see if backup files already exist for the Document 1 and 2 screens. Previously, WordPerfect checked at startup to see if a backup file existed for the Document 1 screen but waited until the user switched to the Document 2 screen to check for the Document 2 backup file.

Now, if old backup files for either document are found at startup, WordPerfect gives you the chance to delete or rename each one (i.e., Old document 1 backup file exists. 1 Rename; 2 Delete:"; "Old document 2 backup file exists. 1 Rename; 2 Delete:"). If both backup files exist, you will receive two prompts asking you whether to rename or delete.

Backup, Timed (12/31/90)
The message that appears on the status line during a timed backup now reads "* Timed backup *". Previously, "* Please wait *" appeared on the status line when timed backup occurred.

Backup, Timed (05/31/91)
WordPerfect now checks to see if the normal editing screen is blank before performing a timed backup. Previously, WordPerfect would create backup files with a size of 0 bytes.

Binding (03/30/90)
Logical page numbers are disregarded when WordPerfect makes binding width adjustments. Thus, the first physical page in a document is considered page one (odd), and the binding adjustment is made to the top or left edge of the page. The binding adjustment for page two (even) is made to the bottom or right edge of the page, and so on. Prior to this change, WP considered logical page numbers.

Binding (06/29/90)
Binding offset now uses the logical page number instead of the physical page number. For example: With a binding offset set, any page (or label) that would print with an odd page number will be shifted to the right (or up/down if you have a top binding edge) an amount equal to the binding offset, and will be considered an odd page if odd/even printing is done. Even pages using will be shifted left and printed as even pages. Since we are now using a logical page number instead of a physical page number, each label is handled as a separate page with regard to binding offset. This means that binding width will affect odd labels differently than even labels on the same page.

Border Options (01/19/90)
A new option to the Other Format menu allows changing the width, shading, and spacing for borders of graphics boxes and tables. Options include settings for Single, Double, Dashed, Dotted, Thick, and Extra Thick lines.

Note: If you attempt to put a [Brdr Opt] code in a table, it is placed immediately before the table def code. If you attempt to undelete or retrieve text containing a [Brdr Opt] code into a table, the code is deleted.

Cartridges and Fonts (03/30/90)
The message at the bottom of the Select Printer: Cartridges and Fonts screen has been modified to read as follows:

NOTE: Most fonts listed under the Font Category (with the exception of Built-In) are **optional** and must be **purchased separately** from your dealer or manufacturer. **If you have fonts not listed,** they may be supported on an additional printer diskette. For more information call WP at (801) 225-5000.

If soft fonts are marked '*', you must run the **Initialize Printer** option in WP each time you turn your printer on. Doing so deletes all soft fonts in printer memory and those marked '*' will be downloaded.

If soft fonts are not located in the same directory as your printer files, you must specify a **Path for Downloadable Fonts** in the Select Printer: Edit menu.

Cartridges and Fonts (06/29/90)
When marking cartridges and fonts from one of the Font Category menus under Select Printer, pressing Enter will mark the font with an asterisk or a plus (depending on whether the font is swappable or not). If the font is swappable, the font will be marked with a "+ "; and if the font is not swappable, then it will be marked with an "*".

Cartridges and Fonts (12/31/90)
Whenever a printer driver is selected that supports soft fonts or cartridges, but for which no fonts have been defined for those categories, WordPerfect now display the message "No fonts predefined for this font category", in the Select Printer: Soft Fonts and Select Printer: Cartridges and Fonts menu screens.

Cartridges and Fonts (12/31/90)
Pressing the equal sign keys (=) will now invoke the Name Search feature in the following Cartridges and Fonts menu screens: Select Printer: Built-In; Select Printer: Cartridges; and Select Printer: Soft Fonts.

CGA4.VRS (08/07/90)
Two graphics screen drivers have been created for the CGA 320x200 4 color video modes.

CHIPS.VRS (1/31/91)
Enhancement: Support has been added for the Chips and Technology VGA graphics card with the following graphics screen types: 640x480 16 color 800x600 16 color. The following text screen types are supported: 132x25 16 color, 132x43 16 color, and 132x50 16 color.

Codes (06/29/90)
In the Tab Set code, the Absolute (Abs) and Relative (Rel) tab types are now followed by a semi-colon rather than a colon to make them more consistent with other functions (e.g. [Tab Set: Rel; -1", every 0.5"]).

CODES.WPM (05/31/91)
When using the CODES.WPM macro, the Cancel key (F1) will now remove position markers from the original document.

CODES.WPM, FOOTEND.WPM, MACROS.WPK (05/31/91)
The CODES.WPM and FOOTEND.WPM, macros and the key definitions in the Macros keyboard layout (MACROS.WPK) were changed to be more compatible internationally. The "Yes/No" prompts have been changed to "+ " (yes) and "-" (no). Additionally,the name search prompt has been changed from "n" to "= ".

Columns (01/19/90)
While defining columns, if a value entered for a column margin exceeds the form width, "ERROR: Margin exceeds form width" will be displayed and another value requested.

COMPAQ.VRS (1/31/91)
Support has been added for the Compaq VGA card with the following text screen types: 132x25 16 Color, 132x28 16 Color, 132x43 16 Color, 132x43 16 Color, 132x50 16 Color, and 132x60 16 Color.

Note: At this time, these text drivers are designed only for the built-in VGA circuitry found on the mother board of a few Compaq computer models that support 132 column text mode.

Compose (05/31/91)
Using **Compose** (Ctrl-v) now works in window editing structures (e.g., Document Comments, Document Summary Abstract) and most line editing structures (e.g., Overstrike, Macro Descriptions, and other Document Summary Fields). Note: In these new menus, the "Key = " prompt is not displayed when you press **Ctrl-v**.

Previously, **Ctrl-v** could only be used at the normal editing screen, in a substructure, and a few other places like Search.

CONVERT.EXE (01/19/90)
CONVERT.EXE now supports code pages. The startup switch, /cp= #, will recognize the following code pages: 850 PC Multilingual, 860 Portuguese, 861 Icelandic, 863 French (Canada), 865 Norwegian and Dutch. This enhancement will only affect conversions with the following programs: WordStar, Multimate, MS Word, Database to Secondary, Spreadsheet DIF, and converting to ASCII.

CONVERT.EXE (12/31/90)
The option "Mail Merge to WordPerfect Secondary Merge" now inserts a Hard Page code [HPg] at the end of each record. Previously, the Conversion Program inserted a Hard Return code [HRt] at the end of each record. Note: The [HPg] is not required for the merge to function properly.

Cross-Reference (01/19/90)
A double click with the mouse will generate an Enter when marking a target at the "Move to (target); press Enter" prompt.

Cursor Movement (01/19/90)
Escape, Right Arrow and Escape, Left Arrow no longer stop at end-of-line and end-of-page codes.

Cursor Movement (01/19/90)
The cursor is now positioned before merge codes appearing first on a line instead of to the right.

Decimal Alignment (05/31/91)
(International Versions Only)
You can now type a period (.) as a decimal alignment character regardless of the primary decimal alignment character of the package language. The exception is the Math function, where both the decimal alignment character and the thousands' separator are used together.

DGIS.VRS (1/31/91)
A third-party video driver is available for the DGIS interface.   There are separate drivers for DrawPerfect, WordPerfect 5.1 before 3/30/90 and WordPerfect 5.1 after 3/30/90.

Display (03/30/90)
Some CGA and EGA display cards would flash black lines each time a key was pressed. This was a hardware related problem which was manifested on specific cards when WP would clear the display to the end of a line. WP has changed the way it clears to the end of lines when displaying to eliminate this problem.

Document Summary (06/29/90)
The prompt at the bottom of the screen "Retrieve to capture; Del to remove summary" when in the Document Summary menu (Shift-F8, D, S) will now disappear when an option is selected from the menu.

DRS Characters (01/19/90)
WP characters 56 through 59 from character set 3 have been slightly modified to include connecting lines at the single and double line junctions.

DRS Characters (01/19/90)
Added 47 new characters to WP Character Set 10 (102-149). These characters are able to be entered into a document, sorted, or converted to a different case.

DRS Characters (03/30/90)
Minor adjustments were made to the following WP characters to improve their appearance.: 6,19; 6,228; and 6,232-234.

EDIT.WPM (05/31/91)
The EDIT.WPM macro was reduced in size by 2K using {SYSTEM} commands in expressions rather than assigning the value of {SYSTEM} commands to a variable and then using the variable in the expression.

Equations (01/19/90)
Added the Long Division operators to the equation palette. The LONGDIV and LONGDIVS (Straight) commands are dynamic symbols based on characters 224 and 223 in WP Character Set #7.

Equations (03/30/90)
Ctrl-PgDn in the Editing Window of the Equation Editor deletes text from the cursor forward and resets all display parameters (i.e., Move, Scale) in the Display Window to automatic.

Equations (03/30/90)
The horizontal spacing between non-italic characters and their associated superscripts and subscripts has been reduced to give a tighter appearance.

Equations (03/30/90)
Nested root signs included an overhang on the right edge. Because of numerous requests, this overhang has been eliminated.

Equations (06/29/90)
Bold, non-italic text could not be created in an equation. Now, using the syntax BOLD{FUNC{item}} will render "item" with bold, non-italic appearance. Note: The item grouping in brackets ({}) is not necessary to make the operation work for a single "item" of text. But if you wish to make a group of "items" non-italic, you will need to use the grouping in brackets as shown above.

Equations (12/31/90)
WordPerfect now lets you create a matrix with up to 48 columns. If you create a matrix with more than 48 columns, WordPerfect generates an "Out of Memory" error.

Previously, a matrix containing more than 25 columns would cause WordPerfect to hang.

Equations, Command Syntax (12/31/90)
The SCALESYM command has been added to the Equation Editor. The syntax is **SCALESYM n symbol**, where **n** is the percentage of the normal size of the **symbol**. For example, to make the integral sign 300% larger, type **SCALESYM 300 int**.

SCALESYM can scale normal symbols, numbers, or text when you print the equation as graphics. When printing the equation as text, SCALESYM only scales the delimiters: ( ) [ ] { }.

Note: When scaling the { or } delimiters, you must precede them with the \ (backslash) symbol: SCALESYM 250 \{.

Error Messages (06/29/90)
The message "Can't find WP.FIL file" has been changed to include the number of the error code in order to make tracking down the problem easier. The message now reads: "Can't find WP.FIL file (nn)" where nn is the error number. The known possible error codes are: 0 = overlay checksum error (possible corruption of WP.FIL), 5 = access denied, 6 = invalid handle, 30 = read fault (or DOS read returns 0 bytes), and 65535 = critical error (sector not found or drive not ready). This error message is most often generated in a network environment, and for those situations the error code number will be most helpful; but the message can also be generated by running WP from a floppy, then removing the floppy that contains the WP.FIL file, or leaving the floppy drive door open.

Error Messages (12/31/90)
WordPerfect now displays an "Invalid file name" error message when you attempt to save a file with an invalid filename. Previously, a "File not found" error message was displayed.

Error Messages (12/31/90)
WordPerfect no longer uses the "checksum" routine that verifies memory and generates the "Can't find WP.FIL file (0)" error.

Note: Other "Can't Find WP.FIL" error codes added with the 06/29/90 release are still valid.

Error Messages (12/31/90)
When an action is required in the Print: Control Printer menu, the status line now displays the message "Press Shft-F7,4 to resume printing."

EVEREX.VRS (08/07/90)
Everex corporation has made an EVEREX.VRS file available for use with their video cards. This is an unsupported video driver that has been added to the Additional Graphics Diskette. It includes drivers for a number of Everex video cards(i.e., Everex EVGA, Everex FontView, Everex Micro Enhancer, Everex Ultragraphics, Everex Ultragraphics II, and Everex ViewPoint VGA).

Exit (01/19/90)
The Exit key will now perform the same function as the Enter key in accepting entries made in all the search string editors. This includes Search, Replace, Footnote/Endnote strings (Style for Number in Text/Note), Graphics Box strings (Caption Number Style), etc.

Expanded Memory (01/19/90)
Added startup switch, /32. Some Expanded Memory cards and simulators identify themselves as LIM 4.0 compatible when, in fact, they do not support all the 4.0 functions. The /32 startup switch forces WP to use only LIM 3.2 calls when accessing expanded memory.

Expanded Memory (01/19/90)
Changes made to Expanded Memory page mapping procedures should permit WP to use Expanded Memory on some memory managers which did not work previously. WP will now "un-map" a logical page when it is no longer needed. Because of these changes WP no longer appears to other memory managers to be using "Data Aliasing".

FASTKEYS.WPK (12/31/90)
The keyboard layout FASTKEYS.WPK now ships with WordPerfect. The key macros on this keyboard emulate the fast keys used in LetterPerfect.

Font (12/31/90)
WordPerfect now limits the point size that may be entered for a scalable font to 1200. Point sizes larger than this will not print in WordPerfect.

Footnotes/Endnotes (03/30/90)
Columns can no longer be inserted into footnotes or endnotes. The column menu option is now invalid in footnote and endnote substructures, and existing column codes will be removed.

Format (12/31/90)
The "Paper Size/Type" listing in the Page (2) options of the Format menu (Shift-F8) has been changed to read "Paper Size/Type/Labels."

Format (05/31/91)
Added "Labels" to Paper Size/Type on the Format: Page menu (Shift-F8).

Generate (03/30/90)
This release includes several enhancements to increase the speed of generating a document.

Generate (05/31/91)
WordPerfect now generates an "Invalid filename" error if you use a reserved DOS name (e.g., con, prn, aux) for a concordance file.

Previously, if you used a reserved DOS name to name a concordance file, the program would hang when attempting to open the file when you generated.

WordPerfect now checks the concordance filename at the time the index is defined.

GENIUS.VRS (12/31/90)
Genius² graphic card text driver support has been added for the following text modes: 128x66, 128x72, 128x78, 140x66, 140x72, 140x78, 140x85, 80x66 Dual Page, 80x72 Dual Page, 80x78 Dual Page, and 80x85 Dual Page.

GENIUS.VRS (12/31/90)
Support has been added for the MDS Normandy Graphics Card (model numbers 1520M and 1522M). This driver supports 736x1008 resolution in a portrait-only monochrome mode.

GRAB.COM (12/31/90)
The Screen Capture Program now allows you to save to the Shell Clipboard images that are as large as 2 gigabytes (2 billion bytes). Previously, using the Screen Capture Program to save to the Clipboard an image larger than 32K would cause the system to hang.

GRAPHCNV.EXE (01/19/90)
Two new startup switches have been added to GRAPHCNV.EXE. These switches can be used with GRAPHCNV after a color or grey scale conversion switch to change the fill or line color. If color conversion is not enabled, colors will convert to the WordPerfect standard 256 color palette. The values for the color number are from the indices on the color selection menu in DrawPerfect. /f= # will convert all fill colors to the specified color; /n= # will convert all line colors to the specified color.

GRAPHCNV.EXE (12/31/90)
The startup options /c= 2, /c= b, and /c= w now convert color bit mapped images to monochrome bit mapped images. This also means you can invert these converted color images by selecting **I**nvert On/Off (4) in the Graphics Editor.

GRAPHCNV.EXE (12/31/90)
The new startup option, /m, inverts monochrome bit mapped images.

Graphics (01/19/90)
When entering a filename in a Definition: Graphics menus, WP will only ask to replace contents if there is actually something in the box.

Graphics (01/19/90)
Sizing of graphics boxes and positioning graphic images in those boxes now work the same for EPS and bitmapped formats as they do for vector formats. That is, if the box dimensions are manually changed so the box dimension ratio doesn't match the image dimension ratio, the image is expanded to fill the box causing it to act as if it had been scaled in that direction.

Graphics (01/19/90)
Changing the Contents of a graphic box from "Graphic" to "Graphic on disk" now prompts to save the graphic image to disk. The filename for a Graphic on Disk must be a file located in the graphics or default directory. Otherwise, the file cannot be found and the image is lost. Pressing Cancel (F1) when prompted to save the file will allow the Contents to be changed and will not proceed with the save process.

Graphics (01/19/90)
CGM files with custom color mappings are now mapped to the standard IBM 256 color map instead of the 16 color map. This is still a "best guess" matching process, but now matches to a broader range of color mappings.

Previously, importing a CGM file which uses close circular arc elements could cause WordPerfect to hang.

Graphics (03/30/90)
A faster way of sending polygons to the PostScript printer now exists. This affects table lines, border lines, graphic lines, DRS and equations text, and all vector graphics polygons. For example, vector graphics will print approximately 1½times faster.

Graphics (03/30/90)
Colored graphics text printed on a PostScript printer was defaulting to solid black. Specified colors will now print when using a color PostScript printer. Regular PostScript printers will print using shades of gray. (Non-PostScript printers default to black.)

NOTE: Printing any color graphics information from file formats other than EPS is a recent program enhancement. See associated Software Change Notice for this interim release.

Graphics (03/30/90)
Viewing graphics text from plotter-type graphics formats (e.g. HPGL, PIC, or DXF) is much sharper. WP now uses vector font information to display graphics text from all plotter-type graphics formats (except GEM and DrawPerfect .WPG). This makes the text more legible on screen.

Graphics (06/29/90)
Enhancement - HPGL conversion now supports the CS, CA, SS and SA plotter instructions which are used to include international characters in plotted images. WP was not reading the international plotter instructions, thus the wrong characters were being used.

Graphics (06/29/90)
Certain CGM files would import with bad image perspectives and would appear small and flattened. This was usually a result of the original image being drawn as a small picture very close to a page border in the original graphics program. WP will now scan through a CGM file twice when converting it to WPG to allow for border adjustments when scaling the image, and therefore produce a better calculation for the image height and width.

Graphics (06/29/90)
Captions for graphics boxes are now allowed in substructures. The captions can also be created or edited while in the substructure.

Graphics (06/29/90)
WordPerfect now prints and previews graphics text, which have been assigned fill patterns, created by DrawPerfect 1.1.

Graphics (12/31/90)
WordPerfect now supports DrawPerfect WPG (WordPerfect Graphic) images composed of multiple EPS (Encapsulated PostScript) images. Such files can now be printed to a PostScript printer. Previously, such graphic images were ignored and printed as a blank graphic box.

Note: If this WPG image also contains a bit map representation of the EPS images, it can be displayed in View Document, edited with the Graphics Editor, and printed to a non-PostScript printer. If the image does not contain a bit map representation, the graphic appears blank in View Document, in the Graphics Editor, and when printed to a non-Postscript printer.

Graphics Screen Type (06/29/90)
References to "WordPerfect" were changed to "the program" in Video Drivers Helps and Hints screens to allow for use of these drivers by other programs.

Graphics Screen Type/Text Screen Type (01/19/90)
There is now a driver for the Viking Moniterm monitor system, 1280x960 monochrome.

Font Resource Files (9/25/91)
Added the ability to view characters [8,207] (Iota Diaeresis),
[8,208] (Upsilon Diaeresis), and [8,209] (rho Rough) when using
either the VGA512.FRS, EGA512.FRS, or HRF6.FRS Font Resource
Files. These .FRS files are utilized when the 512 characters
selection is marked in Setup: Colors/Fonts (Shift-F8,2,1).

Help (01/19/90)
Pressing Help at the Compose (Ctrl-V) menu now accesses context-sensitive help.

Help (01/19/90)
Added Help screens for Forced Insert (Home, Insert) and Forced Typeover (Home, Home, Insert).

Help (03/30/90)
Context-sensitive help is now available while in the pull-down menus.
Help (05/31/91)
The help screens for the following features and situations have been modified to be more accurate or to reflect enhancements and changes:

Additional Printers: Other Disk (Shift-F7,s,2,2)
Block (F3, Alt-F4,1)
Captions within a Graphic box (Alt-F9,1,1,3)
Compose (Ctrl-v)
Cursor movement keys
Figure Filename (Alt-F9,1,1,1)
File Not Found message in Printer Control (Shift-F7,4)
Format: Labels (Shift-F8,2,7,3,8)
Format Retrieved Documents for Default Printer (Shift-F1,4,4)
Graphics Quality and Text Quality (Shift-F7,g and Shift-F7,t)
Math (Alt-F7,3)
Multiple Copies Generated By (Shift-F7,u) and (Shift-F1,4,8)
Page Numbering Style (Shift-F8,2,6)
Print: Control Printer (Shift-F7,4)
Printer Command (Shift-F8,4,6,2)
Printer Not Accepting Data message in Printer Control (Shift-F7,4)
Select Printer: Additional Printers (Shift-F7,s,2)
Select Printer: Additional Printers Help (Shift-F7,s,2,3)
Select Printer: Copy (Shift-F7,s,4)
Select Printer: Delete (Shift-F7,s,5)
Select Printer: Edit (Shift-F7,s,3)
Select Printer: Help (Shift-F7,s,7)
Select Printer: List Printer (PRS) Files (Shift-F7,s,2,4)
Setup: Binding Offset (Shift-F1,4,8,1)
Spreadsheet Import and Link (Ctrl-F5,5)
Subject of Document Summary (Shift-F8,3,5,4)
Supported languages (Shift-F8,4,4)
Switch (Shift-F3)
Turning Columns into a Table (Alt-F7,2,c)

The following entries are now included in the alphabetical list:

Banner and Form Number
Cartridges/Fonts/Print Wheels

Context-sensitive help has been added for the following features:

Selecting a temporary paper size type code at the Format: Paper Type screen
(Shift-F8,2,7,1,2,1).

Help (06/29/90)
Context-Sensitive Help was added for the following features and situations: "Old backup file
exists" message, a locked supplemental dictionary, rotating text in a Graphics Box, Multiple
Pages, Equation Setup screen, the condition where WP{WP}xx.LEX was missing, inserting
merge commands during execution, the main Pull-Down menus, globally marking or
unmarking all files in list files directory, COM port features, and the Ctrl-Insert and
Ctrl-Delete keys (enhanced keyboard BIOS required).

Help (12/31/90)
The help screens for the following features and situations have been modified to be more
accurate or to reflect enhancements and changes:

Style Update (Alt-F8,8,F3); Converting text to a Document Comment (Alt-F4,Ctrl-F5,F3);
Decimal/Align characters in Math; Widow/Orphan; Compose; Line Spacing; Headers/Footers:
Edit; GRAPHCNV.EXE; Leading Adjust; Style Type; Format: Paper Type; Spreadsheet
(Ctrl-F5,5,F3); all Copy Formula options in Table Edit (Alt-F7,5,3), Set Position for Vertical
Position of a Horizontal Graphics Line (Alt-F9,5,1,2,2,F3); and exiting the Table of
Authorities full form editing screen (Alt-F5,5,5,F7,F3).

The following entries are now included in the alphabetical list: Thesaurus; Cursor Movement;
Delete to End of Page; Delete to End of Line; End of Line, Delete to; End of Page, Delete to;
Location of Spreadsheet Files; and Spreadsheet Files Location.

Help (12/31/90)
Help screens have been added for the following features and situations: Looking at a file with a
Document Summary in List Files; Vertical Position for Character type graphic box; Ctrl-PgUp
during Macro Define.

Help (12/31/90)
When running WordPerfect in a network environment, the user's network initials appear in the
upper right hand corner of the help screen.

Help (12/31/90)
The message displayed when the WPHELP.FIL file is not found has been expanded to read
"WPHELP.FIL not found. Exit WordPerfect and run the Installation Program to create
WPHELP.FIL or insert the diskette containing WPHELP.FIL and press the drive letter:."

Help (12/31/90)
You can now press **Help** (F3) to display specific help screens for the following messages in the
Print: Control Printer menu (Shift-F7,4): "Network not accepting data," "Printer not accepting
data," "Trying to cancel print job," "Reset printer," "Advance paper, "Trying to rush print
job," "ERROR: Graphics file not found," "ERROR: file not found," and "Hardware error
while printing."

Hyphenation (01/19/90)
All hyphenation code modules now run from expanded memory, if present. In other words, the hyphenation code module doesn't take up conventional cache if expanded memory is available.

Hyphenation (06/29/90)
(International Versions and Language Modules)
When using this latest version of WP (any language) and the Finnish .HYC file dated 5-22-90 or later, if a hyphenation point is not found in the h-zone but is found to the left of the h-zone, instead of being prompted with "Position hyphen; Press ESC wo-rd" hyphenation message, the word should be hyphenated at the hyphenation point left of the h-zone.

Initial Codes (12/31/90)
If Spreadsheet Link and End Link codes are found in Initial Codes, they are now removed. Previously, they were allowed, although nonfunctional. Also, Spreadsheet menus are now disabled while you are in Initial Codes.

INLINE.WPM (01/19/90)
The INLINE.WPM macro has been included to assist in creating in-line equations--short equations contained in a line of text. These equations are formatted in a User Box with a Character anchor type. (For additional information, read the macro comments included in INLINE.WPM)

INSTALL.EXE (01/19/90)
When using custom install, changing the WordPerfect Program directory will cause the Learn and Tutorial directory to default to a LEARN directory off the new WordPerfect Program directory, (e.g., WP51/LEARN).

INSTALL.EXE (01/19/90)
Limited support printer files (User Contributed Disk) are marked with a dash (-) rather than an asterisk (*).

INSTALL.EXE (01/19/90)
Install now supports screen modes longer than 25 rows. The status line is now placed on the bottom line of the screen rather than line 24. Also, when installing WP to floppy diskettes, answering "No" to the "Do you have … diskettes available" prompt resets the screen colors for the bottom line.

INSTALL.EXE (01/19/90)
The startup switch, /ne, has been added. This switch prevents the access of expanded memory during the installation program.

INSTALL.EXE (03/30/90)
When a user requests a non-shipped printer, a message explaining how to get these from SoftCopy or from the Support BBS is displayed. Text was added giving modem parameters (baud rate, data bits, parity, and stop bits) and hours of operation for the BBS.

INSTALL.EXE (06/29/90)
Floppy disk error messages have been changed in Install to give the name of the disk (e.g., "Program 1") for which the program is looking.

INSTALL.EXE (06/29/90)
The installation program has been given a new option, Minimal (7), that allows you to do a bare-bones installation. The files that it will ask if you want to install are: Help, WordPerfect Program, Speller, Thesaurus, Font, and Printer files.

INSTALL.EXE (06/29/90)
Mnemonics were added to INSTALL's menus.

INSTALL.EXE (06/29/90)
A box was added around the message regarding printers not found in the list to enhance the message's visibility.

INSTALL.EXE (06/29/90)
The information screen that is displayed if you select a printer for installation for which you do not have the disk (such as the Additional Printers) has been modified. It now gives the full name of the printer in bold at the top of the screen. It also requests that the user include the desired disk size in the order.

INSTALL.EXE (06/29/90)
Added Banyan StreetTalk to the list of possible networks selectable through the Install program.

INSTALL.EXE (06/29/90)
In Install, the message that is displayed when the user is asked whether or not to install PTR now includes the statement that PTR is "necessary if you want to use AutoFont support."

INSTALL.EXE (12/31/90)
The Installation Program no longer prompts for the Install/Learn/Utilities 1 diskette if you are installing from the drive where you started the Installation Program. In other words, it now assumes the Install/Learn/Utilities 1 diskette is already there.

INSTALL.EXE (12/31/90)
The disk pricing policy has been changed in one of the Installation Program's help screens.

As designed, when you install a printer that is marked with an asterisk (*), the Installation Program explains that the printer driver you have selected is not located on any of the diskettes shipped in your WordPerfect package and that it must be ordered from WordPerfect. Previously, this screen mentioned an additional cost.

INSTALL.EXE (12/31/90)
When the Installation Program generates a "Disk Corrupt" error, the message now includes a Canadian toll-free number for SoftCopy.

INSTALL.EXE (12/31/90)
The text for option 4 in the main installation menu has changed to "Install a new or updated Printer (.ALL) File." This was a change to menu text only.

INSTALL.EXE (12/31/90)
When you select Printer (4) from the Installation menu, then press **n** or **F2** for Name Search, the Installation Program now displays text on the screen to help you use Name Search.

INSTALL.EXE (12/31/90)
The error message the Installation program displays when the file index appears to be invalid
has changed:

"ERROR: The index of files on this diskette is invalid. If you are using a new install with old
master diskettes, please use the install that came with your master diskettes. Otherwise,
please call customer support at 1-800-533-9605. Continue with installation? Yes (No)".

The only difference between the new error message and the old error message is the addition
of the second sentence.

This error is most commonly encountered when using the current Installation program to
install the PTR Program/Graphics diskette dated prior to 3-30-90.

INSTALL.EXE (12/31/90)
A list of suggested printer emulations now appears when you select Printer (4) from the
Installation menu. The suggestions are generalized by type (e.g., Dot Matrix - Epson FX,
IBM Graphics, IBM ProPrinter, Standard Printer).

INSTALL.EXE (05/31/91)
The term "install" was replaced with the term "Installation Program" in the text of the error
message displayed when you install WordPerfect using an old set of diskettes with a new
INSTALL.EXE.

INSTALL.EXE (05/31/91)
A new prompt will appear if you re-enter the Installation Program after performing a partial
Basic Installation. The Installation Program now prompts you with the message "Basic
installation was previously interrupted. Do you want to continue with Basic install? **Y**es
(**N**o)".   If you answer "Yes" you are automatically taken to the select printer screen of the
Installation Program. If you answer "No" you are left at the main Installation screen.
Previously, upon re-entering the Installation Program you were taken directly to the select
printer screen.

Note: If there are less than 20 file handles in the CONFIG.SYS file or if a CONFIG.SYS file
does not exist, then you cannot select a printer during the installation process and will not be
allowed to continue installing until you exit the Installation Program, make the necessary
changes, re-boot, and then re-enter the Installation Program.

INSTALL.EXE (05/31/91)
The Installation Program now allows you to press Cancel (F1) or Escape (Esc) to exit back one
menu. Previously, Cancel or Escape would take you directly to the end of the Installation
Program.

INSTALL.EXE (05/31/91)
Within the Installation Program a sentence was added concerning the utility files, explaining
that you need to answer "Yes" to the Utility File prompt if you wish to install the .PIF files for
Windows.

INSTALL.EXE (05/31/91)
The Installation Program now checks to see if you are running a color video adapter in monochrome mode.

The Installation Program checks for the existence of a color video system and asks if you see colors displayed. If you answer "Yes," you continue the Installation Program in Color Mode. If you answer "No," the installation program forces the display to a monochrome mode, and a second screen tells you that you may wish to add the command "set wp= /mono" in your AUTOEXEC.BAT (this forces WordPerfect to a monochrome mode upon startup).

Note: If the Installation Program finds a monochrome video card is being used or that the system is set up as monochrome, then you will not see any of the above prompts.

INSTALL.EXE (05/31/91)
When you install a network printer, the Installation Program now asks you if the printer being installed is a network printer and, where applicable, asks you if you want to suppress top form feed.

INSTALL.EXE (09/25/91)
The WordPerfect installation program will now check for matching dates found on diskette span sets (e.g., program disks 1 and 2).
If matching dates are not found you will be prompted to use disks with the same release date and/or call Customer Support.

INSTALL.EXE (09/25/91)
The Installation program will now display an error message generated from within the program for DOS error numbers 23, 27, 31, 34, and 88.

INSTALL.EXE   (03/09/92)
The DEC PCSA was renamed DEC PATHWORKS in the Network Installation section of the Installation Program.

Note: The initial Help screen (F3) has been modified to reflect the correct network type in the top right corner when selecting DEC PCSA (renamed to DEC PATHWORKS).

Keyboard (06/29/90)
When selecting a problem keyboard the error message "Error:0" would be generated. Now when selecting a problem keyboard the message "Error: Incorrect Format" will be displayed.
Keyboard (05/31/91)
Some instances of the Ctrl, Alt, and Shift keys on an enhanced keyboard "sticking" no longer occur. This was done by making changes to the WordPerfect keyboard accelerator.

Note: This does not solve all occurrences of the shift key sticking, but makes it that the situation will occur. BIOS, machine type, etc., will need to be taken into consideration if the problem still exists with some users.

Keyboard Layout (01/19/90)
When Ctrl-6 is pressed once, WP will change from a selected keyboard layout to the original keyboard. If Ctrl-6 is pressed twice in succession, the keyboard layout that was active before the change to the original, will be restored. This also works in the equation editor with the equation keyboard.

Keyboard Layout (06/29/90)
WP now limits the number of characters you can enter when naming a new keyboard filename to 8 characters. Previously, 12 characters were allowed, but the last four were ignored when naming the file.

Keyboard Layout (12/31/90)
To minimize memory requirements for keyboard layouts, comments and macro formatting keystrokes are now removed from keyboard macros when a keyboard layout is selected and loaded into memory. The original copy of the keyboard layout with the comments is maintained intact on disk and is used when the keyboard layout is edited.

Keyboards (12/31/90)
You can now use a keyboard macro to respond to the prompt "Are other copies of WP running?" that appears when WordPerfect is started after improperly exiting the program.

Previously, the keyboard layout feature was loaded but not yet available at this point in the startup sequence. This caused a problem, for example, if you were using a Language Module which remapped your keyboard. Pressing a key would not produce the remapped character you wanted to use to respond to the prompt and WordPerfect aborted the startup.

Keyboards (12/31/90)
All pre-defined keyboard layouts and macros that ship with WordPerfect are now compatible with international versions of WordPerfect.

For example, when specifying the dimensions of the envelope form defined by the Ctrl-E keyboard macro, a double quotation mark (") was used to denote inches. Now, the macro uses the backslash (\), which is the international equivalent in WordPerfect for inches.

Keyboards (12/31/90)
In the interest of saving available workspace memory, the Alt-R keyboard macro on the Macros keyboard layout (MACROS.WPK) and the Alt-E macro on the Shortcut keyboard layout (SHORTCUT.WPK) nest file macros. Alt-R nests REPLACE.WPM and Alt-E nests EDIT.WPM.

Note: EDIT.WPM and REPLACE.WPM must reside in the directory specified for Keyboard/Macro files in Setup: Location of Files (Shift-F1,6).

Labels (06/29/90)
(International Versions only)
The default for labels for both the 8 1/2 x 11 and A4 form sizes with the paper type of label has been changed. Previously they both had a default of 1 label per page. The default is now 3 columns, 10 rows per page.

Labels (12/31/90)
WordPerfect now ignores any duplicate Paper Size/Type codes [Paper Sz/Typ] for labels. This means that when WordPerfect encounters a Paper Size/Type code for labels, and that same label form is currently being used, the second Paper Size/Type code is ignored.

This is particularly useful when there is a Paper Size/Type code for labels in the body of the primary file. Previously, that Paper Size/Type code for labels would be duplicated on each logical page. The result was only one label per page. WordPerfect now ignores the duplicate Paper Size and Type codes for labels.

LABELS.WPM (12/31/90)
The clear Avery labels 5260 (3x10, 1"x 2 5/16"), 5262 (2x7, 1 1/3" x 4 1/4"), and 5263 (2x5, 2" x 4 1/4") are now included as options in the Labels macro.

LABELS.WPM (12/31/90)
The Labels macro (LABELS.WPM) inserts the Paper Size/Type code [Paper Sz/Typ] in Document Initial Codes. Previously, the macro inserted the code in the document at the location of the cursor when you invoked the macro.

LABELS.WPM (12/31/90)
The macro can now create label definitions for Avery labels 5096, 5198, and 5199.

LABELS.WPM (05/31/91)
LABELS.WPM was rewritten to make adding and deleting label definitions easier. For example, the new macro lets you scroll through a list of label sizes (and their stock numbers).

The new macro also includes more sizes of Avery labels (including labels for dot matrix printers). New labels include Avery numbers 4013, 4014, 4020, 4022, 4031, 4060, 4065, 4143, 4144, 4145, 4146, 4160, 4161, 4162, 4163, 4166, 4167, 4168, 4169, 4240, 4241, 4255, 4602, 4603, 4605, 4609, and 4612.

LABELS.WPM (05/31/91)
Three new label definitions (called "Copier Labels") have been added to the LABELS.WPM macro.

The first definition uses the full sheet of copier-type labels and is the same as the 7733 3M labels. The second definition ignores the first or last row of labels to increase the number of lines printed on the remaining ten (10) rows. The third definition ignores both the first and last row of labels in order to allow the maximum number of lines on the remaining nine (9) rows.

LABELS.WPM (03/09/92)
The following 16 Avery label choices have been added to the LABELS.WPM macro: LSK-3, LSK-5, LSK-8, RI-213-5, RI-213-8, RI-213-10, 213-12, 213-15, 5383, 5384, 5385, 5386, 5388, 5389, 5395, and 5883.

List Files (03/30/90)
The time needed to display the Short Display of List Files has been decreased. Long Display is unaffected by this change.

List Files (01/19/90)
Using the Up and Down arrow keys to change the direction of a search in the List Files and Look features is now supported.

List Files (01/19/90)
If an incorrect password is entered while trying to retrieve a file, WP now returns to the list files menu rather than exiting to the normal editing screen.

List Files (01/19/90)
Entering a backslash (\) after choosing "Other Directory" in List Files will now allow you to list the root directory of the current drive.

List Files (06/29/90)
The List Files screen now re-displays the most current information any time a file is copied, renamed, moved, or deleted. With one exception, that is if the files are marked with an asterisk. If the screen were to be re-displayed when the files were marked with an asterisk, it would cause the asterisks to incorrectly disappear.

List Files (06/29/90)
Doing a search in List Files (F2) has been sped up when using long name display mode.

List Files (06/29/90)
After changing the default directory to include an invalid drive specification, WP would return an "Invalid drive/path specification" error each time you pressed the List key. WP now performs an additional check when changing default directories. If the new drive specified is not a valid drive, WP will reset the drive (including at the DOS level) to the original drive.

List Files (06/29/90)
With a very long list of files (over 118) and using Long Display, a Search (F2) is considerably faster.

List Files (12/31/90)
If you are in the Long Display mode of List Files and you have a screen with 132 (or more) columns, the descriptive name and type display 68 and 20 characters, respectively; instead of the 30 and 11 characters that are displayed on an 80 column screen. This lets the descriptive filenames use the extra screen space provided by extended text modes. If you have a screen with 81 to 131 columns, List Files displays as much of the descriptive name and type as the number of columns will allow.

List Files (05/31/91)
WordPerfect will now display the error message "Invalid filename" when you attempt to copy, rename, or move a file to any of the following reserved DOS filenames: CON, AUX, PRN, LPT1, LPT2, LPT3, LPT4, COM1, COM2, COM3, or COM4.

Note: The 12/31/91 interim release had a similar enhancement that restricted you to save or retrieve files with the names listed above.

List Files (03/09/92)
A fifth option, Sort List Files, has been added to the Setup: Document Management/Summary screen (Shift-F1,3,4,5). If you answer "no," the list of files will be displayed in the order that the files reside on the disk. This will decrease the amount of time required to display List Files with very large directories. This feature will work when List Files is in either short or long display mode.

Note: When the list in List Files is not sorted, Name Search is not allowed. Pressing "n" for Name Search will display the message "ERROR: Name Search not allowed on unsorted list, use F2." Also, pressing F5 twice will bring up the previous list but not in the same order if the sort mode has been changed (from sorted to unsorted or vice versa).

Long Document Names (01/19/90)
Before, only 0-9 and A-Z were allowed in a DOS name that was generated from the long document name and type. Since it may be desirable to have extended characters in a DOS name, we now allow them. Also, the code will now properly ignore bolding and underlining in the long name or type and will treat hard spaces as spaces. Also, before only a space was a word delimiter; now ":", ";", and "," are word delimiters so that if you generate a DOS name from ABC,DEF:GH, it will give you ABCDEFGH.

Long Document Names (03/30/90)
If there is only one word in the Long Document Name, WP will take up to 8 characters from it for the DOS name. In the past, when the program generated a DOS name, it took at most 4 characters from each word in the long name even if there was only one word.

Look (06/29/90)
Page Up and Page Down will perform the same function as Screen Up and Screen Down when looking at a file in List Files. These keys will move the cursor up or down through the document one screen at a time rather than moving to the previous or next document.

Look (12/31/90)
WordPerfect no longer allows you to use Look to view the program's temporary files (e.g., WP}WP{.BV1, WP}WP{.TV1). If you select **L**ook (6) from the List Files menu when a temporary file is highlighted, you remain at the List Files menu. If you select **N**ext Doc (1) from the Look menu when the next document is a temporary file, WordPerfect moves you to the next file which is not a temporary file, or it will return you to the List Files screen if there are no more files in the list. Note: WordPerfect temporary files are named "WP???{.*" on the network and "WP}WP{.*" on stand-alones.

Look (12/31/90)
Previously WordPerfect only allowed 196 characters per line while using the Look feature in List Files. This caused lines longer than 196 to be truncated when being displayed. The maximum number of characters has been increased to 256 per line.

Macro Editor (01/19/90)
The name search statement on the status line when accessing the Macro Commands menu now reads, "(Name Search; Arrows; Enter to Select)." This statement appears in both the Macro Editor and the Key Macro Editor.

Macro Editor (01/19/90)
In the Macro Editor, pressing [Home] more than twice followed by any arrow key will perform the same function as [Home],[Home], arrow.

MACROCNV.EXE (01/19/90)
MACROCNV.EXE now prompts for a filename to convert if none is specified on the command line when starting the utility.

MACROCNV.EXE (01/19/90)
The banner screen for MACROCNV.EXE referenced "4.2 - 5.0". These numbers have been removed so as not to be misleading, and the banner now states "WordPerfect Macro Conversion Utility".

Macros (01/19/90)
WP now looks in the default directory when editing or executing a macro if the macro is not found in the directory specified in Location of Files.

Macros (06/29/90)
Added the {SYSTEM}entry~ system variable. The numerical equivalent of {SYSTEM}entry~ is {SYSTEM}29~ . This system variable gives the string name of the entry currently highlighted when in a list. Most lists (e.g., Mouse Type, List Files, Select Printer, Styles, Keyboard Layout) are recognized with the exception of Keyboard Edit, the Macro Commands menu, the Merge Commands menu, and the Equation Palette.

Macros (06/29/90)
{SHELL ASSIGN}shellvar~ expr~ and {SHELL VARIABLE}shellvar~ have been added to the macro language. These new commands allow you to create and read from shell variables from within WP. You must have Shell 3.0 to use them.

Macros (12/31/90)
The new macro command {SYSTEM}network~ tells you if WordPerfect is running in a network environment. {SYSTEM}network~ returns the value 1 if NetWP is running, or it returns the value 0 if NetWP isn't running.

{SYSTEM}30~ is the international equivalent for this macro command.

Macros (05/31/91)
Macros which invoke line editing structures now run faster.

Previously, some macros were running slower than needed because WordPerfect was checking for mouse movements while Display was off. This happened when the macro invoked line editing structures such as Save Document, Location of Files, Descriptions, Search, Language Code, and Overstrike.

Macros (05/31/91)
Two new {SYSTEM} variables are available. {System}direction~ ({System}31~) checks text entry direction. This command returns the value 0 for left to right and a 1 for right to left (for example, this can be used with the Arabic version of WordPerfect). {System}Language~ ({System}32~) reports the current language as found under "Format: Other" (Shift-F8,4).

Macros (05/31/91)
A new system variable, EDITTYPE (33), has been added. This variable provides information useful for international keyboards that need to use ASCII mnemonics in menus.
{SYSTEM}33~ returns:
0 - In a menu prompt.
1 - In a main editing screen (i.e., Doc 1 or 2).
2 - In a substructure editing screen (i.e., Headers/Footer edit).
4 - In line editing mode (i.e., entering a description for a paper/size type).
8- In window editing (i.e., entering multiple lines of text such as comment create or abstract document summary).

Macros, Macro Editor (05/31/91)
The Macro Editor now displays the message "Ctrl-V to Insert next key as command" at the bottom left of the screen. When you press Ctrl-v in the Macro Editor, WordPerfect also display the prompt "Press Command Key." These new prompts are designed to let you know that you can use Ctrl-v to insert a function command in your macro.

MACROS.WPK (12/31/90)
Previously, the Alt-E macro on MACROS.WPK was using {SYSTEM}menu~ . It now uses {SYSTEM}13~ for international compatibility.

MACROS.WPK (12/31/90)
The Alt-E keyboard macro preserves the state of Reveal Codes when you invoke the macro. For example, if you execute the Alt-E macro when Reveal Codes is on, Reveal Codes is on after the macro returns you to the normal editing screen.

MACROS.WPK (12/31/90)
The key macro Alt-C on the MACROS keyboard layout now runs much faster because it uses the {SYSTEM}right~ command structure rather than blocking and {ASSIGN}ing each character for comparison.

MACROS.WPK (12/31/90)
The key macro Ctrl-F has been added to the MACROS keyboard layout. This macro will search and replace specific font codes.

To use this macro once you have selected the MACROS keyboard layout,

1 Move your cursor to the place in the document where you want the search to begin and press **Ctrl-f**.

You are asked if you want to confirm each replacement.

2 Type **y** to replace with confirmation, or type **n** to replace without it.

3 Move your cursor to the name of the font you want to search for, and press **Enter**.

Note: When replacing scalable fonts, you are allowed to specify the typeface but not the point size. This means each font with that typeface will be replaced with the same size font in the typeface specified in step 4.

4 Move your cursor to the name of the font you want as the replacement, and press **Enter**.
MACROS.WPK (03/09/92)
Ctrl-S is a new macro located in the MACROS keyboard (MACROS.WPK). This macro searches for multiple spaces and replaces them with tabs. To run the macro, place the cursor in the document at the point where the replacement should begin, press Ctrl-S and respond to the prompts. Answering "yes" to the "With Replace" prompt will allow you to confirm each replacement. Answering "no" makes the process automatic. The "Minimum number of spaces" prompt refers to the smallest number of spaces that you want replaced with one tab. For example, answering "2" will replace any 2 or more spaces with one tab. When the macro is finished, you may need to set tab stops at the top of your document.

Macros/Merge (01/19/90)
Added the {SYSTEM}keystate~ system variable. The numerical variable equivalent of {SYSTEM}keystate~ is {SYSTEM}26~ . The values and associated meanings are as follows:
1 - right shift key is pressed
2 - left shift key is pressed
4 - ctrl key is pressed
8 - alt key is pressed
16 - scroll lock key is locked
32 - num lock key is locked
64 - caps lock key is locked
128 - insert key is locked

Macros/Merge (03/30/90)
The {SYSTEM}Document~ command returns the value of 4096 if the cursor is between [Col On] and [Col Off] or the end of the file (Columns are on).

Macros/Merge (03/30/90)
A new system variable has been included to identify the current version of WordPerfect. The numerical equivalent of {SYSTEM}version~ is {SYSTEM}28~ . The formula for determining the version from the number returned is:

(Major Version # * 256) + Minor Version #

For example, if you are running WordPerfect version 5.1, 1281 is returned (i.e., (5*256)+ 1).

Macros/Merge (03/30/90)
Added {SYSTEM}rowstate~ command to Macros and Merge. The numerical equivalent of {SYSTEM}rowstate~ is {SYSTEM}27~ . This variable returns a 1 if the cursor is located in the header row of a table or a 0 if the cursor is anywhere else.

Macros/Merge (06/29/90)
The {OTHERWISE} command has been added to Macros and Merge for use in {CASE} and {CASE CALL} structures. This optional command should be used in {ELSE}'s place. This command can be used as the last case in {CASE} and {CASE CALL} structures to handle all cases that do not match the expression being tested. The {ELSE} command is still viable in the other structures for which it was designed.

Math (03/30/90)
Text columns in a math section now use the tab type from the tab definition. Previously, text columns in a math section could only be left aligned unless Hard Tabs were used.

Menu Prompt (06/29/90)
When prompted for a Yes or No situation the user could press "1" for Yes or "2" for No instead of pressing "Y" or "N". This could cause problems if a user mistakenly hit "1" rather than "F1" at the exit prompt. The numeric keys have been changed. The alternate keystrokes for Yes or No prompts are now: "+ " for Yes and "-" for No.

Menu Selections (01/19/90)
The following menus have been enhanced to recognize and accept the following equivalent keystrokes for menu items that are not numbered. These enhancements allow macros to work with all international versions of WP.

Tab Set: / is equivalent to choosing Type, the Tab key will set a Left tab, Center (Shift-F6) will set a Center tab, Flush Right (Alt-F6) will set a Right tab, Tab Align (Ctrl-F6) will set a Decimal tab.
Units of Measure: 1 = " (inches), 2 = inches, 3 = centimeters, 4 = points, 5 = 1200ths of an inch, 6 = WP 4.2 units.
Selecting Keys in the Sort menu: 1 = alphanumeric, 2 = numeric.
In all WP menus that have a name search option, = will invoke name search.
In all Yes/No (No/Yes) menus, 1 = Yes, 2 = No.
Print Color: The keys "/", "\", and ":" will select the 10th, 11th, and 12th entries in the menu.

Merge (01/19/90)
When entering the primary or secondary filename, the user is returned to the filename prompt if the file is not found.

Merge (01/19/90)
WP now has a mechanism to catch runaway merge files usually caused by a missing tilde (~).
WP now issue the message "ERROR: Syntax error in merge command" and ends the merge.

Merge (03/30/90)
When you execute a merge that includes {KEYBOARD}, {INPUT}, and ^C commands, WP
now displays primary document text both preceding and following the command. The amount
of text displayed following the command is determined by the smallest of: 1) the next 1000
characters and functions; 2) up to the next merge command; or 3) the end of the file.

Merge (03/30/90)
WP will accept a DOS text file from the clipboard as a secondary file when performing a
merge. Control-L (form feed) is now recognized and will display as a [FF] in the delimiter
strings.

Merge (12/31/90)
When you execute a merge that includes a {KEYBOARD}, {INPUT}, or ^C command,
WordPerfect now displays primary file text preceding the command and up to 1000 characters
(**including codes**) following the command.

Note: When you are paused at a {KEYBOARD}, {INPUT}, or ^C command during merge
execution, you cannot move the cursor past that command. However, you can edit text
preceding the code. Pressing **Home,Home,Down Arrow** will return your cursor to the merge
command you are paused at.

Merge (12/31/90)
Changes to memory handling speeds up the formatting of merging documents and therefore
speeds up merging.

Merge (12/31/90)
WordPerfect now lets you enter up to 79 characters for the message of an {INPUT} merge
command. Previously, the limit was 59 characters.

Merge (12/31/90)
While paused for input (e.g., using the {INPUT} command) during a merge, pressing **Exit**
(F7) now displays the prompt "Exit merge No (Yes)". Answering Yes will halt the merge as
the {STOP} command does.

Merge (05/31/91)
When using a {KEYBOARD} or {INPUT} command, merge now lets you edit the document
until a merge code or substructure definition code is found. Previously, you could not edit any
text beyond a {KEYBOARD} or {INPUT} command.

MICROLAB.VRS (05/31/91)
A third-party driver is available for the Ultimate VGA graphics card. This driver supports the following resolutions:

Graphic Screen Types:
640x350 16 color
640x350 256 color
640x480 16 color
640x480 256 color
800x600 16 color
800x600 256 color
1024x768 16 color
1024x768 256 color

Text Screen Types:
80x25 16 color save font
80x28 16 color save font
80x43 16 color save font
80x50 16 color
80x50 16 color save font
80x60 16 color save font
100x40 16 color save font
132x25 16 color save font
132x28 16 color save font
132x44 16 color save font

Note: This driver was provided by a third-party developer. WordPerfect Corporation is not responsible for supporting this driver. Driver can be ordered separately--see README.VRS.

Mouse (01/19/90)
The three Equation Editor windows have been defined as mouse regions. The user is now able to mouse click in another window and move without having to first select List or Switch.

Mouse (01/19/90)
The scroll speed when using the mouse in a list display has been increased.

Mouse (03/30/90)
When printing a file from List Files you are prompted for the "Page(s)" to print. This menu is now a mouse region which can be accepted with a double click.

Mouse (03/30/90)
Mouse scrolling speed was dependent on the clock speed of the computer which made mouse scrolling too quick on fast machines. Now the scroll rate of the mouse is determined by the Cursor Speed setting. If Normal is selected for Cursor Speed then the mouse scroll speed is obtained from repeat performance if it is running; if Repeat Performance is not active, then the mouse scrolls at 18.2 lines per second (slightly faster than normal cursor speed of 11 characters per second.)

Mouse (03/30/90)
Dragging the mouse pointer to the right or left edges of the normal editing screen will now scroll the screen to display a column that was completely off the screen. Previously, a right or left mouse scroll was only permitted within displayed columns.

Mouse (03/30/90)
The mouse can now be used to scroll up and down in editing windows such as the Macro Editor, the Key Action Editor, and the Editing Window of the Equation Editor.

Mouse Setup (01/19/90)
Users can now load WP without mouse menus and mouse drivers. Removing the STANDARD.IRS file from the WP directory will allow WP to load without any mouse information.

Mouse Setup (01/19/90)
Users can now unselect their mouse by highlighting the currently selected mouse and pressing *.

Mouse Setup (01/19/90)
WP will now select the correct port for a serial mouse when using the Auto-select feature.

Mouse Support (12/31/90)
The speed of the mouse when used to scroll the screen (called "repeat speed") is now determined by the setting of Cursor Speed (3) in the Setup: Environment menu (Shift-F1,3). Previously, the mouse would not repeat at the proper speed unless you were using Repeat Performance.

Mouse Support (05/31/91)
Added support for the following mice:
Appoint MousePen (PS/2)
Appoint MousePen (Serial)
Logitech MouseMan (Serial)
Logitech TrackMan (Serial)
Mouse Systems OMNIMOUSE (Serial)
Mouse Systems PC Trackball (Serial)

Note: The Logitech MouseMan will autoselect with WPCorp products dated 4/24/91 or later.
Move (12/31/90)
The Move Paragraph feature now treats Table codes (i.e., [Row], [Cell], [Tbl Def]) as delimiters just as it does the Hard Return code [Hrt]. A table is considered a separate structure in the body of text and is not included when a paragraph is moved.

Network (06/29/90)
Banyan StreetTalk is now a supported network type, separate from Banyan Vines, and will support 3-part StreetTalk names (Userids) up to 47 characters. Banyan StreetTalk is now network type C. This change is for running WordPerfect in the Office environment with StreetTalk, and will only have impact on those systems running Office. This affects the network name by which you are known to the mail system. Thus, in WordPerfect, this will determine both the user's set file initials, and the author's name in a document summary, based on the Office USERID.FIL file. If the Banyan network system isn't running Office there will be no impact on WordPerfect, and either Banyan Vines or Banyan StreetTalk may be selected as the network type.

Network Administration (12/31/90)
Users of Novell NetWare (versions 3.x) can no longer print using a printer number as the port (e.g., server/1). If you attempt to print to a port specified by a printer number, WordPerfect displays the message "Network not accepting data" in the Print: Control Printer screen (Shift-F7,4).

OAK.VRS and OAK_T.VRS (05/31/91)
A third-party driver is available for the Oak Chip set. This driver support the following and resolutions:

OAK.VRS:
800x600 16 Colors
1024x768 16 Colors
1024x768 4 Colors

OAK_T.VRS:
132x24 16 Color Save Font (text)
132x43 16 Color Save Font (text)
132x60 16 Color Save Font (text)

Note: This driver was provided by a third-party developer. WordPerfect Corporation is not responsible for supporting the driver. (Drivers can be ordered separately -- see README.VRS)

Overlay Reading (06/29/90)
A change has been made so that any WP feature that does a lot of overlay reading (swapping portions or program code in and out of memory) should be slightly faster. The speed increase will be most noticeable in low memory conditions (less than 440K available) and where WP.FIL was one of the last files in the directory list on a highly fragmented disk. Note: Network version users will not see a difference in speed, nor those who have WP.FIL opened on a floppy drive.

Paper Size/Type (01/19/90)
Text adjustments under paper size/type will now allow fractional numeric input.

Paper Size/Type (12/31/90)
WordPerfect now highlights the paper definition currently in use when you enter the Format: Paper Size/Type menu (Shift-F8,2,7) rather than highlighting the first entry. If the current paper definition does not exist in the list, the [ALLOTHERS] entry is highlighted.

Paper Size/Type (12/31/90)
Paper Size (1) and Font Type (2) are now linked in the Format: Edit Paper Definition menu (Shift-F8,2,7,5). For example, when a landscape paper size is selected for a printer with landscape fonts available, the Font Type option automatically changes to Landscape.

Note: When any type of paper size is selected for a printer with no landscape fonts available, the Font Type defaults to Portrait.

Paper Size/Type (12/31/90)
When you select the [ALL OTHERS] paper definition from the Format: Paper Size/Type menu (Shift-F8,2,7), WordPerfect displays a new menu with the following options and descriptions:

1 - **A**dd (Create) New Paper Definition.
Selecting this option is the same as selecting **A**dd (2) from the Format: Paper Size/Type menu.

2 - **I**nsert Temporary Paper Size/Type Code
Selecting this option allows you to insert a temporary paper size/type code. You are prompted to select a paper type then select a paper size. When the document is printed, WordPerfect tries to match this temporary paper size and type with an existing paper definition; if no match is found, the [ALL OTHERS] paper definition is used.

3 - **E**dit [ALL OTHERS] Paper Definition.
Selecting this option is the same as selecting **E**dit (3) from the Format: Paper Size/Type menu to edit the [ALL OTHERS] paper definition.

Note: Selecting **I**nsert Temporary Paper Size/Type Code (2) achieves what selecting the [ALL OTHERS] definition did in previous releases (i.e., it creates a temporary definition that uses the [ALL OTHERS] settings). However, one thing has changed here.

Previously, the temporary paper definition would use the [ALL OTHERS] settings. For example, Location would be set to Manual. If Location is set to Manual, WordPerfect prompts you to "press g to continue." This was confusing. Now, when editing the location for the [ALL OTHERS] paper definition, Yes is no longer the default setting for the Prompt to Load (2) option.

Paper Size/Type (12/31/90)
If the paper definition you are editing is the same as another existing definition (i.e., values for Paper Size, Paper Type, Font Type and Labels match), WordPerfect will display the error message "Paper type must be unique for this paper definition" when you try to exit the Format: Edit Paper Definition menu (Shift-F8,2,7,5). You must edit the paper definition to make it unique before it can be saved and added to the list of paper definitions.

Also, when you select **C**opy (3) from the Format: Paper Size/Type menu (Shift-F8,2,7), WordPerfect now takes you automatically into the Format: Edit Paper Definition menu where you must edit the definition to make it unique before it can be saved and added to the list of paper definitions. You can press **Cancel** (F1) to exit this menu without saving the definition.

Paper Size/Type (12/31/90)
Selecting **L**ocation (5) from the Format: Edit Paper Definition menu (Shift-F8,2,7,5), then selecting **M**anual (3) no longer changes the setting for **P**rompt to Load (4) to Yes.

Paper Size/Type (12/31/90)
The "Other Form Type" prompt that appeared when you selected **O**ther (9) from the Format: Paper Type menu (Shift-F8,2,7,5,2), has been changed to "Other Paper Type."

Paper Size/Type (05/31/91)
You can now print on an 11x17 inch paper using the new LaserMaster 1200 printer.

Paper Size/Type (05/31/91)
After you edit the current paper definition, WordPerfect now updates the Paper Size/Type code in the document when you exit the Format: Paper Size/Type menu (Shift-F8,2,7).

Previously, you had to delete the old code from the document and then reselect the paper definition after you edited the definition.

Note: The current paper definition is the one in effect at the cursor position when you enter the Format: Paper Size/Type menu. You must edit the definition and press F7 to exit the Format: Paper Size/Type menu without reselecting another definition.

PIF File (06/29/90)
A PIF file has been created to run WordPerfect 5.1 in Windows 3.0. It is called WIN30-WP.PIF.

PLEADING.WPM (03/09/92)
A new macro, PLEADING.WPM, has been added to WordPerfect that assists you in creating pleading paper. This macro can be installed with the other shipping macros during Installation.

POSTNET.WPM (03/09/92)
A new macro, POSTNET.WPM, has been added to WordPerfect that assists you in creating postal bar codes from Zip codes. You can execute this macro from a blank screen, an existing document or a secondary merge file. With all three types of files, the macro will prompt you to enter the correct information so the postal bar code can be created.

Note: Check with your local Post Office for the exact specifications of where to place your bar code and the requirements to qualify for a discount.

Power Saving Interrupt Call (03/09/92)
WordPerfect will now automatically take advantage of a power saving feature that will be included in future laptop operating systems. This new power saving feature, when no action is taking place at the computer, will send a signal to lower the power consumption of the machine which will help save the battery life of the laptop. This should have no effect on systems that do not have this feature.

Note: The /NP startup option has been added to WordPerfect to disable the power-saving feature. This may be needed on systems if you hang on startup. At this time there is no known system that would create such a problem, but this option was added as a precaution against such an event.

Print Color (12/31/90)
WordPerfect has changed the intensity of the 16 basic colors printed to a color PostScript printer to enhance and deepen them. Previously, if a graphic was printed to a color PostScript printer, some of the colors would print as lighter shades (half-tones) rather than pure colors (e.g., yellow, red, green, and blue).

Print Job, Cancel (12/31/90)
The messages, help screens, and keystrokes for canceling a print job in the Print: Control Printer screen (Shift-F7,4) have changed.

The "Message:" information line that appears after you cancel a job has changed from "Completing line" to "Resetting printer."

The "Action:" information line has changed from "Press `C' to cancel job immediately" to "Press `I' to cancel immediately (WP will not reset printer)."

Pressing "C" to cancel the job immediately (this used to be the proper key to press) has no effect on canceling the job, but flashes the message "Trying to cancel job" at the bottom of the screen. Also, the warning prompt that appeared at the bottom of the screen when you tried to cancel immediately no longer appears.

Print Job, Display (12/31/90)
The Job List in the Print: Control Printer menu (Shift-F7,4) now displays the filenames of documents printed from disk and previously-saved documents printed from screen.

Previously, a document printed from disk (which had been fast saved) would be listed as "(Disk file)" and a previously-saved document printed from screen would be listed as "(Screen)."

Note: An unsaved file printed from screen is still listed as "(Screen)."

Print Options (06/29/90)
In Print Options, the number/method multiple copies settings (Number of Copies (N) and Multiple Copies Generated By (U)) are now independent between Document 1 and Document 2 (i.e., setting the multiple copies "Number" or "Generated by" in Document 1 and then changing the settings in Document 2, will not change the settings in Document 1). The multiple copies setting is now per document, per session of WP. In other words the number/method of copies is not saved with the document, but during an edit session the number/method in a particular document will not effect the number/method in any other document. Note: Network form numbers and banners work the same way; while in a document the changes you make to these settings are valid until you save and exit the document.

Printer Control (03/30/90)
When action is required in Printer Control, WP displays the message, "Action required in Printer Control," on the status line and continues to do so as long as Printer Control is waiting for a Go.

Printer Control (12/31/90)
The message displayed in the Print: Control Printer screen (Shift-F7,4) when WordPerfect and the printer are not communicating has been changed from "Printer not accepting characters" to "Printer not accepting data."

Printer Control (12/31/90)
If you are trying to print a document using the Print to Hardware Port option (Shift-F7,s,3,7) and your computer system does not support this feature, WordPerfect displays the following messages in the Print: Control Printer menu (Shift-F7):

Status: Stopped
Message: Hardware error while printing
Action: Cancel job, turn Print to Hardware Port OFF. Press `I' to cancel immediately (WP will not reset printer).

Note: If the setting for Print to Hardware Port is Yes, WordPerfect expects a certain signal from the printer directly through the printer port. If WordPerfect does not receive this signal when it expects it, the print job is stopped and the above are messages displayed.

Printer Control (05/31/91)
A new message was added to Printer Control (Shift-F7,4) that will prompt you to "Press Help for Additional Information" when context-sensitive help is available.

Printer, Edit (12/31/90)
Previously, when a printer .ALL file was needed to update cartridges and fonts, the second paragraph of the "Printer file not found" screen stated:

"Please specify the directory where the printer files can be found. If you do not know which printer disk contains the printer file, try each disk until one succeeds."

Now, it states

"Please specify the directory where the installed .ALL files can be found. You many need to exit WordPerfect and run the Installation Program to install additional printer (.ALL) files."

Printer, Edit (12/31/90)
A message has been added to the Select Printer: Hardware Setup menu (Shift-F7,s,3,7,3) to tell you where to locate the Interrupt Request level and Base Address for your port.

Printer, Select (12/31/90)
Previously the message displayed in the Select Printer: Additional Printers menu (Shift-F7,s,2) when no printer .ALL files were found stated:

"Use the Other Disk option to specify a directory for the printer files. Continue to use this option until you find the disk with the printer you want."

Now the messages states:

"No printer .ALL files were found in this directory. Use the Other Disk option to specify a directory where previously installed .ALL files are located, or exit WordPerfect and run the Installation Program to select the printer."

Printer, Select (12/31/90)
The name of the Select Printer: List Files menu (Shift-F7,s,2,4) has been changed to "Select Printer: List Printer (PRS) files" to be more descriptive.

Printer, Select (12/31/90)
The name of the Select Printer: Cartridges and Fonts menu (Shift-F7,s,3,4) has changed to Select Printer: Cartridges/Fonts/Print Wheels.

Printer, Select (05/31/91)
If the sheet feeder definition in the .PRS file has been edited using the Printer Program (PTR.EXE), WordPerfect now asks "Update the Sheet Feeder? No (Yes)" when you update that .PRS file (Shift-F7,s,7).

Previously, WordPerfect would update the sheet feeder definition automatically.

Printer, Select (05/31/91)
When you select Additional Printers (2) from the Print: Select Printer menu (Shift-F7,s), the following message is now displayed next to the list of available printers:

"Note: If your printer is not found in this list, use the Other Disk option to specify a directory where previously installed .ALL files are located, or exit WordPerfect and run the Installation Program to select the printer."

Printing (01/19/90)
Standards for selecting substitute fonts have been raised. Fonts that are 6.25% (1/16th) larger or smaller than the base font will no longer be selected as substitute fonts. If DRS printing is available, extended characters will now be printed graphically instead of using a much smaller/larger substitute font.

Printing (01/19/90)
When using spaces to "space over" for additional text or between line draw characters, printers which use absolute horizontal motion would receive a movement command for every space. WP now joins all contiguous spaces into one larger space, thereby reducing print codes, speeding up printing time, and reducing required printer memory to print such jobs. This will most obviously affect the large number of spaces inserted when using line draw.

Printing (01/19/90)
Unrotated, unmirrored bitmapped graphics will now print faster on Postscript printers. Also, if the image is scaled to be larger in WP, there will be no speed increase.

Printing (01/19/90)
Printer Control was not returning accurate information concerning printing status (i.e., which page was printing.) The timing of printer control messages have been changed to accurately reflect what is currently happening. A new message has been added, "Preparing print job," to indicate when WP is preparing the print job. This message changes to "Printing" when WP actually starts to print.

Printing (01/19/90)
Printing side-by-side graphics on raster graphic sorted printers (e.g. HP DeskJet, HP PaintJet) is considerably faster (approximately 1400%). This does not affect printers that do not "Scan Look Ahead Region for Text While Printing Graphics" (under Misc Questions in PTR).

Printing (03/30/90)
This release includes a major increase in the speed of printing bitmapped images on a PostScript printer. Depending on the image source and destination sizes, this can mean up to a 2000 percent increase. This only affects unrotated, unmirrored bitmaps and only if the device halftoning flag is not set in the PRS file. The closer the source and destination bitmap sizes are, the less the user will notice the increased speed.

Printing (03/30/90)
Rather than using shading patterns, graphics fill patterns printed on PostScript printers will use the same patterns printed on a LaserJet printer.

Printing (03/30/90)
You can now print odd or even pages of a document. To print odd or even pages, enter o for odd or e for even when prompted to enter the pages you want printed. The o or the e must be the first character listed after the s for document summary (if you are printing the document summary). You may also specify a range of pages to print all odd/even pages within the range (e.g., o,10-20 will print all odd pages between 10 and 20).
IMPORTANT: Unlike most other printing options, printing odd or even pages is based on physical page numbers and not logical page numbers or page numbers you may have assigned to the document.

Printing (03/30/90)
WP now allows a proportionally-spaced (PS) font to be selected as a substitute font for a mono-spaced font. Whenever a PS font is selected as a substitute font for a mono-spaced font, the character widths in the PS font are adjusted to equal the nominal width of the mono-spaced font.

Printing (06/29/90)
A new option was added to the Printer Select menu, (7) Print to Hardware Port, allowing the user to print directly to the printer port (LPT or COM) without going through the BIOS. This increases printing speed. Note: This option does NOT affect network printing speed. When you select this option you are given three choices: Yes, No, and Advanced Setup. Choosing Advanced Setup allows you to specify the IRQ (Interrupt Request Level) and the base port address of the i/o port. This permits you to specify IRQ level and base port address if the defaults are not desirable. Note that if you select the hardware option for COM3 or COM4, you are taken directly into the Advanced Setup menu since there are no assumptions WP can make about the IRQ level. There is an assumed IRQ level for all LPT ports (it is IRQ7). Along with this enhancement, a new startup option was added, /bp= x, where x is a number from 0-63. This specifies the amount of memory (in K) set aside for the printing output buffer, with the default at 512 bytes (1/2 K). Setting this option to zero (0) will disable printing to the hardware port.

Printing (06/29/90)
The prompt for page numbers when printing a document will now accept up to 30 characters. This has been increased from the previous limit of 15 characters.

Printing (06/29/90)
LaserMaster can now support color printing as patterns. WP has 64 built-in fill patterns from which to select. LaserMaster can now use these fill patterns to mimic any color. This is done by selecting any color from the color option (Ctrl-F8) or by picking a certain pattern. To select a certain pattern from the built-in 64 patterns, select the Other option from the color menu. Enter a number for Red, Blue, and Green to select the type of pattern to use for the color. To modify the color patterns, go into PTR and edit the color table for the LaserMaster driver.

Printing (06/29/90)
The maximum number of print jobs has been increase from 99 to 999. The temporary print filename has also been changed from WP}WP{## to WP}WP{PJ.###, where ### represents the number of the print job. Note: When there are a lot of print jobs queued, some functions will be quite slow (especially cancelling all print jobs or exiting WP with many print jobs left).

Printing (06/29/90)
In previous versions of 5.1 you could only print 10 document summaries at a time. This has been changed so as to allow up to 999 document summaries to be printed at one time. This number corresponds with the current number of print files that can be queued for printing. The name of the temporary file created when printing a document summary has now been changed from WP}WP{.DS0 to WP}WP{DS.000.

Printing (06/29/90)
Changes have been made that will increase the speed with which WordPerfect prints graphics when using the Xerox 3700 or Xerox 4045 printers, via the ability to access graphic data compression. We do not generate graphics any faster, but because we have less graphic data to transmit to the printer, the print job is faster. To get compression on a Xerox 3700 printer, you must first mark the question in PTR miscellaneous questions that says "Do not remove trailing zeros from graphics data" (this is a new question). Then you must make the encoding type, in PTR under Bitmap Graphics, a 4. Changes have been made to PTR and the appropriate printer drivers (dated 6/22/90) to enable this enhancement to work.

Printing (06/29/90)
Odd, even page printing was based solely on physical page numbers. You can now print odd or even pages using logical page numbers. Thus, printing odd/even page numbers can be done based on either logical or physical page numbers (there are reasons for wanting to do it both ways, so now you can). When doing a multiple page print, a print from disk, or a print from list files you can specify odd/even page printing. To print physical odd/even pages (useful for manual duplexing), type an "e" for even, "o" for odd in the range of pages. It MUST be the first thing after the "s" for document summary (if you want a document summary printed). This will print physical odd/even pages. Physical pages can be most easily understood using the following example. Print a full document. The first sheet of paper and every other sheet of paper after that would print if you printed physical odd pages. Even is just the opposite. To get logical odd/even pages, type "lo" or "le" for the range of pages. Logical pages are distinguished by the actual page number given them. Logical odd printing will print those pages that, if you printed a page number on them, would be an odd number. Even is just the opposite. Also of interest, binding width is determined by the logical page number, even if physical odd/even printing is specified.

Printing (12/31/90)
If Kerning (1) is set to Yes in the Format: Printer Functions menu (Shift-F8,4,6,), and if the current font supports ligatures (character numbers 50-54 [ff, ffi, ffl, fi, fl] in character set 4), WordPerfect replaces character strings sent to the printer with those ligatures. For example, the word "official" would print using the ligature for the "ffi".

Note: The text in the document is unchanged. WordPerfect only translates the character string into the ligature when sending information to the printer.

If the candidate characters are separated by a font code [Font] or by a size or appearance attribute code (e.g., Small, Large, Bold, Underline, Italics, etc.), they will not be replaced by the ligature.

Printing (12/31/90)
Printing to the LaserMaster or Visual Edge enhancement boards, then to any PostScript printer would cause WordPerfect to hang.

Printing (12/31/90)
The printing speed for PostScript vector graphic files created for a plotter has been increased.

Printing (12/31/90)
Sixel graphics printing to Digital dot matrix printers is now supported. To use this enhancement with the 12/31/90 release of WordPerfect, you must edit your printer driver (dated 11/09/90). To edit the printer driver,

  1 Make sure you have a backup copy of the .PRS or .ALL file you want to edit.

  2 Start the Printer Program (PTR.EXE).

  3 Once in the Printer Program, press **Retrieve** (Shift-F10) and enter the name of the .ALL file that contains information for your Digital dot matrix printer.

  4 Place the cursor on the name of your printer, then press **Enter** to display the Printer menu.

  5 Type **g** and press **Enter** to move the cursor to the Graphics item, then press **Enter** to display the Graphics menu.

  6 Press **Enter** to display the Bitmap Graphics menu.

  7 Move the cursor to the Monochrome Column Data Format item and type an asterisk (*) to mark that item.

  8 Press **Exit** (F7) twice to return to the Printer menu.

  9 Move the cursor to the Miscellaneous Questions item, then press **Enter** to display the Miscellaneous Questions menu.

  10 Move the cursor to the Don't Print Unmapped Characters Using Graphics (Print Space) item, then type an asterisk (*) to unmark it.

  11 Press **Quit** (Alt-F7), type **y** to save the file, press **Enter**, then type **y** to replace the current file and save the changes.

  12 Type **y** to exit the Printer Program.

To update the .PRS file based on changes made to the .ALL file, you must do the following:

  13 Start WordPerfect.

  14 Press **Print** (Shift-F7), then choose **S**elect Printer (s) and the Print: Select Printer screen is displayed.

  16 Highlight the printer you want to update.

  17 Select **U**pdate (7).

  18 Press **Exit** (F7) four times to return to the normal editing screen.

Note: WordPerfect printer drivers released after 11/09/90 for Digital dot matrix printers will include these modifications.

Printing (12/31/90)
WordPerfect now turns on the GlassPage monitor when using LaserMaster. In previous versions, using DDPI180 to initialize LaserMaster would turn on the GlassPage monitor. In versions 2.5 or greater, the monitor is not turned on, so WordPerfect now turns it on.

Printing (12/31/90)
The error message displayed when printing a document to a printer with no port selected has been changed from "Printer selection not properly set up" to "Port not set up in printer selection."

As designed, this message is displayed when printing a document which points to a .PRS file for which there is no selected printer in the Print: Select Printer screen (Shift-F7,s). When a document formatted for such a .PRS file is retrieved, WordPerfect finds the .PRS file and adds the printer name to the list of selected printers; but, having no information from the personal setup file (WP{WP}.SET) for that printer, the program leaves the port selection blank.

To make it more clear that the port needs to be selected before you can print, the message has been changed to read "Port not set up in printer selection."

Printing (05/31/91)
To make WordPerfect's PostScript printer output more compatible across all platforms, a carriage return/line feed (CR/LF) combination is sent between show strings instead of just a carriage return (CR).

Printing (03/09/92)
WordPerfect has been modified to more fully support some new printers that use the Monochrome Column Data graphics format. In the Printer Program (PTR.EXE), you need to modify your .ALL file and mark the "Scan Look Ahead Region for Text While Printing Graphics" for this feature to work correctly. An examples of the two new printers to require this change are the Epson SQ-870 and Epson SQ-1170 printers, soon to be released in Canada and Europe.

To use this enhancement, printer drivers for the Epson SQ-870 and Epson SQ-1170 (dated 2/13/92) must be edited. To edit the printer driver,

1) Start the Printer Program, press **Retrieve** (Shift-F10), and enter **wpdm1.all** as the name of the file to be retrieved.
2) Highlight the Epson SQ-870 (or Epson SQ-1170) printer and press **Enter**.
3) Highlight Miscellaneous Numbers and press **Enter**.
4) Highlight Look Ahead Region For Text While Printing Graphics, type **.25**, press **Enter**, then press **F7** to return to the previous menu.
5) Highlight Miscellaneous Questions and press **Enter**.
6) Highlight the Scan Look Ahead Region for Text While Printing Graphics option, and type an asterisk (*****) to mark the option.
7) Press **Quit** (Alt-F7), type **y** to save the file, press **Enter**, then type **y** to replace the current .ALL file and save the changes.
8) Type **y** to exit the Printer Program.

To update the .PRS file based on changes made to the .ALL file, you must do the following:
9) Start WordPerfect.
10) Press **Print** (Shift-F7), then choose **S**elect Printer (s) and the Print: Select Printer screen is

displayed.
11) Highlight the Epson SQ-870 (or Epson SQ-1170).
12) Select **U**pdate (7).
13) Press **Exit** (F7) four times to return to the normal editing screen.
Printer drivers dated after 2/13/92 will include these modifications.

Note: This is a change which affects both the WordPerfect program and the printer drivers. Using the WordPerfect program dated 2/19/92 with an unmodified printer .ALL file may cause characters from large fonts to be clipped when printing text and graphics together on the same page. Using an earlier release date of WordPerfect, befor 2/19/92, with a modified printer .ALL file causes control characters to print when printing graphics.

PRISM.VRS (1/31/91)
A third-party driver is available for the Prism video card. This driver supports the following cards and resolutions: Prism 800 - 800x600 16 color and Prism 1024 - 1024x768 16 color.

PTR.EXE (01/19/90)
Added the startup option "/50point." If PTR is started with the /50point switch, then the point sizes and font cell heights will be preserved from the 5.0 file.

PTR.EXE (03/30/90)
A Copy option has been added to the font screen. This option will automatically create a non-shared font library if there wasn't one for the type of shared library you are copying from. Also, non-shared libraries now appear in all caps.

PTR.EXE (03/30/90)
You can now put WordPerfect Characters in WPDL prompts and comments.

PTR.EXE (03/30/90)
Four new soft font format types have been added: LaserJet IIP, LaserJet III, IBM 4019, and BubbleJet 130E.

PTR.EXE (03/30/90)
PTR.EXE supports Tagged Font Metric files through the use of the new /AUTOFONT startup option. The structure of the startup switch is /AUTOFONT (filename) (where (filename) is the name of the printer .ALL file to which you want to add the new font library). The GLUE.TXT file which in turn references all other associated files (*.TFM) must be located in the /AUTOFONT directory on your hard disk. These additional files are provided by third-party vendors and not by WPCorp.

PTR.EXE (03/30/90)
A new option in the Miscellaneous Questions screen can be marked to indicate that the printer is a color PostScript printer. This allows a color PostScript printer to print color graphic images in color.

PTR.EXE (03/30/90)
The LM GlassPage was added as an Enhancement board.

PTR.EXE (03/30/90)
The Lasermaster LX6 enhancement board option has been divided to include High and Low resolution options.

PTR.EXE (06/29/90)
Retrieving any .ALL file into PTR from a floppy, swapping floppies, and then trying to resave the file would generate an "Error 6." This happened because PTR was trying to read information from the original .ALL file. Now, an "ERROR: Unable to access file -- file.name" error message will be generated when this problem occurs.

PTR.EXE (06/29/90)
Print wheels marked in PTR as "Include in PRS" will now be marked with an asterisk/plus (*+) when the .PRS file is created. This eliminates the beep from Printer Control that was given previously because all print wheels were marked with a plus (+).

PTR.EXE (06/29/90)
There are now two options on the List screen when looking at .ALL or .PRS files: Select (1) and Look (2).

PTR.EXE (06/29/90)
The Printer program now has a /autofont startup option
that supports the Autofont technology recently introduced by
Hewlett-Packard. This option allows users to add font information
to their .ALL file(s) without needing a driver from WordPerfect
that contains the support for those fonts. This affects Cartridge,
Built-In, and Soft Fonts. PTR/autofont can modify more than one
.ALL file at a time.

/autofont requires two types of files: TFM (Tagged Font Metrics)
files (one for each font), and a GLUE.TXT file, which tells
/autofont which fonts to load into which font libraries in the .ALL
file. Information extracted from the GLUE.TXT file and the TFMs
include character maps, PS tables, select strings, etc.

It is important to make sure you have run the Autofont Support
Installer that is supplied by the soft font vendor with the fonts.
This creates the Autofont directory off the root drive. In this
directory are the TFM and GLUE.TXT files that the PTR/autofont
option uses to modify the .ALL file(s).

It is necessary to have a decompressed copy of PTR.EXE, from the
Install/Learn/Utilities diskette(s), in a DOS directory, for the
/autofont option to work. If you haven't already done so, run
INSTALL.EXE and install PTR into a directory on your hard-drive.
The PTR directory should be in your DOS path.

To use PTR/autofont,

1   Enter PTR/autofont filename.all from the DOS prompt, where
     filename.all is the name of the .ALL file to which you want
     to add font information.

PTR/autofont looks in the current directory, then the directory
where PTR.EXE is located for the .ALL file to be modified. If
the .ALL file cannot be located, you are prompted to enter the
full path name for the .ALL file. In this case, it is important
to know where the .All file can be found.

If GLUE.TXT is not in the Autofont directory of the current drive,
you will be prompted for the path. If you do not specify an .ALL
file, the Printer program will search the available .ALL files and
display all printers that support autofont. You are then prompted
to select the printers you want to be updated with the autofont
information. This way, you can update multiple .ALL files.

You can use the /symset startup option with /autofont. This option
allows you to add fonts with a specific symbol set. To use this
option,

1   Enter PTR/autofont/symset.

This will display a menu of supported symbol sets. Only those
fonts in GLUE.TXT which support the requested symbol set will be

added. You can select the symbol set directly by entering PTR/autofont/symset= x, where x is the value from the menu for the desired symbol set.

If you do not use the /symset option, the following priorities are used to determine the symbol set selected for each font.   If, in GLUE.TXT , all of the symbol sets used in HP III PC-8 (w/subs) character map are available, this map will be used, with the default symbol set of PC-8. If all are not available, Desktop will be used. If DeskTop is not available the last symbol set listed for the font in GLUE.TXT will be selected. ITC Zapf Dingbat fonts will be added with the PS ITC Zapf Dingbat symbol set. Dingbats are mapped to WordPerfect character set 12.

After your .ALL file has been modified with /autofont, you must go to Cartridges and Fonts in Edit Printer (Shift-F7,s,3,4) to select the fonts.

For help with /autofont, press Help (F3) twice from the Printer program.

PTR.EXE (06/29/90)
A /50point startup option has been added, which converts 5.0 printer files to maintain line height and word spacing values from WordPerfect 5.0. (See Update Guide, pgs. 9-11, for complete explanation of line height and word spacing changes between 5.0 and 5.1). Note: This startup option does not work with PostScript printer .PRS or .ALL files. To use this option,

1   Enter PTR/50point filename, where filename is the 5.0 .PRS or
    .ALL file to be converted.

Line Height

WordPerfect 5.0 calculates line height by adding Font Cell Height plus Default Leading. In WordPerfect 5.1 line height is calculated by adding Point Size plus Leading Adjust plus 2 points if the font is proportionally spaced. (The additional 2 points are not added for monospaced fonts.) Using /50point the 5.0 values for Point Size and Font Cell Height are maintained. However, a new Leading Adjust value is calculated to make the 5.1 line height equal to the 5.0 line height.

Word Spacing

In WordPerfect 5.0, word spacing for a ps font is calculated by multiplying Average PS Table Width by the Optimal Space Width percentage.   WordPerfect 5.1, by default, uses one-third of the point size of a ps font for word spacing. The /50point switch overcomes the inconsistency by: first, entering the 5.0 word spacing value into the ps table for the space character (0,32), and second, marking the bit "Use Space Width from PS Table" in the Miscellaneous Questions screen. Note: Word spacing is not modified for printers that have movement strings for second-pass attributes.

In previous versions of PTR.EXE, the /50point option brought over the 5.0 Point Size and Font Cell Height values, entered a Default Leading of zero, and left word spacing at the 5.1 default.

PTR.EXE (09/26/90)
Previously, if there wasn't a filename pattern entered in the List Files (F5) path in PTR (and PTR/autofont), no files were listed in the List Files screen. Now, if there isn't a filename pattern entered with the List Files path, the List Files screen brings up the complete contents of the directory.

PTR.EXE (12/31/90)
The Proportional Spacing Table editing screen (in the Printer Program) now includes a field to let you enter an Average Width for the table, overriding the true average width. Normally, adding new widths or modifying existing widths in a PS table automatically recalculates the average width.

Since WordPerfect uses the average width when matching fonts when you retrieve a document, a change in the average width can throw off font selection. To overcome this problem, you can now set a fixed average width. Once you enter a value for Average Width, it will not change even if the widths in the table are edited.

Note: If you enter zero (0) for the Average Width, the Printer Program recalculates the true average width.

PTR.EXE (12/31/90)
The Printer Program (PTR.EXE) now displays the message "Error: Invalid switch - Press any key to continue" when an invalid startup option is encountered after a forward slash (/). Pressing any key will exit you back to DOS.

PTR.EXE (12/31/90)
When using the /autofont startup option, the Printer Program (PTR.EXE) now looks for the GLUE.TXT file in the current directory, then in the \autofont directory of the current drive. If the file is not found in either location, the following message is displayed:

Autofont files (glue.txt) not found. Enter the drive letters where the files reside, or press Cancel (F1) to exit PTR. Refer to autofont installation instructions.

Drive for autofont files:

After pressing a drive letter the Printer Program will search for the GLUE.TXT file in the \autofont directory of that drive.

Previously, the Printer Program would look for the GLUE.TXT file in the \autofont directory of the current drive. If the file was not found, you would be prompted to enter the complete pathname.

PTR.EXE (05/31/91)
Soft fonts added by PTR/autofont are now marked for inclusion in the .PRS file. This means that if you use PTR/autofont then select or update the printer in WordPerfect, the Autofont soft fonts will be automatically marked with a plus (+)in Cartridges and Fonts (Shift-F7,s,3,4) and will be included in the list of base fonts (Ctrl-F8,4).

PTR.EXE (09/25/91)
PTR/autofont now supports Tagged Font Metric (TFM) files that include Cyrillic characters.

PTR.EXE (03/09/92)
IBM 4029 is now listed under Soft Font Format Types.

Pull-Down Menus (01/19/90)
Changed "Goto" under the Search pull-down menu to "Go to".

Pull-Down Menus (03/30/90)
Single keystroke equivalents have been added to the pull-down menus for some menu options.

Pull-Down Menus (03/30/90)
If you press a function key while in the pull-down menus, WP will exit you from the pull-down menus and perform the requested function. This is true for all functions except Exit (F7), Cancel (F1), and Repeat Value (Esc).

Pull-Down Menus (06/29/90)
A hyphen is now included in the Alt-F2 keystroke equivalent for Replace under the pull-down menu for Search.

Pull-Down Menus (06/29/90)
Added the equivalent keystroke (Alt-F5) for Define under the pull-down menu for Mark.

RENAISSA.VRS (1/31/91)
A third-party driver is available for the Renaissance GRX Super RVGA II video card. This driver supports the following resolution: 800x600 16 color.

Replace (03/30/90)
All advanced merge commands can now be used in the replace string.

Reveal Codes (05/31/91)
When the cursor is placed on an attribute on code for which there is an Automatic Font Change (AFC) assigned, the attribute on code will expand to display the name of the font used for that attribute. For example, if the Bold AFC for a Courier 10cpi font is the Courier 10cpi Bold font, when you are in the Courier 10cpi font and highlight the [BOLD] code, it expands to display [BOLD: Courier 10cpi Bold].

Reveal Codes (12/31/90)
While moving the cursor in Reveal Codes, the message displayed at the bottom of the screen: "Press 'Reveal Codes' to Restore Screen" will no longer flicker.

Save (12/31/90)
WordPerfect will now display the error message "Invalid filename" when you attempt to save or retrieve a file with the following reserved filenames: CON, AUX, PRN, LPT1, LPT2, LPT3, LPT4, COM1, COM2, COM3, or COM4.

Screen (03/30/90)
Pressing the Screen key (Ctrl-F3) in List Files will now rewrite the list files screen. This will allow the user to refresh the screen when DOS messages have caused the original screen to scroll.

Screen (12/31/90)
Screen Rewrite (Ctrl-F3,3) now rewrites the display of the menu bar.

This is useful, for example, if you have a macro that turns off display {DISPLAY OFF} then exits the pull-down menu because part of the pull-down menu would remain highlighted if the menu had been set to remain visible. Using Screen Rewrite in the macro now cleans this up.

Search (01/19/90)
Searching for "[HRt][HRt]" would ignore other visible codes between a pair of hard returns and indicate a match. WP will no longer ignore visible ([Date], [Par Num], [Ovrstk], etc.) and merge functions when performing a search.

Search (12/31/90)
The length of the search string has increased to 81 bytes. This lets you enter up to 80 normal characters or up to 20 extended characters.

Setup (06/29/90)
You may now select Alternate Keyboard as an option from the Setup: Environment menu (Shift-F1, 3, 9). Setting this new option to Yes will change the default functions of three keys: F1 becomes Help, Esc become Cancel, and F3 becomes Repeat. While this method of choosing the Alternate Keyboard is similar to choosing the ALTRNAT.WPK Keyboard Layout, there are other advantages to this method. First, the Pull-Down Menus have been changed to reflect the status of this option. The F3 keystroke equivalent was removed from the Help Pull-Down Menu, the Menu Bar displays how to access Help (either F1 or F3 depending on the environment option), and the Edit Pull-Down Menu reflects the position of the Undelete key (either F1 or Esc). Second, this method allows you to use Alternate Keyboard and still select other Keyboard Layouts. Registered users may purchase from WordPerfect Corporation either a 10 function key or an enhanced keyboard template that matches the new functions of this option (currently a $4.00 charge) from Orders/Information, by calling 1-800-321-4566.

Setup (05/31/91)
The default for Format Retrieved Documents for Default Printer (Shift-F1,4,4) is now Yes.

Sheet Feeder (05/31/91)
The message displayed on the Sheet Feeder Helps and Hints screen (Shift-F7,s,3,3,3) now reads "Edit the Paper Size/Type option on the Page Format menu (Shft-F8,2,7) to indicate the bin location."

Previously, the message was "Be sure to use the Paper Size/Type feature to indicate the location of available forms."

Shell Macros (12/31/90)
Shell macros are now temporarily halted during startup of WordPerfect. This means Shell macros will not attempt to answer prompts displayed in WordPerfect such as "Are other copies of WP running?" Once startup is complete, Shell macros resume operation.

SHORTCUT.WPK (06/29/90)
Added the ability to edit Border Options with the Alt-E macro in the Shortcut Keyboard.

Sort (01/19/90)
Ascending sort order is now case sensitive. That is, a lower case now sorts before its upper case character, and a character without diacriticals sorts before the character with diacriticals.

Sort (01/19/90)
The tab ruler and status line were not appearing if Perform Action were selected before the Sort menu finished displaying. These two lines will now display whenever the sort menu does.

Sort (01/19/90)
When sorting numeric fields, extended characters (foreign currency symbols) are now ignored.

Sort (03/30/90)
Several changes were made to allow the correct sorting order for special characters and character combinations when using other language codes. For example, depending on the language code used, these characters will sort in the following order: The German Double s (ß , WP char. 1,23) will sort after ss; ch will sort after c; ll will sort after l; and ñwill sort between n and o.

Sort (12/31/90)
If you want to perform a global select within the Sort feature (Ctrl-F9,2,Enter,Enter,4), "KEY0" now works like "KEYG" in the selection string.

Spell (01/19/90)
Mouse can now be used to select replacement words during a spell check.

SPELL.EXE (12/31/90)
The Speller Utility strips the apostrophe and the s ('s) from words that end with**'s** when the word is added to the dictionary file (.LEX). This is done because the WordPerfect Speller considers a word ending with **'s** as misspelled. Previously, the WordPerfect Speller would offer no replacement words since it did not recognize the original word containing the **'s**. Now, with the **'**s stripped off from the word in the dictionary, WordPerfect can offer the non-possessive form of the word as a replacement.

Spell/Hyphenation (03/30/90)
Speller code modules and hyphenation modules will now run from expanded memory, although any memory needed for data will still use conventional memory. The following are the memory requirements for speller code modules.

	Code Module Memory	Other Data Memory
WP{WP}.SPW	10k	4k
WP{WP}.SPR	25k	34k
WP{WP}.SPM	43k	30k-64k

Each module will need 32 bytes of conventional memory for the packet header.

The hyphenation code modules (WP{WP}??.HYC) require enough memory to load the entire module into expanded memory. There is no external data memory needed by the hyphenation modules.

Speller (12/31/90)
You can add words as large as 64 characters to a supplementary dictionary regardless of whether it contains extended characters.

Previously, WordPerfect would not allowing 64 character words to be added to a supplementary dictionary during a spell-check if the word contained extended characters. This was due to a 64 byte limit for new words. The extended characters would push the word byte size over this limit.

WordPerfect would allow words with extended characters to be added as long as the word byte size didn't exceed the 64 byte limit (e.g., you could add a 16 character word that contained 16 extended characters; for a total of 64 bytes). This was not a problem in most languages, but it would limit Russian and Greek words to 16 characters, as they use an extended character alphabet.

Spreadsheet (01/19/90)
Added support for Borland's Quattro and Quattro Pro spreadsheets. Importing Quattro Pro may be noticeably slower than other spreadsheets. Quattro Pro stores its cells in column order while every other spreadsheet stores its cells in row order. WordPerfect must make several passes through the Quattro file to convert it to row order.

Spreadsheet (03/30/90)
Added support for Lotus 1-2-3, version 3.0 files. Lotus multi-worksheet files can be imported one worksheet at a time. Range names can also contain a worksheet designator.

Spreadsheet (06/29/90)
PlanPerfect spreadsheets imported into WP will retain the characters defined for currency symbols and decimal and thousands' separators, while other spreadsheets will convert to the characters in the WP.LRS file according to the currently selected language. All spreadsheets use the WP.LRS file for converting debit and credit characters. Four new fields have been added to WP.LRS. They are the decimal separator, the currency symbol, and the Credit and Debit symbols. These values are read when the spreadsheet is imported. Up to five characters or one extended character can be set as a currency value. If the first character is *, then the currency value is placed following the number.

Spreadsheet (06/29/90)
Spreadsheet cells formatted as dates will now format according to the current language code when imported into WordPerfect.

Spreadsheet (06/29/90)
An option has been added to Setup: Location of Files, Spreadsheet Files (Shft-F1,6,8). This allows you to move a spreadsheet file around without having to change each spreadsheet link entry. If a full path name for the spreadsheet file is entered, it will be used. If only a file name is entered, it will be assumed the spreadsheet file is in the location specified by Setup.

Spreadsheet (06/29/90)
Support has been added for three-dimensional ranges in Lotus 1-2-3 Rel. 3 files. Ranges spanning multiple spreadsheets in the same file (such as A:A1..Z:D15) will be imported or linked as separate tables or groups of text (A:A1..A:D15, B:A1..B:D15, C:A1..C:D15, etc.) with hard returns between each table/text group.

Spreadsheet (06/29/90)
Files from AS-EASY-AS (a Lotus clone) can now be imported/linked into WP 5.1. Note: You cannot list ranges of AS-EASY-AS spreadsheets because these files lack a dimension record.

Startup Options (01/19/90)
Starting WP with the switch, /r, and no expanded memory now gives the error message "Insufficient expanded memory for /R".

Startup Options (03/30/90)
A new startup option, /PF= (path), redirects the temporary print queue files to the specified path. This option is most useful to network users who can redirect their print queue files to their local hard disk and speed up printing or to users whose documents directory is on a floppy disk.

Startup Options (03/30/90)
WP supports two additional code pages that can be used with the /CP= # startup option: 8601, Brazilian alternate and 8990, Russian alternate.

Startup Options (03/30/90)
A new startup option, /LN, causes WP to re-prompt you for the license number, allowing you to update or change the number.

Startup Options (06/29/90)
Added Hungarian Code Page as number 897 (/cp=).

Startup Options (06/29/90)
A user defined code page can be created within WP. Before this enhancement, you had to use one of the code pages which were defined by WP. Now you may create your own code page. User defined code pages are a way for you to re-map the values 128-254 of the first 256 characters defined by DOS ROM. This allows easy conversion between ASCII TEXT files and WP anywhere in the world.

The user defined code page must be in the following format; It must be a WP5.x document with the naming convention of WPxxxx.WCP, where xxxx represents a decimal number padded left with zeroes. Examples include WP0001.WCP, WP1101.WCP, WP1234.WCP; but not WP1.WCP etc. For instance, if you wish to give the code page the number 2, you must name the file WP0002.WPC, not WP2.WCP This file is looked for when you specify a code page start up option (/cp= number).

The start up option should be in the following format; /cp= 2 or /cp= 0002, they will both get WP0002.WCP. When WP gets the /cp= number start up option, it checks to see if the number specified is an internal code page, examples of internal code pages would be 865= Norwegian, 899= Russian etc. If the code page is internal, WP loads the internal table and continues. If the code page is NOT internal, it is assumed to be external; or as it is called, "user defined".

WP searches for the WPxxxx.WCP file in the same path where the WP.EXE file is, and, if it cannot find the file, it gives an "ERROR: Incorrect format or File not found--WPxxxx.WCP". If it does find the .WCP file, WP loads in the file, parses the information in the file, and creates the table needed for the user defined code page to be loaded. If the numbers in the file are not in the correct format, the error message will display and code page will not be loaded.

The format of the numbers in the .WCP file must be the following; Decimal ASCII number< space or TAB> WP char set #< space or comma> WP char #[HRt].
Example:
128 01,45
202 8,1
145 10,57
203 10 58
146 10,59

Notice that the lines are sorted by WP character set number, character number. This MUST be true in order for the User Defined code page to work properly. WP does not check to see if the document is sorted properly, it is assumed that you have done this.

Note: You can only re-map characters 128-254. It is best to use spaces instead of tabs in the .WCP file as the data in the file cannot be larger than 1357 bytes. WP char set 0 "zero" may not be used in the file as re-mappable characters.

Startup Options (06/29/90)
A new startup option, /ws (workspace size), will display a two line message on the startup screen giving the amount of conventional and expanded memory available. If no expanded memory is available, or, if the /ne option (no expanded memory) is used, only conventional memory is reported. You are prompted to "Press any key to continue" when you are finished reading the message line. This option is very useful in duplicating memory related problems across machines.

Startup Options (06/29/90)
A new startup option, /nh (no hardware printing), disallows a call to the BIOS which WordPerfect makes when starting the program that enables the Print to Hardware Port option to work. If certain older BIOS versions are encountered when the call is made, it can cause problems in starting WordPerfect.

Startup Options (12/31/90)
The new startup option /N2 disables the Document 2 screen. This option is useful when you want to run WordPerfect under limited memory situations. In this mode, pressing **Switch** (Shift-F3) only converts blocked text to uppercase or lowercase, and using the Window feature (Ctrl-F3,1) offers only a choice between full screen and displaying the tab ruler (one line less than full screen).

Startup Options (12/31/90)
The startup option, /lf, forces WordPerfect to use a Line Printer font (16.66 cpi) when printing the List Files screen. This startup option was added to let you print the List Files screen to a printer with an unprintable zone.

Previously, if the List Files screen was printed to one of these printers, the filename extensions could overprint file sizes when the file size was 100,000 bytes or greater. This occurred because WordPerfect was printing with a 10 cpi font.

Startup Options (12/31/90)
The code page numbers for Russian and Russian Alternate have changed to support the new standard in Russia:

	New Code Page	**Old Code Page**
Russian	866	899
Russian (Alternate)	8660	8990

Startup Options (12/31/90)
A new code page, Eastern Language Standard, has been added. This code page is number 852. The startup option to use the code page is /cp-852.

Startup Options (05/31/91)
WordPerfect now lets you remap the first 32 characters of a user-defined code page.   The characters can be remapped by editing the WPxxxx.WPC file (see "/cp" under Appendix N: Startup Options in the WordPerfect Reference manual).

Startup Options (05/31/91)
You can now use characters from WordPerfect Character Set 0 to remap characters 128-254 of a user-defined code page. The characters can be remapped by editing the WPxxxx.WPC file (see "/cp" under Appendix N: Startup Options in the WordPerfect Reference manual).

Startup Options (05/31/91)
Support for the Turkish (TK) code page 853 was added.

Note: Support for the Turkish sorting order has also been included. This was needed so dotless i's would sort before i's with a dot.

STB_PG.VRS (1/31/91)
A third-party driver is available for the STB PowerGraph VGA video card. This driver supports the following resolutions: 640x350 256 color, 640x480 16 color, 640x480 256 color, 800x600 16 color, 800x600 256 color, 1024x768 16 color and 1024x768 256 color.

STB_PV.VRS (1/31/91)
A third-party driver is available for the STB PowerView VGA video card. This driver supports the following resolutions: 640x350 256 color, 640x480 16 color, 640x480 256 color, 800x600 16 color and 1024x768 16 color.

Tables (01/19/90)
Scrolling up and down in a table could get very slow. This process has been sped up slightly.

Tables (03/30/90)
The prompt "Cells will be deleted. Continue?" now appears when deleting rows or columns from an existing Table.

Tables (03/30/90)
When entering a search string, pressing Alt-F7 and choosing Tables (2) will display a new menu which will allow entering a [Tbl Def] or a [Tbl Off] code in the search string. This new menu is #408 when using the {SYSTEM}menu command.

Tables (06/29/90)
WP now reports to you that it is "Updating Table" and displays a series of dots at the bottom of the screen, which increase in number as the job progresses, whenever a table is being created or updated. This lets you know that WP is working on the table. This will be especially useful for slower machines or very large tables. Note: The dots are not displayed when splitting cells.

Tables (06/29/90)
An error message "Too many rows", is now given in table creation if you attempt to enter a number of rows greater than the maximum allowed (32765).

Tables (06/29/90)
When creating a Table, WP will now provide more information to you, via an error message, if you run out of disk space. The message reads, "ERROR: WP Disk Full-Press Any Key To Continue".

Text In/Out (01/19/90)
When using Text In/Out (Ctrl-F5) to save a document in a format different than the format in which it was originally retrieved, a default filename is not given. Now, if the user presses Retrieve (Shift-F10) at the "Document to be saved" prompt, the filename appears. This only works on files that have originally been retrieved using Shift-F10.

Text In/Out (03/30/90)
Dormant hard return codes [Dorm Hrt] will convert to CR/LF when a file is saved in DOS Text or Generic format.

Text Screen Type (03/30/90)
The Cancel key (F1) can now be pressed while selecting a new text screen type to cancel the selection and return to the Setup menus. When the helps and hints screen is displayed for the chosen text screen type, you can cancel the selection by pressing Cancel. You are then returned to the Setup: Display menu and the text screen type will be Auto Selected.

Text Screen Type (06/29/90)
The Helps and Hints screens for EGA and VGA text screen drivers have been updated to include the following message: "Certain EGA - VGA cards will cause the cursor to disappear when selecting modes with more than 25 rows. If your card has this problem, try selecting the (cursor) drivers."

Thesaurus (03/30/90)
The words "choral" and "coral" have been added to the exception list and will now give a "Word not found" message when a look up is performed on them. Previously, these words were not recognized by the thesaurus. However, since the thesaurus is given rules to follow to determine roots, it would strip the "al" and add "e"--thus producing "chore" and "core."

Thesaurus (06/29/90)
Looking up the word "good", now gives another 7 other word choices to choose from. This is not an enhancement. Previously, when looking up the word "good", the synonyms and antonyms would end at the word "choice", when actually there were more word choices which followed, but, which were not being displayed. This has been changed so that all the synonyms and antonyms for the word "good" are displayed.

TIGA.VRS (1/31/91)
The batch file MAKEALM.BAT has been created to help use the TIGA.VRS file. WordPerfect requires the use of a file called EXTPRIMS.ALM to work in tandem with TIGA.VRS. Previously, you had to create EXTPRIMS.ALM, now MAKEALM.BAT creates the EXTPRIMS.ALM file for you.

Also, the TIGA.DOC file has been changed to help you make use of the MAKEALM.BAT file. All references that explained the different commands used to make the EXTPRIMS.ALM file have been removed from TIGA.DOC.

TIGA.VRS (1/31/91)
Support has been added for the Renaissance GRX Rendition II graphics card with the following resolutions: 640x480 16 color, 640x480 256 color, 800x600 16 color, 800x600 256 color, 1024x768 16 color, and 1024x768 256 color.

TIGA.VRS (1/31/91)
Support has been added for the Infotronic DTP 768 graphic card with the following resolution: 768x1024 with a monochrome color pallette.

TIGA.VRS (1/31/91)
Support has been added for the Infotronic DTP 1280 graphics card with the following resolution: 1280x1024 with a monochrome color pallette.

TRIDENT.VRS (1/31/91)
A third-party driver is available for the Trident TVGA video card. This driver supports the following resolutions: 800x600 16 color 768x1024 16 color and 1024x768 16 color.

TRIDEN_T.VRS (1/31/91)
A third-party driver is available for the Trident VGA video card. This driver supports the following text resolutions: 80x30 16
color, 80x43 16 color, 80x60 16 color, 132x25 16 color, 132x30 16 color, 132x43 16 color and 132x60 16 color.

TSENG3.VRS (1/31/91)
A third-party driver is available for the TSENG 3000 Chip set. This driver supports the following resolutions:
Text modes, Extended EGA:
  80x43 16 color, 80x43 16 color save font
Text modes, Extended VGA:
  100x40 16 color save font, 132x25 16 color save font,
  132x28 16 color save font, 132x44 16 color save font,
  80x25 16 color save font, 80x28 16 color save font,
  80x43 16 color save font, 80x50 16 color,
  80x50 16 color save font, 80x60 16 color save font,
Graphics modes, ET3000 - VGA:
  640x350 16 color, 640x350 256 color, 640x480 16 color,
  640x480 256 color, 800x600 16 color, 800x600 256 color, 1024x768 16 color.

TSENG4.VRS (1/31/91)
A third-party driver is available for the TSENG 4000 video chip set. This driver supports the following resolutions:
Text modes, Extended EGA:
  80x43 16 color, 80x43 16 color save font
Text modes, Extended VGA:
 100x40 16 color save font, 132x25 16 color save font,
 132x28 16 color save font, 132x44 16 color save font,
 80x25 16 color save font,   80x28 16 color save font,
 80x43 16 color save font,   80x50 16 color,
 80x50 16 color save font,   80x60 16 color save font
Graphics modes, ET4000 - VGA:
  640x350 16 color, 640x350 256 color, 640x480 16 color, 640x480 256 color,
  800x600 16 color, 800x600 256 color 1024x768 16 color, 1024x768 256 color.

TUTOR.COM (06/29/90)
Backspace can now be used to correct typographical errors in {Input} string.

TUTOR.COM (06/29/90)
Tutor now forces screen to 80x25 mode upon startup. This is done because Tutor has problems if the screen dimensions are greater that 80x25.

TUTOR.COM (12/31/90)
The WordPerfect Tutorial is fully networkable. If you run the WordPerfect Tutorial on a network and the user's initials cannot be found, WordPerfect now prompts you for initials.

Previously, if Tutorial was run on a network and the user's initials could not be found (from the environment file, from the WordPerfect Office Notify, or from some other means), the Tutorial supplied the initials "NNN." However, if more than one user logged in this way, and neither user had used the startup option /D to redirect the overflow files, WordPerfect would delete the first user's virtual files to allow access to the second user.

Units of Measure (03/30/90)
WP will now accept both uppercase and lowercase characters when specifying a unit of measure anywhere in the program.

Units of Measure (06/29/90)
We now have international mnemonic equivalents for unit of measure indicators. \ = inches; : = centimeters; * = points; ? = WordPerfect units; + = WP 4.2 units. The mnemonic equivalents work the same as ", p, u, w, etc. This will enable macros that use units of measure to work in international versions of WP.

Units of Measure (05/31/91)
WordPerfect lets you enter 10 characters for measurements such as margins and advance. This means you can enter measurements such as 10 77/100.
Previously, WordPerfect only allowed seven characters for measurement.

V7GRAPH.VRS (1/31/91)
A third-party driver is available for Video Seven video cards. This driver supports the following cards and graphics resolutions:
Video Seven 1024i VGA:
 800x600 16 color, 1024x768 monochrome 1024x768 4 color, 1024x768 16 color.
Video Seven FastWrite VGA:
 800x600 16 color, 1024x768 monochrome, 1024x768 4 color, 1024x768 16 color.
Video Seven VEGA VGA:
  800x600 16 color
Video Seven VRAM II VGA:
 800x600 16 color, 1024x768 monochrome, 1024x768 4 color, 1024x768 16 color.
Video Seven VRAM VGA:
 800x600 16 color, 1024x768 monochrome, 1024x768 4 color, 1024x768 16 color.

V7_T.VRS (1/31/91)
A third-party driver is available for Video Seven video card. This driver supports the
following cards and text modes:
Video Seven 1024i:
 80x25 16 Color, 80x25 16 Color Save Font,
 80x25 Attribute Font, 80x28 16 Color, 80x28 16 Color Save Font,
 80x28 Attribute Font, 80x43 16 Color, 80x43 16 Color Save Font,
 80x43 Attribute Font, 80x50 16 Color, 80x50 16 Color Save Font,
 80x50 Attribute Font, 80x60 16 Color, 80x60 16 Color Save Font,
 80x60 Attribute Font, 100x60 16 Color, 100x60 16 Color Save Font,
 100x60 Attribute Font, 132x25 16 Color, 132x25 16 Color Save Font,
 132x25 Attribute Font, 132x28 16 Color, 132x28 16 Color Save Font,
 132x28 Attribute Font, 132x43 16 Color, 132x43 16 Color Save Font,
 132x43 Attribute Font.
Video Seven FastWrite/VRAM VGA:
 80x25 16 Color, 80x25 16 Color Save Font, 80x28 16 Color,
 80x28 16 Color Save Font, 80x43 16 Color, 80x43 16 Color Save Font,
 80x50 16 Color, 80x50 16 Color Save Font, 80x60 16 Color,
 80x60 16 Color Save Font, 100x60 16 Color, 100x60 16 Color Save Font,
 132x25 16 Color, 132x25 16 Color Save Font, 132x28 16 Color,
 132x28 16 Color Save Font, 132x43 16 Color, 132x43 16 Color Save Font.
Video Seven VEGA VGA:
 80x25 16 Color, 80x25 16 Color Save Font,   80x28 16 Color,
 80x28 16 Color,   80x28 16 Color Save Font, 80x43 16 Color Save Font,
 80x50 16 Color,   80x50 16 Color Save Font, 80x60 16 Color,
 80x60 16 Color Save Font, 100x60 16 Color, 100x60 16 Color Save Font,
 132x25 16 Color, 132x25 16 Color Save Font, 132x43 16 Color,
 132x43 16 Color Save Font.

VIDEO7.VRS (03/30/90)
Added text modes for Video7 FastWrite and VGA boards.

VIDEO7.VRS (05/31/91)
Pixel resolution was increased for the mouse pointer when using the text modes for the Video 7
graphics card (VIDEO7.VRS). The pointer has also changed in appearance for these text
modes from the standard block pointer to an arrow pointer.

View Document (01/19/90)
View Document will mimic the printer widths much more effectively, minimizing gaps
between characters in very wide fonts and overprinting in very narrow fonts.

View Document (03/30/90)
The Courier vector fonts in the .DRS file were altered to improve readability at 100%
magnification in View Document.

View Document (12/31/90)
In View Document, a monospaced font always map to a monospaced .DRS font. A
monospaced sans serif font has been added, which Letter Gothic will use. Letter Gothic will
now be distinguishable from Courier in View Document.

WIN30-WP.PIF (05/31/91)
WIN30-WP.PIF (the Windows 3.0 Program Information File for WordPerfect 5.1) was renamed to WP.PIF. The memory values for the Windows 3.0 PIF file (386 enhanced mode) have been increased. Conventional Memory Required was increased to 384K; the previous value was too low to start WordPerfect under low memory conditions. EMS Memory Limit was increased to 2048K to provide sufficient expanded memory for the /R startup option to work correctly.

WP.DRS (05/31/91)
Changes were made to improve the Russian/Cyrillic vector font file; serifs are now more consistent between the characters. Major modifications were done on characters: 10,8-9 10,18-19 10,40-44 10,68-69 10,74-75 and 10,80-81. These changes are apparent when the characters are accessed from the WP.DRS file.

WP.DRS, CHARACTR.DOC, CHARMAP.TST (05/31/91)
Three new characters have been added to WordPerfect Character Set 8:

207 capital iota diaresis
208 capital upsilon diaresis
209 lowercase rho with rough breathing

Note: These three characters were designed using a vector (stick-figure) format.

WP.DRS (09/25/91)
Cosmetic changes have been made to most of the characters found in Character Set 9 (Hebrew) of the WP.DRS file.

WP.DRS (09/25/91)
Outline and vector WP.DRS fonts were added for Greek characters [8,207] (Iota Diaeresis), [8,208] (Upsilon Diaeresis), and [8,209] (rho with rough breathing).

Note: These changes shipped with the 5/31 release.

WPHELP.FIL (09/25/91)
The Help screen for Compose now lists the option to press the letter "A" to access an additional help screen that contains the ASCII character table and information on inserting the characters without using Compose (Ctrl-V).

WPHELP.FIL (09/25/91)
When prompted to enter a license number in startup, a user can now press F3 to receive context-sensitive help.

WP.LRS (06/29/90)
In the section for Denmark, the second EMNE was replaced by REFERAT. Added SL for Slovak, HU for Hungarian, HR for Croatian (Yugoslavik), and YK for Ukrainian as language codes.

WP.LRS (06/29/90)
A line containing each language's native name has been added after each language code in the .LRS file. There is no difference in the way the WP.LRS file works, this is an information addition only.

WP.LRS (05/31/91)
The Spanish decimal separator was changed from "." to ",".

WP.LRS (05/31/91)
Support was added for the Galician language (Language code GA).

WP.LRS (09/25/91)
Fields were added to each of the languages in the WP.LRS file in
order to support the upcoming release of WordPerfect Executive
2.0. The fields added are Argument Separator, Date Format, and
Time format.

WP.LRS (03/09/92)
Support was added for the Afrikaans (AF) language.

WPINFO.EXE (01/19/90)
WPINFO.EXE would not report any expanded memory when there were fewer than 5 logical
pages (approx. 80K) available. WPINFO.EXE now reports the LIM version of the EMS
driver.

WPINFO.EXE (03/30/90)
WPINFO reports the number of DOS buffers when running under DOS versions 2.x and 3.x.
For other versions of DOS, WPINFO will report the number of buffers as "Unknown."

WPINFO.EXE (06/29/90)
WPINFO now reports the BIOS make and date for 11 different manufacturers: IBM,
COMPAQ, Olivetti, Tandon, Phoenix, AMI, Award, Zenith, DataTech, Epson, Vadem. All
other BIOS makes will display "Unknown".

WPINFO.EXE (06/29/90)
All PS/2 model types have been added to WPINFO, so if you have a model 50 or 70 etc., the
correct machine type will be displayed.

WPINFO.EXE (06/29/90)
WPINFO.EXE will now report the presence of NOTIFY for Office LAN. If Shell is resident,
you must use the Go to Dos feature (1) for this to work. Running WPINFO from the Shell
menu will not report NOTIFY as resident.

WPINFO.EXE (05/31/91)
WPINFO.EXE was displaying a 80486 processor type as an 80386.

WPINFO.EXE (05/31/91)
WPINFO.EXE was not recognizing the presence of the built-in math coprocessor on a
processor chip such as the 80486.

WPINFO.EXE (05/31/91)
References in WPINFO.EXE to WordPerfect were changed to be more product-generic
because WPINFO.EXE is shipped with several different products. The opening title screen of
the Installation program now reads "WordPerfect Corporation System Information" and the
second screen has the title "System Information".

WP{WP}UK.LEX (12/31/90)
The following word has been added to the WordPerfect UK dictionary (WP{WP}UK.LEX):
"pertinent."

The following words have been deleted from the WordPerfect UK dictionary: "agrement," "pertinens."

WP{WP}UK.LEX (05/31/91)
The following words have been **added** to the WordPerfect U.K. dictionary (WP{WP}UK.LEX): behavioural, gluconeogenesis, transferable, o'clock, tannoy, enthralled, enrolled, squeakiness, language, analysing, amiga, applelink, appletalk, async, asynchronous, asynchronously, atari, autoexec, buffered, charmap, comms, compaq, compatibles, compuserve, computone, configure, connaught, corporates, costings, cpu, crackback, currents, dataperfect, desqview, drawperfect, endnote, endnotes, epson, ethernet, exe, faxed, faxes, faxing, frontline, grammatik, groupware, gui, helvetica, hewlett, hotline, infobase, keyword, laserjet, laserwriter, layout, layouts, letterperfect, mac, mailshot, micros, multiview, netware, notepad, online, ordinating, orem, pc, planperfect, ptr, reseller, standalone, subdoc, subdocument, subdocuments, toolkit, tsr, unix, vax, vga, weybridge, wpkey, wysiwyg, xenix, administration, accessibility.

The following words have been **deleted** from the WordPerfect U.K. dictionary: behaviourial, transferrable, enthraled, enroled, sqeakiness, langauge, analyzing, adminstration, accessability, particulary, honourary.

WP{WP}US.LEX (01/19/90)
The words: café, mañana, señor, señores, señorita and résumé were added to the dictionary and the words: manana, senor, senora, senores and senorita were taken out.

WP{WP}US.LEX (06/29/90)
The following words have been added to the WP{WP}US.LEX file: diacritical, diacriticals, extracellulary, misallocate, misevaluate, misevaluation, unhomogenized, interculturally, interdivisional, interdependently, countermove, countermovement, inprovisatory, interated, optimizing, and psychoanalytical.

WP{WP}US.LEX (12/31/90)
The following words have been added to the WordPerfect dictionary (WP{WP}US.LEX): alexandra, andrea, benchmark, carla, cheerlead, cheerleading, dingbats, dragsters, geraldine, lois, michelle, paula, paulette, roberta, spokesperson, trichloroethane.

The following words have been deleted from the WordPerfect dictionary: beseige, forgone, employe.

WP{WP}US.LEX (05/31/91)
The following words have been **added** to the WordPerfect dictionary: backslash, benefited, businessperson, cancelling, cancelled, creationism, dialog, inverter, jerseyan.

The following words have been **deleted** from the WordPerfect dictionary: admissable, admissability, arrythmia, ceratin, debateable, discission, eduction, enrolle, enrolles, frena, guinean, inadmissable, inadmissability, ind, intersticial, ivestment, ku, lese, pian, remak, revellent, restauranteur, unforseen, xs.

XGA.VRS (1/31/91)
A new driver is available for the IBM XGA Display Adapter/A. This driver supports the following resolutions: 1024x768 16 Colors; 1024x768 256 Colors; and 640x480 256 Colors.

ZYMOS.VRS (1/31/91)
A third-party driver is available for the ZyVGA video card. This driver supports the following cards and resolutions: ZyVGA 800 - 800x600 16 color and ZyVGA 1024 - 1024x768 16 color.