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I would appreciate you dropping me a note pointing out any of my mistakes, errors, and assorted stupidities. I'll revise and reupload a corrected copy.

This file is HelpWare. If you find it useful, you are expected to help other computer users. Why not upload a file of hints or techniques for the rest of us? I'm still trying to figure out styles (just a topic suggestion).

The file contains a header with a "page x of y" type page number. You should either regenerate the header (ALT-F%,G,G) or delete the header before printing. Also, except for this introductory page, this file is formatted in newspaper columns. If you printer does a molasses in January imitation when printing columns you might consider removing the [Col On] codes.

Enjoy,

Paul Friedman
National Benefit Resources
CI$ 76424,1252

Automatic Font Changes and Substitute Fonts

WordPerfect provides better font support than any other DOS word processor. If you want to print an Aleph in WordPerfect all you need to do is use its *Compose* feature: CONTROL–V 9,0 and the character ℵ is printed (assuming the character exists in one of the fonts available to your printer or, for WordPerfect 5.1 only, your printer can handle graphics). Assuming your PRS file — **P**rinter **Res**ource file — has been properly configured, WordPerfect finds the proper font and then finds the proper character within the font. The PRS file also controls the Attribute and Size changes. (CONTROL-F8,A and CONTROL-F8,S; also F6<bold>) As this sophistication occasionally can lead to problems. If you use the Compose feature regularly you should certainly become familiar with the process (and how to correct any problems which arise). Even, if all your documents make use of no more than the standard typewriter characters, you might still run into problems. A common one is selecting Italic and getting underlined output instead.

This note is only going to discuss *what* is happening. Another note will be available to learn how to *control* what is happening. To control what is happening, you need to mess around in PTR, a program WordPerfect provides as part of all WordPerfect packages.

The purpose of this note is not to make you a font jock or train you for a job at WPCorp in beautiful downtown (suburban?) Orem, Utah. This note is only going to discuss *what* is happening. Another note will be available to learn how to *control* what is happening. There are two reasons for this: Firstly, you probably don't want to spend the time and energy to learn all that. Secondly, even if you did, I'm not the one to teach you. Now that the ground rules are clear, let me define some terms.

ALL file

> The file which contains all sorts of information about your printer and the fonts available to it. WordPerfect does *not* use the file at print time rather it creates another file from the ALL file.

Printer **R**esource File (**PRS**)

> This is the file created from the ALL file. Anything that WordPerfect needs to know about your printer needs to be in this file. This includes obvious items such as fonts and graphics as well as such basic items how to get your printer to perform a formfeed and such esoteric items as how to move the print head 1/300th of an inch to the left.

Character Map

Each font defined in the ALL file must have a character map associated with it. One map may be referenced by many fonts. This map tells WordPerfect which characters are available in the font and where in the font each character can be found.

Character Set

WordPerfect provides thirteen character sets (numbered 0 through 12). Each Character Set can contain up to 256 characters (numbered 0 through 255). Remember good old Aleph? It's in Set 9, offset 0. The normal keyboard characters are in Set 0. A capital B, for instance, is Set 0, offset 66. Don't believe me? You must be from Missouri (or the IRS). Check it out. CONTROL-V 0,66 <return>. Look at that.

Automatic **F**ont **C**hange (**AFC**)

This is how WordPerfect changes to another font when an attribute is selected, e.g., choosing a bold font when you press F6. It is also one of three ways WordPerfect has to find a character you have included in your document but which is not in your selected font. Each font has an **AFC Table** telling WordPerfect where to

look for what.

Substitute Font

This is another way WordPerfect uses to find a character you have included in your document but which is not in your selected font. Each font has a **Substitute Font Table** (clever name, huh?) telling WordPerfect where to try to find such a character.

PTR.EXE (PTR)

A program provided with all WordPerfect packages to add, delete, and change information in ALL and PRS files

Zydeco

A type of music — this has nothing to do with the WordPerfect, but I thought you might be interested.

Hunt for the Red Aleph or
Character, Character, Whose's Got the Character?

Let's suppose that your currently selected font is called Ralph. You are in desperate need of an Aleph, so you do the Compose thing. (CONTROL-2 works too, by the way.) Let's follow WordPerfect's path in its attempt to find this character when you print the document.

1)   The AFC Table for Ralph is searched. If you have an entry marked for Character Set 9, WordPerfect *immediately* switches to that font. (I'll call it Sue.) Note that if such an AFC is marked WordPerfect will *not* look for the character in the selected font, Ralph.

2)   Let's first assume that no such font is marked as Ralph's Character Set 9 AFC. In that case, WordPerfect looks for the Aleph in Ralph's Character Map. If it's found, WordPerfect prints it. If not:

3)   WordPerfect looks at Ralph's Substitute Font Table. Ralph, like all other fonts, can have up to nine Substitute Fonts marked. They are marked in order of priority, 1 (highest priority) to 9 (lowest). N. B., I did not use the non-word prioratize. WordPerfect searches each Substitute Font's Character Map in order. As soon as it finds the elusive Aleph, it prints it and goes on to the next character. If the character is not found in any of the Substitute fonts:

4)   If you have WordPerfect Version 5.0, a space is printed. If you have WordPerfect 5.1, WordPerfect checks the PRS file to see if your printer can handle graphics. If not, a space is printed. If the printer is graphic capable, WordPerfect checks to see if either Graphic Quality or Text Quality is set to "Do Not Print." If either is set this way, a space is printed. If both are set to any other setting, WordPerfect produces a graphic representation of the character. In any case, this ends the search.

5)   Remember Sue? Let's now assume that Sue is in fact marked as the Character Set 9 AFC for Ralph. As mentioned above, WordPerfect immediately switches to Sue, ignoring Ralph entirely.

6)   WordPerfect checks Sue's Character Map. If the Aleph is found, it is printed. If not:

7)   *Sue's* Substitute Font Table is reviewed. The process discussed in steps 3 and 3 are followed, but remember it's the Character Maps for Sue's Substitute Fonts which are reviewed.

Here's a one question quiz:

Sue is marked as the Character Set 9 substitute font. Sue does not have an Aleph in its Character Set. In fact the only font which has an Aleph is Ralph. You have Graphic Quality set to "Do Not Print." Will you see an Aleph in the printout?
A)   Yes
B)   No
C)   Maybe
D)   First you row the fox and the chicken across, then return with the fox ... (Sorry, wrong question)

The answer is maybe. (Wow, isn't this a helpful document? Aren't you glad you spent good money to download it?)

If, and only if, Ralph is marked as a Substitute Font for Sue will the Aleph get printed. Once an AFC Font is chosen, it controls the search. Your homework assignment is to produce a flowchart of WordPerfect's search for characters.

Bolding For Fun and Profit

So far we've only talked about WordPerfect's hunt for elusive characters. Now it's time to take a look at how WordPerfect produces **Bold**, <u>Underlined</u>, O̶u̶t̶l̶i̶n̶e̶d̶ and other Attributes.

1)   The AFC Table contains Attribute as well as Character Set AFCs. If Ralph (your currently selected font) has an AFC marked for Bold and you request Bold (F6 or CONTROL-F,A,B), the font so marked is used.

2)   If no Bold is marked in Ralph's AFC Table, WordPerfect looks in another spot in the PRS file. This is under the Section **Attribute Methods**. Remember that WordPerfect only looks here if no AFC font is marked.

Each Attribute has two or more methods listed. The one (and only one can be selected) marked determines how the request for Bold is handle. The choices are different for each Attribute, but since we are using Bold as the example, the methods listed in PTR are:

Auto Bold
Double Overstrike on Same Pass (True HMI Only)
Triple Overstrike on Same Pass (True HMI Only)
Multiple Pass Overstrike
Backspace Overstrike
Done by AFCs Only

Auto Bold simply means that your printer has some built in mechanism to Bold fonts. WordPerfect sends that command to your printer and, when Bold is turned off, sends the End Auto Bold command to your printer. (Yes, Virginia, those commands are stored in the PRS file.)
Double (or **Triple**) **Overstrike on Same Pass** means that WordPerfect prints the character, moves a little to the right and prints it again. The (True HMI Only) is a warning that this method will only work if your printer has Horizontal Motion Index commands.

Multiple Pass Overstrike means that WordPerfect prints the character, continues with the rest of the line and then prints the character again.

Backspace Overstrike I leave to your imagination.

Done by AFCs Only simply means that if no AFC is marked, WordPerfect ignores Bold and prints as if it never hold of Bold.

Naturally the printer commands to perform whichever method is marked must be found in the PRS file.

Similar methods are offered for each Attribute. One of the methods offered for Italics causes a far amount of swearing and gnashing of teeth. The Italics choices listed are:

Auto Simulated Italics (NOT Italics)
Same as Underline
Done by AFCs Only

Auto Simulated means that WordPerfect sends a command to the printer and whatever the printer does with that command, it does. The Not Italics in parentheses is simply a warning.

Done by AFCs Only we have already met.

Same as Underline is the teeth-gnasher. If no font is marked as Ralph's Italic AFC, WordPerfect <u>underlines</u> the characters between the [ITALC] and [italc] and commands. Now you know why that's been happening, right?

Two possible points of interest here. Firstly, while each font has a different AFC and Substitute Font Table, the Attribute Method is the same for all fonts. Secondly, the [ITALC] and [italc] commands (and similar ones for other attributes and Sizes) are variables. WordPerfect has no idea what they represent until print time. At print time, Word Perfect checks the PRS file and sends in place of [ITALC] whatever the command or commands are. The same process is followed for [italc] to turn off the attribute. Got it? Good. The next topic is a piece of cake.

The Incredible Shrinking Characters or
One Size Doesn't Fit All

There is one more type of AFC. As you no doubt figured out from the terminally cute title, this is for Size. If you put a [Large] command in a WordPerfect document (CONTROL-F8,S,L), the current font's AFC table is checked. If a font is listed there, WordPerfect switches to that font. If not, the request is simply ignored. (Remember I said that these commands are variables? If no Large AFC is found, the [LARGE] command is replaced with a null <nothing, nada>). This is true for all Sizes except Superscript and Subscript. These are really a combination of Attributes and Sizes, but that's a (usually) unimportant detail.

Final Exam

You probably think you understand this, right? Good, you can explain it to me. Try this one:

Ralph is the selected font. You issue a [Large] command, a [Shadow] command, and then type an Aleph. Can you explain WordPerfect's process? Remember, this is the honor system.

Right! But for your friend that missed it, here's a hint: Remember that once an AFC font is picked, that font, not the calling font controls the action. So before WordPerfect begins the search for the Aleph, it checks Ralph's AFC table for Large. If a Large AFC is marked, Ralph is out of the picture. Then WordPerfect checks the *now controlling* font's AFC table for a Shadow AFC. If it finds on, *that* font is now in control. Only at this point does WordPerfect start the search for Aleph.

Controlling AFCs and Such

Still with me? If so, its time to dig into PTR. This program probably resides in whatever directory contains your ALL and PRS files. So, at DOS change to that directory and type: dir ptr.* <return>. There should be two files listed: PTR.EXE and PTR.HLP. If these files aren't listed, find 'em (maybe you did not copy them to your disk when you installed WordPerfect.

> **Note: Use the PTR program appropriate to the type of ALL and PRS files with witch you will be working.** That means you the PTR witch cam with version 5.0 for 5.0 ALL and PRS files and for 5.1 files ... well, you get the idea.

OK, here we are. You are logged to the drive and the directory which contains both the PTR program and your ALL and PRS files. We are going to mess with the PRS file first. I'll talk about version 5.1. If the procedure is basically the for version 5.0. I am go to assume that your PRS file is named myfile.prs. Just substitute the actual name of the PRS file you want to edit.

At DOS, type:
    copy myfile.prs myfile.old
That's in case you make an error and don't catch it in time. If that happens, you can delete the goofed up file and rename myfile.old to myfile.prs and not lose anything other than time. Again at DOS, type:
                    PTR myfile.prs <return>

You are now at PTR's opening screen. You should see the name of your printer listed. Hit <return>.

Now you should see a menu of various options. Select Attribute Methods by using the arrow keys to move to that choice and hitting <return>. Or, you can start typing Attribute Methods. When the highlight moves to that choice hit return. Ain't this easy?

Attribute Methods
Listed are the various attributes you see when, in WordPerfect you hit CONTROL-F8,A plus sub and superscript. Pick an Attribute, any Attribute. Cursor to it and hit <return>.

You now should see a menu of two or more choices. One of the choices should have an asterisk "*" to its left. That's the method WordPerfect will use for this printer. Hit F7. F7 always takes you back to the previous screen. If you have a printer which has soft fonts, cartridge fonts, or a whole bunch of internal fonts, you might want to make some changes. Here's some suggestions (I really have made these changes for my and my companies LaserJet and DeskJet printers.)

Italics
> If I want Italics, I want Italics. If no Italic font is available, I do **not** want the darned font underlined. If you agree with me, choose Italic. Cursor to "Done by AFCs Only." Hit the asterisk. Voila! You've no changed that. Hit F7

Bold
> If something other than "Done by AFCs only" is marked, I unmark it. Multiple Overstrikes and Auto Bold are usually rather ugly. I rather do without. Your choice.

Shadow
> Same thing.

You might want to take a look at the other choices. Can't hurt. You can always F7 out without making any changes. When you are don, F7 until you are back at the first menu. If you go too far you'll see the opening menu (the one with the name of the printing), just hit <return>.

Do You Know What Your AFCs Are Doing?

Choose Fonts. You will see the beginning of the list of all your fonts. Note that, with two exceptions, this is the same list you see in the WordPerfect Base Font List (CONTROL-F8,B). The first exception is that whatever is enclosed in parentheses at the *beginning* of a font's name in this list is moved to the *end* of the font's name in the Base Font List. The second (possible) difference is that

certain fonts might be listed here which are *not* shown in the Base Font list. That's because these fonts are marked as "Use for AFC and Substitute Fonts Only." But that's covered in another volume of this wonderful series of font related papers. Check it out if interested. The last time I looked, it was in Library 2 named PTRALL.ZIP

Pick a font. This should be a font you want who's AFC Table you want to modify or at least review. Found one? Good. Move the highlight to it. Hit <return>. Another menu! How wonderful. Choose Automatic Font Change.

You now are looking at the beginning of the famous AFC Table. You can cursor down to see the rest of it. Rather impressive, isn't it?

Let's say you find one you want to change. Move to it and <return>. Looks just like the Font List, right? The font that is highlighted has that nasty asterisk sitting there. Move to the font you want to use as the new AFC. Hit *. You did it! A new and no doubt much better AFC. And you thought this was going to be hard. Hit <return>. Let's say you find another awful AFC. This time there is no good replacement. Well, nothing is sometimes better than something. Cursor to it and hit <backspace>. Gone! No AFC. You can do this either at the AFC Table or at the font listing under the AFC Table. Note that at the underlying font listing, the controlling font is listed at the top of the screen along with the Attribute, Size, or Character Set you are editing.

By the way you can hit F3 at any time to get a template of the Function Keys. Hit F3 again and your are at a help screen (if one exists for the feature you are at. <space> gets you back to reality. I've upload an extract of the Help File for version 5.1. Library 2. Named PTRHLP.ZIP, I think. WordPerfect sells, for $20, a manual for the PTR program. Unfortunately at this time (April, 1990), only a 5.0 version is available.

Where were we? The AFC Table, right. Thanks. OK, if you are not there, go back to the AFC Table. Hit SWITCH (SHIFT-F3). You are no at a Cross Reference Chart of the AFCs for all fonts. Play with this if you want (you can make the same type of changes here. Most people seem to find this more confusing than the AFC Table. Your choice, but I've confused you enough, so I'm going to ignore this screen. Hit SHIFT-F3, again.

Hit F7. Back at the menu under the font you picked. See its name up there at the top of your screen? Choose Substitute Fonts.

Here's the ever popular Substitute Font Table. Wander up and down. See if you like the selections made. Remember, each font can have up to nine Substitute Fonts listed. The marked fonts have a number next to them. This is the priority number. One highest, nine lowest. If you want to unmark a font, just cursor to it and <backspace>. If it was marked "4" then the font marked "5" will no be marked "4." If you see one not marked that you want marked enter the priority number you wish to assign it. The other marked fonts will have their priority numbers automatically changed. If you want to mark a font with the lowest priority (highest number), just hit *. If less than nine fonts are already marked, PTR will automatically assign this font the next available priority number. When you are done, F7 twice.

You are back at the Font List. Pick another font and continue the process for as long as you like. When you are finally done, F7 until you are back at the opening screen (just your printer's name). You have two ways to keep your work. The first, and simplest is to hit F7 one more time. Just as in WordPerfect you are asked if you want to save your work. If Yes, hit Y. If No (you made a dreadful error and rather than fixing it, you want to just forget the whole thing), hit N. PTR provides the current name of the PTR as the default choice. If you accept it, the next time you are in WordPerfect and are using this PRS, any changes you make will be reflected. If you want to save it under a new, hit F1 (CANCEL, *right now*). Choose Rename (1) Give the printer a new name (anything you want). Hit <return>. F7,Y and replace the default name with something else (the extension should always be PRS). F7,Y. Back at DOS.

The other way (much preferred by me) is to *not* Save the file, but COPY (CONTROL-F4) it. If you choose this, Rename (1) and give the printer a new name, <return>, CONTROL-F4. Name the PRS file (Again the extension should remain .PRS). F7,Y. Back at DOS. Why COPY rather than SAVE? Any unused junk in the PRS is removed. Also, in case you didn't take my advice way back when and copy the file to some safe name. This prevents (or, at least, helps prevent) you from saving under the old name.

You are at DOS. You either saved or copied to a new name. How do you get to use this wonderful, error-free, downright perfect PRS? Crack up WP. SHIFT-F7,S,A,L. Your masterpiece should be listed. Cursor to it. Hit S. You are now using it! Congratulations.

Playing with the ALL File

Now that you are an expert, you might want to futz with the ALL file. *Warning! Warning!* You can change Attribute Methods in the ALL file, but **DO NOT** and AFCs or Substitute Fonts. If you enter just one, when WordPerfect creates a new PRS file for you, it will not mark any AFCs or Substitute fonts. You'll have to manually mark each and everyone of them. Now, WordPerfect does a less than perfect job of marking these (that's why you remarked some, right?), but think: How many more did you *not* mark? Do you really want to mark each and every one? Heck no!

Load up PTR. Here's a another trick for you. At DOS, just type PTR <return>. Blank screen. SHIFT-F10, F5. Depending upon which version of PTR you are using, the default filename pattern either will be:

<div align="center">

c:\wordperf\printers*.ALL or
c:\wordperf\printers*.PRS

</div>

The c:\wordperf\printers\ part of it will, of course, really be whatever drive and directory you are working in. If it does say *.ALL, change it to that. <return>.

Since this is the ALL file, you might (and probably will see more than one printer listed. Cursor to the one you want to edit. <return>. Do the same thing (remember, Attribute Method only). Save or copy the same way (also changing the name of the printer (You actually should change the name of every printer listed) and the name of the file.

Since these changes were made to an ALL file, the changes won't be reflected in your current PRS file. If and when you create a new PRS from the modified ALL file, the changes will be reflected in the new PRS file.

That's it. All done.

Enjoy,
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