

MICRO

Design 2

THE
INTEGRATED
PAGE PROCESSOR

USER MANUAL

FOR THE AMSTRAD PCW SERIES

This manual was designed, typeset
and printed as A4 pages using
only an Amstrad PCW8512,
MicroDesign2, and a Hewlett
Packard Deskjet printer. Each
page was then photographically
reduced to A5, and litho-printed
onto 100% recycled paper.



RECYCLED
PAPER

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Iain Harrison



Creative Technology
(MicroDesign) Ltd.

10, Park St..

Uttoxeter,

Staffordshire

ST14 7AG

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CONTENTS

INTRODUCTION:

What is MicroDesign?	1-1
How to use this Manual	1-1
Key Descriptions	1-3
General notes for those new to Graphics and D.T.P.	1-3
The Structure of MicroDesign	1-7
The MicroDesign Screen	1-8
Operations: Launching and Fixing	1-9
The Key-Letter Method	1-10
The Keypad Method	1-11
The Extra Keys System	1-12
Ink Colours and Ink Modes	1-12
Cursor Coordinates	1-14
The Mouse	1-15

BEGINNER'S TUTORIAL:

Loading and Printing a file	2-1
Cutting and Pasting	2-3
Text files and Typesetting	2-5
Graphic Design	2-9

REFERENCE SECTION:

The Layout Section	3-1
The Text Editor Section	3-19
The Design Section	3-25
The Icons Section	3-43
The Fonts Section	3-49
The Options Section	3-57
Filing Operations	3-61

APPENDIX 1: TROUBLESHOOTING	A1-1
APPENDIX 2: ADVANCED ADVICE	A2-1
APPENDIX 3: LOADING FILES FROM OTHER PROGRAMS	A3-1
APPENDIX 4: WORKED EXAMPLES	A4-1

GLOSSARY

INDEX

1

INTRODUCTION



CREATIVE TECHNOLOGY

INTRODUCTION

WHAT IS MICRODESIGN?

MicroDesign is a Page Processor: it combines the functions of Graphic Design and Desktop Publishing to produce a high-resolution page of text and graphics on a dot-matrix or laser printer. The program features text editing, typesetting, font design, a powerful icon symbol system, comprehensive graphics and file handling, and full page-layout facilities.

The program allows the loading of text from Locoscript 2, Protex and Wordstar word-processors and also page, screen and clip-art from other PCW packages, including 'Desktop Publisher', 'Stop Press' and 'Mini-Office Professional'.

THE HARDWARE

MicroDesign runs on the Amstrad PCW series of computers. The program will run on a standard PCW8256, although optimum performance will be obtained with 512Kb of memory (a PCW8512, PCW9512 or a PCW8256 with 256Kb RAM expansion fitted). Output is to the PCW's own internal dot-matrix printer (NOT the PCW9512's Daisy-wheel printer), or to an external printer (9-pin, 24-pin or HP compatible laser) connected via a Centronics or RS232 interface. MicroDesign is also compatible with the AMX and Kempston mouse systems, and a mouse is a useful (though not vital) tool when using some parts of the program.

HOW TO USE THIS MANUAL

The Manual is divided into three main chapters:

This **Introduction** contains a general explanation of the operation of MicroDesign as well as some notes and information for users who may be unfamiliar with the concepts of Typesetting and Graphic Design on microcomputers: those with experience of using DTP and graphics programs may wish to skip over these sections. The Introduction also includes a brief description of the different

The
Program

The
Hardware

The Manual:
Introduction



INTRODUCTION



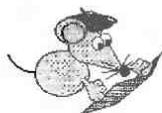
Tutorial



methods of using MicroDesign with the mouse and with the keyboard, and a quick guide to the screen layouts and the important features used in the program.

The **Beginners Tutorial** is a full key-by-key introduction guide to the basic functions of the program: it includes loading area and text files, typesetting and printing from the Layout Section, and using the Block operations, plotting points, drawing lines and shapes, writing text and using icons in the Design Section. Experienced DTP users may find this tutorial simple, but it provides a good introduction to the unique but very fast and friendly methods of using Microdesign.

Reference



The **Reference** chapter is a complete section-by-section description of MicroDesign: it includes details of every operation and option available in the program, together with explanations of how to use them both with the keyboard and with the mouse. The Reference chapter also includes a separate description of the many types of Filing Operations: these can be accessed from different Sections of the program as appropriate to their function.

In addition to these three chapters, there are Index and Glossary sections, which contain page references and brief explanations for all of the terms and concepts specific to MicroDesign. There are also four appendices:

Appendices

Troubleshooting describes how to solve some of the problems which users may experience while getting to know MicroDesign:

Advanced Advice covers some of the more technical aspects of the program and its use, and includes a few tips on how to get the very best results:

Other PCW Programs explains how to use MicroDesign in conjunction with other PCW programs, including word-processors such as Locoscript 2, Protex, and Wordstar, and graphics programs such as MasterScan and Stop Press.

Worked Examples contains illustrated descriptions of how to

use MicroDesign for a number of specific DTP and Page Design examples.

Quick Reference Sheets: these separate A4 sheets give a diagram of the menu structure of MicroDesign showing all the different Sections and Operations, and a list of the important key-functions in the program. Printouts of the Font and graphics files supplied with the program are also provided.

Key Descriptions:

Throughout the Manual, the Square Brackets [and] are used to refer to specific keys on the PCW keyboard, as follows:

[4] refers to the No.4 key on the top row;

[Space] refers to the Space Bar;

[+] refers to the '+' key to the left of the Space Bar;

[Shift]+[Return] means holding down the Shift key and pressing Return;

[Alt]+[-] means holding down the Alt key and pressing the '-' key to the right of the Space bar;

[Alt]+[Shift]+[DOC/PAGE] means holding down Shift AND Alt, and pressing the DOC/PAGE key.

NOTES FOR THOSE NEW TO DTP AND GRAPHICS

MicroDesign is a *Page*-based package: it helps you to design and print a whole A4 page using words and pictures. Words are typed in using the keyboard: this can be done using a Word-Processor such as Locoscript 2, or using MicroDesign's own word-processor, the Text Editor.

With a word-processor, you simply type in the text, then print it. When using a DTP program such as MicroDesign, you can produce text in many different styles, sizes and formats, as well as combining it with pictures: this means that before you can print the Page, you have to tell the computer which Font (or type style) you wish to use for the text. You also have to load any pictures you want to use onto the Page in the correct

Reference Sheets

Key Descriptions

Beginner's Guide



INTRODUCTION

Program Overview

MICRODESIGN: AN OVERVIEW

MicroDesign is an *Integrated DTP and Graphics* package: this means that the different features needed to create and print a Page are all incorporated within the one program. It is, however, easier to explain these features separately, since they exist separately within the program: for the moment, we can split the system into Graphics, Fonts, Typesetting, Windows and Templates.

Graphics

The term **GRAPHICS** refers to everything on the page which is not text: this includes lines and boxes as well as shapes and pictures. MicroDesign provides the tools needed to draw graphics on the Page: lines, rectangles, circles and other simple shapes can all be drawn and filled automatically, and 'freehand' drawing and painting is also possible. The graphics facilities provided in MicroDesign are comprehensive and powerful, as well as fast and easy to use.

Fonts

A **FONT** is a set of letters and symbols which is used to write text on the Page: Fonts come in different designs (these are properly called **Typefaces**, and have names like "Times" or "Helvetica"), different **Styles** (described by terms like "Bold", "Italic", and "Outline") and different **Sizes** (called "Point Sizes" in the printing industry). In MicroDesign, different Fonts can be loaded, and the Font size and style can be controlled in so many ways that 64 different character styles are available from just one Font, all in a huge range of sizes. The program is also supplied with a free library which includes over 20 Fonts, so that an enormous range of different lettering styles is available within MicroDesign. The integral Font Designer also allows the user to create his/her own Fonts.

TYPESETTING means writing text onto the Page using a Font. The text can come from the keyboard, or it can be loaded as a text or word-processor file: both these methods use MicroDesign's Text Editor, a simple word-processor. This allows the user to create the text within a word-processor program, save it as a file, load it into MicroDesign, and typeset it onto the Page for printing. (MicroDesign is particularly suitable for use with Locoscript 2, Protex and Wordstar, three popular PCW word-processor programs.) Before, after or during typesetting, graphics can be added to illustrate the text, lines and boxes can be drawn to separate different blocks of text, and different fonts can be used to produce, say, large titles, medium-sized headings, small text, and tiny footnotes.

MicroDesign's typesetting system also allows the user to control the size of the text, and the spacing and justification formats for typesetting. The text **Style** features (*Italic*, **Bold**, Underline etc) can be switched on and off automatically during typesetting by special "Control Code" characters incorporated in the text: these will even be imported from an external word-processor file just like ordinary characters. Typesetting can be found in the Layout Section of the program.

Text can also be typed directly onto the Page without using the Text Editor: this process is called **Writing**, and is available in the Design Section of MicroDesign. **Write** uses all the same parameters for text style, size and spacing as **Typeset**, so that the text produced by one will match that produced by the other unless it is changed by the user.

Once the text has been typeset, the characters become graphic data on the Page: this means that blocks of text can be moved around the Page after typesetting, or altered using the graphics tools in the Design section.

Typesetting

Control Codes

Writing

INTRODUCTION

Windows

The Typesetting and Writing **WINDOW** is set up using the **SetWindow** operation: The Window is used to restrict the Typesetting to a rectangular area of the Page: this area can be split vertically into columns for 'Newspaper' style pages. (With the Window switched OFF, Write uses the whole Page.)

Templates

The **TEMPLATE** system is a way of saving on disc all the formatting details of a particular Page of text: these are saved in a **Template File** which has the file-type suffix '.MDT'. Templates are particularly handy for users who need to set different batches of text into the same page format, for example when producing a regular newsletter or periodical.

A Template file contains all the information contained in the **SetWindow** and **Typeset** menus: see page 3-66 for more details.

Don't worry!

NOTE

Few applications require a thorough understanding of all the features of MicroDesign: if the above description of DTP seems intimidating and complicated, the user should bear in mind that the program has been specifically designed to make things as simple as possible from the user's point of view. It is not necessary to understand all of these technicalities *before* using the program: rather, the user will gradually come to understand them *while* using it.

THE STRUCTURE OF MICRODESIGN

MicroDesign consists of six Sections, which are selected from the Main Menu:

1. **Layout Section:** For Loading, Saving and manipulating areas of the page, and for setting text Windows and Typesetting text. The Layout Section also includes selection from six Page Formats at two resolutions, drawing Boxes, Loading and Saving of Font files, and Printing.

2. **Text Editor Section:** For Loading, Saving and Editing text which is to be used in the Typeset operation. This section is really a simple word-processor.

3. **Design Section:** For detailed manipulations and graphics operations including Plotting, Painting, Lines and Shapes, Area Flood, Icons, direct text entry, and a Zoom facility which allows single-pixel editing. The Design Section also includes storage and recall of areas of the Page in memory or on disc, with options for re-scaling, rotating or reflecting these 'Blocks'.

4. **Icons Section:** For designing and editing small pictures, or icons. Three sets of 22 user definable icons are available directly from the Design Section in two sizes: 16x16 and 24x24 pixels. Icon Load and Save operations are also provided. These user-definable icons are used in MicroDesign to provide Patterned Fill and Flood styles for the Design Section Operations.

5. **Font Section:** For designing and editing the 96-character user-defined Font, which can be used for Writing in the Design Section or for Typesetting. Font Load and Save operations are also provided.

6. **System Options Section:** For selecting cursor movement speed, mouse type and mouse movement speeds, and printer options. System Options set-ups may be saved in a disc file, and loaded automatically when the program is run: this allows customisation of the program options for every user's hardware and personal taste.

Program Structure



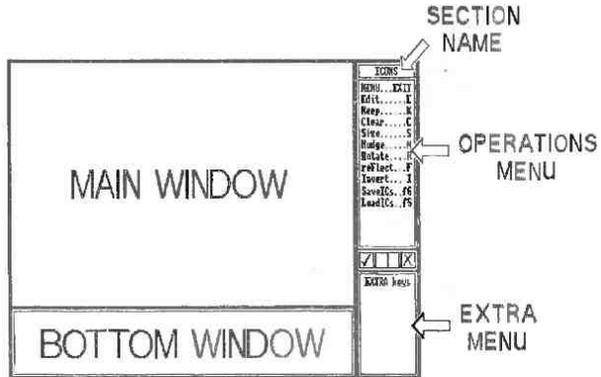
The Main Menu

INTRODUCTION

The Screen

THE MICRODESIGN SCREEN

The Screen in each Section of MicroDesign is divided into four windows, and in general each window performs a similar function in each Section.



The Windows

The **Main Window** occupies most of the screen. It displays the area on which the user is currently working; this may be the Page itself, a design grid for an icon or font character, or a display of the current System Options.

The top right window is called the **Operations Menu**; that is, the menu from which all Operations for the current Section are selected. Some Operations invoke a pulldown menu from which further Operations may be selected (eg the **Block** menu includes Invert, Erase, Copy and Re-Scale etc.); each Operation also invokes a sub-menu of the **Extra Features** for that operation which can be accessed using the Extra keys or the mouse: see below.

The **Bottom Window** on the screen displays the current icon set or the user-definable font, or menus of user options for the filing, typesetting and printing operations. The cursor is moved into and out of the bottom window using the [Relay] key. The bottom window can also be removed in the Design Section to allow a larger area of the Page to be displayed.

The bottom right corner of the screen is used to display the Extra Features available for the current Operation in each Section: these are accessed using the mouse, or the Extra key in conjunction with the 'Keypad' keys at the right hand end of the PCW keyboard. See below for a full explanation of the Extra Features. In the Design Section, this window can also display a Scroll Map: this shows the current position of the Design Window on the Page, and allows the user to move or Scroll this window around the Page using the mouse. Pressing [Shift]+[Enter] toggles the function of this window in the Design section.

LAUNCHING AND FIXING OPERATIONS

Using any Operation in MicroDesign involves a sequence of three stages:

1: The operation must be **Launched**: this is indicated by the Operation name being printed white-on-black in the Operations menu.

2: The operation should now be **Adjusted**: the line or shape can be positioned, the text can be written, the typesetting parameters can be set, the Extra Features can be selected, the icon can be moved around the screen, and so on. All options used in the Operation can be adjusted.

3: When the desired shape, position, etc. has been set, the Operation must be **Fixed**: the new feature is placed on the Page, the menu highlight disappears, and the cursor returns to the main screen.

This sequence, *Launch*, *Adjust*, and *Fix* is common to all Operations. Some complex operations such as Block or Typeset have their own pull-down menus of sub-Operations: these are used in just the same way as the main Operations, and can add extra stages of Adjust/Fix. Any Operation can be accessed from the Operations menu as long as no sub-menu has been pulled down over it.

OPERATIONS

Launching...

Adjusting...

...and Fixing

INTRODUCTION

Key-Letter Method

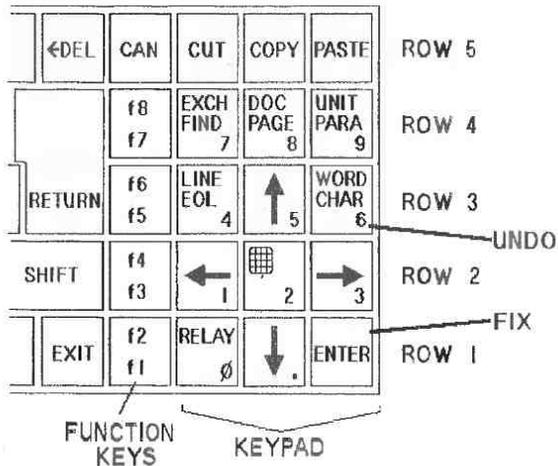
THE KEY-LETTER METHOD

Any available Operation can be accessed on the main keyboard by typing the Key-Letter associated with it; these Key-Letters are listed beside the operations in the Operations Menu. Generally, when the Operation has been adjusted (often using the cursor keys), it can be Fixed by pressing [ENTER], or cancelled and aborted by pressing [STOP]: pressing [ALT]+[STOP] at any stage in the program will cancel the current operation and bring down the Main Menu. (Pause Button!)

FIXing and UNDOing

Fixing an operation is not necessarily permanent: if the result is not correct, the Fix can be Undone. The [WORD/CHAR] key is the UNDO key, and each press of the [WORD/CHAR] key moves one step back in the Launch/Adjust/Fix sequence. UNDOing can go back as far as the last-but-one FIX, providing that the screen has not been Scrolled to a different place on the Page, and that the user has not moved to a different Section.

The Keypad



THE KEYPAD METHOD: MICRODESIGN ONE-HANDED

Keypad Method

MicroDesign also allows the user to access the operations using a DO/UNDO system which is based around the cursor keys at the bottom right corner of the PCW's keyboard. This method of using the program is called the Keypad Method: the term 'Keypad' refers to this block of keys, which includes the cursor keys.

Before any Operation can be used, it has to be Launched as described above. Operations are launched using the Keypad in two stages: first the system cursor has to be moved into the Operations Menu, then it must be placed over the desired operation using the Up and Down cursor keys, and finally it must be launched. Each step forward in this sequence, including Fixing the operation at the end, is called DOing; the [LINE/EOL] key is the DO key, and each press of the [LINE/EOL] key moves one step forward in the Operation sequence. This means that the sequence of actions for using an operation by the Keypad Method is as follows:

The DO key



Move the cursor into Operations Menu (where it is displayed as a rectangular frame) by pressing DO;

Adjust the cursor until it indicates the desired operation;

Launch the operation by pressing DO- the operation is highlighted in the menu;

Adjust, as normal;

Fix, by pressing DO instead of [ENTER].

As with the Key-Letter method described above, each DO in this sequence can be UNDOne by pressing the [WORD/CHAR] key.

The idea of the Keypad method is that the user is able to Launch, Adjust and Fix all the operations in the program using only the DO and UNDO keys and the cursor keys. See page A4-1 for more details.

INTRODUCTION

EXTRA Features

THE EXTRA SYSTEM AND THE KEYPAD

Many Operations have a set of *Extra Features* associated with them: when an Operation is in progress, its Extra Features (if any) are displayed as symbols in the bottom right corner of the screen. The Extra Features are controlled using the [Extra] key in conjunction with the 'Keypad' keys at the right hand end of the PCW keyboard.

Because the bottom right display showing the Extra Features is laid out in five rows of three to correspond exactly with the positions of the Keypad keys, the Extra system can easily be used without looking at the keyboard. This in conjunction with the Keypad method means that virtually all the features of MicroDesign can be used to their full extent from the keyboard without the user ever having to take her/his eyes from the screen.

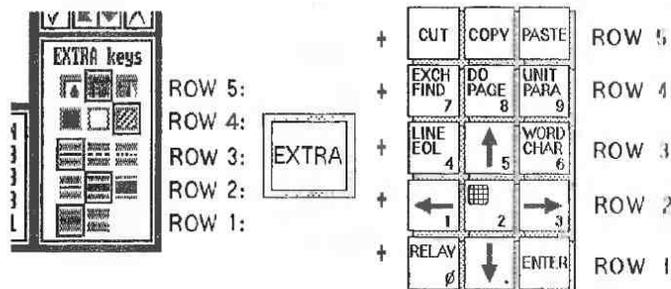
Inks

An example of the Extra Features:

THE INK COLOURS AND INK MODES

As an illustration of the Extra system, here is a brief description of how they are used to control the inks: although this example is taken from the Shape operations in the Design section, the same Inks and Modes are used in many other operations.

This diagram shows how the Extra features correspond with the Keypad keys:



Ink Colours and Ink Modes

Some of the Extra features which are shown above, and which are accessed in all sections of the program through the Extra Keys, control the way in which 'Inks' are placed on the Page. Since MicroDesign outputs to a monochrome printer, each pixel can be only black or white, but within the program there are several ways of using Inks.

The Ink Colour can normally be Black, White or Exor. (On the PCW8512 / 8256 screen, what will be 'White' ink on the finished printout actually appears green.) Black ink is printed black; White ink erases black ink, leaving the Page white. Drawing on the Page in Exor means changing the existing colour: black pixels become white, and white pixels become black. When covering areas of the Page in Ink, such as with Paint and Flood operations, there is no Exor ink: instead, an ink called Pattern is made up using a repeated icon, and can be placed on the Page in any of the three Ink Modes (see below). The following symbols are used to represent the Ink Colours in the Extra-Features menu-

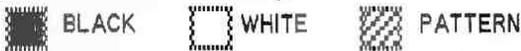
for Plotting pixels in the Design, Zoom, Font and Icon systems:



for Lines and Shape Outlines:



for Paint, Flood and Filled Shapes:



The Ink Modes are used when the program is covering an area of the Page with Ink or with some kind of design, for example when 'sticking down' a block which is being Moved or Copied, or when Painting or Flooding an area or shape with ink. There are three Ink Modes: Opaque, Transparent and Exor.

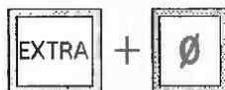
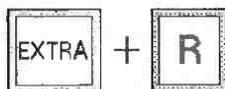
OPAQUE draws both the black and white ink of the new area, and thus overwrites everything which was 'underneath' it on the Page;

Ink Colours

Ink Modes

INTRODUCTION

Cursor Coordinates



In Layout & Design

In Fonts, Icons & Zoom

TRANSPARENT means that the white pixels in the new area are ignored, and whatever was 'underneath' them remains intact. The black pixels in the new area appear as normal; **EXOR** mode also ignores the white pixels in the new area: black pixels stuck down over white pixels remain black, while black pixels stuck down over black pixels become white.

The Ink Modes are represented by the following symbols -



CURSOR COORDINATES

The current position of the cursor is displayed by default at the bottom right corner of the screen, under the Extra Keys Menu. This Readout can be switched on or off by pressing [EXTRA]+[R] at any point in the program. The readout can also be set to zero at any time by pressing [EXTRA]+[0]. This allows measurement relative to any point.

The coordinate Readout has two different functions:

1: In the **Layout** and **Design** sections, it gives the current cursor position on the Page, relative to the top left corner. This operates independently of the location on the Page of the Design Window, so that the absolute cursor position is always available to the user. When the Readout is displaying absolute values in this way, the coordinates are measured in whole (square) pixels. (See Appendix II for a discussion of Pixels and Half-Pixels.)

2: In the **Icon** and **Font** sections, and also in **Zoom**, the Readout gives the cursor position relative to the top left of the Icon or Font Editing Grid, or of the Zoom screen. In the **Font Section** and in **Zoom**, where half-pixels can be edited, the Readout is given in half-pixels: in the **Icon Section**, which uses only whole pixels, the Readout is measured likewise in whole pixels. (See Appendix II.)

THE MOUSE

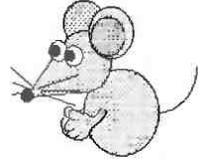
MicroDesign is fully compatible with the AMX and Kempston mouse systems, and a mouse is a useful though by no means necessary tool when using the program. Note that the mouse cursor is separate from the main system cursor. The type of mouse to be used is selected in the System Options section, and can be installed automatically from a System Options file when the program is run.

LAUNCHING, FIXING and UNDOING with the Mouse

Operations are **Launched** by pointing at them in the Operations Menu with the mouse cursor and pressing the left mouse button: this has the same effect as pressing a Key-Letter. Using the left button to 'click over' Operations, Extra Features, Icons, filenames etc. provides another fast and simple way to use MicroDesign: if any feature appears on the screen, you can almost always select or alter it by clicking over it with the left button.

When an operation is in progress, the mouse **FIX** and **UNDO** symbols, a tick and a cross, are displayed just under the Operations Menu at the right edge of the screen. Clicking over these symbols with the left button performs a similar function to the **FIX** (ENTER) and **UNDO** (WORD/CHAR) keys, and the symbols are highlighted when anything is **FIXED** or **UNDONE** to illustrate the action. These symbols disappear when there is nothing to be Fixed or Undone: this will happen when a new Section is entered, or when the program is first run. During Operations which may take some time, such as Typesetting (or **UNDOING** a Typeset Operation) or Printing, these symbols disappear, to be replaced with a '-BUSY-' message.

THE MOUSE



Operations:

Launching...

FIXing



and

UNDOing



INTRODUCTION

Double-Click



Right Button

Mouse Arrows

Double-Click

For some Operations in which the mouse cursor is used to position or point, a **Double-click** system is used with the left button so that positioning and Fixing can be combined. A double-click is two depressions of a mouse button in quick succession, and is interpreted differently to two separate clicks. The maximum time between the two depressions of a Double-click may be altered in the System Options Section to suit the user.

Right Button

The Mouse right button is used to switch between Control Points. A Double-Click on the right button performs exactly the same function as pressing the [Word/Char] key; it is yet another way to UNDO.

Mouse Arrows

Many adjustable features in MicroDesign (eg Character Size and Spacing) appear as numbers linked to a 'sliding scale'. These can be adjusted using the mouse by placing the mouse cursor over the Mouse Arrows which are located at either end of the scale, and pressing the left button. Mouse Arrows look like this:



Whenever arrows like these appear, they can be used with the mouse: mouse arrows are used to toggle the bottom window and the Scroll Map on and off in the Design Section, and to scroll the Design Window using the mouse.

It should be obvious by now that MicroDesign provides several different methods for DOing and UNDOing each operation: this is because different methods suit different tasks and different users. It is a feature of MicroDesign that it is flexible and friendly in a wide variety of applications.

2

TUTORIAL

TUTORIAL



CREATIVE TECHNOLOGY

BEGINNER'S TUTORIAL

NOTES

Discs : this Tutorial **MUST** be run from the Master Program Disc, a Working disc will not do.

Keyboard and Mouse

This tutorial concentrates on operating MicroDesign using the Keyboard: those wishing to use a Mouse with the system should follow the same tutorial, but should refer to the *Using The Mouse* section in the Introduction chapter of this manual for details of exactly how to access the operations and features using the mouse. In general, anything on the screen can be accessed by clicking over it with the mouse left button, and the FIX and UNDO symbols are used to Fix and Undo operations.

PCW8256, 8512, 9512

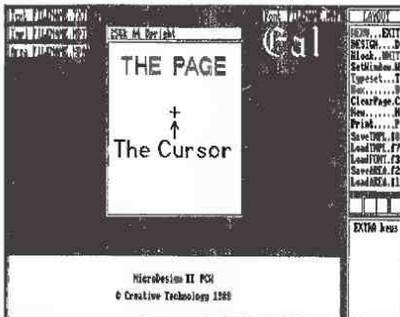
Parts of this Tutorial involve loading files from disc. The files you should use differ according to the type of PCW you are using. For the PCW8256, use the files containing "256" in the file-name: for the PCW8512, 9512, or 8256 with extra memory fitted, use the files containing "512" in the file-name.

Starting Up

Insert the MicroDesign Master Program disc in the A drive at the CP/M A> prompt, and type MD [Return]. The program takes a few moments to start up, and then displays the MicroDesign screen in the Layout Section. The different Sections can always be accessed from the Main Menu, which can be summoned from any Section by pressing [Exit].



Start here...



Section Name
 THE OPERATIONS

Loading a Picture



Printing



Loading a Picture

The Layout screen shows the A4 Page, and lists the different Layout operations down the right edge of the display (see illustration on previous page). The first operation we shall use is LoadArea: this is used to load a file containing a picture from the disc onto the Page. To load an area file, press [F1]: this highlights the LoadArea entry in the right-hand menu, summons the Filing Window into the bottom of the screen, and gives a directory search string for selecting the disc file to be loaded. For Area files, MicroDesign uses the '.MDA' file-type: press [ENTER] to enter the search string and display all the .MDA files on the disc. Now press [ENTER] again to load the first file in the list, which is called 'ARTICLE.MDA'. (With the Mouse, clicking over the tick symbol at the bottom of the operations menu has the same function as pressing [ENTER].)

(At this point, 8256 users will be warned that the Area file is being loaded at half size: this is not important, and will be explained later.)

The program will now display a box on the Page showing the size of the picture contained in the selected Area file. You can now position this box so that the picture is loaded into the correct place on the Page: for the moment, just press [ENTER] again to load it in the middle. After a short pause to load the file, you should see the picture appear on the Page.

Printing

The whole purpose of using MicroDesign is to get high-quality output on your PCW (or external) printer, so the next operation to try is Print. To select Print, press [P] (mouse: click over Print with the left button): this highlights Print in the Operations Menu, and displays the Print Menu at the bottom of the screen. This menu allows you to Print at a variety of scales and positions, but don't alter anything for the moment. Just press [ENTER] to begin printing in the standard format: you should see as the drawing is printed that it forms a banner headline.

If you have to load a sheet of paper into the printer, the PCW printer menu may appear in the bottom line of the screen. To escape from this menu, just press [EXIT].

Note: Printing in MicroDesign usually takes a few minutes: this is because of the large quantity of data required to make up a Page. If nothing happens within 30 seconds of pressing [ENTER], consult the **Troubleshooting** section on Printer Problems in Appendix I of this manual, page A1-1.

Cutting and Pasting

When the print has finished, try experimenting with the powerful Page Layout facilities in MicroDesign. These include a system for Cutting and Pasting *Blocks* of the Page: we can use this to 'pick up' the picture. To select the **Block** operation, press the [UNIT/PARA] key at the right end of the keyboard.

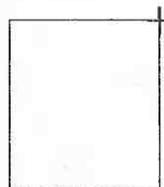
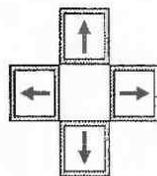
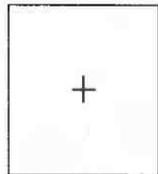
Block operations happen in two stages: first you must define the Block (or area of the Page) which you wish to deal with, and then you must decide what you want to do to it (ie which of the Block operations you wish to use). In the Layout section, Blocks can be Erased, Inverted (changing black to white and vice-versal), or Copied / Moved. Having pressed the [UNIT/PARA] key, you should see **Block** light up in the menu, and a sub-menu of the three Block operations appear below it. You should also see a box appear on the Page: this is called a *Frame*.

In **Block** the frame is used to define the area of the Page: in this case we need to move the headline block to the top of the Page in order to typeset some text under it. You should see a blinking cross-shaped cursor in the middle of the frame: the frame can be moved around the Page using the cursor (arrow) keys at the bottom right corner of the PCW keyboard. (With the Mouse, the cursor can be moved over the Page by holding down the left button.)

Now press the [Space-bar] (mouse right button). You should see the cursor move from the centre of the frame to the top right corner: this corner of the frame can now be positioned separately using the cursor keys, so that the shape of the frame can be changed (though it must always be rectangular). Pressing the [Space-bar] again moves the cursor to the bottom left corner of the frame, and pressing it a third time returns the cursor to the middle: these three points are called the **Control Points** of the frame. By moving these control



Cutting and Pasting: BLOCK

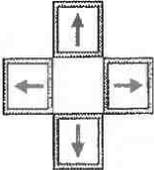


TUTORIAL

Frames and Control Points



TUTORIAL



FIX

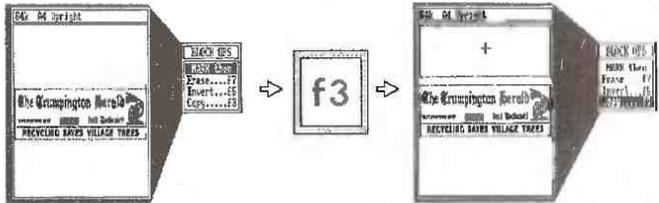
UNDO



points, and by swapping between them using the [Spacebar], the Frame can be positioned over any rectangular area of the Page. Frames and Control Points are used to control many operations in MicroDesign, so it is well worth experimenting with the Frame system until you are familiar with it.

Moving a Block

When you have positioned the Frame around the headline, press [F3] to select the Copy operation: this is used for both Moving and Copying. (With the mouse, click over Copy with the left button.)



POSITION THE
BLOCK CURSOR...

.. SELECT
'COPY'...

.. AND POSITION
AGAIN

You should now see a second frame appear on the Page over the first: this is the Destination Frame, and it is used to select the position to which you wish to move the Block. Press the Upward cursor key, and hold it down: you should see the second frame slide up the Page. When it reaches the top, press [ENTER] to Fix it: you should see the headline disappear from the middle of the Page, and re-appear at the top.

UNDOing

One of the most powerful features of MicroDesign is the ability to UNDO any operation if the result was not exactly what the user intended. The UNDO key in MicroDesign is the [WORD/CHAR] key at the right end of the keyboard. (With the Mouse, click over the cross symbol beside the tick symbol to UNDO.) Once you have Fixed an operation using [ENTER], the effect is displayed on the screen: you can UNDO the operation

immediately by pressing [WORD/CHAR] if you don't like the result. In this case, it may be a good idea to leave a small space above the headline at the top of the Page: press UNDO ([WORD/CHAR]) to leave you back in the middle of the Block operation, allowing you to re-position the destination frame (just move it down by one step) and re-Fix it by pressing [ENTER] again.

Loading a TEXT File

Many of the applications for MicroDesign involve the typesetting of text from a file: this file may be created using a word-processor, or typed directly into MicroDesign's own Text Editor. To see the Typesetting system in action, we need to load a text file, which means moving into the Text Editor Section of the program: press [EXIT] to summon the Main Menu, then press [E] to select the Editor Section. (With the mouse, click over 'Menu' then 'Editor' with the left button.)



THE MAIN MENU

The Cursor

The screen should now change. The text editor displays the current text file in the main screen: since there is as yet no text loaded or entered, this should appear blank. The list of Editor operations is displayed in a menu down the right edge of the screen: press [F5] to select LoadText. The filing window now appears at the bottom of the screen: press [ENTER] to enter the '.TXT' search string (used as a default for text files). You will see a list of text files appear in the Filing Window: select the appropriate one ("ARTIC256.TXT" if you are using a PCW8256, or "ARTIC512.TXT" for any other PCW) using the cursor keys, and press [ENTER] to load it. You should now see the text appear on the Editor screen.



The Main Menu



The TEXT EDITOR

Load Text



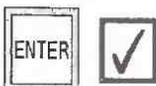
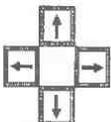
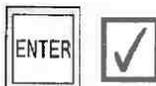
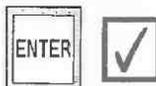
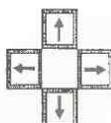
Loading a CUT file

MENU...EXIT

LAYOUT...L

LoadAREA.fl

Areatype.fl



Loading an Illustration

The text you have just loaded is a newspaper article about saving trees by using recycled paper. To enhance the impact of this article, we shall include a picture of a tree in the middle: to load this picture, you must return to the Layout Section by pressing [EXIT] to summon the Main Menu, followed by [L] to select the Layout Section.

Now press [F1] again to Load another Area, unlike the headline "ARTICLE.MDA", the tree illustrations are stored on the disc in the ".CUT" file format used by Stop Press (another PCW DTP program). To load ".CUT" files, you must change the AreaType: press [F1] again to summon the menu of all the different types and formats of Area or graphics files which can be loaded into MicroDesign.

```

Select filetype for Load Area
1:MicroDesign .MDA  4:Stop Press .PAG  7:Mini-Office .*
2:MDesign PC .MDR  5:CUT file .CUT   8:Rombo Vidi .VID
3:DesktopPubl .GRF 6:SCREEN type .*
    
```

If you have used any other PCW graphics software, you should find that this menu contains at least one of the file formats you have used before: this allows you to load onto the MicroDesign Page graphic images which you have already created using another program.

To select the ".CUT" format, use the cursor keys to move the box cursor over the ".CUT" entry in the menu, and then press [ENTER] once to select the new format, and again to display the ".CUT" files on the disc.

Next, use the cursor keys again to select the ".CUT" file which is appropriate for your computer ("ARTIC256" for the PCW8256, or "ARTIC512" for other machines), then press [ENTER] to select the file. You should now see a frame appear on the Page showing the size of the image: press [ENTER] again to load it in the centre of the Page.

Templates

Before typesetting the text onto the Page, you need to load a Page Template file: this type of file tells the program how to put the text on the Page, and includes information about where to put the text, what size the characters should be, how the words and lines should be spaced, and so on. Template files are created using the Typeset and SetWindow operations: for now, you should use the Templates stored on the Program Disc.

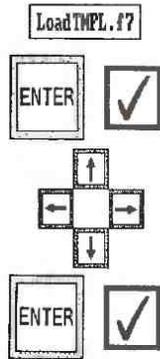
Press [F7] to launch the LoadTMPL operation, then [ENTER] to display the Template files stored on the disc. Use the cursor keys to select the correct file for your computer ("ARTIC256" or "ARTIC512"), then [ENTER] to load the Template. You cannot see any change to indicate that the Template has been loaded until you try Typesetting the text, so the next operation we shall use is Typeset.

Typesetting

To launch the Typeset operation, press [T]: this will highlight Typeset in the operations menu, and display the Typeset sub-menu beneath it. You should also be able to see the Window displayed on the Page: the Window appears as a dotted box divided into columns, and it should be located just below the position of the headline on the Page. (The size, shape and position of the Window can be altered using the SetWdw operation, but you should not need to change it here.) The small right-angled cursor at the top left of the Window is the Typeset Start cursor, which controls where in the Window the typesetting will begin: if you wish the text to begin halfway down the Page, or in a different column, you can move the Typeset Start Cursor to achieve this. For now, leave this cursor in the top left corner of the Window.

In the Typeset operation, the bottom window is used to display the three different Typset menus for Character Scaling, Text Spacing and Justification: it can also display a section of the text file. These different functions are selected using the Function keys [F1], [F3], [F5] and [F7] listed in the Typeset

Loading a Template file



Typeset

Typeset...T

Typeset Menus

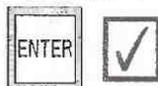
Scaling..f7
Spacing..f5
Format...f3
MarkText..f1

TUTORIAL

GO....PASTE

Exit...EXIT

Print.....P



New.....N

3: Strip
4: A4 Upright

PCW8256 Users: Page resolution and Memory size

sub-menu: pressing these keys allows you to look at the different facilities available in Typeset, although it is better not to change anything in these menus at the moment. When you are ready to typeset, press [PASTE] to begin.

You should now see the text appearing on the Page, line by line. Note that the text does not write over the picture of the tree, but is typeset around it: this special feature is called **Auto-Flow**, and it can always be used to ensure that the Typeset text avoids any graphic images already on the Page.

If you wish to see this finished Page printed out, just press [P] then [ENTER] as described earlier.

Page Formats

Now wipe the Page clean and start again: to do this, launch the **New** operation by pressing [N]. This displays a menu of the MicroDesign Page formats: note that they are divided into Hi-res and Lo-res formats, and that 512Kb of memory is required to use the Hi-res formats. If you are unsure how much memory your machine has, select format No.4 by pressing [4]. If the screen displays a message saying that the format is not available, select format No.3 instead: this is effectively a Hi-res page, but only allows the top quarter of the page to be designed.

If you have a 256K machine, try loading the original Area file "ARTICLE.MDA" onto the Strip Format Page you have just selected: to do this, press [F], [ENTER], then [ENTER] again. You should find that this Area will load at full size onto the new Page: press [P] then [ENTER] to print the new Page.

When the printing has finished, you should see that the quality of this printout is much better than the first printout of this picture: this is because the Hi-res formats give a much more detailed Page than the Lo-res formats. If you have only 256Kb of memory in your PCW, you can buy an extra 256Kb to upgrade your machine: this will allow you to use the Hi-res Page formats. Contact your PCW dealer for more details.

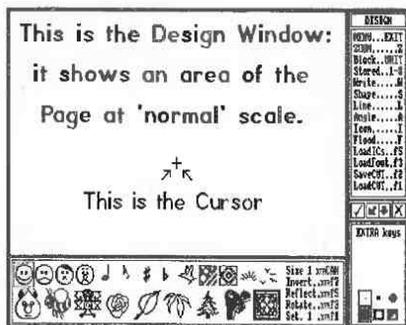
REVIEW

We have now looked at the ways in which MicroDesign loads Area and Text files, how to Print, and how to load a Template file, and use it to control the Typesetting operation. Next, we shall look at the Graphic Design capabilities of the program by moving to the Design Section. Before continuing, ensure that the Page is not completely blank: if necessary, load "ARTICLE.MDA" again, as described on page 2-2.

The DESIGN Section

Like any Section in MicroDesign, the Design section is accessed via the Main Menu: press [EXIT] to summon the menu, followed by [D] to select the Design section.

You should find that the screen now looks something like this:



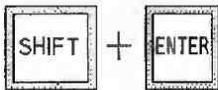
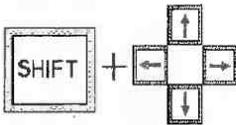
This display shows an area of the Page at 'Normal' resolution, allowing you to see more detail than in the Layout section.

The Design Section

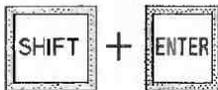
MENU...EXIT

DESIGN...D

Scrolling the Design Window



The Scroll Map

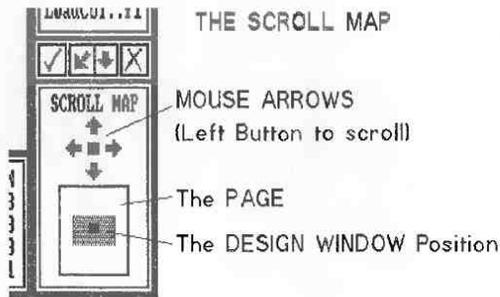


Graphic Design Features

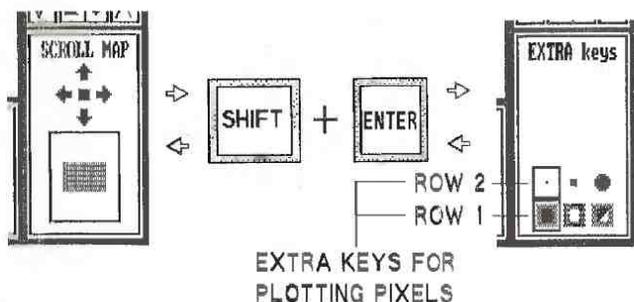
Scrolling across the Page: the Scroll Map

In the Design section, the Design Window displays only a part of the whole Page which is visible in the Layout section. This Window can be *Scrolled* across the Page by holding down the [Shift] key and pressing the cursor keys. Try this, and note also that the window scrolls in larger steps when the [ALT] key is held down as well as [Shift].

Now look at the bottom right corner of the screen: you should see the Extra Keys menu. Press [Shift]+[Enter]: the Extra menu disappears, and is replaced by a Scroll Map which shows the current position on the page of the Design Window.



Try scrolling the window ([Shift]+cursor keys) while watching the Scroll Map: you should see the shaded area move around the Page. You can always choose to display either the Scroll Map or the Extra Keys menu in the bottom right corner of the screen: use [Shift]+[Enter] to switch between the two.



Plotting and Drawing

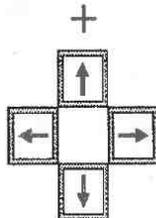
When no other operation is in progress in the Design Section, individual points can be plotted at the cursor position in the Design Window using the [Space-bar]. Try holding down the [Space-bar] and moving the cursor: you should see that a line of pixels has been plotted. (With the mouse hold down the left button while in the Design Window.)

The *Ink Colour* in which pixels are plotted is displayed in the Extra Keys menu as illustrated above: this Ink can be set to Black, White or Exor using Extra row 1 (see page 1-12 for an explanation of Ink Colours). The size of the points can also be varied using Extra row 2. Try plotting points in all of these colours and sizes. (Remember that the Extra Features can be accessed using the [Extra] key in conjunction with the *Keypad* keys, or by clicking over them in the Extra Features menu with the mouse left button: see Extra Features in the Introduction chapter for more details.)

Now try using the Line operation from the menu: this is accessed by pressing [L], and like all Operations, it is highlighted in the Operations Menu when in progress. When the operation has been launched, move the cursor to draw a line drawn between the old cursor position and the new one: when the line is in the right place, press [ENTER] or DO (the [LINE/EOL] key, or click over the symbol with the mouse left button) to Fix the line and exit the Line operation.

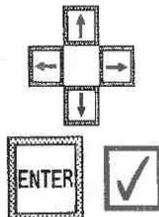
Plotting Pixels

SPACE-BAR



EXTRA + Keypad

LINE.....L

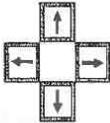
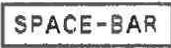


TUTORIAL

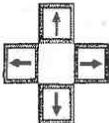
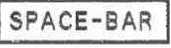
UNDO



Control Points

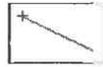
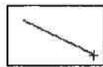


Rectangle.R



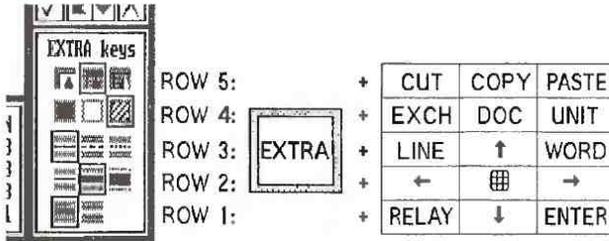
Extra Features

Now press [WORD/CHAR]: this will Undo the last Fix and leave you back in the Line operation, with the cursor at one end of the line and Line highlighted in the Operations Menu. Suppose you want to move the other end of the line? Press [Space] (mouse right button): you should see the cursor move to the other end of the line, allowing you to adjust its position. The two ends of the line are its *Control Points*, and like the three control points of the Frame which we used in the Block operation earlier, they can be adjusted separately to position the line anywhere on the screen. Just press [Space] to flip between the control points, and use the cursor keys to move each one. When you have experimented with the Line operation, press UNDO ([WORD/CHAR]) again to remove the line completely, or [ENTER] to Fix it.



All frames, shapes and lines have control points, and the cursor is always moved around these control points using [Space]. Now press [R] to invoke the Rectangle operation: you should see the rectangle frame appear on the screen. Try adjusting the control points using [Space] and the cursor keys: you should see that they function just like those of the Block frame.

Before Fixing the rectangle, look at the *Extra Features* menu in the bottom right corner of the screen: if the Scroll Map is displayed, you will need to press [Shift]+[Enter] to remove it. The Extra Features control the Ink Colours and Modes used by the Rectangle operation, and allow separate control of the outline and the interior of the rectangle. The Extra Features menu for Rectangle is illustrated overleaf, and is the same for Circle, Ellipse, and Triangle.



The bottom three rows of Extra options refer to the outline of the shape: this can be drawn in Black, or White (set by [Extra]+[Relay] and [Extra]+down-arrow, the bottom row of keypad keys), and can be continuous or dotted (set by [Extra]+ the third row in the keypad). The second row of Extra features controls the thickness of the shape outline. Try using these different outlines by FIXing the rectangle to see what it looks like, then UNDOing it and changing the outline style; remember that a white outline will only be visible against a black background.

The top two rows of Extra keys control the area within the rectangle: if none of these features is framed, this area is unchanged when the operation is fixed, and only the shape outline appears. Pressing Extra with keypad row 4 should make the highlight frames appear over the 4th row of options, which control the ink colour (Black, White or Pattern) used to fill the inside of the rectangle: the top row (row 5) controls the ink mode used to fill the shape, and can be set to Opaque, Transparent or Exor (except with White Ink). Experiment with different combinations of Black and White fills and the Opaque, Transparent and Exor options, until you are accustomed to their effects: remember that the Ink Colour controls what you put down on the Page, and the Ink Mode controls how the Ink interacts with whatever is already on the Page.

Extra Features:

Shape Outlines...

...and Filled Shapes

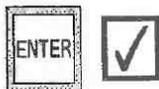
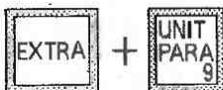
TUTORIAL

Icons and Fill Patterns

The Icon Menu

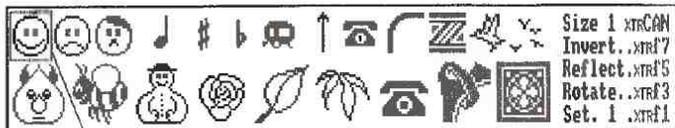
Filled Shapes

Rectangle.R



Patterns and Icons

The Pattern Fill option in the Rectangle Extra Menu fills the inside of the shape with a repeated version of the currently selected *Icon*. Icons are the square patterns displayed in the Icon Menu: this can be seen at the bottom of the screen in the Design Section. There are 66 icons stored in the program at any time, of which 22 are visible in the Icon Menu. All of these patterns can be defined by the user, but for the moment, use the set which is loaded automatically by the program when it is first run: this set is called 'BOOT.MDI'.



THE CURRENT ICON

THE ICON OPTIONS

The Icon Menu on your screen initially displays set 1, which contains some symbols. You should see that one of the icons has a dotted frame around it: this is the Current Icon. It is the Current Icon which is repeated across the Page to make the Pattern ink used in the Shape and flood operations.

Now use the **Rectangle** operation with the Pattern Fill option: after pressing [R] to invoke Rectangle, ensure that the Extra Keys menu is visible in the bottom right corner of the screen (use [Shift]+[ENTER] to remove the scroll map if necessary), and press [Extra]+[UNIT/PARA]: the Pattern symbol in the Extra Menu should now be framed. When the rectangle is Fixed, you should see that the area inside it is filled with a repeated version of the current icon.

Extra Features for Filled Shapes:



[EXTRA] + [UNIT/PARA]

Now use [Extra] with the Function keys to change some of the icon options. These keys are listed in the Icon Window, and their effects are all obvious except *Size*. The *Size* option has no effect until the current icon is used on the Page. Using all of the Icon options, a great variety of fill patterns can be generated from just one icon: experiment with them.

The Current Icon is also used as the fill pattern in the Flood operation: this uses black, white or pattern fills to flood any enclosed area. Try filling some enclosed areas using Flood by placing the cursor in the area and pressing [F]. Having selected Black, White or Exor from the Flood Options Menu, Fixing the operation with DO or [ENTER] should fill the area: note that if an area is not fully enclosed, the fill pattern or ink will 'spill out' and flood the whole screen. If it does this, remember that you can UNDO the Flood: press UNDO ([WORD/CHAR]) to go back one step (leaving you in the middle of the Flood operation); press it twice to go back to where you were before the Flood operation was entered. Keep using the Fix and Undo facilities, so that you become familiar with them.

As well as being used in fill patterns, all Icons can be called up individually from the Icon Menu. With no other operation in progress (nothing highlighted in the Operations Menu), select the Icon operation by pressing [I]. This should display the current icon (from whichever set is displayed) on the Page. The icon can be positioned using the cursor keys, and the options changed with the [Extra] Function keys as before: this means that the icon system can also be used for placing small symbols on the drawing as well as for fill patterns. In 'BOOT.MDI', set 2 contains a variety of fill patterns, but if you want to you can use all three Icon Sets as user-defined symbols. This is especially useful for technical diagram work: the triple icon set called 'ELECTRON.MDI' (supplied on the Library Disc) is an example of an all-symbol set.



+

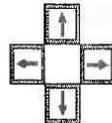
Flood

Flood....F



Icon Operation

Icon.....I



TUTORIAL

Write

Write.....H

The Return Key



Extra keys in Write: the Style Options

Writing Text

Now scroll to an empty area of the Page (or use Block to Erase everything from the area you are working on) and move the cursor to the left edge of the screen.

Press [W] to enter the Write operation.

You should see that the cursor changes shape: this is to help with placing text accurately on the screen. Type in some text on the keyboard: the Write operation will place the characters on the screen in the current font. If you keep typing past the right end of the screen, you should see that the Design Window scrolls across the Page with you until it reaches the right edge: if you try to type past the edge of the Page, the cursor returns to the left edge of the Page and moves down to begin a new line. It also erases the word you were typing from the right edge and moves it to the new position on the left: this is called "Word-Wrapping", and is used to avoid splitting words while typing. Now press [Return]. Normally, [RETURN] is used by the program as another Fix key, but in Write, it moves the cursor to the left edge of the Page and down one line (just like a typewriter or word-processor) and waits for more text from the keyboard. The Write operation can only be fixed using [EXIT], by pressing DO ([LINE/EOL]) or [ENTER] twice, or by Fixing with the mouse.

Character Styling

Enter Write again, and look at the Extra menu which appears in the bottom right corner of the screen. The top two rows of Extra features are the Style options for the letters. In row 5, 'B' means Bold, 'D' means Double-Strike, and 'H' means Highlight. In row 4, 'I' means Italic, 'O' means Outline, and 'U' means Underline. All these can be switched on or off independently of each other, and used in combination: altogether, this gives a great variety of different styles for text, so try experimenting with them.

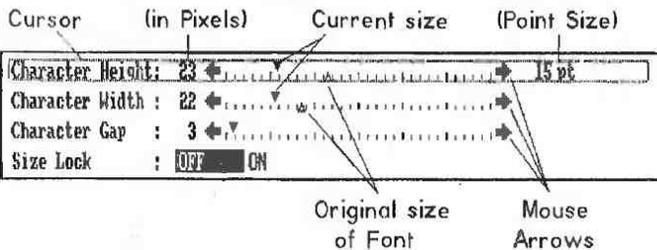
Normal

Bold	Double	Highlight
<i>Italic</i>	Outline	<u>Underline</u>

Character Size

While in Write, press [F7] to bring up the Scaling menu into the bottom window. You will see that it contains scales for setting the width (horizontal size) and height (vertical size) of the characters. When the Scaling Menu appears, the L-shaped Write cursor should disappear from the page, and a frame cursor should appear around the top entry in the Spacing Menu: this entry controls the Character Height.

The Character Scaling Menu:

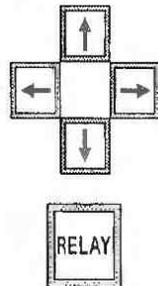


Now use the cursor keys to increase the character size settings. Press [Relay] to return the cursor to the Page, and try typing some characters: you should see that the size has increased. Notice that the edges of the characters become more jagged as they get larger. Now try going back into the Scaling menu (use [Relay] again) and making the characters smaller: note that the white arrows on the scales indicate the original height and width of the character font, so set these values below the white arrow indicators. Return to the Page ([Relay] again) and type: you should see that the characters are now smaller than they were originally, and that like the larger characters, they are also slightly distorted. Re-scaling a Font always causes some distortion, so it is always better to use a Font at its original size whenever possible. This is why there are similar Fonts provided at different sizes in the MicroDesign library.

It should be obvious by now that the range of styles and sizes of text offered by MicroDesign is enormous: this is all the more useful because all the features you have just seen, and more, can be used with the Typeset operation as well as with Write to control whole files of text generated on a word-processor.

Text Size

Scaling..f7



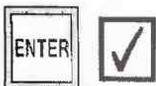
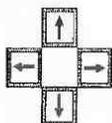
Font Distortion

TUTORIAL

Load Font

EXIT...EXIT

LoadFONT.f3



Loading a new Font

Note also that the text sizes and styles you have generated so far have all used the same basic font: the program is supplied with over twenty different fonts. To experiment with these, press [EXIT] to terminate the Write operation, and insert the appropriate MicroDesign Library disc to load a new Font. Now press [F3], then [ENTER]: this launches the operation to load a new font, and you should see displayed in the Filing Window at the bottom of the screen the names of the different Fonts. Choose one using the cursor keys, (try one with a large number, and choose something different from the 'TIMES' Font you have used so far), then press [ENTER] to load it. Now experiment with Writing text again with the new Font.

OTHER OPERATIONS AND SECTIONS

Other Sections:

Fonts...

Icons...

and Options

In this tutorial, you have been guided through some of the basic features of MicroDesign, and how to use them. To finish, here is a brief discussion of the other Sections, and how they fit in with what you have done so far.

The **Font Section** is a complete Designer / Editor for the user-definable font which we used in the **Typeset** and **Write** operations. Fonts can be loaded and saved from disc.

The **Icon Section** is a complete Designer / Editor for the icon sets, which we have used with the **Icon**, **Flood** and **Rectangle** operations. This Section also has all relevant disc filing facilities.

The **Options Section** is used for setting up system parameters, such as default cursor and mouse movement speed, mouse and printer types, text file format, and so on. These System Options can be altered to suit your taste as you get to know the program, and the full set of options can be saved on disc to be loaded automatically when MicroDesign is run.

And Finally...

This tutorial, though it may have seemed quite lengthy, has barely scratched the surface. We have covered only a few of the Operations and features available in MicroDesign, and even these have not been fully investigated: you should consult the Reference section of this manual for a comprehensive guide to the whole system. The importance of the tutorial chapter has been to help you find out about the methods of control and selection which are common to the whole program: the most important of these are listed below. So, armed with this invaluable information, go to it - and may your Pages be processed beautifully!

THE IMPORTANT POINTS

Moving from Section to Section: using [EXIT] to summon the Main Menu, and selecting a different Section of MicroDesign.

Launching operations by pressing the keys listed in the menus, and FIXing and UNDOing using [ENTER] and [WORD/CHAR], or the Tick and Cross symbols with the mouse left button.

Loading Files: the Filing Window, search strings, file selection, positioning of Area files on the Page.

Frames and Control Points: using the cursor keys and [Space] to position frames and Shapes where you want them on the Page.

Getting at the Menus: accessing Operations from the Operations menu using the key-letters; using the Extra key system in the Extra Keys menu; controlling menus in the Bottom Window using [Relay] and the cursor keys.

Key Points

TUTORIAL

TUTORIAL

3

REFERENCE

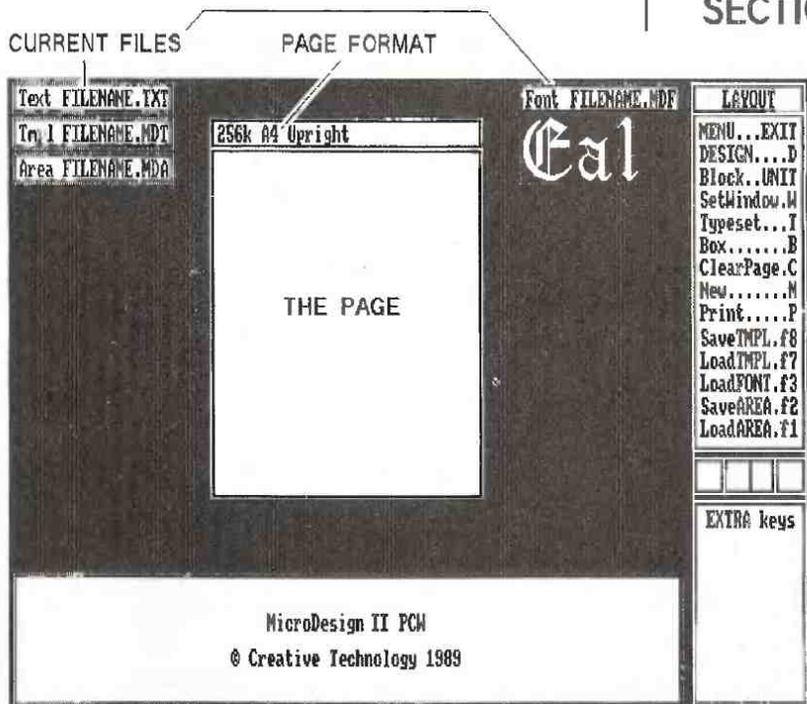


CREATIVE TECHNOLOGY

REFERENCE....LAYOUT

THE LAYOUT SECTION

THE LAYOUT SECTION



The Main Screen of the Layout Section gives a view of the whole Page at reduced scale, as well as information about the current Page format, and the current Font, Area, Template and Text files. The Layout Section Operations are listed in the Operations Menu: these include the loading and saving of Area and Template files, Block operations, drawing Boxes, Typesetting text from the Text Editor, Loading Fonts, Printing the finished Pages and selecting new Page formats. The Bottom Window may contain menus for the New, Typeset, Print, or SetWindow operations.

Layout Screen

Page Formats

Page Formats

MicroDesign offers three different formats for the drawing area or Page, and each of these formats is available in Lo- and Hi- resolution: the **New** operation is used to change Formats. The Formats are **A4 Upright**, which appears on the printer just as it appears on the screen, **A4 sideways**, which prints out sideways from the right edge, and **Strip**, which is a narrow horizontal strip. The bit-mapped Page memory occupies 64Kb in Low resolution formats, and 272Kb in High resolution formats. High-res formats are only available on PCWs with 512Kb memory.

Page Scaling

Page Scaling

At the Layout Scale (the size at which the Page is displayed in the Layout Section), one pixel on the visible Page represents four pixels on a Low resolution Page, or eight pixels on a High resolution Page. **Block**, **SetWindow** and **Save Area** operations in the Layout Section require an area to be defined within a frame: this frame can be positioned only to an accuracy of four or eight pixels. **Block** operations requiring greater accuracy than this must be done in the Design Section.

Strip Formats

The Strip format scaling is a little complex. The *on-screen* Layout display scale of Lo-res Strip Pages is the same as that of Lo-res A4 Pages, although the final *printed* output from a Lo-res strip uses the same resolution as a Hi-res A4 Page. Similarly, the Hi-res Strip has the same Layout display scale as the Hi-res A4 Page, but uses double the resolution on the printed output. The Strip formats are provided in order to allow the maximum resolution possible for any given memory size, so that a Hi-res A4 Page can be generated even on a PCW8256 by designing four Lo-res strips and printing them in sequence down a single sheet of paper.

Layout Section Operations

DESIGN

This is an alternative route to the Design Section: it does not go via the Main Menu, but allows selection of the area to appear on the Design screen. The area to be Designed is displayed as a frame, which is positioned using the cursor keys or by holding down the mouse left button. The operation exits to the Design Section with **FIX** or **[ENTER]**.

Block

This is the initial operation for marking an area to be **Erased**, **Inverted** or **Copied**. The outline of the block is included in the area, and the block boundaries are positioned using the keyboard or mouse as described below. Having defined the block, **FIX** or **[ENTER]** moves the cursor into the **Block Menu** allowing selection of:



THE BLOCK MENU

Erase simply erases the area bounded by the block to leave blank (white) space.

Invert changes all the black pixels in the marked area to white, and all the white pixels to black. Note that after an **Invert** operation, the Layout display of the Page may not correspond exactly to the page contents: to refresh the display, change to another Section, then return to Layout.

Copy allows the user to 'pick up' the marked area and move it to another part of the Page (a **Move** operation), or to reproduce the marked area elsewhere while leaving the original intact (a **Copy** operation). See Extra Features below.

OPERATIONS

Design

Block...

Erase

Invert

Copy (Move)

REFERENCE....LAYOUT

Viewing the Block



Extras: Move/Copy

NOTE: Copied Blocks can only be viewed in situ by Fixing the operation, although operations can always be UNDOne, adjusted and Fixed again. No operation can be UNDOne if there has been a Section change since it was Fixed.

Keyboard

The block frame which appears on the Page can be positioned using the cursor keys to move, and [EXCH\FIND] or [Space-bar] to flip between the control points: [Extra]+[Space-bar] reduces the frame size to zero. When the frame is Fixed, the Block Operation (Invert, Erase, or Copy) is selected from the Block Menu by the Key-Letter or Keypad methods. The destination frame for Copy is positioned using the cursor keys: DO or [ENTER] to Fix and exit.

Mouse

The Block Frame is positioned by holding down the left button and moving the mouse; control points are flipped with the right button. The Block Operations are selected from the Block Menu with the left button as normal, and the Destination Frame for the Copy operation is positioned in the same way as the Block Frame. FIX or Double-Click to Fix and exit.

Extra Features

For Copy operations only:



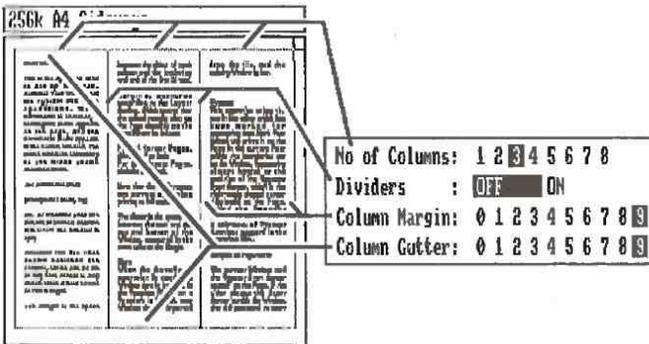
Extra row 5 selects Opaque, Transparent or Exor modes:

Extra row 2 selects Move or Copy (remove original Block or leave it intact).

SetWindow

This is the operation used to set up the user-definable Text Window for the Typeset and Write operations. When SetWindow is launched, a rectangular frame appears on the page, and the SetWindow menu appears in the bottom window. The frame functions identically to the Block frame described above.

The SetWindow Menu



No. of Columns sets the number of vertical columns into which the window is split:

Dividers are the lines drawn between the columns, which can be On or Off; each divider is only drawn when a new column of text is begun.

The *Margin* is the space between the sides of each column and the beginning and end of the lines of text. The size of the Margin is measured in units which correspond to distances on the Page as follows:

- For A4 format Pages, thirtieths of an inch;
- For Strip format Pages, sixtieths of an inch.

Note that these distances are correct only when printing at full scale.

The *Gutter* is the space left between the text and the top and bottom of the Window, measured in the same units as the Margin.

SetWindow

The SetWindow Menu

Columns

Dividers

Margins

Gutters

REFERENCE....LAYOUT

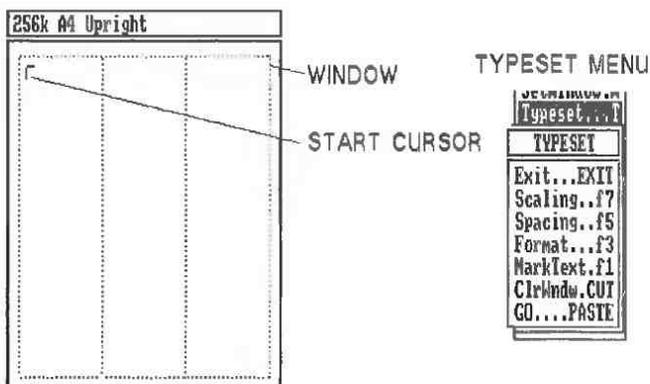
Typeset

Note

When the **SaveTemp** operation is used, the Window data is included in the Template file; when a Template is loaded, new Window data is imported from the file, and the existing Window is lost.

Typeset

This operation takes the text in the editor which has been marked for typesetting (see **Mark Text** below) and prints it on the Page in the current Font within the boundaries set by the Window. Typesetting always begins at the position of the Typeset Start Cursor, which is the right-angle shaped cursor displayed on the Page. When the Typeset operation is first launched, a sub-menu of Typeset functions appears in the Operations Menu.



Start Cursor

The Window and the Typeset Start Cursor appear on the Page. If the user places the Start Cursor outside the Window, typesetting will begin in the next column below and to the right of the cursor.

The Typeset sub-Operations work as follows:

Scaling, *Spacing* and *Format* all use the bottom window to display menus for controlling different features of the Typeset operation. These are illustrated overleaf.

MarkText uses the bottom window to display the Text file, allowing the user to position the Typeset Start and End markers using [ALT][+] and [ALT][-] respectively. If no text has been marked, nothing will be typeset. When a file is loaded into the Text Editor, the Typeset markers are placed at the beginning and end of the file, so that all the text is marked for typesetting by default.

ClearWndw erases the contents of the Window: any text or graphics in the Window will be lost.

Go is used to start the Typeset operation once all the parameters have been set.

Notes About Typeset

UNDOing: a Typeset operation can be undone by pressing [WORD/CHAR] or by clicking over the Cross symbol as soon as the Typesetting has finished. Note that this UNDO process erases the whole of each text line.

If text has accidentally been typeset over some existing data on the Page, UNDOing the Typeset will not restore this data. In this case, redoing the Typeset operation with exactly the same Start Cursor position and Typeset Menu settings will erase only the text (by re-printing it in Exor mode), leaving the original contents of the Page intact.

If the Typeset operation fills the Page or the Window before reaching the end of the marked text, the Start Marker is moved on to the point reached in the text. This means that the next time Typeset is used on, say, a new Page or different Window, the Start Marker will be correctly positioned to carry on from where the last Typeset finished.

**Typeset
Menu:**

MarkText

ClearWndw

GO

UNDOing

Markers

REFERENCE....LAYOUT

Launching SetWindow

The Window can be adjusted from within the typeset operation, if required. While in **Typeset**, pressing [W] or clicking over SetWindow in the operations menu will cancel Typeset and launch the SetWindow operation, allowing the user to change the Window. See **SetWindow** above for more details.

The Typeset Menus:

Scaling Menu

The *Scaling* Menu:

Character Height:	23	←	→	15 pt
Character Width :	22	←	→	
Character Gap :	3	←	→	
Size Lock :	<input type="checkbox"/> OFF	<input checked="" type="checkbox"/> ON		

Character Height & Width

This menu controls the size of the characters used for Typesetting. The character *Height* and *Width* can be changed separately, and the menu always indicates the size at which the Font was originally defined. Height and Width are set in Pixels, but the height is also displayed as an (approximate) Point Size. The Point Size can also vary the Line Pitch (see the Spacing Menu opposite), although this does not affect the size of the characters themselves.

Character Gap

The *Character Gap* is the amount of horizontal space left blank between one typeset character and the next, measured in pixels.

Size Lock

The *Size Lock* function allows the user to lock the character size: normally the size is automatically re-adjusted to the original size whenever a new Font is loaded, but with the Size Lock On, any new Font will always be printed at the same size as the previous one. Template files include the Size Lock setting, so that the text can be forced to a particular size in any Typeset operation, no matter which Font is used.

The *Spacing* Menu:

Line Pitch :	24	→	←	16 pt
Pitch Lock :	OFF	ON		
Ruled Lines :	OFF	ON		
Char Spacing :	NON-PROP	PROPORTNL		

This menu controls the spacing between characters and lines when typesetting.

The *Line Pitch* is the vertical space in Pixels between successive lines of text, which is also given as an (approximate) Point Size. Note that the Line Pitch is also affected by changes to the Character Height in the Scaling Menu, unless the Pitch Lock (see below) is ON.

The *Pitch Lock* switch; normally, the Line Pitch will be adjusted automatically when a new Font is loaded, or when the Height of the existing Font is changed. The Pitch Lock switch fixes the value of the Line Pitch so that automatic adjustment is disabled, and the Line Pitch value will only be changed when it is deliberately adjusted.

Setting the *Ruled Lines* switch to ON forces any new line of text (after a [Return] character) to begin at a vertical position which is an exact number of Line Pitch feeds from the top of the window; this operates irrespective of any vertical cursor movement since the last [Return] character. When *Ruled Lines* is switched on, the vertical position of text lines will always correspond across the columns of the Window; if it is switched OFF, a [Return] character will always move the cursor down from its current position by a whole line.

The *Character Spacing* can be set to Non-Proportional, where each character position occupies the same horizontal space regardless of the width of the character itself, or Proportional, where the spacing is controlled by the width of each individual character. Proportionally spaced text is generally easier to read; Non-Proportional spacing allows characters to be lined up accurately in vertical columns.

Spacing Menu

Line Pitch

Pitch Lock

Ruled Lines

Character Spacing

Proportional /
Non-Proportional

REFERENCE....LAYOUT

Format Menu

The *Format* Menu:

Line Format	:	LEFT-ALIGN	RIGHT-ALIGN	CENTRED	RT-JUSTIFY											
Justify	:	CHARACTERS	WORDS													
Auto-flow	:	OFF	PAUSE	AUTO-SKIP												
TAB Spaces	:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Justification

The *Justification* can be set so that each line of text appears Left-Aligned, Right-Aligned, Right-Justified (spread out to align with both left and right margins), or Centred. These options can be varied using control characters from within the text file: see the Editor Section, page 3-19 for more details.

Justify

When the Right-Justify option is in use, *Justify* can be set so that the extra spaces inserted by the Typeset operation appear between each **Character**, so that the words themselves are spread apart like the previous line....
or between each **Word**, like this, so that only the gaps between separate words are spread out.

Auto-Flow

Auto-Flow: the Typesetting system can detect the presence of text or graphics data already on the Page, and make sure that no text is typeset over it. *Auto-Flow* makes the typeset text 'flow around' any black ink already on the Page, and restrict the text to the available blank space. With Auto-Flow OFF, text will be typeset in Exor mode over the whole Window or Page, regardless of what is already there. PAUSE and AUTO-SKIP both use Auto-Flow, but when the column or Window is completely blocked by a graphic image so that the text cannot be typeset around it, PAUSE will halt the Typeset to allow the user to re-position the Typeset Cursor. AUTO-SKIP simply searches down the Page until it finds more space, then continues typesetting automatically.

TAB Spaces

TABs in MicroDesign are always evenly spaced across the Page or column. *Tab Spaces* controls the number of Space characters between TAB positions. When the Typesetting system finds a TAB character in the text file, it advances the cursor to the next TAB position before printing the next character.

Keyboard in Typeset

The Typeset Start cursor on the Page can be adjusted using the cursor keys. The cursor is moved into and out of the bottom window with the [Relay] key as normal, and the Bottom Menu features are set using the cursor keys. The different bottom window menus for Scaling, Spacing, Format and MarkText are displayed using the Function keys listed in the Typeset sub-menu: when MarkText is used, the Typset Start and End markers are positioned using [ALT][+] and [ALT][-]. The Extra Features are set with the Extra keys as normal.

Mouse in Typeset

The frame on the Page is adjusted like any other Block frame (see above). The different bottom menus are accessed by clicking over appropriate sub-operation in the Typeset menu, and the bottom menu and Extra features can be selected by clicking over the option to be changed with the left button, using the Mouse Arrows where appropriate. Note that the Mouse cannot be used to Mark Text: see Keyboard above.

Extra Features

The Typeset Extra Features are the character style options: these are



Bold, Double-strike and **Highlight** (row 5) and *Italic*, Outline and Underline (row 4).

As well as being set on or off for the whole typeset operation, the Style Options can be switched automatically from inside the text file using the Style Control Characters: see the Editor Section, page 3-19, for more details.



Marking Text



Extra Features: the Style Options

REFERENCE....LAYOUT

Box



Box

Boxes can be drawn directly onto the page at Layout scale. When Box is launched, a frame appears on the page which can be positioned as described for the Block frame above. The lines which make up the Box are Black or White, and can be of three different thicknesses.

Keyboard

The frame is positioned using the cursor keys and the control points are flipped with the [EXCH/FIND] key. DO or [ENTER] fixes the Box.

Mouse

The frame is positioned in the same way as the Block frame described above. FIX or Double-Click to Fix and exit.

Extras

Extra Features



Row 2 controls the line thickness used for the Box;

Row 1 selects the Ink colour (Black or White).

New

New

This operation is used for changing the page Format (see *Page Formats* above). When it is launched, a menu of the six available Formats appears in the bottom window. **Selection of a New Format always clears the Page, and the contents are lost: the current Window and Template information is also discarded, and all Typeset parameters are reset to the default values.**



Keyboard

After launching the operation from the menu in the usual way, the new Format is selected from the bottom menu using the number beside it ([1]-[6]) or by the cursor keys followed by DO or [ENTER].

REFERENCE....LAYOUT

Mouse

After launching the operation from the menu in the usual way, the desired Format is selected from the bottom menu with the left button.

Print

When this operation is launched, the cursor moves into the bottom window, and the Print Menu appears. When the print parameters have been set using the cursor keys or the mouse, Printing is begun by pressing [FIX] or [ENTER]. Printing can be aborted at any time by pressing [STOP] or by clicking over the word STOP on the screen with the mouse left button: the abort may take a few seconds.

The Print Menu

The bottom window in the Print operation displays a Menu of eight Print Parameters. These are set using the cursor keys or the mouse, and a frame indicates the parameter currently being set.

Print : PAGE	QUEUE	TEXT	Copies : 1	2	3	4	5	6	7	8	9	X
Scale : FULL	HALF	QUARTER	Paper : CONT	SINGLE								
Style : DRAFT	QUALITY			EmFeed : OFF	ON							
Margin : \leftarrow \rightarrow			Length : CONTENT	PAGE								

Print Page / Queue / Text

In addition to simply printing the current Page, MicroDesign can print a Queue, or series of Pages, by typing the filenames for the pages into the Text Editor. When Queue is launched, the program looks at the first line of the Editor for the name of the first Area file to be printed. The file is then loaded from disc and printed; note that the current contents of the Page are always lost when the Print Queue is used. When the print has finished, the program looks on the next line of the text in the Editor for a second filename, and this process continues until no more valid filenames are found. The filename must include the suffix '.MDA': only .MDA files can be used.



Print

The Print Menu

Print Queue

REFERENCE....LAYOUT

Print Queue (cont)

The Print Queue MUST begin on the top line of the Editor, and all filenames must begin with a "*" character, followed by a drive specification; all filenames must be on successive lines. If the program finds a blank line, or an invalid filename or command, or if it fails to find the required file, the print run is aborted. If no drive is specified in the filename, the program looks on the disc which was last used in a Load/Save Area operation.

A simple Print Queue would appear in the Editor like this:

```
*a:pageone.mda
*a:pagetwo.mda
*b:pagethree.mda
```

The Print Queue also provides a set of commands for controlling the printer in a variety of ways. These are as follows:

***FORMFEED** makes the printer execute a Form Feed.

***NEW x** is equivalent to a NEW operation. "x" designates the new Page format, and should be a single-digit number from 1-6. (See NEW).

***CURRENT** prints the Page which is currently in memory.

***CODES x x x** sends the numbers or characters following the command directly to the printer as ASCII data, allowing instant control of any of the printer functions.

For more details of these commands, and some examples of the Print Queue, see Appendix 2, page A2-7.

Print Text

The Print Text option allows the simple streaming of the text file to the printer as ASCII characters. Most control codes in the text file will have no effect, but will appear as control characters (except on laser printouts, on which they do not appear).

Print Scale

Scale

A low-res A4 Page can be printed out at Full, Half or Quarter scale, and a high-res A4 page or a low-res A4 strip format page only at Full or Half scale. Hi-res strip format pages can only be printed at full scale. Full scale fills a whole A4 sheet with the drawing Page, whether upright or sideways. Half scale and quarter scale reduce the height and the width by a factor of 2 and 4, so that an A4 drawing fills an A6 page at half scale, and an A8 page at quarter scale.

REFERENCE....LAYOUT

Because of the size of printer pixels, resolution may be lost when printing at the reduced scales, and the printout may become more dense and black as the scale is reduced.

Style

The Page(s) can be printed in two different styles: **Draft** uses several of the pins in the printer head to give faster printouts, while **Quality** uses only one pin for greater precision. **Quality** is not available with 24-pin printers, and **Draft** is not available with Laser printers.

Style

Margin

This controls the left-to-right position at which the Page appears on the paper. At full scale, the Page must occupy the whole width of the paper, but at half and quarter scales it can be offset to appear anywhere across the width of the paper.

Margin

Copies

The program will automatically print up to nine copies of the Page. If this option is set to **X**, the Page will be printed out endlessly until [STOP] is pressed or the printer generates an error. Laser printers will print a maximum of 99 copies.

Copies

Paper

When printing more than one copy of the Page, this option selects between **Continuous** or **Single-sheet** paper. In single-sheet mode, the program pauses after each print of the Page until a key is pressed. This operates independently of the printer's own Paper Error signal. Set to **Continuous** for Laser printing.

Paper

Form Feed

With **Form Feed On**, a form feed command is sent to the printer after each complete Page. When printing a Queue of separate Pages on continuous paper, set the **Form Feed On**; when concatenating several **Strips** or parts of Pages onto one sheet of paper, set the **Form Feed Off** and use '*formfeed' in the queue (see opposite).

Form Feed

REFERENCE....LAYOUT

Length



Length

The printing routine can be set to ignore any blank lines at the top or bottom of the Page using the **Content** setting on this option. If **Page** is selected, the whole drawing Page including blank areas will be sent to the printer.

Note The printing operations in Microdesign are very high quality, and can take some time: printing a full A4 high resolution page in 'quality' style may take over half an hour on some printers, but the faster modes produce results which are quite good enough for most purposes.

See **The Options Section** and **Advanced Advice** chapters of this manual for further information about external Centronics and Serial printers, and about Laser and 24-pin printers.



Keyboard

The Print parameters are changed using the cursor keys: **DO** or **[ENTER]** begins printing. **[STOP]** can be used to abort the print run at any time.



Mouse

The Print parameters can be changed by clicking over the desired option with the left button: the Margin parameter is adjusted by placing the cursor over the Mouse Arrows at either end of the Margin marker and pressing the left button. Having adjusted the parameters correctly, click over **Fix** to begin printing. The Print can be aborted at any time by clicking over **STOP**.

SaveTpl

SaveTpl

This operation saves the current settings of the Typeset and Window menus, along with the current Page format, in a Template file. For more details of Template files, see the Introduction and Filing chapters of this manual.

LoadTmpl

This operation loads a Template file from disc. Since the Template file includes a Page format, loading a new Template may require a change of format, and the loss of the current Page; if this is the case, the program asks for confirmation of the **LoadTmpl** operation. See the Introduction and Filing chapters for more information.

Load Font

Loads a new Font. See **Filing Operations**, page 3-61 for more details.

Save Area

Invoking this operation allows the user to position a block-style frame on the Page using the control point system: this frame can include the whole Page if required. When this frame is Fixed using **DO** or **(ENTER)**, a filename is requested, and the defined area is saved in data-compressed format with the suffix **.MDA**.

Extra Features

Extra row 4 is used to select the **Save Screen** option. Screen files are files of image data which correspond exactly to the size and format of the PCW's screen. Screen files can be loaded into other graphics packages, or in Basic, Logo or Pascal programs. If the Screen feature is selected, the size of the **SaveArea** cursor is fixed.

Load Area

Areas of bit-mapped drawing can be loaded into MicroDesign from a variety of disc file formats or *AreaTypes*. When **LoadArea** is launched, the directory string is set up to use the **.MDA** file format used by MicroDesign: the Area File Type can be altered using the **AreaType** selector which appears in the **Filing Utilities** menu.

LoadTmpl

LoadFont

SaveArea

Save Screen

LoadArea

REFERENCE....LAYOUT

Positioning the Area

When the search string with the correct AreaType has been entered, the system displays a directory of all the files of that type. Select the required filename using the cursor keys followed by DO or [ENTER], or with the mouse left button. See the chapter on **Filing Operations** for more details of the different AreaTypes and how to use them, and of the file Loading operations.

Once the filename has been entered, a frame appears on the Page which corresponds to the size of the Area to be loaded. This frame is positioned using the mouse or cursor keys: finally, the Area is loaded at the current frame position by pressing [ENTER] or FIX.

LoadArea Extras

Extra Features:



Areas may be loaded in Opaque, Transparent or Exar modes, as set by Extra Row 5, and set to Half, Normal or Double Size by row 4. Note that if the selected Area file will not fit into the current Page format the program will automatically set the Load size option to Half to enable the Area to be loaded, and print a message on the screen to this effect.

See the section on **Filing Operations** for more details.

Key Functions

Special Key Functions in the Layout Section:

[DOC/PAGE] centres the cursor on the Page.

[Relay] moves the cursor into and out of the Bottom Window.

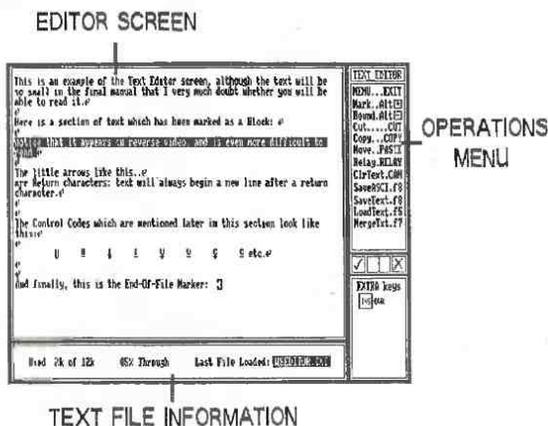
[Extra]+[Space-bar] reduces the Frame size to zero during Block and Box operations.

[Extra]+[+] repeats the previous operation.

THE TEXT EDITOR SECTION

This Section displays MicroDesign's integral Text Editor in the main screen, and places the cursor in it. The Text Editor is a basic word-processor which allows the user to load or create text files which can then be written onto the Page using the Typeset Operation, or saved to disc.

The Editor section screen looks like this:



The TEXT EDITOR Section

The Screen

Text File Information

Below the Text Editor screen is a window giving information about the text file. This includes a readout of the name of the last file loaded, and the space used by the current file. The current position of the cursor in the file is expressed as a 'Percentage Through': this means for example that if the cursor is one third of the way between the beginning and the end of the file, it is '33% Through'.

Marked Blocks

MicroDesign's Text Editor allows a section of the text to be marked as a Block. This block can then be Moved, Copied or Cut (Deleted) using the Editor section operations. When a Block has been marked, it appears on the Editor screen in reverse video, or white-on-black.

Marked Blocks

REFERENCE....EDITOR

OPERATIONS

Mark
Bound
Cut
Copy
Move
Relay

ClearTxt
SaveASCII
SaveText
LoadText

MergeText

Insert /
Overwrite



Text Editor Operations

Mark marks the beginning of a Block of text.

Bound marks the end of a text Block.

Cut erases the Marked Block.

Copy reproduces the Marked Block at the current cursor position.

Move moves the Marked Block to the current cursor position.

Relay re-organises the Editor display into complete lines from the current cursor position onwards. This does not change the text itself in any way: it merely changes its appearance on the screen.

ClearTxt empties the Text Editor: the current contents are lost.

SaveASCII saves the text as an ASCII file: all formatting and style codes will be removed.

SaveText saves a MicroDesign text file, with all codes left intact.

LoadText clears the current contents of the Editor, and loads into it a text file from disc. This may be a Locoscript2, Prottext, Wordstar, New Word, MicroDesign or normal ASCII text file.

MergeText loads a text file into the Text Editor at the current cursor position, without overwriting the current text file. This allows two or more files to be joined together. Users should bear in mind that the Text Editor has a maximum capacity of approximately 10Kb.

Extra Features in the Editor Section

Note that Extra Row 5 is used to control the Insert / Overwrite mode for text editing. This is not a feature of any Operation, but of the Editor itself.

See the chapter on **Filing Operations** on page 3-65, and Appendix III, Other PCW Programs, for more information about text files and filing operations.

See also section on **Printing**, page 3-13, for details of how to use the Text Editor to set up a Print Queue.

KEY FUNCTIONS in the Text Editor

The Text Editor key functions are designed to resemble those in Locoscript 2. Text is entered from the keyboard as usual, and other key functions are as follows:

Cursor Movement

The usual cursor keys are used in the Editor, plus the following-

[Alt]+(Left)	Go to start of line
[Alt]+(Right)	Go to end of line
[Alt]+(Up)	Go to top of screen
[Alt]+(Down)	Go to bottom of screen
[DOC\PAGE]	Scroll down one page
[Alt]+[DOC\PAGE]	Scroll up one page
[Shift]+[DOC\PAGE]	Go to end of file
[Alt]+[Shift]+[DOC\PAGE]	Go to beginning of file
[Alt]+[Del]	Delete current line

Style Control Characters

When the text in the Editor is **Typeset**, its appearance on the Page can be controlled using 'Control Characters' placed in the Text itself. This facility allows features of the **Typeset** operation to be changed automatically while the typesetting is in progress, so that some sections of the text are typeset in a different style from others.

The Text Editor supports control codes for **Bold**, **Double-strike**, **Highlight**, **Italic**, **Outline** and **Underlined** text. All these functions operate between **ON** and **OFF** markers, which are placed in the text using the **[+]** and **[-]** keys at each end of the **[Space-bar]**. For example: to mark one word in bold, place the cursor at the beginning of the word and type **[+]** followed by **[B]** (for bold) to position a **Bold ON** marker. Then move the cursor to the end of the word and press **[-]** followed by **[B]** to position the **Bold OFF** marker. See *Control Codes* below for more information.

Key Functions:

Cursor Movement

Style Characters

ON / OFF



Justification Codes

Justification Control Characters

Text alignment, or 'Justification' can also be controlled from within the text file. Normally, the alignment of Typeset text is controlled by the Justification parameter in the Typeset Format Menu: however, like the Character Style above, the Justification setting can also be controlled during typesetting by inserting Control Characters into the text file.

Justification can be set to align the text with the Right margin, to Centre every line between the margins, or Justify each line to left and right. The margins are set using the SetWindow operation.

Left-Align

Here are some examples of the different text formats. So far, this manual has been typeset in right-justified format, but now it has switched to Left-aligned. Now you should see that the lines are no longer stretched out to line up with both margins, but are left with a 'ragged' right margin.

Right-Align

Equally, the text can be forced up against the right margin, leaving a ragged left margin: this is useful, for example, for printing the addresses at the top of letters.

Centre

Finally, the text can be Centred like this: each line appears in the centre of the Window. This is especially useful for headings and titles.

Default

Note although each Justification setting has Start and End markers, only one setting can operate at once. Any Start Justification code (+L,+R,+C, or +J) cancels the existing setting. Any End Justification code (-L,-R etc) restores the option originally set in the Typeset Format menu.

Returns, Tabs, Indents and Page/Column Markers

Return characters always force a new line, both in the Editor display and in the Typeset text.

Tab characters are entered using [TAB], and force the next character to be typeset at the next Tab position across the Page; the number of spaces separating the Tab positions is set in the Format menu of the Typeset operation.

Indent characters are placed in the text by pressing [ALT]+[TAB]. After an indent character, each new line will be typeset beginning at the first Tab position until the next Return character, after which the default left margin is resumed. Indent characters can be 'stacked up' to indent the text across the Page. Unlike Tabs, Indents affect all subsequent lines until the next Return character: note that a single Return character clears all current Indents.

Page/Column Markers are placed in the text by pressing [ALT]+[Return]. During Typesetting, a Page/Column Marker will always force the typesetting to begin a new column, or if there are no more columns, to terminate the Typeset operation.

Control Codes for Character Style and Justification

These are the codes which appear in the text file to mark styling and format options. They can all be inserted in the Text Editor using the [+] or [-] keys, followed by the key-letter as indicated: this means that when the text is Typeset, the initial values for format and style which are set in the Typeset menus can be over-ridden and altered when necessary from within the text file. Users of the Locoscript, Protex and Wordstar word-processors will find that the codes used by these programs are automatically converted to the MicroDesign codes, whenever possible, when the text file is loaded. Where no code exists in the word-processor (eg for Outline, which is not available in word-processors), the code must be inserted in MicroDesign's own Text Editor AFTER the file has been loaded. See Appendix III for more details.

Returns,**TABs,****Indents,****and Page/
Column
Markers****Control
Codes**

REFERENCE....EDITOR

Codes, Keys, and Symbols

The complete list of control codes and the symbols which represent them on the Editor screen are as follows:

	Codes		Keys	Symbols
	ON	OFF		
Bold	128	129	[+]/[-] [B]	ⓑ B
Double	130	131	[+]/[-] [D]	ⓓ D
Highlight	132	133	[+]/[-] [H]	ⓗ H
<i>Italic</i>	134	135	[+]/[-] [I]	ⓓ I
Outline	136	137	[+]/[-] [O]	Ⓞ O
Underline	138	139	[+]/[-] [U]	ⓤ U
Left-align	140	141	[+]/[-] [L]	Ⓛ L
Right-align	142	143	[+]/[-] [R]	Ⓡ R
Centre text	144	145	[+]/[-] [C]	Ⓢ C
Justify L+R	146	147	[+]/[-] [J]	Ⓜ J
Indent		08	[ALT]+[TAB]	↳
Page/Column Marker		12	[ALT]+[RETURN]	⤵

THE CHARACTER SET

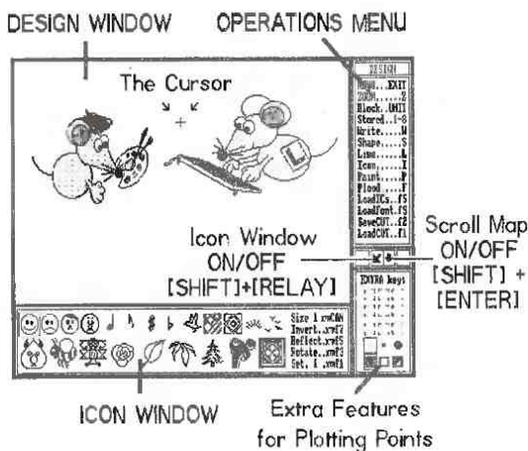
As well as the characters visible on the PCWs (UK version) keyboard, some extra punctuation characters are available in the MicroDesign Character Set. These, and the keys by which they can be accessed, are as follows:

Name	Symbol	Key
Open Single Quote	'	[ALT]+[6]
Close Single Quote	'	[SHIFT]+[ALT]+[6]
Open Double Quote	"	[ALT]+[2]
Close Double Quote	"	[SHIFT]+[ALT]+[2]

See the Font Section chapter for more information about the MicroDesign Character Set.

THE DESIGN SECTION

The Design Section controls most of the operations for drawing on the Page. When the Section is entered, the Main Screen contains a 'window' on the drawing Page, and all Design operations are executed on this area. It is not possible to use the Design Section to draw anything on an area of the Page which is not visible within the Design Window at the time.



THE DESIGN SECTION

The Screen

The operations available in the Design Section are listed in the Operations Menu on the right of the screen.

The Bottom Window displays the Icon Window containing the current icon set, except when it is used to display menus for the Filing, Write or Paint operations. In order to display more of the Page in the Design Window, the Bottom Window can be toggled on/off using [Shift]+[Relay], or by clicking over the diagonal mouse arrow displayed below the Operations Menu.

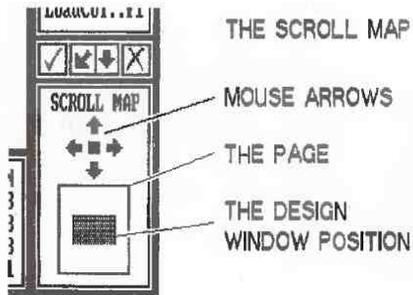
Scrolling

SCROLLING THE DESIGN WINDOW: THE SCROLL MAP

The Design Window can be scrolled around the Page using [Shift]+cursor keys. Faster scrolling is achieved using [Alt]+[Shift]+cursor keys.

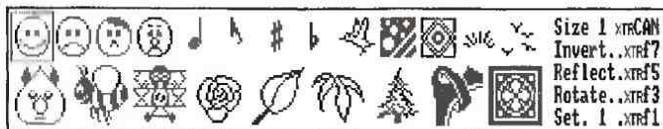
The bottom right menu in the Design Section can be switched between two functions: it can display either the Extra Features menu for the current operation as on other pages, or the **Scroll Map**. This Map is a display of the whole page at a very reduced scale, with the current position of the Design Window indicated on it: this allows the position of the Design Window to be Scrolled up, down, left or right across the Page using the mouse by clicking over the four Mouse Arrows which appear over the Map.

The Scroll Map



The Scroll Map is displayed by pressing [Shift]+[Enter], or (with the mouse) by clicking over the downward Mouse Arrow which appears between the mouse FIX and UNDO symbols below the Operations Menu. Pressing [Shift]+[Enter] or clicking over the arrow again brings back the Extra Features menu.

THE ICON WINDOW



Pressing [Relay] places the cursor in the bottom window, so as to adjust the icons. The current icon is framed in the Icon Window, and once the cursor is in the bottom window, the cursor keys change the currently selected icon: pushing [Relay] again returns the cursor to the drawing.

This use of [Relay] to enter the Icon Window allows selection of icons by the Keypad method (see the Introduction of this manual). The current icon can also be changed directly without moving the main cursor by using the four keys situated to the left of the [Return] key. These keys move the frame which indicates the current icon: the top two select icons in the top row of the Icon Window, and the bottom two select icons in the bottom row.

Other key functions within the Icon Window are as follows:

[Extra]+[F1] changes the current icon set, cycling through sets 1, 2 and 3;

[Extra]+[F3] rotates the current icon clockwise through 90°;

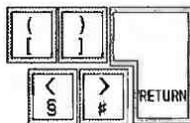
[Extra]+[F5] reflects the current icon about its vertical axis;

[Extra]+[F7] inverts the current icon;

[Extra]+[CAN] halves or doubles the current icon size: this is not visible in the Icon Window, and only appears when the icon is used (either as an icon or as a fill pattern).

The Icon Window

Current Icon



Icon Options

Icon Window ON/OFF

The Icon Window can also be removed to allow the Design Window to cover a larger area of the Page: the Window is toggled on/off by pressing the [Shift]+[Relay], or by clicking over the diagonal Mouse Arrow which is located between the mouse FIX and UNDO symbols at the bottom of the Operations Menu.

The mouse may be used to select an icon or an option by pointing at it and pressing the left button. If the Icon Menu was switched off using [Shift]+[Relay], it is turned on temporarily when [Relay] is pressed.

Point Plotting



Point Plotting

When no Operation is in progress, points can be plotted at the current cursor position in different sizes and colours.

Keyboard

Plotting is done with [Space-bar]. Holding [Space-bar] down while moving the cursor draws horizontal, vertical or diagonal lines.

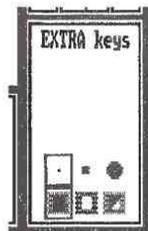


Mouse

Plotting is done with the left button while the mouse is positioned over the drawing area: there is a short delay between pressing the button and plotting the pixel to enable the cursor to be positioned without marking the Page. Moving the mouse while holding down the left button draws lines. The right button can be used to select the Ink option without moving the mouse cursor off the drawing area.

Extra Features

Extras



Extra Row 2 selects the size of the points to be plotted;

Extra Row 1 selects the ink colour - Black, White, or Exor (Black on White / White on Black).

The Extra Features currently set are indicated by boxes round the symbols.

Design Section Operations

Zoom

This operation allows a part of the drawing to be selected for detailed editing. When Zoom is launched, a frame is displayed on the Design screen indicating the area to be edited. Use the cursor keys or the mouse to position the frame as required, then Fix it: the area within the frame is scaled up so that individual pixels or even half-pixels can be edited. The original sampled area and the edited version are displayed at normal resolution beside the zoomed area. Two sub-operations are available from the top-right menu:

Refresh restores the original sample to the edit screen;
Clear empties the edit screen altogether.

Selecting **Exit** from the menu returns to the Design Section, and the old Zoomed area is replaced with the current contents of the Edit screen. To restore the original area to the Design Window and abort the Zoom operation, simply **Refresh**, then **Exit**.

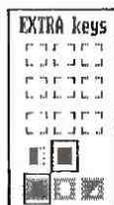
Keyboard

The Zoom operation is launched by Key-letter or Keypad as usual. Once in Zoom, the menu sub-operations are accessed by the same method. When the cursor appears in the edit screen, pixels are plotted using [Space-bar] according to the ink colour currently selected in the Extra Features.

Mouse

Once in Zoom, the left button plots pixels on the edit screen. The menu operations are accessed as normal.

Extra Features



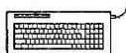
These are displayed in the bottom-right menu:

Extra row 2 selects the pixel/half-pixel option.

Extra row 1 selects the ink colour for plotting
 (Black, White or Exor);

Zoom

Refresh
 Clear



Extras

REFERENCE....DESIGN

Block...

Block.

This is the initial operation for marking/bounding an area to be Erased, Copied, Re-scaled or Stored. Entering Block produces a frame on the design screen which must be positioned over the desired block area. The outline of the block is included inside the area, and the frame can be moved around the screen using the mouse or the cursor keys. Pressing [Extra]+[Space-bar] reduces the size of the frame to zero. Having defined the block, FIX or [ENTER] moves the cursor into the Block Menu allowing selection from:

Invert

Invert changes all black pixels to white, and all white ones to black.

Erase

Erase simply erases the area bounded by the block.

Copy

Copy: a copy of the original marked block is pasted in the new position. (See Extra features below)

Rescale

Rescale allows anything drawn within the block to be stretched or shrunk horizontally or vertically to any size.

Store

Store enables an area of the Page to be stored in memory so that it can be 'stuck down' instantly as many times as required anywhere on the Page. The amount of space available for Stored Blocks is quite restricted, especially if there is a large Font loaded: to store large areas, use the Load and Save CUT operations described later in this chapter.



Keyboard:

The Block operations are launched using the [UNIT/PARA] key, and Block areas are defined using the cursor keys to move the control points of the frame. The cursor is moved from one control point to another using the [Exch] key or [Space]. After Fixing the block with DO or [ENTER], the block operation (Invert, Erase, Copy Rescale or Store) is selected from the Block Menu; when Copying or Re-scaling,

a second frame (the destination **frame**) appears: this is positioned using the cursor keys and fixed by DO or [ENTER].

In **Rescale**, the destination frame size can be varied using control points and cursor keys, just like the original **Block** frame. Use DO or [ENTER] to fix the Rescaled area.

Mouse

Upon entering **Block**, the control points of the block frame are moved by holding down the left button while over the main screen, the right button cycles the cursor through the control points, and a FIX or a double-click on the left button Marks the block. After clicking over the desired block operation in the Block Menu, the destination frame in **Copy** operations is moved by holding down the left button while over the drawing area, and can be FIXed with a double-click on the left button. In the **Rescale** operation, the destination frame size can be varied in exactly the same way as the **Block** frame.



Extra Features for Block Copy and Rescale Operations



Extra Row 5 select modes Opaque, Transparent or Exor for the target block;
 Row 4 gives rotation through 90, 180 or 270 degrees;
 Row 3 allows reflection in the X, Y, or both planes;
 Row 2 selects the options for leaving the original block intact (a 'Copy' operation) or erasing it (a 'Move' operation).

Note that Rotate and Reflect cannot be used simultaneously.

NOTE: Copied, Rescaled and Stored Blocks can only be viewed in situ by Fixing, although operations can always be undone, adjusted and Fixed again. If the Rotate feature is switched on and the size of the block is such that it cannot be rotated and still fit onto the screen, a warning tone sounds and the Rotate feature is not acted upon.

Extras:

Reflect,
 Rotate
 Move / Copy

Stored

Stored

This operation is for 'pasting down' an area of drawing previously **Stored** in a **Block** operation. Entering the operation sets up a frame on the drawing area which is the same size as the stored block will appear, and Fixing glues the block down. The numbered area is selected using the number keys 1-4, and once the frame appears on the screen, the block is positioned exactly as a **Copied** block: see **Block**.

Write

Write

The Write operation allows text to be entered directly from the keyboard in a variety of sizes and styles.

When **Write** is entered, a sub-menu appears in the Operations Menu, and the Extra Features for character styling appear in the bottom right corner of the screen.

The Write Sub-Menu:



Character Scaling:

F7 brings up the Character Scaling menu: this allows re-scaling of the Font to produce text in a variety of sizes.

Character Size

Character Height and *Width* are separately adjustable on a sliding scale, and are measured in pixels with a display of approximate Point Size. The 'real' size at which the font was originally designed is also indicated by white arrows on the scales.

Gap

The *Character Gap*, or space left between each character, is also measured in pixels.

Size Lock

Loading a new Font normally sets the Character Scaling to the values at which the new Font was designed: the *Size Lock* switch allows the user to force any new Font to be Rescaled automatically to the last Character size which was set.

F5 places the cursor in the Spacing menu which appears at the bottom of the screen; this menu is used to control the horizontal and vertical spacing for the text.

The *Line Pitch* (baseline to baseline) is set in pixels, with an approximate value for the Point Size also given. This value depends on the size of the Font as well as on the Spacing settings, but the *Pitch Lock* switch can be used to keep the Line Pitch constant irrespective of Character size. Note that if the Line Pitch is set or Locked to a value which is too low, the characters on consecutive lines may interfere with each other.

Switching on the *Ruled Lines* option forces every new line (after [Return] has been pressed, or when the edge of the Window or Page has been reached) to begin at a vertical position which is a whole number of Line Pitches from the top of the Window (or the top of the Page if the Window is switched off). With Ruled Lines switched off, a new line always begins exactly one Line Pitch below the cursor position at the end of the previous line.

Character Spacing can be Proportional, with the space allowed for each character set by the width of the character itself, or Non-proportional, with the same horizontal space allowed for each character. Non-proportional spacing is useful for lining up vertical columns of characters.

Illustrations and more information about the Scaling and Spacing menus can be found in the description of the Typeset operation: see Layout Section.

Notes on Write

Key-Functions: In Write, the [Return] key acts as a Line Feed and Carriage Return key, as on a typewriter. Pressing [Return] always moves the cursor to the Left Margin of the current Text Window (or column), and moves down the column by one Line Pitch. To move the cursor instantly to the top left corner of the Window or Page, press [Alt]+[Shift]+[DOC/PAGE].

Text Spacing:

Line Pitch

Pitch Lock

Ruled Lines

Proportional/
Non-Prop

The
Return Key



UNDOing



UNDOing. Write operations cannot be Undone: instead, users should re-launch Write. The [←Del] key can then be used to delete as many of the characters as required, up to a maximum of over 70.

Mouse

The mouse can be used to select Write, but once the operation has been entered, the keyboard must be used for text entry. The mouse symbols can still be used to FIX or UNDO the operation, and the Scroll Map and Extra Features can be accessed with the mouse as normal.

Extras:

The Style Options

Extra Features in Write



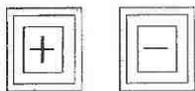
Extra row 5 selects the **Bold**, **Double-strike** and **Highlight** options.

Extra row 4 selects the *Italic Outline* and Underline options.

Extra row 1 is used to switch the Text Window on or off.

See **SetWindow** in the Layout Section for more information about the Text Window.

Style On/OFF:



keys

NOTE All of the style options can also be accessed using the [+] and [-] keys, even when the Extra Features menu is not displayed. This system works like Locoscript 2, as follows:

[+] followed by [B] switches on the Bold option

[-] followed by [B] switches off the Bold option

[+] followed by [D] switches on the Double-strike option

[-] followed by [D] switches off the Double-strike option

and similarly for

[+] or [-] [H]: Highlight

[+] or [-] [I]: Italic

[+] or [-] [O]: Outline

[+] or [-] [U]: Underline

[+] or [-] [W]: Window on/off

Shape

There are five Shapes available in the Design Section: Rectangle, Circle, Ellipse, Diamond and Triangle. All operate in a similar fashion from the keyboard and the mouse, and all have the same set of Extra Features. The Shapes are launched either by selecting the Shapes sub-menu from the Operations Menu, or directly by pressing the Key-Letter for the desired shape: R for Rectangle, C for circle, and so on.



THE SHAPES MENU

Rectangle

This has three control points: two corners for changing the rectangle size, and one in the centre for moving its overall position.

Circle

This also has three control points: the top (or bottom), the side and the centre. The centre control point shifts the position of the circle; the side control point changes the size of the circle when moved sideways; the top or bottom control point changes the Circle size when moved up or down. Note that circles do not appear circular on the screen; they are corrected to appear circular on the final printout. (See Printer Pixels, Appendix II).

Ellipse

This functions similarly to Circle, except that the side and top control points change the ellipse shape as well as the size.

Diamond

This functions similarly to Ellipse.

Triangle

This allows any triangle to be drawn from three independent control points, removing the need for a central control point.

Shapes:**Rectangle****Circle****Ellipse****Diamond****Triangle**

REFERENCE....DESIGN



Keyboard for Shapes:

As with lines, [Space] or [Exch] cycle through the control points of the shape, and the control points are moved with the cursor keys. DO or [ENTER] Fixes the shape.



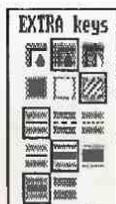
Mouse for Shapes:

As with lines, the control points are moved by holding down the left button while over the drawing area, the right button cycles through the control points, and FIX or a double-click on the left button Fixes the shape.

Extras

Extra Features for Shapes:

All shapes have the same Extra Features: the first three rows of Extra Keys control the shape outlines, and the top two rows control the area inside the shape.



SHAPE INTERIOR

SHAPE OUTLINE

Shape Interior

Row 4 controls the ink used in the area inside the shape: this can be filled in Black, White, or Patterned (the currently selected Pattern Icon).

Row 5 selects Opaque, Transparent or Exor mode for this ink. Either the Outline or the Fill features can be turned off altogether by reselecting the currently framed Option, although the system will not allow both outline and fill to be turned off simultaneously.

Shape Outline

Row 3 gives solid or dotted outlines;

Row 2 selects the outline thickness;

Row 1 selects Black or White ink for the shape outline;

Line.

Selecting the Line operation and moving the cursor draws a line between the cursor and the original position. Lines can either be straight or right-angled: see Extra Features below.

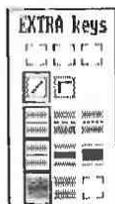
Keyboard

Control can be flipped to either end of the line using [Space] or [EXCH]; a final [DO] or [ENTER] fixes the line on the Page. With right-angled lines, the direction of the right-angle can be flipped using [Alt]+[Space].

Mouse

The end point of the line is moved by holding the left button down while the mouse is in the drawing area, and control can be flipped to the other end of the line with the right button. FIX, or a double click on the left button Fixes the line in place. When using right-angled lines, the right-angle direction can be flipped by pressing the right button while holding down the left one.

Extra Features



Extra row 4 allows selection of a straight line between two points, or a right-angled line.

Extra row 3 selects solid or dotted lines;

Row 2 selects line thickness;

Row 1 selects Black or White ink.

Line



Extras:

Angle

Thickness

Dotted

Icon



Extras

Paint

Paint Brushes

Icon.

Selecting Icon turns the cursor into the currently selected icon (press [Relay] to enter the Icon Menu and change the icon: see The Icon Menu at the beginning of the chapter) which may then be positioned and Fixed.

Keyboard

The Icon operation can be launched by from the Operations Menu by Key-letter or Keypad operation as usual. The cursor keys are used to position the icon, and DO or [ENTER] to Fix it.

Mouse

The Icon operation can be entered as normal by clicking over 'Icon' with the left button in the Operations Menu, or by double-clicking over the desired icon in the Icon Menu. After positioning with the left button over the drawing area, the icon is 'stuck down' using FIX or a double-click on the left button.

Extra Features:

Extra row 5 selects Opaque, Transparent or Exor mode. The [Extra]+[F1], [F3], [F5], [F7] and [CAN] keys listed in the Icon Menu function as usual.

Paint

When Paint is launched, the paint *Brush* appears in Exor mode on the screen: the Brush is used as a mask for placing ink on the Page as *Paint*, and can be moved to spread the Paint around. The ink can be Black, White, or Patterned using the Current Icon, and can be used in Opaque, Transparent or Exor modes.

Brushes are selected from the Brush Menu, which can be viewed in the bottom window during Paint using Extra Row 1 (see opposite).

UNDOing the Paint operation removes all the paint which has been put on the Page since *the last time the Design Window was scrolled*, or since any operation *other than Paint* was last launched.

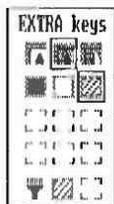
Keyboard

Paint can be launched from the Operations Menu by Key-Letter or Keypad operation as usual: pressing [Space-bar] puts paint on the Page. Use the cursor keys to move the Brush while holding down the [Space-bar]: this leaves a trail of paint across the Page. Use Extra Row 1 to alternate the Icon Sets and Brush Menu: this allows selection of a Brush and a Current Icon pattern using the Icon Select keys, or by moving the cursor into the bottom window with [RELAY] and using the cursor keys. [ENTER] to Fix and exit. [STOP] to abort.

Mouse

After launching Paint, the left button is used to put Paint onto the Page. The mouse can also be used to change the Current Icon used for Patterns (see Extra Features) or the Brush by selecting the Icon Sets and the Brush Menu using Extra Row 1 and clicking over the desired Icon or Brush. FIX to Fix the Paint operation, UNDO to abort it (see above).

Extra Features



Extra Row 5 selects Opaque, Transparent or Exor modes;

Extra Row 4 selects Black, White or Patterned Paint.

Extra Row 1 switches the bottom window display between Icons and Brushes.

UNDOing



Extras

Flood



Extras

LoadICs

LoadFONT

SaveCUT

Flood

This is used to 'fill' a block of adjoining Black or White pixels with ink: Black areas can be flooded White, White areas Black, or any area can be filled with a pattern denoted by the current Pattern icon. A Flood in Black which begins on a Black pixel will do nothing, nor will a White flood beginning on a White pixel. The Pattern Icon used in the Flood operation can be altered by accessing the Icon Window, and its appearance is also subject to the Icon Size option, which can be changed in the Icon Menu using [EXTRA]+[CAN] (see The Icon Window above). This means that the fill pattern can, for example, be halved in size to take advantage of half-pixel resolution.

Keyboard and Mouse:

These are only used for positioning the cursor and for launching and FIXing the command as normal, and for adjusting the Extra Features.

Extra Features

Extra row 4 changes the Flood style between Black, White and Pattern (the currently selected Pattern Icon).

LoadICs

This operation loads a new set (or triple set) of Icons from disc. See *Filing Operations*, page 3-61 for more details.

LoadFONT

This operation loads a new text Font from disc: see *Filing Operations*, page 3-61, for more details.

SaveCUT

This operation saves an area of the page to disc as an uncompressed '.CUT' file. The area to be saved is defined using a frame, which is positioned in the same way as the **Block** frame described above. For a full explanation of all Load and Save operations, and of the different Area file formats, see *Filing Operations* (page 3-61 of this manual).

LoadCUT

This operation loads an area of drawing from a '.CUT' disc file. Some '.CUT' files may occupy an area larger than the Design Window: these files will be loaded automatically at half size. CUTs of any size can be loaded in the Layout Section using the LoadArea operation. See **Filing Operations**, (page 3-61) for more details.

Extra Features

Extra row 5 allows CUTs to be loaded in Opaque, Transparent or Exor modes.

Extra row 4 selects half, normal or double size.

Special Key-Functions in the Design Section

[Stop] can always be used to abort an operation.

[Extra]+[+] repeats the last operation.

[DOC/PAGE] centres the cursor on the screen.

[SHIFT]+[DOC/PAGE] centres the Design Window on the Page.

[Extra]+[Space] reduces the Frame or Shape size to zero during Block and Shape operations.

LoadCUT

Extras

Key Functions

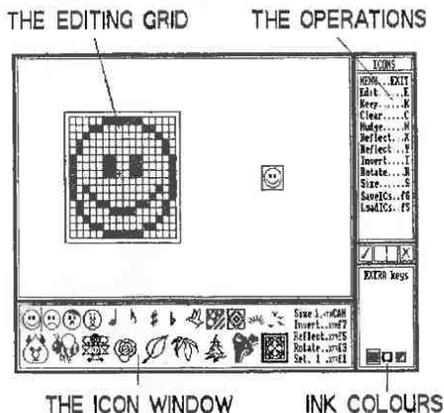
REFERENCE

REFERENCE

THE ICONS SECTION

Microdesign has a total of 66 user-definable icons available. These are split into three Sets, with only one set visible at any time. Each Set consists of 13 icons of 16 pixels square, and a further 9 icons of 24 pixels square. Icons can be saved or loaded as Sets, or as Groups of all three Sets.

These icon sets are used in a variety of ways: any Icons can simply be placed on the Page as symbols using the Icon Operation, but Icons also provide Patterns and Paints for the Design Section graphics operations.



THE ICONS SECTION

Icon Sets

The Screen

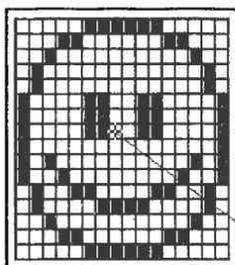
The Screen

The Icon Section displays the current Icon Set in the bottom window (see 'the Icon Window' below). The main screen contains a square grid on which icons are designed or edited, and a display of the icon at normal size; the bottom right window contains the Ink colour in which pixels are plotted on the grid.

The operations available in the Icon Section are listed in the Operations Menu. **Note that these operations affect the contents of the editing grid; only the Keep operation changes anything in the Icon Window.**

REFERENCE....ICONS

Editing Grid



THE ICON
EDITING GRID

THE CURSOR

The Icon Editing Grid

When the cursor is in the grid, pixels can be plotted in Black, White or Exor as indicated by the bottom right window.

Keyboard in the Editing Grid:

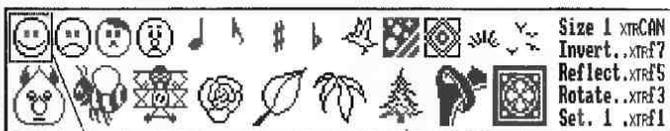
Pixels are plotted on the grid with [Space-bar], and the ink mode is selected using Extra Row 1.

Mouse in the Editing Grid:

Pixels are plotted on the grid with the left button, and the ink style is changed with the right button, or by clicking over the Ink symbols in the bottom right window with the left button.



THE ICON WINDOW



The Current Icon

Icon Window

The bottom of the screen is occupied by the Icon Window, which displays one of the three icon sets in the same way as in the Design Section. The cursor can be moved into and out of the Icon Window with the [Relay] key, and all the Icon Window features can be accessed directly using the Mouse.

At all times, one of the 66 icons is designated as the **Current Icon**, and is indicated by a frame in the Icon Window. The Current Icon is the one used for Paint, Flood and Filled Shape operations in the Design Section, and can be changed by moving the cursor into the Icon Window and pressing the cursor keys. While the cursor is in the Icon Window, the frame around the Current Icon is solid. Whenever the Icon Set is changed using [Extra]+[F1] (or by clicking over Set with the left button), the current icon is always taken from the new Set.

Size 1	.XTRCAN
Invert	.XTRF7
Reflect	.XTRF5
Rotate	.XTRF3
Set. 1	.XTRF1

Keyboard in the Icon Window

Key functions within the Icon Window are as follows. The cursor keys change the currently selected icon. [Extra]+[F1] selects the current Icon set, [Extra]+[F3] rotates the current icon clockwise through a quarter turn, [Extra]+[F5] reflects icon horizontally, and [Extra]+[F7] 'negates' the icon by turning white pixels black and black pixels white. [Relay] is used to exit the Icon Window and return the cursor to the Editing grid.



Mouse in the Icon Window

The current icon selection can be changed by pointing at the desired icon and pressing the left button. The left button is also used to Invert, Reflect or Rotate the current icon, and to change icon Set, by clicking over the words 'Invert', 'Reflect' etc in the Icon Window.



Note that these commands affect only the icons in the Icon Window: to alter the contents of the Editing Grid, use the operations listed in the Operations Menu.

For more explanation of the Icon Window, see the Design section, page 3-27.

The Current Icon

REFERENCE....ICONS

Icon Section Operations

Edit



Edit

This operation takes an icon from the Icon Window and transfers it to the grid for editing. When the command is launched, the cursor moves to the Icon window, allowing the user to select the icon to be edited; when the command is Fixed, the icon is transferred.

Keyboard and Mouse:

The operation is launched by the mouse, key-letter or keypad methods, and the icon is selected in the Icon window using the cursor keys or the left button. DO, [Return] or Double-Click transfers the icon to the grid.

Keep

Keep

This operation takes the icon which is in the editing grid, and stores it in the icon set which is currently in the Icon Window. When the operation is launched, the cursor moves to the Icon Window, allowing the user to select where to store the icon in the grid; when the operation is Fixed, the icon is stored. This operation over-writes the existing contents of the destination icon.

Note that the contents of a 16x16 grid cannot be stored in a 24x24 icon, or vice versa. To change an icon's size, see Size below.



Keyboard and Mouse:

The operation is launched by any of the normal methods. Once the cursor has moved to the Icon Window, the cursor keys or the mouse left button select the destination icon. DO or [ENTER] completes the transfer.

Clear

Clear

This operation empties the editing grid; everything stored in the grid is lost.

Nudge

This operation allows the icon in the edit grid to be repositioned, or 'nudged' up, down, left or right. Any pixels which 'fall out' of the grid are lost.

Keyboard

When the operation has been launched, the cursor keys move the grid contents. DO or [Return] terminates the operation.

Mouse

To nudge the icon within the grid, use the left button to click over one of the four Mouse Arrows which appear around the 'actual size' square beside the design grid. DO, [ENTER] or a double-click over the design grid Fixes the operation.

Reflect X, Reflect Y

These two operations reflect the contents of the grid about a vertical and a horizontal axis respectively.

Invert

This operation changes all the black pixels in the grid to white, and all the white ones to black.

Rotate

This operation rotates the grid contents clockwise through 90°.

Size

This operation changes the grid size. The grid may be 16x16 or 24x24 pixels. When changing size from 24 to 16, the outer pixels are lost.

SaveICs, LoadICs

The current Icon set or a group of all three sets may be Saved, or a new Set or group of three Sets can be Loaded. When Loading icons, a list of all three current sets appears in the main screen, allowing selection of the destination set. The file suffix for Icon filenames is always '.MDI'.

See **Filing Operations** section (page 3-61) of this manual for fuller details of the filing operations.

Nudge



Reflect X,Y

Invert

Rotate

Size

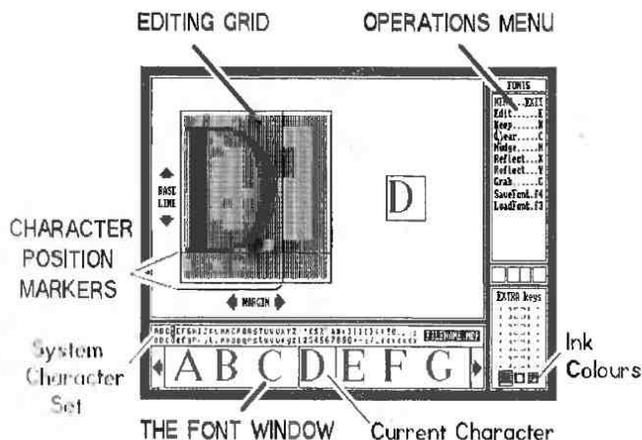
Save ICs Load ICs

REFERENCE

REFERENCE

THE FONT SECTION

Microdesign allows the user to write or typeset text in a completely user-definable text Font. The Font contains a full 96-character ASCII set, and a selection of Fonts can be found on the library disc which accompanies the program.



The FONT SECTION

The Screen

The Font Section controls all of the operations for designing and editing the current Font, and allows access to filing commands for Font files. When the Section is called up, the Main Window contains the Character Editing Grid, in which character design and editing takes place, and a display of the character in the Grid at actual size; the bottom window contains a display of several characters from the current Font at actual size and a character index, and the bottom right window contains the Ink Colours for plotting pixels on the grid. Font Section Operations are listed in the Operations Menu.

System & Font Characters

The System Character Set and the Font

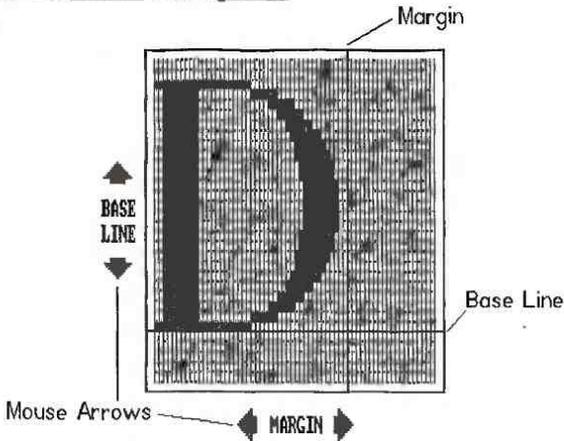
Note that while the system character set used in the text Editor and the top of the Font Window show the characters in the positions they normally occupy, there is no reason why the user-defined character in the Font must correspond with the system character. It is the system character for each ASCII code which is displayed in the Text Editor, but it is the corresponding Font character which is printed on the Page in the Write and Typeset operations.

Different Characters & Symbols

This means that if the user wishes to create sets of non-standard characters, such as foreign languages or mathematical symbols, s/he has simply to decide which system character is to represent each of the special Font characters. The Text Editor screen will still show the system characters as normal, but Write and Typeset will print the Font characters according to their position in the character set.

See *The Character Set* listing, page 3-56, for more details.

The Character Editing Grid:



Editing of characters takes place on a square grid of 32x64 half-pixels. Drawn through the Grid are two lines, one horizontal and one vertical, and they denote the character position markers. The horizontal line defines the 'Base Line' of the character, and it is this base line, rather than the position of the character in the grid, which controls the vertical position of the character when it is printed on the Page. The vertical line, or *Margin*, defines the 'End' of the character: when the character is printed, the character immediately following it can be printed at this position, allowing full proportional spacing. The position markers are stored with the character data when the character is Kept (see below).

Keyboard in the Edit Screen:

Pixels are plotted on the grid with [Space-bar], and the Ink colour is selected using Extra row I. The Baseline and End marker positions are changed using [Shift]+cursor keys.

Mouse in the Edit Screen:

Pixels are plotted on the grid with the left button, and the Ink colour is changed with the right button. The Baseline and End markers are adjusted by placing the mouse cursor over the mouse arrows at the side and bottom of the Grid and pressing the left button.

Character Editing Grid

Position Markers:

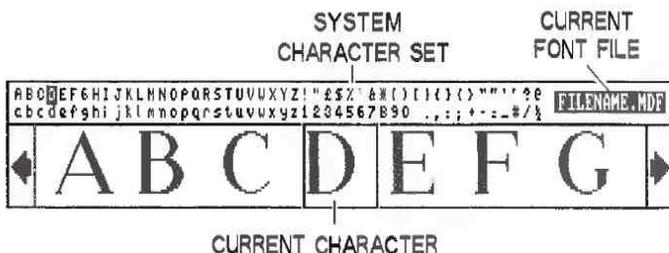
Margin & Base Line



REFERENCE.... FONTS

The Font Window

The Font Window



The Current Character

The Font Window displays seven characters from the current user-definable ASCII set, with the central one framed as the Current Character: across the top of the Font window is a full system character set with a frame around the same character. This frame indicates the current character upon which the Edit and Keep operations will work. When [Relay] is pressed, the cursor moves into the Font Window: the Current Character selection can then be changed by pressing the key which corresponds to the desired character, or by moving the cursor over the required system character.

Keyboard in the Font Window

The cursor is moved into and out of the Font Window with the [Relay] key, and characters are selected by typing the desired ASCII character on the keyboard.



Mouse in the Font Window

The Current Character is selected from the small ASCII set with the left button.



Font Section Operations

Edit

This operation takes a character from the Font window and transfers it to the grid for editing. When the command is launched, the cursor moves to the Font window as a solid frame around the current character, allowing the user to select the character to be edited by pressing the appropriate key or clicking over the character in the ASCII set. When the command is Fixed, the character is transferred to the Grid.

Keyboard and Mouse

The operation is launched and Fixed by any of the normal methods, and the character selection in the Font window is described in 'The Font Window' opposite.

Keep

This operation takes the character which is currently in the Editing Grid, and stores it in the centre character location (the Current Character) in the Font window. When the command is launched, the cursor moves to the Font window, allowing the user to select where to store the character in the grid; when the command is Fixed, the character is stored. **This operation over-writes the existing contents of the destination character.**

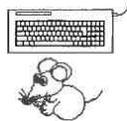
Keyboard and Mouse

The operation is launched and Fixed by any of the normal methods, and the character selection in the Font window is described in 'The Font Window' opposite.

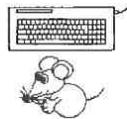
Clear

This operation empties the editing grid: everything stored in the grid is lost.

Edit



Keep



Clear

REFERENCE... FONTS

Grab

Grab

This operation allows a character to be 'Grabbed' from the Page. When it is launched, the display switches to a Design Window which can be scrolled around the Page as normal. The cursor in this window is a frame of 32x64 half-pixels which corresponds to the size of the Character Editing Grid. This cursor can then be positioned over an area of the Page, so that when the Grab operation is Fixed, the area within the frame is copied into the Editing Grid, and the old contents of the Grid are lost. If **Grab** is aborted using [STOP] or UNDO, the old contents of the Grid remain intact.

Merging Fonts

Grab can be used to combine Fonts, or to copy characters from one Font to another. Simply **Write** or **Typeset** characters onto the Page, then load a new Font, **Grab** the old character from the Page, and **Keep** it in the new Font. See also 'Scanning Fonts' in Appendix II, Advanced Advice, page A2-3



Keyboard

Grab is launched by any of the usual methods. The frame cursor is positioned on the Page using the cursor keys, and the Design Window can be scrolled using [Shift]+cursor keys. DO or [Enter] to Fix and exit.



Mouse

The frame cursor is moved around the Design Window by holding down the left button, and the Window can be scrolled around the Page using the Mouse Arrows displayed in the Scroll Map in the bottom right corner of the screen.

Nudge

Nudge

This operation allows the character in the edit grid to be repositioned, or 'nudged' up, down left or right. Any pixels which 'fall out' of the grid are lost.



Keyboard

When the operation has been launched, the cursor keys move the grid contents. DO or [Enter] terminates the operation.

Mouse

To reposition the character, the mouse cursor should be placed over one of the four arrows which appear around the 'actual size' display beside the editing grid. **FIX**, or a double-click over the editing grid or the 'actual size' character terminates the operation.



Reflect X / Y

These operations affect the contents of the Editing Grid. **Reflect X** flips the Grid contents about a vertical axis, and **Reflect Y** about a horizontal axis.

Reflect X/Y

Invert

This operation simply changes the colour of all the pixels in the Editing Grid, so that black pixels become white and white ones become black.

Invert

View

This operation removes the Editing Grid from the screen temporarily, and displays the whole Font at normal (1 to 1) size in the main window. When any key is pressed, the operation is terminated and the display returns to normal.

View

If the Font is too big to fit into the main window, it will be displayed at a reduced size.

Load / Save Font

The current Font may be Saved, or a new Font loaded. See **Filing Operations**, page 3-61, for more details.

Load / Save Font

Special Key Functions

[Shift]+cursor keys Move character position markers

[IDOC/PAGE] Centre cursor in Grid or Design Window

[Shift]+[IDOC/PAGE] Centre Design Window on Page in Grab.

Key Functions

REFERENCE.... FONTS

The Character Set

The Character Set

The Font consists of 96 characters. The usual ASCII codes are used for almost all of these, but some extra punctuation characters have been included to extend MicroDesign's compatibility with word-processors. In particular, the Locoscript 2 Quotation Marks have been included. The complete list of codes and the characters which represent them in the Text Editor are as follows:

65	A	38	&	113	q
66	B	42	*	114	r
67	C	40	(115	s
68	D	41)	116	t
69	E	91	[117	u
70	F	93]	118	v
71	G	123	{	119	w
72	H	125	}	120	x
73	I	60	<	121	y
74	J	62	>	122	z
75	K	126	"	49	1
76	L	124	"	50	2
77	M	96	'	51	3
78	N	92	'	52	4
79	O	63	?	53	5
80	P	64	@	54	6
81	Q	97	a	55	7
82	R	98	b	56	8
83	S	99	c	57	9
84	T	100	d	58	0
85	U	101	e	32	.
86	V	102	f	46	,
87	W	103	g	44	:
88	X	104	h	58	;
89	Y	105	i	59	!
90	Z	106	j	43	+
33	!	107	k	45	-
34	"	108	l	61	=
127	#	109	m	95	_
36	\$	110	n	35	~
37	%	111	o	47	/
39	'	112	p	94	1/2

All key codes are accessed using the corresponding keys on the keyboard. The four quotation mark characters (Nos. 126, 124, 96 and 92) are not available on the PCW keyboard: these must be keyed in as follows:

- " [ALT]+[2]
- " [ALT]+[SHIFT]+[2]
- ' [ALT]+[6]
- ' [ALT]+[SHIFT]+[6]

REFERENCE...OPTIONS

The Options Section

This Section is used to customise some of the features of MicroDesign which the user may wish to adjust to their own particular hardware setup or personal taste. A complete set of these options can be defined and saved in a file called MDESIGN.OPT, which will automatically install them in MicroDesign whenever the program is run.

OPTIONS SECTION

<p>CURSOR Fast Cursor: 8 ←...Y.....→ Rlink : OFF <input checked="" type="checkbox"/> ON</p> <p>MOUSE Mouse : <input checked="" type="checkbox"/> OFF <input type="checkbox"/> KEMPSTON AMX Mouse Movt : SLOW <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> FAST DoubleClick: SLOW <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> FAST</p> <p>PRINTER Interface : PCMatrix <input checked="" type="checkbox"/> CENTRNIC SERIAL 3512PAR PrinterType: <input checked="" type="checkbox"/> 9-pin A <input type="checkbox"/> 9-pin B <input type="checkbox"/> 24-pin A <input type="checkbox"/> 24-pin B <input type="checkbox"/> Laser A <input type="checkbox"/> Laser B</p> <p>TEXTFILES ASCII Files: <input checked="" type="checkbox"/> PROTEXT <input type="checkbox"/> WORDSTAR (MDesign & Loco2 Auto-Detected)</p>	<p>OPTIONS MENU...EXIT SaveOPTS..S</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>EXTRA keys [Grid of 16 keys]</p>
--	--

Save Options

The only operation available in the Options Section is to save the current set of options to the MDESIGN.OPT file, to be used by Microdesign at startup. If the current Options are not saved, they will be lost when quitting the program.

SaveOPTS

REFERENCE....OPTIONS

The Options file can only be used to set the default options at startup: new options files cannot be loaded while the program is running. If no options file is found when the program is run, the options default to their factory settings.



Keyboard in the Options Section

The cursor keys are used to move around the Options, and to alter them. Press DO or [ENTER] to move into the Operations Menu.



Mouse in the Options Section

The left button is used to select and alter the Options, and to exit via the Operations menu.

The System Options

CURSOR

Fast Cursor

This option controls the distance moved by the cursor for each cursor keypress when the [ALT] key is held down. This is particularly useful for counting large numbers of pixels on the screen. The Fast Cursor step size can be varied between 0 and 120 pixels.

Cursor Blink

By default, the cursor will flash slowly to indicate which screen area is active: for users who find this undesirable, the flash can be turned off using this Option.

MOUSE

MicroDesign supports the Kempston and AMX mice. This option allows the user to select either of these mouse options, or to switch off the mouse cursor altogether if no mouse is fitted.

Mouse Movement

The ratio of the distance moved by the mouse itself to the distance moved by the mouse cursor on the screen can be set by this option. A change in this option takes effect immediately, so that all three alternatives can be tested without leaving the Options Section.

Mouse Double-Click Speed

This option controls the maximum time allowed between the two keypresses of the double-click used to FIX and UNDO with the mouse. Two keypresses which are spaced longer than the setting of this option will be interpreted as discrete keypresses, not as a double-click. (See the section on 'The Mouse' in the Introduction of this manual for more information about the double-click.)

PRINTER

Interface

This option can be set to **PCWmatrix** for the PCW's own printer (9512 users beware! MicroDesign cannot drive a daisy-wheel printer), **CENTRONIC** for a parallel printer connected via an external Centronics interface, or **SERIAL232** for a serial printer connected via an RS232 interface. The internal Centronics port fitted as standard on the PCW9512 is NOT the same as an external Centronics port: to use the 9512 port, select the **9512PAR** option.

Printer Type

Some 9-pin dot-matrix printers (especially older Epson types) use slightly different character codes than usual to set the graphics modes used by MicroDesign. This option therefore provides two modes for driving external 9-pin printers: if your 9-pin printer fails to produce the correct output, try changing this option.

MICE



Mouse Movement

Double-Click Speed

Printer Interfaces

Printer Types

REFERENCE....OPTIONS

24-pin Printers

MicroDesign normally drives 24-pin printers in 'Hex Density' graphics mode using the 24-pin A option. Some 24-pin printers do not have this graphics mode: if your 24-pin printer does not work with the 24-pin A option, try the 24-pin B option.

Laser Printers

Laser printers must be compatible with the HP Laserjet Plus standard. The page width used in this standard is slightly narrower than the full MicroDesign Page: printers which use the exact HP page size will miss out about 24 pixels from the right edge of the printed Page. The Laser B option is provided to re-scale the Page horizontally so that it fits in the minimum specified Laserjet Plus page, although some laser printers exceed the minimum HP specification and will print a full Page using the Laser A option.

For other printer problems, see the 'Troubleshooting' section of this manual.

TEXTFILES

Text Files

Most text files use the same basic ASCII codes for the characters they contain, but different word-processors have different ways of storing text, and use different control codes for text styling and formatting. In order to preserve as much control data as possible from the word-processor file, MicroDesign has specific methods of importing from ProText, Wordstar and Locoscript 2 files: this means that the program has to know which word-processor was used to generate the file initially. Locoscript 2 files, and MicroDesign's own text files, can be detected automatically, but the program cannot tell the difference between Protext and Wordstar format files. If you are using one of these two word-processors, you should set this option accordingly so that all the control characters in the text file will be interpreted correctly.

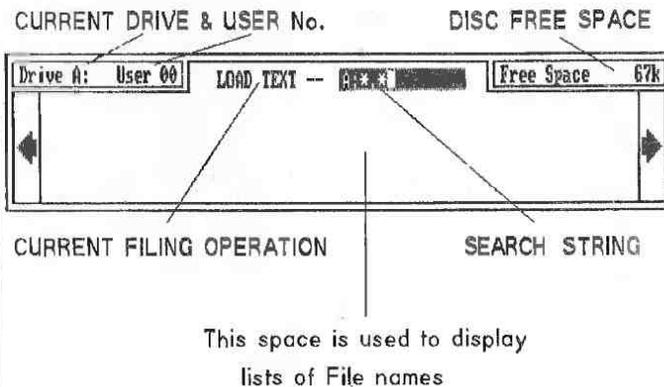
See Appendix III, Word-Processors and Text Files, for more details.

THE FILING OPERATIONS

MicroDesign has a sophisticated file handling system to allow simple access to the different types of files used within the program. Files can always be loaded or saved at the appropriate point in the program; for example, Text files can be accessed in the Text Editor Section, and Icon files from within the Icon Section. From the user's point of view, the files are broadly split into six types: these are **Text**, **Font**, **Icon**, **Template**, **Cut** and **Area** files. Operations for loading and saving each of these file types appear in the Operations Menus.

The Filing Window

Whenever a filing operation is launched, the Filing Window appears, and the program checks the disc which is currently logged in. The Filing Window displays the following information:



FILING OPERATIONS

The Filing Window

REFERENCE....FILING

Filing Utilities:

The Filing Utilities

When the Filing Window appears, the bottom right corner of the screen displays the Filing Utilities menu: this is a list of operations which can be used at any time during a filing operation to change the current disc or user number, or to tidy up the contents of the disc.

Drive..Alt-d
User..Alt-u
Rename...f7
Erase...f5
Directry.f3

THE FILING UTILITIES

Note that these utilities can only be used AFTER a Load or Save operation has been launched. If the user wishes to access these utilities without Loading or Saving a file, s/he must select a Load/Save operation, use the filing utility, then abort the operation using [STOP] or UNDO. See the end of this chapter for a full discussion of the Filing Utilities.

The sequence of actions for loading or saving all types of file is identical, and will now be explained step-by-step. This is followed by a more detailed explanation of the differences between file-types, and of the filing utilities.

Step by Step: LOADING A FILE

Whenever a load operation of any type is launched, the bottom of the screen becomes the Filing Window. (The illustrations in this example show the loading of a Text file in the Editor Section.) In the middle of the Filing Window for any Load operation, a 'Search String' appears: if you know which file you wish to load, simply delete the contents of this string, type in the required file name, and press DO or [ENTER].

The 'Search String' system also allows the user to list all the files of the correct type which are on the disc.

Loading a File

and to select one from the list. Search strings use the 'Wild Card' characters instead of filenames: if you are unfamiliar with Wild Card characters, consult your PCW CP/M Operating System manual, section 1.4, "Using CP/M". The last three letters of the file name (the file Suffix) usually denote the type of file to be loaded: for example, a file with the suffix '.MDI' is a MicroDesign Icons file. For most types of files, the suffix cannot be changed by the user, although Text and Screen files can have any suffix: see below for a complete list of the file suffices.

Here are some examples of search strings for different purposes:

- A:*.MDA... Show all '.MDA' Area files on drive A;
- B:*.MDF ... Show all Font files on drive B;
- A:M*.MDT...Show all Template files on drive A which have names beginning with M;
- A:*. * ... Show all files on drive A.

When a Search String has been entered (use DO or [ENTER]), the list of available files appears in the Filing Window, and a file name can be selected by moving the frame over it and pressing DO or [ENTER]. Note that a maximum of 64 files can be listed: if the file you want is missing from the list, try entering a more specific search string.

THE CURSOR

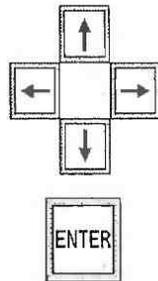
Drive A: / User 00	LOAD TEXT -- A:*.*	Free Space	96k
ETNANCAL.SUM	PRICING .ED	.	.
GENERAL .ADS	PRICING .MD	.	.
MINI .CUS	TEMPLATE .STD	.	.
PC .ADS	UPDATE .SUM	.	.
PRICING .DLR	.	.	.

MicroDesign will now load the chosen file.

Note that the filenames are always sorted into alphabetical order, making it easy to look for a particular file. The number of filenames to be displayed by a Load or Directory operation may be too large to fit into the Filing

Search Strings

Selecting a File



Saving a File

Window: if the window is full, move the cursor sideways or click over the Mouse Arrows at either end of it to display the other filenames.

Note that for all loading operations except Text and Screen files (see below), the program will not allow the user to load the wrong type of file.

Step by Step: SAVING A FILE

When a Save operation is launched, the Filing Window appears at the bottom of the screen displaying current disc, user number and free space. The filename for saving can now be typed into the space in the middle of the window. If a file of the same type has been loaded or saved before, the name of that file appears in the string: this is only a suggestion, and can be altered by deleting and re-typing. Pressing DO or [ENTER] saves the file.

ENTER FILENAME HERE

Drive A: User 00	SAVE TEXT --	A:FILENAME.TXT	Free Space	5k
<div style="display: flex; justify-content: space-between; align-items: center;"> ← <div style="border: 1px solid black; width: 80%; height: 40px;"></div> → </div>				

When saving Areas or Cuts (ie the Page, or parts of it), the program will ask the user to define the area to be saved before the Filing Window appears.

Confirm Stage

Confirm Stage

When saving to a file which already exists on the disc, the user is asked to confirm that the disc file is to be overwritten: this is to protect files against accidental erasure.

Overwrite FILENAME.TXT ? (Y/N)

TYPES OF FILE

TEXT FILES

Text files are simply files of characters (letters) created by word-processors. MicroDesign's own Text Editor can also be used to create text files, and Control Codes for the character styling options (Bold, Double-strike, Highlight, Italic, Outline and Underline), as well as codes for text formatting, can be incorporated into these text files: see the discussion of Control Codes in the Text Editor on page 3-21 of this manual for more details.

Text Files in MicroDesign can have any file suffix: this means that files which are not ASCII or word-processor files can be loaded as Text files by mistake. This will not cause any problems, but it may produce some interesting displays on the Text Editor screen!

When the SaveText operation is used, the file is always saved in MicroDesign Text file Format: note that text files Saved in MicroDesign format cannot be re-loaded into a Word-Processor program without losing control character data. MicroDesign Text files also contain a file 'Header' of 128 characters, which will appear as extra data at the beginning of the file if it is loaded into a word-processor as an ASCII file. The SaveASCII operation stores the text as a standard ASCII file: any control characters in the file will be removed before it is stored. ASCII files can usually be loaded into other word-processors (Insert Text in Locoscript2), or used as CP/M Submit files such as PROFILE.SUB: see your CP/M manual for more information.

Note that the Text Editor has a capacity of approximately 10Kb. If the user attempts to load a Text File of more than 10Kb, the Editor will load as much of the file as possible (while still allowing some space for editing the file), and then issue a warning that the file has been shortened. Re-Saving a file which has been shortened in this way may result in the loss of data from the old file.

File-Types:

Text Files

Saving
Text Files...

...and
ASCII Files

File Size

REFERENCE....FILING

Font Files

FONT FILES (.MDF)

MicroDesign Font files consist of a full 96-character ASCII set. An external program to convert the '.FNT' Font files used in 'Stop Press' to '.MDF' MicroDesign format is supplied on the Library disc: note that you cannot load a Stop Press font by simply changing filename to '.MDF'. See page A3-5 for more details.

Icon Files

ICON FILES (.MDF)

MicroDesign's Icon system uses three sets of twenty-two icons: icons can be loaded or saved as individual sets, or as complete triple sets. The **SaveICs** operation allows the user to save one or all of the three sets. **LoadICs** detects whether the Icon file selected is a single or triple set, and asks the user to select the single destination set, or confirm the loading of a triple set.

Template Files

TEMPLATE FILES (.MDT)

Template files are exclusive to MicroDesign. They contain all the parameters for the Typesetting operation which are set in the **Typeset** and **SetWindow** operation, as follows:

The **Page Format** (Lo-res A4 Upright, Hi-res A4 Sideways etc)

The **Character Scaling** (the size of the text)

The **Spacing** (Line Pitch, Margins, Gutters etc)

The **Justification** settings

The **Window** position, Number of columns etc

When a Template file is saved, the current settings of all these features are stored: when the file is re-loaded, these new settings are read from the disc file, and the old settings discarded. Note that no graphic information is stored in a Template file: graphics can only be stored as **Areas** or **Cuts**.

Cut Files

CUT FILES (.CUT)

The term 'Cut files' refers to image or picture files which can be loaded and saved in the Design Section of the Program. The Cut file system has two purposes: to allow the storage

on disc of small graphic images, and to allow MicroDesign users to import '.CUT' Clip-Art files supplied as library material to accompany other PCW DTP packages such as Stop Press.

Clip-Art Library

'.CUT' files are uncompressed, and are therefore suitable only for small areas of the screen. It is possible to generate a Cut file (using a different piece of PCW software) which is too large to load into the MicroDesign Design Window. Such files should be loaded as Area files in the Layout section: see below.

AREA FILES (.MDA etc: see below)

Area files are image files of any size up to and including a whole Page: they are loaded and saved from the Layout Section. Areas are always Saved in MicroDesign's own '.MDA' data-compressed file format, or in Screen format.

Area Files

The LoadArea operation can be used to load image files of several different formats: this allows the user to import images into MicroDesign from a variety of other software packages including Stop Press, Desktop Publisher, and the Master-Scan image scanner system. When LoadArea is launched, an extra entry appears at the bottom of the Filing Utilities menu which allows the user to select the Area File-type from a menu. This feature of MicroDesign is particularly powerful, since it gives the user access to all the library discs of useful clip-art which are already available. Area file types currently supported include the Stop Press '.PAG' and '.CUT', the Desktop Publisher '.GRF', and Fleet Street Editor '.G' formats, as well as graphics files saved from 'Mini-Office', and ordinary Screen files as created by various graphics and scanning programs such as 'Masterscan'.

Note that Areas can be loaded at Half, Normal or Double size, as set by Extra row 4 in the LoadArea operation. If the Area file to be loaded will not fit on the current Page format, this size option is set automatically to Half to enable the file to be loaded, and a message to this effect is printed on the

Load Size

REFERENCE....FILING

Screen Files:

Loading...

and Saving

screen. While this halving in size results in the loss of some of the picture data, it means that any files can be loaded onto any Page format, with the single exception that files saved from the Hi-res strip format may not fit onto a Lo-res A4 Page even at half size. Users should bear in mind the loss of resolution which results from re-saving an Area file which was loaded at half size, and avoid overwriting the original file.

Screen Files are a special kind of Area file. Some PCW Graphics software, including Image Scanners, allow the saving of a full PCW screen dump into an uncompressed 'Screen Format' file. Screen file names can have any suffix, so the Search String for Screen files has the suffix '.*'.

An area of the Page which is exactly the size of the PCW's screen and stored in screen format can be loaded into MicroDesign using the AreaType option in LoadArea.

Areas of the Page can be Saved as Screen Files using the Extra row 4 option in the SaveArea operation: this allows Screens to be designed and saved for use with other programs.

FILING UTILITIES

The Filing Utilities are simple to use, since they are all controlled by on-screen instructions.

Drive..Alt-v
User..Alt-u
Rename...F7
Erase....F5
Directry..F3
Areatype..F1

THE FILING UTILITIES

Drive

Drive changes the current disc drive to A, B; etc up to F: by pressing [ALT]+[A], [ALT]+[B] etc. Pressing [ALT]+[V] cycles through the drive letters.

Note: MicroDesign supports drives A to F, but NOT drive M. Any files stored in drive M will be lost when MicroDesign is run. This is because MicroDesign uses all the available memory in the

computer, leaving insufficient for a RAM drive.

User changes the current User number for the disc by pressing [ALT]+[0]-[9]. Numbers higher than 9 can be accessed by pressing [ALT]+[U], to cycle through all 15 user numbers. User numbers are a feature of CP/M: see your CP/M manual for more details. Also note that Locoscript 2 Groups use the User Number system: see Appendix III.

Rename requests the name of an existing file: this can be selected using a Search String and the cursor keys or mouse, as with any file selection in a Load operation. When the existing filename has been chosen, a new filename is requested. When this name has been entered (use [ENTER] or DO), the new name is assigned to the file.

Erase: when the name of an existing file has been entered (see Rename above), the file is erased from the disc.

Directory simply lists files on the disc. This requires a search string to be entered: these will usually contain the wildcard characters '*' or '?'. All the filenames which fit the search string will then be sorted into alphabetical order and displayed in the Filing Window. If there are too many files to fit in the window, the cursor keys or the Mouse Arrows at each end of the window can be used to scroll the remaining filenames into view. Note that MicroDesign's filing system can only display 64 files at a time: see page 3-63, Selecting a File.

AreaType: used in the LoadArea operation, this utility allows selection of different file formats. It is used to import Graphics files from a variety of other PCW packages: see LoadArea above. Note that the AreaType does not affect the SaveArea operation: Areas are always Saved in MicroDesign's own '.MDA' format unless the Screen option is selected using Extra row 4.

**User
Numbers**

Rename

Erase

Directory

AreaType

REFERENCE

REFERENCE

APPENDICES



CREATIVE TECHNOLOGY

APPENDIX I TROUBLESHOOTING

APPENDIX I: TROUBLESHOOTING

This appendix anticipates some of the problems which may arise when using MicroDesign, and offers some hints on how to cure them. If you encounter a problem while using the program, try looking up the operation you are using in the Index for more information; if this doesn't help, try looking in this Troubleshooting section. If you still cannot work out what to do, you can call our helpline on 0889 567160 between 4pm and 7pm Monday to Friday.

PRINTER PROBLEMS

There are two sets of Printer options in the System Options section. If you have any problems using Print, check the settings of these options.

If you try to use the Print operation and nothing happens at all, check that the **Printer Interface** selection in the Options Section is set correctly: remember that a *Serial 232* printer is connected to an RS232 interface, and a *Centronics* printer is connected to an External Centronics interface. The PCW 8256 / 8512's own printer is called *PCWmatrix*: this option should not be selected when using a PCW9512. 9512 users should also note that the Centronics interface fitted as standard to the 9512 is not the same as the external Centronics interface: when a printer is connected to the 9512 Centronics output, the Printer Option should be set to *9512 PAR*. **NOTE: due to an error in the 9512 CP/M operating system, the PAR connection will not work unless the 9512's own daisy-wheel printer is still connected to the computer.**

External 9-pin & 24-pin printers: because of varying graphics standards, MicroDesign contains two different drivers each for 9- and 24-pin printers, called A and B. Better quality printouts can usually be obtained using the A option, but if this doesn't work properly, try the B option instead.

Laser Printers: users of laser printers should remember that the printer must contain enough RAM to store a full page of Graphic data (generally about 1.5 Megabytes).

See the Options Section chapter, page 3-57, for more details of printer options.
(continued overleaf...)

TROUBLESHOOTING

Printers

Printer Type

PCW Printer & 9512s

24-pin and 9-pin: A and B options

Laser Printers

APPENDIX I TROUBLESHOOTING

Stretched Printouts

Other printer problems may include:

The auto line-feed setting on external dot-matrix printers: if printouts appear stretched vertically, then the printer may be executing an extra line-feed at the end of each line. Check the printer DIP-switch settings and consult the printer manual.

PCW Printer: "Waiting for Paper"

Form-feeds and 'Waiting for Paper' with the PCW's own printer (8000 series only): when printing multiple copies or using the Queue, the PCW may stop after each Page and display a 'Waiting for Paper' message on the Printer Status line. To prevent this, use the CP/M program called 'PAPER.COM' before running MicroDesign: with the CP/M disc in the A: drive at the A> prompt, type 'PAPER C PAPER OUT DEFEAT ON DEFAULTS [Return]'. The PCW printer is prone to irrational behaviour, but it can usually be cured using the PAPER command: consult the PCW CP/M manual for further information.

24-pin Printers

Slight variations in the height of characters when printed on a 24-pin printer: this can usually be cured by setting the Line Spacing to a multiple of 6 pixels.

White Stripes

Horizontal White Stripes

This is the top line of your Page

These stripes at the very beginning of a printout are due to "slack" in the printer mechanics. You can cure this by using a Print Queue (see page 3-13) to drive the paper forward a little before starting to print the Page. The Queue should read

*codes 27 J 10

*current

APPENDIX I ... TROUBLESHOOTING

TEXT AND TYPESETTING PROBLEMS

Loading a Locoscript Document: if you have trouble loading a Locoscript document, try the step-by-step instructions on page A3-2.

Marking Text causes some confusion. It is important to realise that marking text using Mark and Bound in the Text Editor is NOT the same as marking text for typesetting; different markers are used for these operations. Text can only be marked for Typesetting while in the typeset operation itself: press [f] to display the text, then [ALT]+[+] and [ALT]+[-] to mark the beginning and end of the text to be typeset.

Word Processors NOT specifically supported by MicroDesign: loading a Text file saved from a word-processor which is not one of those listed on page A3-1 may result in some control characters disappearing. We recommend that you save text in ASCII files (with control characters removed) to avoid confusion.

LoadText sometimes shows **Disc Error** when loading text files from other programs. This is almost always due to a non-standard end-of-file marker: if it happens, just press [STOP], and you will usually find that your text has been loaded anyway.

GRAPHICS

Shapes or Lines do nothing

If you use the drawing operations such as Line or Rectangle, and nothing appears on the Page when you FIX, check that the Ink colour is set correctly.

Flood Patterns do not match

You may find that if you Flood an area with a Pattern, then scroll the Design Window and try to Flood an adjoining area, the patterns may not match up: this is because the screen scrolls in steps of 8 pixels, while the Pattern icons are 16x16 or

Loading a
Locoscript
Document

Marking Text

Other word-
processors

LoadText:
"Disc Error"
message

Shapes

Flood

APPENDIX I TROUBLESHOOTING

SaveAREA

24x24 pixels. Try the Flood again after scrolling one more step: if this doesn't work, try one step in the other direction.

SaveArea Cursor fixed

If the size of the cursor in the SaveArea operation cannot be altered, check whether the Save Screen option is set on Extra Row 4. Screen files are of a fixed size.

GENERAL

Keyboards: 9512...

Keyboards

The PCW9512 keyboard layout differs substantially from that of the 8256/512 machines, but the letters and symbols written on the keys correspond very closely. Users should have no problem using the keys listed in the Menus and in this manual, although these keys may be located in different positions to those described. The 9512's 1/4 and 3/4 keys are equivalent to the curly brackets '(' and ')' in MicroDesign.

...and non-UK

MicroDesign is built around the UK keyboard, but many of the keys are re-defined by the program. Using non-UK keyboards should make little difference, but the characters or words written on the keys themselves may differ from country to country: consult your PCW manual for more information.

Users of non-UK keyboards should also bear in mind that text files created by non-English word-processor programs may not be correctly imported by MicroDesign. This depends on the codes used for the different characters: MicroDesign's text system is implemented in English and based on the ASCII set, with a few extra codes for Locoscript2 compatibility. It does not import accented, Cyrillic or Greek characters, although a later version may provide facilities for this in the future: contact Creative Technology for more details.

APPENDIX I TROUBLESHOOTING

Disc Free Space

The PCW CP/M routine used by MicroDesign to calculate the free space on a disc sometimes produces errors. To ensure that the Free Space figure is correct, use the Directory utility to access the disc a second time.

Missing Files

The maximum number of disc files which MicroDesign can list in any filing operation is 64. If you use a search string which should display more than 64 file-names, some files will be missing from the list. Use a more specific search string to display a smaller number of files: see page 3-62 for an explanation of search strings.

Using MicroDesign with a Hard Disc Drive

There are three types of Hard Disc drive available for the PCW, and MicroDesign will work with all of them. When using the program with a Hard Disc, you must insert an ordinary Working Disc (see Installation Notes) in one of the floppy drives before typing MD [Return]: this disc can be removed as soon as the program is running.

The Cirtech Diamond hard disc presents no problems: you can install MicroDesign on any part of the disc.

The ASD hard disc is normally incompatible with the AMX Mouse. If you want to use these two together, you must make a small modification to the mouse interface: please contact Creative Technology for more details. A modified mouse will work with the ASD disc provided that when you run MicroDesign, you type MD [Space] A [Return].

MicroDesign will only run from the WEBB hard disc by typing MD [Space] A [Return], as above. Like the ASD, the WEBB disc is also incompatible with the AMX Mouse: the Mouse interface must be modified in the same way.

Disc Free
Space

Missing Files

Hard Discs...

...and the
AMX Mouse

APPENDIX I TROUBLESHOOTING

Error Messages:

No Files Found

MicroDesign Error Messages

No Files Found means that the program cannot find on the disc any files which match the search string used. If the program cannot find files which you know exist, this may be because you are using an incorrect search string (see page 3-63), or because you are searching in the wrong User number (see page 3-69).

Clip Text

24-pin - Clip Text? (Y/N) is displayed when using a 24-pin printer with a large text file in the Text Editor. 24-pin printing uses some of the Text Editor memory as 'work-space', so if this memory is nearly full, some of the text will be lost during printing. The Clip Text warning reminds you to go back to the Editor Section to save the text file before printing; you should then re-load the text if you wish to edit it again.

Delete Stored Blocks

Not Enough Room: Delete Stored Blocks? (Y/N)

There is a limited amount of memory space which is shared between the Font and Stored Block systems. If a large Font is loaded, this reduces the amount of space available for storing Blocks, so that the Stored Block size is restricted. Similarly, when loading a large Font with some graphics blocks already stored, this message may be displayed to indicate that there is insufficient memory to load the new Font *and* store the existing Blocks. To clear more space for stored blocks, load a small Font such as "TINY06.MDF".

APPENDIX II ... ADVANCED ADVICE

Appendix II: ADVANCED ADVICE

TECHNICAL DETAILS

Pixels and Half-Pixels

The term **PIXEL** in MicroDesign means an approximately square dot. Since the screen layout is composed of a network of 720x256 pixels, it should be obvious that the screen pixels are not square: even taking account of the fact that the screen is wider than it is high, the horizontal screen resolution is about twice as good as the vertical. The actual screen pixels are upright rectangles, and in MicroDesign are called **Half-Pixels**: two half-pixels side by side make a whole MicroDesign square pixel which can be plotted in the Design Section. The **Line** and **Shape** operations and the **Icon Editing** system work only in whole pixels (except when using half-size icons), although **Text Fonts** and most other features achieve half-pixel accuracy.

The PCWs Internal Dot-Matrix Printer (8256/8512 only)

The dot-matrix printer supplied with the 8256 and 8512 differs from most commercial printers in several ways. In order to achieve the resolution required for printing Hi-res Pages in MicroDesign, it is necessary to operate 9-pin printers in a mode called **Quadruple Density Graphics**: while most printers have this facility, Amstrad have not documented it for the PCWs printer. This means that the resolution and accuracy available when printing on the PCW printer are reduced in comparison with an External printer.

As well as affecting the final output quality, this restriction also affects the **Typeset** operation. When typesetting, the program checks which **Printer Option** is selected in the **Options** Section, and makes a small allowance for the restrictions of the PCW printer if the Option is set to *PCWmatrix*. Typeset text will therefore be spread out slightly along each line, and the total number of lines required to typeset a block of text may increase if the internal printer is selected. The same effect occurs with 9-pin printers when typesetting on a Hi-res Strip format Page: setting the **Printer** option to **Laser** or 24-pin allows characters to be typeset slightly closer together.

ADVANCED ADVICE

Pixels and Half-Pixels

PCW Printer...

...and Typesetting

APPENDIX II ADVANCED ADVICE

Pixels and Printing

Correcting Circles...

...and Page Formats

Strip Formats

Default "BOOT" files

Printer Pixels and Circles

To complicate the Pixel problem even further, dot-matrix printers do not produce whole pixels which are exactly square. Because of the discrepancy between the horizontal pixel resolution and the length of a Line Feed, the printer squashes the Page vertically by a small amount. This creates a problem for the Circle operation, since a circle made of square pixels would appear elliptical on the final print: the Circle operation is therefore deliberately distorted on the screen to compensate for the printer, and appears to be squashed horizontally until it is Printed.

Circles and Page Formats

Note that the pre-distortion of the circle is dependent on the current Page Format: Circles drawn on Sideways formats are corrected differently to Circles on Upright formats and Strip formats, so that a drawing containing Circles which was saved from a Sideways format Page will be slightly distorted if it is reloaded onto an Upright or Strip format Page.

Strip Formats

Strip Formats are provided because they effectively increase the resolution available from 64K (Lo-res formats) or 256K (Hi-res Formats) of memory by reducing the Page area: Strip Format drawings are printed at double the printer resolution of the other formats using the same Layout resolution. This means, for example, that a Lo-res Strip is identical to the top quarter of a Hi-res Page, and that half-pixel editing on a High-res Strip will have no effect when using the PCW printer, since the printer is already operating at maximum resolution.

DEFAULT FONT, ICON AND PAINT BRUSH FILES

When MicroDesign is run, files for the default Font, Icons and Paint Brushes are loaded automatically. These are called "BOOT" files.

The user can choose any Font or Icon file as a BOOT file by changing the name of the desired file to "BOOT.MDF" (for

APPENDIX II ADVANCED ADVICE

Font) or "BOOT.MDI" (for Icons), and storing it on the Program or Start-of-Day disc. Other Font or Icon files can be loaded as normal when MicroDesign is running.

The Paint Brushes cannot be altered once the program has been run. However, the data file containing the Brushes can be redefined using the Icon system. First, use the Icon Section to design thirteen Brushes at the 16x16 pixel size: these must be stored in the top row of the Icon Menu (the contents of the bottom row are not important). Save this **single** Icon set as "BRUSHES.MDI" on the program disc. When the program is next run, the top row of this Icon set will be loaded as the Paint Brushes (and the bottom row will be discarded).

TEXT AND TYPESETTING

Printer Selection

Note that the function of the Typeset operation changes slightly depending on the Printer Selection in the System Options Section: see 'The PCW Printer' page A2-1.

Typesetting and Fonts

Fonts can be defined on a 32x64 grid, but this does not mean that they must all be the same size. The **TIMES** typeface, for example, comes as four Fonts of different sizes: 12, 14, 16 and 25 point. This, the Character Size options for Typeset and Write, and the Scale parameter in the Print operation can give a great variety of different point sizes on the final printout: only experimentation will show which Character Scaling sizes and which Fonts, and which Print Scales work best with the particular printer you are using.

Designing new Fonts

It is worth taking some care when setting the Character Position markers for a new Font: make sure that the left edge of the character is aligned with the left edge of the grid for most characters, although it can be useful to leave extra space at the 'front' of punctuation characters. It is usually advisable to leave a couple of blank pixels on the right edge of the character, unless you are designing a 'joined-up' Font like **Script**. Never leave more than three pixels space in a

Paint Brushes

**Typesetting
and Printers**

Using Fonts...

**...and
designing
new ones**

APPENDIX II ADVANCED ADVICE

character: remember that you can always add more space using the Horizontal Gap option in Typeset.

Line Pitch

Line Pitch Setting

When a Font is loaded or edited, the Typeset parameter for Line Pitch is set to a reasonable value for that Font (unless the Pitch Lock is switched ON, in which case the Line Pitch is unchanged). This value may need to be increased, but decreasing it may cause the 'descenders' from one line to touch the capitals on the line below.

When the Line Pitch is set automatically in this way, its value is normally a multiple of 4 pixels. This is because it is helpful to set the Line Pitch to a value which corresponds to a whole number of pixels at Layout scale, to ensure that the Window can be repositioned if necessary without changing the relative line positions in the text, and to make it easier to line up blocks of text after typesetting. For a Lo-res Page, the default multiple of 4 pixels is correct, while for a Hi-res Page, a multiple of 8 pixels should be used.

24-pin option

Note that if the Printer option is set to 24-pin, the program will set the Line Spacing to a multiple of 6 pixels, instead of a multiple of 4. This normally improves the quality of printed output, because the 24-pin printing routine re-scales the page in blocks of six vertical lines.

Writing Text

Writing Text from the Editor Section

While in the Write operation in the Design Section, pressing [ALT]+[T] will begin writing any text from the Text Editor file which is marked for Typesetting. This can be used to view a piece of typeset text instantly, for example when assessing the effect of re-scaling a font.

Marking Text

Placing the Typeset Markers in the Editor Section

The Typeset Start and End markers can be placed while in the Text Editor Section by pressing [EXTRA]+[+] and [EXTRA]+[-] respectively. This has no visible effect until the text is displayed in the bottom window while typesetting.

APPENDIX II ADVANCED ADVICE

SUBMIT files and SaveASCII

SaveASCII can be used to save the Text for use as a Submit file. Submit files are used by CP/M to execute a series of instructions: the most common such file is "PROFILE.SUB". See your CP/M manual for details of how to use Submit files.

Scanners and Fonts

If you have a Scanner or Digitiser program for your PCW, you can use it to generate new text Fonts from characters printed on paper. First scan the characters using your scanning system into a screen-format file (or any of the other Area file formats supported by MicroDesign), run MicroDesign, and load the file onto the Page. Next, re-scale the characters so that they will fit onto the Font Editing Grid, which is a square of 32x32 pixels (32x64 half-pixels), and transfer the character from the Page into the Font using the Grab operation in the Fonts Section of MicroDesign.

Headline Fonts

Note that scaling the Microdesign Fonts up to a size where they can be used as large headlines tends to make them appear excessively jagged because of the limitations of character resolution. These large letters can, however, be edited using Design and Zoom to produce excellent results: see the Trumpington Gazette headline ('ARTICLE.MDA') supplied on the program disc as an example. Once this editing has been done, each large character can be saved as a 'CUT', and complete headline fonts can gradually be compiled as sets of CUTs. These characters cannot be Typeset or used in Write, but they can be very useful for generating large text in small amounts. Discs containing such several headline fonts, as well as a number of ornamental fonts, are available from Creative Technology: please write to the address in the front of this manual for more details.

SUBMIT files

Scanning Fonts

Headline Typefaces

APPENDIX II ... ADVANCED ADVICE

Repeat last Operation

GRAPHICS TIPS

Repeat Operation

Pressing [EXTRA]+[+] repeats the last operation. This can be very useful in the Design Section, for example, when copying the same item to several different locations on the screen. To create a rectangle with rounded corners, use Repeated Block Copy operations while changing the Rotate or Reflect options in the Extra Features menu to make four perfect corners out of one. Operations can be repeated using the mouse with a double-click on the left button after the previous operation has been fixed.

Dotted Lines

Dotted Lines

New patterns of dotted lines can be produced by Flooding a black line with an appropriate pattern. This is also useful for creating patterns on thick lines, or for erasing lines and outlines.

Erasing

Erasing Non-Rectangular Areas

Erasing a specific area without cutting off the 'corners' which would be enclosed within the Block Erase frame can be done using Block Copy. First, Copy the whole area to a blank part of the page, then erase all the area around it which you wish to keep. Next, Copy the area back onto itself in Exor mode: any black ink left in the recopied block will erase itself, leaving the areas which were blanked intact.

Also remember that you can Flood any continuous area in white, allowing outlines and solid shapes to be erased easily.

Ghosting

Block 'Ghosting'

It may sometimes be necessary to change the ink on an area of the screen from black to 'Grey' (ie a dotted Pattern). This can be achieved in the Design section in two ways: for solid shapes and continuous black areas, use Flood with the Patterned Ink feature. For whole areas which are not solid or continuous. Ghosting must be done in three stages:

- 1: Use **Block Invert** to swap Black and White inks over the area;
- 2: Use **Rectangle** over the same area with the border switched off and filled with an inverted version of the required Pattern in **Transparent** mode;
- 3: Finally, **Block Invert** the whole area again.

APPENDIX II ... ADVANCED ADVICE

Thick-edged Lines & Boxes

The Rectangle and Box operations all allow the use of outlines up to four or five pixels thick. Thicker-edged boxes can be generated using the Block Invert operation: first, Block Invert the area contained within the desired Box, then launch Block again and move the frame in or out by the required thickness before Block Inverting again.

Colour Separations

For those users wishing to produce camera-ready artwork for colour printing, MicroDesign can easily be used to make colour separations from a single Page. First, make sure you save the whole Page, with the corners marked so that separations can be lined up properly later. Next, erase everything which you do not want printed in the first colour, and print the Page: this forms the first separation. Now re-load the original complete Page over the first separation in **Fixor** mode (Extra row 5). This Page is now the second separation. Further separations can be generated using the same technique.

Scaled Drawings

A drawing file is provided called 'SCALE.MDR' which contains horizontal and vertical pixel scales (one unit = one pixel). Print this at the required print scale and use the output as a means of measuring dimensions in terms of pixels. This allows accurate scaled drawings to be reproduced using MicroDesign. Remember that vertical and horizontal scales will be slightly different.

Cutting and Pasting

If you are designing a page to be photocopied or printed, do not forget that traditional 'Cut and Paste' methods are still useful even to the computerised designer. Assembling a page from several printouts with glue and scissors allows different scales of printing on the same page, and perfect rotation of drawings; remember, the final result is the important thing.

Thick Lines and Boxes

Colour Separations

Measuring and Scaling

Cut and Paste

APPENDIX II ADVANCED ADVICE

The PRINT QUEUE

*Formfeed

THE PRINT QUEUE COMMANDS

MicroDesign's Print Queue facility is described on page 3-14. The Print Queue Commands, or lines which can be included in the Print Queue but are not file names, are as follows:

*Formfeed☐

This command is used to send a Form Feed code to the printer when the Form Feed parameter in the Print Menu is switched OFF. This allows the paper to be ejected from the printer after a number of MicroDesign Pages have been printed on the same sheet. It enables 8256 users to concatenate a series of Strip format Pages to produce a complete hi-resolution page even when this Page format is not available, and can also be used by 8512/9512 users to produce a super-hi-resolution page from a number of hi-res strip Pages.

*New

*New x☐

This command is a direct equivalent of the New operation in the Layout Section (see page 3-12), and is used to change the Page Format in the middle of a Queue. It MUST be followed by a number (1-6) which corresponds to the required Page Format.

*Current

*Current☐

This command prints the Page which is currently in memory, without loading a new one. It is useful for repeated printing of the same Page without wasting time loading it for each print.

*Codes

*Codes x x☐

Control codes can be sent directly to the printer at any point in the Queue using this command. It allows direct control of any printer features, but what these are depends on the printer you are using; consult the printer manual for details. The codes are numbers from 0-255 (ie single bytes) separated by spaces. You can also include ASCII characters in the codes string, and these characters will be printed in the printer's own internal font unless they form part of an 'Escape' printer control sequence. ASCII data sent in the Queue must be enclosed in quotation marks if it includes numbers or spaces.

APPENDIX II ADVANCED ADVICE

The ability to send codes and characters directly to the printer is a very powerful feature of MicroDesign, but you should consult your printer manual carefully to find out what you can do and exactly which codes should be sent. Printers are generally controlled using 'Escape' codes, which are strings of bytes beginning with the number 27. For example, the printer can be reset at any point in the Queue with the line

```
*codes 27 @ (dot-matrix printers only).
```

Sending ASCII data using `*codes` is very simple. For example, a page number can be printed in the printer's own Font at any point in the Queue using the line

```
*codes "MicroDesign Manual Page A1-4"
```

Examples of the PRINT QUEUE

The simplest example of the print queue is to print a sequence of ordinary hi-res A4 Pages, as follows:

```
*pageone.mda  
*pagetwo.mda  
*pagethre.mda
```

Now assume that page 2 is A4 sideways format:

```
*pageone.mda  
*new 5  
*pagetwo.mda  
*new 4  
*pagethre.mda
```

Next, make page 3 an extra-hi-res sheet made up of two hi-res strip Pages. We now have to stop the printer ejecting the paper after each Page so as to fit two Pages onto one sheet of paper, so set the Form Feed parameter in the Print Menu to OFF, and use the `*formfeed` queue command as shown overleaf:

PRINT QUEUE Examples

APPENDIX II ADVANCED ADVICE

```
*pageone.mda␣
*formfeed␣
*new 5␣
*pagetwo.mda␣
*formfeed␣
*new 6␣
*page3top.mda␣
*page3bot.mda␣
*formfeed␣
```

Finally, place page numbers at the bottom left of each sheet using *codes. The print head is moved to the left margin position by sending ASCII 13, and a vertical gap of 0.25" can be inserted between the bottom of each printed Page and its page number by sending the codes 27,J,54:

```
*pageone.mda␣
*codes 27 J 54 13␣
*codes "Page 1"␣
*formfeed␣
*new 5␣
*pagetwo.mda␣
*codes 27 J 54 13␣
*codes "Page 2"␣
*formfeed␣
*new 6␣
*page3top.mda␣
*page3bot.mda␣
*codes 27 J 54 13␣
*codes "Page 3"␣
*formfeed␣
```

Note that a Print Queue can be saved and loaded as a text file to avoid typing it again.

On colour printers equipped with a reverse line feed facility, *codes can be used to 'wind back' the paper and change ink colour when queue-printing a sequence of colour separations. Consult the printer manual for the codes required to do this.

APPENDIX III OTHER PCW PROGRAMS

Appendix III: LOADING FILES FROM OTHER PROGRAMS

Section A: TEXT FILES AND WORD-PROCESSORS

One of the major functions of a DTP system is to import Text files generated from Word-processor programs (such as *Locoscript*2), so that they can be Typeset. Text files are loaded into MicroDesign using the LoadText operation in the Editor section.

Files which contain only standard ASCII character codes present no problems, and will always be loaded normally. However, in order to make MicroDesign easier to use, the program has been equipped with the ability to recognise the style and text formatting control codes incorporated in some word-processor files: this means that text marked in the word-processor file as, for example, Bold or Italic, or lines which have been Centred on the page will still appear correctly when typeset in MicroDesign. Unfortunately, different word-processor programs use different markers or 'Control Codes' to represent these options, so it is important for MicroDesign to know which word-processor was used to generate the file when it is loaded.

The live text file formats supported by MicroDesign are :

- MicroDesign format (saved from MicroDesign's own Text Editor);
- Locoscript 2 format;
- Protext format;
- Wordstar format (also used by New Word);
- Lasword format.

Notes:

Locoscript Files

Locoscript files are loaded into MicroDesign as ASCII files: in other words, all the normal characters will be loaded correctly, but any formatting or control codes will be lost. To keep these codes, Loco1 files should be loaded into Loco2, re-saved as Loco2 files, then loaded into MicroDesign.

Loading Text Files

ASCII Files

Control Codes

Word-Processors

Locoscript 1 files

APPENDIX III OTHER PCW PROGRAMS

Tasword Files

Tasword files: there is no option in MicroDesign itself to load Tasword files, but they can be converted into MicroDesign Text Files using the program called TASCONV, which is supplied on the MicroDesign Program disc. From the CP/M prompt, type "TASCONV" [Return], and follow the on-screen instructions.

Selecting File Formats

Which Format?

When MicroDesign has located a text file to be loaded, it checks to see if it is a Locoscript 2 file, or a text file saved from MicroDesign itself: both these types of file can be detected automatically. If it cannot recognise the file type, it assumes that it is either a Protext format or a Wordstar format file, according to the setting of the **Text Files** option in the **System Options** section of the program: if no System Options file has been saved, this option defaults to Protext format. Users of Wordstar and New Word should set this option to Wordstar and save the Options file, so that when they run MicroDesign again, the program will default to Wordstar format.

It should be stressed again that ordinary ASCII files, or files deliberately saved as ASCII files from word-processors will be loaded automatically, although these files will not contain any style or formatting codes.

Loading a Locoscript2 Document

LOADING A LOCOSCRIPT2 DOCUMENT

To load a Locoscript2 document file into MicroDesign's Text Editor from a disc in drive A:, use the following sequence:

- | | |
|------------------------------------|------------------------|
| 1: Go to the Text Editor Section | [EXIT], [L] |
| 2: Start LoadText operation | [F5] |
| 3: Delete the default .TXT suffix | [Del<], [Del<], [Del<] |
| 4: Replace with * (show all files) | [*] |

(The filing window should now read **LOAD TEXT A:*.***)

- | | |
|----------------------------------|---------------|
| 5: Enter this Search String | [ENTER] |
| 6: Move cursor over correct file | [Cursor Keys] |
| 7: Select file | [ENTER] |

APPENDIX III OTHER PCW PROGRAMS

The Default SEARCH STRING

The "*.TXT" search string in LoadText is provided only as a suggestion, like the "DOCUMENT.000" file name in Locoscript. Replacing the "TXT" with "*" means that the program displays files with any suffix, instead of just files called ".TXT". See Search Strings, page 3-63, for more details.

Changing DRIVE

To load from drive B:, change the drive to B: by pressing [ALT]+[B] at stage 4. If the desired file is not listed at stage 6, check the User Group: see below.

Locoscript2 GROUPS

Locoscript2 users should note that the different Groups into which files are divided on Locoscript discs are actually different User Numbers. When Loading Text in MicroDesign, directories of Locoscript discs will always display the Group name as a '.GRP' filename which appears at the beginning of the directory. To select a different Group, press [ALT]+ the group number, or [ALT]+[U] to cycle through the User Group numbers. Locoscript 2 discs register only 8 Groups; these are User Nos.0-7. User Nos.8-15 on Locoscript discs contain the Limbo Files for the 8 groups: this means that Limbo files can be loaded into MicroDesign by selecting a User Number between 8 and 15.

Once you have changed the User Group, the new Group number will be used for all future filing operations (including graphics and font files). Remember to change it back to User 0; if you don't, the program will be unable to find any of your Group 0 files ("No Files Found" message).

File Size

Note that Text files larger than 10Kb cannot be loaded into MicroDesign. If your word-processor file is longer than 10Kb, split it up into smaller files before trying to load it into MicroDesign.

Search String
 (*.TXT)

Changing
Drive

Changing
Groups

File Size

APPENDIX III OTHER PCW PROGRAMS

Control Codes

In Loco2...

...in Protex

...and in Wordstar

CONTROL CODE LISTINGS

The complete lists of the control codes which can be incorporated in text files and used by MicroDesign's Typesetting system are shown below: Note that some of these codes are not used by the word-processor programs themselves: they only work when the file is typeset in MicroDesign.

In LOCOSCRIPT 2

Style Codes

BOLD	+/- B
DOUBLE	+/- D
HIGHLIGHT (REVERSE)	+/- RV
ITALIC	+/- I
UNDERLINE	+/- UL

Formatting Codes

RIGHT-ALIGN	+ RA <i>(One line only)</i>
CENTRE	+ CE <i>(One line only)</i>
RIGHT-JUSTIFY	+/- J

In PROTEXT

Printer Control Codes

BOLD on/off	(Alt-X B)
DOUBLE on/off	(Alt-X D)
HIGHLIGHT on/off	(Alt-X H) <i>(Not used by Protex)</i>
ITALIC on/off	(Alt-X I)
OUTLINE on/off	(Alt-X O) <i>(Not used by Protex)</i>
UNDERLINE on/off	(Alt-X U)

Command Lines

CENTRED LINE	>CE
RIGHT-ALIGNED LINE	>RA <i>(Not used by Protex)</i>
RIGHT JUSTIFY on/off	>RJ

In WORDSTAR

Printer Control Codes

BOLD on/off	(Alt-P B)
DOUBLE on/off	(Alt-P D)
HIGHLIGHT on/off	(Alt-P W) <i>(User Patch 2)</i>
ITALIC on/off	(Alt-P Q) <i>(User Patch 1)</i>
OUTLINE on/off	(Alt-P E) <i>(User Patch 3)</i>
UNDERSCORE on/off	(Alt-P S)

APPENDIX III OTHER PCW PROGRAMS

Section B: OTHER PCW GRAPHICS PROGRAMS

MicroDesign allows you to load graphics (picture or clip-art) files created using other PCW programs onto the MicroDesign Page. There are two different operations which can be used for this:

1: LoadCUT (in the Design Section) is used to load clip-art files supplied in the ".CUT" format used by both MicroDesign and Stop Press;

2: LoadAREA (in the Layout Section). Using the Area File-Types sub-menu, the following file-types can be loaded:

File Suffix	Source
1 MDA	MicroDesign (PCW)
2 MDR	MicroDesign (PC)
3 GRF	Desktop Publisher
4 PAG	Stop Press
5 CUT	Stop Press
6 *	Screen files (see below)
7 *	Mini-Office
8 VID	Rombo Vidi-Digitiser
9 G	Fleet Street Editor

(Other formats may be supported in later versions of MicroDesign.)

Screen Files (format 6) are uncompressed files saved directly from the PCW Screen memory. They can come from a variety of sources, including Newsdesk International: they can also be saved from MicroDesign (see SaveAREA), and loaded into other programs.

MasterScan

Those using the MasterScan scanner can import scanned images into MicroDesign by saving the picture from MasterScan as a Desk-top Publisher (.GRF) file, which can then be loaded using LoadAREA.

Graphics Files

File Formats

Screen Files

Masterscan

APPENDIX III OTHER PCW PROGRAMS

Negative Images

'Negative' Images

Sometimes, imported files may appear with black and white dots reversed, like a photographic negative: to cure this, simply press [UNIT/PARA] to launch Block, adjust the frame around the image, then press [F5] to select Block Invert.

Size of Imported Graphics

Picture Size

When loading graphics from other programs onto MicroDesign Hi-res (256Kb) Pages, you may find that they appear at half-size. This is due to the higher resolution of these Page formats: since there are more dots on the Page, each dot must be smaller. To restore them to their original size use the Extra Keys "x2" option to load at double size. For Screen or .PAG files, the "x2" option is not available: instead, save them back to disc (they will be saved in the ".MDA" format). Next, launch the LoadAREA operation, change the AreaType back to ".MDA" format, and use "x2" as normal. See pages 3-18 and 3-67 for more information about graphics files, and page 2-6 for details of how to use the AreaTypes menu.

Stop-Press Fonts

LOADING STOP-PRESS FONTS

Fonts used in Stop-Press can be converted into MicroDesign using the "CONVFONT" program supplied on the MicroDesign Program disc. At the CP/M prompt, type "CONVFONT" [Return], and follow the on-screen instructions.

APPENDIX IV ... WORKED EXAMPLES

A WORKED EXAMPLE OF THE KEYPAD METHOD

Here is an example of how to use the Keypad method in the Design Section to place an icon on the paper: you can reach the Design Page by running the program and typing [EXIT] (to enter the Main Menu) followed by [D] (to select the Design Section).

[LINE/EOL] to put the cursor in the Operations Menu,

Cursor Keys to select the Icon operation by moving the cursor box until it is over 'Icon',

[LINE/EOL] to start the Icon operation, returning the cursor to the drawing area as an Icon,

Cursor Keys to position the Icon on the Page.

[LINE/EOL] to 'fix' the Icon on the drawing and exit from the Icon operation.

The [WORD/CHAR] key is used to UNDO the last [LINE/EOL] pressed.

EXAMPLE: if, in the last example, the icon was Fixed in the wrong place, then:-

[WORD/CHAR] to unFix the Icon,

Cursor Keys to reposition the Icon,

[LINE/EOL] to reFix and exit.

If you decide that the Icon was not required after all, then:-

[WORD/CHAR] to unFix the Icon,

[WORD/CHAR] to cancel the Icon Operation and exit.

WORKED EXAMPLES

The Keypad Method

APPENDIX IV ... WORKED EXAMPLES

A Letterhead

MENU...EXIT

EDITOR...E

Type in the
Text...



Worked Examples II:

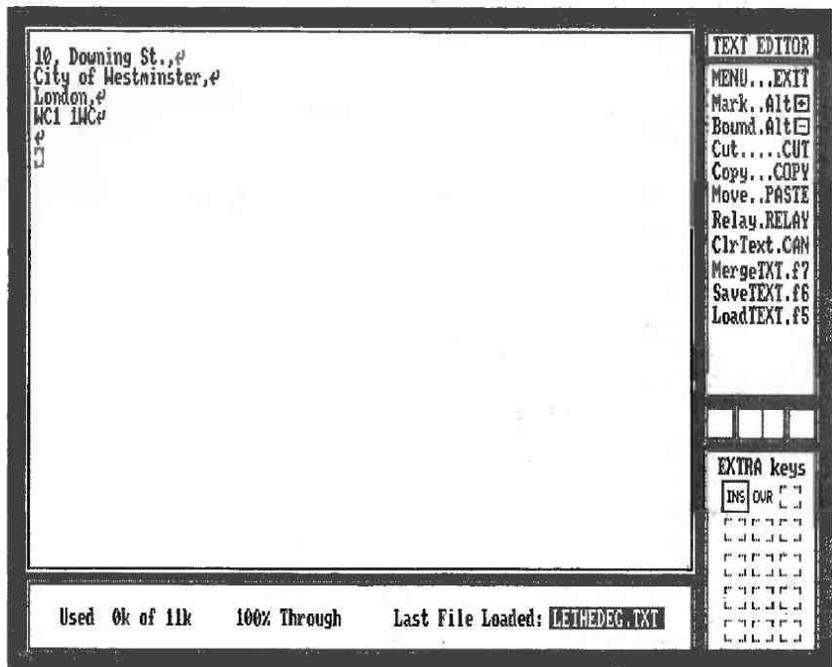
Your Letterhead

One of the most common applications for a DTP system, and one of the simplest, is the creation of a letterhead for your personal, family or business notepaper. This example shows how to create a letterhead, and suggests two different ways of using it.

A letterhead is primarily a piece of text, so the first thing to do is to type in the text of your address in the Text Editor Section of MicroDesign. To move into the Text Editor from the start-up Layout Screen, press [Exit] to summon the Main Menu, then [E] to select the Editor.

Now type in your address. Do this in the normal way, pressing [Return] at the end of each line. Include your name or the name of your business at the top if you wish. Ensure that the last line of the address is ended with a [Return] character.

Your Editor screen should now look something like this:



APPENDIX IV ... WORKED EXAMPLES

Addresses are usually printed in the top right corner of a letter, and are lined up with the right edge of the paper. This kind of text position is called "Right-Aligned": MicroDesign will Right-Align text automatically in response to a "Control Code", or typesetting instruction, which is incorporated in the text itself. See page 3-22 for a full description of the Control Codes used by MicroDesign.

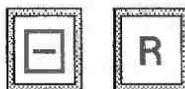
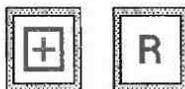
In order to Right-Align this block of text, you should enter the 'Begin Right Align' code at the beginning. First, move the cursor back to the beginning of the text by pressing [Alt]+[Shift]+[Doc]. Next, enter the code by pressing the [+] key (to the left of the Space Bar), followed by [R]. You should see the 'R' symbol appear on the Editor Screen. All text after this code will be typeset against the right edge of the page, until the 'End Right Align' code is found. Now move the cursor to the end of the text by pressing [Shift]+[Doc], and enter this code by pressing [-] followed by [R].

Having entered the text, the next step is to typeset it onto the Page. Typesetting is controlled from the Layout Section of the program: return to this section by pressing [Exit], then [L].

You could typeset your letterhead onto a full A4 format page, but MicroDesign provides a special page format called a Strip which is ideal for letterheads because it uses all the available computer memory to give the highest possible definition on a horizontal strip of the Page. Press [N] to change Page format using the New operation, then [6] to select Hi-res Strip: if you are using a PCW8256, select the Lo-res strip by pressing [3].

The area of the Strip Page onto which text can be typeset is limited by the Window: to set up a suitable Window, press [W] to launch the SetWindow operation. You should see a rectangular frame appear on the Page: this may be divided into columns. The SetWindow Menu should be displayed at the bottom of the screen, and contains the controls for the number of columns, the column dividers, the margins and the gutters. Use the cursor keys and the Space-bar to adjust the frame until it is almost at the edges of the Page: if you are not sure how to control the frame, read pages 2-3 - 2-4 of this manual.

Control Codes

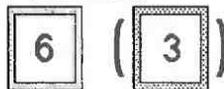


MENU...EXIT

LAYOUT...L

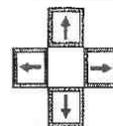
Select new Page format

New.....N



Set the Window...

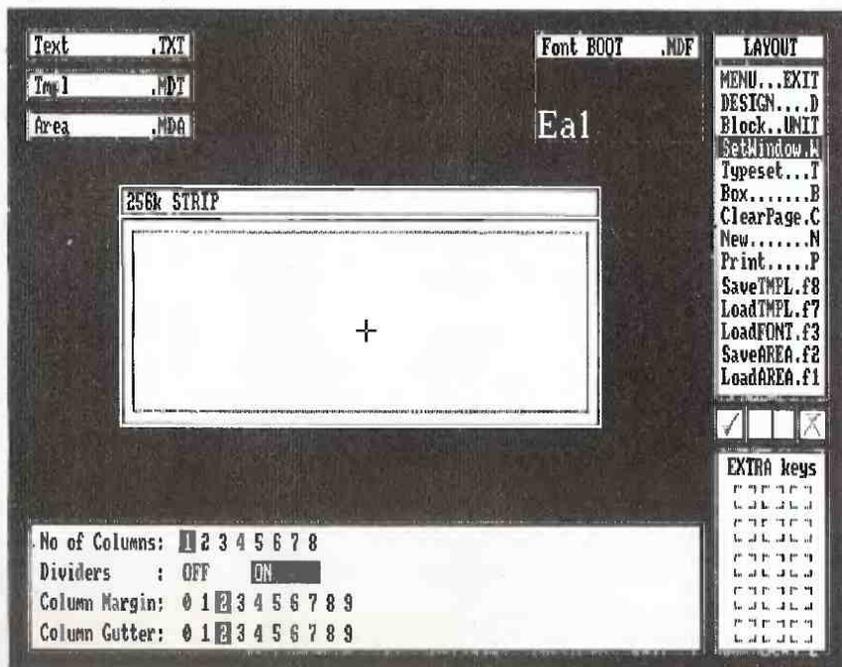
SetWindow.W



SPACE-BAR

APPENDIX IV ... WORKED EXAMPLES

The screen should now look something like this:



Load a
Font...



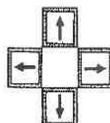
The exact position of the Window is not important. If the Window is divided into columns, press [Relay] to enter the menu at the bottom of the screen, and use the cursor keys to set the number of columns to 1. Do not worry about the other controls in this menu. To terminate the SetWindow operation, press [Enter]: if the cursor was in the bottom menu, you will have to press [Enter] twice.

Before typesetting the text, you must decide which Font (lettering style) you would like to use. To see the selection of Fonts available, put the MicroDesign Fonts Disc (or a copy of this disc) in drive A and press [F3], then [Enter]. (The numbers in the filenames refer to the Font size: choose a Font with a number above 20. If you wish to see what the Fonts actually look like, see the supplied catalogue sheet.

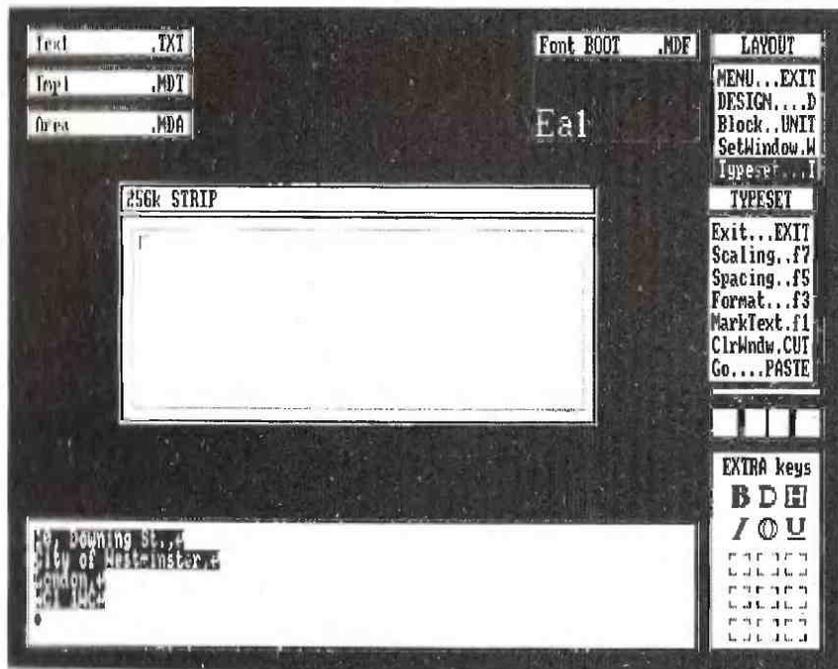
APPENDIX IV ... WORKED EXAMPLES

Select the Font you want using the cursor keys, then press [Enter] to load it. You should see some characters from the Font displayed at the top of the screen, between the Page and the Operations Menu. If you don't like it, load a different one using the same sequence of keys.

Now, after entering the text, setting the Window, and loading a Font, you are ready to typeset. Press [T] to launch the Typeset operation. You should see the Window displayed on the Page as a dotted frame, and one of the typeset menus should appear at the bottom of the screen. Now press [F1]. This should change the bottom display so that it shows the text which you typed into the Text Editor, and this text should appear in reverse video (white-on-black) to indicate that it is ready for typesetting. The whole screen should now look like this:



...and Typeset



Press [Paste] to begin typesetting. When the typesetting has finished, press [EXIT] to terminate the Typeset operation. Your letterhead is now ready for saving or printing.



APPENDIX IV ... WORKED EXAMPLES

A Page of this Manual

WORKED EXAMPLES III:

A PAGE OF THIS MANUAL

As an example of how to combine the features of MicroDesign to produce a Page of mixed text and graphics, here is a brief description of the techniques used to prepare a page of this manual. The Manual pages are all Hi-res A4 format; some details described here may work differently on the Lo-res formats. Look at Page 3-34:

Banner design
created using Box
in Layout Section

Extra text items
added using Write
in Design Section

Graphic illustrations
created separately
and loaded from
disc as Area or
Cut Files

Main text block
created using
Typeset in
Layout Section

REFERENCE....DESIGN

UNDOing UNDOing. Write operations cannot be Undone! Instead, users should re-runch Write. The (F10) key can then be used to delete as many of the characters as required, up to a maximum of over 100.

Mouse The mouse can be used to select Write, but once the operation has been entered, the keyboard must be used for text entry. The mouse symbols can still be used to FIX or UNDO the operation, and the Scroll Map and Extra Features can be accessed with the mouse as normal.

Extras: Extra Features in Write

EXTRA keys	Extra row 5 selects the Bold, Double-strike and Highlight options.
B D B	Extra row 4 selects the Italic Outline and Underline options.
/ O U	Extra row 1 is used to switch the Text Window on or off.

The Style Options

See SetWindow in the Layout Section for more information about the Text Window.

Style On/OFF: keys

NOTE All of the style options can also be accessed using the [F4] and [F5] keys, even when the Extra Features menu is not displayed. This system works like Location 2, as follows:

- [F4] followed by [B] switches on the Bold option
- [F5] followed by [B] switches off the Bold option
- [F4] followed by [D] switches on the Double-strike option
- [F5] followed by [D] switches off the Double-strike option

and similarly for:

- [F4] or [F5] [H] Highlight
- [F4] or [F5] [I] Italic
- [F4] or [F5] [O] Outline
- [F4] or [F5] [U] Underline
- [F4] or [F5] [W] Window on/off

Now let us examine each stage of this process in more detail...

APPENDIX IV ... WORKED EXAMPLES

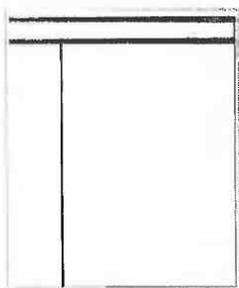
THE PAGE BANNER DESIGN

On all the Manual pages, the text and graphics are added to a basic banner design. There are in fact two different banners for left and right-facing pages, and these were created and stored on disc as Area files (using the **SaveArea** operation) before starting the typesetting.

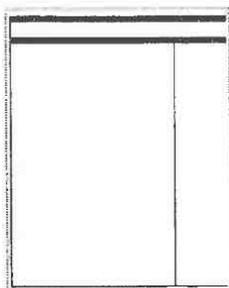
The two thick lines in the banner were created using the **Box** operation in the **Layout** Section. By drawing a **Box** of minimum height (one pixel at the **Layout Scale**) with the line thickness set to maximum, a line eight pixels thick can be drawn. Two of these **Boxes** are used in vertically adjacent positions to make each thick line used in the banner.

Another **Box**, this time of minimum line thickness, was used to create the frame around the whole **Page**, and the margin area. This was then edited in greater detail in the **Design** Section, using the **Pixel Plotting** system to extend the bottom of the **Box** to the edge of the page.

This finished blank page was then saved as an **Area** file called "**PAGELEFT.MDA**", so that it could be loaded and used to create all the left pages in the **Manual**. A similar process was used to design another **Area** file called "**PAGERITE.MDA**" which was used for the right-facing pages.



PAGELEFT.MDA



PAGERITE.MDA

The Page Design

Filing Blank Pages

APPENDIX IV WORKED EXAMPLES

The Text

Typesetting: The Window

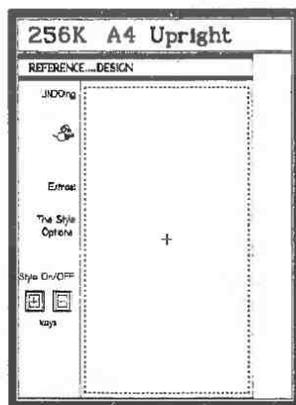
THE PAGE TITLE

Each Banner has a chapter heading: in this case, the words "REFERENCE DESIGN". These words were added to the blank banner by loading the correct Font (TIMES25.MDF, in this case), moving to the Design Section, and using the **Write** operation to type the characters onto the Page directly from the keyboard.

THE MAIN TEXT BLOCK

The text for the manual was originally prepared in a word-processor package, and imported into MicroDesign's Text Editor Section using the **LoadText** Operation. This particular page is only one in a sequence of pages which were typeset from the same text file, so the Typeset Start Marker in the file was already set correctly by the **Typeset** operation used to create the previous Page.

As well as the characters, the text file also included the Control Codes used to set the Character Style options: it is these control codes which automatically produce the Bold, Italic and other Styles used on the Page.



The dotted box in this illustration shows the Window as it appears in the **Typeset** operation. The Window is used to define the area of the Page onto which the text will be typeset. The position and size of the Window are controlled by the **SetWindow** operation.

APPENDIX IV WORKED EXAMPLES

The text size and spacing are controlled through the Typeset Menus. All of these settings were adjusted at the outset to typeset correctly onto a left-facing Page, and then saved along with the Window size and position as a Template file using the SaveTempl operation. With a Template file available, a Page of plain text can be created in the following sequence:

- 1 Load the text file;
- 2 Load the Page background design, in this case the Banner described earlier;
- 3 Load the appropriate Template file;
- 4 Load the correct Font: in this case, the main text block was typeset using HELVET15.MDF;
- 5 Launch the Typeset operation, and press [PASTE] to begin typesetting.

ADDING GRAPHICS

In the case of this particular Page, the Extra Menu illustration had to be added in the middle of the text, and a block of text had to be typeset around it.



Extra row 5 selects the Bold, Double-strike and Highlight options.
Extra row 4 selects the Italic Outline and Underline options.
Extra row 1 is used to switch the Text Window on or off.

In order to create the space for this illustration, it was necessary to stop typesetting halfway down the Page. The Typeset operation will stop when it reaches the Typeset End Marker, which is positioned in the text using the MarkText sub-operation in the Typeset menu: this marker was placed in the text after the "Extra Features in Write" heading.

The Extra Menu illustration was stored on disc as an Area file, and was loaded and positioned on the Page using the LoadArea operation. The block of text describing this illustration was typeset into the area beside it by moving the left margin of the Typeset Window (using SetWindow), and

Template Files

Step by step

Typeset
Start / End
Markers

APPENDIX IV ... WORKED EXAMPLES

Indenting text

placing the Typeset Start and End markers around the correct section of the text. The same effect could easily be achieved using Indent characters in the text to move the left margin without changing the Window. This would allow the whole Page of text to be typeset in a single operation, although it slightly reduces the accuracy of the Indentation.

Adding Titles and Graphics

ADDING THE MARGIN TITLES AND GRAPHICS

All the text and graphics in the margin of this Page were added in the Design Section of the program. After loading the appropriate Font, (in this case HELVET23.MDF) the titles were typed directly onto the Page using the Write operation. This allows each character to be positioned individually, to pixel accuracy.

The illustrations of the keys and the mouse were already designed and stored on disc as CUT files: these are small graphic image files which can be loaded and saved in the Design Section, and can be used with other graphics programs available for the PCW. CUT files are loaded using the LoadCut operation, and can be positioned anywhere on the visible area of the Page. Next, we will look at how the graphic image of the mouse was created.

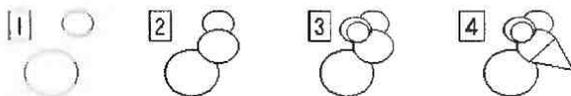
APPENDIX IV ... WORKED EXAMPLES

WORKED EXAMPLES IV:

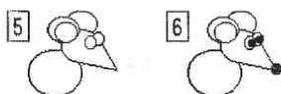
MAKING A MOUSE

The mouse illustration used throughout the manual is very easy to design using the graphics tools in the Design Section of the program, and is given here as an example of how to use a series of simple shapes and lines, with a little editing of fine detail, to produce a picture or graphic image.

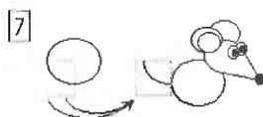
The mouse is mostly comprised of shapes with outlines in Black and filled in White. To begin with, a set of Ellipses and a Triangle were assembled in the following sequence...



The unwanted line from the triangle was then removed by plotting points over it in white (plotting with a large White point is rather like using a rubber), and same White- and Black filled Circles made up the nose and the eyes...



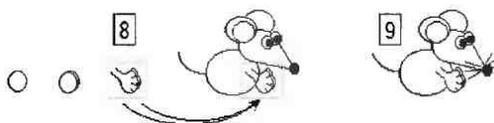
and a quarter-Ellipse was Block-Copied for the tail.



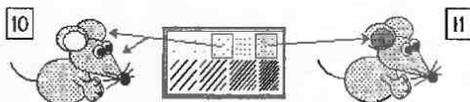
Graphic Design:
Making a
Mouse

APPENDIX IV ... WORKED EXAMPLES

Next, two Black outlined and White filled circles were used to generate the basic shape for the paws. These were then edited using Zoom to create the fine detail before being Block-Copied onto the main body in Transparent mode and edited again in Zoom to remove unwanted pixels. Lastly, six Line operations were used to add the whiskers...



To give a little more texture to the image, different densities of shading can be added using the Flood operation with Patterns from the Icon system...



And finally, with a little more Zoom editing around the eyeballs and the addition of a smile, the mouse (whose name, incidentally, is Herbert) is complete.



Areas are parts of the Page, or whole finished Pages, which can be filed on disc. Technically, Areas are just bit-image data: this means a list of black and white dots (pixels) which make up a picture, or part of a picture. (p3-17)

ASCII is the name of the American Standard Code for representing letters by numbers. Most computer programs use the ASCII codes both internally, and to communicate with each other. (p3-24)

Auto-Flow is a typesetting feature which allows text to flow around the edge of a picture which is already on the Page, instead of ruining the picture by typesetting over it. (p3-10)

Boot files: when MicroDesign is first run, the program does not know which Font or Icon set you will want to use, but it still has to load something. "Boot" is the name used for these files which are loaded by default. (pA2-7)

Bottom Window is the part of the screen below the Main Window: see page 1-8.

Bound: see **Mark and Bound**

Brushes: are the patterns used by the Paint operation for putting Ink on the Page. Like other patterns used in MicroDesign, they can be designed as Icons. (p3-28)

Clip-Art files are small pictures. They can be loaded and saved from the Design section of MicroDesign as CUT files, and discs of CUT files are available commercially.

Control Codes are special characters entered in a text file to control the way the text is typeset. (p3-23, A3-4)

CP/M is the Operating System which controls the PCW. In order to run MicroDesign, you must first install CP/M by switching on the computer, and inserting the CP/M Master disc which came with your PCW (or a copy of this disc) in the A: drive. After a few moments, you should see the CP/M prompt, "A>". You should now insert a program disc, and type the name of the program you want to run, in this case MD [Return].

Cursor: all work in MicroDesign is guided by the cursor. It indicates the point on the screen on which the program is currently working. It is moved around the screen using the Cursor Keys (arrow keys), or with a mouse.

CUT files: see clip-art.

Cut and Paste means the process of laying out the Page, and fitting it together from its component parts. In MicroDesign, this is usually done with the Block operation in the Layout section, rather than with scissors and glue.

GLOSSARY

Default settings (of menus or options) are the values which are set automatically by the program when it is first run. Default values can usually be changed by the user once the program is running.

Dividers are the vertical lines dividing the columns in a multi-column typeset operation.

DO: MicroDesign operations must first be Selected, then Launched, and finally Fixed. The DO key (or [LINE/EOL] key) is used to move forward in this sequence: see The Keypad Method, page 1-11.

Double-Click means pressing a mouse button twice in quick succession. This Double-Click performs a different function to two single clicks; see page 1-16 for more details.

EXOR mode: see **Ink Modes**

Extra Features are used to control the options which are available in many operations. These options are displayed as symbols in the Extra Keys menu at the bottom right corner of the screen, and are accessed using the Extra key in conjunction with the Keypad, or with the mouse. See page 1-12 for more details.

Fill Styles are the Inks or Patterns used to Fill the inside of Shapes. Shapes can be filled in Black or White, or with Patterns derived from Icons: the fill style in a Shape operation is controlled using Extra Row 4. (p1-12, 3-36)

Fixing operations: operations are Fixed by pressing [ENTER], or by clicking over the tick symbol with the mouse. See DO. (p1-9)

Flooding means filling an enclosed area with Ink. If there is a break in the border, the Flood will "spill out" onto the surrounding screen.

Fonts are typefaces or styles of lettering. They are supplied as complete alphabets, and are used for Typesetting. (p1-4)

Form Feed is an instruction which is sent to a printer to say "Push out the current piece of paper and load the next one". (p3-15)

Formatting Text means controlling where on the Page the text is typeset. The different ways of Formatting are explained on page 3-22.

Frames are the rectangular cursors used to define an area of the page; they are used in Block, SaveAREA and Shape operations in the Layout and Design sections. (Cutting and Pasting, p2-3)

Groups (on discs): CP/M divides discs into sixteen User numbers (0-15): the first eight are used by Locoscript as Groups. MicroDesign can load or save files in any Group: see User Numbers, page 3-69.

Groups of Icon sets: Icons can be loaded and saved either as single Sets, or as Groups of three sets. (p3-43)

Gutters are the spaces left above and below text when it is typeset in a Window: they are like Margins. (p3-5)

Half-Pixels: see Pixels

Hi-Res Pages are so-called because they use a large amount of memory (256Kb) to represent the Page. Because there are more dots (pixels) on a Hi-res Page, each dot is smaller, and the Page is therefore more detailed. Hi-res pages can only be used on a PCW with 512Kb or more of RAM. (p3-2)

Icons are the small graphic symbols which can be designed in the Icons section. They can be used as individual symbols for technical diagrams, or as the patterns used in the Paint, Filled Shape and Flood operations. (p3-43)

Importing files means loading files into MicroDesign which were created using some other program such as Locoscript or Masterscan. Files of text or graphics can be imported from a large number of sources: see Appendix 3 for more details.

Ink Colours are exactly what you would expect. MicroDesign can draw on the Page in Black or White Inks, or Patterned or Exor Inks: see p1-2.

Ink Modes are the different ways in which the Ink Colours interact with any Ink which is already on the Page. (p1-13)

Inverting means changing white to black and black to white: the effect is sometimes called Reverse, or Negative (as in photography).

Justification is a way of Formatting text. It means spreading each line out until it lines up with both left and right margins. MicroDesign allows both Character justification, where small gaps are inserted between each letter, and Word justification, where only the complete words are spread. (p3-10)

Key Letter Method: this is the simplest way of using the MicroDesign operations, by pressing the key listed beside each operation in the Operations Menu. (p1-10)

GLOSSARY

Keypad: this is the block of fifteen keys (5x3) at the extreme right end of the PCW keyboard. They are used in MicroDesign for a number of purposes: see page I-II onwards.

Keypad Method is a way of launching and fixing operations using only the Keypad area of the keyboard. (pI-II)

Launching operations: each MicroDesign operation must be Launched, then Fixed. See page I-9.

Line Pitch is the vertical spacing between each line of typeset text. This value is set in Pixels. (p3-9)

Lo-Res Pages: these formats use 64Kb of memory for the Page, so give less detail than the Hi-res Pages. See Hi-res. (p3-2)

Margins are the spaces left between the edges of the typeset text and the sides of the Window (or column). They control the gaps between separate columns: see **Gutters**. (p3-5)

Marking and Bounding Text (in the **Text Editor** section) means defining a block of text which can then be Moved, Copied or Cut (deleted). (p3-20) Note that this is NOT the same as marking text for Typesetting; see next entry.

Marking Text for Typesetting: when in the Typeset operation, text can be Marked for typesetting by pressing [f] to display the text, then [ALT]+[+] to mark the beginning and [ALT]+[-] to mark the end of the text you wish to typeset. (p3-II)

Mouse Arrows are the on-screen symbols used to access certain menu settings with the mouse. (pI-6)

Non-Proportional Spacing: see **Proportional Spacing**

Opaque Mode: see **Ink Modes**.

Operations are the basic instructions available in each section of the program. (pI-9)

Page: MicroDesign is a Page designer, so the term **Page** always refers to the area available for design. This area may be laid out according to any of six "formats", as set by the **New** operation: it may represent a standard piece of A4 paper, but there are other options. (pI-3)

Patterns (see **Ink Colours**)

Pixels and Half-Pixels are the dots which make up the Page: each dot can be either black or white. See pA2-1 for a detailed explanation.

Proportional and Non-Proportional Spacing: some characters in a Font are wider than others: for example, "W" is wider than "i". Non-Proportional spacing means allowing the same horizontal space for each letter regardless of its width, so that columns of letters line up vertically. Proportional spacing starts to print each letter immediately after the previous one, so that the gaps in the text look much more even, but columns of letters do not line up vertically. The Text Editor screen in MicroDesign uses proportional spacing: columns which look fine in the Editor will not necessarily work when typeset proportionally. (p3-9)

Queue Printing is a method of printing a list of Pages automatically without having to load each one "by hand". (p3-13)

Ruled Lines: this setting in the Typeset Spacing menu is used to ensure that typeset lines of text in different columns always line up horizontally. (p3-9)

Scanning and Scanners: pictures, or images of any kind, can be converted into computerised form using a scanning system. For the PCW, these are of two types: the MasterScan Print Head scanner (8512/8256 only) and the video-digitisers. MicroDesign can import files of images created using either type of scanner.

Scrolling: in the Design section of the program, only a limited area of the Page can be seen at any one time. Scrolling the screen means moving this "window" around the Page to see another part of it.

Strip format is a special Page format: see page 3-2.

Style of characters means the **Bold**, *Italic*, Underline, and other options available when Writing or Typesetting text. (p1-5)

System Options are set up in the Options section: they are used to tell the program which kind of printer, mouse or word-processor you are using. After setting the System Options, save them on your program disc: they will then be loaded automatically when MicroDesign is run. (p3-57)

Templates are a way of storing the way in which text is typeset. The settings of the Typeset and SetWindow menus can be stored and recalled using the Load and Save Template operations. (p1-6)

GLOSSARY

Text Files are files of words. They can be loaded and saved from MicroDesign's Text Editor section. They can also be created using word-processors such as Locoscript. (p3-19)

Transparent: see Ink Modes

Typesetting means taking the text in the Text Editor and placing on the Page in the current Font. (p1-5, 2-7)

UNDOing means stepping back through the Launch-and-Fix sequence: see DO.

User Numbers: see Groups

Windows are rectangular areas of the Page which act as limits outside which text will not be typeset. (p1-6) The different menus and boxes on the MicroDesign screen are also known as Windows: see page 1-8

Working Discs are made from the Master Program disc using the MDMAKE program. Except when running the Beginner's Tutorial, you should always use a Working disc to run the program, and keep your Master disc in a safe place. Working discs can be made into Start-of-Day discs: see the Copying and Installation notes supplied with the package.

Writing means typing text directly onto the Page in the Design section of the program. (p2-16)

Zoom is a graphic design facility which makes it possible to "blow up" a small area of the Page, so that the individual dots (pixels) which make up the Page can be edited. (p3-29)

INDEX

ALT key cursor speed	3-58	Style Options	2-16, 3-11, 3-21
AMX Mouse	A1-5	Very large	A2-5
Angled Lines	3-37	Circle	3-35
Area Files		Printing	A2-2
Load/Save	3-17	Clear	
Library	see catalogue sheets	Font section	3-53
Area Types	3-67, 3-69, A3-6	Icon section	3-46
ASCII Control Codes	3-24	Zoom	3-29
ASCII Files: Saving	3-20, 3-65, A2-5	Clear Text	3-20
ASCII set	3-56	Clear Window	3-7
Auto-Flow	3-10	Clip-Art	3-67, A3-5
Auto-Skip	3-10	Clip Text	A1-6
		Colour Separations	A2-7, A2-10
Base Line, Character	3-51	Columns In SetWindow	3-5
Beginner's Guide	I-3	Column Markers,	
Black Ink	I-13	in Text Editor	3-23
Block		Confirm Stage	3-64
Design section	2-9, 3-30	Control Codes	
Layout section	2-3, 3-3	Introduction	I-5
Text Editor section	3-19	In Text Editor	3-23, 3-24, A3-4
Bold		Control Points	2-3
Editor Control code	3-24	ConvFont	A3-6
Write Option	3-34	Copies, Print	3-15
Typeset option	3-11	Copy Block	
BOOT Files	A2-2	Design section	3-30
Bottom Window	I-8	Layout section	3-3
Bound text	3-20	Text Editor section	3-20
Box	3-12	Current Character	3-52
Brushes	3-38, A2-3	Current Icon	2-14, 3-27, 3-45
		Cursor Blink	3-58
Centre Text	3-22	Cursor Coordinates	I-14
Centronics printer	3-59, A1-1	Cursor Movement	
Character		Options	3-58
Editing Grid	3-51	in Text Editor	3-21
Gap	3-8	Cut Files	3-66
In Fonts	3-50, 3-56	Cut, Text Editor	3-20
Position Markers	3-51	Cut and Paste	2-3, A2-7
Scaling, Ht. & Wdth	3-8, 3-32		
Set, ASCII codes etc	3-56	Daisy-Wheel printer	A1-1
Spacing	3-8, 3-9, 3-33	Default Boot files	A2-2

INDEX

- | | | | |
|-----------------------|------------|---------------------------|------------------------|
| Design, Layout Op. | 3-3 | Fixing Operations | I-9 |
| Design Section | I-7, 3-25 | [ENTER] key | I-10 |
| Desktop Publisher | 3-67, A3-5 | Mouse | I-15 |
| Diamond | 3-35 | Fleet St Editor | 3-67, A3-5 |
| Directory Utility | 3-69 | Flood | 2-15, 3-40, A1-3, A2-6 |
| Disc Free Space | A1-5 | Fonts | |
| Disc Error (LoadText) | A1-3 | Introduction | I-4 |
| Dividers | 3-5 | Editing & Design | 3-51 |
| DO key (LINE/EOL) | I-11 | Files | 3-66 |
| Dotted Lines | 3-37, A2-6 | Library | see catalogue sheets |
| Double-click | I-16 | Section | 3-49 |
| Speed option | 3-59 | in Typeset | 3-7 |
| Drive Filing utility | 3-68, A3-3 | Window | 3-52 |
| Edit | | Fonts Section | 3-25 |
| Font | 3-53 | Form Feed, Print | 3-15, A2-8 |
| Icon | 3-46 | Form Length | A1-2 |
| Editor Section | 3-19 | Format Menu | 3-10 |
| Ellipse | 3-35 | Format Codes | 3-22 |
| Erase | | Frames & Control Points | 2-4 |
| Block, Design section | 3-30 | Function Keys | I-10 |
| Block, Layout section | 3-3 | Gap, Character | 3-8, 3-32 |
| Files | 3-69 | Ghosting | A2-6 |
| Irregular shapes | A2-6 | Grab Character | 3-54 |
| Error Messages | A1-6 | Graphics, Introduction to | I-4 |
| EXOR Mode | I-13 | Graphics, Design section | 3-25 |
| Extra Features | I-12, 2-13 | Graphics, Importing | 3-67, A3-5 |
| Fast Cursor | 3-58 | Grid | |
| File Size (Text) | A3-3 | Icon Editing | 3-44 |
| File Types | 3-65 | Font Editing | 3-51 |
| Text | A3-1 | Group of Icon Sets | 3-43, 3-66 |
| Graphics | A3-5 | Groups see User Numbers | |
| Filing | | Gutters, in SetWindow | 3-5 |
| Operations | 3-61 | Half-Pixels | A2-1 |
| Utilities | 3-62, 3-68 | Half-Scale Printing | 3-14 |
| Window | 3-61, 3-68 | Hard Discs | A1-5 |
| Fill Styles | 2-14, 3-36 | Hardware Requirements | I-1 |
| Filled Shapes | 2-13 | Headline Fonts | A2-5 |

INDEX

- | | | | |
|--------------------------|----------------------|------------------------|-----------------------|
| High-Res Page | 3-2 | Laser Printers | 1-1, 3-15, 3-60, A1-1 |
| Horizontal Spacing | 3-8, 3-33 | Launching operations | 1-9 |
| | | With the Mouse | 1-15 |
| Icon | | Layout Section | 3-1 |
| Library | see catalogue sheets | Leading see Line Pitch | |
| Menu/Window | 2-14, 3-27, 3-44 | Left-Align, Text | 3-22 |
| Operation | 3-38 | Length, Print | 3-16 |
| Sets & Files | 3-43, 3-66 | Letterhead | A4-2 |
| Icons Section | 3-43 | Library Disc | see catalogue sheets |
| Import Font | A3-6 | Line | 2-11, 3-37 |
| Import Graphics | 3-67, A3-5 | Line Pitch | 3-9, 3-33, A2-4 |
| Import Text | A1-3, A3-1 | Load Area | 2-2, 3-17 |
| Indented Text | 3-23 | Area Types | 3-67, A3-5 |
| Ink Colours | 1-13 | Load CUT | 2-6, 3-41 |
| Ink Modes | 1-13 | Load Font | 2-18, 3-61 |
| Insert/Overwrite | 3-20 | Load Icons | 3-47 |
| Invert Block | | Load Template | 2-7, 3-17 |
| Layout Section | 3-3 | Load Text | 2-5, 3-20, A3-1 |
| Design Section | 3-30 | Loading Files | 3-62 |
| Invert | | Locoscript1 Files | A3-1 |
| Icons Section | 3-47 | Locoscript2 files | A3-2, A1-3 |
| Fonts Section | 3-55 | Lo-Res Page | 3-2 |
| Italic | | Margin, Character | 3-51, A2-3 |
| Control code | 3-24, 3-34 | Margin, Print | 3-15 |
| Typeset option | 3-11 | Margin, in SetWindow | 3-5 |
| Justification, Justify | 3-10 | Mark Text | A1-3 |
| Codes | 3-22 | Typeset | 3-7, 3-11 |
| | | Editor | 3-19, A2-4 |
| Keep | | MasterScan | 3-67, A3-5 |
| Font Section | 3-53 | Measuring | A2-7 |
| Icon Section | 3-46 | Memory | 2-8, 3-30, A1-6 |
| Key Notation (in manual) | 1-3 | Merge Text | 3-20 |
| Keyboards 9512 etc | A1-4 | Merging Fonts | 3-54 |
| Key-Letter method | 1-10 | Missing Files | 3-63, A1-5 |
| Keypad | 1-10 | Mouse | 1-15, 3-59 |
| Keypad method | 1-11 | Arrows | 1-16 |
| | | Buttons | 1-16 |
| | | Movement scaling | 3-59 |
| | | Type | 3-59 |

INDEX

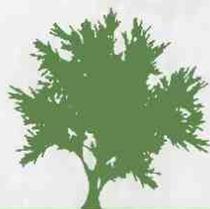
Move Block		
Design section	3-31	
Layout section	3-3	
Text Editor section	3-20	
New	2-8, 3-12	
NewWord	A3-1	
Nudge		
Font section	3-54	
Icons section	3-47	
No Files Found	A1-6	
Non-Proportional see Proportional		
Not Enough Room	A1-6	
Opaque Mode	1-13	
Operations Menu	1-8	
Options Section	3-57	
Options system	1-7, 3-58	
Overwrite/Insert	3-20	
Page		
Formats	3-2, A2-2	
Scaling	3-2	
Page Layout Section	3-1	
Paper, Print	3-15	
PAR	A1-1, 3-59	
Patterns (Current Icon:	2-14	
See Flood, Paint, Shape)		
Paint	3-38	
Pause (AutoFlow)	3-10	
PCW Printer	A1-1, A2-1	
Pitch Lock	3-9, 3-33	
Pixels	2-11, A2-1	
Plotting Points	2-11, 3-28	
Print	2-2, 3-13	
Menu	3-13	
Parameters	3-13	
Queue	3-13, A2-8	
Text	3-14	
Printer		
Types & Interfaces	3-59	
Problems	A1-1, A2-1	
PROFILE.SUB	A2-5	
Program Disc	2-1, A5-1	
Program Structure	1-7	
Proportional Spacing	3-9, 3-33	
Protex	A3-1	
Queue, Printing	3-13, A2-8	
Readout	1-14	
Rectangle	3-35	
Reflect		
Block	3-31	
Font section	3-55	
Icon	3-27, 3-47	
Refresh in Zoom	3-29	
Relay, Text Editor	3-20	
RELAY Key	1-9	
Rename Files	3-69	
Repeat Operation	3-41, A2-5	
Rescale Block	3-30	
Rescale Page (Half/Double)	3-18	
Return Key, Write	2-16, 3-33	
Return Character		
in Text Editor	3-23	
Right-Align Text	3-22	
Rotate		
Block	3-31	
Icon	3-47	
Ruled Lines	3-9, 3-33	
Save Area	3-17	
SaveASCII	3-20, 3-65, A2-5	
Save_CUT	3-40	
Save Font	3-55	
Save Icons	3-47	
Save Options	3-57	
Save Screen	3-17	

INDEX

- | | | | |
|----------------------|------------|-----------------------|----------------|
| Save Template | 3-16 | Submit Files | A2-5 |
| Save Text | 3-20, 3-65 | System Options | 3-58 |
| Saving Files | 3-64 | | |
| Scale, Print | 3-14 | Tab Characters | 3-23 |
| Scaling Menu | 2-17, 3-8 | Tab Spaces in Typeset | 3-10 |
| Scaling, Measuring | A2-7 | Tasword | A3-2 |
| Scaling, Pages | 3-2, A2-7 | Templates | |
| Scanning Fonts | A2-5 | Introduction | 1-6 |
| Screen Files | 3-68, A3-5 | Template Filing | 3-66 |
| Saving | 3-17 | Text Editor Section | 2-5, 3-19 |
| Screen Layout | 1-8 | Text Files | 3-65 |
| Scroll Map | 2-10, 3-26 | Importing | A1-3, A3-1 |
| Scrolling | 2-10, 3-26 | System Option | 3-60, A3-2 |
| Search Strings | 3-63, A3-3 | Status | 3-19 |
| Selecting a File | 3-63 | Size | 3-65, A3-3 |
| Sets of Icons | 3-43, 3-66 | Thick Lines and Boxes | A2-7 |
| SetWindow Operation | 3-5 | Transparent Mode | 1-14 |
| Shapes | 2-12, 3-35 | Triangle | 3-35 |
| Size, Graphics | A3-6 | Troubleshooting | A1-1 |
| Size, Icon Section | 3-47 | Typeset | |
| Size Lock | 3-8, 3-32 | Introduction | 1-5 |
| Size, Text Files | 3-65, A3-3 | Operation | 2-7, 3-6, A4-5 |
| Spacing Menu | 3-9 | Start Cursor | 3-6 |
| Speed | | Start/End Markers | 3-7 |
| Doubleclick | 3-59 | UNDOing | 3-7 |
| Mouse Movement | 3-59 | Underline | |
| ALT Cursor Key Step | 3-58 | Control code | 3-24, 3-34 |
| Square see Rectangle | | Typeset option | 3-11 |
| Starting Up | 2-1 | UNDO | |
| Stop Press | | [WORD/CHAR] key | 1-10, 2-12 |
| Graphics | A3-5 | Mouse | 1-15 |
| Fonts | A3-6 | Typeset | 3-7 |
| Store Block | 3-30 | Write | 3-34 |
| Stored | 3-32 | User Numbers | 3-69 |
| Strip Format | 3-2, A2-2 | with Locoscript discs | A3-3 |
| Style, Print | 3-15 | Utilities, Filing | 3-68 |
| Style Control Chars | 2-16, 3-21 | Utility programs | A3-2, A3-6 |
| Text Editor Section | 3-21 | | |
| in Typeset | 3-11 | | |
| in Write | 3-34 | | |

INDEX

Video-Digitiser	A3-5
View Font	3-55
Waiting for Paper	A1-2
White Ink	I-13
Windows (on the Page)	
Introduction	I-6
SetWindow operation	3-5
Windows (on the Screen)	I-8
Word-processors	A3-1
Wordstar	A3-1
Working Disc	2-1
Write	
Introduction	I-5
Operation	2-16, 3-32
Style Options	2-16, 3-34
Auto-Write	A2-4
Zoom	3-29
24-pin Printers	3-60
24-pin: Clip Text?	A1-6
8256	2-1
8256/8512 Printer	A1-1, A2-1
9512	
Keyboard	A1-4
Printer	A1-1
*current	A2-8
*codes	A2-8
*formfeed	A2-8
*new	A2-8



CREATIVE TECHNOLOGY