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Acorn

1st Word Plus

Printer Driver Guidelines

Many of the common problems encountered when trying to print from 1st Word Plus are caused by using the wrong printer driver or by not installing the right printer driver correctly. The following information gives details of how to:

        a) check which printer driver you need
        b) install your selected printer driver
        c) customise an existing printer driver

Applicable
Hardware :   A3000
             A400/1 series
             A5000
             A540

Related
Application
Notes:

NB Please ensure that you have taken backup copies of both 1st Word Plus discs before proceeding any further. Use only the backup discs for wordprocessing and for installing new printer drivers. Keep the originals in a safe place.

Users with Learning Curve hard disc systems should refer to page 7 for directory structures.

1.0   Check which printer driver your printer requires

Insert the 1st Word Plus Utilities disc and click once with the lefthand mouse button (Select) on the floppy disc icon on the icon bar at the bottom of the screen. This will display the following window:

This is the root (or $) directory on the Utilities disc. In it is a directory called 1WP_Print. Double clicking with the left hand mouse button on the icon will open a window containing two sub-directories, Config and Sources. Double click on Sources. This opens a window containing a number of printer driver source files for all the printers supported by 1st Word Plus. These are text files which can be read in !Edit or 1st Word Plus and, if in any doubt, the name of the printer is given in the first few lines of the file.

If there is no printer driver specifically for your printer, check your printer manual to see whether the printer will emulate any of the printers listed in this directory. If so, that is the printer driver you require. If your printer will not emulate any of the listed printers then refer to section 3.0 on how to customise an existing printer driver.

2.0   Installing the printer driver

Once you have selected the correct printer driver for your printer you will need to install it:

a) Insert the Program disc and click on the floppy disc icon to display the root directory. Double click on !1stWord+ in the root directory so that the 1st Word Plus icon appears on the icon bar.

b) Click once with the middle mouse button (Menu) over the 1st Word Plus icon on the icon bar to display the menu.

c) Click once with the lefthand mouse button (Select) on the menu option "Show Keypad". This will cause the 1st Word Plus keypad to appear (as below).

The 1st Word Plus keypad tells you which printer driver is currently installed. The box labelled PORT tells you whether you are printing to a parallel, serial or network printer. The box labelled DEVICE tells you which printer driver is loaded.

      d) Insert the Utilities disc. Open the 1WP_Print directory in the 1st Word Plus root directory and then double click again on the sub-directory called Config. This gives a list of configuration files that correspond to the source files listed in 1WP_Print.Sources.

      e) Drag the configuration file for your selected printer to the keypad and release it over the box labelled DEVICE. The name of your selected printer driver will then appear in this box replacing the previous one.

Your printer driver is now installed and will remain loaded until you either select a new one or exit from 1st Word Plus. It is possible to make your selected printer driver the default one that will be automatically loaded every time you start 1st Word Plus. Before creating a new default printer driver you should first rename the existing driver so that it is not lost:

      a) Insert the Program disc. Hold down the SHIFT key and double click over the !1stWord+ application.

      b) Menu (middle button) over the file called 1wp_print and follow the arrow for the option called "file 1wp_print".

      c) Follow the arrow for the RENAME option on the sub-menu and move across (see below).

      Delete what appears in the box, type in another name of your choice and press Return. Leave this window open. This renames the original driver in case you should need to relocate it.

      d) Insert the Utilities disc. In the root directory double click on 1WP_Print. Double click on the sub-directory Config to produce the list of configuration files.

      e) Drag the configuration file for your chosen printer driver into the open !1stWord+ application window (on the Program disc) alongside the newly renamed file. You will be prompted when to change discs.

      f) Using the same procedure as before rename your chosen configuration file to 1wp_print.

      g) Close all windows. Menu over the 1st Word Plus icon on the icon bar and select the Quit option.

      h) Insert the Program disc and restart 1st Word Plus. Select "Show Keypad" as before. Your chosen printer driver should now be installed in the box labelled DEVICE.

3.0   Customising and existing printer driver

You may wish to customise a printer driver if:

>   a) Your printer is unsupported and you need to write a new driver from scratch.
>   b) There are problems with the emulation that your printer offers.
>   c) You wish to make use of some of the capabilities of your printer which the current driver
>   does not do.

This is quite a complicated procedure and requires a certain amount of trial and error. Before attempting to follow the customising process, make sure that you have thoroughly read pages 135-149 of the 1st Word Plus User Guide. You will also need to use this book together with your printer manual for reference.

3.1   Which type of printer?

1st Word Plus supports three types of printer: Daisywheel, Dot Matrix and Standard. Once you have determined from your printer manual which type your printer is, you will have to edit the appropriate configuration file (called Daisy, Matrix, Standard), or another printer driver file close to that required for your printer, which can be found in the 1WP_Print.Sources directory on the Utilities disc.

3.2   The Source File

Most of the data in the files is numeric and these numbers are in hexadecimal. If your printer manual only lists the values in decimal you will need to convert them to hex by:

>   a) Press f12 to exit to the command line
>   b) at the * prompt type BASIC
>   c) type in PRINT ~nn where nn is the decimal number to be converted.

The first non blank line (excluding comment lines which are preceded by an asterisk) should be the printer's name. This should not exceed 32 characters.

3.3   Configuration variables

This consists of a single line containing six numbers separated by commas. The definitions of these are listed below. The hex values should be obtained from your printer manual.

>   Printer type (1 for daisywheel, else 0)
>   Unit width (character width in print units - daisywheel)
>   Unit height (linefeed height in printer units)
>   Middle of carriage (daisywheel)/Graphics resolution (dot matrix)
>   Carriage shift for bold (daisywheel only)
>   Pause between pages (1 for pause, else 0)
>
>   Example: For a Citizen 120D the variables would be: 0,0,C,48,0,0

3.4 Printer Characteristics

This is a table of commands sent to the printer by 1st Word Plus to control it operations, for example, style changes. The entries must be kept in increasing order of function number. Each entry starts with its entry number followed by the command codes (in hex) to be sent to the printer separated by commas. A comment may be included on the line preceded by an asterisk. You do not have to include all the listed commands for your printer. Where you wish to omit a command it is easiest to do this by making the entry a comment line by putting an asterisk at the start.

The following list gives the printer characteristics that 1st Word Plus support. For full descriptions see the 1st Word Plus User Guide appendix. The values for all these commands can be found in your printer manual.

Function	Characteristic	Function	Characteristic
0	Set character width (daisywheel only)	1A	Draft underline on
1	Linefeed	1B	Draft underline off
2	Forward print (daisywheel only)	1C	NLQ underline on
3	Backward print (daisywheel only)	1D	NLQ underline off
4	Vertical tab (optional)	1E	Formfeed (optional)
5	Absolute horizontal tab (non daisywheel)	1F	Horizontal initialisation (optional
6	Draft bold on	20	Vertical initialisation (optional)
7	Draft bold off	21	Printer reset (optional)
8	NLQ bold on	22	Backspace
9	NLQ bold off	23	Carriage return
A	Draft italic on	24	Form length in lines
B	Draft italic off	25	Set linefeed distance
C	NLQ italic on	26	Print graphics
D	NLQ italic off	27	Reserved
E	Draft light on	28	Draft Pica
F	Draft light off	29	NLQ Pica
10	NLQ light on	2A	Draft Elite
11	NLQ light off	2B	NLQ Elite
12	Draft superscript on	2C	Draft condensed
13	Draft superscript off	2D	NLQ condensed
14	NLQ superscript on	2E	Draft expanded
15	NLQ superscript off	2F	NLQ expanded
16	Draft subscript on	30	Black ink
17	Draft subscript off	31	Magenta ink
18	NLQ subscript on	32	Cyan ink
19	NLQ subscript off	33	Yellow ink

The table should be terminated with a line containing zero only.

Each function code must be followed by a commas. An unused function is preceded by an asterisk (commented out). The control code sequence for the function on your printer, in hex, follows the function code and each control code is separated by a comma.

Example: from the epson_lq source file.

4, 1B, 42, 80, 0, B   *Vertical tab to line

Function 4 controls the printer's vertical tabulation.
1B tells the printer that the following codes are printer control codes
42 sets the vertical tab positions 80 and 0
B causes the printer to tab vertically to the next vertical tab stop.

Hexadecimal 80 and 0 are both null values so there are in fact no vertical tabs set. Several printers emulating the Epson LQ range do not support this function properly and users can therefore find large gaps appearing in the text. The best thing to do under these circumstances is to comment out the function:

*4, 1B, 42, 80, 0, B   *Vertical tab to line

3.5   Character Translation Table

This table is used to translate the Archimedes character codes for output to the printer. Each entry consists of:

a) Archimedes character code which must be kept in order (starting A0)
b) The codes in hex, separated by commas to be sent to the printer
c) Each entry is terminated with a zero. A comment may be made preceded by an asterisk.

Archimedes character codes with a zero translation are printed as spaces. Archimedes character codes not in the table are sent directly to the printer without translation. The hexadecimal codes for these characters can be found in your printer manual's listing for the international character set.

Example: For Citizen 120D the entry for the Spanish upside down ! character would be:

A1, 1B, 52, 7, 5B, 1B, 52, 0

ie - A1 - the 1st Word Plus code for the character
       1B, 52, 7 - turn on Spanish character set
        5B - print the character
       1B, 52, 0 - turn of the international character set

The table should be terminated with a line containing zero only.

3.6   Converting your customised printer driver

You now need to prepare your printer driver for use with 1st Word Plus. To do this you must convert the hexadecimal file to a type that 1st Word Plus understands. This is done by using the !1stConvert program.

a) Insert the Utilities disc. Double click on !1stConvert and the following window will
    appear:

b) Hold down the lefthand mouse button and drag the newly customised file into the window and its name will appear in the box.

c) Click on OK and the "SAVE AS" box will appear. Enter the name that you wish to give your printer driver and then holding down the lefthand button drag the file into the directory where you want to keep it (1WP_Print.Config is probably best to avoid confusion). Once you have done this the 1stConvert window will reappear. Click on Cancel to close this.

3.7   Testing your configuration file

Now that you have customised your printer driver you will need to test it. To do this insert the Utilities disc and double click on the 1WP_Docs directory which will reveal a file called "printtest" which includes examples of all possible print styles/pitches and a character set table.

Install your printer driver as described in Section 2.0 and then drag the file"printtest" into the PRINT FILE box on the keypad. The file will now print.

If the result is not as expected for your printer then you should return to Section 3.2 and continue through the procedure again making any necessary corrections.

Directory structure for hard disc users

The following substitutions need to be made when using a Learning Curve hard disc system:

Program disc = $.1stWord+
Utilities disc = $.1stWord+.Utils

The structure of the files within these directories remains unaltered.