<u>The Advanced OCP Art Studio</u>

2004 OCRed by Wilko Schröter

SPECTRUM 128K/+2

THE ADVANCED
OCP ART STUDIO

RAINBIRD

U S E R

M A N U A L

The **128K ART STUDIO** is supplied with an installation program to enable you to configure it to your own needs.

The previous version of this program was protected by LENSLOK. It has been removed in this version and replaced with a protection system based on this manual. We hope that you will find this new method of piracy prevention more user friendly, and trust you will not find it too much of an inconvenience.

WARRANTY (What to do if it doesn't work !)

If this program is faulty or fails to load, please return it (**without packaging**) to the address below and it will be replaced free of charge, and your postage refunded. This offer does not affect your statutory rights

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Rainbird Software
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**Original program and documentation
written by James Hutchby
Extended for the 128K Spectrum
by Dimitri Koveos
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FEATURES

- ❖ All the features available in the ART STUDIO on the Spectrum (some of them improved)
- ❖ The addition of a SCRAPBOOK option where scrapbooks, each of up to 16K, may be stored on cassette, microdrive or in memory.
- ❖ Ramdisk for super-fast access
- ❖ Fully compatible with microdrives
- ❖ Save brushes and patterns separately
- ❖ Are option in shapes

CONTENTS

128K ART STUDIO ADDITIONAL COMMANDS

INTRODUCTION

This appendix covers the extra commands which are available in 128K ART STUDIO. All the facilities described in ART STUDIO are available in 128K ART STUDIO with the addition of commands to control ZX Microdrives, filing facilities for user-defined Fill Patterns and Paint Brushes, Ramdisk and Scrapbook. An 'are' shape has also been added to the 'Shapes' menu.
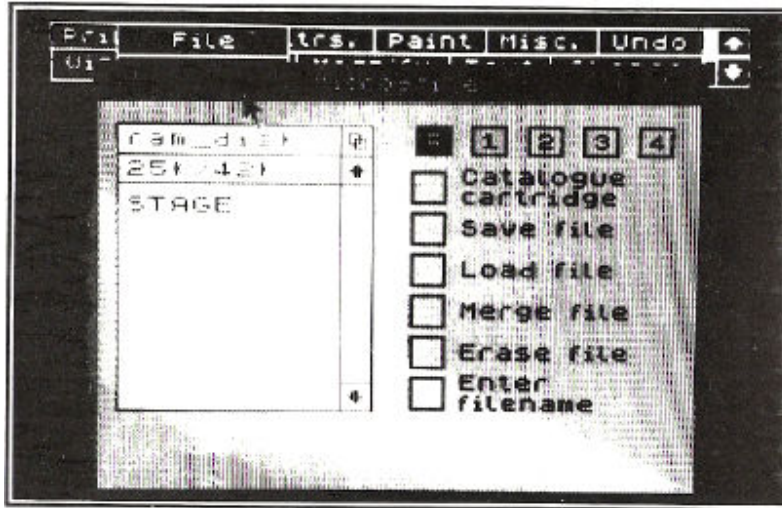
THE RAMDISK

This version of ART STUDIO takes advantage of the extra memory available by making approximately 59K of it accessible to the user in the form of a 43K Ramdisk and a 16K Scrapbook.

'Ramdisk' or 'Silicon disk' is the name given to a portion of Random Access Memory (RAM) which the Operating System or a certain application program has set aside for the purpose of temporarily storing programs or data. It is organised and 'blended' into the system in such a way, that it appears to be a mass-storage device like a disk or a microdrive and it is, in fact, accessed via the same filing commands. Files are saved in it by name and they can be catalogued, loaded, saved, merged and erased in fractions of a second by 'clicking' the appropriate option.

A Ramdisk allows the user to quickly switch from one task to another, from creating a screen to editing a set of brushes, without having to wait for a tape or microdrive 'save' to finish. 128K ART STUDIO comes with a large number of sample files already stored in the Ramdisk so that you can get an idea of its speed and usefulness. You can save valuable time by using the Ramdisk throughout your session with 128K ART STUDIO and saving to tape or microdrive only at the end. It must be borne in mind, though, that this extra-fast storage system is 'volatile' ie its contents are lost when the power is switched off.

The Ramdisk facility is available to both tape and microdrive users via the filing options of 'File', 'Fill', 'Paint', 'Font Editor' and 'Scrapbook' by clicking the M-drive option.

The microdrive 'control' menu that is pulled down has five boxes in a row, labelled 'R', '1', '2', '3' and '4'. 'R' stands for 'Ramdisk' while the remaining four boxes refer to microdrives 1 – 4.

One of them will be highlighted (inverted) to indicate the currently selected device. When the program is first loaded the Ramdisk is selected and a catalogue of its contents shown. This catalogue is selective in that it is 'context dependent'; in other words, if you arrived at the microdrive menu via 'Fill', only fill-pattern files (with filename extension '.pat') will be shown.
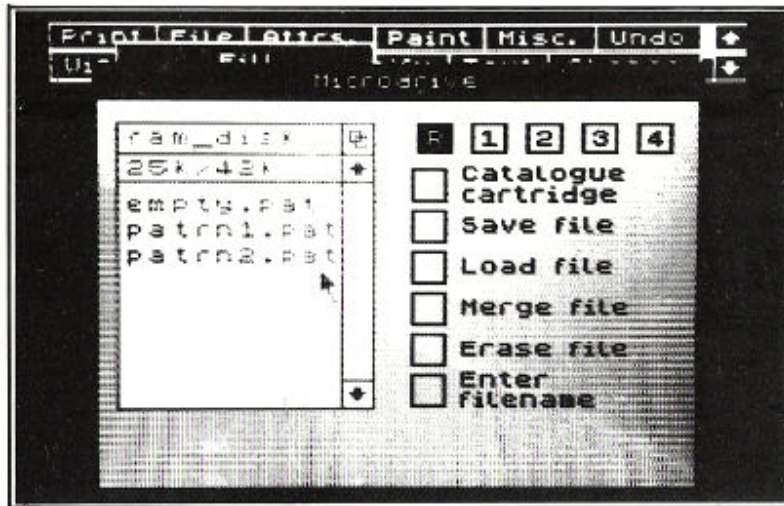
You can switch to a microdrive (if you have one fitted) by clicking the appropriate drive number box (1 to 4); then a catalogue can be obtained by selecting the 'Catalogue cartridge' option.

The section on the use of microdrives in 'FILE' below should be referred to by all users as it can also serve as a description of the Ramdisk operating procedures. The main difference (besides speed!) is the display of the Ramdisk total capacity in addition to the remaining free space. Typically, a display of '19k/42k' means that 19K are available out of a total of 42, (in fact, the Ramdisk is only 6 bytes short of 43K).

3

FILE

128K ART STUDIO fully supports cassettes and microdrives for the storage and retrieval of pictures (known as 'files'). Each of these devices is controlled by a separate menu, which is accessed through a sub-menu by clicking the 'File' box on the main menu bar.

Note that the screen 'back-up store' is used during loading and merging, consequently 'Undo' is not available.

Using microdrives

128K ART STUDIO has the ability to maintain a RAM-based catalogue that is stored permanently in memory and can be displayed and accessed without the need to actually read the cartridge each time. To generate the catalogue for a cartridge, move the cursor to the box alongside 'Catalogue cartridge' and press select. The drive motor will start, and after about 10 seconds the large white box on the left-hand side of the screen will fill with information. At the top of the box is the cartridge name, and below that the free space on the cartridge in kilobytes (that is the same information that is displayed by a CAT command from BASIC). In the rest of the box is a list of the files on the cartridge.
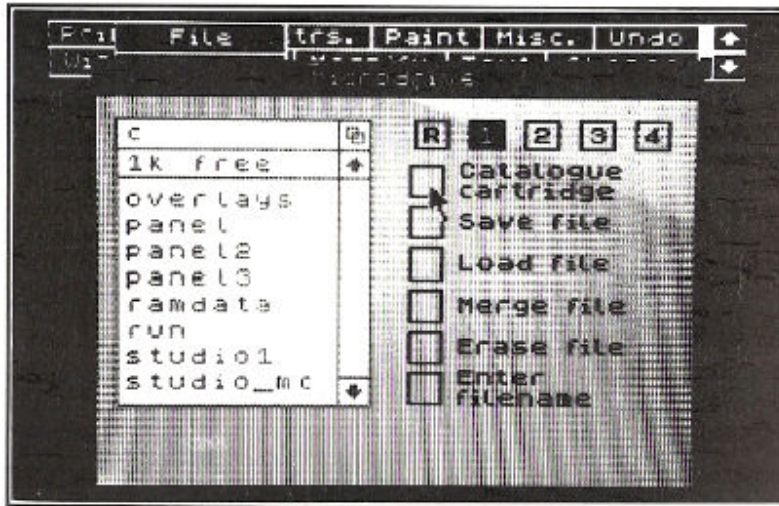
These files are not necessarily all pictures, but it is quite safe for you to load any of them to find out. Files can be highlighted by simply pointing

the cursor at their filenames and pressing select. A highlighted file can then be saved, loaded, merged or erased by moving the cursor to the box alongside the desired operation, and pressing select again. This is a considerably more convenient and elegant way of file handling than the typing in of lengthy commands and filenames in at the keyboard.

The total capacity of the RAM catalogue is 49 entries, although only 8 can be displayed at any one time. The arrow boxes, however, allow you to scroll through the whole catalogue to find a particular entry. The box with the linked squares symbol (the 'home' symbol) moves you back to the start of the catalogue, and the bar between the two arrow boxes shows which part of the whole catalogue is currently being displayed.

A filename can be entered at the keyboard when a file is being saved for the first time (and hence doesn't appear in the catalogue) by moving the cursor to the box marked 'Enter filename' and pressing select. A prompt will appear requesting a filename. Type in the filename and then press ENTER. Pressing ENTER on an empty line aborts the operation.

A file is automatically verified after it has been saved, and if the verification fails then the bad file is erased and another attempt is made at saving. This is repeated up to 5 times until a good copy is made. Note that microdrive operations can be aborted by pressing BREAK. The 'Merge file' option works as described previously for cassette operation.

Note that files can be saved, loaded or erased by first clicking the save, load or erase boxes and then highlighting the filename. This is the recommended order as it removes the possibility of saving a file when loading was intended, and vice versa. A filename can be un-highlighted by selecting it for a second time.

You must bear in mind that the 'Catalogue cartridge' route should be taken after erasing a microdrive file so that the RAM catalogue remains updated.

128K ART STUDIO supports up to 4 microdrives. Individual drives can be selected by clicking the associated numbered boxes at the top right of the menu.

FILL

A 'File menu' option has been added to 'Fill' to allow for user-created Textured Fill Patterns to be saved or loaded using cassette or microdrive. Clicking this option produces a 'File' sub-menu where cassette or microdrive operations can be selected. The 'Merge' option has been removed for obvious reasons. The cassette operation is as described elsewhere in this manual.

Saving a patterns file to Ramdisk or microdrive automatically appends the extension '.pat' to the user-specified filename. If this filename is longer than 6 characters, it is truncated to 6 in order to accommodate the default extension. This extension is used by the selective catalogue to only print those filenames from the RAM catalogue which are relevant to the command that invoked the microdrive menu. This feature can be over-ridden by the user by specifying a '.ext' of his/her own choice but, although the file will still be accessible, its name will not appear in the printed directory and, therefore, it will have to be typed in using the 'Enter filename' option.

The Ramdisk comes equipped with 4 '.pat' files: 'empty.pat', 'patrn1.pat', 'patrn2.pat' and 'patrn3.pat'.

The first one provides a quick way of clearing the 32 fill-patterns, ready for the user to edit them.

The next one is the default set of textures and can be loaded after editing etc has finished. These patterns do not have to be loaded initially since they are already in main memory.
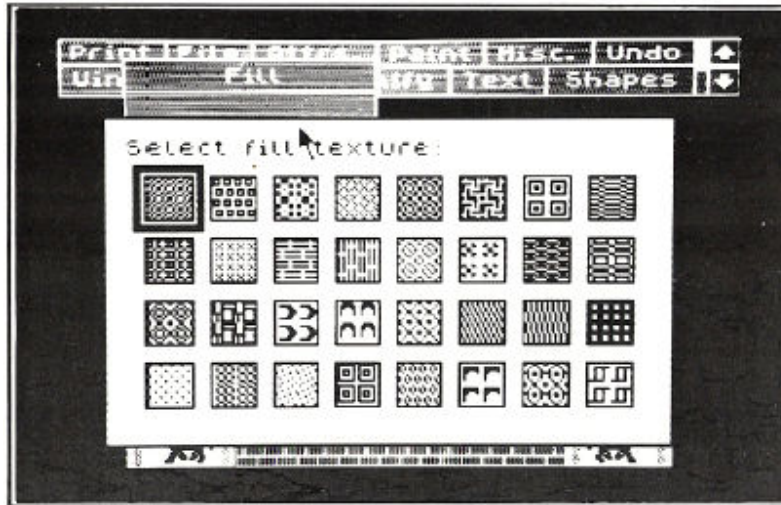
'patrn2.pat' and 'patrn3.pat' are simply two more sets of textures which are offered as an alternative to the default patterns.
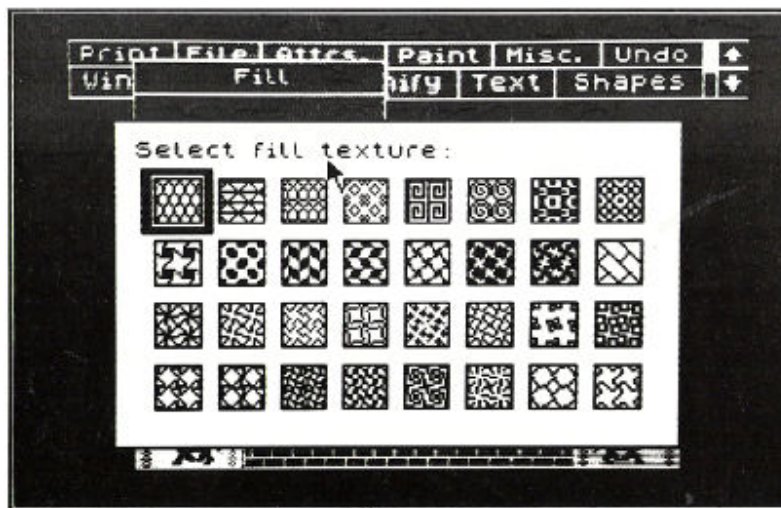
PAINT

A similar facility has been added to the 'Paint' command to enable the saving and loading of user-designed brushes.

The default extension is now '.brs' but, as in 'Fill', this can be over-ridden by the user. The operation is as described above and the Ramdisk comes loaded with 3 sets of brushes, 'empty. brs', 'brush1.brs' and 'brush2.brs', 'brush1.brs' being the default.

FONT EDITOR

User-designed Text Fonts can be saved to and loaded from tape, microdrive or Ramdisk.
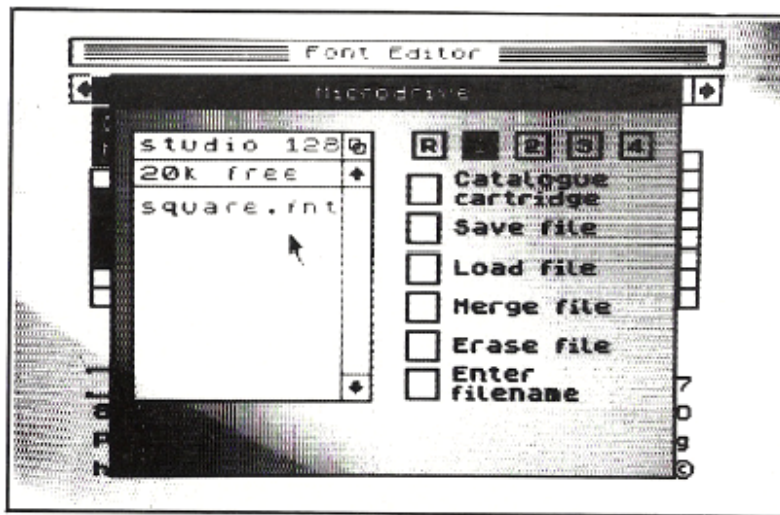
A filename extension scheme, similar to the one used for textures and brushes, is also employed here for microdrive and Ramdisk operations, the default extension being '.fnt'. Four 'fancy' fonts are provided on the Ramdisk and instructions on how to use user-designed fonts from within other programs can be found elsewhere in this manual.

SCRAPBOOK

128K ART STUDIO allows you to create a library of designs which you can then save on tape, microdrive or Ramdisk for future use. Interesting parts of pictures, logos or special symbols can be 'lifted' off the main screen and added to the scrapbook. You can have up to 16K worth of pictures in any one scrapbook file and, of course, as many files as your storage system has room for.

The gateway to the Scrapbook is via the 'Misc' box on the main menu bar. Move the cursor to the 'Scrapbook' option and press select.

The report box on the right-hand side of the screen displays the scrapbook statistics (number of items, free memory and used memory). An empty scrapbook shows 16384 bytes of free memory (16K).
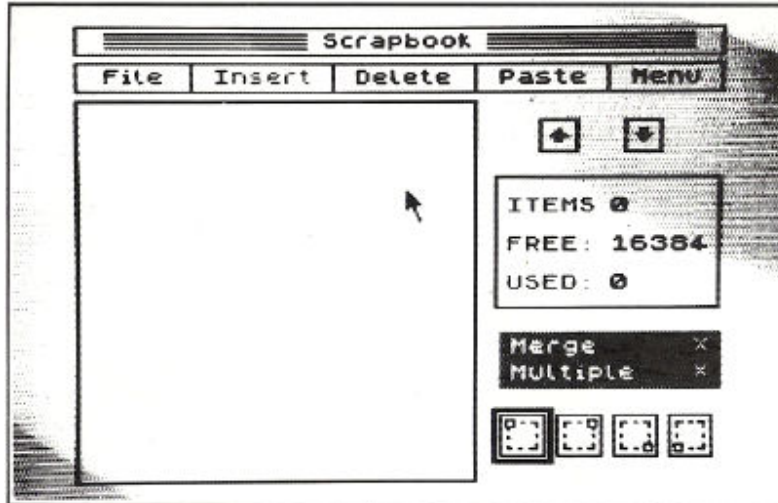
Move the cursor to the 'File' box and press select. Click the microdrive option and then select 'R' if not already selected. You will see that two sample files are already there. Click the 'Load' box and then point to a filename.
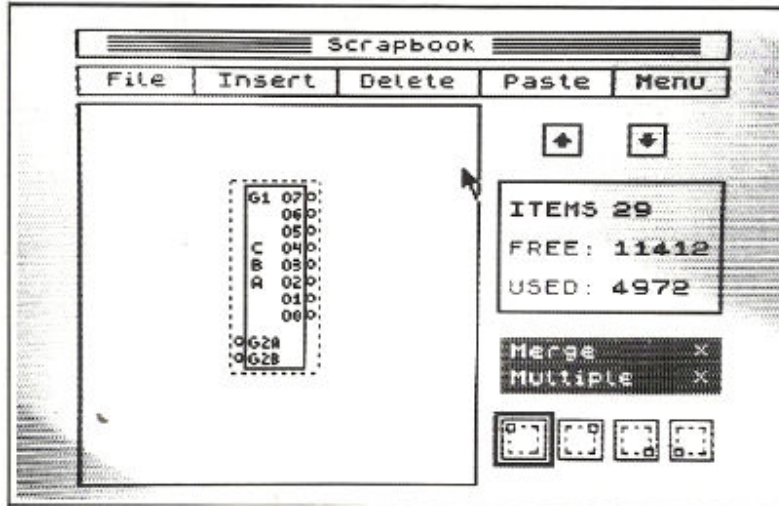
Press select to complete the operation and return to the scrapbook menu. Note that the file statistics are now displayed in the report box. Your can scroll through the scrapbook by clicking the UP and DOWN arrow boxes. Keeping select pressed when the cursor is in one of the arrow boxes, allows you to view the scrapbook elements in rapid succession ('Auto-repeat').

11

Choose a scrapbook picture and move the cursor to the 'Paste' box. Pressing select takes you back to the main menu with the dotted outline of the selected scrapbook picture appearing on the screen.
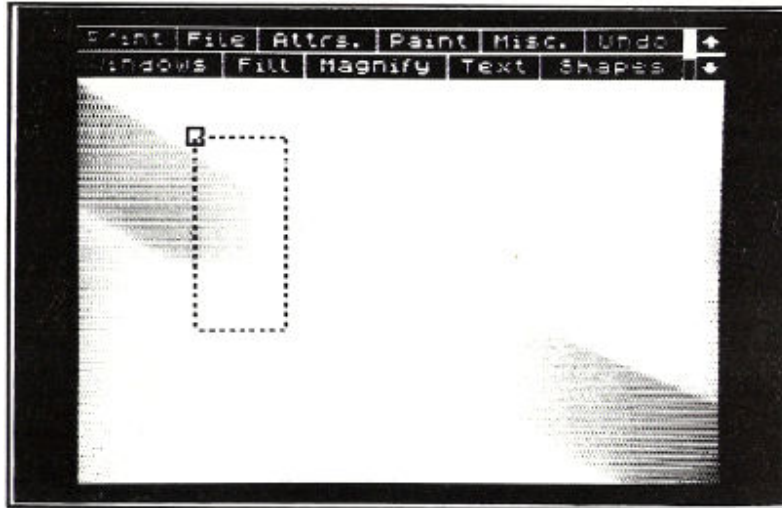
You can move this outline around the screen (See 'Cut and Paste' windows) and pressing select will paste the scrapbook item on the screen.

Pasting multiple copies or merging the scrapbook design with the main screen picture requires that the 'Multiple' and 'Merge' window options are made active. For convenience, these two 'flags' have been made accessible from within the scrapbook menu (via the red menu underneath the report box). Go back to the scrapbook and practice the different flag settings.

You have probably noticed that the dotted outline appeared with a box cursor on its top left corner. When this cursor hits the top or left side of the screen, any further movement of the outline to the left or upwards is inhibited. You can choose the vertex, on which the box cursor appears, by clicking one of the four outline icons on the bottom right-hand corner of the scrapbook menu.
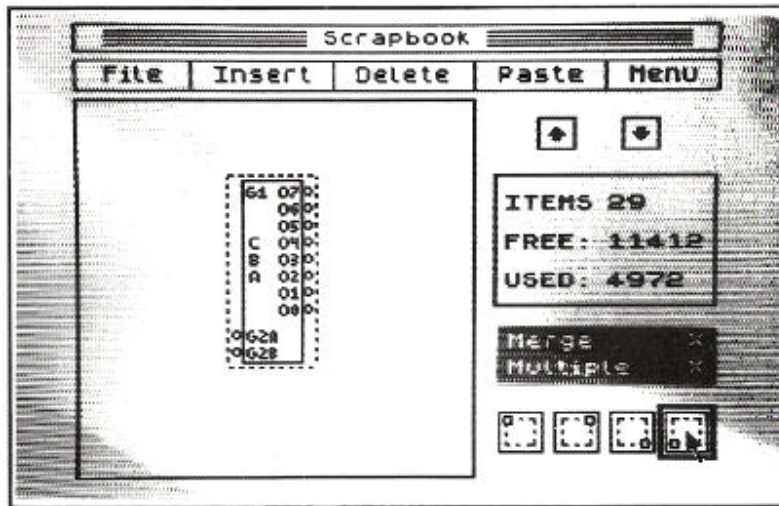
This will enable you to paste any portion of a scrapbook picture anywhere on the screen.

The 'Delete' option on the scrapbook menu bar can be used to delete a whole scrapbook from memory or the currently displayed entry. The scrapbook statistics are updated accordingly.

A return to the main menu can be made by moving the cursor to the box marked 'Menu' and pressing select. The current scrapbook entry will be displayed when the scrapbook is entered again.

The 'File' option works as described in 'Paint', 'Fill' etc. The default extension is '.pad' and, like before, it can be overridden by the user at the expense of filenames not appearing in the catalogue. The extension is automatically appended to the filename so that, for example, typing 'logic' produces the filename 'logic.pad'. If the extension '.pad' is typed in by the user, the automatic appendage is cancelled. The 'Merge file' option allows scrapbooks to be appended to the one already in memory provided that they do not exceed the amount of free memory displayed in the statistics box.

The "Insert' option allows you to create scrapbooks or add entries to the

one in memory. It only highlights when an active window has been defined in the main screen. Clicking 'Insert' will then add the defined window to the scrapbook and update the information in the statistics box; therefore, before adding an entry to the scrapbook, you must use the 'Define window' option in the 'Windows' menu to outline the portion of the main screen you want lifted off. If the whole screen is defined as a window, only a centralised portion of it will actually be added to the scrapbook.

Attempting to insert a window, which is too large for the amount of memory left to the scrapbook, is ignored until sufficient memory is freed via the 'Delete' option. The 'Insert' box remains active.

SHAPES
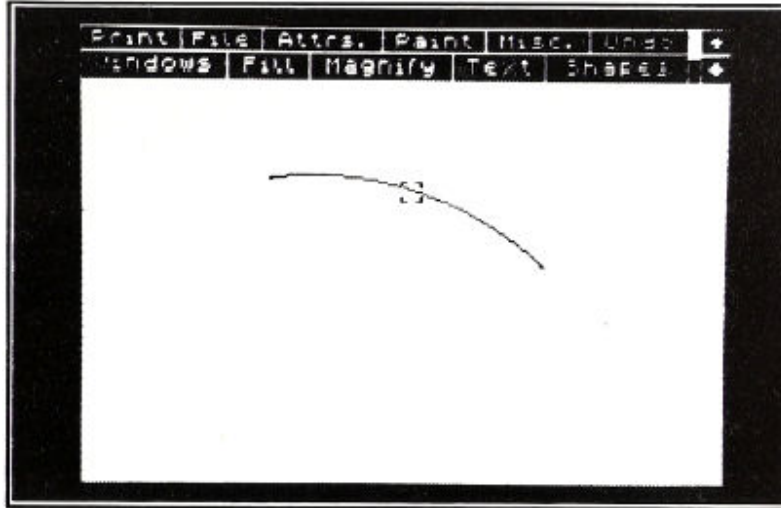
An extra shape is available in 128K ART STUDIO, an arc, which is a fractional part of a circle (up to a semi-circle, in fact). The first two points define the extremities of the arc, and the third point defines its curvature and direction. The are joins up the first two points but doesn't necessarily go through the third point. Although it is possible to draw elastic arcs, it is a slow process and is not recommended.

14

128K ART STUDIO INSTALLATION

Installing 128K ART STUDIO takes the form of transferring files from the supplied cassette onto a fresh blank tape or microdrive cartridge. The supplied tape is a master whose function in life is to produce a personalised copy of 128K ART STUDIO – personalised in the sense of being configured for the particular hardware environment it is required to run under.

To install 128K ART STUDIO on your system, insert the supplied cassette tape into your tape recorder, reset the computer, hit ENTER to invoke the Tape Loader and press PLAY. You will soon be prompted to stop the tape do not rewind it. You will be asked whether you are saving to tape or microdrive. Answering 'n' to both questions implies that you simply want to RUN the program after its configuration.

If you are saving to microdrive, have a blank formatted cartridge in the drive and simply follow the prompts to start and stop the tape.

The first program after the introductory SCREEN$ is called 'install'. It loads the CODE file 'overlays' and it then proceeds to load the Ramdisk initial data, 'ramdata'. 'ramdata' is 17K long and you might decide to configure a version of 128K ART STUDIO without any data in the Ramdisk.

To do this, you must first create a blank 'ramdata' file and save it on a different cassette. This CODE file should only be six bytes long and is set up as follows:

```
LET a=50000: POKE a,250: POKE a+1,171: POKE a+2,250:
POKE a+3,171: POKE a+4,0: POKE a+5,0
```

then, SAVE "ramdata" CODE 50000,6

and you will have an empty Ramdisk file ready to be installed. To install it, load the 128K ART STUDIO master tape as described above, wait for 'overlays' to be loaded and saved and at the prompt 'Make sure that the original…' etc, press BREAK. If you are a tape user, edit line 390 from '...VAL "17"*VAL "1024"' to simply '...VAL "6"'. Microdrive users should do the same by editing line 380. DO NOT type CLEAR or RUN. To continue, place YOUR 'ramdata' tape in your tape player and type GOTO 360. Press PLAY and after the file has loaded you will be prompted to get ready to save. From then on, continue normally, working with the master and your configuration tape or microdrive cartridge.

***** CONTINUE WITH REMAINDER OF PAGE 39 from 'The first stage in the configuration process...' up to PAGE 41 '...Finally, all that remains to be done etc etc'.

15

CUSTOMISING THE RAMDISK

As you become familiar with 128K ART STUDIO, you might decide that you would prefer a Ramdisk pre-loaded with files of your own choice. A program is supplied on side 2 of the master tape to enable you to do just that. This BASIC program is called 'ramdisk' and it requires some preparatory work on your part. You must first decide which screens, patterns, brushes, fonts or scrapbooks you would like your customised Ramdisk to contain. Use 128K ART STUDIO to save them to tape in any order you like. Write down the order you saved them onto tape making sure that their TOTAL length doesn't exceed 20 kilobytes. The characteristics of the various file types are as follows:

type	start	length
SCREEN$	24832	6912 bytes
.pat	31744	256 bytes
.brs	56704	504 bytes
.fnt	32000	768 bytes
.pad	49152	--see note--

NOTE: The length of a .pad file (scrapbook) is variable and you should determine it by loading it via 128K ART STUDIO and checking the 'used' number in the statistics box.

Having saved these files onto a separate tape, load the 'ramdisk' utility program from the master tape and add a line with a DATA statement of the following format:

15 DATA number of files, "file1", start, length, "file2", start, length, "file3", start, length…..etc.

16

Run the program and follow its instructions. You will finish with a file 'ramdata' on tape, of the format expected by the installation program on the master tape. Make sure you write down the total length of 'ramdata' as reported by the 'ramdisk' utility. Break into the 128 ART STUDIO installation program as described previously and edit line 390 (tape users) or 380 (microdrive users) so that the number of bytes saved corresponds to the length of your configured 'ramdata' file eg:

> 390 IF NOT Y THEN SAVE "ramdata"CODE VAL "27000",
> VAL "*** length of your file ***"

Continue with the installation process as usual.

The format of the Ramdisk is shown below:

ramdisk+0	Total capacity in bytes	(WORD)
ramdisk+2	Remaining capacity	(WORD)
ramdisk+4	Number of entries	(WORD)
ramdisk+6	First filename	(10 characters)
ramdisk+16	Start	(WORD)
ramdisk+18	Length	(WORD)
ramdisk+20	Second filename	(10 characters)
ramdisk+30	Start	(WORD)
ramdisk+32	Length	(WORD)
.	.	.
.	.	.
.	.	.

You can now easily work out the meaning of the six bytes that constitute a blank Ramdisk!

17