

TAS-SIGN

THE SIGN MAKER

A TASMAN SOFTWARE PROGRAM
FOR THE AMSTRAD CPC 6128 AND PCW 8256/8512

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TAS-SIGN

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1. Introduction

TAS-SIGN produces large lettering in a variety of sizes and styles on dot matrix printers. The eye-catching nature of the output produced by TAS-SIGN makes the program particularly suitable for printing signs, notices, posters and banners.

TAS-SIGN runs under CP/M Plus on the CPC 6128 and PCW computers.

There are two essential procedures which you should carry out before you use the program to create your own signs:

- (1) Create a working TAS-SIGN disc and store the original in a safe place as a back-up copy;
- (2) Run the TAS-SIGN configuring program to specify information about your make and model of printer.

These procedures are described in sections 2 and 3.

Section 4 is a tutorial introduction to the use of the program. You should work through this section on your computer to gain an initial understanding of the uses, capabilities and operation of the program.

Sections 5 and 6 are reference sections which list and describe the TAS-SIGN commands. Refer to the commands in these sections while working through the tutorial of section 4. Section 5 describes the editor commands which are used to type in, and correct, the text that is to be printed on the sign. Section 6 describes how to control the appearance of the printed sign.

Section 7 describes restrictions concerning the use of the program and errors which may be reported.

1.1 Keyboard Layout

The CPC and PCW computers have different keyboard layouts and legends. The only differences which affect the use of TAS-SIGN are the keys marked **CONTROL** and **ESC** on the CPC and the keys marked **ALT** and **STOP** on the PCW.

The TAS-SIGN program detects whether it is running on a CPC or a PCW and displays messages which refer to the keys as they are marked on the keyboard.

In this manual the keys are referred to by their CPC legends **CONTROL** and **ESC**. PCW users should note that:

CONTROL = ALT
ESC = STOP

PCW users should also note that the $\backslash$ character is typed by holding down **EXTRA** and pressing the $\frac{1}{2}$ key:

$\backslash$ = **EXTRA** $\frac{1}{2}$

2. Creating a Working TAS-SIGN Disc

Work through the following steps to create your working TAS-SIGN disc. Reference is made to disc drives A and B. If you do not have a second disc drive then a message on the bottom line of the display prompts you to change discs at the required times.

Ensure that your original TAS-SIGN disc is write-protected. A disc is write-protected when the two plastic tabs on one edge of the disc are pushed in towards the body of the disc.

2.1 CPC 6128

- (1) Load CP/M Plus. Insert side 1 of the discs supplied with the computer and type:

| CPM

and press the **RETURN** key. (The | 'bar' character is typed by holding down **SHIFT** and pressing the @ key.)

- (2) Type

DISCKIT3

and press **RETURN**. Then follow the instructions that appear on the screen to copy your original TAS-SIGN disc from drive A onto another disc in drive B. If you have only one disc drive then the computer will keep prompting you to change discs when required.

You now have a working TAS-SIGN disc that only needs to be configured for your printer before the program can be used. Store the original disc in a safe place. If you damage your working copy you will then be able to create another one.

2.2 PCW 8256 and 8512

- (1) Load CP/M Plus. This is accomplished by turning the machine on and inserting side 2 of the discs supplied with the computer.

- (2) Format a blank disc. Type:

DISCKIT

and press **RETURN**. Follow the instructions that appear on the screen to format a blank disc. When the format is complete follow the screen instruction to exit from the DISCKIT program.

- (3) Remove the blank and formatted disc and re-insert your CP/M Plus system disc.
- (4) In the final step all the files are copied from your original TAS-SIGN disc onto the blank disc that has just been formatted. Ensure that your CP/M Plus disc is in drive A and type:

PIP

and press the **RETURN** key. When the * prompt appears remove the CP/M Plus disc. If you have two disc drives put the original TAS-SIGN disc in drive B (the lower drive) and the formatted blank disc in drive A. If you have one drive then remember that the original TAS-SIGN disc is the disc for B and wait until the computer prompts you to insert it. Type:

A:=B:*.*

and press **RETURN**. If you have only one drive then the computer will keep prompting you to change discs.

You now have a working TAS-SIGN disc that only needs to be configured for your printer before the program can be used. Store the original disc in a safe place. If you damage your working copy you will then be able to create another one.

3. Configuring TAS-SIGN

Before TAS-SIGN can be used it must be configured for the make and model of printer attached to the computer. This is done by running the configuring program which is supplied on the TAS-SIGN disc. The configuring program creates a data file called TS.DAT which contains information about the specified printer. TAS-SIGN reads this data file every time that it is loaded. This configuring program is called TSCONFIG and it runs under CP/M Plus.

To run the configuring program put your working TAS-SIGN disc into drive A. The disc must remain in the drive while the configuring program is being used. Type:

TSCONFIG

and press **RETURN**. The configuring program then loads and the screen shows the current printer configuration.

Press any key and the screen changes to display a list of printers. If your make and model of printer appears on the list then press the appropriate key and then the **RETURN** key to confirm your selection.

If your make and model of printer does not appear on the printer selection list then refer to Appendix 1.

When a printer has been selected the program accesses the disc to read the data for the printer.

The configuring program then asks whether your printer requires a carriage return and a linefeed at the end of each line or just a carriage return. Press A or B to choose the option which matches your printer. If in doubt then select option B. If you then get a double line spacing effect when you use TAS-SIGN then run the configuring program again and choose option A.

Reply by pressing **N** to the final question concerning the character translation table. The function of the character translation table is described in Appendix 2 and you may wish to read this when you have become more familiar with the program.

The configuring program then finishes by accessing the disc to write out the data for your specified printer.

The configuring program does not need to be run again unless you accidentally delete the TS.DAT file, or if you change your printer, or if you wish to change the character translation table.

Once you have confirmed that you have configured TAS-SIGN successfully, by printing some of the example signs described in the next section, you can delete the configuring program files from your working copy of the program disc. This creates additional space on the disc to save signs. The configuring program files, which may be deleted once TAS-SIGN has been configured, are:

TSCONFIG.COM
TSCONFIG.TXT
TSCONFIG.DAT

To delete these files type the CP/M command: **ERA TSCONFIG.***

4. A Tutorial Introduction

This section consists of tutorial examples. As you work through these examples on your computer you should refer to sections 5 and 6 in which the editing and layout commands are described in detail.

With the computer running CP/M Plus, ensure that your working TAS-SIGN disc is in drive A and type:

TS

and press the **RETURN** key. This is the command that is used to load and run TAS-SIGN once CP/M has been loaded.

When the program has loaded the display shows the TAS-SIGN screen:

Options	
Font: STANDARD	Italics: off
Orientation: landscape	Spacing: prop.
Strike: single	Underline: off
Density: single	Reverse: off
Meshing: off	Centering: off
Height: 90	Gap: 5
Border: 0	Stretch: 100
Hatching: none	
Press CTRL O to change these Options.	
Height:	
Gap:	
Height:	
Gap:	
Height:	
Gap:	
Height:	
Gap:	
Height:	
Gap:	
Total:	Line: 1 Col: 1 Insert: off COPY=scroll help ESC =print TAS-SIGN (C)

Do not remove the TAS-SIGN disc from the drive.

4.1 The First Sign

Type the word:

Hello

so that the top part of the screen appears as shown below. If you make a typing mistake then use the cursor keys and/or the delete keys to correct your typing.

Options		
Font: STANDARD	Italics: off	Height: 90
Orientation: landscape	Spacing: prop.	Gap: 5
Strike: single	Underline: off	Border: 0
Density: single	Reverse: off	Stretch: 100
Meshing: off	Centering: off	Hatching: none
Press CTRL O to change these Options.		
Height:	Hello	
Cap:		
Height:		
Cap:		

Now press the **ESC** key to print the sign:

Hello

The disc drive is accessed while the text is being printed. This is because the information describing each character shape is held on the TAS-SIGN disc. For this reason **the TAS-SIGN disc must always remain in the drive while the program is being used.**

4.2 Changing the font

The area at the top of the screen shows a set of options that controls the appearance of the printed sign. The message at the top left of the options area shows that the first sign was printed in the font called Standard. A font is a style of lettering. The object of this exercise is to print the 'Hello' sign again in a different font.

Hold down **CONTROL** and press the letter **O** key. Such a keypress is in future referred to as **CONTROL O**. This particular keypress is used to change the options shown at the top of the screen.

If you have pressed **CONTROL O** the current font is now shown highlighted:

Options	
Font: STANDARD	Italics: off
Orientation: landscape	Spacing: prop.
Strike: single	Underline: off
Density: single	Reverse: off
Meshing: off	Centering: off
CURSOR KEYS select option. SPACE BAR changes option. RETURN returns to text	
Height:	90
Gap:	5
Border: 0	
Stretch: 100	
Hatching: none	
Height:	90
Gap:	5
Border: 0	
Stretch: 100	
Hatching: none	

Pressing the space bar changes the highlighted option. Keep pressing the space bar to see the names of all the available fonts. Then use the space bar to select the font called Western. Finally, press **RETURN** to finish changing the options.

Options	
Font: WESTERN	Italics: off
Orientation: landscape	Spacing: prop.
Strike: single	Underline: off
Density: single	Reverse: off
Meshing: off	Centering: off
Press CTRL O to change these Options.	
Height:	90
Gap:	898
Border: 0	
Stretch: 100	
Hatching: none	
Height:	90
Gap:	898
Border: 0	
Stretch: 100	
Hatching: none	

Now press **ESC** to print the sign in the Western font:

Hello

4.3 Changing the Orientation

The second item in the left column of the Options area of the screen shows that the two signs you have printed have been in landscape orientation. Landscape orientation means printing along the length of the paper. The object of this exercise is to print the sign in portrait orientation which means across the width of the paper.

Press **CONTROL O** to change the options. Press the down arrow cursor key to highlight the orientation option. Then press the space bar to change the orientation from landscape to portrait. Finally, press **RETURN** to finish changing the options.

Now press **ESC** to print the sign again, this time in portrait orientation.

4.4 Changing the Character Height

Press **CONTROL O** again to change the options and use the cursor keys and the space bar to make the following changes:

- (1) Change the orientation back to portrait;
- (2) Select the font of your choice;
- (3) Change the height option at the top right hand corner to 400. Accomplish this by highlighting the option and pressing the space bar. Then type the required number, 400, and press **RETURN**.

Press **RETURN** again to finish changing the options and then press **ESC** to print the sign with the new height.

The unit of height is the size of a dot printed by a single pin in the print head of your printer.

If you specify a character height that is too large (typically 480 or 640 depending on the make of printer) then the screen shows an error message when you try to print the sign.

There is an alternative method of specifying character heights which allows the height of each line of text to be selected independently. This is accomplished by pressing **CONTROL H** when the cursor is in the required line of text, and is described in section 6.3.

4.5 Changing the Font using Embedded Commands

In the previous exercises you have controlled the appearance of the printed sign by changing the options at the top of the screen.

There are commands which affect the layout of the sign which can be 'embedded' in the text. These commands just take effect from their position in the text. An embedded layout command must be contained within \ characters.

In the screen illustrated below the font in the options area is Standard and there is an embedded command:

\ Fwestern\

at the start of the second line of the text. When this sign is printed the first line will be in the Standard font and the second line will be in the Western font.

		Options	
Font:	STANDARD	Italics:	off
Orientation:	landscape	Spacing:	prop.
Strike:	single	Underline:	off
Density:	single	Reverse:	off
Meshing:	off	Centering:	off
		Height:	90
		Gap:	5
		Border:	0
		Stretch:	100
		Hatching:	none
Press CTRL O to change these Options.			
Height:	Hello		
Gap:			
Height:	\western\There		
Gap:			
Height:			

Try printing this sign. Note that the height is set back to 90.

Embedded commands can be placed at any position. They do not have to be at the beginning of a line. Also, in the font selection command it is sufficient to specify just enough letters of the font name to uniquely identify the font. This means that the shorter form of the embedded command:

\ Fw\

will work just as well provided that there is no other font whose name begins with the same letter.

The embedded commands are described in section 6.2. Also, the **COPY** key may be used to display a list of these commands.

4.6 Over to you

In the previous exercises you have learned how to change the options and also how to embed layout commands within the text.

You might now like to experiment with some of the options and embedded commands that you have not used in the above exercises. Refer to section 6 for a list and explanation of the options and commands.

4.7 Some further examples

The TAS-SIGN disc includes some example signs which demonstrate the use of the options and embedded commands.

To load a sign from disc press **CONTROL L**. A list of the signs stored on the disc is displayed. The example signs are named:

EXAMPLE1
EXAMPLE2
EXAMPLE3 etc.

Type a sign name and press **RETURN** to load the sign. Then print the sign and study the options and embedded commands. Refer to section 6 to understand the effect of these commands.

5. Editor Commands

COPY scroll help

The top part of the screen shows one of the following four sets of information:

Options
Editing commands
Layout commands
Fonts

The **COPY** key is used to view the next item in the above list.

ARROW KEYS move cursor

The arrow keys at the right of the keyboard are used to move the cursor to any required position on the screen.

SHIFT ← word left

Holding down **SHIFT** and pressing the ← key moves the cursor to the start of the word to the left of the cursor.

SHIFT → word right

This command moves the cursor to the start of the next word to the right.

CONTROL ← start of line

Holding down **CONTROL** and pressing the ← key moves the cursor to the start of the line.

CONTROL → end of line

This command moves the cursor to the end of the line.

CONTROL ↑ start of screen

This command moves the cursor to the beginning of line 1.

CONTROL ↓ end of screen

The cursor is moved to the end of the last line by this command.

CONTROL Q move text left

This command moves the text under and left of the cursor left one character position. There is no effect if there is already a character at the left margin.

CONTROL E move text right

This command moves the text under and to the right of the cursor right one character position. There is no action if there is already a character at the right margin. This command is useful for creating additional space to insert additional letters or words into existing text.

CONTROL D delete line

This command deletes the line containing the cursor. Subsequent lines are moved up.

CONTROL I insert line

A new blank line is inserted at the line containing the cursor by this command. There is no action if there is already text in the final line.

CONTROL K insert mode on/off

When insert mode is off a character that is typed overwrites any character at the current cursor position. When insert mode is on a space is created for any character that is typed by moving the remainder of the line to the right. The current insert mode setting is shown in the status line at the bottom of the screen.

CONTROL O change options

This command is used to change one or more of the options in the options area at the top of the screen. After **CONTROL O** has been pressed the cursor keys are used to select an option that is to be changed. The **SPACE BAR** key changes the selected option. Press **RETURN** to finish changing options and to return to the text. The options are described in section 61.

Whenever TAS-SIGN is loaded it inspects the disc to see if it contains a sign file with the name START. If there is a file called START then it is loaded. This facility allows a sign file (which need not contain any text) to be saved which consists of the options set to those that you most often use. This file is then loaded automatically whenever TAS-SIGN is loaded.

ESC print sign

The sign is printed when the **ESC** key is pressed. There is a delay before the printing starts while TAS-SIGN inspects the text and constructs an overview of the sign. Once printing has started it can be abandoned by pressing the **ESC** key again.

During printing a decreasing count is shown at the bottom left hand corner of the screen. The count shows the remaining number of dot units along the length of the paper. Printing finishes when the count reaches zero.

CONTROL S save sign

This command saves a sign to disc. A list of the signs currently held on disc is displayed. The program then asks for a name for the sign to be saved. Type a name, up to eight characters, and consisting of letters and/or numbers. Then press **RETURN**.

Press **ESC** to abandon the save operation.

There is one special sign name. If a sign is saved with the name:

START

then this sign will automatically be loaded the next time that TAS-SIGN is loaded. This is particularly useful for setting up default options.

CONTROL L load sign

This command loads a sign that has previously been saved to disc. A list of the signs that are held on disc is displayed. The program then asks for the name of the sign to be loaded. Type one of the sign names and press **RETURN**, or press **ESC** to abandon the load operation.

During a load or a save the drive may be changed by typing the drive letter followed by a colon in place of a filename. The top part of the display then changes to show a list of the sign files on the disc in the specified drive.

CONTROL A enter alternate characters

The alternate characters are those with codes between 128 and 254. They cannot be typed directly from the keyboard. When this command key is pressed TAS-SIGN requests a code. Type a number between 128 and 254 and press **RETURN**. The requested alternate character from the CP/M Plus character set will then appear at the cursor position. Note that, due to disc space limitations, the fonts supplied with TAS-SIGN for the CPC and PCW computers contain very few of the alternate characters. The characters in each TAS-SIGN font are listed in Appendix 4. If a sign contains a character that is not in the font then it is printed as a space.

CONTROL C exit to CP/M

This command is used to finish working with TAS-SIGN and return to CP/M. The program requests confirmation before obeying this command.

6. Layout Commands

There are three ways in which the layout of the printed sign can be controlled:

- (1) By changing the options shown in the options area at the top of the screen.
- (2) By embedding commands within the text. Embedded commands begin and terminate with the \ character.
- (3) By directly changing the character height and the gap for each line.

6.1 Options

Press **CONTROL O** to change options. Then use the cursor keys to select the required option and press the space bar to change the option.

The various options are listed below.

Font

The font is selected by this option. The font may be changed part way through a sign by an embedded command described in section 6.2

Orientation

The orientation of text can be either portrait or landscape.



In landscape orientation the text is printed at right angles to the direction of paper movement. Landscape orientation is suitable for printing long signs or banners in large letting as a line of text can be printed across several sheets of paper.

When portrait orientation is selected, TAS-SIGN prints the text horizontally across the paper in the same direction as when the printer is being used normally. In portrait orientation there is a limit to the number of characters that can be printed out on each line. This limit depends on the size of character selected, as well as the type of spacing and stretch factor used.

Strike

The strike can be single or double.

If double strike printing is turned on then the print head repeats each pass across the paper width. This results in darker print but the sign takes more time to produce.

Double strike printing is not possible if your printer is set up to do an automatic linefeed when it receives a carriage return.

Density

Single or double density graphics may be selected. In single density most models of printer print 480 dots across the width of the paper. In double density this is increased to 960 dots resulting in better definition and darker image, but the sign takes longer to print.

A few models of printer do not have a double density graphics mode.

Meshing

Meshing may be on or off. When meshing is on the print-head performs one or two (depending on the printer model) additional passes printing dots between the dots printed on the first pass.

Meshing enhances the definition and gives a darker image but the sign takes two or three times longer to print.

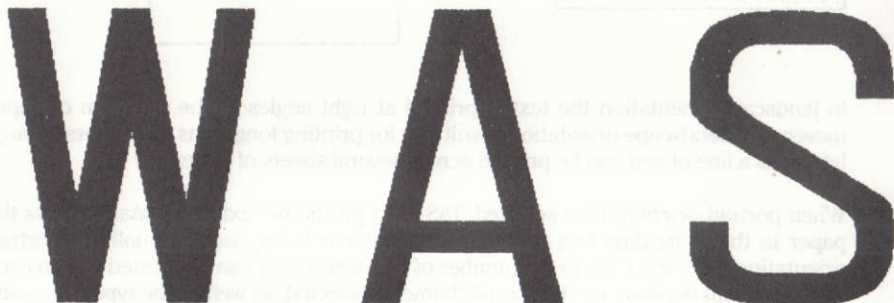
The combination of meshing on and double density gives particularly good results.

Italics

Letters may be printed in both normal and italic forms. This option toggles between the two forms. There is also an embedded command that turns italics on and off.

Spacing

Spacing may be proportional, kerned, or constant. With constant spacing each letter takes up the same amount of space along the line. The amount of space is that of the widest character in the font.

The image shows three large, bold, black letters: 'W', 'A', and 'S'. They are rendered in a sans-serif font. The spacing between the letters is uniform, illustrating the 'CONSTANT SPACING' feature. The 'W' and 'A' are significantly wider than the 'S', yet the gaps between them are consistent with the gap between the 'S' and the next (unseen) character.

CONSTANT SPACING

With proportional spacing the spacing between the right edge of one letter and the left edge of the next letter is adjusted to be approximately the same between any pair of letters.

WAS

PROPORTIONAL SPACING

Kerning is the same as proportional spacing except that, in addition, the gap between letters which can overlap each other is decreased to give a more uniform and pleasing effect.

WAS

KERNING

There is also an embedded command which may be used to change the spacing part way through a document.

Underlining

This option is used to specify if the text in the sign is to be underlined. There is also an embedded command to turn underlining on and off.

Reverse

If reverse is turned on, then the sign is printed as white lettering on a black background.

Centering

If centering is turned on then each line of text is centered when the sign is printed. If the sign is in landscape orientation then the centering is with respect to the longest line. In portrait orientation the centering is across the width of the paper.

There is an embedded command which may be used to centre individual lines when the centering option is off.

Height

This option specifies the default character height. The character height is specified in units of pins in the print-head (i.e. the size of a dot). The maximum allowed height is typically 479 or 639. The minimum recommended heights are given in Appendix 4.

The character height for each line may also be specified directly as described in section 6.3 and this over-rides any height specified in the options area.

Gap

This option specifies the default gap between the lines. The gap is measured in the same units as character height.

Border

This option instructs TAS-SIGN to print a border around the sign. The number gives the size of the border. Enter the number 0 for no border. The border is printed across the width of the paper and is printed in whatever hatch is specified in the options area.

Stretch

The width of characters relative to their height can be stretched or condensed by specifying a stretch factor. Normal width lettering has a stretch of 100, double width lettering has a stretch of 200, and a stretch of 50 specifies half width characters. Any stretch between 50 and 200 may be selected.

There is an embedded command to change the stretch part way through a sign.

Hatching

When a character is hatched the area inside the character shape is printed in a pattern. This pattern is called the hatching pattern. Note that these hatching patterns apply to landscape orientation only. When a sign is printed in portrait orientation the hatching pattern is as for landscape orientation.

The hatching patterns are illustrated in Appendix 5.

Hatching may also be controlled by embedded commands.

6.2 Embedded Commands

Commands that are embedded in the text must be contained within \ characters. For example, the **I+** command to turn italics on, would be typed into the text as:

\ I+ \

More than one command can be inserted at the same place in the text by separating the individual commands by semicolons. An embedded command to turn both italics and underlining on would be entered as:

\ I+ ; U+ \

Spaces are ignored in embedded commands and the case of letters is not significant, so that the above command is the same as:

\ i + ; u + \

Fname select font (name = font name)

This embedded command is used to select a specified font. The characters following the **Fname** command are printed in the specified font until another **Fname** command is encountered. In the following example the font is changed first to Casual and then to Block:

The font is \ Fcasual \ changed twice in \ Fblock \ this example.

It is sufficient to type just enough letters of the font name to uniquely identify the font. The following example is therefore equivalent to that shown above:

The font is \ Fc \ changed twice in \ Fb \ this example.

provided that there are no other fonts on the disc whose names begin with the letters C or B.

Snn select stretch factor (nn = number)

The width of characters relative to their height can be stretched or condensed by specifying a stretch factor. Normal width lettering has a stretch of 100, double width lettering has a stretch of 200, and a strength of 50 specifies half width characters. Any stretch between 50 and 200 may be selected.

\ S200 \ Double width, \ S50 \ half width, \ S100 \ and normal width.

Knn manual kern (nn = number)

The characters on each side of this command are kerned by the specified number of units. It is not usually necessary to use this command as automatic kerning between letters may be specified in the options area or by the **S+** embedded command. This command may, however, be used to kern non-letter characters, and may also be used to force letters to overlap although there is no guarantee that they will then print correctly.

I+/- italic on/off

Letters may be printed in both normal and italic forms. This option toggles between the two forms.

Italics are \I+ \ turned off and then \I- \ off in this line.

U+/- underlining on/off

Some words in a sign can be given extra emphasis by underlining. This command is used to turn underlining on and off.

Judicious use of \U+ \ underlining \U- \ is effective.

S+/-/= spacing kerned/proportional/constant

The three possible embedded commands for changing the type of spacing between letters are:

\S+ \	kerned spacing
\S- \	proportional spacing
\S= \	constant spacing

These types of spacing are described in section 6.1.

C centre line

This command centres the line of text in which it is embedded. The centering is relative to the longest line when in landscape orientation, and is relative to the width of the paper when in portrait orientation.

R right align

This command right aligns all the text on the line to the right of the command. The text to the right of the command is moved right so that the right edge is level with the longest line of text (landscape orientation) or is at the right edge of the paper (portrait orientation).

Hx select hatching

HN = no hatching

HV = vertical

HH = horizontal

HF = forward diagonal

HB = backwards diagonal

HC = cross diagonal

H@ = cross orthogonal

HS = squares

HD = diamonds

Hatching is described in section 6.1. The hatching patterns are illustrated in Appendix 5.

6.3 Character Height and Gap

CONTROL H select character height

The character height for a line is specified by pressing **CONTROL H** while the cursor is on the required line. The cursor then moves into the 'height and gap' box at the left of the screen. Type the required character height and press **RETURN**.

Specifying the height in this manner over-rides the height specified in the options area.

The character height is specified in units of pins in the printer pin-head. The maximum allowed height depends on the printer and is typically 479 or 639.

If the height of a line is not specified then TAS-SIGN prints the line at the same height as the previous line.

CONTROL G select gap between lines

This option is used to specify the gap between lines. The gap is specified in the same units as character height.

7. Errors and Restrictions

The maximum number of fonts that TAS-SIGN can access simultaneously is 16.

The maximum number of characters that can occur in a sign is 250.

Before TAS-SIGN begins printing a character shape it reads data for the shape from disc and constructs a mathematical representation of the shape in memory. The maximum number of character shapes that can be held in memory is 32. This results in the restriction that TAS-SIGN cannot print more than 32 characters simultaneously. Once a character shape has been printed the memory it occupies becomes free for further characters.

When TAS-SIGN is instructed to print, various checks are made to ensure that the sign can be printed successfully. If any of the following errors are reported then the sign is not printed.

Embedded command too long or not terminated

The most common cause for this error is that an embedded command has not been terminated with the \ character.

Syntax error in embedded command

This error is reported when an invalid embedded command is encountered.

Font not found

An incorrect font name has been specified. The **COPY** key may be used to display the font names at the top of the screen.

Single option not terminated or too long

This error may occur when embedded commands have not been separated by semicolons, or where the terminating \ character has been omitted.

No text characters

There are no characters to be printed.

Too many text characters

The sign contains more than the maximum number of characters.

Cannot fit with specified sizes

This error is reported when the height, gap sizes, and the number of lines if in landscape orientation, or the number of characters in the longest line if in portrait orientation, have been set such that the total height or width of the sign cannot fit across the width of the paper. The only solution is to decrease the heights, gaps, and/or the number of lines if in landscape orientation, or to reduce the number of characters in the longest print line in portrait orientation.

Invalid border width

Invalid height

Invalid gap

The specified value is too large.

Invalid stretch factor

The specified stretch is outside the range 50-200.

The following errors can occur during the printing of a sign:

Too many characters in Raster Space

Too many line segments in Raster Space

These errors occur if the computer has no more free memory in which to construct character shapes. If one of these errors does occur then the only solution is to re-design the sign in such a way as to reduce the number of characters that are being printed simultaneously. If in portrait orientation then increasing the gaps to a value of greater than 8 will sometimes stop the error from occurring.

Appendix 1 – Configuring TAS-SIGN for printers not on the list

If your make and model of printer is not on the printer selection list then it is very likely that the program will work if a similar printer on the list is selected. If a printer on the list is the same make, but a different model, from your own, then select this printer and try running TAS-SIGN. If this does not work, or if there is no printer from the same manufacturer as your printer on the list, then it is worth trying the Epson FX-80 option. In as much as there is a standard for printers (there is not) the Epson FX-80 is the standard. If this fails, then the option on the printer selection screen:

press * to define some other printer

should be selected. The program then asks for the following information concerning your printer. This information can be obtained from your printer manual. Where a sequence of numbers is required press **RETURN** after typing each number and press **RETURN** for a second time to terminate the sequence.

- (1) The sequence for graphics line spacing. This is the control code sequence that adjusts the distance the paper is moved after each line is printed so that there is no gap between the bottom dot of one line and the top dot of the next line. On many printers this line spacing is $\frac{7}{12}$ of an inch. The CPC can only use seven pins of an eight pin print-head in graphics mode and this fact should be taken into account when calculating the required line spacing, by specifying some smaller line spacing.
- (2) The sequence for normal line spacing. This is the control code sequence that adjusts the distance the paper is moved after each line is printed so that there are six lines per inch.
- (3) The first and the second sequence for single density bit image (graphics) printing and the number of dot positions for each sequence. Each of these sequences should put the printer into bit image mode for the specified number of dots. The sum of the number of dots for each sequence should equal the total number of dots across the width of the paper in single density bit image mode.

Two sequences are sometimes necessary as the CPC cannot send a code greater than 127 to the printer. This means that the usual 'ESCAPE K' Epson type sequence for 480 bytes of graphics data:

27	75	224	1	(224 + 1 × 256 = 480)
----	----	-----	---	-----------------------

cannot be used as the CPC cannot send code 224. The problem is circumvented by sending two sequences:

27	75	127	1	(127 + 1 × 256 = 383)
27	75	97	0	(97 + 0 × 256 = 97)
				(Total = 480)

If only one sequence is necessary then enter a null sequence for the second sequence.

- (4) The first and second sequence for double density bit image (graphics) printing and the number of dot positions for each sequence. The same considerations apply here as in (3) above.
- (5) The number of mesh passes. If the printer can linefeed $\frac{1}{216}$ of an inch then set the number of mesh passes to 2. If it can linefeed $\frac{1}{144}$ of an inch then set the number of mesh passes to 1. If the minimum possible linefeed is greater than $\frac{1}{144}$ of an inch ($\frac{1}{72}$ of an inch on some printers) then set the number of mesh passes to zero.
- (6) The sequence for intra-mesh line spacing. This is the sequence of codes that sets the linefeed spacing to $\frac{1}{216}$ or $\frac{1}{144}$ of an inch.
- (7) The sequence for mesh pass line spacing. This is the linefeed distance after the one or two mesh passes. On a printer with a graphics line spacing of $\frac{7}{72}$ ($= \frac{21}{216}$) of an inch with two $\frac{1}{216}$ inch mesh passes the required linefeed would be $\frac{19}{216}$ of an inch.
- (8) The number of pins in the print-head (7 or 8). Always specify 7 for the CPC 6128 as it cannot drive the eighth pin of an eight pin printer.
- (9) Whether the least significant pin is at the top or bottom of the print-head.
- (10) The printer name.

Appendix 2 – The character translation table

This appendix is more readily understood if the configuring program TSCONFIG is loaded and worked through to the 'Do you wish to change the character translation table?' prompt. Press **Y** for yes to view the character translation table.

The character translation table consists of the CP/M Plus character set together with the character codes for all the characters with codes 32 to 254. Also shown, in inverse, for each character is another code. Whenever TAS-SIGN prints a character it inspects this table and prints the character in the TAS-SIGN character set (which is different from the CP/M Plus character set) which has the code shown in inverse.

For example, the pound sign in the CP/M Plus character set has code 163. In the TAS-SIGN character set the pound sign has code 156. For this reason TAS-SIGN is supplied with the character translation table set up to convert character code 163 to 156 before the character is printed.

With the exception of the pound sign the fonts supplied with the UK version of TAS-SIGN contain none, or very few, of the alternate characters (the characters with codes 127 and above). The reason for not including the alternate characters is that the font files are then so large that only two, rather than four, would fit on the program disc.

The UK version of TAS-SIGN is supplied with the ability to type and translate the alternate characters for compatibility with non-UK versions, and also so that extended font files containing alternate characters may be used if they are obtained.

Appendix 3 – The TAS-SIGN alternate characters

The TAS-SIGN character set consists of characters with numerical codes between 32 and 254 inclusive. The characters with codes from 32 to 127 are the standard ASCII characters. The characters with codes 128 to 254 are the TAS-SIGN alternate characters. The alternate character set includes accented characters and other symbols not in the ASCII set.

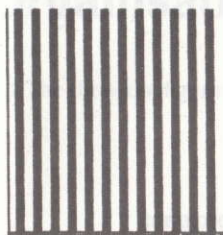
	0	1	2	3	4	5	6	7	8	9
1 2 0									Ç	ü
1 3 0	é	à	ä	à	á	ç	é	ë	è	ï
1 4 0	ì	ì	Ä	À	É	æ	Æ	ó	ö	ò
1 5 0	ù	ù	ÿ	Ö	Ü	ç	£	¥	℞	ƒ
1 6 0	á	í	ó	ú	ñ	Ñ	ª	º	¿	®
1 7 0	‰	½	¼	í	«	»	α	ø	∅	œ
1 8 0	œ	Á	À	À	©	†	‡	●	°	™
1 9 0			†	‡	↑	↓	←	→	ã	Ã
2 0 0	Š	š	Ž	ž					đ	Đ
2 1 0	Ê	Ê	È	í	í	í				
2 2 0			ì		Ó	Ó	Ó	Ò	õ	Õ
2 3 0	μ			Ú	Ú	Ú	ý	Ý		
2 4 0		±	»	«	¶	§	÷	≈	∫	Ç
2 5 0	ğ	ı		Ş	ş					

Appendix 4 – The TAS-SIGN fonts

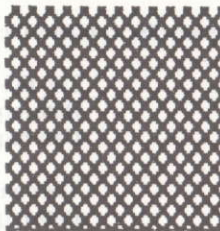
STANDARD
WESTERN
CASUAL
BLOCK

Alternates: pound sign
Min. recommended height: 60

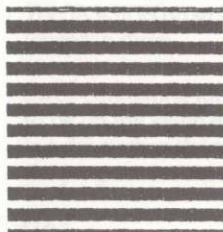
Appendix 5 – The hatching patterns



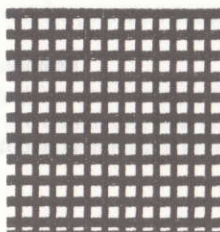
vertical



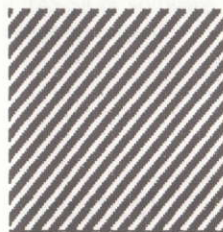
cross diagonal



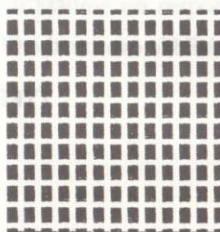
horizontal



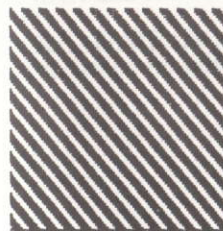
cross orthogonal



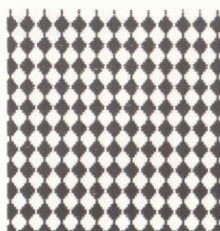
forward diagonal



squares



back diagonal



diamonds

Appendix 6 – The program disc

The TAS-SIGN program disc contains the following files:

TS	.COM	The TAS-SIGN program.
TS	.DAT	Data required by TAS-SIGN.
TS	.TXT	Data required by TAS-SIGN.
TSCONFIG.COM		The configuring program.
TSCONFIG .TXT		Data required by the configuring program.
TSCONFIG .DAT		Data required by the configuring program.
START	.TAS	Auto-loading sign file.
EXAMPLE1. TAS		Example TAS-SIGN text files.
EXAMPLE2. TAS		
EXAMPLE3. TAS		
BLOCK	.FNT	Font data files.
CASUAL	.FNT	
STANDARD	.FNT	
WESTERN	.FNT	
READ	.ME	An ASCII file containing additional information supplementing this manual.

To view the READ.ME file execute the CP/M command:

TYPE READ.ME

Appendix 7 – Notes on Disc Organisation

- (1) The three configuring program files:

TSCONFIG.COM
TSCONFIG.TXT
TSCONFIG.DAT

may be erased from the working copy of the program disc once the configuring process has been successfully carried out.

- (2) The TAS-SIGN program may be loaded from any drive provided that it is the currently logged in drive.
- (3) Discs containing font data files may be in any drive and font data files do not have to be on the same disc as the program. Any disc containing font data files must be in a drive when the program is loaded and must not be removed from the drive while the program is running.

Notice

Some printer manuals warn that the continuous printing of bit image data can damage the print-head. Whilst no such damage was detected during comprehensive testing of the TAS-SIGN software, Tasman Software Ltd can assume no responsibility for any damage so caused.

Addendum

The program is now supplied with six fonts in addition to those shown in Appendix 4. The two extra fonts are ROMAN and HOBART.

The READ.ME file and the EXAMPLE.TAS files are now recorded on side B of the program disc.

