

***TAS-SIGN***

---

***64***

---

***THE SIGN MAKER***

---

---

***A TASMAN SOFTWARE PROGRAM***  
***FOR THE COMMODORE 64***

---

# TAS-SIGN 64

© Tasman Software Ltd. 1988

This program is copyright and is sold subject to the condition that it shall not be lent, resold, hired out, or otherwise circulated.

**Tasman Software Ltd.  
Springfield House  
Hyde Terrace  
Leeds LS2 9LN**

TAS-SIGN is a trademark of Tasman Software Ltd.  
TASMAN is a registered trademark of Tasman Software Ltd.

Reproduction or translation of any part of this work or the computer program disc that accompanies this publication without prior written permission of the copyright owner is unlawful.

# Contents

<b>1. Introduction</b> .....	3
<b>2. Configuring TAS-SIGN</b> .....	4
<b>3. A Tutorial Introduction</b> .....	6
3.1 Loading TAS-SIGN .....	6
3.2 The first sign .....	6
3.3 Changing the font .....	7
3.4 Changing the orientation .....	8
3.5 Changing the character height .....	8
3.6 Changing the font using embedded commands .....	9
3.7 Over to you .....	10
3.8 Some further examples .....	10
<b>4. Editor Commands</b> .....	11
<b>f5/f7</b> scroll help .....	11
<b>CRSR KEYS</b> move cursor .....	11
<b>HOME</b> start of screen .....	11
<b>DEL</b> delete left .....	11
<b>INST</b> insert character .....	11
<b>CTRL D</b> delete line .....	11
<b>CTRL I</b> insert line .....	11
<b>CTRL O</b> insert mode on/off .....	11
<b>f1</b> change options .....	11
<b>CTRL P</b> print sign .....	12
<b>⌘ S</b> save sign .....	12
<b>⌘ L</b> load sign .....	12
<b>5. Layout Commands</b> .....	13
<b>5.1 Options</b> .....	13
Font .....	13
Orientation .....	13
Strike .....	14
Density .....	14
Meshing .....	14
Italics .....	14
Spacing .....	14
Underlining .....	16
Reverse .....	16
Centering .....	16
Height .....	16
Gap .....	16
Border .....	16
Stretch .....	17
Hatching .....	17

5.2 Embedded Commands .....	17
<b>Fname</b> select font .....	17
<b>Snn</b> select stretch factor .....	18
<b>Knn</b> manual kern .....	18
<b>I+/-</b> italic on/off .....	18
<b>U+/-</b> underlining on/off .....	18
<b>S+/-/=</b> spacing kerned/proportional/constant .....	18
<b>C</b> centre line .....	19
<b>R</b> right align .....	19
<b>Hx</b> select hatching .....	19
5.3 Character height and gap .....	19
<b>CTRL H</b> select character height .....	19
<b>CTRL G</b> select gap between lines .....	19

**6. Errors and Restrictions** ..... 20

**Appendices**

1— Configuring TAS-SIGN for printers not on the list .....	22
2— The program disc .....	23
3— The TAS-SIGN fonts .....	24
4— The hatching patterns .....	25
5— The example files .....	26
6— Hatching and kerning .....	26
7— Minimum height .....	26
8— Maximum total height .....	27
9— Additional embedded commands .....	27
10— Using blank lines to control screen layout .....	27
11— Underlining .....	27
12— The unsupported embedded height command .....	28
13— Non-Commodore printer interfaces and cables .....	28

# 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.

There is an essential procedure which you should carry out before you use the program to create your own signs. This is to run the TAS-SIGN configuring program, TSCONFIG, to specify information about your make and model of printer and how it is attached to the computer. This procedure is described in section 2.

Section 3 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 4 and 5 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 3. Section 4 describes the editor commands which are used to type in, and correct, the text that is to be printed on the sign. Section 5 describes how to control the appearance of the printed sign.

Section 6 describes restrictions concerning the use of the program and errors which may be reported.

## 2. Configuring TAS-SIGN

Before TAS-SIGN can be used it must be configured for the make and model of printer and for the interface through which it is attached to the computer. This is done by running the configuring program which is supplied with TAS-SIGN. The configuring program creates a data file called TSDATA which contains information about the specified printer and interface. TAS-SIGN reads this data file every time that it is loaded. The configuring program is called TSCONFIG.

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

**LOAD "TSCONFIG",8,1**

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.

The printers are listed by alphabetical order of make. There is more than one printer list and the **f1** and **f7** keys are pressed to move through the lists. If your make and model of printer appears on one of the lists 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 lists then refer to Appendix 1.

When a printer has been selected there is a short delay while the program reads the data for the printer. The screen then shows the data. Press any key to continue.

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**.

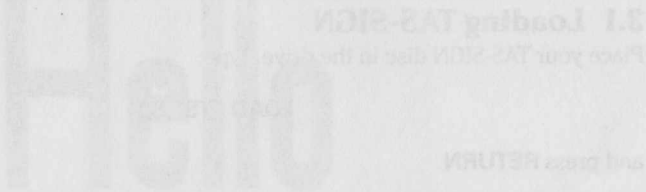
The configuring program then asks you to specify the printer secondary address. You should specify the secondary address for your printer and/or interface that causes data to be sent to the printer without alteration. Some examples of secondary addresses for particular equipment are shown on the screen.

The configuring program then allows you to select your preferred choice of screen colours. If the screen goes blank while you are selecting colours then the character and background colours are the same. Just press **C** or **B** to change the character or background colour until you can read the screen again.

The configuring data that you have specified is now saved to the disc and the program finishes.

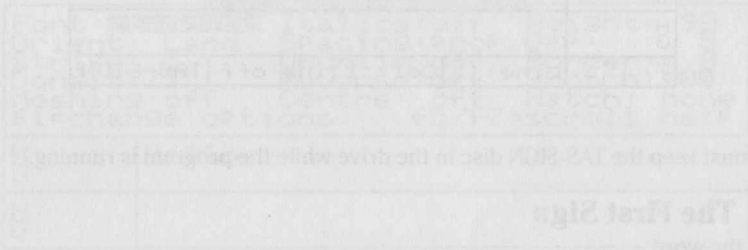
If you are using a non-Commodore printer interface and/or cable you should now refer to Appendix I3.

You can now load and run TAS-SIGN as described in the next section.



### 3.3 Changing the font

The area at the top of the screen where the printer sign was printed is now a grid. This grid is used to change the font of the text on the screen. The grid is divided into several rows and columns. The first row contains the word "Hello" in a different font. The second row contains the word "Hello" in a different font. The third row contains the word "Hello" in a different font. The fourth row contains the word "Hello" in a different font. The fifth row contains the word "Hello" in a different font. The sixth row contains the word "Hello" in a different font. The seventh row contains the word "Hello" in a different font. The eighth row contains the word "Hello" in a different font. The ninth row contains the word "Hello" in a different font. The tenth row contains the word "Hello" in a different font. The eleventh row contains the word "Hello" in a different font. The twelfth row contains the word "Hello" in a different font. The thirteenth row contains the word "Hello" in a different font. The fourteenth row contains the word "Hello" in a different font. The fifteenth row contains the word "Hello" in a different font. The sixteenth row contains the word "Hello" in a different font. The seventeenth row contains the word "Hello" in a different font. The eighteenth row contains the word "Hello" in a different font. The nineteenth row contains the word "Hello" in a different font. The twentieth row contains the word "Hello" in a different font. The twenty-first row contains the word "Hello" in a different font. The twenty-second row contains the word "Hello" in a different font. The twenty-third row contains the word "Hello" in a different font. The twenty-fourth row contains the word "Hello" in a different font. The twenty-fifth row contains the word "Hello" in a different font. The twenty-sixth row contains the word "Hello" in a different font. The twenty-seventh row contains the word "Hello" in a different font. The twenty-eighth row contains the word "Hello" in a different font. The twenty-ninth row contains the word "Hello" in a different font. The thirtieth row contains the word "Hello" in a different font. The thirty-first row contains the word "Hello" in a different font. The thirty-second row contains the word "Hello" in a different font. The thirty-third row contains the word "Hello" in a different font. The thirty-fourth row contains the word "Hello" in a different font. The thirty-fifth row contains the word "Hello" in a different font. The thirty-sixth row contains the word "Hello" in a different font. The thirty-seventh row contains the word "Hello" in a different font. The thirty-eighth row contains the word "Hello" in a different font. The thirty-ninth row contains the word "Hello" in a different font. The fortieth row contains the word "Hello" in a different font. The forty-first row contains the word "Hello" in a different font. The forty-second row contains the word "Hello" in a different font. The forty-third row contains the word "Hello" in a different font. The forty-fourth row contains the word "Hello" in a different font. The forty-fifth row contains the word "Hello" in a different font. The forty-sixth row contains the word "Hello" in a different font. The forty-seventh row contains the word "Hello" in a different font. The forty-eighth row contains the word "Hello" in a different font. The forty-ninth row contains the word "Hello" in a different font. The fiftieth row contains the word "Hello" in a different font. The fifty-first row contains the word "Hello" in a different font. The fifty-second row contains the word "Hello" in a different font. The fifty-third row contains the word "Hello" in a different font. The fifty-fourth row contains the word "Hello" in a different font. The fifty-fifth row contains the word "Hello" in a different font. The fifty-sixth row contains the word "Hello" in a different font. The fifty-seventh row contains the word "Hello" in a different font. The fifty-eighth row contains the word "Hello" in a different font. The fifty-ninth row contains the word "Hello" in a different font. The sixtieth row contains the word "Hello" in a different font. The sixty-first row contains the word "Hello" in a different font. The sixty-second row contains the word "Hello" in a different font. The sixty-third row contains the word "Hello" in a different font. The sixty-fourth row contains the word "Hello" in a different font. The sixty-fifth row contains the word "Hello" in a different font. The sixty-sixth row contains the word "Hello" in a different font. The sixty-seventh row contains the word "Hello" in a different font. The sixty-eighth row contains the word "Hello" in a different font. The sixty-ninth row contains the word "Hello" in a different font. The seventieth row contains the word "Hello" in a different font. The seventy-first row contains the word "Hello" in a different font. The seventy-second row contains the word "Hello" in a different font. The seventy-third row contains the word "Hello" in a different font. The seventy-fourth row contains the word "Hello" in a different font. The seventy-fifth row contains the word "Hello" in a different font. The seventy-sixth row contains the word "Hello" in a different font. The seventy-seventh row contains the word "Hello" in a different font. The seventy-eighth row contains the word "Hello" in a different font. The seventy-ninth row contains the word "Hello" in a different font. The eightieth row contains the word "Hello" in a different font. The eighty-first row contains the word "Hello" in a different font. The eighty-second row contains the word "Hello" in a different font. The eighty-third row contains the word "Hello" in a different font. The eighty-fourth row contains the word "Hello" in a different font. The eighty-fifth row contains the word "Hello" in a different font. The eighty-sixth row contains the word "Hello" in a different font. The eighty-seventh row contains the word "Hello" in a different font. The eighty-eighth row contains the word "Hello" in a different font. The eighty-ninth row contains the word "Hello" in a different font. The ninetieth row contains the word "Hello" in a different font. The ninety-first row contains the word "Hello" in a different font. The ninety-second row contains the word "Hello" in a different font. The ninety-third row contains the word "Hello" in a different font. The ninety-fourth row contains the word "Hello" in a different font. The ninety-fifth row contains the word "Hello" in a different font. The ninety-sixth row contains the word "Hello" in a different font. The ninety-seventh row contains the word "Hello" in a different font. The ninety-eighth row contains the word "Hello" in a different font. The ninety-ninth row contains the word "Hello" in a different font. The one hundred row contains the word "Hello" in a different font.



# 3. A Tutorial Introduction

## 3.1 Loading TAS-SIGN

Place your TAS-SIGN disc in the drive. Type:

LOAD "TS",8,1

and press RETURN.

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

Options			
Font: standard	Italics: off	Height: 90	
Orient: Land	Spacing: prop.	Gap: 0	
Strike: 1	Undrlin: off	Border: 0	
Density: 1	Reverse: off	Stretch: 100	
Washing: off	Centre: off	Hatch: none	
f1=change options	f5/f7=scroll	help	
H:			
G:			
H:			
G:			
H:			
G:			
H:			
G:			
T:	Line: 1	Col: 1	Ins: off TAS-SIGN

You must keep the TAS-SIGN disc in the drive while the program is running.

## 3.2 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 key to correct your typing.

Options			
Font: standard	Italics: off	Height: 90	
Orient: Land	Spacing: prop.	Gap: 0	
Strike: 1	Undrlin: off	Border: 0	
Density: 1	Reverse: off	Stretch: 100	
Washing: off	Centre: off	Hatch: none	
f1=change options	f5/f7=scroll	help	
H:	Hello		
G:			
H:			
G:			



Now hold down **CTRL** and press the **P** key to print the sign:

# Hello

### 3.3 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.

Press the **f1** key. This particular keypress is used to change the options shown at the top of the screen.

If you have pressed **f1** the current font is now shown highlighted:

Options	
Font: Standard	Italics: off
Orient: Land	Spacing: Prop.
Strike: 1	Underlin: off
Density: 1	Reverse: off
Meshing: off	Centre: off
f1=change options f5/f7=scroll help	
H:	Hello
G:	
H:	
G:	

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
Orient: Land	Spacing: Prop.
Strike: 1	Underlin: off
Density: 1	Reverse: off
Meshing: off	Centre: off
f1=change options f5/f7=scroll help	
H:	Hello
G:	
H:	
G:	

Now press **CTRL** and the **P** key to print the sign in the Western font:



### 3.4 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 **f1** 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 **CTRL P** to print the sign again, this time in portrait orientation.

### 3.5 Changing the Character Height

Press **f1** 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 landscape;
- (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 **CTRL P** 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. **The minimum recommended height is 60.**

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 **CTRL H** when the cursor is in the required line of text, and is described in section 5.3.

### 3.6 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. The **↑** character is typed by pressing the key to the left of the **RESTORE** key.

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
Orient: Land	Spacing: Prop.
Strike: 1	Underlin: off
Density: 1	Reverse: off
Meshing: off	Centre: off
f1=change options	f5/f7=scroll help
H:	Hello
G:	
H:	↑Fwestern↑There
G:	

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.

The embedded commands are described in section 5.2. Also, the **f7** key may be used to display a list of these commands.

### 3.7 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 5 for a list and explanation of the options and commands.

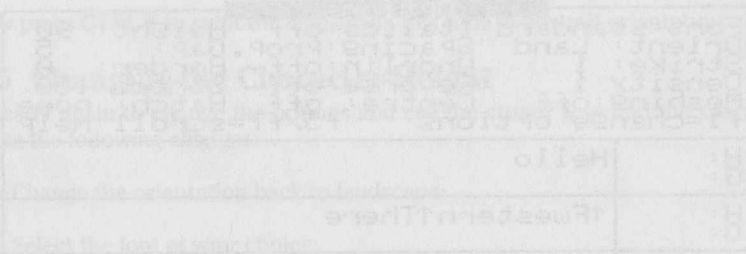
### 3.8 Some further examples

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

To load a sign hold down the Commodore key and press the L key. 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 5 to understand the effect of these commands. The example signs are described in Appendix 5.



## 4. Editor Commands

### **f5/f7 scroll help**

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

Options  
Editing commands  
Layout commands

The **f7** and **f5** keys are used to move up and down through the displays.

### **CRSR KEYS move cursor**

The cursor keys are used to move the cursor to any required position on the screen.

### **HOME start of screen**

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

### **DEL delete left**

The character to the left of the cursor is deleted by this key.

### **INST insert character**

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.

### **CTRL D delete line**

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

### **CTRL 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.

### **CTRL O 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.

### **f1 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 **f1** 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 5.1.

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.

### **CTRL P print sign**

The sign is printed when **CTRL P** 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 **Q** key, although there is no response to this key while the disc drives are being accessed.

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.

### **GS save sign**

This command saves a sign to disc. The program 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**.

Just press **RETURN** to abandon the save operation.

### **GL load sign**

This command loads a sign that has previously been saved to disc. The program asks for the name of the sign to be loaded. Type the required sign name and press **RETURN**, or just press **RETURN** to abandon the load operation.

# 5. 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. The key that types this character is just left of the **RESTORE** key.
- (3) By directly changing the character height and the gap for each line.

## 5.1 Options

Press **f1** 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 5.2

### 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. The MPS 803 is such a printer.

## **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 a darker image, but the sign takes longer to print.

Some models of printer, including the MPS 803, 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.

Some models of printer, including the MPS 803, are not capable of meshing.

## **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.



# W A S

## 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.

# W A S

## 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 height is 60** (see Appendix 7).

The character height for each line may also be specified directly as described in section 5.3 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. **The minimum recommended border width is 5.**

### 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 4.

Hatching may also be controlled by embedded commands.

## 5.2 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+ ↑

The key that types the ↑ character is just above the **RETURN** key.

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.

### **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 on 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 5.1.

## **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 5.1. The hatching patterns are illustrated in Appendix 4.

## **5.3 Character Height and Gap**

### **CTRL H select character height**

The character height for a line is specified by pressing **CTRL 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. **The minimum recommended height is 60** (see Appendix 7).

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

### **CTRL 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.

## 6. Errors and Restrictions

The maximum number of characters that can occur in a sign is 100.

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**

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.

### **Single option too long**

This error may occur when embedded commands have not been separated by semi-colons, 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 or Invalid height or 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 or 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  $\frac{7}{32}$  of an inch.
- (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 sequence for single density bit image (graphics) printing and the number of dot positions for the sequence. This sequence should put the printer into bit image mode for the specified number of dots. The number of dots for the sequence should equal the number of dots across the width of the paper in single density bit image mode.
- (4) The sequence for double density bit image (graphics) printing and the number of dot positions for the 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  $\frac{1}{72}$  ( $= \frac{2}{216}$ ) 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). Owners of 9 pin printers should specify 8.
- (9) Whether the least significant pin is at the top or bottom of the print-head.
- (10) The printer name.



## Appendix 2 – The program disc

The program disc contains the following files:

TS	TSCONFIG
TSCODE	TSCONFIGCODE
BLOCK	START
CASUAL	EXAMPLE1
STANDARD	EXAMPLE2
HOBART	.
ROMAN	.
WESTERN	.
FONTDATA	.
TSDATA	EXAMPLE9
	README

TS is the program that is loaded in order to load and run TAS-SIGN.

TSCODE is a machine code program that is loaded and executed by the TS program.

BLOCK, CASUAL, STANDARD, HOBART, ROMAN and WESTERN are the font files. They contain digitised mathematical descriptions of the characters in each font. The file FONTDATA contains additional information relating to the font files.

TSCONFIG is a program which should be run to specify your make and model of printer and the interface by which it is connected to the computer. It creates the file TSDATA which is loaded by the TS program. TSCONFIG loads and runs TSCONFIGCODE.

START is the sign file that is loaded automatically by TAS-SIGN.

EXAMPLE1 to EXAMPLE9 are example signs. They may be loaded into TAS-SIGN using the Commodore key L command described in section 4. The example signs are described in Appendix 5.

README is a program which displays information which supplements the manual. To view this information type  
LOAD"README",8

When the program has loaded type **RUN**.

## Appendix 3 – The TAS-SIGN fonts

**Standard**

*Casual*

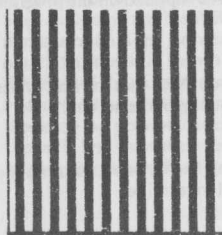
**Roman**

**Hobart**

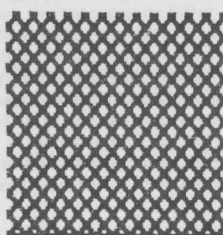
**Western**

**BLOCK**

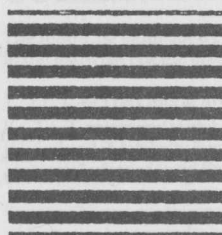
## Appendix 4 – The hatching patterns



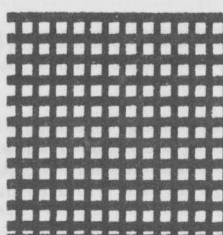
vertical



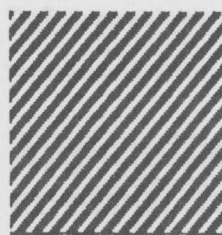
cross diagonal



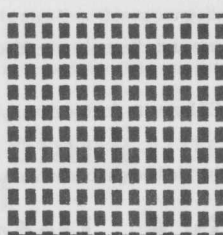
horizontal



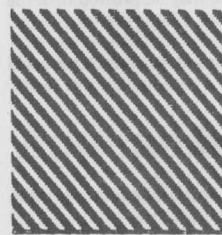
cross orthogonal



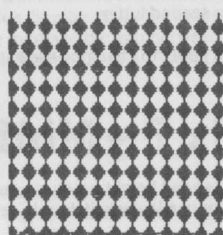
forward diagonal



squares



back diagonal



diamonds

## Appendix 5 – The example files

The following notes explain the features demonstrated in the example sign files supplied on the program tape and disc.

### EXAMPLE1

This demonstrates the use of the embedded  $\uparrow i+ \uparrow$  command to turn italics on. Note that the first line is printed with italics off as this is the setting specified in the options area at the top of the screen.

### EXAMPLE2

In this sign each line is printed at a different height. Note also that centering has been set to on in the options area so that when the sign is printed each line is centered about the longest line.

### EXAMPLE3

This sign shows the use of embedded hatching commands and when printed illustrates some of the hatching patterns. The first letter to be printed is not hatched because the hatching pattern in the options area is set to 'none'.

### EXAMPLE4

Embedded commands are used to turn kerning on in the second line and constant spacing on in the third line. The first line is printed in proportional spacing.

### EXAMPLE5

An example of reverse printing (white letters on a black background). The sign is printed in portrait orientation and centering is turned on to centre the sign across the width of the paper. Note the first blank line with the height set to a value of 10. This blank line ensures that the lettering is totally surrounded. (After printing this sign use **CTRL D** to delete the first line and then print it again.)

### EXAMPLE6

A sign with a border. The border is hatched due to the hatching setting in the options area. An embedded command specifies no hatching for the text. A blank line with a value of 10 is used to obtain separation between the inside of the border and the top of the text.

### EXAMPLE7

An illustration of the use and effect of embedded stretch factor commands.

### EXAMPLE8

The same as EXAMPLE7 but with double density and meshing.

### EXAMPLE9

An example of the embedded height command which is described elsewhere in Appendix 12.

## Appendix 6 – Hatching and kerning

It is not recommended to change the hatching pattern between letters within a word when kerning is on. If letters overlap due to kerning then the final part of the first letter of the pair may be printed with the hatch specified for the second letter.

Similar considerations apply to changing the hatching within a word when italics is on, when letters will also overlap.

## Appendix 7 – Minimum height

The minimum recommended height for characters that are to be printed is 60. Smaller heights can often be printed satisfactorily, particularly if double density and meshing are used.

Small heights (less than 60) can be used for blank lines as described in Appendix 10.

## Appendix 8 – Maximum total height

In landscape orientation the maximum possible total height (the sum of the heights and gaps of all the lines excluding any blank lines after the last line containing text) is normally 479 or 639 depending on the number of dots the printer prints across the paper width in single density graphics mode. It should be noted that the total shown at the bottom of the column of the height and gap boxes on the screen is only the total of the heights and gaps that have been specified using **CTRL H** and **CTRL G**. When Tas-Sign is instructed to print the sign it selects values for any unspecified heights or gaps. The values selected are those for the previous lines. This means that the "cannot fit" error can occur even when the total height shown is less than the maximum height for your printer. To determine the actual total height you should include the values that the program will assign for any unspecified heights and gaps.

## Appendix 9 – Additional embedded commands

The following embedded commands whose applications are somewhat specialised are not documented in the main part of the manual.

### 1. $\uparrow L \uparrow$ — The Lateral Inversion Command

If a  $\uparrow L \uparrow$  command is embedded anywhere within the text of a sign then the sign is laterally inverted when it is printed. A laterally inverted sign is the mirror image of a normal sign. A laterally inverted sign will read as normal when viewed through the paper from the opposite side to that on which the sign was printed.

Printer ribbons containing heat sensitive ink are obtainable. A laterally inverted sign printed with such a ribbon may, for example, be ironed onto a T-shirt to give lettering that then reads normally.

### 2. $\uparrow P \uparrow$ — The Inhibit Paper Pull Command

Before printing a sign the program normally sends a linefeed to the printer to pull the paper taught. If a  $\uparrow P \uparrow$  command is embedded anywhere within the text of a sign then this paper pull does not take place.

This command might be used when printing a very long reversed sign in several stages.

## Appendix 10 – Using blank lines to control screen layout

When a sign is printed that consists of one line of large capital letters in landscape orientation the centre of the letters appear to be nearer the top of the paper than the bottom. This is because the program must leave room for the descenders of letters such as j, g and y even if such letters are not being used in the sign. A technique for centering the letters in such a sign is to leave the first line blank and to set the total of the height and the gap for this blank line to some small value. Similar considerations apply when printing a sign within a border where a blank line may be used to increase the gap between the inside edge of the border and the first line of the text of the sign. The example files EXAMPLE5 and EXAMPLE6 illustrate the use of this technique.

## Appendix 11 – Underlining

With constant spacing and underlining a continuous underline is not obtained. The additional space that is created between the letters to give the constant spacing is not underlined.

When kerning, italics and underlining are all on there will occasionally be small gaps in the underline. This is caused by rounding errors in the scaling processes. The effect, should it occur, is not normally noticeable from the distances from which the sign is read.

## Appendix 12 – The unsupported embedded height commands

There is an embedded height command which is sometimes capable of producing some interesting effects. This command is unsupported in the sense that the program has not been designed to always work properly when it is used. The command is a by-product of the program design and properly printed output is not guaranteed when it is used. This command is available for the enjoyment of the user with the time and patience to experiment with it.

The embedded height command takes the form  $\uparrow$  Hnnn  $\uparrow$  where nnn is a number.

TAS-SIGN calculates the baseline of each line of text in the sign using the heights and gaps specified in the options area and in the height and gap boxes at the left of the screen. If, for example, the height is set to 150 and the gap to 5 in the options area, and no other values are specified in the height and gap boxes, then TAS-SIGN will set the baseline for the first line of text at 150 dots from the top of the sign. The baseline for the second line of text will be 155 dots (150 for the height of the second line and 5 for the gap between the first and second line) below the baseline of the first line of text, which is 305 dots from the top of the sign.

An embedded height command changes the character height but does not affect the baseline for the text that follows on the line. This means that a larger height than the current height for the line may be selected and the result is that the characters affected by the embedded command can be sufficiently large to overlap characters on previous lines.

The example file EXAMPLE9 supplied on the program disc illustrates the use of an embedded height command. Loading, inspecting and printing this sign may make the above explanation more understandable!

An embedded height command sets a new current height for the line in which it is placed which the program uses to calculate the baseline for the following line.

An embedded gap command  $\uparrow$  Gnn  $\uparrow$  may also be used.

## Appendix 13 – Non-Commodore printer interfaces and cables

If your printer interface or cable requires driving software then you must load and initialise your driving software before loading TAS-SIGN.

TAS-SIGN uses all the Commodore memory except for a 2048 byte region that has been reserved for the printer driver software. This region extends from 51200 to 53247 and is the only area in which your driving software may reside when using TAS-SIGN.

Some instructions for particular interfaces are given below. Further information may be given in the README file (see Appendix 2).

### **Weisemann Parallel Interface**

No driving software is required. Ensure that the printer secondary address is set to one in the configuring program.

### **Stack Centronics Style Parallel Interface**

Ensure that the printer secondary address is set to one in the configuring program

Before loading TAS-SIGN load the interface software in the normal way but when running the software specify a top address of 53247.

Then execute SYS 52799. You can now load and run TAS-SIGN.

