PRO Scan

THE PROFESSIONAL IMAGE SCANNING SYSTEM

USER MANUAL

This manual was written using Protext, and designed, typeset and printed AT THIS SCALE using only a PCW8512 computer, MicroDesign2 and ProSCAN, and a Hewlett-Packard Deskjet Plus printer. It is printed on 100% recycled paper.

RECYCLED
PAPER

ProSCAN © 1990 Creative Technology

This manual © 1990 Creative Technology

The ProSCAN program was written using the Hisoft Devpac80.

CONTENTS:

ProSCAN: The Creative Technology Scanner

ProSCAN is the first ever high-resolution hand-held scanner for the Amstrad PCW range of computers. It allows you to convert pictures printed or drawn on paper into digital 'Bit-Images' which can be printed, stored and edited using your PCW. A program for controlling the scanner and editing the scanned images is included in the package.

The program also has sophisticated printer driving software which is capable of producing the best ever graphics output from both the PCW's integral dot-matrix printer, and most types of external printer.

ProSCAN uses the same file format for storing images as MicroDesign2, the Desktop Publishing package for the PCW written by Creative Technology. Images scanned using ProSCAN can be saved on disc and loaded into MicroDesign2.

As well as the usual hand-scanner option, it is also possible to use the ProSCAN interface and program to control the Amstrad Fax machines FX9600T and FX9600AT. The Fax acts as a scanning head, and can scan a full A4 sheet.

USING THIS MANUAL

In addition to this Introduction, the manual is divided into three chapters:

The **Installation** chapter contains full instructions for installing the scanner hardware and making a working copy of the software: **it is vitally important that this is done correctly, because incorrect installation can damage the computer.** Please read this section carefully, and follow the instructions. There is also a brief guide to scanning and printing your first image.

Using this Manual

THIS MANUAL (CONT)

The **Program** chapter gives a general overview of the scanning software.

The **Operations** chapter explains in detail how to control the various features and facilities in the program, and how to configure the program for your own particular set of hardware.

There are also three Appendices:

Troubleshooting outlines some of the problems which may occur, and ways of solving them.

Hints and Tips is a detailed technical guide to the scanning hardware, with tips on the best ways to scan different types of images.

The Glossary gives a brief explanation of the terms specific to ProSCAN.

Key Notation

KEY DESCRIPTIONS AND NOTATION

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 next to 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 beside the [Space] bar;

[ALT]+[SHIFT]+[ENTER] means holding down Shift AND Alt, and pressing the Enter key in the numeric keypad.

The Keypad is the block of fifteen keys at the right end of the keyboard.

NOTES FOR USERS OF MICRODESIGN2...

If you are already a MicroDesign2 user, you should find that the structure of the program is quite familiar. Nevertheless, **it is still vitally important to follow the installation instructions carefully**, so please begin with the **Getting Started** chapter of this manual.

Although there are no separate Sections in ProSCAN as there are in MD2, the operations generally have the same names, and you should not have any problems using them. The two View-Scales are the equivalent of MD2's Layout and Design Sections, although most of the operations can be used at either scale. **Brush** is the name used by ProSCAN for MD2's **Paint** operation, which uses pre-set brushes and patterns.

You will notice that there are **Write** and **LoadFont** operations available. These use the standard MD2 Fonts, and some are included in the ProSCAN package. If you have discs of MD2 Fonts, they can also be used by ProSCAN.

Users of Micro- Design2

INTRODUCTION

ProSCAN

INSTALLATION

This section shows you how to fit the ProSCAN hardware to your computer, and how to make a working copy of the ProSCAN program. It also guides you through a quick scan-and-print exercise.

ProSCAN is very simple to fit to your computer, and very straightforward to use. Nevertheless, we strongly recommend that you follow these installation instructions VERY CAREFULLY, because it is quite possible to damage your computer if you make a mistake.

Before starting this installation process, make sure that you have a spare disc handy: it does not have to be formatted, but if you have used it before, make sure that there are no files on it which you wish to keep.

The ProSCAN system normally comes in three parts:
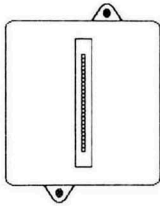
The Interface   **The Scanning Head**
(Optional)

The Software

BEFORE STARTING, REMEMBER THAT YOU SHOULD ALWAYS TURN OFF THE POWER AND DISCONNECT YOUR PCW FROM THE MAINS BEFORE CONNECTING OR DISCONNECTING ANY HARDWARE PERIPHERALS OR INTERFACES.

CONNECTING THE SCANNING HEAD TO THE INTERFACE

The Scanning Head

The first task is to connect the scanning head to the interface, The interface has a small round socket for the scanning head connector, and you must ensure that you check the orientation of the plug to make sure that its pins line up with the holes in the socket. When you push the plug carefully into its socket, you may find that it is a little stiff.

AMSTRAD FAX CONNECTION

If you are using an Amstrad Fax instead of a hand-held scanning head, use the cable supplied to connect the ProSCAN interface to the round socket on the back panel of the Fax machine.

The Interface

CONNECTING THE INTERFACE TO THE COMPUTER

Next, you must attach the interface to your computer: if you already have a mouse or printer interface, you will know roughly how to do this.

If you do not have any interfaces attached to your PCW:

The scanner interface must be connected to the strip of circuit-board labelled EXPANSION which sticks out of the back of the PCW: this is oriented horizontally on the PCW9512, and vertically on the 8512 and 8256:

8256 / 8512	9512
EXPANSION	EXPANSION
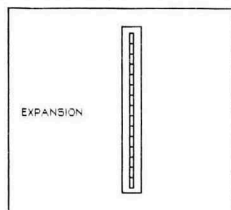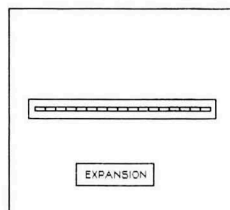
If you have never attached an interface to this connector before, some of its 'tracks' may have become a little dirty. This can cause problems with the electrical connections, so it is a good idea to clean it before going any further. Wipe it with a piece of cotton-wool soaked in surgical or methylated spirit, or rub it gently with a pencil eraser.

If you have a PCW which was originally destined for export to Europe, this EXPANSION connector may be surrounded by a blue plastic socket. If so, you will need an extra adaptor plug: contact Creative Technology for more details.

Now position your scanner interface so that its slotted socket lies over this strip of circuit board: **ensure that the writing on the scanner interface is facing away from the back of the computer, and that the interface is the correct way up** (see diagram). Next, push the interface gently against the computer, so that the circuit board slides into the slot. Push it firmly and squarely, but **DO NOT FORCE IT**: if it will not connect properly, take it off and try again.

CLEANING THE EXPANSION CONNECTOR

EXPORT MODELS
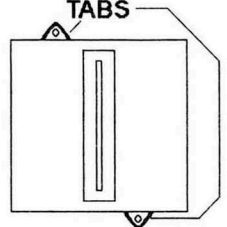
INSTALLATION
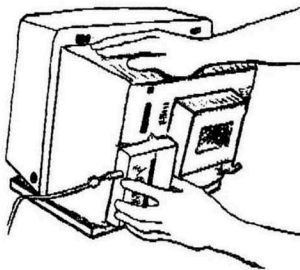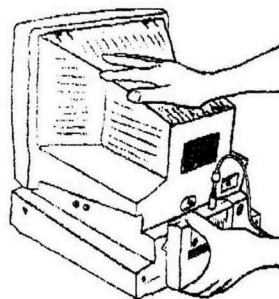
8256 / 8512   **9512**

You should see that on the interface, there are two mounting tabs with holes for the mounting screws, and two corresponding holes in the PCW casing. You should now use the two screws supplied with the package to attach the interface securely to the computer.

MOUNTING TABS

LINKING SEVERAL INTERFACES TOGETHER

If you already have one or more interfaces...

With the power switched off and the PCW disconnected from the mains, remove the interface(s) from the back of the computer. Next, attach the scanner interface to your other interface(s), **making sure that they are both the right way round**: the printing on the scanner interface should be the correct way up (see diagram), and should face away from the back of the computer. Ideally, the scanner interface should be closest to the computer, since it has to transfer data at much higher rates than the other interfaces. We recommend that you secure your interfaces together using some kind of adhesive tape (such as masking tape), as illustrated in the diagram below: it is important that the interfaces are well-supported, because if they move or slip off while the power is turned on, the computer may be damaged.

MASKING TAPE
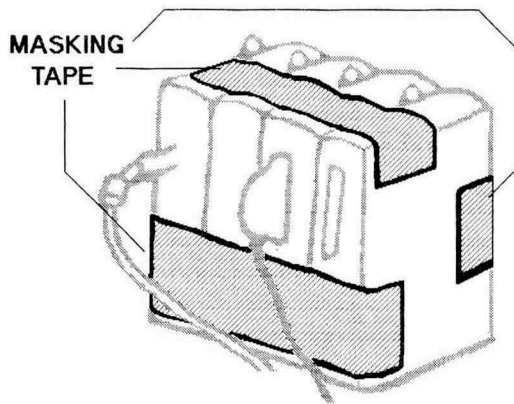
When the interfaces are securely joined together, plug them onto the circuit-board labelled EXPANSION which sticks out of the back of the computer (see diagrams on previous page). Again, it is most important to ensure that they are both the correct way up. Finally, use the screws to attach the interface which is closest to the computer firmly to the computer casing.

NOW TURN ON THE POWER...

When you are ABSOLUTELY SURE that the interface is correctly connected, you can connect your PCW to the mains. You are now ready to make a backup copy of the scanner software on your spare disc.

If you are using an Amstrad Fax machine instead of a scanning head, switch on the power to the Fax machine before continuing.

Switch on the computer, insert your CP/M master 'BOOT' disc (or a copy of it), and wait until the CP/M prompt appears: it should look like this...

A>

If the machine does not BOOT normally, or if the CP/M prompt does not appear, then there may be a problem with the hardware installation you have just done. Switch off the computer immediately, and go back to the beginning of this section to check every step of the installation process. If your computer still refuses to work, check the **Troubleshooting** appendix at the back of this manual.

When you have the CP/M prompt, take out the CP/M disc, put in the ProSCAN master disc, and type...

PSMAKE☑   (the ☑ symbol means press RETURN)

PSMAKE is a program which makes a working copy of the ProSCAN software on your spare disc, so that you can keep your Master copy in a safe place. Just follow the instructions on the screen, and keep your CP/M disc handy: the program will have to copy some files from it while making the working copy. It will also ask you questions about any other hardware, such as printers or mice, which may be attached to your PCW. If you do not know the answers to these questions, do not be afraid to guess: giving the wrong answers cannot damage the program or the computer in any way.
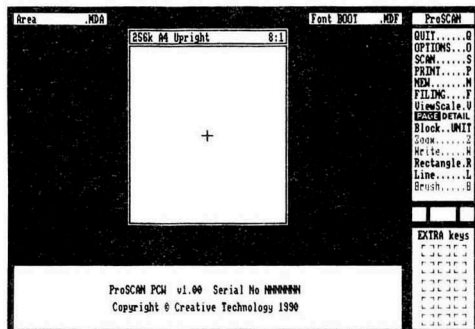
Making a Working Copy of the Program

INSTALLATION

When the copying process is complete, you have a working copy of the program, and you are now ready to start scanning.

Running the Program

USING THE SCANNER

To run the scanner program, insert your ProSCAN working disc in drive A and type

    PS↵

When the program is running, the screen looks like this:


```
Area        .MDA                      Font BOOT    .MDF    ProSCAN
            ┌─────────────────────────────────┐           QUIT......Q
            │ 256k A4 Upright          8:1    │           OPTIONS...O
            │                                 │           SCAN......S
            │                                 │           PRINT....P
            │                                 │           MEM......M
            │                                 │           FILING...F
            │                                 │           ViewScale.V
            │              +                  │           PAGE DETAIL
            │                                 │           Block..UNIT
            │                                 │           Zoom......Z
            │                                 │           Write.....W
            │                                 │           Rectangle.R
            │                                 │           Line......L
            └─────────────────────────────────┘           Brush.....B

                                                           EXTRA keys
            ProSCAN PCW  v1.00  Serial No NNNNNN
            Copyright © Creative Technology 1990
```

S

Now you can scan your first picture. If you look in the menu, you will see that you can launch the **Scan** Operation by pressing [S].

USING THE HAND-HELD SCANNING HEAD

Hand-Held Scanner:

When you press [S], you should see the SCAN entry in the Menu light up, and the green light in the scanning head should switch on, so that you can see it shining out of the bottom of the head. (If the scanner fails to light up, switch off the computer and check the installation process again.) You should also see a horizontal line appear at the top of the Page: this line represents the width of the scan, and the line length depends on the current setting of the Scale switch on the left side of the scanning head. This switch has three positions, labelled H, M and L: we will deal with what this means later, but for the moment, set it to M.

SETTING THE SWITCHES
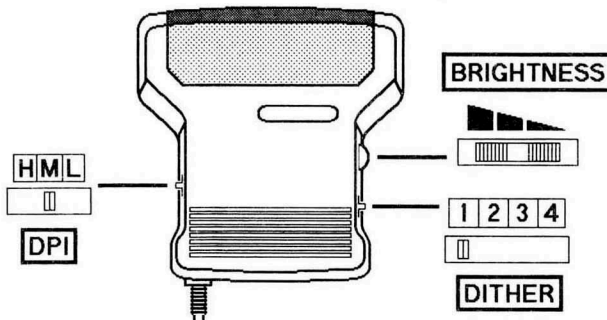
On the right side of the scanning head, there is a rotary control, and another switch with positions labelled 1, 2, 3 and 4: set the rotary control the the centre position, and the switch to position 1.

Now press [ENTER]. The screen should go blank, and a single line should appear across the top to tell you that the program is ready to scan.

ENTER

ProSCAN

The Hand-held Scanning Head

If you are using the hand-held scanning head, try scanning this picture:

The Badger

The Badger has been much-maligned
Small wonder that it hides away
Gassed and baited by mankind
It rarely sees the light of day.
But when the sun has almost gone
This beast emerges from the trees
And entertains, with dance and song
In nature documentaries.

Anon

Position the head with the transparent part at the top of the image, and make sure that you can roll the head easily over the paper with no obstructions.

The next step is to activate the scanning head itself. On the top of the head is a large grey button: the scanner will not actually start working until you push this button. Push it now: you should see a red LED start to glow beside the button, indicating that the scanner is active. Roll the head slowly over the image, and watch it appear on the screen. If the computer makes a clicking noise as you roll the scanning head, you are moving it too fast.

ProSCAN
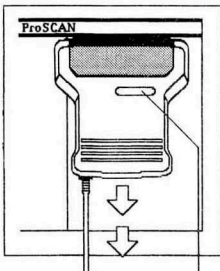
START BUTTON

If it doesn't look quite right...

When the scanning head is operating, the program provides a **Restart** facility: this allows you to scan a part of the image, see how it looks, and start the scan again after adjusting the scanner controls to improve it. Press the [CAN] key each time you want to restart.

If the screen is filled with complete rubbish, particularly straight vertical lines, then there is a problem with the Expansion connector at the back of the computer. Switch off, remove the interface, and start the installation again, remembering to clean the connector as instructed.

If the image is approximately correct, the first thing you might notice is that it is too dark, or too light: in extreme cases, you may not be able to make out any image at all. The light/dark setting is a rotary control situated on the right side of the scanning head: try changing the darkness by moving this control, then press [CAN] to restart and scan again. If nothing appears on the screen as you scan, check that the red LED in the scanning head is switched on: if it isn't, press the button on the top of the head. Try adjusting the brightness control as you scan, and see the effect on the image.

Using an Amstrad Fax

If you are using an Amstrad Fax machine for scanning, after pressing [S] to launch the Scan operation, press [Enter] to start scanning. Next, find a sheet of A4 paper which you would like to scan. Push the sheet into the Fax machine face-down in the normal way, and press the FINE and COPY buttons together. The Fax should now scan the sheet, and you should see the left edge of the scan appearing on your screen.

TROUBLE-SHOOTING

CAN

INSTALLATION

BRIGHTNESS

Using the Amstrad Fax

ProSCAN

BRIGHTNESS

If it doesn't look quite right...

If the image is too dark or light, you will have to use the Fax's SETUP system to change the Document Density. Use the three buttons below the display, called 'SOFTKEYS':

Soft-keys
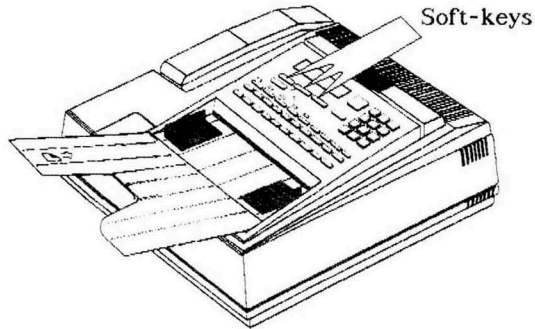
First, press buttons 1 and 3 together to enter SETUP. Next, press button 1: the words 'Document Density' should appear on the display. Press button 2 to change the Density: the display will now show the words 'Threshold Level', and a number from 0-7. Now the confusing bit: to make your scan appear *Lighter*, you have to make the threshold level *Darker* (button 1), and if your scan is too light, make the threshold level lighter (button 3)! When you have set the new threshold Level, press button 2 to select it, then buttons 1 and 3 together to end the SETUP procedure.

GREY-SCALES

Grey-Scales

You may wish to use the half-tone facility provided in the Fax scanner: half-tones, also called Dither Patterns, are used to simulate grey-shades in scanned images. You may find that different half-tone settings work better with different types of image, and different types of printer, so it is best to experiment.

PRINTING THE IMAGE

When you have completed a good scan of the image, you are ready to print it. If you answered all the questions correctly during installation, printing is very simple: just make sure that there is some paper in the printer, and press [P] followed by [Return]. If nothing happens, consult the Troubleshooting section in Appendix 1 of this manual.

Printing

MORE ABOUT THE PROGRAM

The different facilities in the program are called **Operations**: these are the commands listed in the menu on the right edge of the screen, in a menu which is illustrated on the left.

Operations

Each of these Operations can be launched by pressing the key-letters listed in the menu, and most have on-screen instructions to help you use them. So far, you have only worked briefly through the Scan and Print operations, but ProSCAN is a powerful package which will allow you to do much more. To get to know the program fully, try playing with it: if you run into any problems, use the Index to look up the instructions for the particular Operation you are using.

INSTALLATION

ProSCAN

USING THE PROGRAM

This chapter covers the basic structure of the ProSCAN program, and how to use the different facilities in it.

The VIEW-SCALES

Like MicroDesign2, ProSCAN is a **Page**-based program. This means that whenever you are scanning or editing an image, you are always working on some part of a Page which is held in the computer's memory. This Page can be viewed at two different scales, called the View-Scales.

When the program is first run, the View-Scale is set to **Page**. This gives a display of the whole Page at reduced scale. If you select the **View-Scale** Operation, the program switches to the **Detailed** View-scale: this allows you to see a small area of the Page at a size which shows all the detail. The Detailed View-scale can be scrolled around the Page, so that you can look at or work on any part of the Page at this scale: see 'The Scroll Map', page 3-6.
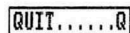
The CURSOR

All features in ProSCAN are controlled using the Cursor. The cursor is moved around the screen using the Cursor Keys, or arrow keys, at the right end of the PCW keyboard. When you first run the program, the cursor appears as a cross in the middle of the Page, but its shape may change: for example, when it is used to select an Operation, it appears in the Menu as a box.
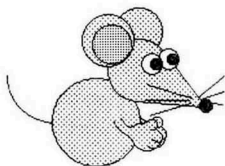
The Cursor: $+$ QUIT......Q

on the Page...   and in the Menus

ProSCAN

The Mouse

The MOUSE

ProSCAN 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. To install your mouse, you must set up the correct Mouse Type using the Options: see Options, page 4-3, for more details. When the mouse is installed, most of the program features can be accessed by pointing at them with the mouse cursor and pressing the left button: see Operations below.

Operations:

The Menu

```
  ProSCAN
QUIT......Q
OPTIONS...O
SCAN......S
PRINT.....P
NEW.......N
FILING....F
ViewScale.V
PAGE DETAIL
Block..UNIT
Zoom......Z
Write.....W
Rectangle.R
Line......L
Brush.....B
```

The OPERATIONS

The different facilities, or Operations, which are available in ProSCAN are listed down the right-hand side of the screen in the **Menu**. Some of the Operations for editing images only work at the Detailed View-scale, and these appear in grey letters in the Menu if the Page View-scale is selected. Other Operations such as Save and Print automatically switch the View-scale to Page.

Using the Operations

The Operations fall into two groups, and are divided in the Menu to show this distinction. The top group are the **Control** Operations, which are used for scanning, printing, loading and saving files, and selecting hardware configurations and Page formats (see below). The lower group are the **Tools**, which are used for editing the images and adding text to them.

Control Operations can be accessed from any point in the program, and if the View-Scale is set to Detail, most will switch it back to Page.

Tools are mostly used for graphics editing, and some of them are not available when the View-Scale is set to Page.

Operation Types

'Grey' Operations

Any Operation which appears in the menu in 'grey' is not available at the current View-Scale: see the menu illustration opposite, where the Zoom Write and Brush operations are 'grey'. To access a 'grey' Operation, press [V] to change the View-Scale.

LAUNCHING

All the Operations can be accessed, or **Launched**, in three different ways. Most simply, there is a key 'name beside each of the entries in the menu: pressing this key launches the Operation.

Secondly, the Operations can be selected using the [LINE/EOL] key and the cursor keys. Pressing [LINE/EOL] once moves the cursor into the Menu, where it appears as a box around one of the Operations. This cursor can then be moved using the cursor keys over the required Operation, and the Operation can then be Launched by pressing [LINE/EOL] again.

Thirdly, Operations can be launched with a Mouse, if you have one When you have installed the mouse using Options, the mouse cursor appears on the screen, and can be placed over the desired Operation name in the Menu. Pressing the left button then launches the Operation.

FIXING

Operations are not completed until they have been FIXED: if you Launch a new Operation before you have Fixed the previous one, the previous one will be aborted. The **[ENTER]** key is normally used to Fix Operations. With the Mouse, Operations are Fixed by moving the cursor over the Tick symbol ([✓]) below the Menu and pressing the left button. Alternatively, a **Double-Click** on the left button will also Fix: see options for more details about the Double-Click.
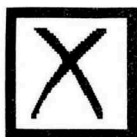
'Grey' Operations

Launching

Fixing

UNDOING

With the Keyboard...

...and the Mouse

UNDOING

If the result of Fixing an Editing Operation is not exactly what you intended, you can easily UNDO the Fix: the UNDO key is the [WORD/CHAR] key at the right end of the keyboard. UNDOing takes you back to the middle of the Operation, with everything set as it was just before the Operation was fixed. From this point, you can either adjust and Fix again, or UNDO again to abort the Operation completely.
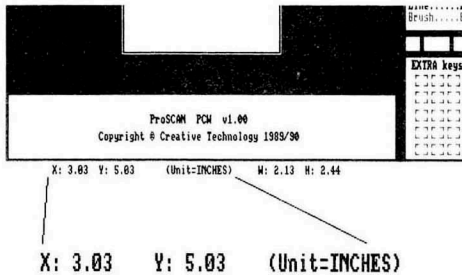
There are two ways to UNDO with the mouse: firstly, simply position the cursor over the cross symbol (⊠) below the Menu, and press the left button. Secondly, double-clicking with the right button also performs an UNDO.

If an Operation has not yet been fixed, UNDOing will abort the Operation, leaving the screen in the state it was in before the Operation was launched. UNDOing again will act on the previous Operation, UNDOing the last Fix.

Note that UNDO applies only to the Editing Tools. Operations cannot be UNDOne if the following Operation has been Fixed. It is also impossible to UNDO an editing Operation if any of the Control Operations have been used since it was Fixed.
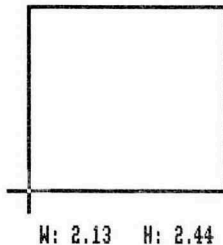
The CURSOR READOUT

The current position of the cursor is displayed in the bottom line of the screen, as X and Y coordinates. These coordinates are calculated from an origin at the top left corner of the Page, and can be measured in Pixels, Inches or Millimetres.

ProSCAN PCW v1.00
Copyright © Creative Technology 1989/90

X: 3.03 Y: 5.03   (Unit=INCHES)   W: 2.13 H: 2.44

X: 3.03   Y: 5.03   (Unit=INCHES)

The readout can be set to zero, creating a new origin, and allowing measurement relative to any point. To do this, move the cursor to the point which you want to be the new origin, and press [EXTRA]+[Ø].

Width and Height

Whenever a rectangular area of the Page has to be defined, such as when using the Block, Rectangle or SaveArea Operations, the Width and Height of the area are also displayed alongside the cursor readout, in the same units.

W: 2.13   H: 2.44

PROGRAM

ProSCAN

The Scroll Map

The SCROLL MAP

When the Detailed View-scale is selected, only a small area of the Page is visible. It is often useful to know exactly which part of the Page is displayed, and the program can show this using the Scroll Map.

The Scroll Map is displayed in the bottom right corner of the screen. When an operation is in progress, it is replaced by the Extra Features menu, but it can easily be called back by pressing [SHIFT]+[ENTER], or by clicking with the mouse left button over the arrow symbol (located between the mouse ☑ and ☒ symbols).

THE PAGE   THE VIEW POSITION   Extra Keys for the Block Operation
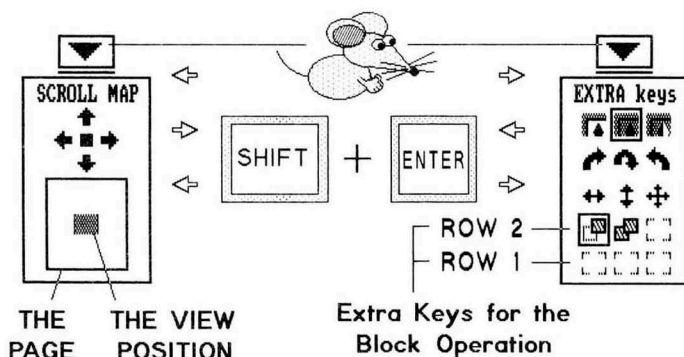
Scrolling

You can scroll the Detailed View across the Page by pressing [SHIFT] with the cursor keys: fast scrolling is available by holding down the [ALT] key at the same time. With the mouse, simply place the cursor over one of the four arrows above the Scroll Map, and hold down the left button.

Centring

Centring the Cursor and the Screen

The cursor can be moved to the centre of the Page (in Page View-Scale) or the screen (in Detailed View-Scale) by pressing the [Doc/Page] key. In the Detailed View-Scale, pressing [Shift]+[Doc/Page] scrolls the Detailed display automatically to the centre of the Page.
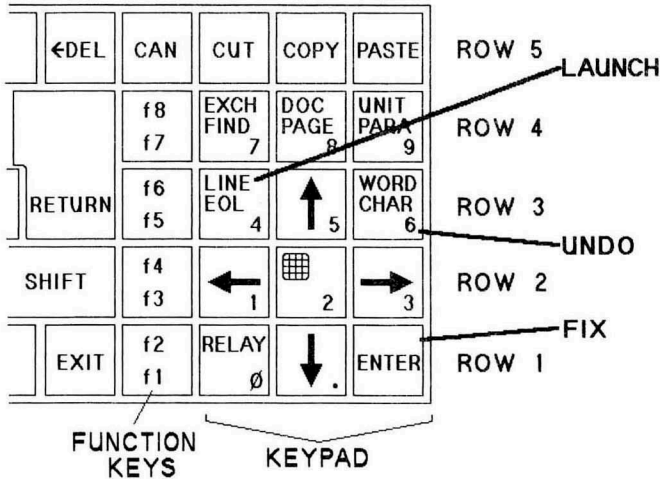
THE *EXTRA* SYSTEM AND THE KEYPAD

Some Operations have *Extra Features* associated with them: these are different options which allow you to use the Operations in different ways.

When an Operation is in progress, its Extra Features (if any) are displayed as small symbols in the bottom right corner of the screen. The Extra Features are selected with the mouse by pointing at them and pressing the left button, or with the keyboard using the [EXTRA] key in conjunction with the 'Keypad' keys at the right hand end of the PCW keyboard.

Extra Features

The Keypad

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.
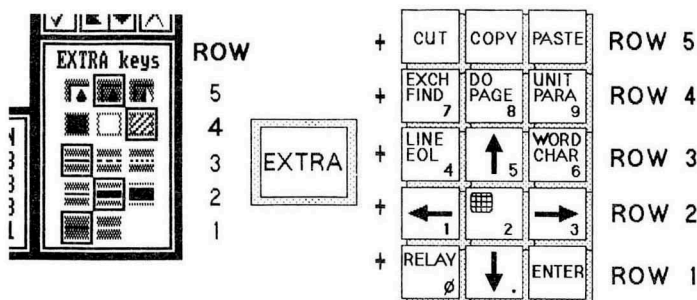
PROGRAM

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'. Ink colours and modes are used in most of ProSCAN's image-editing 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 through the Extra Keys, control the way in which 'Inks' are placed on the Page. Since ProSCAN outputs to a monochrome printer, each pixel can be only black or white, but within the program there are several ways of using Inks.

Ink Colours

The Ink '**Colour**' can normally be Black or White. (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. In the **Brush** Operation, the inks are made more versatile by using dot-patterns of different densities to create 'Grey' shades: see **Brush**.

The Ink Colours are represented by these symbols:

BLACK   WHITE

Ink Modes

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 an area 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;

OPAQUE

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;

TRANSPARENT

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.

EXOR

PROGRAM

The Ink Modes are represented by the following symbols -

OPAQUE   TRANSPARENT   EXOR

Summary

This section has dealt with the general methods of using the ProSCAN software. You can now experiment with the techniques described in this chapter, and if you have any problems, try referring to the specific Operation you are trying to use in the following chapter. This is a catalogue of all the Operations, listed in the Menu order, with full details of the facilities available in each one.

Summary

ProSCAN

THE OPERATIONS

This chapter gives full details of all the Operations available in the ProSCAN program, and how to use them.

QUIT simply offers you the option to quit ProSCAN and return to CP/M.

OPTIONS

This Operation is used to set up the program for your particular hardware configuration. It includes selection of printer type and interface, mouse type, and personal preferences for cursor movement and the Cursor Position Readout. A complete set of these System Options can be defined and saved in a file called PROSCAN.OPT, which will automatically install them in ProScan whenever the program is run. Any changes in the Options are effective immediately: it is not necessary to Save them.

The Options screen includes a sub-menu which appears below the Options Menu entry. This sub-menu allows you to exit from the Options screen back to the Menu, and to Save the Options.

```
  OPTIONS
Exit...EXIT
SaveOPTS..S
```

The Options
Screen

```
CURSOR
Fast Cursor:  8 ◆⌐...▼.....................➡
Blink     :  OFF       ON
Readout   :  OFF       PIXELS    INCHES    mm

MOUSE
Mouse     :  OFF       KEMPSTON  AMX
Mouse Movt :  SLOW      MEDIUM   FAST
DoubleClick:  SLOW      MEDIUM   FAST

PRINTER
Interface :  PCWmatrix CENTRONIC SERIAL   9512PAR
PrinterType: 9-Pin     24-Pin   DeskJet  HPLaser   CanonBJ
Sub-Type  :  Type A    Type B   Type C

SCANNER
ImageSource: HandScan  Fax(FX1) Fax(FX2)
```

OPERATIONS

Saving Options

Saving Options

The current set of Options can be saved using **SaveOpts**. If the options are changed from within ProScan, but not saved, they will be lost on quitting the program.

Using the Keyboard in the Options Screen

The cursor keys are used to move around the Options, and to alter them. Use [ENTER] to return to the Menu, and [S] to Save the Options.

Using the Mouse in the Options Screen

The left button is used to alter the Options, and to select Operations from the menu. Click over the EXIT entry in the sub-menu to return to the normal Menu.

The Options are split into three groups, for Cursor, Mouse and Printer:

Cursor Options

CURSOR OPTIONS

FAST CURSOR

Fast Cursor

This option controls the distance moved by the cursor for each cursor key-press 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 O and 120 pixels: the default value is 8 pixels.

CURSOR BLINK

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.

Readout Units

Readout

This controls the state of the Cursor Readout, selecting between OFF (no readout), or readout units of Pixels, Inches or Millimetres.

MOUSE OPTIONS

Mouse

ProSCAN supports the Kempston and AMX mice. This option allows you to select either of these mouse types, 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 key-presses of the double-click used to FIX and UNDO with the mouse. Two key-presses which are spaced longer than the setting of this option will be interpreted as discrete key-presses, not as a double-click.

PRINTER OPTIONS

Interface

This option must be set to **PCWmatrix** for the PCW's own printer, **CENTRONIC** for a parallel printer connected via an external Centronics interface, or **SERIAL232** for a serial printer connected via an RS232 interface.

9512 users should note that ProScan cannot use a daisy-wheel printer. The **internal** Centronics port fitted as standard on the PCW9512 is NOT the same as an **external** Centronics interface: to use the 9512 port, select the **9512PAR** option. Note also that to use the 9512 parallel port, you must leave the daisy-wheel printer plugged in to the computer: see **Troubleshooting** for more details.

OPERATIONS

Printer Type:

Printer Type
There are five basic types of printer which ProSCAN can use, apart from the PCW's own dot-matrix printer. If the **Interface** option is set to **PCWMatrix**, the Printer Type setting is ignored.

9-pin

9-Pin dot-matrix printers (other than the PCW printer) use the Epson standard for printing 'Quadruple Density Bit-Image Graphics'. If your printer does not have a quad-density graphics facility (some older printers have only double-density), it will be unable to print the Hi-res A4 Upright (format 4) or Hi-res Strip (format 6) pages correctly.

24-pin

24-Pin dot-matrix printers should have both 'Quad-Density' and 'Hex-Density' graphics modes. A few 24-pin printers, including some of Amstrad's own, do not have the 'Hex' mode, and will not produce the same quality when printing: see 'Sub-Types' below for more details.

Laser

Laser Printers can be compatible either with the HP-Laserjet standard (sub-type A), or with the Canon laser system (sub-type C). Printing a full page of Graphics on a laser printer requires about 1.5 Megabytes of printer memory: if your printer has less memory than this, it will only be able to print the top part of the Page.

Deskjet

The **Deskjet** printer is a high-resolution ink-jet printer made by Hewlett-Packard: it is very suitable for use with ProSCAN, and produces excellent results. It also has a data-compression system similar to that used in ProSCAN's own Area files, and can therefore print a ProSCAN Page much more quickly than other printer types.

Bubblejet

The **Canon Bubblejet** is also an inkjet printer, but it has the same resolution as a 24-pin printer: it prints in 'Hex Density' graphics mode, at 360 dots per inch. Bubblejet users should note that the printer's DIP-switches should be set for 'Alternate Graphics Mode', or AGM..

Some 9-pin dot-matrix printers (especially older models) use slightly different character codes than usual to set the graphics modes used by ProScan. This option therefore provides two modes for driving external 9-pin printers, as Sub-Types A and B: if your 9-pin printer fails to produce the correct output from type A, try changing to type B.

ProScan 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, and can only be driven in 'Triple Density' mode: if your 24-pin printer does not work with the **24-pin A** (Hex) option, try the **24-pin B** (Triple) option.

ProSCAN's **Laser A** sub-type uses the **HP Laserjet Plus** standard. The page width used in this standard is slightly narrower than the full ProSCAN 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 **Laser A**. Note that sub-type C is used for Canon laser printers.

There are no sub-types for Deskjet or Bubblejet printers.

SCANNER OPTIONS

ProSCAN will accept images either from a hand-held scanning head, or from the Amstrad Fax machine (models FX9600T and FX9600AT).

If you are using one of the Amstrad Fax machines listed, you will need to select either the **FX1** or **FX2** option, according to where your Fax machine was manufactured. FX1s are manufactured in China, and FXs in the UK or Ireland. If you cannot find anything written either on the box or on the bottom of the Fax machine itself, just choose one of the settings: if it doesn't work properly, try the other!

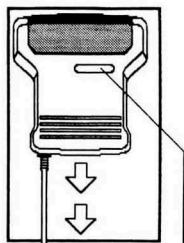**Printer Sub-Types**

9–PIN

24–PIN

LASER

DESKJET /
BUBBLEJET

Scanner: Image Source

AMSTRAD FAX

OPERATIONS

Scan

**SCAN
STARTING LINE**

**USING THE
SCANNING HEAD**

START BUTTON

SCAN

This is the Operation used for controlling the scanner itself. When it is launched, the View-scale changes to Page, and the scanner itself is switched on: you may hear a quiet 'click' as this happens, and the LEDs in the scanner head begin to glow. You should also see a horizontal line appear on the Page: the length of this line corresponds to the width of the scan, as set by the dpi (Dots Per Inch) switch on the side of the scanner head. The line also represents the position on the Page at which scanning will begin: the image is always scanned downwards onto the Page, so that anything below the line will be over-written.

When you have set the line position on the Page and the dpi switch on the scanning head, press [ENTER] or ☑ to begin the scanning process. The View-scale changes to Detail, to allow you to see the image as it is scanned.

You should now position the scanner head at the top of the image to be scanned: check that it can run smoothly over the full length of the intended scan, and if necessary, that the direction of the scanner head movement is exactly parallel with the edge of the paper. Finally, move back to the top of the image, and press the button on top of the scanner head: you should see a red LED switch on beside it. The scanner is now operating: move it slowly 'downwards', and watch the image appear on the screen. Only the left edge of the image is visible as you scan, and the image will 'disappear' off the top of the screen as you move, but all the data is being stored on the Page.

When you have scanned as much as you need, press any key: the View-scale then changes back to Page, and you can see the result. If your scan is so long that you reach the bottom the Page, the program will terminate the scan and switch back to the Page View-scale automatically.

Scanning Speed

There is a limit to the speed at which the program can accept data from the scanning head, and so there is also a limit to the speed at which the scanner is allowed to move. The program makes a clicking noise if the scanner is moving at its upper speed limit: if you hear one or two clicks you should slow down immediately, but a burst of clicks indicates that the program has probably missed some data, so you should start the scan again.

Time-Out: if the scanner is left switched on but unused for more than one minute, it switches itself off and terminates the Scan operation.

AMSTRAD FAX SCANNER

If you are using a Fax machine, feed the sheet of paper you wish to scan into the machine face down, as if you were going to copy or transmit it. The machine should grab the edge of the sheet, and move it forward to the normal starting position. Next, press the Fax FINE and COPY buttons together, and the machine will start scanning.

The Fax resolution is set at 200dpi, and cannot be changed. At this resolution, a full A4 sheet will just fit on the ProSCAN Page. The darkness (or lightness) of the scan is set by adjusting the Document Density level in the Fax SETUP menu: see page 41 of the Fax manual, or the Installation chapter of this manual, for more information.

You can also use the Fax machine's **Half-Tone** settings to generate grey-scales in your scanned images: for more information, see page 13 of the Fax manual. Note that if the Halftone is switched on (setting 1 or setting 2), adjusting the Document Density has no effect.

Scanning Speed

TIME-OUT

Amstrad Fax

RESOLUTION

DARKNESS/ LIGHTNESS

HALF-TONES

OPERATIONS

Proportions

Proportions

The Proportions option, which appears below the Page when Scan is launched, is used to adjust and re-scale the image as it is scanned. This is sometimes necessary because the aspect ratio (the height-to-width ratio) of the scanned data does not match that of a 9-pin printer. Note that the Proportions are not connected with the Size of the image, but only with the ratio of height and width.

With Proportions set to **Normal**, each dot which is scanned is placed directly on the Page, but the proportions of the image when it has been printed will be different from those of the original.

When the Proportions are **Adjusted**, the image is re-scaled as it is scanned, so that the aspect ratio of the final printout will match the original image. Since the re-scaling process involves the loss of some of the image data, it should be used only when it is important to reproduce the image with the correct aspect ratio.

Note that the ADJUSTED option is not available when using an Amstrad Fax as the image source.

Scanning at one-to-one

Scanning at one-to-one

If the Proportions option is set to **Adjusted** and the DPI switch is set to 300 (position M), the final printout will be the same size as the original.

WITH DESKJET & LASER PRINTERS

If you are using a laser or Deskjet printer, note that one-to-one reproduction can be achieved without Adjusting the proportions. To print the highest quality image, scan at 300 dpi (switch position M), and set the Output option in the Print Menu to **High-Q**. See **Print**, page 4-13, for more details.

WITH 24-PIN AND BUBBLEJET PRINTERS

With 24-pin Hi-Q printing, the image size of a 300dpi scan is reduced (see page 4-14), but the proportions are preserved.

Keyboard in Scan

After launching Scan, use the cursor keys to position the starting line on the Page. The [RELAY] key moves the cursor in and out of the bottom window to change the Proportions option, and [ENTER] starts the scan.

Mouse in Scan

After launching the operation, position the starting line on the Page using the left button, and click over \ to start scanning.

OPERATIONS

ProSCAN

New

NEW

This Operation is used for changing the Page Format. 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 Page Formats

ProSCAN offers six different formats for the Page.

┌── LoRes ──┐	┌── HiRes ──┐	┌── SuperRes ──┐
1: A4 Upright	3: ¼Page Strip	6: ¼Page Strip
2: A4 Sideways	4: A4 Upright	
	5: A4 Sideways	

Page Formats

PCW8256

The dots which make up the Page are stored as 'bits' in the computer's memory, and the electronic picture of the A4 Page is called a Bit-Image. If you have a PCW with only 256K of memory, this Bit-Image can occupy a maximum of 64K: the rest of the memory is used by the program itself. This gives you about 500,000 dots on your Page, and it is called a Lo-Resolution (Lo-res) Page. If your computer has 512K, the bit-image can use up to 256K: this gives you over 2,000,000 dots on your Page, and it is called a Hi-Resolution (Hi-res) Page. Page format numbers 1 and 2 are Lo-res Pages, and 4 and 5 are Hi-res Pages.

¼PAGE FORMATS

You can also use the same amount of memory (64K or 256K) to represent an area which is only a quarter of the size of an A4 Page: the ¼Page formats provide better resolution, so that a 64K ¼Page (format 3) prints at Hi-resolution, and a 256K ¼Page (format 6) prints at 'Super' resolution, four times better than Hi-res.

Resolution

Each dot on a Hi-res Page is smaller than each dot on a Lo-res Page. Smaller dots mean that you can design in more detail, but it means that when an image is designed on a Lo-res Page and then loaded onto a Hi-res Page, its height and width are halved. The Detailed View-scale always shows the same number of dots, so the fraction of the Page which can be viewed in Detail is smaller for a Hi-res Page than for a Lo-res Page.
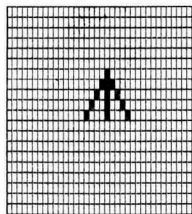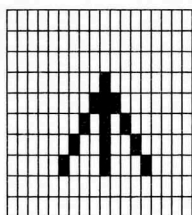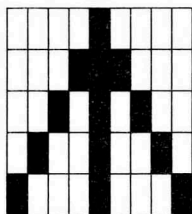
This diagram shows examples (at 8:1 enlargment) of how images appear when printed from each' of the three different Page Resolutions: the divisions represent single pixels, stored in single Bits in memory. The first grid shows a section of a Lo-res Page (format 1 or 2), the second shows a Hi-res Page (formats 3, 4 and 5) and the third shows the 'super-res' format 6.

Notice how the dot size is smaller in each diagram, and how the same image appears smaller on each printout.

OPERATIONS

The memory in the PCW8256 can be upgraded to 512K so that Page Formats 4, 5 and 6 can be used: contact Creative Technology for more details.

ProSCAN

Page Scaling

A4 PAGES

¼ PAGES

Page Scaling

With the View-Scale set to Page, moving one pixel on the visible Page represents a distance four pixels on a Low resolution Page (a ratio of 4:1), or eight pixels (8:1) on a High resolution Page. **Block** and **Save Area** Operations require an area to be defined within a frame: this frame can be positioned only to an accuracy of four or eight pixels in the Page View-scale. **Block** or **Save** Operations requiring greater accuracy than this must be done in the Detailed View-scale.

The ¼Page format scaling is rather different. The *on-screen* display scale of Hi-res ¼Page Pages (format 3) is 4:1, the same as that of Lo-res A4 Pages, although the final *printed* output from a format 3 ¼Page uses the same resolution as as a Hi-res A4 Page. Similarly, the Super-res ¼Page has the same Page View-scale as the Hi-res A4 Page (8:1), but uses better resolution on the printed output. The ¼Page 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 ¼Pages and printing them in sequence down a single sheet of paper. The ¼Page formats can also be used to produce the best possible resolution and quality for an illustration which happens to be ¼Page-shaped, for example a letter-head.
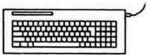
Keyboard
After launching the New Operation from the menu in the usual way, the new Format is selected from the bottom menu using the number beside it ([1]-[6]) or by the cursor keys followed by [ENTER].

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 options have been set using the cursor keys or
the mouse, Printing is begun by pressing ☑ or [ENTER].
Printing can be aborted at any time by holding down the
[STOP] key, 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.

```
Output: NORMAL  HIGH-Q        Copies: 1 2 3 4 5 6 7 8 9 X
Scale : FULL    HALF  QUARTER  Paper : CONT    SINGLE
Style : DRAFT   QUALITY        FmFeed: OFF     ON
Margin: 0 ←...............→    Length: CONTENT PAGE
```

Output

OUTPUT

The ProSCAN Page formats are designed around the
print density of 9-pin printers, which use a resolution
of 240x108 dpi (dots per inch).   If you are using any
printer type with a higher resolution than a 9-pin, this
option can be used to switch off the re-scaling process
by which a ProSCAN Page is "stretched" to occupy a
full A4 sheet on the higher-resolution printer.
Deskjet, Bubblejet, laser and even 24-pin printers can
all print at a higher resolution by reducing the size of
the Page and distorting the aspect ratio (the height-
width ratio) slightly: this option is called **High-Q**.

OPERATIONS

**DESKJET &
LASER PRINTERS**

Deskjet and laser printers are designed to work at a resolution of 300dpi, so when using the HIGH-Q setting, the un-stretched Page is only just over half the size of an A4 sheet. On this small area, however, the print quality is excellent: the original master pages for this manual were printed at 300x150 dpi on a Deskjet printer using this method.

**24-PIN
& BUBBLEJET
PRINTERS**

With 24-pin and Bubblejet printers, which use a maximum resolution of 360 dpi, the HIGH-Q Page is even smaller, and the detail even better, though printouts can sometimes be rather dark.

Here are examples of the relative sizes of complete Pages when printed at the **HIGH-Q** setting on different printers. This illustration cannot show the improvements in quality which this method allows, but if you have a 24-pin, Deskjet or laser printer, experiment with this option to see its effect.

HIGH-Q
(DESKJET/LASER)

NORMAL

HIGH-Q
24-PIN/
BUBBLEJET

OPERATIONS
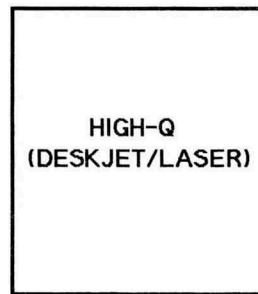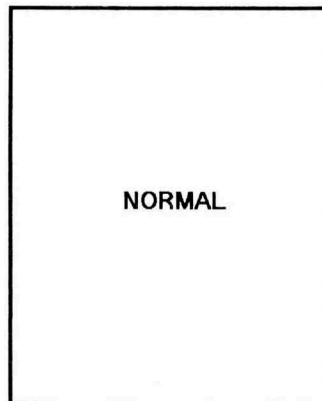
One-to-One Scanning Using Proportions

With 300dpi (laser or Deskjet) printers, this option allows you to scan and print at perfect one-to-one scale without setting the Scanning 'Proportions' option to 'Adjusted'. If you scan at 300dpi (switch position M) with NORMAL proportions, and then print the image on a laser or Deskjet with the Output set to HIGH-Q, the printed image will be the same size as the original. The printout quality produced by this method is much better than when the image is re-scaled as part of both the scanning and printing processes.

Scale

A low-res A4 Page can be printed out at **Full**, **Half** or **Quarter** scale, and a high-res A4 page or format ¼Page 3 only at **Full** or **Half** scale. Super-res ¼Page format pages can only be printed at full scale. Full scale fills a whole A4 sheet with an A4 Page, whether upright or sideways. Half scale and quarter scale reduce the height and the width by a factor of 2 and 4 respectively, so that an A4 Page covers an area equivalent to A6 when printed at half scale, and A8 when printed at quarter scale.

Because of the size of the printed dots, some quality 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. This option has no effect when using 24-pin, Deskjet or laser printers.

ProSCAN

MARGIN

Margin

This controls the left-to-right position at which the Page appears on the paper. At full scale, a Page must occupy the whole width of the paper, but at half and quarter scales, or if the Output option is set to **High-Q**, the printout can be offset to appear anywhere across the width of the paper.

COPIES

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.

PAPER

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.

FORM-FEED

Form Feed

With Form Feed **On**, a form feed command is sent to the printer after each complete Page. With Form Feed **OFF**, the paper remains in the printer, allowing several Pages (especially ¼Pages) to be concatenated onto a single sheet.

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.

OPERATIONS

Note The printing Operations in ProSCAN are of 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 **Options** section of this manual for further information about external Centronics and Serial printers, and about Laser and 24-pin printers.

OPERATIONS

View-Scale

VIEW-SCALE

This Operation is used to move between the two View-Scales (these will be familiar to MicroDesign2 users as the Layout and Design scales). In the **Page** View-scale, the screen displays a view of the complete Page, but in very limited detail. In the **Detailed** View-scale, the screen shows a small area of the Page in full detail: this screen can be 'scrolled' around the Page, so that the whole Page can be viewed in sections.

'GREY' OPERATIONS

While the most of the Operations can be used at either Page or Detailed View-scales, some of the editing tools can only be used in one of the View-scales. Operations which are not available in the current View-scale appear 'grey' in the menu.

BLOCK OPERATIONS

The **Block** Operation is used to perform 'cut-and-paste' functions, such as Copy and Erase. In the Detailed View-scale, Block includes options for Rotating and Reflecting, but these options are not available in the Page View-scale.

OPERATIONS

FILING

This Operation is used to access a sub-menu which contains the five filing Operations. These provide disc storage facilities for scanned images, in two different file formats.

When any filing operation is launched, the filing window appears in the bottom of the the screen. This shows the following information:

CURRENT DRIVE   FILING   SPACE ON
& USER NO.   OPERATION   DISC

```
┌─────────────────────────────────────────────────────────┐
│ Drive A:  User 00 │ LOAD AREA --  AREA      MIDA │ Free Space    36k │
│ ◄                                                         ►│
│                                                           │
└─────────────────────────────────────────────────────────┘
```

FILE NAME OR
SEARCH STRING
(see next page)
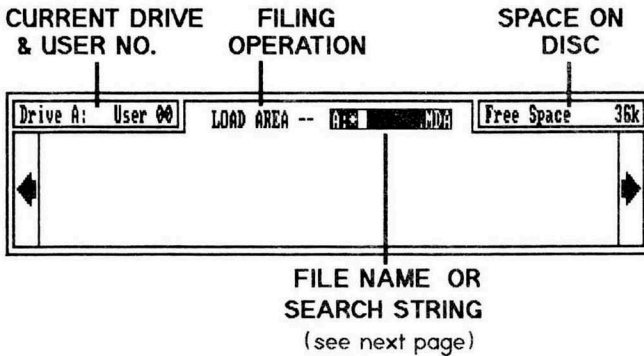
The Filing Utilities menu provides sub-operations for disc management:

```
┌─────────────┐
│ Drive.alt-v │
│ User..alt-u │
│ Rename...f7 │
│ Erase....f5 │
│ Directry.f3 │
│ Format...f1 │
└─────────────┘
```

Drive and **User** affect the current filing operation: the program will cycle round all the Drives and User Numbers as these keys are pressed, or each can be accessed individually by pressing [ALT]+ the User number or drive letter.

Rename, **Erase** and **Directory** are sub-operations: when Launched, each provides a '*.*' Search String which can be

OPERATIONS

ProSCAN

FILING UTILITIES (CONT)

altered before being Entered. Note that these utilities are only available after a filing operation has been launched: after using them, you must press [STOP] or [EXIT] to return to the original filing operation.

FORMAT DISC

Format allows you to format a disc: if you have two disc drives, you can format in either one.

Search Strings

Search Strings

The Filing Operations and Utilities can all use Search Strings to provide information about what is on the disc. Search Strings use the 'Wild-Card' character $*$ to represent any characters in a file-name, and can refer to a number of different files with similar names. See your CP/M manual for more details.

Here are some examples of search strings for different purposes:

`A:*     .MDA`	All Area files on drive A:
`B:T*    .MDF`	All Font files beginning with T on drive B:
`A:*.*`	All files on drive A: (used in Directory and other utilities)

When a Search String is entered ([ENTER] or ☑), the program displays in the filing window a list of the files on the specified disc which correspond to the string. The file-names are sorted into alphabetical order to make it easier to search for a particular file. The filing window can display up to 35 files (25 if you are using the Filing Utilities): if there are more files which fit the search string, they can be scrolled into view using the cursor keys, or by clicking with the mouse left button over the arrows at each end of the Window.

SAVE AREA (Page View-scale only)

Save Area

Launching this Operation allows you to position a rectangular frame on the Page using the cursor keys and [SPACE]: this frame can include the whole Page if required. When the frame is Fixed using [ENTER] or ☑, a filename is requested, and the defined area is saved: the file is stored in data-compressed format with the suffix '.MDA'.

Keyboard

The frame is positioned using the cursor keys, and initially the cursor is located in the frame centre. Pressing [SPACE] moves the cursor to one corner of the frame, and this corner can then be positioned separately. Pressing [SPACE] again moves the cursor to the opposite corner, which can also be controlled. Using all three of these 'control points', the frame can be altered to cover any rectangular area of the Page. Press [ENTER] to Fix the frame, type in the desired file-name, and press [ENTER] again to Save the Area and exit.

Mouse

The frame is positioned using the left button, and initially the cursor is located in the frame centre. Pressing the right button moves the cursor to one corner of the frame, and this corner can then be positioned separately, again using the left button. Pressing the right button again moves the cursor to the opposite corner, which can also be moved. Using all three of these 'control points', the frame shape and size can be altered to cover any rectangular area of the Page.

OPERATIONS
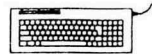
EXTRAS:
SCREEN FILES

A S

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 some other graphics packages, or in Basic, Logo or Pascal programs. If the Screen feature is selected, the size of the SaveArea cursor is fixed to correspond with the size of the PCW screen.

CONFIRM STAGE

Confirm Stage

Whenever any file is saved, the program checks to see if a file of the same name already exists on the disc. If such a file does exist, the program asks you to confirm that you wish to overwrite it.

OPERATIONS

LOAD AREA (Page View-scale only)

This Operation loads an Area file from disc onto the Page. When the Operation is launched, the Search String

LOAD AREA -- A:* .MDA

is displayed in the bottom window. Press [ENTER] or ☑ to enter the search string: the program now displays a directory of all the Area files on the disc. Select the required filename using the cursor keys followed by [ENTER], or with the mouse left button.

Once the filename has been selected, 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: note that the size can be altered, as described in 'Extra Features' below. Finally, the Area is loaded at the current frame position by pressing [ENTER] or ☑.

Extra Features
Areas may be loaded in Opaque, Transparent or Exor modes, as set by Extra Row 5. There are also three Size options in Extra row 4, which allow Areas to be loaded at Half, Normal or Double size.

Extra row 2 controls the relative priorities for black and white ink when an image is being reduced in size as it is loaded. If the image size is not being reduced, this feature has no effect. During reduction, extra priority can be given to the black ink in the image, producing a Darker image, or to the white ink, giving a Lighter image: there is also a Medium setting where no priorities are applied. The symbols for the Dark, Medium and Light options, and an example of their effects, are shown over-leaf: remember that they are only effective if the image size is reduced as it is loaded.

Load Area

EXTRA keys

x½ x1 x2

DARK / LIGHT

OPERATIONS
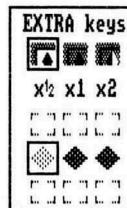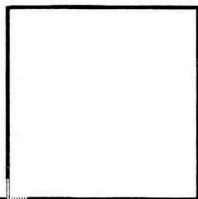
LIGHT shrink   MEDIUM shrink   DARK shrink

AREA SIZE

Area Size

You can load an Area at any size: when the frame appears on the Page, its size and proportions can be altered by pressing [SPACE] and then using the cursor keys, just like the SaveArea frame: see above.

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.

Load and Save CUT

Load/Save CUT (Detailed View-scale only)
These Operations are the Detailed View-scale equivalents of **Load/Save Area**, both in what they do, and in how to use them. They use the '.CUT' bit-image file format, which is not data-compressed, and which can also be used in MicroDesign2 and other PCW graphics programs such as Stop Press. Much of the Clip-art available for the PCW is in the CUT file format.

OPERATIONS

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*, with names like "Times" or "Helvetica"), and different Styles (described by terms like "Bold", "Italic", and "Outline"). In ProSCAN, 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.

Text can be written on the ProSCAN Page in the current Font using the **Write** Operation: see below.

The program is also supplied with a free library which includes several Fonts, and further Fonts discs are available from Creative Technology: this means that an enormous range of different lettering styles is available within ProSCAN. All the Font files supplied have numbers in their file-names to indicate their approximate sizes: see overleaf for a complete catalogue of the Fonts.

Remember that ProSCAN uses only the MicroDesign2 Fonts: any Fonts which are resident in your printer, for example, cannot be used on ProSCAN Pages.

Load Font

This is the Operation to load a Font file from disc. When the Operation is launched, the Search String

        LOAD FONT -- A:*   .MDF

is displayed in the bottom window. Insert the Fonts disc in the specified drive, and press [ENTER] or ☑ to enter the search string: the program now displays a directory of all the Font files on the disc. Select the required filename using the cursor keys followed by [ENTER], or with the mouse left button.

The Fonts:

TEXT FONTS SUPPLIED WITH PROSCAN

All Font names have the suffix '.MDF'

This is the TIMES12 font

This is the TIMES16 font

This is the TIMES25 font

This is the HELVET08 font

This is the HELVET12 font

This is the HELVET15 font

This is the HELVLT23 font

This is the SCRIPT27 font

This is the OLDENG23 font

This is the BLOCK16 font

OPERATIONS

The EDITING TOOLS

BLOCK

This is the initial Operation for Marking an area to be **Erased**, **Inverted** or **Copied**. The block boundaries are positioned using the keyboard or mouse as described below. Having Marked the block, ☑ or [ENTER] moves the cursor into the **Block Menu** allowing selection of:

Block

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

Erase

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 Page display may not correspond exactly to the Page contents: to refresh the display, switch to the Detailed View-scale, then return to Page.

Invert

Copy allows you 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.

Copy and Move

NOTE: Copied Blocks can only be viewed *in situ* by Fixing the Operation, although Operations can always be UNDOne, adjusted and Fixed again.

Keyboard

The block frame which appears on the Page can be positioned using the cursor keys to move, and [EXCH/FIND] or [SPACE] to flip between the control points: [EXTRA]+[SPACE] reduces the frame size to zero. When the frame is Fixed, the Block Operation (Invert, Erase, or Copy) is selected from the Block Menu using the keys listed. The destination frame for Copy is positioned using the cursor keys: [ENTER] to Fix and exit.

OPERATIONS

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. ☑ or Double-Click to Fix and exit.

EXTRA keys
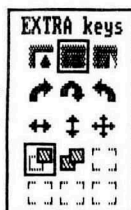
Extra Features

Only **Copy** Operations have Extra Features:
Extra row 2 selects **Move** or **Copy** (remove original Block or leave it intact);
Extra row 5 selects Opaque, Transparent or Exor modes.

Reflect and Rotate

In the Detailed View-scale, the Extra Features include options to **Reflect** and **Rotate** the block as it is copied. Row 3 offers horizontal, vertical and both horizontal and vertical reflect options, and row 4 allows you to rotate the block through 90°, 180°, or 270°. You cannot select reflect and rotate options at the same time. Note that when rotating a block through 90° or 270°, the difference between horizontal and vertical resolution on the PCW screen (ie the shape of half-pixels) means that some of the detail will be lost.

OPERATIONS

ZOOM (Detailed View-scale only)

This Operation allows a part of the screen to be selected for detailed 'pixel' editing. When Zoom is launched, a frame is displayed on the Design screen indicating the size of 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 then magnified 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; **Exit** returns to the Detailed View-scale, and the old Zoomed area is replaced with the new version.

While in Zoom, if you want to restore the original area to the Design Window and abort the Zoom Operation, simply **Refresh**, then **Exit**.

Keyboard

Pixels are plotted in the Zoom screen using [SPACE], in 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 1 selects the ink colour for plotting (Black, White or Exor);

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

Zoom

REFRESH

OPERATIONS

EXTRA keys

ProSCAN
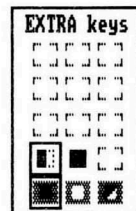
Write

WRITE

The Write Operation allows text to be typed directly onto the Page in whichever Font, or typeface, which is loaded at the time. Note that loading a new Font after Writing will not affect the appearance of any characters already Written. After launching Write, position the cursor on the screen using the cursor keys or mouse, then type the text using the keyboard. Each character can be positioned individually by using the cursor keys before typing it, and characters can be deleted as if in a word-processor using the [←Del] key.

THE [RETURN] KEY

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 edge of the Page, below the previous line. Note that the cursor can always be re-positioned using the cursor keys.

UNDOING WRITE

UNDOing. Write Operations cannot be Undone: instead, characters are simply deleted. After re-launching Write, the [<-Del] key can be used to delete as many of the characters as required, up to a maximum of about 200.

Mouse

The mouse can be used to select Write and to position the cursor, but the keyboard must be used for text entry. ☑ can still be used to Fix the Operation, and the Scroll Map and Extra Features can be accessed with the mouse as normal.

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.

Write always operates in Exor mode.

EXTRA keys
B D H
I O U

OPERATIONS

1off

RECTANGLE

Rectangles can be drawn directly onto the page in either of the two View-Scales. When Rectangle 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 Rectangle 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 [SPACE] or the [EXCH/FIND] key. [ENTER] fixes the Rectangle.

Mouse

The frame is positioned in the same way as the Block frame described above, using the left button to move the cursor, and the right button to switch between the control points. ☑ or Double-Click to Fix and exit.

Extra Features

Row 2 controls the line thickness used for the Rectangle; Row 1 selects the Ink colour (Black or White).

Rectangle

EXTRA keys

OPERATIONS

ProSCAN
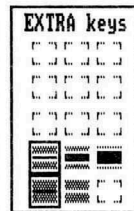
Line

LINE

Launching the Line Operation and moving the cursor draws a line between the cursor and the original position. Lines can be drawn in Black or White ink, in three different thicknesses.

Keyboard

Control can be flipped to either end of the line using [SPACE] or [EXCH]; a final [ENTER] fixes the line on the Page.

Mouse

The end point of the line is moved by holding the left button down, and control can be flipped to the other end of the line with the right button. ☑ or a double click on the left button Fixes the line in place.

EXTRA keys
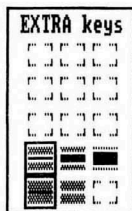
Extra Features

Row 2 selects line thickness;
Row 1 selects Black or White ink.

BRUSH

This operation is used to provide a Painting facility. You can paint on the paper in black or white ink, or in a number of different shades of grey, all in Opaque, Transparent and Exor modes. You can also use a number of different brush shapes and sizes, and each brush can work as a 'spray': all these options are selected from the Extra Keys menu.

COLOURS
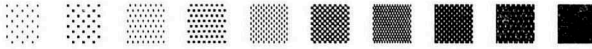
BRUSHES

Keyboard

To put paint on the Page at the current cursor position, press [SPACE]. If you hold down [SPACE] and move the cursor, you should see a stripe of paint appear across the Page. If you are using the Spray option (see Extra Features), the ink is sprayed onto the page gradually, so that the longer you hold the [SPACE] bar down, the more solid the paint becomes. The Extra Features for Brush and Ink colour have a number of different settings, and you can cycle round them by pressing the Extra keys shown in the menu.

Mouse

The mouse allows you to use Brush in a very natural way. Simply hold down the left button and move the mouse across the Page. If you are using the Spray option (see Extra Features), you should see that the longer you spray over a particular area, the more solid the paint becomes. To select a new brush or ink colour, click over the arrows beside the entries in the Extra Keys menu until the correct brush or ink is displayed.

Brush

COLOURS...

...AND BRUSHES

OPERATIONS

ProSCAN
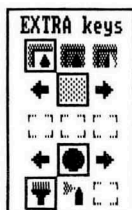
Extra Features

Opaque, Transparent and Exor modes are selected by Extra row 5. Rows 4 and 2 are used to change the Ink Colour and Brush respectively: there are 13 colours, ranging from black to white through different shades of grey, and eleven brush styles. Row 1 is used to select Brush or Spray mode.

APPENDIX 1: TROUBLESHOOTING

This appendix anticipates some of the problems which may arise when using ProSCAN, 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 telephone the Creative Technology help-line on 0889 567160 between 4pm and 7pm Monday to Friday.

IF NOTHING WORKS

When you first switch on your PCW after installing the scanner interface, you may find that it will not 'Boot', or start up, correctly. You should switch off the power again immediately, and check all the connections you have made: in particular, make sure that the interface is the correct way up, and that it is pushed firmly onto the back of the computer. If all seems well, clean the Expansion connector (see page 2-3), and try again: if the fault persists, contact Creative Technology.

If you manage to make a copy of the program, but the scanner itself does not work, check that it is properly plugged into the interface. If it is, check the whole installation again.

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 is set correctly: remember that a *Serial 232* printer is connected to an RS232 interface, and a

Trouble-Shooting

If nothing works...

Printing

PRINTER TYPE & INTERFACE

APPENDICES

ProSCAN

**PRINTER TYPE &
INTERFACE
(cont)**

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 *9512PAR*. **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.**

LASER PRINTERS

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

See Options, page 4-3, for more details of printer options.

Other printer problems may include:

AUTO-LINE-FEED

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.

'LPT NOT READY'

LPT not ready and **Waiting for Paper** Messages

With 8256/8512 computers, the built-in printer may sometimes refuse to print, and display a 'Waiting for Paper' message in the Printer Status line which appears at the bottom of the screen.   This Status Line is a feature of CP/M, and ProSCAN uses the built-in CP/M routines for sending data to the printer, so this Status Line is nothing to do with the ProSCAN program.   If you see the 'LPT Not Ready' mesage, make sure that there is paper in the printer, then press the following sequence of keys: [PTR], [+], [EXIT], then [R].

APPENDICES

To prevent this problem, use the CP/M program called 'PAPER.COM' as described in your CP/M manual, or Reset the printer before starting to print. The printer can be reset by pressing [PTR] to bring up the printer menu in the bottom line of the screen, then moving the cursor over the word 'RESET' and pressing [+].

CEN Not Ready or **PAR Not Ready** Messages

These messages indicate a problem between CP/M and an external printer, connected via a Centronics interface. The message means that CP/M thinks the printer is not ready to receive data, so check that the printer is loaded with paper, and is switched On-Line.

'CEN' OR 'PAR' NOT READY

White Stripes at the top of the Printout

This is the top line of your printout

WHITE STRIPES

This problem is caused by 'slack' in the printer mechanism. If your printer has a *Line Feed* (LF) button, you can usually cure the stripes by putting the paper in the printer, and then using the LF button to wind the paper forward a short distance before printing. With the PCW 8256/8512 printer, press the [PTR] key to bring up the printer menu in the bottom line of the screen, move the cursor over 'LF', and press [+]: this should drive the paper forward a little, removing the slack.

APPENDICES

ProSCAN

OTHER PROBLEMS

Memory

If you have a PCW8256, you will not be able to select the Hi-res (256K) Page formats (numbers 4-6). If you wish to use the high-resolution printing facilities in ProSCAN, you will have to upgrade the memory in your computer: please contact Creative Technology for more details.

SaveArea Size Fixed

If the size of the frame 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.

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 ProSCAN's Fonts.

ProSCAN 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.

Disc Free Space

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

Using ProSCAN with a Hard Disc Drive

There are three types of Hard Disc drive available for the PCW, and ProSCAN will work with all of them. Just use the PSMAKE program to copy ProSCAN onto the hard disc.

When using the Filing operations, Hard Drive users should be aware that there is a limit to the number of files which can be listed in the Filing Window: this limit is normally about 200. If you cannot find a particular file in its alphabetical place in the list, try using a more specific Search String to display smaller number of file-names.

The **ASD** and **WEBB** hard disc systems are normally incompatible with the AMX Mouse. If you want to use the mouse with either of these drives, you must make a small modification to the mouse interface: please contact Creative Technology for more details.

No Files Found: this error message 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 or because you are searching in the wrong User Group: check the Program Reference chapter of this manual for details of the particular operation you are using.

HARD DISC
DRIVES

'NO FILES FOUND'

APPENDICES

ProSCAN

APPENDICES

APPENDIX 2: HINTS AND TIPS

This chapter contains a detailed description of the scanning head itself, and how to use the different controls on it to produce the best results.

In order to help you see the effect of varying the scanning head controls, the program allows you to re-start a scan at any time by pressing the CAN key. You can also vary some of the controls as you scan, to see their effects: note that the image which appears on the screen as you scan is the **left edge** of the complete scan.

THE SCANNING HEAD

The Scanning Head has three different controls:
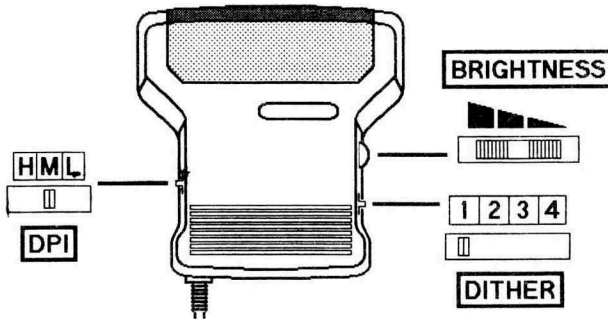
Brightness

The lightness (or darkness) of any scan depends on the brightness of the original image, and on the setting of the Brightness control. Try varying this control while scanning, and see the effect.

Dots Per Inch

The Scanning Scale: Dots Per Inch (DPI)

The size at which the image is scanned into the computer can be varied by the DPI switch: this is the switch on the left side of the head, labelled H, M, and L. A DOT on the Page is always the same size, but this switch allows you to change the number of dots which are used to represent one inch of the image when scanning. This changes the size of the scanned image on the Page.

The three settings give DPI readings as follows: L means 200dpi, M means 300dpi and H means 400dpi. If you scan the same image on the H and L settings, the H scan should be twice as big as the L scan. Try scanning a small part of your image on each setting, onto different parts of the Page: to do this, you will need to scan the first part, press any key to Fix the scan. Next, re-launch the Scan operation, and move the scan starting line to a different part of the Page, change the DPI setting, and scan again. When you compare the images, you should find that they are different sizes.

'Dither' Patterns

The Dither Switch

The Dither switch has four settings, numbered simply 1 to 4. The switch is used to alter the way in which the scanner treats the 'grey' parts of the image: from the scanner's point of view, 'grey' areas are those parts of the image which are not bright enough to be white, but not dark enough to be black.

With the dither-switch in position 1, the scanner considers every part of the image to be either black or white: the 'boundary' between the two is set by the Brightness control.

With the Dither switch in positions 2, 3 or 4, the scanner introduces divisions between black and white, creating a "Grey-Scale" of different levels of Brightness. The scanning system detect 8 different levels of 'grey', from nearly black to nearly white. 'Greys' are reproduced as patterns of dots, called "Dither Patterns": the darker the grey-shade, the more dense the dots in the dither-pattern.

Switch positions 2, 3 and 4 all have the same number of grey-scales, but they use different dither-patterns to represent them. Different types of dither-pattern work well on different printers, and you may well find that you need to use different dither-switch settings to produce the best results from different images. Remember that the dither-patterns which looks best on the screen may not give the best image on the final printout.
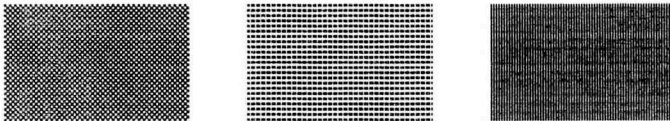
SOME OF THE 'DITHER' PATTERNS (MAGNIFIED)

You can vary the Dither-Switch setting as you scan, and then re-start the scan when you have found the best setting.

APPENDICES

ProSCAN

Scan Position Indicators

The Scan Position Markers

In the translucent window in the top of the scanning head, you should be able to see two pairs of position indicators. These show the limits of the scan, and the scanning position:

SCANNING LINE

SCANNING WIDTH
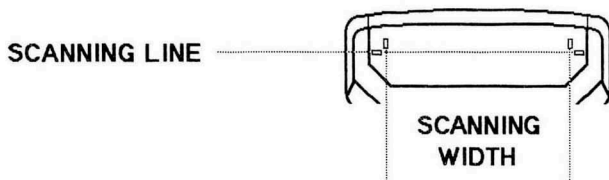
They will help you to position the scanning head accurately.

Scanning Techniques

SCANNING TECHNIQUES

To get the very best results from your scanner, you may need to use some of the following techniques.

DIFFERENT TYPES OF IMAGE

Scanning Different Images

The dither-switch is used to select scanning methods for two very different types of image. Position 1 should be used for line-drawings or text, where there is only black and white. Images which contain shades of grey, such as photographs, should be scanned on settings 2, 3 or 4: trial and error is the only way to show which setting works best on your printer for that particular image. Even colour photographs can produce excellent results, provided that the Brightness is set carefully: see below.

Setting the Brightness Control

When scanning a photograph or grey-scale picture, the best way to set the brightness control is to move the scanning head onto the darkest part of the image, and move it backwards and forwards over this area while reducing the Brightness gradually, until the dark area just appears black. Alternatively, use the same technique with a white area.

BRIGHTNESS

Creating a Smooth Surface

If the surface on which the image is printed is uneven or slippery, or just too small for the scanning head to roll over it smoothly, it can sometimes be useful to place a sheet of clear plastic or acetate over the image before scanning.

SMOOTH SURFACE

Changing the DPI Setting

If you change the DPI setting, the apparent Darkness of the image also changes. Always re-adjust the Brightness after changing the DPI.

BRIGHTNESS AND DPI

Running over the edge of the paper

If you are trying to scan very close to the edge of a sheet of paper, you may find that you cannot keep the scanner rollers running smoothly, because they fall over the edge. Remember that the scanning head works just as well if you roll it the wrong way: the image will be 'mirrored', but this may not be a problem with a picture, and it can be cured using the Block Reflect facility.
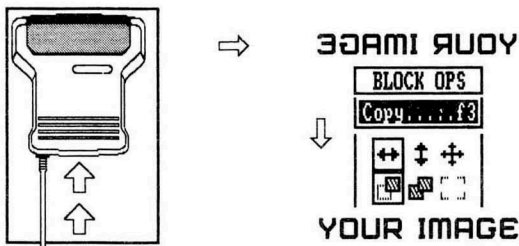
SCANNING NEAR THE EDGE OF THE PAGE

ProSCAN

**SCANNING
HEIGHT**

The Scanning Height

The height at which the scan head rolls over the paper has a powerful effect on the image brightness. This means that you must be careful not to press downwards on the head as you scan, and that if you are scanning from a book, you must not let the rollers fall off the edge of the book while scanning: see above.

LIGHTING

Lighting

Because the scanner works by shining its own light on the image and measuring the brightness of the reflection, you must make sure that there are no bright lights shining on the image or the top of the scanning head. Changes in the ambient lighting level can also affect the scanner's performance.

**SCANNING
WIDE IMAGES**

Parallel Scanning

If you need to scan an image which is wider than 4", try scanning it in two parallel 'stripes' and then joining them together. Scanning two parallel images is quite difficult: try using a ruler to guide the scanning head, or using the graticules in the scanning head itself to follow any vertical lines on the page. When joining the images together, you will find that the best results are obtained by using the Block operation in the Detailed View to move small parts of the image, rather than trying to join the two images in one operation on the Page.

USEFUL FEATURES FOR MICRODESIGN2 USERS

Here are some ideas for MicroDesign2 users. ProSCAN includes some features which could be considered to be improvements in the MicroDesign2 system: some of them will eventually be available in a future version of MicroDesign, but you can use them now in ProSCAN.

Rotating Text

If you print some ordinary MicroDesign text on paper, you can scan the letters at any angle to produce angled text. You can also cut each letter out and arrange them at different angles, for example in a circle, before scanning.

Tips for MicroDesign2 Users

ANGLED OR ROTATED TEXT

NORMAL

ANGLED

ROTATED

Paint

The Brush operation in ProSCAN is similar to the Paint operation in MicroDesign2, but it uses grey-shades. This may be a useful complement to the MD2 Paint, which uses icons, and therefore only operates at whole-pixel resolution. ProSCAN's Brush also has a real 'spray' facility.

PAINT

Better PCW Printout Quality

The routines used by MD2 to print on the PCW printer are significantly improved in ProSCAN. You should see the improvement in quality if you load one of your MD2 Pages into ProSCAN and print it, then compare it to the MD2 print of the same Page.

THE PCW PRINTER

APPENDICES

**RAM–PACKS &
FLIPPER 2+**

Expanded Memory and Flipper2+

If you have a RAM expansion pack (such as the SCA
RamPac or the Eisenstein board), you can use Software
Imperative's Flipper2+ program to 'split' your PCW into
two 512K machines. This allows you to run MicroDesign2
in one half of the machine, and ProSCAN in the other
half: you can also run ProSCAN and Locoscript, or MD2
and Locoscript.

APPENDIX 3: GLOSSARY

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.

Boot Font: when ProSCAN is first run, the program does not know which Font you will want to use, but it still has to load something. "BOOT" is the name used for the Font file which is loaded by default.

Brightness: there is a Brightness control on the right-hand side of the scanning head. It is used to vary the light/dark setting of the scanned image. (page 5-7)

Brush is the operation used for painting on the Page. (page 4-33)

Clip-Art files are small pictures. They can be loaded and saved from the Detailed View in ProSCAN as CUT files, and discs of CUT files are available commercially. The CUT file format is also used by MicroDesign2, and by Stop Press.

CP/M is the Operating System which controls the PCW. In order to run ProSCAN, 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 PS [Return]. See the **Installation** chapter.

Cursor: all work in ProSCAN 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. (page 3-1)

Cursor Readout: see Readout

CUT files: see clip-art.

ProSCAN

Cut and Paste means the process of laying out the Page, and fitting it together from its component parts. In ProSCAN, this is usually done with the **Block** operation in the Layout section, rather than with scissors and glue. (page 4-28)

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.

Dither Patterns are generated by the scanner to simulate grey-shades, and the Dither switch on the right-hand side of the scanning head is used to change the dither-patterns: see page 5-8.

Dots Per Inch: the resolution of a scanning system is measured in dots per inch, or DPI. ProSCAN can work at 200, 300 or 400 dpi (settings L, M and H), as set by the dpi switch on the left side of the scanning head. (page 5-8)

Double-Click means pressing a mouse button twice in quick succession. The Double-Click performs a different function from two single clicks: see page 3-3 for more details.

DPI: see **Dots Per Inch**

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 in the bottom right corner of the screen, and are accessed using the Extra key in conjunction with the Keypad, or with the mouse. (page 3-7)

Fixing operations: operations are Fixed by pressing [ENTER], or by clicking over the tick symbol with the mouse. (page 3-3)

Fonts are typefaces or styles of lettering. They are supplied as complete alphabets, and are used in the **Write** operation for writing text onto the Page. (page 4-25)

Frames are the rectangular cursors used to define an area of the page: they are used in Block, SaveAREA, SaveCUT and Rectangle operations.

Grey-Scales: see **Dither-Patterns**.

Groups: see **User Numbers**

Half-Pixels: see **Pixels**

Hi-Res Pages are so-called because they use a high-definition printing mode. Because each dot on a Hi-res Page is smaller than a Lo-res dot, the Page is therefore more detailed. A4 Pages can only be used in Hi-res if you have a PCW with 512Kb or more of RAM. (page 4-10)

Ink Colours are exactly what you would expect. ProSCAN can draw on the Page in black, or white Inks, and can use patterns of black dots to simulate grey-shades: see page 3-8.

Ink Modes (Opaque, Transparent and Exor) are the different ways in which the Ink Colours interact with any Ink which is already on the Page. (page 3-9)

Inverting means changing white to black and black to white: the effect is sometimes called Reverse, or Negative, as in photography. (page 4-27)

Keypad: this is the block of fifteen keys (5x3) at the extreme right end of the PCW keyboard. They are used in ProSCAN for a number of purposes: see page 3-3 and 3-5.

Launching operations: each ProSCAN operation must be Launched, then Fixed. (page 3-3)

Lo-Res Pages: these formats use 64Kb of memory for an A4 Page, so give less detail than the Hi-res Pages. See **Hi-res**.

Opaque Mode: see **Ink Modes**.

Operations are the basic instructions available in the ProSCAN program. (page 3-2)

Options are set up using the Options operation: they are used to tell the program which kind of printer or mouse you are using, and are created initially by the copying program PSMAKE. (page 4-1)

APPENDICES

ProSCAN

Page: the term **Page** always refers to an electronic Page which is stored in the computer's memory. The Page can 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. (page 4-10)

Proportions means the height-to-width proportions of an image. Normally, these are very slightly distorted during scanning because the image is 'stretched' vertically by a few percent. A special 'adjusted' option is available in the Scan operation to correct this distortion as the image is scanned, though some data are lost in the process. (page 4-8)

Quarter-Page formats are used to provide higher-definition printing than the A4 Page formats. (page 4-10)

Readout The Readout appears in the bottom line of the screen, and displays the current cursor position, and the size of any Block or Area, measured in Pixels, Inches or Millimetres. (page 3-5)

Scan Position Indicators: these markers are visible in the top of the scanning head, and show the exact point which the scanner is currently 'looking at'. (page 5-10)

Scrolling: with the View-scale set to Detail, only a limited area of the Page can be seen at any one time. Scrolling the screen means moving this "window" around to see different parts of the Page, and the Scroll Map shows the current position on the Page of the Detailed view. (page 3-6)

Transparent: see Ink Modes

UNDOing means stepping back through the Launch-and-Fix sequence: see page 3-4.

User Numbers: CP/M divides discs into sixteen User numbers or Groups, numbered (0-15). ProSCAN can load or save files in any Group. To change Group, launch any filing operation, then press [ALT]+[U] as listed in the Filing Utilities menu.

View-scales are the different scales at which you can display and edit the ProSCAN Page. **Page** View-scale displays the whole Page, but cannot show all the detail; the **Detailed** View-scale shows a small area of the Page in full detail. (page 4-18)

Width and Height: see Readout.

Working Discs are made from the Master Program disc using the PSMAKE program. Working discs can be made into Start-of-Day discs: see the **Installation** chapter of this manual.

Writing means typing text directly onto the Page in the Detailed View section of the program. (page 4-30)

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. (page 4-29)

APPENDICES

ProSCAN

ProSCAN

INDEX

APPENDICES

APPENDICES

ProSCAN

APPENDICES

CREATIVE TECHNOLOGY LTD