

TASPRINT QL

The Style Writer

A
Tasman Software Program
for the
Sinclair QL

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1. INTRODUCTION

Tasprint QL gives QL users with standard dot-matrix printers output with a quality hitherto not approached with personal computer systems.

Tasprint produces printed output in a variety of print styles (fonts) with characters that are twice the normal height of dot-matrix output.

2. LOADING TASPRIQL

The Tasprint QL cartridge will boot automatically from microdrive 1. To boot it, insert the cartridge in microdrive 1 (on the left) and press the reset button. Select F1 monitor, or F2 TV as appropriate and wait for the copyright message to appear. When Tasprint has finished loading press any key to continue and the following menu will appear.

1. Boot QL Quill
2. Edit file.
3. Print file.
4. Install printer.
5. Make a backup of TASPRIQL.
6. Return to Basic.

These options are explained in the following sections.

3. INSTALLING YOUR PRINTER

Tasprint QL is sold with the Epson FX-80 already installed for use. If you own a different printer then you must select option 4, Install Printer. To do this press the 4 key followed by ENTER to confirm your choice.

Once option 4 has been selected the message "accessing microdrive" will appear and there will be a short delay while the install program is loaded. When it has loaded you will see a list of printers labelled A to J and a label Z which is used for printers not defined in the list. If you are using one of the printers on the list press the letter key corresponding to your printer. The message "accessing microdrive" will appear and there will be a short delay while Tasprint QL loads the data for your printer from microdrive 1. When the data has loaded you must answer a few questions to set up Tasprint QL for your printer. These are as follows:

Characters per line?

Some printers are capable of printing different numbers of Tasprint characters per line of text. If this is the case with your printer you will be asked to specify how many characters

per line you would like to print at. Some experimentation may be needed here to find the most suitable option for your application.

Baud rate?

You must now type in the baud rate for your printer. This is the speed at which the serial port (if used) must be set up to drive your printer. This speed is given in your printer or interface manual, the most common speeds are 4800 or 9600. Type in the required baud rate and press ENTER. The baud rate typed in must be a valid baud rate or it will be rejected. The baud rate will be used for printing through serial devices.

Output device?

After specifying the baud rate you must inform Tasprint QL which output device is to be used for printing. This will usually be ser1 as this is the usual RS232 output to printers. For more information on output devices refer to the section called DEVICES in the CONCEPTS section of your QL User guide.

Once this question has been answered you will see the main Option menu appear on the screen and you may install another printer at any time if you chose the wrong one.

Printers not on the list

If your printer is not on the list you must choose the “Other” option. To do this press the Z key and press ENTER to confirm your choice. You will now be asked a few questions about your printer which are as follows:

Name of printer?

Type in the name of your printer and press ENTER. This name is for your own reference and is not used by Tasprint QL other than when it prints a text file.

You will now be asked for some escape code sequences for your printer. If you already understand escape codes then you may ignore the following explanation.

Escape codes

Escape codes are ASCII codes used by your printer to switch on its different functions. They can be found in your printer manual, usually in a list at the back. The better printer manuals have whole sections explaining each code in detail. In the Tasprint QL program these codes are typed in as a sequence of numbers. These numbers correspond to the escape codes. Many sequences of codes are written down using letters and the special symbol ESC which means escape and which has a code of 27. Therefore if an escape sequence is written in your manual as:

ESC	K	47	then the codes for Tasprint would be:
27	75	47	where 27 is the code for ESC, 75 is the code for capital K and 47 is a decimal number.

Some manuals specify their escape codes in hexadecimal and these HEX numbers must be converted to decimal before they can be used with Tasprint QL. A list of the ASCII codes and HEX numbers can be found in the CHARACTER SET AND KEYS part of the CONCEPTS section in your QL user guide.

The following questions will now be asked about your printer by Tasprint QL.

Codes for normal line spacing?

This escape sequence is used to make your printer use normal line spacing if you switch from a Tasprint font back to normal printing on your printer, If it is not clear in your printer manual what this is then find the section on graphics printing as this sequence can often be found there.

Codes for graphic line spacing?

This escape sequence is used to tell your printer not to print any gaps between lines of print. It is used for printing in graphic mode and again if it cannot easily be found then refer to the section on graphics printing.

Codes for bit image printing?

This escape sequence is used to tell your printer that the data following should be printed in graphics mode.

It usually consists of ESC (which is 27), a character and a number which tells the printer how many bytes (characters) of data should now be printed in graphics mode. e.g. on Epson type printers it is ESC L n n where the n's are two numbers for the number of 'graphic' bytes to be sent.

At this point you only type in the ESC L (or equivalent) codes as Tasprint will work out the number of bytes for you. It would be useful to note down how the number should be sent to the printer i.e. is it two or three bytes for the number like the Epson example above, or should the ASCII codes for the number be sent e.g. ESC L 1 000 for 1000 bytes of graphic data?

Number of characters per line?

To work out the number of Tasprint characters per line that your printer can print in graphics mode divide the maximum number of dots it can print across the paper by ten and type the resulting number in answer to this question.

e.g. using ESC L the Epson FX-80 can print 960 dots across the screen. This means it can print 96 Tasprint characters on a line.

N. B. Some printers, like the Epsoms, can print in a variety of graphic modes each of which prints a different number of dots across the page and Tasprint QL can be configured for any of the graphic modes available.

Most significant bit at Top or Bottom?

Most printers print the Most Significant Bit (MSB) at the top of the line but a few work with the MSB at the bottom. If you cannot find a reference to this in your printer manual then use MSB at the Top of the line. If this is wrong then each half of your Tasprint characters will be upside down. If this is the case then you must reconfigure with the MSB at the bottom. Press T for the MSB to be at the Top or B for the MSB to be at the Bottom.

Seven or eight bit print head?

Again in the graphics section of your printer manual, you should find a reference to either the number of pins in your printer's print head or to the largest number that can be printed in graphics mode. The maximum number that a seven bit print head can print is 127. The maximum number that an eight bit print head can print is 255. If your print head appears to be larger than eight bits then specify it as eight bits. If this is the case then the graphics line spacing may need to be made smaller.

Phss 7 for a seven bit print head or 8 for an eight bit print head.

Press 1 for Bit image mode detection as ASCII

Press 2 for Bit Image mode detection as bytes of data

When you located the escape sequence for graphics mode printing you should have noted how the number specifying how many graphic bytes are to be printed should be sent. Press 1 if the number was to be sent as the ASCII codes for each digit. Press 2 if the number was to be sent as bytes of data.

You have now answered all the questions about your printer and Tasprint QL will save the data to microdrive 1. You must now specify the baud rate for printing and the output device as described above for printers already defined on the Tasprint list. Do this now.

Tasprint QL will now be configured for use with your printer and the main option menu will be displayed on the screen.

You are now ready to learn about the Tasprint Editor and try a test print.

4. THE TASPRTIN EDITOR

The editor supplied with Tasprint is a very simple screen editor designed mainly for inserting Tasprint control characters in your printing files. Any major alterations to a document should be carried out using QL Quill.

Tasprint will normally be used on, documents produced using QL Quill and before Tasprint can use a Quill file property it is necessary to save your document in a special way. Use the following instructions to produce a Tasprint compatible Quill file.

- i) With your document already loaded into QL Quill press F3 to use a command. When the command list appears in the top window press P to use the print command.
- ii) Press ENTER for the current document
- iii) Press ENTER again for the whole file (or enter the page numbers if only part of the document is needed)
- iv) Now type in a file name without any _extensions e.g. mdv2_fred

Quill will now save your document in the required format for Tasprint with an _lis extension. Files produced for use with Tasprint must end in either _lis or _tas.

Accessing the editor

To enter the Tasprint editor you must select option 2 from the main menu. To do this press key 2 and then press ENTER to confirm your choice.

You must ensure that you have the microdrive cartridge containing the file you wish to edit in microdrive 2 (on the right) at all times when using the editor.

The Tasprint editor will now produce a list of all _lis and _tas files on microdrive 2 and a letter will be associated with each file. The letter Z is reserved for creating new (empty) files using the editor. Files produced using the editor will be saved with a _tas extension.

At this point, unless you already have some _lis files you will need to press the letter Z to create a new file. Press the Z key now. The editor will now ask for a filename so that it can create this file on microdrive 2. Type in a filename without any _extensions and press enter. e.g. tester ENTER

Tasprint verifies that the filename you have specified does not already exist then asks you to either press ENTER to create the file or ESC to escape to the main menu. You should press ESC if you have typed in a wrong filename. If you have typed in a filename which already exists, the editor will ask if you wish to load the file. If you answer N and the file had a _lis extension Tasprint will try to create the file with the same filename but with a _tas extension. If the _tas file also exists and you do not load it then when you exit from the Tasprint editor the existing _tas file will be overwritten by the file you have just edited.

At this point you should see either a blank screen or part of the document you have loaded. The screen is divided into two 'windows' which are clearly separated within two boxes. The

upper window is 17 lines long and acts as a window on the current document. The lower window is the status window.

In the top left hand corner of the document window is a flashing cursor. This indicates the current print position. Any characters typed at the keyboard will be printed at the current print position overwriting any characters already there. There is no insert or delete function on the editor as both these functions would completely spoil the justification of your text. Therefore any reformatting must be done using the Quill word processor.

The cursor can be moved around the file by using the arrow keys. If you try to move past the start of a line the cursor will appear on the line above at the extreme right of the screen. If you try to move past the end of a line the cursor will appear on the line below at the extreme left of the screen.

Moving down past the last displayed line causes the window to scroll downwards until the end of the file is reached. Moving upwards past the top displayed line causes the window to scroll upwards until the top of the file is reached. You can position the cursor at the beginning of the following line by pressing the ENTER key. Pressing the TABULATE key moves the cursor to the beginning of the next word.

The largest file allowed by the Tasprint editor is 320 lines and this should be sufficient for most Quill files. If a Quill file is longer than this then it must be 'printed' to separate microdrive files in sections of 320 lines or less.

Entering Tasprint QL characters

You are now ready to enter some Tasprint control characters into your document. These characters change the font and style in which the document will be printed. These characters can be entered at any point in your document and will be printed to the printer as spaces. The only restriction on their position is as follows:

You cannot mix a Tasprint QL font with a normal printing font of your printer on the same line. Any attempt to do this may cause unpredictable results although it will probably be ignored. Therefore any Tasprint QL control code which changes from normal printing to a Tasprint QL font or vice versa must be located at the beginning of the line on which the change is to occur or be the last character on the line before the change.

If you are editing an empty file then type in a few lines of text with which to experiment.

Decide where to start printing in a Tasprint QL font (remember to start at the beginning or end of a line or on a blank line), and move the cursor to the required position.

Now press the function key F4. You will see that the status window changes to display the message:

Enter font number (0-5)

0=Normal 1=Lectura Light 2=Median 3=Compacta 4= Data Run 5=Palace Script

and that the cursor has changed colour and stopped flashing. This indicates that you are changing fonts.

Type in the required font number and you will see the status window message change to show your chosen font and the following message will appear:

Enter style number (0-3)

0=Normal 1 = Inverse 2=Boxed 3=Underlined.

Type in the required style number and confirm it by pressing any key. At this point you could press F4 to redefine the font and style or ESC to abandon the font selection.

If you confirm your selection you will see the cursor advance one position to the right and a special red Tasprint QL character will be printed. This special character consists of the initial of the font name in the style you selected, i.e. Median underlined would be an underlined M.

You may have noticed that the Current font:— and Current style:— status messages have changed to display the font and style that you selected. This will happen every time you reselect the font. Try moving the cursor to a point before the Tasprint QL character and watch what happens to the font and style messages. The font and style messages always display the font and style defined by the last Tasprint control character before the cursor.

Once you have inserted the required Tasprint QL characters in the relevant places you must save the new text file before it can be printed. To do this press the Function key F3. The status window will allow you to abort the save and return to the document by pressing ESC or save the document by pressing ENTER. Press ENTER to save your edited document. If the file you are editing already exists then you will be asked to either overwrite the file by pressing the Y key or abandon the edited text by pressing the N key. Press the Y key to save your text to microdrive 2.

Summary of Commands

KEY	ACTION
Up arrow	Moves the cursor up through the file, scrolling if necessary. No action is taken when the cursor is at the top line of the file.
Down arrow	Moves the cursor down through the file, scrolling if necessary. No action is taken when the cursor is at the end of the file (line 320).

Left arrow	Moves the cursor left along the current line. Wraps onto the next line above when it reaches the extreme left position. Right arrow Moves the cursor right along the current line. Wraps onto the next line below when it reaches the extreme right position.
TABULATE	Moves the cursor to the beginning of the next word.
F1	Displays a series of help messages in the status window. At any time press any key to continue with the messages or ESC to return to the document
F3	Saves your document with an _tas extension.
F4	Changes the font and font style according to your input.
ENTER	Move cursor to beginning of next line.

You should now be able to edit any _tas or _lis file and insert your desired Tasprint QL control characters. You will now wish to try printing your edited file.

5. PRINTING TASPRI NT QL TEXT FILES

To print a text file you must select option 3 on the Tasprint QL menu. To do this press the 3 key then press ENTER to confirm your choice. The “accessing microdrive” message will be displayed and the printing program will be loaded. The printing program will then list all the available printing files on microdrive 2 and associate a letter to each one as does the editor. It is therefore ESSENTIAL to have the required microdrive cartridge in microdrive 2 before choosing this option.

Insert the cartridge containing your file in microdrive 2 and select the printing option.

Press the letter corresponding to the required file. You must now answer a few questions before printing commences:

Output device?

This question will be asked with the current default device in square brackets e.g. [ser1]. The default will be the device that you specified in the Install printer option of the program. If you wish to accept the default output device then merely press the ENTER key. You may wish to print the output to a microdrive file for printing at a later date. In this case you should type in the complete filename, e.g. mdv2_output_bin. To send the output to your printer from superbasic use: COPY mdv2_output_bin to ser1. The disadvantage of this is that the output will not be multi-tasking (run at the same time as your program etc is running) and the Tasprint printing routine is!

Baud rate?

Again this question will be asked with a default baud rate which was defined using the Install option from the Tasprint QL menu. If the default baud rate is correct then press the ENTER key to accept it, otherwise type in your required baud rate. The baud rate must be a valid baud (e.g. 4800) or it will not be accepted.

The screen will now show the following information:

Printing filename_TAS to name of printer NN CPL through output device

You may now either press ENTER to print the file and then return to the Tasprint QL menu, SPACE to print the file and return to Superbasic or ESC to abort the print.

Select the required option and the screen will display the “accessing microdrive” message while it locates the file for printing. The multi-tasking printer spooler will then take over all the printing control necessary and leave you free to carry on editing another file or doing some other task. You will find that if you try to re-edit the file that is currently being sent to the printer the editor will display the message IN USE and return to the Tasprint QL menu. Also, if you try to print another file whilst the printer program is already printing, the message IN USE is displayed and the program returns to the Tasprint QL menu.

Other than these minor limitations the printer program (printer spooler) leaves you free to edit another file or load and run another program providing this program leaves enough memory etc for the spooler to work. Do not reset the machine until the spooler has finished printing the file. The best way to find out whether a program will or will not run together with the spooler is to try it by printing a fairly long test file and returning to BASIC. Then load in the prospective program and see what happens. If it works once it should always work, if it does not work then it most likely never will. Most completely BASIC programs will work correctly but some machine code programs which use all the memory of the machine (unfortunately Quill is one of these programs) will not work correctly.

6. MAKING A CONFIGURED BACKUP COPY OF TASPRINT QL

Tasprint QL is supplied with a cloning program which is accessed using option 5 of the main menu. This feature has been included so that once you have configured Tasprint QL and have it configured correctly you may copy the configured cartridge and use this copy as your working copy. We suggest that you use the supplied cartridge as your master copy only, using it only to configure Tasprint QL and to make other working copies after the eventual and inevitable microdrive cartridge failure. You should make at least two backup copies of your configured Tasprint QL.

PLEASE NOTE: The facility to clone Tasprint QL has been included to allow you, the purchaser, to make backup copies and to save your configured version of Taspnt QL.

Passing copies of Tasprint QL to a third party is a breach of copyright. To make a backup copy of the program select option 5 from the menu and follow the on screen prompts.

7. OTHER OPTIONS

There are two additional options on the Tasprint menu:

Option 1 when selected asks you to insert the QL Quill cartridge into microdrive 1 and loads the Quill program. This saves you some time rebooting the system to load the Quill program.

Option 6 merely returns to superbasic.

8. CONFIGURING QL QUILL FOR USE WITH TASPRINT QL

To make proper use of the Quill/Tasprint combination a customised Quill must be used. To configure Quill you must run the Install program on the Quill cartridge. To do this turn or reset the QL without a cartridge in drive 1. When the flashing cursor appears insert the Quill cartridge in drive 1 and execute:

```
LRUN mdv1_install_bas
```

Follow the instructions on the screen and in the Quill manual to configure the program so as to send just Linefeed (10 decimal) at the end of each line.

Use this configured version of Quill to produce text files for use with Tasprint QL.

ADDITIONAL INFORMATION

The format of documents that can be used with the Tasprint editor and spooling program is detailed as follows:

- i) The filename must end in `_lis` or `_tas`.
- ii) The filename must consist of ASCII codes only.
- iii) Each line of text must be terminated by a linefeed code only (LF= OAH, 10 decimal).

This means that you can take advantage of the Tasprint QL spooling program for printing your own Tasprint independent files.

Quill control characters

The Tasprint QL editor displays Quill control characters as squares with the letters associated with the code. If you wish to keep these control codes do not type over them. If they are contained within text to be printed in a Tasprint QL font you will get unpredictable results on printing.

Incorrect line spacing

If your printer prints a blank line between each line of Tasprint QL text it is because your printer will be set up to generate an automatic linefeed on receipt of a carriage return. You should either alter the dip-switches within your printer or specify the output device as serlc.

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