

# PROFESSIONAL PUBLISHER

by

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## B. ALPHABETIC SECTION

A. OVERVIEW

1. INTRODUCTION

1.1 Desktop Publishing

The fascinating field of desktop publishing attempts to produce printed output that will come close in quality to the more traditional printing processes, although only a microcomputer and an attached printer with graphics capability are used. As the printer is used in its graphics mode, far more different fonts can be put on the Page than by a word-processing program. Desktop Publishing thus does not need the more expensive resources of conventional printing; while it can also do without some of the technical qualifications required in the printing trade, the aesthetic training acquired by human printers cannot be entirely forgone. Depending on the user's aesthetic talent, he will nonetheless be able to produce output that is pleasing to the eye after some experience.

The central object of Desktop Publishing programs is the Page rather than the whole publication, because it is the individual Page that is viewed at a given time. The main operations that can be performed on a Page are:

- global Page design, e.g. definition of margins, columns etc.;
- entry of text, both manually and by loading of previously stored material, in any of several fonts of type (with 'highlight' variations such as bold print, italics etc.) and to any part of the Page;
- the placing of graphics, both entered manually (free-hand and geometric drawings) and loaded from a previously saved file (e.g. clip art, photographs, video images) on the Page.

All these operations should be easy to perform and, within reason, easy to undo if the user is dissatisfied with some of his work.

A desktop publishing system also includes features to make itself comprehensible to various models of printer ('printer drivers') and to permit printing in the several graphics modes supported by a printer.

Font editors which enable the user to supplement the fonts provided with user-designed modifications (or entirely new fonts) are among the most useful auxiliary features of desktop publishing systems.

1.2 What You Have Got

The Professional Publisher package, the most comprehensive desktop publishing program ever produced for the Sinclair QL microcomputer, comes in the form of one floppy disk (3.5" or 5.25") and this manual. If your QL has not been upgraded for floppy disks and at least 512 K of expansion memory, please refer to 'Machine requirements' in the Alphabetic Section.

The disk contains:

- the main program, `publish_task`, with its booter program, `boot`. The use of this program is what most of this manual is about;
- five files with SuperBASIC extensions needed: `runtime_exts`, `eye_q_exts`, `publish1_exts`, `publish2_exts` and `mouse_exts`; these are all loaded automatically by the main booter program;
- four files that hold the default values of various variables: `epson_driver`, `variable_default`, `default_layout` and `fill_patterns`; these are also automatically loaded at start-up time
- eleven files containing clip art; their names and use will be found under Clip Art in the Alphabetic Section.
- three auxiliary programs: `configure_exe` (to change the various defaults), `convert_page_exe` (to make pages saved by the earlier and less powerful Special Desktop Publisher readable by Professional Publisher), and `convert_font_exe` (to do the same to fonts saved under the earlier program); each with its associated booter which has `_boot` instead of `_exe` in the filename. These programs are used separately; explanations are given in Chapter 9.
- a large number of fonts of the conventional QL size and resolution (the abbreviation QLS will be used for these), with filenames ending in `_qls`;
- numerous fonts of much higher definition and versatility (we'll refer to them as HDF), with filenames ending in `_hdf`.

We intend to release a second disk later with even more QLS and more HDF fonts, at a very reasonable price (probably about a tenner), for those who want even more. Do NOT phone us for details, but follow our advertisements in the computer press.

While the supplied built-in printer driver is excellent, Digital Precision always believe in providing alternatives. PDQL are modifying their printer driver `grafiX` for us. When we receive a copy suitable for Professional Publisher pages, we will include this on the second disk. Instructions for `grafiX` are already included in this manual as a matter of course.

The file `updates_doc` (to be read with Quill) with information about enhancements to the program added after this manual was printed may be present - if so, please read it.

As supplied, the disk is pretty full. To make room on it, move the auxiliary files somewhere else. The best way to make use of this room is to install LIGHTNING on it - it is as easy as pie to do this, and LIGHTNING will speed up PROFESSIONAL PUBLISHER a good two times fairly across the board.

If you already have LIGHTNING, put ALL the modules (text, graphics and maths) onto PRO PUBLISHER.

### 1.3 Copying the Disks

Of course you realise that before using the package you should make backup copies of both disks for your own protection. You probably know how to do this; if not, you'll find instructions under 'Backing up' in the Alphabetic Section.

We urge you to read the entry under 'Copyright' in that Section; Digital Precision will not hesitate to prosecute copyright violators anywhere in the world. We offer rewards for information that will lead to successful prosecutions of software pirates.

### 1.4 How to Use This Manual

The first part of this manual is intended to give you a rapid overview of the features of Professional Publisher, so that you can start using it as rapidly as possible. If anything is unclear or for in-depth information, we refer you to the amply cross-referenced Alphabetic Section, where details on each feature will be found, technical terms explained, and practical tips offered.

### 1.5 Thanks

Digital Precision have inserted this subsection to thank the polymath Dr Helmut Aigner of Vienna who is responsible for 90% of this manual. Mission control and the other 10% (the bludners) were by Freddy Vachha, DP's technical director.

The program itself was produced by a team led by Andrew Astrand, programmer and innovator supreme. Andrew, who (in his spare time) is reading computer science at one of the country's leading universities, was assisted by his father Cliff and by Freddy.

We do not intend to produce a program to supersede this one!

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## 2. The Professional Approach

No single menu could possibly hold all the options available to the user of Professional Publisher. Nor would it make much sense to offer them all at the same time, as you are not likely to place text and graphics on the Page helter-skelter.

We have therefore modularised Professional Publisher in such a way that you can select from among five modes of manual entry and seven major menus (one for automatic entry from files, the other six for auxiliary functions).

They are all accessed, after you have passed an initial screen that facilitates multitasking, from a Main Menu. A graphic representation looks like this:





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In the Main Menu and in most sub-menus a scale model of the Page (called the cameo) is visible. This is too small to show details, but it does give an overview of the general Page layout and of how Page construction is coming along. There is also a close-up (full-size) view of the currently interesting Page area on screen whenever necessary.

The 'Page Globals' sub-menu lets the user treat the Page as a whole: fix its size, turn it sideways, set its margins and columns, etc. As there may be two pages in memory concurrently, this sub-menu also permits swapping of the currently handled Page.

The 'Edit fonts' and 'Edit QL sets' sub-menus are for supplementing the already vast supply of QLS and HDF fonts that comes with Professional Publisher. Users may modify the supplied fonts or design entirely new ones. Because of the multitude of supplied fonts, these sub-menus may not be needed much by the beginning user.

The 'File handling' sub-menu permits

- the entry of previously saved text and pictures on the Page;
- saving and reloading of unfinished (and finished) Pages;
- auxiliary functions: obtaining a file directory from a disk, deleting a file and formatting a medium. Other auxiliary functions, such as file copying, are available through multitasking.

The 'Print page' sub-menu does what it says. It works with the Page currently in the QL's memory. A Page that is saved on disk must first be loaded from the 'File handling' menu. Several styles of printing (passes, Page orientation, print density) are supported.

The 'Printer driver' menu is for those whose printer is not fully Epson-compatible. (If it is, the default values the program comes with will ensure perfect output without changing any parameters. Your printer is probably Epson-compatible if its manual states that it is; it certainly is if graphic output from the Psion EASEL program, supplied with the QL, through that program's default printer driver works on it.) To attune the QL to any other 9-pin printer, the 'Printer driver' sub-menu will ask the user certain questions he can answer from the printer manual, and then make the necessary software adjustments.

The 'Swap tasks' sub-menu is the only way, other than resetting or switching off the computer, to exit from Professional Publisher and use another task. At your option, Professional Publisher can either be re-entered ('multitasking') or abandoned.

### 3. PAGE EDITING

#### 3.1 Start-Up

To get your Professional Publisher program up and running, insert the disk in floppy drive 1, reset your QL and press F1 when the Monitor/TV question appears on the screen. Loading will take a minute or so.

If you wish to use the Smiling Mouse to control your input, you must have it plugged in before switching on the QL.

You will first see a small initial window at centre screen, inviting you to press Ctrl and C together (do so, unless there is a flashing cursor in the window) and then Enter. The Main Menu, complete with cameo, will now be displayed.

If the size of the Page you want to design is NOT 960 pixels across by 800 pixels down (a typical A4 Page held upright), you must make the necessary adjustments (width, height and/or orientation) immediately by moving to sub-menu 2 (see Subsection 5.1); you cannot change these parameters after you have put something on the Page and still get a correct printout (you can, however, return to the original dimensions and orientation). For the purposes of this overview we shall assume that an upright ('portrait' rather than 'landscape') Page is what you want. Note that information on Page size and orientation is given at the bottom of the screen.

The screen also displays, along the edges of the cameo, the Page dimensions in centimetres. (We shall learn how to change the indication to inches in Subsection 5.1). These are given as an aid to your planning only; the printout may or may not come out in this size depending on the options you select when you give the Print command.

Mouse owners may want to press the "2" and "9" keys to transfer control to the mouse and then click the Cancel (left-hand) button to return to the Main Menu. If you do this without having a mouse connected, however, you are in trouble (you can only re-activate the keyboard control by "clicking" with a mouse - Catch 22)!

We shall now make our first selection from a menu. We want menu item 1 (Edit page) and find this item already highlighted. All we have to do now is to confirm that this is indeed what we want. There are two ways of doing this from the keyboard (the space bar and the Enter key), and one from the mouse (the right-hand or Select button). From now on we shall take it for granted that pressing the space bar and pressing the Select button are equivalent, as are pressing Esc and going to the Esc option and pressing Select.

A red rectangle marked with two arrowhead cursor symbols, the 'shuttle', now appears in the top left-hand corner of the cameo. This represents the top left-hand section of the Page. We also get a life-size close-up of part of the shuttle area in a new window that opens at screen bottom right. The place of the arrow at the centre of the close-up corresponds to the top left-hand arrow on the cameo. Areas shown in red on the close-up are off the Page and therefore inaccessible.

If we want to put our first efforts on this part of the Page, fine; all we have to do is press the space bar. If we want to select another portion, we can move the shuttle as indicated on the panel displayed on the screen. Under keyboard control, the four arrow (or cursor) keys move the shuttle by 32 pixels a tap; in combination with the control key, 8 pixels a tap; and in combination with the shift key, to the nearest 'guide' in the desired direction with each tap. The guides are imaginary lines visible on the cameo which help in putting text and graphics in the right place: margins, column delimiters and auxiliary horizontal lines called column breaks. We shall learn to place these wherever we like in due course; for now let's accept the default ones. As an exercise, move the shuttle to the top right-hand corner of the cameo and press the space bar.

As movement of the mouse roller is not fine enough to effect accurate small movements across the cameo, put the mouse pointer in the screen panel where some options are directly available. Move it by rolling the mouse until the mouse pointer is in the desired arrow (32 pixel or 8 pixel movement in the appropriate direction), then click Select as often as desired. ESC and select screen area are similarly supported.

### 3.2 Mode Text.

The Main Menu, cameo and close-up now disappear from the screen. Instead we get a large white window that covers most of the screen (this is the area represented by the cameo as we last saw it; we'll call it the Screen with an upper-case S for clarity), two rulers at bottom and right, and a narrow information window at extreme right.

#### 3.2.1 Screen layout

All we see on the Screen are the guides and an arrowhead cursor. The rulers have markings which correspond to centimetres. The information window tells us, from top to bottom,  
- that we are now in Mode Font (for manual QLS text entry),  
- where Screen top left is with respect to Page top left (the Screen X and Y co-ordinates); the white numbers are units of one 'square' (i.e. 8 pixels), the red ones are extra pixels;  
- where the cursor is with respect to Page top left (the Page X and Y co-ordinates);

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- the current QLS font assignments and style selection. You can select any two fonts (one for the 'regular' characters, the other for foreign characters and special symbols) from a selection of twenty-four to be used for your text. You will want to use different font pairs for regular ('draft') text and for the 'highlights' (bold, italic, superscript, subscript and one other, unnamed highlight). As a default, draft style uses first font B and second font N. Somehow you must also tell the program which of the styles is to be in force when you type the next character, and whether this is to be underlined and/or inverted (i.e. have black and white exchanged). The default is draft, non-underlined, non-inverted. You actually get to see a sample of this style (28 typical characters, the last 7 from the second font) in the information window;
  - the current settings for ink and paper (default: black ink, white paper).

All of these can be changed by you, but for the moment let's accept the defaults.

### 3.2.2 The function keys

The bottom of the information window tells you what pressing the function keys will do for you. For F1, F2 and F3, this is the same action in all five modes:

- F1 will freeze the co-ordinates in the information window so they won't change when you move the cursor; another tap on F1 will unfreeze them.
- F2 will switch the rulers off and on. A menu will be displayed, giving you the option of controlling either the vertical or the horizontal ruler. As an exercise, let's remove the horizontal ruler. This time the highlight is in the wrong place; this means you have three keyboard options:
  - press the down arrow key; when option 2 is highlighted, press the space bar;
  - as above, but press Enter instead of the space bar;
  - press 2 (the number of the option).With the mouse, roll the pointer until option 2 is highlighted, then click Select.
- F3 will lay a grid of 16 pixels mesh width over the Screen to help in accurate cursor placement.

Let's not deal with F4 for the moment, since we're going to use it ultimately to leave Mode Text. F5 will show you a Help window with information on what you can do in the mode you're in. Among other things, pressing Enter will take keyboard users to a sub-mode named Control. This has different features in each mode but is always characterised by a C-shaped cursor. You may wish to change, say, the ink colour repeatedly and see the symbol in the information window turn to white, through various grey stipples and back to black.

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Scrolling the Page isn't very exciting while there's nothing on it, but you'll at least see the guides move and the co-ordinates change (unless you've frozen them) while the cursor seems to stay in the same place. You can also scroll any part of the Page towards the rulers (except certain parts of the top left section of the Page) to determine the accurate position of anything that you've put on the Page.

You cannot access the function keys while in Control sub-mode; leave it by pressing Esc.

Mouse users will make these adjustments from the information window itself. Click INK, or PAPER, or a co-ordinate (upwards with Select, downwards with Cancel). There is no Control mode, since Smiling Mice are too ferocious to be controlled!

### 3.2.3 Manual QLS text entry

But all these are secondary matters. By now you'll be impatient to get some text on the Page. All right, here goes. First define a Window into which your text will go. Move the cursor to the intended top left-hand corner and press Space. Then move the cursor to the intended bottom right-hand corner and press Space. The Window will turn red, and a menu will be displayed. Select 1 and choose the desired CSIZE from the next menu. (If you aren't sure, select Demonstration first.)

You may now select any of several printing styles for the text you are about to enter. If you are satisfied with the default, which is called draft, you can start typing immediately. But if you wish to enter highlighted text, press F4. A menu will permit you to select bold, italic, superscript, subscript or another highlight as the current style; this will be reflected by the filled square in the information window moving to the selected highlight); there are also options to toggle underlining and inverting (i.e. exchanging black and white.) You may also assign different QLS fonts from the disk to the different styles (option 9, which will offer a sub-menu).

Having made your style selection, you can now type text, which will appear in the currently selected style (i.e. Draft). The usual cursor movement and character deletion functions apply; you can also use the up and down arrow keys for vertical cursor movement, or press F1 to delete a line or F2 to insert a line. This is one phase where even mouse owners will have to use the keyboard.

Note that the text you enter will be word-wrapped, i.e., a word that will no longer fit on a line will be moved to the next line in its entirety.

Pressing F4 at this stage will display a menu which, together with its associated sub-menus, offers you another stab at changing the current font assignments.

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Return to the menuless Page and press Esc. You will now see another menu, which you may move to another part of the Screen by selecting 7 if you find it obscures too much of your text. Option 1 gives you an opportunity to select various forms of text justification ('Both' means both left and right) and to control certain justification parameters such as the distribution of filling space and exceptions made for indented lines as well as the last line in a paragraph or Window. The selected ink and/or paper for the whole Window may be changed retroactively (option 2). Option 5 takes you back to your Window for further editing if you have spotted a mistake (all justifications are thereby cancelled and may have to be redone). Options 6 and Esc close the Window, but 6 removes the text with it and should only be chosen if you have really changed your mind.

### 3.2.4 What else to do with a Window

You may now start another Window. If it overlaps an existing Window and you select the 'Enter text' option again, the overlapping portion will be cleared. Rather than enter text, you can avail yourself of some other options offered by the Window-open menu. You may clear the Window (option 2), exchange black and white in it (4), or mirror it horizontally (5) or vertically (6). 7 will give you a chance (and instructions) for scrolling it, and 8 will draw the outline of the Window (a 'box') in the current ink colour onto the Page.

If you want to scroll (say up) a window with the mouse, put the mouse cursor above the window and press Select. To scroll it right, do a Select with the cursor on the right, etc. When you finish, press Cancel - if the cursor was inside the window you will keep the contents, if the cursor was outside you will abandon them.

Option 3 is the first half of a cut-and-paste routine. Try it by opening a Window wholly or partly over text in an already closed Window. Select 3. No effect will be seen, but the contents of the new Window will have been copied into scratch memory. Press Esc.

We now come to the deferred description of the effects of the F4 key. Option 1 in the menu now displayed is the one that interests us. Move the cursor to an empty area on the Screen; this will be the top left corner of the paste. You must make sure that there is room enough on the Screen to the right and downwards (do not worry about the information panel, we'll automatically move it out of the way if needed), else the paste will not be made and you will hear a bleep. Select 1. Move the cursor elsewhere and select 1 again. You can make multiple (even overlapping) copies this way. The cut area in scratch memory will remain intact until the next cut is made or the QL is reset.

Options 2 and 3 of the F4 menu allow you to reassign and display the QLS's, while Esc will take you back to Mode Text. In each F4 menu, there are also navigation options which will move you to another mode or to the main menu.

### 3.3 Mode Font

In Mode Font we can also enter text, but this time we use the high-definition fonts. These are composed of characters that may be from 8x8 to 48x48 pixels in size and can thus show much finer detail. The definable character range is 32-191, which is great for special symbols and foreign character sets.

The centre of the information window now shows the currently selected HDF (default B); this is echoed in the bottom strip, which also gives the size of the font (16x24 pixels) and the amount of memory it requires. The information window also shows the current settings of various highlight and distortion parameters, as well as the ink colour and the horizontal net offset (Space) and the inclusive vertical offset (Linefeed) between characters, both measured in pixels. The defaults are no highlights or distortions, OR mode (i.e. text written over existing ink will just be superimposed), 3 pixels between two characters, 20 pixels between the base-lines of two successive lines.

#### 3.3.1 Manual HDF text entry

Let's put a few characters on the Page. Mode Font is the only one to have a Type sub-mode; you reach it by pressing Enter after moving the cursor to where you wish your left margin to be (no formal Window will be defined in this mode). The cursor will turn to a T-shape, and you may start typing.

If you type beyond the right-hand edge of the Screen, the Screen will automatically scroll until the edge of the Page is reached; if you have selected a section of the Page near the right-hand edge when entering Mode Text, scrolling can therefore not take place. Note that nothing will stop you from overwriting a margin line and that only pressing the Enter key will take you to the next line, just below the first character you typed. Automatic upward scrolling of the Screen will occur if a new line takes you beyond the lower edge of the Screen, unless the bottom edge of the Page is reached.

The Type sub-mode, too, precludes use of the function keys. Press Esc to return from it. You may now wish to change some of the parameters shown in the information window.

#### 3.3.2 Ringing the changes

Keyboard users have two options: enter Control sub-mode (press Enter) and press the initials as given in the information window (press F5 for further help), or press F4 and make menu selections. Mouse users click the desired parameter in the information window. Some of the options lead to a space-bar toggle, others to a space-bar cycle, still others go into sub-menus.

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Selection of the current font is aided by a window that shows you what each font is like. Note that HDF A is composed entirely of graphic patterns rather than the usual characters. The bold and italic styles are modifications of the current font, not a different one altogether, as for the QLS. For italics you can select from 16 leftward and 16 rightward slants (see how the sample exclamation mark changes shape as you go through the steps).

Rotation is an option unavailable for font B, because it is only permitted on 'square' fonts (i.e. if width and height are equal); where permitted, characters can be turned on either side or stood on their heads. Underlining may be black, grey or off.

Inversing an HDF is a complex function: you may choose to invert any of 8 horizontal strips that make up a character, any combination, or the entire character!

The magnification feature permits you to use an HDF several times its original size; the magnification factor may be different in the horizontal and vertical directions. The merging feature lets you use some other (fixed) character from the same or another font (font A comes in handy here) as a background on which all characters are written. You will be prompted to select first the font and then the character to serve as a background, to decide on the merge mode (AND, OR, XOR) and to enable or disable the merging.

Whenever you have made a change, return to the Type sub-mode and type until another parameter change is necessary.

Note that cursor movement is by one pixel only; similarly character deletion will remove only one pixel column in the current font height. This is because the characters of an HDF are usually of different width so as to permit proportional spacing; and italicising makes for further variation in width.

You will by now need no coaching to move to the next mode, Mode Draw. If you do, look up Navigation in the Alphabetic Section.

### 3.4 Mode Draw

This is where you do your freehand drawing. With 128 brushes at your disposal, nothing much can stand between you and the Tate.

The centre of the information window shows you a palette of 64 brushes, with the current one repeated on top. The current merge option (AND) is highlighted. Besides the usual AND, OR, XOR (which you will find explained in the QL User Manual's Keywords section and in the Alphabetic section of this manual), there is a fourth option, OVER (i.e. overpainting).



The cursor is red and in the shape of the current brush. Whenever you press the space bar, a 'footprint' of the cursor in the current ink will be left on the Page. You can undo your work by pressing U when in Control sub-mode (or clicking Cancel on the mouse). This will restore everything since the last mode change, cursor-key operation or Screen scrolling; a second undo operation will restore the state before the first undo.

Leaving a trail is one area where a mouse makes life easier: to do it best from the keyboard, hold SPACE down and press the cursor key.

From the Control sub-mode (or from the information window if you have a mouse) you can switch brushes (they will cycle through the palette), change merge modes or palettes or inverse all brushes (so that you have an effective 4 palettes at your disposal). To swap brushes with the mouse, use the S or I feature at the base of all the paintbrush sets.

There is a special feature for mouse control in Mode Draw: it is called Characteristics and available via F1. Changing the parameter from 0 to 1, 3 or 7 will affect the way the mouse controls the brush so as to prevent undesirable merging of stippled brushes.

Note that stunning effects can be obtained by going over the same area with two different brushes in succession, depending on the merge modes. If it is too late for the undo function, you can sometimes erase unwanted artwork by using the same brush a second time in XOR mode.

Now that we've left our mark on the Page, let's move to Mode Line.

**3.5 Mode Line**

This is where the engineers come into their own. Line segments, arcs, rectangular boxes, circles and ellipses can be drawn here, the last three optionally filled in the ink colour.

The centre of the information window of Mode Line just contains a kind of menu for mouse owners, listing the shapes that can be drawn and giving a fill parameter and an undo function, as well as the usual options for ink and paper.

When you first enter this mode, the selected shape is a line, and a suggested line is shown in green on the Screen. It is highly unlikely that you can use it as it is; therefore you can drag one end all over the Screen with the cursor, then place the cursor on the other end by typing X, and drag it to its destination. On the mouse, Cancel replaces X. When satisfied with the placement of the line, press the space bar. You can start on the next line immediately.

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To draw a different shape, say a box or a circle, go into the Control sub-mode (the Cancel button on the mouse has a state in its cycle that will enable the C-shaped cursor) and type the initial of the desired shape (or move the mouse pointer to the appropriate line in the information window and click Select). The two points between which the cursor can be toggled will then constitute the diagonal of the box (as box sides are always parallel to the screen edges, this is unequivocal) or the radius of the circle. This auxiliary line will also be shown but will not go onto the Page when the shape is finalised.

Boxes whose sides are not parallel to the edges of the screen will have to be constructed from lines.

Arcs and ellipses cannot be uniquely determined by a single line. The line will constitute the chord of the arc or the semi-major axis of the ellipse (something akin to the radius of a circle) and will again not show on the final Page. But the angle of the arc and the eccentricity of the ellipse need separate adjustment. Press Enter and use the + and - keys to adjust; or Press the Cancel button on the mouse until the C cursor shows, move it into the information window and click + or - as the case warrants. Note that you cannot go beyond certain reasonable values of angle or eccentricity, particularly since the QDOS arc routine has a bug for extreme values.

The fill toggle and the undo function are also available when the C cursor is active. F4 in Mode Line only serves for navigation.

### 3.6 Mode Fill

This is the last of the graphic modes. It allows you to fill any white area enclosed entirely by black or any black area enclosed entirely in white with any pattern composed of repetitions of an HDF character. The area filled may be as small as the loop in a "6" or as large as the entire Screen (but not beyond).

The centre of the information window again shows the available options: change font, change character, exchange black and white, and undo. They are all available from the Command sub-mode, or from the information window itself under mouse control. The information window is completed by a window large enough to give an idea of the effect of the fill texture.

The default HDF, not surprisingly, is font A with its various textures, but you can switch to a regular font and use, say, an ampersand in an extravagant style as a fill pattern.

To perform the actual fill operation, exit from Control sub-mode by pressing Esc (not required if you have a mouse), move the cursor inside the desired area and press the space bar. The operation will be performed in two passes: the area first slowly changes to green and then rapidly to the desired pattern. Filling may be aborted midway by pressing the Capslock key; or it may be reversed by pressing U in Control sub-mode (or clicking Undo).

When you have done all of your manual editing of the Page, it is time to navigate back to the Main Menu. It is actually wise to do so from time to time during your manual editing efforts, to cast a glance at the cameo and see whether the overall Page structure is what you'd planned it to be.

Both text and pictures may be put on the Page not only manually but also by loading from a previously saved file. Together with options for saving and reloading a complete Page, as well as several auxiliary file operations, these functions are available from sub-menu 5 of the Main Menu. We shall follow the same order of presentation as for manual entry and treat the functions that correspond to Mode Text, Mode Font and the graphic modes first.

#### 4.1 Loading Text

Text that is loaded onto a Professional Publisher Page must of course have been previously saved. This may have been done by means of the QUILL text-processing system that came with your QL, either with the Save command (which produces a file whose name ends in `_doc`) or with the Print command (which produces a file whose name ends in `_lis`). On the other hand your file may have been produced with the aid of Digital Precision's The Editor or with some other program that produces an ASCII file (the program's manual will say whether it does) or indeed from a SuperBASIC program. All of these can be read by Professional Publisher.

At this stage it is worthwhile stating that, memory permitting, the ideal environment for Professional Publisher is to work alongside with Digital Precision's THE EDITOR SPECIAL EDITION. Do your initial text work in EDITOR, save the file (to ramdisk if you wish) and then load in the file with Professional Publisher. To multitask EDITOR with the publisher is easy: boot up publisher, choose option 8 and then 1 from the main menu, press CTRL + C, and type in EXEC device\_EDT\_BIN where device is the location of the editor disk. Then CTRL + C will toggle between the BASIC, publisher and EDITOR.

By way of contrast to manual text entry, which is mainly recommended for short texts, reading from a file offers the following extra features:

- You may define several Windows, which will be filled in the order in which you defined them.
- You may distort the Windows so that the area you wish to reserve for text will neither overlap an area destined for graphics nor leave unwanted white space. The same feature is also useful for dropcaps.
- Instead of defining any Windows, you may simply fill the whole Page with text or distribute your text over two to nine columns of equal width and equal spacing.
- Since much the same principles apply to the loading of QLS and HDF text, it is possible to have justified margins even with the proportionally spaced HDF characters with kerning down to pixel resolution.

#### 4.1.1 Where will you put it?

All right, let's see how it is done. From the Main Menu you select first 5 and then 4. Your first choice will be where the text is to go. You may use previously defined Windows, either saved (option 2) or the ones last used in the current session (option 4); or you may use the columns shown on both the cameo and the Page by the vertical column lines, within the limits of the horizontal margin lines (option 3). Subsection 5.2 of this Chapter will tell you how to redefine the columns, including a non-column, whole-Page option. Note that the horizontal column guides will have no influence on the loading area; each column will be understood to be bounded by the top and bottom margin only.

In many cases, however, you will wish to take option 2, i.e. the definition of a new set of Windows. You will now be working in the cameo, and again you will have the help of a close-up for fine manoeuvring. The panel displayed on the screen tells you that you are defining Window no. 1; you do this as for a manual-entry Window by moving the cursor and pressing the space bar to define opposite corners. Once a Window has been defined, you are invited to define another one by pressing the space bar a third time and going through the motions again. Your Windows may overlap, but text loaded into the later Window will blank out any text in the earlier one. When you have defined your last Window, press Esc. This will take you to a new menu.

Before continuing (option 1), you may decide to save your Windows on disk for re-use. If you take the save option, you are prompted for a filename in the usual way, and if you have forgotten to switch your disk to the unprotected state, an error message will invite you to do so. Reloading, as you will remember, requires the selection sequence 5, 4, 2 from the Main Menu.

There is also another, more interesting option called 'Wraparound windows', which enables you to distort the vertical sides of any Window into a polygon of up to 33 lines, so that corners may be cut and recesses provided for graphics, dropcaps, or simply creative Window shapes. Select 2, and the left-hand edge of your Window No. 1 will be highlighted by square end points filled in red. You may now move the cursor to any point on the cameo within the latitudes defined by the Window's top and bottom edges and press the space bar. A new point will be marked there, and the edge will be distorted to include that point. You may go on to define up to 32 such points, which will yield quite a complicated Window boundary. If not satisfied, you can successively undo your work by pressing Esc. The Enter key, on the other hand, terminates work on the current edge for the moment and takes you to the right-hand edge of Window no. 1 (and then successively through the edges of all the other Windows). Pressing the Enter key when you are working on the right-hand edge of your last Window will trigger a prompt which permits you either to start all over (if you feel you have further corrections to make, option 1) or to declare yourself satisfied (option 2).

The Continue option (1) will now take you to a menu which asks you the name of your text file and its type. Select 1, edit the filename and press Enter. The default for the file type is ASCII; if you wish to change it, select 2 to cycle through QUILL\_LIS and QUILL\_DOC; the default itself can be changed with the Configurator program (see Subsection 9.1). When the correct filename and file type are visible on screen, select 3 to continue.

#### 4.1.3 Text format

The next menu is among the most versatile in the whole program, which is saying a great deal. As a default it suggests that you wish to load QLS ('STANDARD') text to CSIZE 0,0, ignoring both linefeeds and highlights, with word-wrap and justification of both margins on. If that happens to be what you want, just select 1. But you have plenty of other options.

Option 6 toggles between QLS and HDF characters; this is perhaps the most important decision you have to make at this juncture. Next there is Configuration (option 2), which decides whether words overflowing a line are to be broken. The cycle is WORD WRAP (never), HYPHENATE (sometimes) and OFF (always). In case you select HYPHENATE, you'd better follow up by selecting 0, whereupon a sub-menu will ask you the minimum number of characters that must be left in the first and in the second part of a broken word (we at Digital Precision of course never break ours). The default is 3, and values from 1 to 8 are accepted.

Linefeeds may be included or ignored (option 3 acts as a toggle). If you decide to ignore the linefeeds in the text file, a space will be created wherever the original has a new line.

Highlights such as underlining, bold print, subscripts and the like may also be included or ignored (option 4). If you opt to include them, the program will do all that's necessary for a QUILL file. In the case of an ASCII file, however, there is no standard rule that says which control characters in the file correspond to which type of highlight. Changing these definitions and also the assignment of specific fonts to the different types of highlight is what option 7 is all about.

The sub-menu you are shown on selecting this option is different for QLS and HDF text. In the case of QLS you are shown the currently assigned control character and (except for underlining and inverting) the two fonts (for 'regular' and 'special' characters; remember?) that will be used to represent them. On selecting any number you will be asked to enter a key combination (one of the keys pressed must be Ctrl) that is to be the new control character for that highlight, and if applicable you will also get the choice of first and second fonts as in the manual-entry mode. In HDF the menu items are not numbered. When you select a line, that line blanks and you have to enter in succession the code letter of the font for that highlight, y/n decisions on boldness and italics (yes and no will be represented on screen by filled and unfilled circles respectively), the amount of linefeed and inter-character space, both in pixels (defaults 20 and 1 respectively), and the merge parameter (default off). If any of these terms seem unclear, check in A 3.3 or in the Alphabetic Section. Esc terminates your interlude with the fonts and control characters.

Option 9 of the big menu (Character size) also has different effects depending on whether QLS or HDF has been selected in option 6. For QLS loading, you are asked the two CSIZE parameters in turn (width can be from 0 to 3 for regular characters, corresponding to 6, 8, 12 and 16 pixels respectively, and 1 only for extended-width characters; height can be 0 (10 pixels) or 1 (20 pixels). You are subsequently asked the height of the linefeed (default 10 or 20, depending on your choice of second CSIZE parameter; values from 0 to 99 are accepted). With an HDF selection you are asked the desired magnification of the basic font size in the X and Y direction; linefeed has already been taken care of under option 7.

Finally there is the question of justification, which of course only arises (except for the last line of a paragraph) if you have selected either word wrap or hyphenation under option 2. Option 5 gives you the choice of cycling through the sub-options already known from manual-entry mode: Both (both edges), off, left, right and centre, while option 8 lets you tell the program under which circumstances justification should be ignored and how the extra empty pixel rows required for full justification should be distributed (i.e. how many per cent between words and how many between characters).

When using WCOPY on your system be careful with compressed EYE-Q files. Some WCOPY versions write to areas in the file header where EYE-Q squirrels away information! Experiment with the supplied clip-art files - if they reload perfectly after a WCOPY, the alarm is off.

Easel screens can be output as \_pic files, which are the equivalent of SBYTES'd screens.

The 'Load picture' function is started by the selection sequence 2, 5, 3 from the main menu. Professional Publisher will ask you the source of the picture; if SBYTES (the default) or EYE-Q, you will be prompted for a filename; if from the Page, the cameo will be shown, giving you a chance to select opposite corners of the picture with the usual presses of the space bar.

The selected picture will now be put on the screen - in 8 or 4 colours or in black-and-white, depending on the source -, but it is in scratch memory only. It will only be placed on the Page through a cut-and-paste operation much like the one described in Subsection 3.2.4 (the paste part is actually the one described there). But before you define a cut on the loaded picture, you'll be given the opportunity to modify and distort it in several ways.

4.2.2 Pictorial tricks

If you press Esc, a menu headed 'Tricks' will be displayed. You may use any, all or none on your picture.

Option 1 (Texture) should be selected for a colour picture; but you may wish to recolour it first by using option 7 below. Press 4 if it is in 4 colours, or 8 if it is in 8. The picture will convert to black-and-white, but with a suitable grey-scale conversion as in a photograph. If you neglect to use this trick, only true black and white will be printed.

Options 2 (Invert) and 3 (Reflect) are well known by now. Options 4 (Symmetry) and 5 (Magnify) ask you to designate the horizontal or vertical picture half that will be used to either be mirrored in the other half as in a playing card or blown up to fill the area of the whole picture. Option 6 produces a forty-five degree slant of all vertical lines in the picture (to right or left at your option); pixels that are thereby moved off the screen reappear on the other side. Option 7 (Recolour) is a de-luxe version of inversing; you may not only exchange black and white but (if you still have a colour picture) turn all pixels of a given primary colour into any other (or leave them unchanged). The space bar cycles through the 'to' colours in the selected line. Reduce does what it says - you may select either horizontal or vertical compaction to 7/8 the previous size: note that on some QL versions this one option has been suspended. Option 9 (Scroll) permits both 8-pixel and single-pixel scrolling (use the cursor keys alone or in combination with Ctrl; alternatively click the desired arrow with the mouse); press Esc when done.



If you have made some blunder in using the tricks, all is not lost; simply return to the Files menu by selecting 0 and reload the picture. If you are satisfied, though (and this may be the case without your even selecting the tricks menu), press Esc. You will now have to decide on the area of the picture to select for cutting. If your picture fills the whole screen with its width of 512 pixels, the cut must not encompass the whole of it, because there will be no way to paste it on a Screen only 400 pixels wide. (If this happens to be your heart's desire, load the picture twice and do separate cut-and-paste operations.

Define opposite corners of the cut in the usual way (two presses of the space bar or clicks of the Select button). The picture will disappear from the screen, but the cut will remain in scratch memory (destroying, however, any cut made in Mode Text, because this uses the same scratch memory). Now for the second part of the operation: navigate to Mode Text, press F4, move the cursor to the intended top left corner of the paste and press 1, in exactly the same way as for a cut Window. Again it is thoroughly feasible to paste several copies of the same cut.

### 4.3 Saving and Loading Pages

The Page saving and loading functions are accessed from the Main Menu by the selection sequences 5, 1 and 5, 2 respectively.

When saving a Page, you are first asked whether you wish to save the whole Page or only a section thereof; in the latter case you are prompted to define the section on the cameo in the usual way. You are then asked for a filename; we recommend one that ends in `_scr` or `_pic`. If there is already a file of that name, you are sensibly asked whether you wish to overwrite it; if not, you are prompted for a new filename.

Loading the Page works in reverse (surprise!). You must first give a filename; Professional Publisher will realise whether it is a complete Page and load it without further ado if it is; otherwise you will be prompted to move a shuttle of the correct size across the cameo to determine where on the Page the loaded section should go; press space/Select to finalise.

If you wish to load a Page that was saved under the previous version, Special Desktop Publisher, you must first convert it for use by Professional Publisher; instructions for this are given in Subsection 9.2.

#### 4.4 Auxiliary File Functions

There are some SuperBASIC file operations that would be useful occasionally when working with Professional Publisher. All of them can be accessed from the Main Menu by the selection sequence 8, 1, followed by Ctrl+C; pressing Ctrl+C again will cycle through any other tasks running and ultimately return to Professional Publisher's initial screen.

Some of the more useful file functions, are, however, also available from within the program to make life easier for you.

##### 4.4.1 Directory

The Directory function is accessed from the Main Menu by the selection sequence 5, 5. If you enter a device name, such as flpl\_, you will get a full directory of that device. If, however, you add anything after the underscore, this will be taken as a 'wildcard', i.e. the listing will be of all filenames containing that string. If, say, your selection is flpl\_qls, the listing will give all the QLS font files whose name end in \_qls but also a file called EQLS42 (the wildcard is case-blind).

The listing will stop after a Window is filled; you may abandon it by pressing Esc or continue by pressing any other key. Esc is also de rigueur after the last item has been listed.

##### 4.4.2 Delete

This is an extremely simple function. You select it with the sequence 5, 6 from the Main Menu and supply the name of the file you wish to delete. If it wasn't there in the first place, Professional Publisher (politeness being a trait of professionals if not of SuperBASIC) will tell you so.

##### 4.4.3 Format

Again an easy one. The sequence from the Main Menu is 5, 8. Because of the dire consequences of an unwanted erasure of a whole medium, you get a warning message, and the formatting is only executed if you confirm your intention. You get two sector messages in succession: on a floppy disk, the first should read 1440/1440 sectors, the second 1434/1440 sectors, because the mapping and directory files, each taking the three-sector minimum, will by then be inscribed on the disk.

## 5. PAGE GLOBALS

There are several operations which affect the whole Page, so that neither manual editing of a given section nor loading text into a sub-area of the Page, seems an appropriate part of the program to look for them. This is where the Page Globals sub-menu, which is reached from the Main Menu by selecting 2, is useful.

### 5.1 Number of Pages, Orientation, Dimensions

For one thing, you may have two Pages in working memory at the same time; so there must be a means to move from Page 1, which is the start-up default, to Page 2 and back again. Option 1 of the Page Globals sub-menu will do the trick, and the new Page number will be displayed in the bottom strip. If it isn't, you haven't got enough memory left to hold two Pages at the current dimensions.

You may also wish to change the orientation of the current Page (the other Page won't be affected) from the start-up default, Portrait, to Landscape (sideways) or back again. This is done by selecting option 2 of the Page Globals sub-menu. The new orientation will be displayed in the bottom strip but not on the cameo; rather, the cameo in Landscape orientation should be viewed with your monitor stood on its right side (in your imagination, we hope), since the right-hand edge of the cameo will correspond to the bottom edge of the Page. A few taps on the cursor keys will verify this.

Remember that any change of orientation must be performed on an empty Page, or you will not be able to get a useful printout.

A similar caution applies to a change of Page size (which will affect both Pages) in pixels. Select 5 and then 1 from the Page Globals menu; when prompted, enter the desired width, then the height. Width values from 480 to 1920 and height values from 400 to 1600 will be accepted but only the part of your entry that is divisible by 80 will be executed. Again the change will be reflected in the bottom strip; the cameo will also change size, but for the larger Page sizes its scale may be halved so that it will fit on the screen without obscuring the Main Menu. The defaults are 960 pixels width and 800 pixels height; they may be changed with the Configurator program, as may the working memory set aside for holding the Pages (see Subsection 9.1). You will get an error message if available memory isn't sufficient for even a single Page of the selected dimensions. The maximum of 1920x1600 is achievable on a TRUMPCARD QL, provided you have reconfigured the supplied version to allocate 384,000 bytes for the page.

It is also possible to change the Page size in units by selecting 5 and then 2 from the Page Globals menu. As this is for convenience in layout only and not reflected in the actual size of the printout, it is permissible even with something already on the Page. The size indications along the cameo will change, as will the layout guides, since this depends on the ratio between the distance from the edges of the Page and the Page size. You will be prompted for two values in cm or inches, whichever is the current unit. Up to 5 characters with values from 1 to 999 can be entered.

While we're at it, we may want to change the units from the default cm to inches or back again. The selection sequence from the Page Globals menu is 2, 8, 6.

### 5.2 Layout Guides and Cameo Grid

We next come to a series of commands affecting the layout guides, i.e. margins (selection sequence 2, 8, 1), columns (2, 8, 2) and column breaks (2, 8, 3). All of these sub-menus prompt you for values in the current units and offer defaults: all four margins 1 cm off the respective edges; 4 columns with a gutter (column gap) width of .4 cm; 3 column breaks at 7.4, 14.8 and 22.2 cm from the top. Generally up to 6 characters can be entered, and values that will not leave at least 1 cm per column and a non-zero column height will not be accepted. Another unacceptable value is 1 column; if you wish a Page not divided into columns, enter 0. All of these commands will of course change the respective lines on the cameo and on the Page. You may, however, also make these lines disappear by selecting 2, 8, 5, 3 from the Page Globals menu, and to reappear again (2, 8, 5, 1).

All current guides may be saved for re-use on a later Page (selection sequence 2, 8, 7); for reloading select 2, 8, 8. You must enter a filename in either case; an error message will be displayed if the file you try to load doesn't contain a set of guides.

The final Page Globals values are the horizontal and vertical mesh width of the auxiliary grid that can be superimposed on the cameo: the selection sequence is 2, 8, 4, 1 for the horizontal gap and 2, 8, 4, 2 for the vertical. The defaults are one-sixth the Page width and one-eighth the Page height; the accepted minima are one-eighth and one-tenth respectively. This grid can only be shown when the guides are switched off; the selection sequence 2, 8, 5, 2 will do both.

Professional Publisher includes a veritable treasure-house of fonts, both QLS and HDF, for your use. Many users will find the selection more than sufficient for their purposes; but we certainly do not wish to stop creative people from designing and using their own fonts. That is why the package also includes two editor routines for the design of the two types of font.

## 6.1 The QLS Editor

### 6.1.1 Code letter assignment

The QLS Editor is accessed by selecting 4 from the Main Menu. You will first be shown a menu consisting of the 12 code letters A to L, each one followed by the first 17 characters of the font assigned to it. Pressing the right arrow key will toggle to another selection of twelve fonts labelled M to X. If there is a letter that has no current font assignment (this is not the case at start-up), the letter in question will be followed by a blank line. Fonts A, B, C and M are needed by the program and can therefore not be selected for editing, deletion or overwriting by loading.

You must now select the code letter to which you wish to assign your new font. If you wish to start your design from scratch, select a letter that is followed by a blank line, or if there is none, decide on one which you wish to remove. (You can always reload it from file later). But you may also select the code letter of an existing font which you wish to modify. You will be shown a new menu which includes an option to remove the current font (select 6). This may also be taken to reclaim working memory. It takes you back to the Main Menu; for further editing reselect 4 and the code letter of your choice.

A new window will open at the bottom of the screen, showing the current appearance of the character set you selected in black (two lines; nothing for an empty set) and the corresponding characters of the standard set in red above them, giving an indication of the keypresses required to produce the corresponding black character. (For the compound keypresses required for foreign and special characters, consult the Concepts Section of the QL User Guide (entry 'ASCII code').

If you are designing a new set, you may wish to make it either a first set ('regular' characters, ASCII 31 to 127) or a second set (foreign and special characters, ASCII 128 to 191). Select option 4 and then the desired range. Your choice will be reflected in the red characters in the bottom window, which will start with a checkerboard pattern for a first font and with the umlauted 'a' for a second font.

To start editing, select 1. The bottom window will now sport a green bar cursor above the first character, the top left part of the screen will show an enlarged pixel grid with that character magnified, and a menu will be displayed at screen top right. Let's assume you wish to design or redesign the first character in the font. The cursor in the top part of the screen may be moved between the grid (where it will show as a square) and the menu (where it will show as a highlight bar). Move the cursor about in the grid and use the space bar to turn a square to ink colour and Esc to turn it to paper colour. The grid itself is colour-coded to warn you that only the six leftmost columns may have pixels set to ink colour if the font is to be used in all CSIZES; otherwise only CSIZES 1/0 and 1/1 will be supported. (Do leave the first column blank as well for spacing; in other words, use columns 2 to 6, or 2 to 8.)

Some global changes to a character are possible if you move the cursor to the menu. You may clear the whole grid to paper colour (select 4), exchange ink- and paper-coloured pixels (5), mirror the grid vertically (6) or horizontally (7).

All changes are first made to scratch memory only; they won't be taken over into working memory until you move the cursor to the menu and select 1 (store character).

You may now wish to edit a new character. Move the cursor to the menu and select 2. Caution: If you do this (or select Esc to finish editing) without having selected 1 beforehand, any changes made to the previous character will be lost. The green cursor in the bottom window will now be enabled and may be moved to the desired character. Press the space bar, and the new character will appear in the grid, ready for editing.

If you wish to save yourself some work by designing, say, an F by removing pixels from an already defined E, proceed as follows. Select F as your new character as above, then move the cursor into the menu and select 3. You will be prompted to use the bottom (green) cursor again to choose your template character and confirm your decision by pressing the space bar.

### 6.1.3 Saving and loading

When your editing is done, press Esc to return to the intermediate menu. You will probably want to save your character set now, as it is most unlikely that the fruit of your labours is to be used in the current session only. Select 2 and enter the filename of your choice when prompted (we suggest a name ending in \_qls).

When you want to load a saved set, select 4 and the code letter of your choice from the Main Menu as above, followed by 3. Enter the desired filename when prompted; you'll get an error message if the file doesn't contain a QLS. Option 6 (not Esc by way of exception) will return you to the Main Menu.

## 6.2 The HDF Editor

### 6.2.1 Code Letter Assignment

The HDF Editor is accessed by selecting 3 from the Main Menu. A thin vertical strip at centre screen will show a selection of characters from the current font (default: font B), with arrows indicating that the topmost character is considered to be current. If no font is assigned to the current code letter, the vertical strip will be empty. Font A, which consists of textures needed in Mode Fill, cannot be selected for editing, deletion or overwriting by loading.

Select the code letter of your choice with the horizontal cursor keys. You may wish to select an empty font if you want to design your new font from scratch or load a stored font into that slot. Confirm your selection by pressing Esc. A five-item menu will now appear, with item 4 reading 'Remove font' in case of a previously defined font, or 'Create font' in case of a previously empty font. In addition, a strip at the bottom of the screen will indicate the code letter, dimensions and memory requirement of the current font (default: font B, 16x24 pixels, 5136 bytes).

If you wish to create a new font in a previously empty slot, you must select 4 and then decide on the grid dimensions. You will be prompted to enter the width and height in pixels (from 8 to 48 in steps of 8, or 0 to cancel your decision). Note that if you wish to avail yourself of the rotation feature (see Subsection 3.3.2), grid width and height of the font must be the same.

In case of an existing font, option 4 will remove it from working memory, freeing the associated working memory, and return to the Main Menu. When asked for a name under which your new HDF is to be saved, we recommend you use one ending in `_hdf`.

### 6.2.2 Editing

The principles of HDF character editing are much the same as for QLS characters. All HDF fonts are defined for ASCII codes 32 to 191 (though you need not go as far as 191!); there is therefore no choice between a first and a second font. Neither is there a CSIZE; the magnification that takes its place is decided not in the Editor but during the preparation of text entry. What can be done, however, is to cut the effective width of a character to achieve proportionality, and to define the base-line where the underline character will be printed. This can obviously also be used as a height reference for characters with 'descenders' (g, j etc.). If you select A, the cursor will move the horizontal and the vertical red line that represent the right edge and the base-line of a character respectively. The space bar is again used to finalise your choice. For natural proportionality between, say, 'W' and '!' it is recommended that the leftmost column of the grid include at least one pixel in ink colour and that the vertical red line be placed to the right of the rightmost non-blank column.

Many of the editing options are similar to those of the QLS fonts. Option 1 will store a character (necessary to copy your changes from scratch to working memory), option 4 will permit you to select a new character (the up and down cursor keys will scroll the centre strip; press space when the character of your choice is topmost); option 3 then permits the loading of a template for changing (follow the same instructions again). Option 5 clears the grid to paper colour; option 6 exchanges ink- and paper-coloured pixels. Option 7 mirrors the grid horizontally, option 8 vertically.

There are also a few extra options. You can remove the current character completely from the font (option 2); this frees the working memory it occupied. If a removed character is later encountered during text entry, the only effect will be that the cursor moves one pixel row to the right, thus creating an extra inter-character space. You may scroll the grid (option 9, then use the cursor keys and Esc to finalise); white space without grid lines will scroll in from the opposite end. If you have a mouse, select the scroll character option - then if you want to scroll right, move the cursor to the right hand column of the grid and keep tapping Select, etc. Finally option 0 will permit you to fill all pixels within an ink-enclosed area of paper colour by moving the cursor there and pressing the space bar.

### 6.2.3 Saving and loading

Saving (option 2 in the intermediate menu) and loading (option 3) work in much the same way as for the QLS fonts. We suggest filenames ending in \_font for the HDFs.

If you wish to load a font designed under the previous version of the program (Special Desktop Publisher), it must first be converted by an auxiliary program to make it readable by Professional Publisher. See Subsection 9.3.

A few words on the format of HDF files is in place. The size of a \_hdf file defining n characters of height h pixels and width w pixels is given by  $16 + 512 + n \cdot h \cdot w / 8$ .

The first 16 bytes comprise 4 long words (more significant bytes first, 4 bytes per long word). The first long word gives the length of the file in bytes. The second one is the number of bytes taken to store each character ( $h \cdot w / 8$ ). The third one is the character width in bytes ( $h / 8$ ) and the last is the character height in pixels. Note that no information on the character codes for the contents are needed. This is because:

- (1) All hdf fonts start with chr\$(32)
- (2) The number of characters in the font is the result of subtracting from the first long word the number 528, and then dividing by the contents of the second long word.



The next 512 bytes should be viewed as 256 pairs. Each pair of bytes gives width + base-line position for each character in turn, from chr\$(0) to chr\$(255). The first byte in each pair gives, in pixels, the position of the vertical proportionality line, measured in pixels from the left-most position. The second byte gives the position of the base-line measured in pixels from the bottom of the grid. Byte values for characters outside the supplied range in the actual font file are irrelevant.

The rest of the file is devoted to bit data on each character in turn. Within each character, it starts at the top left and moving from left to right until the end of the grid and then down one pixel line and again from left to right and so on until the bottom right of the grid is reached.

## 7. PRINTING

### 7.1 Requirements

As Professional Publisher handles more fonts than are resident in any printer, in addition to single-pixel kerning and graphics, a daisywheel printer will be unsuitable for output from this program. Your task is easiest if your printer is an Epson-compatible 9-pin type (if it will correctly print from the EASEL business graphics program through that program's default printer driver, it is). In that case, you need only ensure that your printer is connected to the QL (typically by the port labelled ser1) and switched on. An attempt to output data from any program to an unconnected 'ser' device is likely to crash the QL!

### 7.2 Putting the Epson Through Its Paces

All set? Select 6 from the main menu. You will first be asked the number of passes you wish the printer to make in outputting the current Page. Values from 1 to 5 may be selected, with the higher values taking longer but permitting to squeeze the last drops of ink out of a geriatric printer ribbon.

Next comes the choice of orientation: print it as the portrait or landscape it was designed as, or turn it on its side. Two menus follow that allow you to halve or double the standard width and height of the printout as defined in the printer manual. 'Fingerprint' hardcopy that is condensed both horizontally and vertically is thus supported. On the 'vertical' menu there is a fourth option called 'Interpolate': it will insert a suitably computed pixel row between any two 'regular' rows.

In all sub-menus you are offered the option of pressing Esc if you have changed your mind about printing. But if you select one of the numbered options on the 'vertical' menu, printing will at last start. The cameo will go red in step with the printing process and white again when finished. You may abort printing by pressing Esc, but this will not affect information that has already been stored in the buffer of your printer.

### 7.3 Changing the Printer Driver

#### 7.3.1 The rationale

The straight-in landing of Subsection 7.3 may not be suitable in your case. Your printer may not be Epson-compatible; it may be set to create automatic linefeeds or connected to a port other than ser1; you may wish to 'print' to a file for later transfer to a printer (perhaps the printer noise would wake your cat); or your first trial printout may not have come out the way you wanted.

In all of these cases Professional Publisher will let you change its built-in printer driver routine as warranted by circumstances. Select 7 from the Main Menu and go through all options of the 'Drivers' menu from 3 to 7. You may need to consult your printer manual if you aren't sure of some of the answers to the questions you'll be asked.

### 7.3.2 The parameters

Option 3 requires you to enter Y if your printer automatically creates a 'return' to the left margin after a linefeed character; N if the printer expects both 'characters' to come from the computer.

Option 4 asks you for the characters your printer expects as commands for certain amounts of paper feed. Select each line in turn and enter the sequence of ASCII characters given in your printer manual, unless the defaults offered happen to be correct. Use '27' for ESC, press Enter once after each value (there may be up to five) and twice when that code sequence is finished. To indicate that a 1/9-inch paper feed requires the code sequence 'Esc 51 20' you would thus select the 1/9" line with the space bar or Select button and type: 27 (Enter) 51 (Enter) 20 (Enter) (Enter). Of course only values from 0 to 255 will make sense.

Option 5 is very similar with its questions about single, double and quadruple graphics density, but each line needs the number of pixels characteristic of the indicated density first, followed by character codes as above. Pixel values from 0 to 9999 are accepted.

Option 6 lets you change the default baud rate your printer expects from the default of 9600. Again values from 0 to 9999 will be accepted, but as the QL only supports baud rates computed by successive halving of 9600, the program will automatically correct a non-supported value to the closest legal value.

Option 7 lets you substitute the port of your choice (ser2, par, flpl\_temp or whatever) for the default ser1.

When you have modified the printer driver to your requirements, you can start printing.

### 7.3.3 Saving and loading

Redefining the default printer driver during each Professional Publisher session would be tedious indeed. Fortunately you can save your modified printer driver to a file with option 1 on the 'Drivers' menu and re-load it on a later occasion with option 2. As usual, you'll get an error message if the file you are attempting to load does not contain a printer driver.

Your printer driver will even load automatically if you save it under the name `epson_driver`, overwriting the default printer driver on your Professional Publisher disk. You can always restore the old one by recopying from the master disk. (You did make a copy, didn't you?)

Yet another way is to tell the program to load your printer driver rather than `epson_driver` on `start_up`. The Configurator program (see Subsection 9.2) will do just that.

### 7.4 High-Resolution Printers

The supplied driver copes well with 8, 9 and 24 pin printers.

If you want laser-printer output, please refer to the entry 'Laser Printer' in the Alphabetic Section.

8. PROGRAM CONTROL

8.1 Mouse v. Keyboard

To switch from keyboard control to mouse control or back again, select 2 and then 9 from the Main Menu. Don't do it when your mouse is not connected, or you'll be in trouble.

8.2 Multitasking

To leave Professional Publisher temporarily - say, to do some computations or copying operations in SuperBASIC, edit text in Digital Precision's Editor - select 8 and then 1 from the Main Menu. This will take you to the initial screen, which a series of Ctrl+C keypresses will get you out of and (your work done) back into.

8.3 Quitting

To quit Professional Publisher irrevocably, select 8 and then 2 from the Main Menu. You will receive a warning message and a chance for second thoughts. N will take you back to the Main Menu to let you perform the 'save' you may have forgotten; but Y will remove the Publisher task from the QL's memory and deposit you in SuperBASIC (or perhaps some other task that is currently loaded).

## 9. Auxiliary Programs

All the following programs have a support function for Professional Publisher. To use them, save whatever in your current program seems worth saving, withdraw the Professional Publisher disk, reset your QL and press F1 at the appropriate time. Reinsert the disk and LRUN the boot program associated with the desired function. When done, reset the QL again.

### 9.1 Configurator

This program lets you change the start-up defaults of Professional Publisher semi-permanently, i.e. until you decide to run the Configurator again.

The boot program is called `configure_boot`. The menu and sub-menu options are:

1. Page variables
  1. Page memory (original default 192000 bytes)
  2. Page width (960 pixels)
  3. Page height (800 pixels)
  4. Quit
2. Default fonts
  1. Font memory (65000 bytes)
  2. High definition fonts (see Note 1)
  3. QL fonts (see Note 1)
  4. Quit
3. Text parameters
 

A. Hyphenation:	minimum left (3)
B.	minimum right (3)
C. Justification:	Required length (0 %)
D.	Last line (No)
E.	Paragraphs (No)
F.	Indents (< 2)
G.	Justification (Both)
H.	Between letters (40 %)
I. Text load:	Linefeeds? (No)
J.	Highlights? (Yes)
K.	Configuration (Hyphenation)
L.	File type (ASCII)
M.	Font type (Standard)
N.	Control codes (sub-menu)
O.	Standard highlights (sub-menu)
P.	High definition highlights (sub-menu)
Q.	Quit
4. Miscellaneous
  1. Default file name (`flp1_`)
  2. Mouse present (Yes)
  3. Default control (Keyboard) (see Note 2)
  4. Horizontal ruler (Yes)
  5. Vertical ruler (Yes)
  6. Default printer driver (`epson_driver`) (see Note 3)
  7. Default layout (`default_layout`) (see Note 3)
  8. Quit
5. Load old defaults (see Note 4)
6. Configure disk (see Note 5)

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- Notes:
1. Assign a filename to any or all letters from A to X, or quit by pressing Z. HDF A and QLS A, B, C and M cannot be reassigned other filenames.
  2. This toggles to Mouse.
  3. Enter the desired filename.
  4. If you wish to undo your changes and restart from the original values, select 5 (before selecting 6, of course).
  5. This finalises your selections and reconfigures the default files.

## 9.2 Page Converter

This program makes Pages saved from the old program version, Special Desktop Publisher, readable by Professional Publisher. The name of the boot program is `convert_page_boot`.

You will be asked the width of the original page in pixels, the name of the original file and the new name for the PP-readable file. Everything else is automatic.

## 9.3 Font Converter

This program makes HDFs saved from the old program version, Special Desktop Publisher, readable by Professional Publisher. The name of the boot program is `convert_font_boot`.

You will be asked the height of the original font in pixels (normally 16, but 24 if some characters have been defined with descenders), the two filenames that make up the old font (normally ending in `_fnt` for the pixel configurations and in `_wdt` for the character widths and descenders) and the new name for the (single) PP-readable file (we suggest that it should end in `_font`). Everything else is automatic.

## 9.4 grafix

### 9.4.1 Purpose

The program, which will be available on disk (together with extra fonts) for a nominal fee from Digital Precision (to Professional Publisher owners) allows a graphic Image file (e.g. a Desktop Publisher file of any size, or a Page Designer 2 file or a 'set' of Front Page files, or a QL Screen Dump of any size) to be printed to any dot matrix printer, including 24-pin printers.

The resulting printout may be scaled up or down in either dimension (or left unscaled) and rotated through 90 degrees, or left with its original orientation.

The program requires a memory expansion - its operational size is about 150k depending on the size of the file to be printed - and it uses the same Toolkit as Desktop Publisher; namely the TURBO Toolkit. (Note: if the experimental "C" version of the program is used, it does not require any toolkit).

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All support relating to the use of grafiX should be obtained direct from PDQL, Unit 1, Heaton House, Camden St, Birmingham B1 3BZ (telephone: 021 200 2313) and not from Digital Precision.

#### 9.4.2 Preparation

Before the program may be run, your printer's characteristics must have been entered on to the printer customisation file, the supplied version of which is called 'driver\_dat'.

Most commonly available printers are already defined on this file, but if yours is not, the method for entering the required details is described at the end of this Subsection. PDQL would be interested in hearing from people who find they have to update or add to the file, so that the distributed version of the file can be amended for the benefit of others.

Also, before the program is started, the TURBO Toolkit extensions (the XTRAS file) should be available in QL memory: users of Professional Publisher will already have this available (it is in the file 'toolkit' and is automatically invoked in Professional Publisher's boot-up procedure). For use outside of the Professional Publisher environment, first invoke the supplied extensions using:

```
_ADDR=RESPR(5632) : LBYTES FLP1_XTRAS, _ADDR : CALL _ADDR : NEW
```

#### 9.4.3 Start-up

The program is started in the usual way - using EXEC, EX, EXECUTE or whatever method you use for an "executable" multitasking program. There are two versions of the program - grafiX\_bin and grafiX\_cbin, the latter being an experimental (NOT YET FULLY TESTED) version which runs faster than grafiX\_bin. Hence the start-up command to be entered from SuperBASIC to invoke the program would be, say,

```
EXEC FLP1_grafiX_BIN
```

Use CTRL/C (hold CTRL down, tap the C key) to switch control between grafiX and other tasks. A BASIC program called 'boot\_grafiX' (invoked using LRUN) is provided for the automatic invocation of grafiX - you are given a choice between grafiX\_cbin and grafiX\_bin. If you opt for the latter, you are asked whether the Turbo extensions have been loaded or not (loading the toolkit twice simply wastes RAM).

Professional Publisher owners can incorporate the start-up command for grafiX in the 'boot' program for Professional Publisher, provided there is sufficient memory to hold both programs simultaneously. Do this by adding a line immediately after the EXEC publish\_task line (but before the NEW statement!) which EXECs the appropriate version of grafiX. If you are unsure of how to do this, don't: invoke grafiX by going to SuperBASIC from within Professional Publisher (Switch tasks - option 8 on the main menu) and, from BASIC, type in the above-mentioned EXEC command.



Note for Taskmaster users: The program MUST NOT be loaded with the "shared code" option.

Note for QRAM users: The program MUST NOT be "hotkeyed". Select it from the 'Files' menu.

When the program has started, the screen is cleared, headings are displayed and the first 'prompt' of the start-up dialogue appears.

The program needs the user to supply some details about three things:

- the input Image file
- the printer to be used
- the scaling to be used

#### 9.4.4 The input file

The first few questions are about the Image file:

- the name of the file to be printed,
- the origin of the file,
- various details depending on the file's origin
- whether 90-degree rotation is required
- whether ink and paper are to be reversed

\* 'Enter device and name of file: '

Sample Responses: flp2\_page\_one\_v4  
raml\_schematic

The program expects the device/file name to be at least 6 characters long. Otherwise, it squeaks and repeats the question.

\* 'File Source (DTP, PD2, FP, Scr, Again): '

Sample responses: D - for Digital's DTP or PP  
P - to indicate Page Designer 2  
F - to indicate Gap's Front Page  
S - to indicate a QL screen dump  
A - to respecify the file name

Some supplementary questions may be asked, depending on the source of the file - see notes at end of section.

After the questions, the image dimensions are displayed, for example: 'DTP page width: ' wwww ' Height: ' hhhh ' where wwww and hhhh are the selected (or default) sizes.

\* 'Rotate thru 90' (n/y): '

Depending on your output requirements, it may be convenient to swap the "x" and "y" axes of the image.

\* 'Invert black and white (y/n): '

In its screen image file, PP uses 'white' as "ink" and 'black' as "paper". This will usually result in tremendous amounts of ink at print time, since it is likely that most of your image will be white. If you reply 'y' (the default) to this question, black in your screen image will be treated as 'ink' and white will be treated as 'paper'.

9.4.5 Supplementary questions

\* Desktop Publisher

the PP page size used,  
whether the page is 'vertical' or 'sideways'  
(PP terminology)

>> 'DTP page width (960,480,800,1280): '

Sample Responses: ENTER - defaults to 960  
1280

If you have taken special action in PP to adjust the Page size, then the revised size should be declared - otherwise just press ENTER

>> 'DTP page height (800,400): '

Sample Responses: ENTER - defaults to 800  
See above.

>> 'Is DTP page vertical or sideways (v/s): '

The default response - if you just press ENTER - is 'v'. In the same way as the Page size, you will have selected 'sideways' as non-standard orientation when creating the Page in PP.

\* Page Designer 2

No additional questions. Image dimensions are determined by examining the file. A 'compressed' file image may not be processed: the program will squeak and reject the file.

\* Front Page

No additional questions. Image dimensions are fixed. It is expected that 4 files will be available on the indicated device and that the name entered is the "root" name. For example, if the response to the filename prompt was "flp2\_draft", then the files "flp2\_draft1", "flp2\_draft2", "flp2\_draft3" and "flp2\_draft4" will be expected to be present.

\* Screen Dump

The usual width of a screen dump is 512 pixels. If appropriate action has been taken, the dump width may be less. This will be known to the creator of the file (you?). The following question has a default response of 512.

'Dump width ( <= 512 ): '

The image depth is computed from the file size.

9.4.6 The printer

The program will output to any suitable device. This may be the more obvious printer ports - ser1, ser2, par - or maybe a file on disk or RAM disk etc. Some images which involve scaling and inversion and so forth may take up to 20 minutes to process (but considerably less if the "C" version is used), and if several copies are required, it may be quicker to send the output to a file and subsequently copy the file to the print device as many times as is required.

\* 'Enter print device (default "ser1"):

Sample Responses: ENTER - default ser1  
flp2\_grafdump

\* 'Passes: '

Sample Responses: ENTER - default 1 pass  
2 - two passes

Each 'pass' of the print head may be repeated, if necessary with a suitable vertical offset - assuming the appropriate parameters have been defined for the printer to be used. On printers with low vertical resolution, this technique may result in a more 'solid' image.

Whether or not printing is actually going to take place, it is necessary for the program to know which type of printer will ultimately be used. The printer must be fully described to the program, and the details are required to be on the 'driver' file.

\* 'Driver filename (default "driver\_dat"):

Sample Responses: ENTER - default filename  
flp2\_myprinter\_driver

The format of the parameters on the driver file is described at the end of this Subsection.

For each set of parameters on the driver file, the program displays the printer name and an associated 'ID number' from 1 upwards; when all names have been listed, the following message is displayed:

\* 'Enter id number of required printer type: '

If the name of the printer that you want is on view, then key in the ID number. If it is not, then just press ENTER. If there are more names on file, these will then be displayed, otherwise the program will HALT with the message:

'Update Graphics Driver file with required parameters and restart'

When the required printer has been identified, the selection dialogue is cleared from the screen and replaced by the message:

'Selected printer: ' printer\_name

### 9.4.7 Scaling

The program is already aware of the dimensions and 'dot density' of the QL screen; so it knows what it takes to make a circle look like a circle on the QL.

Having been told what printer is in use, it also knows what it takes to make a circle look like a circle on that printer. So the program does the necessary calculations to work out in what way the incoming data has to be transformed (rescaled) to preserve the "aspect ratio" so that the image on screen can be reproduced on paper.

The results of these calculations are displayed as follows:

	Preserving aspect ratio	
The resulting print image will be as follows:	Width	Height
	(inches):	www
	www	hhh
The scaling factors are (input : output):	Horiz.	Vertical
	a:b	c:d

The program has worked out what is the minimum adjustment to preserve the aspect ratio, and also at that adjustment what the image size on the paper will be. One of a:b or c:d will be 1:1, so this tells you what the vertical/horizontal scale ratio should be to preserve the aspect ratio. If the program computes a horizontal scaling that will result in a line longer than your printer can handle, the program will squeak and scale down both figures accordingly.

The scaling factors might be displayed as:

1:1.032      1:1

This means that for every input pixel on a 'row', the program must generate 1.032 pixels, or more properly, the program will "invent" 32 pixels in the print output for every 1000 pixels in the image file row of pixels. No vertical adjustment will be made. Another case:

1:1              1.022:1

This would mean that each 'row' would be left unscaled, but that out of every 1022 input rows, only 1000 would get printed.

You are then provided with the chance to override these figures - if for example the printed image will be too small, you may want to scale up the image, or you may be prepared for the aspect ratio to be changed or whatever.

'Do you want to change the scaling (n/r/y): '

If the response is 'r', the program will restart the dialogue - perhaps you wish to use a different printer resolution, or decide that the image would "fit" better if rotated, or whatever.

Only if you reply 'y' will the next question appear:

'Enter scaling as numbers (horiz, vert): '

Sample Responses: 1.33 (ENTER) 1.777 (ENTER)  
1 (ENTER) .978 (ENTER)

The numbers you are required to enter are the OUTPUT scaling numbers, so you can assume that you are entering 'x' and 'y' - in the implied: 1:x 1:y

If you want to increase the image in size, your number should be greater than 1. If you want to reduce in size, the number should be less than 1. If you change the horizontal scale, the program will check that the number of pixels implied does not exceed the maximum width of your printer. If it does, the program will squeak and ask for the numbers again.

After the new scaling has been entered and accepted, the program redisplayes the scaling 'panel' showing the revised stats:

The resulting print image will be as follows:	Manually scaled
	Width      Height
	(inches):    wwwww      hhhh
The scaling factors are (input : output):	Horiz.    Vertical
	a:b            c:d

#### 9.4.8 Interpolation (anti-aliasing)

If either of the scaling figures is in excess of 1 - i.e. the image is to be scaled up vertically or horizontally, or both - the program will ask if interpolation is required.

What this means is that if the program "invents" pixels or rows and if these are left as "paper", the resulting image could become sparse. With interpolation switched 'on', the program will have a look at the context of the invented pixel or row and decide whether ink or paper is more appropriate to preserve the image.

```
* 'Do you want horiz. interpolation (n/y): '
* 'Do you want vert. interpolation (n/y): '
```

Note also that if vertical scale reduction is in effect, the program attempts to preserve the image integrity. Pixel rows that are to be 'discarded' are examined, and structurally significant information is extracted before the row is discarded. This information is incorporated on the next row to be printed.

#### 9.4.9 Execution

That finishes the dialogue. The program goes on to load the whole of the Image file (it has to have it all if sideways images are to be processed). If insufficient memory is available, the program will HALT, displaying the message "Out of memory".

Processing then commences. Factors that influence the process time are - in decreasing significance:

- (a) Sideways orientation of input file
- (b) Horizontal scaling up
- (c) Width of a pixel row (longer row = longer time)
- (d) Vertical scaling up
- (e) Horizontal interpolation
- (f) Vertical interpolation
- (g) Inversion of ink and paper

A file that scores badly on all of these points may take up to 20 minutes to print on grafiX\_bin. grafiX\_cbin is ten times faster.

During printing the program scans the keyboard, and if any keypress is detected, it will ask if the print is to be aborted:

```
'Terminate now (n/y): '
```

If the response is 'n', printing continues. If the response is 'y', printing of the image ceases, and the end-of-print stats are written to the printer.

After the current image file has been processed, the program asks:

```
'Another image (y/n): '
```

If the response is 'n', the program terminates; else the dialogue is restarted.

### 9.2.10 Printer-driver file

The structure of the printer-driver file has been deliberately designed for ease of editing. You should, if the need arises, be able to adjust or add to the file without difficulty.

For the purposes of this program, there are at least 12 items of information required to describe each printer. You WILL need your printer manual, but not much else.

The file can most easily be edited using Digital Precision's Editor program, or MetaComCo's ED, or perhaps importing the file into Quill and writing the updated file using the Print command of Quill - with headers, footers, paging set off, and without supplying a "printer\_dat" file to Quill.

Each line of the file MUST begin with semicolon - if it does not, then the program won't see the line. (So, if you want, you can put comments in the file.) At least 13 lines are required for each printer (or printer mode). The first line is the printer name, followed by the remaining parameter lines. Each parameter is distinguished by a 4-character identifier.

(Parameters marked \*\* are mandatory only if multi-pass printing is to be used. )

- Name, Identifying name of printer
  - GPRE, Preamble for graphics - e.g. set linefeed height
  - GPOS, Postamble after graphics - e.g. reset lf height
  - GEOL, End of line code - single pass printing
  - GFST, End of line code - first pass of print \*\*
  - GLST, End of line code - last pass of print \*\*
  - GINT, End of line code - intermediate print passes \*\*
  - GPFX, Graphics line prefix
  - GCTL, Length of graphics string controller (chars)
  - GCTT, Type of controller
    - 0 = characters
    - 1 = binary; m.s. byte first
    - 2 = binary; m.s. byte last
    - 3 = no controller
  - GHZD, Horiz. dots per inch .
  - GVTD, Vert. dots per inch
  - GHZM, Max. Horiz dots per line
  - GFBH, First bit of byte is High pin(1) or Low pin(0)
  - GPIN, Number of pins in print head
  - GSPD, Transmission speed (BAUD)
- (remaining parameters are optional, depending on your printer)
- PEL, End of line code for text (if other than CR, LF)
  - GFIR, The number of pins that actually fire
  - GFIL, A character not allowed in a graphic stream
  - GESC, The sequence to be used to replace GFIL

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Some of the information required for the parameters contains some strange characters, as you will see from your printer manual.

Rather than have you searching around for some weird key combinations on the QL, we have set up string conventions so that information in your printer manual may be entered directly into the driver file.

### 9.2.11 Parameter strings

Characters in parameter strings may be expressed either as a letter or as a sequence of letters - which will be used exactly as they appear (e.g. UPPER CASE or lower case) - or as a decimal number representing the ASCII code for the (single) character to be used.

Combinations of letters and decimal numbers are allowed. A comma must be used as a separator. Leading spaces in front of each element of the string are ignored. A decimal number must be prefixed by #. If the # character is required as a letter, it must occur as ##. Neither a comma nor a semicolon character may be used in a string of letters. If either is needed, use #44 or #59 respectively instead. Equally, a string may not BEGIN with a space - use #32 if the requirement arises.

So, for example, to set up a string as the Graphics preamble  
ESC "E" ESC "T14" ESC ";" ESC " AB,"  
the parameter line would look like:

```
;GPRE, #27, E, #27, T14, #27, #59, #27, #32, AB, #44
```

An example parameter set:

```
;Name,CITOH M7500 - Double Density
;GPRE,#27,E,#27,T16, #13
. select 12 cpi; set lf to 16/144 of an inch
;GPOS,#27, A, #13
. reset to 6 lines per inch, return print head
;GEOL,#10,#13
. LF CR
;GPFX,#27,S
. ESC S in front of each graphics line (double den.)
;GCTL,4
. 4 byte string controller
;GCTT,0
. controller is ASCII characters
;GHZD,120
. printing at 120 horiz. dots per inch
;GVTD, 72
. printing at 72 vert. dots per inch
;GHZM,960
. platen width 8 inches => 960 dots max
;GFBH,0
. leading bit of graphics byte is low pin, not high pin
;GPIN,8
. 8 pins fired in print head
;GSPD,4800
. baud rate 4800
```



Another parameter set - it is Epson standard:

```

;Name, Star NL10 - Double Den
;GPRE, #27, A, #8, #13
. set linefeed at 8/72", do carriage return
;GPOS, #27, 2, #13
. set linefeed at 1/6", do carriage return
;GEOL, #13, #10
. end-of-line code is CR, LF - single-pass printing
;GPST, #13, #27, J, #1
. set CR and 1/216" linefeed after 1st pass
;GLST, #13, #27, J, #23
. set CR and 23/216" linefeed after last pass
;GINT, #13
. set CR and no linefeed on intermediate passes
;GPFX, #27, L
. double-density prefix is ESC, L
;GCTL, 2
. controller length is 2 bytes
;GCTT, 2
. controller type is binary with m.s. byte 2nd
;GHZD, 120
. double density ==> 120 dpi
;GVTD, 72
. 8 pins per 8/72" ==> 72 dots per inch vertical
;GHZM, 960
. platen width 8", times 120 dpi
;GFBH, 1
. first bit of byte maps to 'top' pin in print head
;GPIN, 8
. 8 usable pins in print head
;GOFF, 0
. Byte offset not relevant
;GSPD, 9600
. Standard baud rate

```

Another parameter set - quite tricky

This printer sets "graphics mode". Within that mode all data is considered to be graphic output, unless preceded by ETX (ASCII 3)

```
;Name, IDS 480 - Paper Tiger
;GPRE, #3
. set printer in Graphic mode (Exp. FuN. DIP Switch req'd)
;GPOS, #3, #2
. set printer in Text mode
;GEOL, #3, #14
. Vertical Advance "2"
;GFST, #3, #13
. Carriage Ret; N.B. "Auto LF" DIP switch off
;GLST, #3, #13
;GINT, #3, #14
;GPFX,
;GCTL, 0
;GCTT, 3
;GHZD, 84
;GVTD, 84
;GHZM, 672
;GFBH, 0
. bit 0 of each data byte is high pin
;GPIN, 8
. 8 pins in print head, but see GFIR
;GSPD, 9600
;PEOL, #13, #10
;GFIR, 7
. Only top 7 pins fire - 1 bit per byte ignored
;GFIL, #3
. if #3 occurs as data pattern .....
;GESC, #3, #3
. send #3, #3 instead
```

9.5 Word Processors and Graphics Programs

Professional Publisher is a general-purpose desktop publishing program. Some text- or graphics-handling facilities that you may wish to use before you load text or pictures onto a Page may only be available in dedicated text-processing or art programs. All programs of these types that we know of work well with Desktop Publisher; indeed you can multitask them. May we especially recommend Digital Precision's The Editor for sophisticated text handling and Eye-Q, the most versatile graphics processing program for the QL.

## B. ALPHABETIC SECTION

This section gives detailed explanations of the technical terms used in this manual and instructions for every operation featured in Professional Publisher. Though you will normally be guided by the menus and soon use frequent operations automatically without giving them a thought, we have thought it useful to offer detailed help if you are in need of it.

When a key is to be pressed in response to a menu, moving the menu bar to the desired option with the cursor keys or mouse and then pressing the space bar or the Enter key (or the Select button on the mouse) is almost always an alternative.

### Abort.

To interrupt a computer command in mid-execution.

- (1) To abort the printing of a page, press the Esc key.
- (2) To abort a fill operation, press the Capslock key.
- (3) To abort the loading of text from a file, press the Esc key. The abort command can be rescinded by entering N in answer to the prompt 'Are you sure?'

### AND.

A Boolean function whose input in this program are two rectangles of equal size. Its output is another rectangle of the same size, where each pixel is in paper colour unless the corresponding pixel in both input figures is in ink colour. The result of ANDing the / and \ characters is just a dot in the centre of a screen position reserved for a character.

- (1) To select AND for drawing, navigate to Mode Draw, enter the Command sub-mode by pressing Enter, then type A and return from Command sub-mode by hitting Esc.
- (2) To select AND for merging HDF characters, navigate to Mode Font; press F4, followed by 4 and A, then do your merging.

### Angle.

- (1) The parameter which controls the amount of curvature of an arc. It is the angle between the two radii from the ends of the arc (the angle 'subtended' by the arc).
- (2) The amount of 'tilting' of an ellipse from the horizontal. In Professional Publisher it is set indirectly by setting the end points of the axis of the ellipse.

### Arc.

Part of the circumference of a circle. To draw an arc: Navigate to Mode Line. Move the cursor to one of the desired end points. Exchange end points with the X key. Move the cursor to the other end point. Use the Enter key to enter the Command sub-mode. Press A for arc. The arc shown on the screen will be approximately a quarter circle. To increase the angle subtended by the arc, press +, to decrease it, press -. It is possible to move the arc past the chord connecting the end points; this chord will not be drawn. Press the Esc key to leave the Command sub-mode; you may then draw further arcs, boxes, circles, ellipses or lines, or exit Mode Line by pressing F4 and selecting from the menu.

**Arrow key.**

See Cursor key.

**Art file.**

A file containing graphic information that can be saved from and loaded to the screen. It is good practice to use filenames with a `_pic` or `_scr` extension. For loading, the program distinguishes between files produced by EYE-Q and other files (compressed EYE-Q files must first be loaded back into EYE-Q and re-saved without compression).

For art files included in the Professional Publisher package see Clip art.

**ASCII.**

American Standard Code for Information Interchange; the way characters in any text are represented by numbers up to 255 in most microcomputers. The table of assignments is printed under 'ASCII Code' in the Concepts section of the QL User Manual.

Note: The fact that only ASCII codes from 0 to 127 are truly standardised and those from 128 up are likely to be different for other computers and for different printers is fortunately irrelevant when you use Professional Publisher.

**ASCII file.**

A file consisting of text in ASCII characters. Any control codes for highlights etc. are embedded and not batched at the start and/or end of the file.

**Backing up.**

There are hundreds of ways to lose the information on your Professional Publisher master disks, even though write-protected. There is just one way to counteract this danger: make at least one copy of each master disk right away. Put the master disk in drive 1, a formatted empty disk in drive 2, and type `WCOPY flp1_ to flp2_` (followed by Enter). Type A in response to the prompt at the bottom of the screen. If you have a single disk drive, insert the master disk in the drive and type `WCOPY flp1_ to ram2_`. When the cursor reappears, insert a formatted, empty disk in the drive and enter `WCOPY ram2_ to flp1_`. Type A in response to the prompt at the bottom of the screen.

After copying is finished, label the secondary disks and lock the master disks away in a safe place. See also Copyright.

**Baud rate.**

The rate of transmission between communication devices. One baud means one bit, i.e. one yes-no choice, per second. In Professional Publisher, the baud rate is of importance for communication with your printer. Consult your printer manual for the baud rate to select; unless it is 9600, the default, correct it by navigating to the main menu and pressing 7 and 6 in succession. Then edit the baud-rate value. If the value you selected is not among those supported by the QL, the program will automatically select the nearest legal value. On being returned to the Driver menu, press 1 and save the modified printer driver under the name of your choice.

**Bold.**

One of the highlights that can vary the appearance of an HDF or QLS. It is distinguished by thicker character strokes. Default values may be changed by means of the Configurator program.

- (1) To select the QLS you have defined as bold for manual text entry, navigate to Mode Text, open a Window and choose CSIZE. Press F4, 2 and Esc in succession; then enter your text.
- (2) When loading a QLS text file into Windows or columns, text saved as bold in a QUILL file will always be loaded correctly. If bold characters from a non-QUILL file are not reproduced correctly, you will have to change the highlights and reload.
- (3) When entering HDF text manually, bold characters may also be selected. After navigating to Mode Font, enter the Control sub-mode by pressing Enter; then press B. The square against 'Bold' in the information window will be filled. (The B key is a toggle; to revert to normal characters, follow exactly the same procedure.) Leave the Control sub-mode with Esc, enter the Type sub-mode by hitting the space bar, and type.
- (4) When loading an HDF text file into Windows or columns, be sure to make the highlights assignment so that text intended as bold comes out in whichever font you find most desirable.

**Boolean function.**

As used in Professional Publisher, a routine which accepts two series of bits (each bit standing for either 'ink' or 'paper') and produces as output another series of bits of the same length according to a well-defined rule. The Boolean functions supported are AND, OR, OVER and XOR.

**Box.**

- (1) The outline of a rectangle (sides parallel to screen) placed on the Page in the current ink colour around a Window for manual text entry. After navigating to Mode Text and opening a Window, you will be presented with the Options panel. Now press 8 to draw the box.
- (2) A rectangle (sides parallel to the screen, outline or filled) placed on the Page in the current ink colour. To draw a box: Navigate to Mode Line. Move the cursor to one of the desired corners. Exchange corners with the X key. Move the cursor to the opposite corner. Use the Enter key to enter the Command sub-mode. Press B for box. The box will be filled if the fill parameter is set. The diagonal, which is also shown, will not be drawn. Press the Esc key to leave the Command sub-mode; you may then draw further arcs, boxes, circles, ellipses or lines, or exit Mode Line by pressing F4 and selecting from the menu.

**Brush.**

A pattern contained in an 8x8-pixel square, which may be placed on the Page repeatedly in contiguous positions to give the effect of the sweep of a painter's brush. To select a brush, navigate to Mode Draw, enter the Command sub-mode and press B. This will cycle you through the 64 brushes shown in the palette in the information window. The shape of the cursor (red ink, white paper) will change to the current brush, which will also be displayed against the word BRUSH in the information window. 192 further brushes are available through the S key (which toggles to a second palette) and the I key (which toggles to an inversion of the current palette).

You can also change the effect of the brushes by selecting one of the Boolean functions (AND, OR, OVER, XOR), which determine how the brush will affect what is already there on the screen. To make the change, press A, O, V or X respectively; it will be echoed in the information window.

Leave the Command sub-mode by pressing Esc, then start drawing.

**Byte.**

A unit in which memory capacity in computers and devices is measured. One byte is composed of 8 encodings of yes-or-no decisions; another way of looking at it is the capacity to hold one character.

**Cameo.**

A scalemodel (1 : 4 or 1 : 8, depending on Page size) of the Page that is being prepared, first displayed at start-up. It also shows the layout guides; but you can opt instead to see the grid (press 2, 8, 5, 2 in succession) or neither guides nor grid (press 2, 8, 5, 3). To re-display the layout guides, press 2, 8, 5, 1. The cameo should be consulted from time to time to see whether the development of the Page is progressing as desired. To this end all you have to do is to navigate to the main menu.

If your page orientation is landscape, the cameo should be viewed as though your screen were turned on its right-hand side; i.e., the right-hand edge of the cameo corresponds to the bottom of the Page.

**Cancel.**

The left-hand button on the mouse; it corresponds to the Esc key.

**Character.**

A letter, one-digit number, punctuation mark etc. that can be printed to the screen or to a printer. Frequently a space is also considered to be a character. A character can be unequivocally referred to by its ASCII code (e.g. 65 for upper-case A, 32 for space).

## Characteristics.

A parameter which influences the resolution of mouse movement and can thus be used to prevent unwanted merging of stippled brushes in Mode Draw. More precisely, it is the offset in pixels between successive screen images of the cursor (= paintbrush). To change characteristics, press F4 and select 0 (the default), 1, 3 or 7 from the menu. Experiment with the different values until you know which is best for your current purpose.

=1 allows printing only in the even pixel positions

=3 allows printing only in pixel positions that are multiples of 4

=7 allows printing only in pixel positions that are multiples of 8

=0 allows printing in all pixel positions

Under keyboard control, the characteristics are of little use and should be left at the default setting.

## Circle.

To place a circle on the Page in the current ink colour: Navigate to Mode Line. Move the cursor to the desired centre. Exchange points with the X key. Move the cursor to any point on the circumference. Use the Enter key to enter the Command sub-mode. Press C for circle. The circle will be filled if the fill parameter is set. The radius, which is also shown, will not be drawn. Press the Esc key to leave the Command sub-mode; you may then draw further arcs, boxes, circles, ellipses or lines, or exit Mode Line by pressing F4 and selecting from the menu.

## Clear.

To cover the Page, or an area on it, with the current paper colour, thus erasing anything printed or drawn there.

(1) To clear the whole Page: Navigate to the Main Menu and press 2, 7 and 1 in succession. As this is irreversible major surgery, you will be asked whether you are really sure. Edit the prompt N to Y if you are and press Enter; if you have changed your mind, just press Enter with the N unchanged.

(2) To clear a section of the Page: Navigate to the main menu and press 2, 7 and 2 in succession. Use the cursor keys to determine the top left-hand corner of the section to be cleared on the cameo; repeat for the bottom right-hand corner.

(3) When a Window is opened for manual entry of QLS text, it is filled with spaces and thus clears everything it covers. If you should wish to clear it while it is still open, press 2 when the menu whose first line is '1. Enter text' is shown. If the Window is no longer open, open a new one over it.

## Clip art.

A type of art file containing figures and symbols that come in handy to illustrate many texts. The desired figure may be placed on the Page by the cutting and pasting process after loading the picture that contains it.

11 clip-art files are included in the Professional Publisher package under the names balls1\_pic, balls2\_pic, food\_pic, logos\_pic, misc1\_pic, misc2\_pic, signs\_pic, storage\_media\_pic, technical\_pic, timepieces\_pic and travel\_pic. All of them are EYE-Q screens; so press 2 when the relevant menu is shown in the loading sequence.



**Close-up.**

A window that is shown on screen (bottom right) at some times as a magnification (to actual size on the Page) of part of the cameo. The arrowhead cursor is always at the close-up's centre and corresponds to the cameo cursor at top left of the shuttle.

**cm.**

Abbreviation for centimetre, a linear measure that has been in use in Europe for two centuries. In case you must know, it is .3937". The default unit is cm. If you have switched to inches and wish to reset to cm, navigate to the Main Menu and press 2, 8 and 6 in succession.

**Colour.**

Professional Publisher only supports black-and-white printing. Each colour in what was originally a 4- or 8-colour picture is rendered differently, as in a photograph, by grey-scale conversion. When the program uses 'colour' in other contexts (e.g. in Mode Font), it refers to various stipples giving the effect of grey, typically for an ink.

**Column.**

When text is loaded onto the Page but not into specifically defined Windows, the area delimited by the margins can be either unbroken or divided into 2 to 9 columns. The vertical column lines are shown in green on the cameo and on the Page (unless you have selected another option for the layout guides). Like the other layout guides they can be redefined, saved, loaded and used as lines of reference in cursor movement.

The default at start-up is 4 columns. The gutter or column gap may also be adjusted by the user; the default at start-up is .4 cm, and no combination of columns and column gaps is permitted that would result in a column width less than 1 cm.

To change the column setting: Navigate to the Main Menu; then press 2, 8, 2 and 1 in succession; edit the value shown and press Enter. Next press 2 to edit the column gap similarly; press Enter and Esc.

**Column break.**

One of up to 8 imaginary horizontal lines shown in red on the cameo and on the Page (unless you have selected another option for the layout guides). Like the other layout guides they can be redefined, saved, loaded and used as lines of reference in cursor movement. The default at start-up is 3 column breaks at 7.4, 14.8 and 22.2 cm from the top of the Page.

The column breaks facilitate rapid and accurate shuttle.

To change a column-break setting: Navigate to the Main Menu; then press 2, 8 and 3 in succession, followed by the desired number key (1 to 8); edit the value shown (use 0 for none); then press Enter and Esc.

**Condensed length/width.**

A way of printing, supported by most printers, in which a denser image of half the nominal length and/or width is produced. Also known as quadruple density. See Standard length/width; Extended length/width.

## Configuration.

As used in Professional Publisher, the treatment given to text on loading when the right-hand edge of a Window or column is reached in the middle of a word. Any of the following three configurations may be selected:

- (1) Word wrap: the whole word is placed at the beginning of the next line.
- (2) Hyphenate: the word is hyphenated if the conditions of the hyphenate parameters are met; else it is placed at the beginning of the next line. This is the default.
- (3) Off: the whole line is filled without regard to word boundaries; i.e. words may be split without hyphens.

To change the configuration you must be in the process of loading text. When presented with the menu headed by '1. Put text on page', press 2 and use the space bar or Enter key to cycle among the options. If no further adjustments are to be made, press 1.

## Configurator.

Two auxiliary programs contained in the Professional Publisher package (filenames `configure_boot` and `configure_exe`) to change the defaults which Professional Publisher uses on start-up. By using the configurator you won't have to change them to your favourite settings whenever you work with the main program.

To use the Configurator, you must un-write protect the disk on which it is contained and insert it into drive 1 AFTER you have reset the QL and pressed F1. Enter `LRUN flpl_configure_boot`. This will boot `configure_exe`, which in turn will display a series of menus. The values you start out with are normally contained in the files named `epson_driver`, `variable_default` and `default_layout`. If you want to start with values contained in other files, press option 4 when shown the first menu, followed by 6 (to change the printer driver filename) or 7 (to enter the filename for the layout guides) and edit the appropriate filenames.

Option 1 permits you to change the default Page size (960x800 pixels) and the memory reserved for two pages (192000 bytes). Illegal selections will be turned down with a beep; you may, however, reduce the memory assignment to a value that will permit only one Page to be in memory at any time. Select 4 from the sub-menu when you are done.

Option 2 permits you to select the character sets (fonts) available at start-up (up to 24 each of QLS and HDF), as well as the amount of memory reserved for them (default 65000 bytes). Note that the amount of memory needed depends on the number of fonts loaded; for HDF also on the number of characters contained in each font (you may leave characters undefined) as well as on the size of the grid selected for each font. Press 3 for QLS or 2 for HDF. For each assignment to any of the identification letters B to X, press that letter (if necessary, press the right arrow key first) and edit the desired filename, which normally ends in `_qls` for a QLS file and in `_hdf` for an HDF file. If you delete (6) the whole filename, the current letter will remain unassigned. QLS A to C and HDF A are protected and cannot be changed. When finished, press Z. When finished with both font types, press 4. Caution: It is your responsibility to ensure that the files you refer to contain the correct type of information. Loading a QLS file instead of an HDF file, or a text file instead of either, is almost certain to hang Professional Publisher at start-up!

Option 3 allows you to change the parameters which control the loading of text from a file. Further information will be found under each term that appears on the sub-menu in question.

Option 4 allows you to change the defaults for the filename prompt (originally flpl\_), the mouse parameters (mouse present but keyboard control initially selected), visibility of the rulers (both on), the printer driver filename (epson\_driver) and the layout guides filename (default\_layout). Press 8 after you have made all changes.

If you are completely disgusted with your alterations and want to start afresh, you can restore the old settings by means of Option 5. No changes will be made to your disk until you press 6 and enter Y when asked whether you are sure.

**Control.**

- (1) A sub-mode of Mode Text, Mode Font, Mode Draw, Mode Line and Mode Fill. It is entered from any of these modes by pressing Enter, and left by pressing Esc. In Mode Text this sub-mode permits changing ink and paper; in Mode Font it permits changing of fonts, geometric operations on characters, and adjustment of spacing; in Mode Draw it permits changing brushes and palettes, as well as Boolean functions; in Mode Line it permits changing shapes, ink or paper, as well as toggling fill status; and in Mode Fill it permits selection of fill textures. In the last three modes it also offers an undo feature and in all but Mode Font a facility for scrolling the Screen. Note that to scroll around with the mouse you must go to the appropriate X (or Y) co-ordinate indicator and press Select to move up (or left) and Cancel to move down (or right).
- (2) The type of access to Professional Publisher. It may be either by keyboard (the default, which may be changed by means of the Configurator program) or by mouse. Manual text entry will, however, always require the keyboard. To toggle between keyboard and mouse control, navigate to the Main Menu and press 2, followed by 9.

**Control codes.**

See Highlights.

**Convert.**

Two pairs of programs included in the Professional Publisher package which enable you to make new versions of Pages and HDF files saved with the previous version (Special Desktop Publisher) so that they can be read and used by Professional Publisher.

- (1) To create a PP-readable version of a Page saved under Special Desktop Publisher, insert the PP disk in drive 1 AFTER resetting the QL and pressing F1. Then enter LRUN flpl\_page\_boot, which will get flpl\_page\_exe running. Edit the defaults offered for the width of the original Page in pixels, the original filename and the new filename. Reset the QL when finished.

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- (2) To create a PP-readable version of a font saved under Special Desktop Publisher, insert the PP disk in drive 1 AFTER resetting the QL and pressing F1. Then enter LRUN flpl\_hdf\_boot, which will get flpl\_page\_exe running. Edit the defaults offered for the font height (normally 16, but 24 if the original font includes characters for which you have set a descent below the base line; the width is always 16 and is therefore not asked for), for the two original filenames associated with the font (they will normally be identical except for the extensions \_fnt and \_wdt) and for the desired new filename (suggested extension \_hdf). The new file will contain the information from both old fonts. Reset the QL when finished.

#### Co-ordinates.

At most times, two pairs of co-ordinates will be shown near the upper right-hand corner of the screen. The first pair, abbreviated SCX and SCY for Screen (or section), indicate the horizontal and vertical distance from Page top left to Screen top left; the second pair, abbreviated PGX and PGY for Page, the horizontal and vertical distance from Page top left to the cursor.

White numbers indicate squares (1 square = 8 pixels); red numbers from 0 to 7 indicate any extra pixels.

The PGX and PGY co-ordinates will normally change as you move the cursor; if this irritates you, exit any sub-mode you may be in by pressing Esc; then press F1, which acts as a toggle to freeze and unfreeze the change of co-ordinates.

#### Copyright.

Under international copyright law you may make as many copies of Professional Publisher for your own use as you need; but you will become criminally and civilly liable if you copy the program or permit it to be copied for any other purpose.

#### Create.

You may create your own HDF or QLS fonts.

- (1) To create an entirely new font: Navigate to the Main Menu. Press 3 and then the right arrow key until the vertical strip at centre screen becomes empty. Press 4 and enter first the desired width and then the desired height of characters in pixels. The only values accepted are 8, 16, 24, 32, 40 and 48 (0 means you don't want to go ahead after all). Next press 1, and you may start editing. You need not define the entire font; characters left undefined will not occupy any memory. Entering an undefined character will move the cursor one pixel to the right.) When you are finished, don't forget to save the new font.
- (2) To produce a new HDF by modifying an existing one: Navigate to the Main Menu. Press 3 and then the right arrow key until the vertical strip at centre screen becomes empty. Press 3 and edit the name of the old file, then press Enter. When the empty strip is filled, press 1, and you may start editing. When you are finished, don't forget to save the new font.

- (3) To create an entirely new QLS: Navigate to the Main Menu. Press 4; from the menu at centre page select a letter followed by empty spaces. Press the corresponding letter (you may also use the right arrow key first to toggle to a second set of letters), followed by 1, and you may start editing. When you are finished, don't forget to save your QLS.
- (4) To produce a new QLS by modifying an existing one: Proceed as for (3); but before pressing 1, press 2, edit the name of the old file, and wait for the new set to appear against the letter you have chosen.

Creation of a pleasing font from scratch is not an easy job; if you have access to a book of fonts which are in the public domain, why not use those?

**CSIZE.**

Text printed from any of the QLS may be selected in 8 different character sizes, as in the SuperBASIC CSIZE command. Each CSIZE is characterised by a pair of parameters as follows:

1st parameter	2nd parameter	Width in pixels	Height in pixels
0	0	6	10
0	1	6	20
1	0	8	10
1	1	8	20
2	0	12	10
2	1	12	20
3	0	16	10
3	1	16	20

- (1) When entering QLS text manually (Mode Text), you are led to a menu that forces you to make a CSIZE selection. (You may have to use the cursor keys or the mouse to select, and the space bar or Enter to finalise your decision: pressing a number key will correctly select the first parameter but assume the second parameter to be 0). There is an option to select a demonstration first: if chosen, it will place the word EXAMPLE on screen in all 8 CSIZES.
- (2) When loading QLS text, you are led to a menu whose first item is '1. Put text on page'. At this point you may change the default CSIZE of 0,0 by entering 9. You may then successively edit the first and second CSIZE parameters (only the values tabulated above are accepted), each followed by Enter. Another Enter will leave the default linefeed (10 or 20) intact. If you wish to change no other parameters, you may initiate loading by pressing 1.

The equivalent of CSIZE for the HDFs is magnification.

**Cursor.**

A symbol on the screen which indicates where any input will be placed. The standard cursor shape is an arrowhead (sometimes two arrowheads placed against each other). The cursor changes to a rectangle for manual QLS input and when you are designing a QLS or an HDF; to the current brush shape in Mode Draw; to the letter T in the Type sub-mode of Mode Font; and to the letter C in the various Control sub-modes.

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The cursor is moved with the cursor keys in steps of 1, 8 or 32 pixels or to the nearest guide (depending on the current mode and on the simultaneous pressing of Space or Ctrl). The cursor is moved continuously by moving the mouse; for fine movement, e.g. on the cameo, the cursor may be moved into the appropriate arrow shape on the current instructions panel and clicking the Select button.

#### Cursor keys.

Four keys marked with arrows. They are used to move the cursor and to pass through a menu; occasionally to toggle or cycle.

#### Cut.

The action of defining a rectangle on the Page and copying it into scratch storage for later pasting. Any previous contents of the scratch storage for pasting will be lost at the moment of a cut.

- (1) To cut the area of a text Window: When presented with the Options menu of Mode Text, press 1 and continue. The Window will remain in its previous place on the Page.
- (2) To cut a whole picture, or a picture section: While the picture is on screen, move the cursor to the top left corner of the desired section and press the space bar. Repeat for the lower right-hand corner. The picture will be removed from the screen - it was never on the Page - and only remain in scratch storage.

#### Cycle.

The action of moving through three or more menu items (which may be shown simultaneously or one after another) by repeatedly pressing the same key (usually the space bar); pressing the key on the last item will again switch to the first. On reaching the desired item, press Enter. See Toggle.

#### Default.

The action taken by a computer program whenever it needs a value for a user-selectable parameter but the user has either had no opportunity to make the selection (i.e. at start-up) or refused to do so (by entering nothing). Many of the default values of Professional Publisher can be changed by means of the Configurator program.

#### Delete.

To remove from working memory or external memory.

- (1) To delete any file (Page, picture, QLS, HDF, guides, Windows, printer driver or even a file alien to Professional Publisher) from disk, navigate to the Main Menu, then press 5 and 6 in succession. The message 'Delete which file?' will appear, and you can edit the suggested default filename. When finished, press Enter. To delete another file, press 6 again and continue. A more radical way of deletion, which erases all files on a medium is to format it.
- (2) While a Window for manual QLS entry is open, it may be redefined by moving and/or deleting its corners. Pressing Esc will delete the bottom right-hand corner; if this no longer exists, it will delete the top left-hand corner.

- (3) To delete a QLS character which has been manually put in a Window (while it is still open and the square cursor is visible): Either place the cursor over it and press the right arrow key while holding down the Ctrl key; or place the cursor on the next character and press the left arrow key while holding down the Ctrl key.
- (4) To delete a whole line from a Window for manual QLS entry (and make the following lines scroll up), there must be an active rectangular cursor in the Window. Move it to the line to be deleted and press F1.
- (5) To delete one vertical column (!) of pixels in HDF text (Mode Font): If you are in the Control sub-mode, leave it by pressing Esc. Enter the Type sub-mode by pressing T. Now either place the cursor on the pixel column to be deleted and press the right arrow key while holding down the Ctrl key; or place the cursor on the next pixel row and press the left arrow key while holding down the Control key. The reason for having a single pixel column deleted is that font characters are not of constant width, and italics may make the variations even greater.

**Descent.**

The distance in pixels by which certain lower-case characters (g, j, p, q, y) descend below the base-line as defined by other characters; the part below the base-line is called the descender.

- (1) The QLS's assume a constant descent of 2 pixels; keep this in mind when designing a new QLS.
- (2) The descent of each character in an HDF can be defined or modified by you. To do so: Navigate to the Main Screen; press 3, select a font with the horizontal cursor keys or mouse, press 3 again, select the character to edit with the vertical cursor keys or mouse, then press A. Use the vertical cursor keys or mouse again to move the thin horizontal red line in the grid, which represents the base-line. You will normally wish to have the base-line at the same level for all characters of a font. When satisfied, press Enter (or Select on the mouse).

**Desktop publisher.**

A computer program which enables the combination of a microcomputer and an associated printer to produce printed output which may include both text and graphics to give an overall appearance that comes close to that of professionally printed books and periodicals.

Professional Publisher is by far the most powerful desktop publisher for the QL.

**Device.**

A piece of hardware which can communicate with a computer. A device may be used for input, output, or both. Devices used with the QL must be referred to by standard names, such as scr (screen), ser (serial output port), net (network). See the entry 'Device' in the Concepts section of the QL User Manual. Professional Publisher also assumes that you have at least one floppy disk drive, so that the QL will recognise the device name flp1\_ (a second drive would of course be referred to as flp2\_); most disk expansions for the QL will also include RAM disks (device names ram1\_ to ram8\_).

As some commands on the QL require either the name of a device or that of a file (e.g. a Page may be saved to neto\_3 or to flp2\_poster\_pge), the terms 'device name' and 'filename' are often used interchangeably.

**Digitiser.**

A device that captures the image from a video recorder or camera for computer processing. As digitised images often have slight flaws, it is a good idea to use EYE-Q or another art program to clean them up. They can then be loaded onto a Professional Publisher Page.

**Dimensions.**

At the start of a Professional Publisher session you must indicate the size of the Page you are preparing (if you have two Pages in memory simultaneously, they must be of the same size but may have different orientation) in two ways, unless you are ready to accept the default values of 800 by 960 pixels and A4 size (21x29.7 cm).

- (1) Page size in pixels, together with the number of dots per inch characteristic of your printer and various selections made in your printer driver, determines the actual size of the printed Page (more pixels mean a denser printout) and the percentage of the Page visible on the Screen (480x256 pixels) at one time.

If you try to change the pixel dimensions with anything already on the Page, it will come out garbled on both the screen and the printout. You can recover the original Page by changing the dimensions back to their former values, but there is no way of getting useful output with changed values.

To change the pixel dimensions: Navigate to the Main Menu and press 2, 5 and 1 in succession. Edit the width value and press Enter; then edit the height value and press Enter. Any width between 400 and 1600 pixels and any height between 480 and 1920 pixels (both in steps of 80; odd values are automatically rounded down to the nearest multiple of 80) may be selected. Combining the top values of width and height will, however, overtax your QL's memory: you'll get an error message and a chance to enter a pair of feasible values.

- (2) Page size in units (cm or inches) acts only as an aid to you in determining the position of the layout guides as well as of text and graphics on the Page. It has no influence on the actual size of the printout but should rather be chosen according to true printout size - see (1) above.

To change the unit dimensions: Navigate to the Main Menu and press 2, 5 and 2 in succession. Edit the width value and press Enter; then edit the height value and press Enter. Any value from 1 to 999 cm and up to 5 characters (e.g. 21.48) are OK.



**Directory.**

A list of all the files on a device.

To obtain the directory of, say, the disk in drive 1: Navigate to the Main Menu and press 5 twice. Then edit the default value offered to read flpl\_ and press Enter. If you enter flpl\_font instead, you will get a selective directory of all the files on the disk in flpl which contain the string 'font' in any mixture of upper and lower case, e.g. myfont, FONT\_design, LAFontaine (see Wildcard).

If there are more directory items than can be shown at once, output will stop after a window is filled. You may then either abort the listing by pressing Esc or continue by pressing any other key. Any key will take you back to the menu after the last item has been displayed.

**Disk.**

A device for input and output that can hold files. It has more memory and is both faster and more reliable than a microdrive cartridge. Alas, it is not usable on the basic QL but requires the addition of both hardware (disk drive) and software (disk driver). Professional Publisher is so large and so powerful that it requires a disk installation. See also RAM disk.

**Double density.**

- (1) A way of squeezing twice as much memory onto a disk. All disks used on the QL are of this type.
- (2) See Standard length/width.

**Draft.**

- (1) The less pretty print mode (as opposed to letter quality) in many printers. The term is not applicable to the graphics mode and is therefore irrelevant when Professional Publisher is used.
- (2) The appearance of a QLS that is used for run-of-the-mill text, as opposed to highlights.

**Draw.**

The mode in which you can do (and amend) free-hand drawing on the Page by using brushes. In this mode the information window shows the current brush, a palette and the currently selected Boolean function.

To reach Mode Draw: See Navigation.

**Dropcaps.**

Greatly magnified letters at the start of a chapter, article or paragraph in some forms of printing. This effect may be achieved by selecting an appropriate HDF and defining a wraparound Window to be filled with the remaining, smaller-sized text.

**Eccentricity.**

A measure of the amount by which the shape of an ellipse deviates from a circle. In Professional Publisher this is controlled by changing the length of the second axis with the + and - keys.

**Edit.**

- (1) Whenever you put any text or graphics on the Page manually (rather than loading it from a file), you are said to edit it. To do so, navigate to the Main Menu and press .1. Next, move the shuttle to the section of Page you wish to work on and press Enter. You can then navigate to the five editing modes (Text, Font, Draw, Line, Fill).
- (2) Whenever the program asks you to enter a device name, filename or number, your entry may be 'edited', i.e. altered, in the usual way: move between the ends of what you have already entered with the horizontal cursor keys; delete characters by pressing the horizontal cursor keys with the Ctrl key held down; insert characters at the cursor position by typing them; indicate that editing is finished by pressing Enter.
- (3) When manually entering QLS text into a Window, you have the same options as in (2); in addition, the vertical cursor keys are enabled for cursor movement in the Window, and you may use F1 to delete and F2 to insert a whole line. See also Word process.
- (4) You can also edit any character in the QLS and in the HDF. See Editor.

**Editor. -**

Software which permits modification of a file. Professional Publisher contains two character editors for modifying QLS and HDF.

- (1) To enter the QLS editor: Navigate to the Main Menu; then press 4. A menu will appear, from which you can select the set to edit by pressing any of the letter keys from A to M (or, for another selection, the right cursor key, followed by a letter key from N to X). Now a grid magnifying the pixels of individual characters will appear on the left-hand side of the screen and a menu on the right-hand side. The cursor keys control the square cursor in the grid; with the horizontal cursor keys you can also move off the grid and into the menu. The colouring of the grid reminds you that you should only use pixel columns 2 to 6 for a QLS that is to be used in all CSIZES, and 2 to 8 for a 'special' set which should only be used in CSIZES 1/0 and 1/1 (0/0 and 0/1 will have characters running into one another, and the other CSIZES will give unpredictable character fragments).  
 A window at the bottom of the screen will show the current set in black and, above it, the key each character corresponds to. If you are designing a previously empty QLS, you may wish to start it at either ASCII 32 ('first' set) or at ASCII 129 ('second' set). To make your selection, press 4, followed by either F or S.  
 To edit a character: press 1, followed by 2. Use the horizontal cursor keys to move the green bar that serves as a cursor in the bottom window to select the character you wish to edit; then press the space bar. (Or control the cursor with the mouse and terminate with Select.)  
 The selected character will appear in the grid, and you can edit it as shown overleaf:

Space	(cursor on a square)	turns the square to ink colour
Enter	(cursor on a square)	turns the square to paper colour
3	(cursor in the menu)	lets you select another character as before and puts it in the grid (so you can edit, say, your F from an already defined E)
4	(cursor in the menu)	clears the grid
5	(cursor in the menu)	inverses the grid
6	(cursor in the menu)	inverts the grid
7	(cursor in the menu)	reflects the grid

All changes are only made to scratch memory; if you wish to accept them, you must move to the menu and press 1 to store the character in working memory. You can then select a new character to edit by pressing 2; if you failed to press 1, the changes you have made to the last character will be cancelled. When all characters of the set have been completed, press Esc from the menu and press 2 to save your new character set. When prompted for a filename, you might as well follow the convention and choose one that ends in \_qls.

(2) To enter the HDF editor: Navigate to the Main Menu; then press 3. A narrow window will appear, from which you can select the font to edit by pressing either of the horizontal cursor keys; when your selection has been made, press Esc. Now a grid magnifying the pixels of individual characters will appear on the left-hand side of the screen and a menu on the right-hand side. The cursor keys control the square cursor in the grid; with the horizontal cursor keys you can also move off the grid and into the menu.

To edit a character: press 4. If you wish to start your editing, say of E, from the grid representation of another character, say F, first select the E with the up or down cursor key or mouse; then move the cursor to the menu with the right arrow key, press 3 and select F. If you prefer to design your new F from scratch on a blank grid, select F in the first place, move the cursor into the menu and press 5. You can now edit the selected character as follows:

Space	(cursor on a square)	turns the square to ink colour
Enter	(cursor on a square)	turns the square to paper colour
5	(cursor in the menu)	clears the grid
6	(cursor in the menu)	inverses the grid
7	(cursor in the menu)	reflects the grid
8	(cursor in the menu)	inverts the grid
9	(cursor in the menu)	enables the cursor keys or mouse to scroll the grid; terminate with Esc or Cancel
0	(cursor in the menu)	pressing the space bar will fill the ink-enclosed area around the cursor; terminate with Esc or Cancel
A	(cursor in the menu)	permits changing descent and proportionality; terminate with Esc or Cancel.

In order not to defeat the advantages of proportionality, you are advised to have the leftmost points of each font character in the same grid column (normally 1 or 2).

All changes are only made to scratch memory; if you wish to accept them, you must move to the menu and press 1 to store the character in working memory. You can then select a new character to edit by pressing 4; if you failed to press 1, the changes you have made to the last character will be cancelled. To remove a character entirely from working memory, there is a simplified way: just press 2 from the menu; the grid (scratch memory) will remain unchanged.

When all characters of the set have been completed, press Esc from the menu and press 2 to save your new font. When prompted for a filename, you might as well follow the convention and choose one that ends in \_hdf.

- (3) 'The Editor' is the name of Digital Precision's top-notch program for the modification of any type of file whatsoever, including aspects of text processing the writers of QUILL didn't even dream of.

**Ellipse.**

To draw an ellipse: Navigate to Mode Line. Move the cursor to the spot where the ellipse is to have its centre. Exchange end points with the X key. Move the cursor to the spot where the longer axis is to have one of its end points. Use the Enter key to enter the Command sub-mode. Press E for ellipse. The ellipse will be filled if the fill parameter is set. The half-axis also shown will not be drawn. The ellipse will have an approximate axis ratio of 2 : 1. To increase this ratio press +, to decrease it press -. Press the Esc key to leave the Command sub-mode; you may then draw further arcs, boxes, circles, ellipses or lines, or exit Mode Line by pressing F4 and selecting from the menu.

**Enter.**

A key found on every computer keyboard, although on some it is marked 'Return' or sports a bent arrow. Its main uses in Professional Publisher are:

- (1) to finalise a selection from a menu (interchangeably with the space bar);
- (2) to indicate that the input of a device name, filename or number is finished;
- (3) to switch to the Control sub-mode.

**Error message.**

Most error messages listed in the QL User Manual can also occur in Professional Publisher; some, however, have a slightly improved wording:

Arithmetic overflow            instead of            Overflow  
Bad device name                instead of            Bad name  
File error                      instead of            Bad or changed medium

There are also a few additional self-explaining error messages:

- File too long
- NOT ENOUGH MEMORY
- Page section is too large
- Unknown
- Wrong file

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None of these error messages will crash the program; you can always recover from the error.

In the - highly unlikely - case that the program does crash, with an error message of the type:

Task publisher\_task halted after line ..., reason: ...,  
or if you ever get the 'Unknown' message (this, too, is most unlikely), please report the details of the crash to Digital Precision, and we will find a way to fix it - permanently.

#### Esc.

Short for Escape; a key found on every computer keyboard. In Professional Publisher it will usually return you to the menu from which you came, thus performing upwards navigation; in some cases, where this would be counterproductive, it switches you instead to the next phase of the program.

The Esc key will not work when the program expects input. If you cannot come up with a filename that doesn't result in an error message, delete all the characters and press Enter; this will work as an ersatz Esc key.

When a mouse is used for input, the Cancel button takes over the function of the Esc key.

#### Extended length/width.

A way of printing, supported by most printers, in which a less dense image of twice the nominal length and/or width is produced. Also known as single density. See Condensed length/width; Standard length/width.

#### Extension.

- (1) An optional last part of a filename, starting with the last underscore character. It is frequently used to designate certain types of files, e.g. \_doc and \_lis for QUILL files, \_qls and \_fnt for fonts, \_pic and \_scr for graphic files.
- (2) A machine-code procedure or function that can be loaded into the QL to permit the use of extra SuperBASIC keywords. Professional Publisher contains four files with such extensions (filenames ending in \_exts).

#### External memory.

Memory on a device, which will not be erased when the computer is switched off. See Scratch memory; Working memory.

#### EYE-Q.

Digital Precision's specialised graphics program which runs rings around the competition. It will work hand in glove with Professional Publisher.

**File.**

A collection of data which can be output to a device under a name, the filename, and recovered from the device by specifying that name.

Professional Publisher uses files for the following purposes (but it can delete any other type of file, too):

- (1) Pages
- (2) text files (for input only)
- (3) pictures (for input only)
- (4) QLS
- (5) HDF
- (6) guides
- (7) Windows
- (8) printer drivers
- (9) the information file updates\_doc

**Filename.**

A string of characters used to distinguish one file from another. When asked by Professional Publisher to enter a filename, you may use 3 to 26 characters of your choice, including the device name. If your filename has zero characters, the intended command will not be executed, and you will be returned to the menu from which you came. If access to the specified file produces an error, the QL will burp, an error message will be printed on the screen, and you may enter another filename.

**File printing.**

You can 'print' a Page to disk and defer the actual printout for a later occasion. To print to a file, all you have to do is select a filename like flp2\_prt within your printer driver and then go through the normal print sequence. To send the file to the printer, you don't even have to load Professional Publisher. Just be sure that the correct disk is inserted and, with the QL in SuperBASIC, type COPY\_N flp2\_prt TO SER1 (or TO whatever other device name may be appropriate for your printer; see the entry 'Devices' in the Concepts Section of the QL User Manual or the manual for any extra hardware you may be using).

**Fill.**

To Change an 'empty' closed figure, such as the circumference of a circle, to a 'filled' one (a disk) on the Page. There are three ways to fill a figure in Professional Publisher, and all may be aborted, producing a partial fill, by pressing the Capslock key.

- (1) Any box, circle or ellipse (but not a polygon created from lines) can be filled at creation in Mode Draw if the 'fill parameter' is set. To toggle this parameter, press F when in Control sub-mode.

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- (2) Any figure in which black encloses white (even the loops in a character like 8) can be filled in Mode Fill with any pattern contained in the 24 current fonts. (Font A is particularly useful here.) The information window in Mode Fill shows the currently selected font and the texture achieved by continuously repeating the currently selected character. To perform a filling operation: Navigate to Mode Fill and press C to enter the Control sub-mode. Select a font with the F key, a character with the C key; if desired, invert the fill pattern with the F key. Then exit Command sub-mode by pressing Esc, move the cursor into the innards of the figure and press the Space Bar. If you don't like the result, press C, followed by U immediately, i.e. before pressing any other key. To fill a figure where white encloses black: Navigate to the Main Menu, press 2 twice; navigate to Mode Fill and proceed as above, using inversion; finally navigate back to the Main Menu and again press 2 twice.
  - (3) When designing an HDF, you can often save time by filling a whole enclosed area with the ink colour. When the Font Editor menu is displayed, press the 0 key, then move the cursor inside the desired area with the cursor keys or mouse, and press the space bar.

### Fingerprinting.

An accurate rendition of the Page in 1/4 scale - only available if your printer supports quadruple density. If you are using a 1920x1600 screen, and print it out at quadruple density, you will get the result in A4 size with improved resolution of 240 x 144 dpi.

### Font.

- (1) A loose way of referring to either a QLS or an HDF. While Professional Publisher offers you a large variety of fonts, you shouldn't yield to the temptation to use all or most of them on a single page. To give an effect that is both aesthetically pleasing and professional, limit yourself to, say, two fonts with at most three different highlights for each.
- (2) Mode Font is the mode used for HDF text entry onto the Page; it can be navigated to. It is the only mode which, in addition to the Control sub-mode also has a Text sub-mode for actual text entry. The information window in Mode Font shows the currently selected font and the status of various parameters affecting the next character entered. A shallow window at the bottom of the screen displays the code letter of the currently selected HDF as well as its pixel width and height and the number of bytes the HDF takes in memory.

### Format.

- (1) The exact form which computer input or output takes (e.g. number of decimals). See Configuration, Highlights, Hyphenation.

(2) To arrange the internal layout of a storage medium so that it can communicate with given hardware and software. This process also deletes any files currently stored on the medium. Microdrive cartridges and disks must be formatted before first use, or the QL will not be able to access them.  
 To format a medium: Navigate to the Main menu and press first 5, then 7. A warning message about the effects of formatting will be displayed, and you may now enter, say, flpl\_ to format the disk in drive 1, or nowt (or another spurious device name) if you have changed your mind.

**grafix.**

A self-contained printer-driver program which is an alternative to Professional Publisher's printer-driver section but will only work on a saved Page.

**Graphics codes.**

Printers use different code sequences to control the production of output of condensed, standard and extended length/width. Sometimes the number of pixels printed in a row is also non-standard. The number of pixels per row and the code sequences used by most 9-pin printers are included in Professional Publisher as defaults:

- Condensed (quad): 480 Esc 75
- Standard (double): 960 Esc 76
- Extended (single): 1920 Esc 90

If your printer uses different values (check the printer manual), you can adjust Professional Publisher's built-in printer driver as follows: Navigate to the Main Menu and press 7, followed by 5. You will first be prompted for the 'single' values. Enter the number of pixels per row first (1 to 9999 will be accepted) and press Enter. Continue with the code sequence required for condensed printing, typing 27 instead of Esc, and press Enter after each number. After the last number press Enter a second time. In the display, 27 will appear as Esc, and you will be next be prompted for the 'double' values. Proceed as above, and again for the 'Quad' values. You will be returned to the 'Drivers' menu, and you should now save your amended printer driver by pressing 1 and following the prompt.

**Graphics modes**

These are: Mode Draw, Mode Line, Mode Fill.

**Grey-scale conversion.**

The automatic selection of different stipples of black and white for Screen areas in red and green, so that they can be distinguished as different shades of grey in a black-and-white representation, such as a printout. If you desire grey-scale conversion of a loaded picture, press Esc while the picture is on screen, followed by 1. Next press 4 if the picture is in four colours, or 8 if it is in 8 colours. The appropriate grey-scale conversion will then be made.

If you cut your picture without having used this option, all pixels that were originally blue, red or magenta will come out black, while all pixels that were originally green, cyan or yellow will come out white. This is in fact the only way in which some other programs work.



**Grid.**

- (1) An auxiliary pattern of horizontal and vertical lines that can be superimposed on the Screen but will in no case be copied onto the Page. The distance between grid lines is 16 pixels, so that the mesh size is one square.  
To toggle the grid, the arrowhead cursor must be visible on the Screen. (If it is not, you are in a sub-mode, which you must exit by pressing Esc.) Press F3.
- (2) An auxiliary pattern of horizontal and vertical lines that can be superimposed on the cameo to assist in layout work. The default distances between grid lines are 3.5 cm horizontally and 3.7125 cm vertically; different distances can be defined by the user.  
To make the grid visible: Navigate to the Main Menu and press 2, 8, 4 and 2 in succession. This will turn off any layout guides that may have been visible.  
To modify the grid distances: Navigate to the Main Menu and press 2, 8 and 4 in succession. Press 1 to change the horizontal gap by editing the prompted value; press 2 to change the vertical gap. No more than 8 horizontal and 10 vertical grid lines will be permitted. Press Esc when finished.
- (3) A rectangle divided into smaller rectangles in an enlarged representation of a QLS HDF for purposes of editing. There are 8 small squares in a row in the QLS, and 8, 16, 24, 32, 40, or 48 in the HDF. There are 10 small squares on top of each other in the QLS, and 8, 16, 24, 32, 40 or 48 (not necessarily the same number as in a row) in the HDF.
- (4) A rectangle much like those of (3) which serves as an aid in setting the magnification of an HDF.

**Guide.**

One of the following kinds of imaginary lines on a Page: margin, column, column break. In certain modes the cursor keys, when pressed with the Shift key held down, will move the cursor to the nearest guide in the selected direction. The visibility of all guides on the cameo and on the Screen may be controlled by navigating to the Main Menu and pressing 2, 8 and 5, followed by 1 (guides on) or 2 or 3 (guides off).

**Gutter.**

SEE Column.

**Hardware.**

Unlike software, those portions of a computer system that are capable of being kicked. For example, a microcartridge tape is capable of being kicked (we suspect it often is) and thus is hardware, while the program on it is software.

**HDF.**

Short for 'high-definition font', a special feature of Professional Publisher. Each HDF is a set of characters of much higher definition than a QLS, either side of the grid being 8, 16, 24, 32, 40 or 48 pixels in length. Any 24 (or fewer) of these fonts may be selected and are then instantly available for putting on the Page in Mode Font, and the disk contains plenty more, identifiable by filenames ending in \_hdf. Each HDF may comprise up to 160 characters, from space to the Copyright symbol, ASCII 32 to 191. Various geometric operations can be performed on each character, so that an asymmetric character like G may be put on the Page in over a million different ways, not including magnification, underlining and merging with another character.

The combination of all features makes it unlikely that you can use each possible modification of each character in each supplied HDF within a lifetime. But if that doesn't satisfy you, you can always define your own HDFs!

HDF text can be put on the page by navigating to Mode Font and switching to the Type sub-mode by pressing the space bar. You may also create and edit HDFs at will.

**Help.**

In Modes Text, Font, Draw, Line and Fill (but not in the Command or Type sub-modes), you can obtain an overview of all the actions performable in the current mode by pressing F5. Pressing any key will either switch to a second page of information or return you to the mode you were in.

**High-definition font.**

SEE HDF.

**Highlight.**

(1) A set of characters chosen deliberately to stand out when used in combination with draft characters. Highlights for the QLS include bold, inverse, italic, other, subscript, superscript and underline; they are produced by selecting a different pair of QLS to represent each highlight (if you don't feel up to this choice, the defaults are very reasonable). Highlights for the HDFs include bold, inverse, italic and underline; they are produced by manipulating one and the same HDF.

(1.1) When entering text in the QLS manually, you are taken to a menu titled FONTS, which directs you to make the desired highlight selections.

(1.2) When loading QLS text, you are taken to a menu whose sixth item is '6. Font type'. If this line goes on to say HIGH DEF, press 6 and use the space bar to toggle to STANDARD. At that point press 4 and use the space bar to toggle whether highlights in the file should be taken over onto the page. Pressing 7 will lead you to a sub-menu which permits a re-definition of the control codes that indicate highlights in the file, as well as a re-assignment of the default QLS's used for each of the highlight types.

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- (1.3) When entering text manually in HDF (Mode Font), change the highlights by entering Control sub-mode with Esc followed by the Enter key, then toggle bold with B, inverse with V, italics with I and underline with U; finally return to the Type sub-mode by pressing Esc and the space bar.
  - (1.4) When loading HDF text, you are taken to a menu whose sixth item is '6. Font type'. If this line goes on to say STANDARD, press 6 and use the space bar to toggle to HIGH DEF. At that point press 4, and you will be shown a Table with six lines and six columns. Each line corresponds to one highlight that may be contained in the text to be loaded. Unless you like the defaults shown (an empty circle stands for No, a filled circle for Yes), use the up and down cursor keys to move to the highlight whose assignments you wish to change and press the space bar or Enter. The Table values for that line will be blanked, and you must now make six decisions. First select a letter from the HDFs shown. Then type Y or N (followed by Enter) to decide whether the bold version of that HDF should be used and whether it should be italicised. If your answer to the latter question was yes, you will be given a chance to adjust the slant with the horizontal cursor keys. Next edit the height of each linefeed and the width of each space between characters in pixels, terminating each entry with Enter. Finally you are asked whether you wish to merge with a different character; if so, you may select a font with the horizontal cursor keys, a character with the vertical cursor keys, and enable merging with the M character as a toggle. Repeat the process for each other line of the Table where you wish to make changes; press Esc when finished.  
If you should need to change the assignment of HDFs to file-embedded control characters before loading, you must do it in QLS mode. In the menu whose first line reads '1. Put text on page' select 6 to toggle from HIGH DEF to STANDARD, proceed as under (2) above, then select 6 again and continue the loading sequence.
- (2) Another form of highlight is the colour bar displayed in a menu to indicate the currently selected item; it can be moved by the up and down cursor keys, by the mouse or by typing the appropriate\_number.

#### Hyphenation.

When text is loaded from a file and configuration is set to hyphenate, it is possible to set two hyphenation parameters which determine the minimum number of characters that must be present before and after the hyphen if the word is to be hyphenated rather than word-wrapped. To change these parameters from their default value of 3: When you are in the menu whose first line reads '1. Put text on page', press 0. You will be prompted for the two parameters, which may be set to any value between 1 and 9. Press Enter after each parameter; you will be returned to the 'Put text on page' menu.

**Inch.**

A linear measure both ancient and unwieldy, often abbreviated ". It equals 2.54 cm. The default unit is cm. If you wish to toggle to inches, navigate to the Main Menu and press 2, 8 and 6 in succession.

**Indent.**

To start a line of text, e.g. the first line of a paragraph or a sub-category in a list, deliberately in a column other than the first.

When manually entering QLS text or loading QLS or HDF text from a file, you can decide whether and to what extent indented lines, i.e. lines starting with spaces, are to be 'unindented'; the effect will only be noticeable in case of 'left' and 'both' justification.

(1) Manual QLS entry: After you have pressed Esc to complete text entry and the menu headed 'Text' appears, press 1 and then 6. For continuation see below.

(2) Loading: When you are presented with the menu whose first line is '1. Put text on page', press 8. For continuation see below.

In either case continue by moving the highlight to 'Indent' with the down cursor key or mouse. Press the space bar to cycle through the options: < 2 to < 7, Yes and No (< 2 is the default); press Enter when the desired option is shown. < 3 means that every line that starts with 1 or 2 spaces will be shifted to start at the left margin of the column or Window, whereas lines starting with three or more spaces will remain untouched. If 'both' has been selected, the analog principle applies at the end of each line. 'Yes' means that all lines will be normalised, 'No' none.

**Information window.**

The area displayed in the rightmost 12 % of the screen (the other 88 % being taken up by the Screen) when you are editing the Page. The top line tells you the mode you are in (Text, Font, Draw, Line, Fill). Next come the current co-ordinates. The centre of the information window is different in each mode, showing the current settings of parameters relevant to that mode. At the bottom of the information window a reminder of the effect of the five function keys F1 to F5 is displayed.

**Initial Screen.**

This is just a small window that instructs you to press C while holding down the control key, followed by Enter. Depending on the configuration of your QL, the cursor in this window may already be flashing, in which case you need only press Enter. You will then be taken to the Main Menu.

You will be returned to the initial screen when you switch tasks (see Multitasking). Press C while holding down the Ctrl key, if necessary repeatedly, until the flashing cursor is 'in' the desired task.

**Ink.**

The colour in which text and graphics are put on the Page.

- (1) When you enter QLS text manually, the default ink is black. You may toggle to white when in Mode Text by pressing Enter (this enters the Command sub-mode) and then I. The change will be reflected in the information window. Press Esc, unless you also want to change the paper.
- (2) When you load text from a file, the ink is black.
- (3) When entering HDF text in Mode Font, you can control the ink for all characters yet to be typed by pressing Enter to go into the Control sub-mode, followed by C. Now use the space bar to cycle through the seven options offered in the information window: black, white and five stipples giving different shades of grey. When the desired ink shows, press Esc, move the cursor to the desired top left-hand corner of your text, press T and start entering text.  
Under mouse control, move the cursor into the information window and onto the INK panel; then press the Select button to cycle through the inks.
- (4) When drawing shapes in Mode Line, you can change the ink by pressing Enter (this will put you in the Control sub-mode), followed by I. You can then cycle through 7 ink colours (black, white and five stipples for different shades of grey) by means of the space bar. Your choice will be echoed in the information window.  
Under mouse control, move the cursor into the information window and onto the INK panel; then press the Select button to cycle through the inks.
- (5) For freehand drawing in Mode Draw and for filling shapes in Mode Fill, you select the brush or the texture respectively instead of the ink.

**Insert.**

To place amidst working memory, scrolling what comes after the cursor position.

- (1) To insert a QLS character in a manual-insertion Window while it is still open and the square cursor is visible: Place the cursor over the character BEFORE which the new character should go and type the latter.
- (2) To insert an empty line in a Window for manual QLS entry (and make the following lines scroll down), there must be an active rectangular cursor in the Window. Move it to the spot where the extra line is to appear and press F2.

**Interpolation.**

Estimation of the shape or texture of a graph between points for which it has actually been computed. This is important when your Page is stretched or squeezed to the dimensions you specified, because screen pixels and printer dots are then unlikely to coincide.

- (1) Professional Publisher automatically performs the necessary computations to avoid gaps and corners in screen output.
- (2) When instructing Professional Publisher to print a Page, you will find an option '4. Interpolate' in the last (length) menu before printing starts. If you select it by pressing 4, each pixel will be repeated at a slight vertical offset to obtain a 'denser' image.

- (3) The grafiX printer driver contains an option to select horizontal and/or vertical interpolation.

**Inverse.**

To exchange black and white in a given area. This may affect individual characters, all characters of a QLS or HDF, the contents of a Window, or the whole Page.

- (1) When entering QLS text manually, you will be led to a menu whose first line is 'Enter text'. To inverse whatever is in the current Window, press 4.
- (2) When you are loading text from a file, the control code 'Ctrl. + V' (ASCII 22) will as a default cause following characters to be loaded in inverse. You can change this value when you are in the menu whose first line reads '1. Put text on page' by pressing 7 twice and responding to the prompt 'Enter new code' by pressing a letter key while holding down Esc.
- (3) When entering HDF text in Mode Font, you can inverse the whole font for all characters yet to be typed by pressing Enter to go into the Control sub-mode, followed by V. You will be shown an enlarged character divided horizontally into 8 strips. You may select any or all strips for inversing by typing the strip number, thus selecting from no less than 512 different inversing styles. The enlarged character will show the effect of your selections, and you may undo any or all of them by retyping the number of the strip in question. When finally satisfied, press Esc, move the cursor to the desired top left-hand corner of your text, press T and start entering text.
- (4) For freehand drawing in Mode Draw, you can inverse all the brushes by pressing Enter to go into the Control sub-mode, followed by V and Esc.
- (5) The same sequence of keypresses serves for inversion of the current texture for filling shapes in Mode Fill.
- (6) When editing a QLS character, you can inverse the whole grid by moving the cursor off its right edge into the menu and pressing 4.
- (7) When editing an HDF character, you can similarly inverse the whole grid by moving the cursor off its right edge into the menu and pressing 4.
- (8) To inverse the whole Page, navigate to the Main Menu and press 2 followed by 4.
- (9) When loading a picture, the place of inversion is taken by the more powerful recolour command.

**Invert.**

To reflect a given area as though a mirror were placed at right angles to the Page along its left (or right) edge. Inverting may be performed on individual characters, all characters of a QLS or HDF, the contents of a Window, or the whole Page. If you can't remember the difference between inverting and inversing, note that the two symmetry operations, invert and reflect, both end with t, while the colour operation, inverse, does not.

- (1) When entering QLS text manually, you will be led to a menu whose first line is 'Enter text'. To invert whatever is in the current Window, press 6.

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- (2) When manually entering HDF text in Mode Font, you can invert the whole font for all characters yet to be typed by pressing Enter to go into the Control sub-mode, followed by N. Press Esc, move the cursor to the desired top left-hand corner of your text, press T and start entering text.
  - (3) When editing a QLS character, you can invert the whole grid by moving the cursor off its right edge into the menu and pressing 5.
  - (4) When editing an HDF character, you can similarly invert the whole grid by moving the cursor off its right edge into the menu and pressing 8.
  - (5) To invert the whole Page, navigate to the main menu and press 2, followed by 2.
  - (6) To invert a loaded picture, press Esc and then 2.

#### Italic.

One of the highlights that can vary the appearance of an HDF or QLS, distinguished by slanting main lines.

- (1) To select the QLS you have defined as italic for manual text entry, navigate to Mode Text, open a Window and choose CSIZE. Press F4, 3 and Esc in succession; then enter your text.
- (2) When loading a QLS text file into Windows or columns, text saved as italic in a QUILL file will always be loaded correctly. If italic characters from a non-QUILL file are not reproduced correctly, you will have to change the highlights and reload.
- (3) When entering HDF text manually, italic characters may also be selected. After navigating to Mode Font, enter the Control sub-mode by pressing Enter; then press I. You can then select any of sixteen slants in either direction with the horizontal cursor keys. As a control, the appearance of an upper-case I will change accordingly, and in the information window the square against the word 'Italic' will be replaced by a right or left arrow in all positions except neutral. Leave the Control sub-mode with Esc, enter the Type sub-mode by hitting the space bar, and type.
- (4) When loading an HDF text file into Windows or columns, be sure to make the highlights assignment so that text intended as italic comes out in whichever font you find most desirable.

#### Justify.

To align either end or both ends of each line of text with the respective margins, or to centre each line in its column or Window.

- (1) When you have finished entering QLS text manually and pressed Esc, you will be taken to a menu headed 'Text'. Press 1, followed by another 1 (for left justification), or 2 (for right justification), or 3 (for centring), or 4 ('Both', for justification at both ends of the line), or 5 ('Off', leaving all leading and trailing spaces untouched).
- (2) When loading text from a file, you will be taken to a menu whose first line is '1. Put text on page'. Press 5, and use the space bar to cycle through the options 'Both' (for justification at both ends of the line; this is the default), 'Off' (leaving all leading and trailing spaces untouched), 'Left', 'Right' and 'Centre'.
- (3) When you enter HDF text manually (Mode Font), it will always be left-justified.

**K.** Abbreviation for kilobyte, the unit in which memory capacity in computers and devices is measured. One K is composed of 8192 encodings of yes-or-no decisions; another way of looking at it is the capacity to hold 1024 characters.

**Kerning.** Performing justification at both ends of a line by widening not only the spaces between words (which might become excessively wide) but also the distances between characters within a word. Kerning is fully supported by Professional Publisher.

- (1) When entering QLS text manually, you will be taken to a menu headed 'Text'. Press 1 and then 6. The first two lines of the menu now displayed indicate that as a default, 40 % of justification will be carried out between characters and 60 % between words. To change this distribution (in steps of 5 %), move the highlighted menu bar to the item whose percentage you wish to increase and press the space bar for each 5 % gain. The other parameter will be automatically decreased by the same percentage. When satisfied, press Esc.
- (2) When loading text from a file, you will be taken to a menu whose first line is '1. Put text on page.' Press 6 and continue as above.

**Landscape.** One of the two orientations of a Page, with the long edges horizontal.

**Laser printer.** For output of your saved Page to a laser printer, write or telephone to:  
Taylor Made Systems  
27 Rydens Grove  
Hersham (Surrey) KT12 5RU  
Telephone: (093) 222 8721

**Last line.** The last line of a paragraph or of a Window may be exempted from the justification that applies to other text that is being loaded or to QLS text that is being entered manually. Press 6 when the menu headed 'Text' appears (manual entry); or press 8 when the menu whose first item is '1. Put text on page' appears (loading). In either case move the highlight to Paragraph or Last line with the up and down cursor keys or mouse, and use the space bar to toggle between Yes (filled circle; justify) and No (empty circle: do not justify). The defaults are No for the last line of a paragraph and Yes for the last line of a Window.

**Layout.** The distribution of guides on the Page. To change the layout, navigate to the Main Menu and press 2, then 8. The menu now displayed will offer all the required options.

**Layout guide.**  
See Guide.



**Lightning.**

Digital Precision's magic-wand software that will greatly enhance the speed of ALL your QL software (including, but not limited to, Professional Publisher).

**Line.**

One of the modes for editing a Page. It may be navigated to and permits the drawing not only of lines but also of arcs, boxes, circles and ellipses.

The information window in Mode Line shows the currently selected ink and paper colours.

To draw a line: Navigate to Mode Line. Move the cursor to one of the desired end points. Exchange corners with the X key. Move the cursor to the other end point. Use the Enter key to enter the Command sub-mode. Press L for line, and the line will be drawn. Press the Esc key to leave the Command sub-mode; you may then draw further arcs, boxes, circles, ellipses or lines, or exit Mode Line by pressing F4 and selecting from the menu.

**Linefeed.**

A non-printing character (ASCII 10) which is generated during text entry whenever the Enter key is pressed. It moves the cursor to the beginning of the next line. Professional Publisher will normally adjust linefeeds automatically to the number of pixels in keeping with the current vertical CSIZE or magnification. The following special cases should be borne in mind:

- (1) When loading text from a file, you may wish linefeeds to appear in the columns or Windows as in the original text, or you may wish to suppress them (this is the default). If you wish to keep them, press 3 when you are in the menu whose first line is '1. Put text on page' and use the space bar to toggle between the two options. For HDF loading, see also (3).
- (2) When entering HDF text manually in Mode Font, you can adjust the linefeed from its default, which is 20 pixels, to any value between 0 and 64. The value will be multiplied by whatever vertical magnification is currently set. To adjust the linefeed value: If you are in the Type sub-mode, leave it by pressing Esc. Enter the Control sub-mode by pressing Enter. Adjust the linefeed with the up and down error keys and press Esc when satisfied. Go to the Type sub-mode by pressing the space bar and start typing.
- (3) When loading HDF text from a file, press 7 when you are in the menu whose first line is '1. Put text on page'. Select a line of the Table displayed by means of the up and down cursor keys and the space bar, or by means of the mouse; edit the parameters shown in the column headers for the HDF in question (see Highlights) and in particular the height of the linefeed in pixels, unless you are satisfied with the default value of 20. Repeat the process for all other lines referring to HDFs you wish to use. When finished, press Esc.

(4) Your printer may be set to either a 'mere' linefeed (continue printing in the next line to the right of the last column printed on the current line) or to 'linefeed + return' (also known as 'automatic linefeed'; continue printing from column 1 of the next line). The default is the former, unless you have used the Configurator program to load a printer driver with the other setting. If you wish to change the setting or aren't sure which one is currently in force, navigate to the Main Menu; press 7, followed by 3, and enter Y or N depending on your printer setting in response to the question 'Are automatic linefeeds set (Y/N)'. This is one instance where you must make an unequivocal response; Esc will not work, but a mere Enter will be taken as 'No'.  
 Your response will become part of the current printer driver; you may wish to make it permanent by saving the printer driver. If you use the grafiX printer driver and your printer is already included on its menu, no adjustment need be performed.

**Line spacing.**

Printers use different code sequences to control different amounts of paper feed. The codes used by most printers are included in Professional Publisher as defaults:

1/9 inch:	Esc 51 24
1/216 inch:	Esc 51 1
11/216 inches:	Esc 51 11
0:	Esc 65 0

If your printer uses different values (check the printer manual), you can adjust Professional Publisher's built-in printer driver as follows: Navigate to the Main Menu and press 7, followed by 4. You will be presented with a menu from which you can select the code to be changed. Enter the code sequence required, typing 27 instead of Esc, and press Enter after each number. After the last number press Enter a second time. In the display, 27 will appear as Esc, and you may move to a different menu line to change another setting. When you are done, press Esc. You will be returned to the 'Drivers' menu, and you should now save your amended printer driver by pressing 1 and following the prompt.

**Load.**

To copy a file from external memory into a designated area of working memory. The previous contents of that area will be lost without warning!

- (1) To load - and start - Professional Publisher, place the program disk in drive 1, reset the QL, and press F1 when prompted. As the program is over 200 K in length, loading will take a minute or two. If you wish to have another program resident in the QL simultaneously with Professional Publisher, see Multitasking.
- (2) To load a Page, navigate to the Main Menu and press 5, followed by 2. When prompted for a filename, edit the default filename offered and press Enter.

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- (3) To load QLS or HDF text, proceed as above, but press 4 instead of 2. Decide on the use of Windows or columns (to load Windows, press 2; when prompted for a filename, edit the default Windows filename offered and press Enter). To load QLS, menu item 6 (Font Type) must be STANDARD, while to load HDF it must be HIGH DEF; if it isn't the right type, press 6 and the space bar. Next press 1, - unless you wish to make further changes to the appearance of the text; edit the text filename as prompted. Type 2 and use the space bar to cycle between the file types ASCII (the default), QUILL\_LIS and QUILL\_DOC. When you have made your selection, press 3 and - unless you wish to make further changes to the appearance of the text - 1. A one-line window showing the first 64 characters of the text will appear at the bottom of the screen, and a menu will offer several options to start loading at some other point in the text. (This is important if you have already loaded part of the file onto a previous Page). When satisfied, press Esc. The message 'Please wait' will appear, and the columns or Windows will be filled with red lines to indicate the progress of the loading. You can abort loading by pressing Esc.
  - (4) To load a picture, navigate to the Main Menu and press 3. Tell the program whether you are loading a picture produced by EYE-Q (press 2) or a screen saved normally, e.g. with the SuperBASIC SBYTES command (press 1). Then edit the default filename you are offered (picture filenames typically end in \_scr or \_pic) and press Enter. If you have guessed the file type wrong and get garbage on the screen, press Esc, 0 and 3 in succession.
  - (5) To load a QLS, navigate to the main menu and press 4. Select one of the letters A to L (or, after toggling with the right arrow key, M to X); the set shown against this letter is the one to be replaced. Then type 3, edit the default filename offered, and press Enter. QLS's are typically stored under filenames ending in \_qls.
  - (6) To load an HDF, navigate to the main menu, press 3 and use the horizontal cursor keys to select one of the fonts A to X as the one to be replaced. Press 3, edit the default filename offered, and press Enter. HDFs are typically stored under filenames ending in \_fnt.
  - (7) To load a set of guides: navigate to the Main Menu and press 2, 8 and 6 in succession. Edit the default filename offered and press Enter.
  - (8) To load a set of Windows: see (3) above.
  - (9) To load a printer driver: navigate to the Main Menu and press 2, 7 and 2 in succession. Edit the default filename offered and press Enter.

**Machine requirements.**

Professional Publisher needs a QL computer with at least 512 K RAM expansion (minimum total 640 K), at least one disk drive with the associated software, and an Epson-compatible 9-pin or 24-pin printer. Ah well, a printer cable to connect the printer to the QL is also a good idea.) You must also connect a monitor rather than a TV set to your QL; else you will not be able to see parts of the screen. A Smiling Mouse for input control is optional. While our advertising has always clearly stated the need for a full memory expansion, you may perhaps still have acquired Professional Publisher even though your QL has not been upgraded to the above standards. In that case you might well consider getting an upgrade now; prices for this hardware have become quite reasonable. If you do have at least 256 K expansion (total 384 K), write to us to exchange Professional Publisher for the less powerful Special Edition Desktop Publisher.

If you are using the grafiX printer driver, you may find that 640 K will not suffice to have Professional Publisher and grafiX resident simultaneously, although this simultaneity is not crucial. If you wish to upgrade, we can offer you Miracle Systems' Trump Card, a 768 K extension with disk driver, RAM disk driver and Tony Tebby's Toolkit II.

**Magnification.**

The expansion of an area of the Page to several times its original size in pixels horizontally and/or vertically.

- (1) To magnify the HDF you have selected for manual text entry (Mode Font): If you are in the Type sub-mode, exit it with Esc. Select the Control sub-mode by pressing either X or Y. A grid will be displayed with the top left square filled in red. You can expand and re-shrink the red area with the cursor keys or mouse up to 8 times the basic size; the X (horizontal) and Y (vertical) magnification factors displayed in the information window will change accordingly. All text-associated parameters (space, line feed) will be automatically magnified as well.
- (2) To magnify the HDF you have selected for loading from a file: When the menu whose first item reads '1. Put text on page' is displayed, press 9. Press X to edit the X magnification, Y to edit the Y magnification (the defaults are 1, i.e. none, and values up to 4 may be entered).
- (3) To magnify a picture that you have loaded means to select one half of it and expand that half to full screen size, discarding the other half. To do this, press Esc, 5 and any number from 1 to 4, depending on which half of the picture you wish to blow up. (Hadn't thought that an object could have four halves, had you?)
- (4) To magnify the whole Page at printout time, see extended length/width.

**Margins.**

The imaginary lines parallel to the edges of the paper that enclose the area you wish to cover with text and/or graphics. They are shown in white on the cameo and optionally on the Page, and automatically taken into account when you define columns; like the other guides they can be redefined, saved, loaded and used as lines of reference in cursor movement.

To change the margin settings from their default values of 1 cm: Navigate to the Main Menu, press 2, followed by 8 and 1. Next press any of the number keys 1 to 4, depending on which margin you wish to change, and edit the current value. You may use up to 6 characters, including any decimals, and you must of course leave some area between either pair of margins. When you are satisfied, press Enter, and you will see the black line in question move on the cameo.

**Medium.**

See Storage medium.

**Memory.**

Hardware that is a key component of any computer and of many devices; the part where information is stored. Professional Publisher works within the part of the QL's memory called RAM; information about the Page you are building up is either scratch memory or working memory. The contents of scratch memory will be lost if you indicate that you are disgusted with the appearance of some part of the Page and wish to retry; the contents of both scratch and working memory will be lost when you switch off or reset the QL, unless you have saved them to external memory on disk.

**Memory expansion.**

Hardware which permits you to increase the RAM of your QL from its original 128 K. It comes in chunks of 128 K or multiples thereof. See Machine requirements.

**Menu.**

A list of user's choices that appears on the screen in the course of execution of a program. The proposed choice is highlighted, i.e. shown in a different colour from the rest. This 'menu bar' can be moved with the cursor keys or a mouse to the desired option, which is then confirmed by pressing the space bar or the Enter key. Alternatively typing the number of the chosen item on the list (or, if the option starts with a letter, that letter) will also make the selection in most cases.

**Merge.**

To combine. In Professional Publisher the term is used for the application of a Boolean function (AND, OR, XOR) to two font characters to yield a new character when typing HDF text in Mode Font or loading it from a file. As the 'merge character' can be a graphic pattern, merging can give the effect of writing on a patterned background.

To select a merge character:

(1) From Mode Font:

If you are in Type sub-mode, leave it by pressing Esc. Press M and use the cursor keys or mouse to change the character and font suggested in the top two lines of the displayed panel. Use the A, O or X key to select the desired Boolean function, and the M key to toggle between enabling and disabling the merging. All your choices will be echoed in the information window. Press Esc, move the cursor to the desired place, press the space bar and start typing.

(2) When loading:

When the menu whose first item is '1. Put text on page' appears, press 4 and select a line from the Table that will be displayed by means of the cursor keys and space bar (or by means of the mouse). When the line becomes blank, make the desired selections (See Highlights). The last selection, merge, will offer much the same options as in (1) above. Repeat as necessary for the other lines.

**Mirror image.**

See Reflect.

**Mode.**

One of five states the program may assume when you wish to edit the Page: Text, Font, Draw, Line and Fill. Each mode permits placing different types of items on the Page. For reaching any mode: See Navigation.

**Mouse.**

An input device for a computer which offers an alternative to typing in many situations. It features a roller to control cursor movement and one or more buttons to enter commands with. QL mice come with two buttons: 'Select' (right) and 'Cancel' (left). Rolling the mouse will move the cursor in the desired direction, while pressing Select corresponds to the space bar, and pressing Cancel to Esc.

When fine movement is required, e.g. on the cameo, the cursor may be moved into the instructions panel and the Select button pressed while the cursor is on the respective arrow.

Scrolling the Screen works by moving the cursor into the information windows and pressing a button with the cursor on the SCX or SCY coordinate: Select will increase the co-ordinate, Cancel will decrease it.

There is no control on the mouse that corresponds to the Enter key. Therefore there is no Control sub-mode when working with the mouse. Instead, move the mouse onto the desired parameter in the information window and use Select to toggle or cycle.

In Mode Line, pressing Select will cycle round (a) one end of the shape, (b) the other end, (c) the C-shaped cursor of what would otherwise be the Control sub-mode.

To navigate between modes with the mouse: Move the mouse pointer to the top line of the information window and press Select to go to the next mode, Cancel to go to the previous mode. The mode sequence is: Text - Font - Draw - Line - Fill.

Professional Publisher must be told whether a mouse is connected to your QL. The default (which can be changed with the Configurator program) is keyboard control. To switch to mouse control, disabling the cursor keys, navigate to the Main Menu and select 2, followed by 9. (Warning: Doing this with no mouse connected will hang your QL.) The same selection sequence is used for returning to cursor-key control.

**Multitasking.**

Having two or more programs running simultaneously on the same computer. The QL, unlike many other micros, supports multitasking, but only one of the programs can be in interpreted SuperBASIC. (One of many good reasons to get Digital Precision's TURBO compiler, which produces fully multitasking - and immensely faster - programs.)

If you wish to access another program (except the SuperBASIC interpreter, which is always available) while Professional Publisher is running, (QUILL or Digital Precision's The Editor might be a good idea), we advise you to start the other program(s) first. Then put the Professional Publisher disk in drive 1, press C while holding down the Ctrl key (if necessary, repeat this until the flashing cursor indicates that you are in SuperBASIC), and type LRUN flpi\_boot. Professional Publisher will then be loaded and executed.

Even accessing the lowly SuperBASIC interpreter can make a lot of sense, e.g. to perform some computation or to execute a file operation not directly supported by Professional Publisher (e.g. COPY).

To switch from Professional Publisher to another program: Navigate to the Main Menu and press 8 and 1 in succession; this will return you to the initial screen. Now press C while holding down the Ctrl key as many times as necessary for the cursor to appear in the program of your choice. If you do not wish to return to Professional Publisher, you can quit it by pressing 2 instead of 1. In that case don't forget to save the result of your efforts first! (Come to think of it, this is a good idea even if you do return to Professional Publisher; are you really sure that whatever other program you are using - if it isn't by Digital Precision - won't crash?) To make assurance double sure (yes, this is the original quotation), you will be asked to confirm your desire to quit.

**Navigation.**

Moving from one state of Professional Publisher to another. The main states and the key sequences to switch between them are as follows (\* stands for 'Move shuttle and press the space bar'):

	Main Menu	Mode Text	Mode Font	Mode Draw	Mode Line	Mode Fill
To move from						
Main Menu to:		1 *	1 * F4 4	1 * F4 4 F4 C	1 * F4 4 F4 C F4 4	1 * F4 4 F4 C F4 5
Mode Text to:	F4 5		F4 4	F4 4 F4 C	F4 4 F4 C F4 4	F4 4 F4 C F4 5
Mode Font to:	F4 D F4 5	F4 D		F4 C	F4 C F4 4	F4 C F4 5
Mode Draw to:	F4 6	F4 2	F4 3		F4 4	F4 5
Mode Line to:	F4 5	F4 1	F4 2	F4 3		F4 4
Mode Fill to:	F4 5	F4 1	F4 2	F4 3	F4 4	

If you happen to be in a sub-mode (cursor in the shape of a C or T), you must press Esc before F4.

If you are in any sub-mode of the Main Menu, repeated presses of the Esc key will return you to that menu. See also Mouse.

**Options.**

Another word for choices. When the information window is visible, you can call up a menu of options, which include navigation, by pressing F4. If you happen to be in a sub-mode (cursor in the shape of a C or T), you must first press Esc.

**OR.**

A Boolean function whose input in this program are two rectangles of equal size. Its output is another rectangle of the same size, where each pixel is in paper colour unless the corresponding pixel in at least one of the input figures is in ink colour. The result of ORing the / and \ characters is the character X.

- (1) To select OR for drawing, navigate to MODE DRAW, enter the Command sub-mode by pressing Enter, then type O and return from Command sub-mode by hitting Esc.
- (2) To select OR for merging HDF characters, navigate to Mode Font; press F4, followed by 4 and O, then do your merging.



### Orientation.

The way the paper is to be arranged to reproduce the Screen (Landscape, Portrait). The default at start-up is Portrait. If you wish to change the orientation of a page (it need not be the same one for page 1 and page 2), do it before you have put anything on the Page! Navigate to the Main Menu and press 2, followed by 6. If you do this with anything already on the Page, it will come out garbled on both the screen and the printout. Fortunately this sorry state of affairs is reversible. Change the Page orientation back to its former state, and at print time, when the menu with the first line '1. As Cameo' appears, press 2 for sideways printing.

### Other.

One of the highlights that can vary the appearance of a QLS or be selected for representation by a specific HDF when loading text from a file. We thought you might like to have the option of defining an extra kind of highlight in addition to the standard ones.

- (1) To select the QLS you have defined as 'other' for manual text entry, navigate to Mode Text, open a Window and choose CSIZE. Press F4, 6 and Esc in succession; then enter your text.
- (2) When loading a QLS or HDF file, parts of which are to appear in the 'other' set, into Windows or columns, it must contain appropriate control characters, which must be reflected in the highlights you have set.

### OVER.

A Boolean function whose input in this program are two rectangles of equal size. Its output is another rectangle of the same size, where each pixel is exactly the same as the corresponding pixel in the 'new' rectangle, irrespective of the 'old' rectangle. The result of OVERing the / character on the \ character is /. The function is only meaningful, and therefore supported, for drawing with brushes. To select OVER, navigate to MODE DRAW, enter the Command sub-mode by pressing Enter, then type V and return from Command sub-mode by hitting Esc.

### Overwrite.

When prompted for a filename in the process of saving, you may give the name of a file which already exists. In this case, Professional Publisher asks you whether you wish to overwrite the existing file. If your answer is Y, the file will be overwritten; if N, you will be asked for another filename.

**Page.**

The end product of all your efforts; but also its representation in the computer while you are working at it. When used in this sense, we always give it an upper-case initial to distinguish it from, say, a page of this manual.

Even at the smallest dimensions selectable (400x480 pixels), a whole Page will not fit on the Screen (400x256 pixels); indeed with the standard A4 page (800x960 pixels) selected (See Dimension), you'll only have 2/15, or some 13 %, of the Page visible at any time! The cameo is provided to help you visualise the Page in spite of this limitation, with the close-up as a further aid.

Unless you have chosen very large Page dimensions, you can have two Pages in the QL's memory at the same time. Even if you plan a single Page, the other one may be useful as a scratch pad to copy to and from and to try out all kinds of variants. To toggle between the two Pages, navigate to the Main Menu and press 2, followed by 1. The new selection will be reflected in the strip at the bottom of the screen.

**Palette.**

A set of 64 brushes (not colours, as in the conventional palette) to choose from for freehand drawing.

**Paper.**

The colour of the background against which text and graphics are put on the Page. If you change the background colour, this will affect the result of all the following clear and scroll commands.

- (1) When you enter QLS text manually, the paper is red, but this changes to white when you close the Window.
- (2) When you load text from a file, the default paper is white. You may toggle to black when in Mode Text by pressing Enter (this enters the Command sub-mode) and then P. The change will be reflected in the information window. Press Esc, unless you also want to change the ink.
- (3) When drawing shapes in Mode Line, you can change the paper by pressing Enter (this will put you in the Control sub-mode), followed by P. You can then cycle through 7 paper colours (black, white and five stipples for different shades of grey) by means of the space bar. Your choice will be echoed in the information window.

**Paragraph.**

Professional Publisher assumes paragraphs of text to be separated by blank lines. The only occasion where this is meaningful is justification of text either entered manually (QLS only) or loaded from a file, because special treatment may be reserved for the last line of a paragraph. See Last line.

**Pass.**

The number of times the same action is performed on a file or part of it.

- (1) When printing, you will be led to a menu by which you can specify between 1 and 5 printer passes. More passes take longer, but they make for a darker picture (important when your printer ribbon has been used a lot and you don't want to throw it away just yet).

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(2) Some of the tricks in connection with loaded pictures are performed in two passes.

#### **Paste.**

The action of copying a rectangle that has been cut from scratch memory in a desired area on a Page (it need not be the same Page from which it has been cut). The same rectangle may be pasted any number of times in different places, because the scratch memory will not be overwritten until the next cut. Whatever was on the Page in the area pasted over, however, will be lost, unless the FIRST key pressed after pasting is Esc (this will undo the paste but keep the scratch memory intact).

To paste whatever Window or picture was most recently cut: Navigate to Mode Text and move the cursor to where you want the top left corner of the paste to go. Then press F4, followed by 3. (If nothing happens besides a bleep, it means that the Paste is too large for the Screen. Relocate the Window towards the top left corner of the Screen, or re-cut to smaller dimensions.) For repeated pasting use the cursor keys and press 3 again. If the area to be pasted on is not on the Screen (or even on the other Page), navigate to the Main Menu and perform a change of Page (if necessary) and an Edit Page (Edit).

#### **PGX, PGY**

See Co-ordinates.

#### **Photograph.**

The easiest way to put a photograph on a printed Page is to define an empty Window in the appropriate place. After printing, mount the photograph and photocopy the result. For a more high-tech alternative see Digitiser.

#### **Picture.**

A graphic screen (up to 512x256 pixels) or part screen that can be loaded from a file, subjected to various tricks and pasted onto the Page.

The picture may be originally in four-colour or eight-colour mode, but it will be reproduced in black and white (and shades of grey; see Grey-scale conversion).

#### **Pixel.**

An individual dot on the screen or on a printed page that can be accessed individually by a computer program. The word is an abbreviation of 'pic(ture)s el(ement).'

#### **Planning.**

Desktop publishing doesn't mean that the computer will plan your page. It is usually wise to do some general layout planning with pencil and paper before even starting Professional Publisher.

#### **Port.**

A connection by which a computer can communicate with the outside world. As used in Professional Publisher's printer driver, it is a device name that refers to the jack where the printer cable is plugged in; but a filename may be substituted if deferred printing is desired.

**Portrait.**

One of the two orientations of a Page, with the long edges vertical.

**Print.**

The action by which your efforts to compose a Page are finally transferred to paper. Be sure that your printer is connected and switched on and that the printer driver fits it. Navigate to the Main menu and press 6. You will be taken through three menus, one for Page orientation, one for Page width and one for Page length (see Interpolate). After you have made the appropriate selection, printing will start. The cameo will change colour in step with the printout. You may interrupt printing at any time by pressing Esc.

**Printer.**

An output device that produces hard copy under computer control. Just about any printer will work together with the QL, but Professional Publisher may need to have its printer driver changed to fit the printer, or the grafiX printer driver may need to have the parameters for your printer added to it. See also Machine requirements.

**Printer Driver.**

Software which enables a given computer and a given printer to communicate. Professional Publisher includes a default printer driver which will work if your printer is Epson-compatible (to find out whether it is, consult the printer manual or try to print an EASEL file. If your printer deviates from standard, you must reconfigure and save the printer driver and then load the printer driver for every session in which you intend to use Professional Publisher for printing. This can be made automatic with the Configurator program.

For all printer-driver operations, navigate to the Main Menu and press 7. You can then change the linefeed parameter, the codes for line spacing and for the printer's graphics modes, the baud rate and the device name of the printer (the default is SER1; to change it, navigate to the Main Menu, press 7 and edit the default to SER1c, PARN, NETO\_2 or whatever connection you have established for your printer; you may even give a filename for file printing); when satisfied, press Enter). You can also load and save a printer driver.

For an alternative printer driver see grafiX.

**Proportionality.**

All characters in the QLS take the same amount of space on the Page (it depends on the CSIZE selected). This means that an equal amount of space will be reserved for I and for W, as on most typewriters. The characters in an HDF, on the other hand, can be of different width, resulting in an effect much like typeset text. Character width is determined when an HDF is edited: When the menu whose first line reads '1. Store character' is shown, press A. Use the horizontal cursor keys or the mouse to move the thin vertical red line in the grid, which determines character width. It should normally be fairly close to the rightmost square that is filled in red. When satisfied, press Space (on the mouse: Set).

**QLS (short for QL set).**

A set of characters which fit onto an 8x6 pixel grid (the QL User manual refers to them as fonts, but this term also covers the very different HDFs in Professional Publisher).

As a default, 24 QLS are available for putting on the Page, either manually in Mode Text or by loading from a file; and the disks contain plenty more, identifiable by filenames ending in \_qls. The file standard\_qls contains the set that comes with the QL computer; the one we all love to hate.

Owing to a quirk of the QL, each QLS is composed of two subsets, one for the common characters (ASCII 31 - 127) and one for foreign characters and special symbols (ASCII 128 - 191). It is therefore necessary to assign two sets each to the draft style and the various highlight styles (unless you are satisfied with the defaults) before putting QLS characters on the Page. To change the set assignments when entering text manually (Mode Text): While the text Window is still open, press F4, followed by 9; then select either Draft or the highlight to which the assignments are to be made (number keys 1 to 6). Select the first subset you wish to assign to the selected style by pressing a letter key from A to L (or the right arrow key for a further selection, followed by a letter key from M to X). Repeat for the second subset. Your selections will be reflected in the information window.

To change the set assignments when loading text from a file: See Highlights.

You can also see the current choices for the different styles by navigating to Mode Text and pressing F4, followed by 3. For each style A to H, a to h, 1 to 8, and 8 upper-case special letters from the second subset will be shown on the screen. Pressing Esc will take you back to the calling menu.

You may also create and edit QLS's at will.

**Quadruple density.**

See Condensed length/width.

**QUILL.**

The word processing program that comes with the QL computer. While the document files it produces are not standard ASCII files, they can still be loaded onto a Professional Publisher Page. QUILL\_DOC, QUILL\_LIS.

**QUILL\_DOC.**

An option available to you when loading text from a file. Use it when the file has been produced from QUILL with the Save command (normally resulting in a filename ending in \_doc).

**QUILL\_LIS.**

An option available to you when loading text from a file. Use it when the file has been produced from QUILL with the Print command (normally resulting in a filename ending in \_lis).

**Quit.**

To exit from a program so that it can only be entered by re-starting.

To quit Professional Publisher, navigate to the Main Menu; press 8 and then 2; reply Y to the confirmation question.

**RAM.**

That part of a computer's memory whose contents can be changed by software and are wiped clean when the machine is switched off. The term is an abbreviation of 'random-access memory', which is a misnomer, because there are other types of memory which also offer 'random access'; but all this is irrelevant to the use of Professional Publisher.

**RAM disk.**

A facility by which a computer's RAM, to the extent that it is not currently used for other purposes, can be addressed as if it were a device. This can be useful for intermediate storage during a session, because RAM-disk access is much faster than floppy-disk or (ugh!) microdrive access; but all information on RAM disks will be lost when the machine is switched off or reset, so that you should copy to floppy disk whatever you wish to keep in more permanent storage.

The basic QL has no RAM-disk facilities; but your disk-drive package may well include them. In that case you can use (typically) ram1\_ to ram8\_ much like any other device name when loading and saving files.

**Range.**

Any QLS must contain either the characters from ASCII 32 to 128 or from ASCII 129 to 191. When designing a new QLS (rather than editing an existing one), you will want to make the choice: Navigate to the Main Menu and press 4. Select a code letter for the new QLS by pressing a letter key from A to L (or, after pressing the right arrow key, M to X). Then press 4 and F for First range or S for Second range.

**Recolour.**

One of the tricks available when loading a picture. As pictures, no matter whether originally produced in four-colour or eight-colour mode, are always loaded in four-colour mode, recolouring tells the QL which new colour to use for all black, red, green and white pixels respectively. The result will affect grey-scale conversion.

To perform this trick, press Esc, followed by 7, while the picture is on screen. Select an original colour with one of the number keys 1 to 4, then use the space bar or the Enter key to cycle through the choices for the target colour; then move on to a different original colour and repeat. When satisfied, press 5.

**Reduce.**

One of the tricks that can be performed on a loaded picture. It will compress the picture by one eighth of its size either horizontally or vertically.

To invoke this trick, press Esc while the picture is on screen, followed by 8 and either 1 (for horizontal reduction) or 2 (for vertical reduction).

On some QL versions this option will not work.

**Reflect.**

To reflect a given area as though a mirror were placed opposite it. Reflecting may be performed on individual characters, all characters of a QLS or HDF, the contents of a Window, or the whole Page.

- (1) When entering QLS text manually, you will be led to a menu whose first line is 'Enter text'. To reflect whatever is in the current Window, press 5.
- (2) When entering HDF text in Mode Font, you can reflect the whole HDF for all characters yet to be typed by, pressing Enter to go into the Control sub-mode, followed by R. Press Esc, move the cursor to the desired top left-hand corner of your text, press T and start entering text.
- (3) When editing a QLS character, you can reflect the whole grid by moving the cursor off its right edge into the menu and pressing 6.
- (4) When editing an HDF character, you can similarly reflect the whole grid by moving the cursor off its right edge into the menu and pressing 7.
- (5) To reflect the whole Page, navigate to the Main Menu and press 2, followed by 3.
- (6) To reflect a loaded picture, press Esc and then 3.

**Remove.**

To clear all characters of a QLS or HDF in working memory. This will free the working memory that was required to hold it.

- (1) To remove a QLS: Navigate to the Main Menu; press 4. Select the set to be removed by pressing the key with the appropriate letter as shown on the screen (if this is in the range M to X, you must first press the right arrow key). Then press 5.
- (2) To remove an HDF: Navigate to the Main Menu; press 3. Select the HDF to be removed with the horizontal cursor keys; then press 4.

**Return.**

- (1) An option offered in many menus. It is normally taken by pressing Esc and will take you back to the previous menu. This is important in navigation and in cases when you don't really want to select any of the other options offered.
- (2) See Enter.

**Reverse.**

Another word for Reflect.

**Rotate.**

An action that can be performed on any HDF character in Mode Font before it is put on the Page but only if the HDF has been defined with equal width and height. Rotations of 90, 180 and 270 degrees are possible.

To rotate a character: If you happen to be in the Type sub-mode, press Esc to leave it. Enter the Control sub-mode by pressing Enter, then press R. You can then turn the character clockwise and anticlockwise with the right and left cursor key respectively. Your choice will be echoed in a small character-sized window at the centre of the screen and in the information window. Press Esc and the space bar; then type.

### Ruler.

An auxiliary pattern of lines that can be superimposed at the right and/or at the bottom margin of the Screen but will in no case be copied onto the Page. The default at start-up provides for both rulers to be shown (and thus to reduce the size of the effective Screen), but this default may be changed with the Configurator program. The divisions on the rulers depend on the currently selected units: either cm (and, if feasible, tenths of cm) or inches (and, if feasible, sixths of inches).

To toggle the rulers, the arrowhead cursor must be visible on the Screen. (If it is not, you are in a sub-mode, which you must exit by pressing Esc.) Press F2, followed by either 1 (for the vertical ruler) or 2 (for the horizontal ruler).

### Save.

To copy a file from a designated area of working memory to external memory. For saving, Professional Publisher will never accept a filename that already exists: the QL will burp, and you are asked again to enter a filename.

A save operation will not be executed if the target disk is write-protected. If you get an error message to this effect, withdraw the disk, throw the protection switch on it, re-insert it and re-issue the command.

If the filename you entered is found to exist on the target disk, you will be asked whether you wish to overwrite it. If your answer is negative, you are prompted for another filename.

- (1) To save a Page, navigate to the Main Menu and press 5, edit the default filename offered and press Enter.
- (2) To save a QLS or HDF: See Edit.
- (3) To save a set of guides: Navigate to the Main Menu and press 2, 8 and 5 in succession. Edit the default filename offered and press Enter.
- (4) To save a set of Windows when loading characters from a file: See Window.
- (5) To save a printer driver: See Printer driver.

### Scratch memory.

Part of a computer's memory which is used during a program run to hold provisional material, which can later be copied into working memory or abandoned. Different areas of scratch memory are used for (a) the definition of wraparound Windows, (b) cutting and pasting, and (c) the undo function.

### Screen.

- (1) When used with a small initial in this manual: the part of the monitor on which the output of your QL appears.
- (2) When used with a capital initial in this manual: the area displayed in the leftmost 88 % of the screen (the other 12 % are reserved for the information window). It represents the section of the Page selected by moving the shuttle across the cameo and pressing Enter.

It may be useful for you to know that with Landscape orientation of a standard A4 Page (800x960 pixels), the Screen will show exactly half the width of the Page, i.e. the width of either of the two A5 pages you may be trying to compose.



## Scroll.

To move the contents of any area on the screen in any of the four main directions so that the line (usually of pixels) closest to one edge disappears, the following lines shift by one unit in the desired direction, and the line at the opposite end is usually cleared.

- (1) To scroll the contents of a Window opened for manual QLS text entry: Press F4 while the Window is open, then 7. Each tap on one of the cursor keys will scroll by one pixel; press the space bar or the Enter key when finished.
- (2) When typing text in a font, the Screen will automatically scroll to the left if the character currently typed would go wholly or partly beyond the right-hand edge of the Screen (but not of the Page. The correct continuation of the Page is scrolled in from the right. An analog principle applies if a linefeed would send the cursor off the bottom of the Screen (but not of the Page).
- (3) When you are in the Command sub-mode of any mode, the cursor keys will scroll the Screen by 8 pixels, with the correct continuation of the Page scrolled in from the appropriate side.
- (4) When editing an HDF, you may scroll the grid by moving the cursor off the grid into the menu and pressing 9. Each tap on one of the cursor keys will scroll by one square; white space without grid lines will be scrolled in from the appropriate side. Press the space bar or enter key when finished. If you have a mouse, move the mouse to the extreme line/column of the grid which represents the direction of motion (go to the right-most column for moving right and press Select).
- (5) To scroll a loaded picture: Press Esc, followed by 9. Each tap on one of the cursor keys will scroll the picture by 8 pixels. Press the space bar, Enter key or Esc key when finished.

If you are in a mode that doesn't permit scrolling of the Screen and wish to move to a different part of the Page: navigate to the Main Menu and re-select the Page Section. Then navigate back to the mode you came from.

## Section.

The part of the Page visible on the Screen at any one time. To select it, navigate to the Main Menu and press 1. Move the shuttle across the cameo with the cursor keys as directed by the panel on the screen (the close-up will be useful for fine tuning); press the space bar or Enter key when satisfied.

## Select.

The right-hand button on the QL mouse.

## Shape.

One of the geometric figures that can be drawn in Mode Line: arc, box, circle, ellipse, line.

## Shuttle.

The green rectangle within the cameo which designates the section of the Page currently selected as the Screen.

## Single density.

See Extended length/width.

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**Slant.**

- (1) The degree of obliqueness of italic characters. It can be set to any of 32 values (plus upright) for font characters.
- (2) One of the tricks that can be performed on a loaded picture. It will distort all vertical lines to a 45-degree inclination to the right or to the left. Pixels which would be moved off the screen by this process reappear from the other side.  
To slant a loaded picture, press Esc while the picture is on screen, then type 6, followed by either 1 (for slanting to the right) or 2 (to the left). The trick is performed in two passes.

**Software.**

Those portions of a computer system that cannot be kicked - the intangible bits like programs.

**Space.**

The empty character (ASCII 32) that is put on the screen when the space bar is pressed.

- (1) For writing QLS text, the width of a space is the same as that of any other character. It may, however, be extended for purposes of justification (see Kerning).
- (2) For writing HDF text, the width of a space is specifically defined for that character (ASCII 32; see Proportionality). For best appearance of the text (see Justification; Kerning), the width of the space character should not be defined to be less than that of the widest other character.

**Space bar.**

The key that stands out on the keyboard by its shape and absence of marking. Its most frequent use in Professional Publisher is the confirmation of menu selections. If you are using a mouse, press the Select button instead of the space bar.

**Spacing.**

The number of pixels between any two successive HDF characters.

- (1) When entering HDF text manually, you can adjust the spacing from its default, which is 3 pixels, to any value between 1 and 8. If you are in the Type sub-mode, leave it by pressing Esc. Enter the Control sub-mode by pressing C. Adjust the linefeed with the up and down arrow keys and press Esc when satisfied. Go to the Type sub-mode by pressing the space bar and start typing.
- (2) When loading HDF text from a file, press 7 when you are in the menu whose first line is '1. Put text on page'. Select a line of the Table displayed by means of the up and down cursor keys and the space bar, or by means of the mouse; edit the parameters shown in the column headers for the HDF in question (see Highlights) and in particular the width of the linefeed in pixels, unless you are satisfied with the default value of 1. Repeat the process in all other lines referring to HDFs you wish to use. When finished, press Esc.

**Square.**

A unit for measuring distances on the screen: a square is 8 pixels wide and 8 pixels high.

### Standard length/width.

The 'regular' way of printing, in which an image of exactly nominal length and/or width is produced. Also known as double density. See Condensed length/width; Extended length/width.

### Start-up.

When Professional Publisher is loaded and the keypresses required by the initial screen have been made, the Main Menu will appear on the screen. At that moment many user-adjustable parameters are set to their default values. They are all explained under the relevant keywords; you can reset them at your discretion at appropriate times. It is also possible to have Professional Publisher use start-up parameters of your choice; see Configurator.

### Stipple.

A pattern consisting of a regular repetition of colours (black and white only for Professional Publisher), making an area appear as though it had a mixed colour. See Grey-scale conversion.

### Storage medium.

A medium which can hold external memory. The main storage medium used by Professional Publisher is the floppy disk. You may use other storage media (hard disks; RAM disks; yes, even microdrives) - provided (a) you've got them and (b) you know what you are doing.

### Style.

- (1) Another word for Boolean function (so used in Professional Publisher menus).
- (2) The set of features composed of the QLS or HDF called draft and the QLS's or HDFs that represent the different highlights (so used in this manual).
- (3) What Professional Publisher gives your publications.

### Sub-mode.

Either of the two program states Control and Type, distinguished by the cursor shape (C and T respectively) and reachable from Mode Font and (Control only) Mode Text, Mode Draw, Mode Line and Mode Fill. Under mouse control there is no Control sub-mode; see Mouse.

### Subscript.

One of the highlights that can vary the appearance of a QLS or be selected for representation by a specific HDF when loading text from a file. It is distinguished by smaller characters with a baseline normally lower than that of draft text.

- (1) To select the QLS you have defined as subscript for manual text entry, navigate to Mode Text, open a Window and choose CSIZE. Press F4, 5 and Esc in succession; then enter your text.
- (2) When loading a QLS or HDF file into Windows or columns, text saved as subscript in a QUILL file will always be loaded correctly. If subscript characters from a non-QUILL file are not reproduced correctly, you will have to change the highlights and reload.

**Superscript.**

One of the highlights that can vary the appearance of a QLS or be selected for representation by a specific HDF when loading text from a file. It distinguished by smaller characters with a baseline higher than that of draft text. Superscripts are used e.g. for exponents.

- (1) To select the QLS you have defined as superscript for manual text entry, navigate to Mode Text, open a Window and choose CSIZE. Press F4, 4 and Esc in succession; then enter your text.
- (2) When loading a QLS or HDF file into Windows or columns, text saved as superscript in a QUILL file will always be loaded correctly. If superscript characters from a non-QUILL file are not reproduced correctly, you will have to change the highlights and reload.

**Swapping Pages.**

See Page...

**Symmetry.**

One of the tricks that can be performed on a loaded picture. It consists in leaving half the picture unchanged and substituting that half, in reflected or inverted form, for the other half. One application is the design of playing cards.

To perform the symmetry trick on a picture: Press Esc while the picture is on the screen, followed by 4. Next press one of the number keys 1 to 4 as directed by the menu to select the half to be retained.

**Tabulator.**

A key on the QL keyboard that produces a non-printing character (ASCII 9) and will, in some programs (e.g. QUILL), move the cursor to the next column designated by means of some subroutine as a 'tab stop'.

The tab character will be interpreted correctly when QUILL files are loaded into Professional Publisher. It will, however, not be recognised when it occurs in other software; the appropriate number of spaces should be substituted for each tab character in an ASCII file before it is loaded.

**Task.**

Any program running on the QL. If a SuperBASIC program is running, it is the SuperBASIC interpreter, rather than the actual program, that is considered to be the task. See Multitasking.

**Technical details.**

This keyword contains information for those who know some of the ropes!

The default Page consists of 960x800 pixels. The screen layout for the two different Page orientations is as follows:

(1) Portrait:

Line 1:	byte 1	byte 2	byte 3	.....	byte 100
Line 2:	byte 101	byte 102	byte 103	.....	byte 200
etc. to					

Line 960:	byte 95901	byte 95902	byte 95903	.....	byte 96000
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(2) Landscape:

Line 1:	byte 1	byte 2	byte 3	.....	byte 120
Line 2:	byte 121	byte 122	byte 123	.....	byte 240
etc. to					

Line 800:	byte 95871	byte 95872	byte 95873	.....	byte 96000
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Thus, on the Page, one bit holds one pixel; and a horizontal line takes up (number of pixels)/8 bytes. This makes it easy to compute the memory requirement for a different Page size.

The memory required for a QLS is 876 bytes. The memory required for an HDF is given by (number\_of\_characters\*width\*height/8 + 528) bytes; the maximum (parameters 96, 48 and 48 respectively) is thus 28176 bytes.

**Template.**

If certain parts of a Page (e.g. the header of a newsletter) must be used again and again, prepare a Page that contains only the constant parts and save it as a template; this can be loaded whenever needed, and work is only required on the variable parts.

**Text.**

- (1) Any succession of characters intended to go on the Page.
- (2) The mode in which you can manually enter QLS characters on the Page. In this mode the information window shows the currently selected printing style (draft or one of the highlights) and the two subsets currently associated with each style; 28 sample characters in the current style, and the colours selected for ink and paper.

To reach Mode Text: See Navigation.

**Texture.**

- (1) A pattern formed by continuous repetition of an HDF character. It may be used to fill any figure enclosed by black.
- (2) One of the tricks that can be performed on a loaded picture. Depending on the source picture, which may have been produced in 4-colour or 8-colour mode, the trick selects the more suitable grey-scale conversion.

To select texture: Press Esc while the picture is on the screen, followed by 4 for mode-4 texture and 8 for mode-8 texture.

**Toggle.**

The action of switching between two menu items (which may be shown simultaneously or one after another) by repeatedly pressing the same key. See Cycle.

### Trick.

One of several operations that may be performed on a loaded picture before it is cut. See Invert, Magnification, Recolour, Reduce, Reflect, Scrolling, Slant, Symmetry, Texture.

### TURBO.

Digital Precision's record-breaking compiler program, which will speed up SuperBASIC programs by factors of several dozen and makes them suitable for multitasking to boot. Most of Professional Publisher has been written using Turbo; we can assure you that it is sheer pleasure to use.

### Type.

The sub-mode of Mode Font in which you can put font characters on the Page.

To reach this sub-mode: Navigate to Mode Font and press the space bar (or the Select key on the mouse).

### Underline.

A feature that can be added to an HDF or QLS.

- (1) To toggle underlining of manually entered QLS text, press F4 followed by 7 while the text Window is open.
- (2) When loading an HDF or QLS text file into Windows or columns, text saved as underlined in a QUILL file will always be loaded correctly. If underlining from a non-QUILL file is not reproduced correctly, you will have to change the highlights and reload.
- (3) Underlining may also be selected for manual HDF entry. After navigating to Mode Font, enter the Control sub-mode by pressing Enter; then press U. This will cycle through no, grey, and black underlining; your choice will be echoed in the information window. Leave the Control sub-mode with Esc, enter the Type sub-mode by hitting the space bar, and type.

### Undo.

A feature by which you may erase recently executed unsatisfactory attempts to put something on the Page. It is comparable to the clear feature, but more powerful.

- (1) Whenever you
  - (1.1) navigate to any of the graphics modes (Mode Draw, Mode Line or Mode Fill);
  - (1.2) press any of the function keys F1 to F5 while in one of these modes (except in the Control submodes, where the keys are disabled);
  - (1.3) scroll the Screen in any of these modes;a copy of the current Screen is made to scratch memory (overwriting what has been there before, so that you lose the chance to use the undo feature when you switch modes).
- (2) Whenever you press U in the Control sub-mode of a graphics mode, working memory (the current Screen) and scratch memory are exchanged. This in effect reconstitutes an earlier version of the Screen; you are therefore advised to press, say, F3 twice whenever you have reached an acceptable phase of your graphics work and embark on a more experimental phase. To continue with your artwork, leave the Control sub-mode by pressing Esc.

- (3) When defining a Window for manual QLS entry, you may press Esc to cancel the most recently performed definition of a corner.
- (4) A paste operation can be undone by pressing Esc before any other key is pressed.
- (5) When defining the shape of a wraparound Window, you can always remove distortions of the edge whose end points are highlighted in red in reverse sequence of their creation by repeatedly pressing Esc.

**Unit.**

Either cm or inches may be selected for operations requiring input or output in some unit of linear measure. The start-up default is cm; to toggle to inches navigate to the Main Menu and press 2, 8 and 6 in succession.

**Updates\_doc.**

A file with stop-press information on any improvements to Professional Publisher. Load it into QUILL, or indeed into Professional Publisher itself (QUILL\_DOC setting) and read it or make a hard copy to attach to your manual by using either program's Print feature.

**Wildcard.**

A sequence of characters that stands for any larger sequence containing it. See Directory.

**Window.**

- (1) When used with a lower-case initial in this manual, the word 'window' has the same meaning as in the QL User Manual.
- (2) When used with an upper-case initial in this program, 'Window' refers to an area of the Page into which text or graphics are to be fitted.
  - (2.1) To enter QLS text manually onto the Page: Navigate to the Main Menu, select the appropriate Page section with the cursor keys and press the space bar or Enter. The next two presses of the space bar will determine the top left and bottom right corner of the Window the text will go into.
 

You can now perform various operations on it and get repeated chances to change its dimensions. The Window will be closed (become unavailable for further processing) if, while the menu headed 'Text' is on the screen, you press 6 (this will also clear the Window) or Esc (this will retain the text contained in the Window on the Page). You can always erase it by opening and retaining a new, empty Window on top of it.

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- (2.2) When loading QLS or HDF text from a file, pressing 5 and 4 will take you to a menu which offers you the options, besides using the already defined columns, of loading, defining or restoring Windows. To load, press 2 and edit the default filename that appears on the screen. To restore the Windows most recently used in the current session, simply press 4. To define, press 1. You are first invited to define Window number 1. As usual, you move the cursor with the cursor keys, this time on the cameo; and two touches of the space bar will define opposite corners of the Window. You are next asked whether you want another Window. If so, press the space bar again to repeat the process for Window number 2, and so forth as long as you wish. When you have defined your last Window, press Esc. A new menu now gives you the chance to change the shape of any Window from the standard rectangle (press 2; for the further procedure see Wraparound). After you have accepted or declined this opportunity, you may wish to save your Windows for later re-use (press 3). After some further grilling by Professional Publisher (not Window-related), your text will finally go on the Page, and you will be pleased to see by the red lines on the cameo that the Windows are filled in exactly the same order as you defined them. Any excess text that overflows the last Window will not be loaded. (You may want to load it onto your next Page, using the 'Text start' menu in the loading routine.)
- (2.3) The area of a loaded picture that is defined for cutting and pasting by means of two touches of the space bar is in many ways like a Window, without being actually called so.

#### Word process.

- (1) What you do when you use QUILL and its cousins.
- (2) A chance that you get if, after manual entry of QLS text into a Window, you observe that some characters should after all be inserted, deleted or changed. When the menu headed 'Text' appears and you press 5, you are returned to the Window (with any previous justification cancelled), where you may perform cursor movement and editing.

#### Word wrap.

A feature by which a word of text entered will be moved to the beginning of the next line if it comes so late on a line that it will not fit on it in its entirety.

Word wrap is normally automatic for all forms of text entry in Professional Publisher. It can, however, be disabled when loading text from a file (See Hyphenation).

#### Working memory.

The part of a computer's memory that is used for irreversible operations during a program run. See Scratch memory.



**Wraparound.**

A feature offered during the loading of QLS or HDF text from a file after new Windows have been defined. If you press 2 when the menu whose first line reads '1. Continue' appears, you may distort the vertical edges of any of the (rectangular) Windows to just about any shape. This will be useful if text is to be written all around, but not into, a drawing or picture; also for special graphic effects, such as dropcaps, or printing a poem about diamonds into a diamond-shaped Window.

The end points of the left-hand side of Window number 1 will be highlighted in red as well as marked with tiny squares on the cameo to distinguish them as 'marked points'. You have the usual freedom of the cursor keys; and when you press the space bar, another point will be marked on the cameo. (However, if the cursor is beyond the upper or lower edge of the Window, the QL will burp and no mark will be set.) The line connecting the two adjacent marked points (one in the closest pixel row not lower than the mark, and one in the closest pixel row below it; at the start this will simply mean the left edge of the Window) will be deflected to include the new point. (If this should result in a T shape, the section furthest from the new mark will be removed, but the mark at its end, now isolated, at its end will be preserved.) Everything is written into scratch memory; thus if you are not satisfied, you can press Esc as many times as necessary, and each keypress will undo one edge distortion, working backwards through your definitions.

When the left-hand edge is finished, press Enter, and the red highlight will move to the right-hand edge. (The square marks are only shown for the current edge.) After that edge has been re-shaped, another Enter will take you to the left-hand edge of Window number 2. When you press Enter while the right-hand edge of the last Window is highlighted, you will be given the option of starting the cycle afresh (press 1) or declaring yourself satisfied (press 2). For further action see Window.

Note: It is perfectly legal for a wraparound Window to intersect itself.

**XOR.**

A Boolean function whose input in this program are two rectangles of equal size. Its output is another rectangle of the same size, where each pixel is: in paper colour if the corresponding pixel is either in ink colour in both input figures or in paper colour in both input figures; and in ink colour if the corresponding pixel is in ink colour in one input rectangle and in paper colour in the other. The result of XORing the / and \ characters is the letter X with a hole at the cross-over point.

- (1) To select XOR for drawing, navigate to MODE DRAW, enter the Command sub-mode by pressing Enter, then type X and return from Command sub-mode by hitting Esc.
- (2) To select XOR for merging font characters, navigate to Mode Font; press F4, followed by 4 and X, then do your merging.