The Acorn Companion

by Geoff Love

published by

Northwest SEMERC Oldham

Covers ALL Acorn RISC_OS computers
(A300, A400, A3000, A3010, A3020, A4000, A5000 and A4series)

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All opinions expressed in this book are the author's personal opinions based on his own experiences and those of colleagues he has worked with.

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Foreword

Does the thought of using computers sometimes leave you feeling like this?

During my time as a Coordinator for I.T. in a Middle school and then as Advisory Teacher for Information Technology, I lost count of the times when, on answering someone's query concerning problems they were having using a piece of computer software, they replied,

"Is it really as simple as that? - I spent three hours last night looking through the manual trying to sort that out!"

Most of the 'problems' people have are very minor in terms of the solution or piece of information required. However, if that lack of information stops you doing something then the problem is very major. It always amazed me that many of the 'answers' were often buried so deep in indigestible, jargon-filled manuals as to be totally inaccessible to those with less than super-human perseverance and understanding. This is how I came to write the 'lay-persons guide' you are now reading.

The purpose of this guide is to make using the Acorn 'A' series of machines as painless and simple as possible. It will allow beginners to get a machine up and running quickly and efficiently. Once at that stage it will help you to select the most appropriate software for your needs (particularly if you are involved in education) and give you introductory guidance in their use. It will also act as a standby 'bible' for when 'things go wrong'!

A common problem with computer manuals and software guides is that they are often written by people so involved in the design process of the product they know it like the back of their hand. Therefore they are not always the best people to write a guide to be read by someone with no knowledge of the product. I usually find the only people to understand many of these documents are those who already understand what they are trying to explain! Many an hour can be lost trying to find one sentence of information in a whole forest of pages.

In writing this guide, I hope I am providing the relevant information in a digestible form.

Getting Started covers the initial stages of getting your machine fitted up and making it 'do things'.

Keeping it Going explains the best way to manage your discs and files (which both tend to multiply like rabbits) so as to make operating the computer as hassle-free as possible.

Peripherals explains what other items are available to help you expand the computer and its uses.

CD ROM gives an outline of the current position and future prospects for this new development.

The Software Guides are intended to be a collection of introductory notes/quick references to many of the most popular pieces of educational software and should also be of assistance if you are considering purchasing software. They are not intended to be exhaustive but should help you get to grips with the more commonly used features of the packages without having to do battle with a 200 page manual.

'When it All Goes Horribly Wrong' is a quick reference 'troubleshooting' guide. If you get a horrible message (from the computer!) or if it takes three hours to print a label for your door, then hopefully this will solve your difficulties relatively painlessly.

The **Glossary** will help you decipher some of the less intelligible computer terms. Finally, all of this is comprehensively indexed.

Happy reading!

Getting Started

This chapter covers:

- Setting up the machine
- The mouse
- Windows
- Configuring your machine
- Setting up Printer Drivers
- Printer settings
- Printing tips
- Changing mode
- The Task Manager

Getting started

Over the past few years, the Acorn 'A' series of machines have undergone a number of changes and the machine(s) you come across could be one of many. These range from the early A300 and A400 series to more recent A3000, A4000 and A5000 series machines. The most common machine found in primary education currently is the A3020. This wide range of machines may sound confusing - many of them look physically different but in fact in operation they are the same. The only difference you have to be aware of is the fact that depending on which machine you are using, it may have one of two different operating systems. The operating system is the set of instructions which controls the way the computer behaves. Older machines were fitted with the RISC_OS 2 system. The current A3010, A3020, A4000 and A5000 machines are fitted with RISC_OS 3. It is possible to upgrade old machines to the new operating system. So you may well find an A3000, for example, which has been converted to RISC_OS 3.

How do I know if a machine is RISC_OS 2 or 3?

With the machine switched on, look at the bottom right-hand corner of the screen. RISC_OS 2 machines will have a blue and yellow 'A' symbol, RISC_OS 3 machines will have a green acorn symbol.

RISCOS 2

RISCOS 3

What is the difference between RISC_OS 2 & 3?

Most of the differences are quite subtle. RISC_OS 3 is more 'refined' but is essentially the same to use. The main differences are that it uses a different system of printer drivers and fonts, and that some applications are built into the machine under RISC_OS 3 rather than on disc. If you are involved in primary education, however, it is unlikely that the children would have much use for these applications.

If you are working in a school where you have a mixture of RISC_OS 2 & 3 machines, then it is worth seriously considering getting the RISC_OS 2 machines upgraded to RISC_OS 3. Working in a mixed environment can become a substantial headache!

Are there any other major differences between machines?

One other difference you may find is that some machines are fitted with a hard disc drive whilst others are not. A hard disc drive is usually built into the machine and behaves in the same ways as a giant floppy disc. Instead of having a single disc drive icon at the bottom of the screen, you will have two - one for the normal floppy disc drive and one for the hard

disc. A hard disc is capable of containing the information of many floppy discs. This means that once you have transferred information on to it from your floppies, you no longer need to continually insert and swap discs whilst you are working. It also works much faster making the machine a far more flexible and efficient tool. For details of setting up a hard disc, see the section on hard discs in Chapter 2.

Setting the machine up

The first thing to do is set the machine up by plugging everything together. Exactly where the sockets are for all the plugs will depend on your particular model of machine. You can refer to the 'Welcome' guide which comes with the machine for this information, although by looking at the plugs and sockets it should be fairly obvious where everything goes.

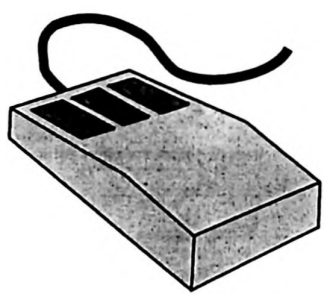
If you have a printer this will need to be plugged into the mains and you will also need a lead to connect the printer to the computer. If you have a printer which you already use with a BBC computer, then it can be used, but you will need to buy a different connecting cable to link it to the new computer.

Once everything is connected, switch on the computer, monitor and printer (if you have one). After a few seconds a picture should appear. You should have a dark grey screen with a light grey bar at the bottom. The light grey bar will have several symbols (icons) on it. If not, check all the leads are connected and that the brightness control on the monitor has not been turned down.

By sliding the mouse across the desk (preferably on a mouse mat) you should see the pointer moving about the screen.

So far so good....!

Meet the mouse



You will have noticed that the mouse has three buttons. To the left is the select button. This is the one you will use most often for picking and moving items - try to hold the mouse so your index finger rests over this button ready for action (do not try this if you're left-handed as you'll never keep hold of the mouse - use a different finger!). The middle button is the menu button. Its only use is to bring a menu onto the screen when needed. The right-hand button is the the adjust button. This has a variety of uses but is not generally used very often (forget about it for the moment).

During the rest of this guide (and in many other manuals) certain mouse actions will be referred to. These are as follows:

'Click on an item' - move the pointer over the desired object/choice and press and release the left-hand mouse button.

'Select an item' - move the pointer over the desired object/choice and press and release the left-hand button.

'Double-click' - move the pointer over the desired object/choice and press and release the left-hand button twice in quick succession.

'Drag' - move the pointer over the desired object, press and hold the left-hand button. Whilst still holding the button down move the pointer to the new position and release the button.

'Menu' - press and release the menu button.

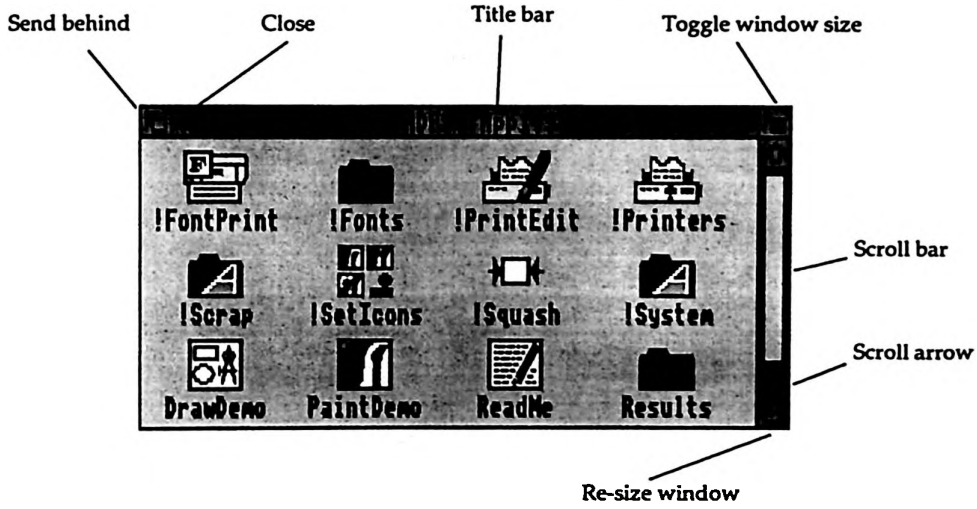
Like many things it is more complicated to write these down than it is to actually do it!

Meet a window

'Window' is the name given to the 'panels' which appear on the screen during various operations. Most of the pieces of software you will use on your machine will operate using a system of windows.

To see a window, first put a disc into the disc drive (you can use one of the applications discs supplied with your machine if you wish). The disc goes in metal part first with the label facing uppermost. Once in, click on the disc drive icon near the bottom left of the screen (it has ':0' underneath it). After a short pause, a window will appear on the screen. The contents of it will obviously depend on the disc you have inserted but the window frame will always be the same.

The different controls of the window frame are labelled below.



Send behind - if you have several windows stacked on top of each other on the screen, clicking on this will send the window to the bottom of the stack.

Close - this will remove the window from the screen.

Title bar - as well as informing you of the name of the window it also serves two other purposes. Clicking on the title bar will bring the window to the front if it is partly obscured by other windows. Dragging a window by the title bar allows you to move it around the screen.

Toggle window size - clicking on this will toggle between a small and large window, useful for opening a window to maximum size after it has appeared on the screen.

Scroll bar - the light grey bar indicates the proportion of the window showing on the screen at any one time. If the full height of the window is not in view, dragging the bar up and down will 'scroll' through the contents of the window (some windows will have a similar scroll bar along their bottom edge to control their width as well).

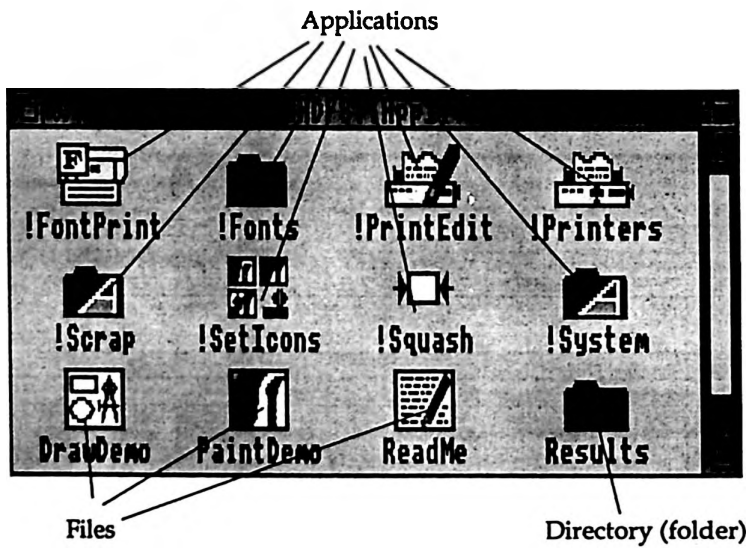
Scroll arrow - clicking on these will gradually move you up or down the window in a similar way to dragging the scroll bar.

Re-size window - dragging this allows you to alter the portion of the window you view on screen at any one time.

It is worth having a play moving some windows around the screen using some of these features to get used to how they operate.

Disc contents

There are three main types of information a disc may hold.



Applications

Items whose names begin with a pling ('!') are known as applications. These will generally have their own icon (symbol) to make them easily recognisable. Applications are programs which can be run on the computer and which will 'do things', one example of an application would be a wordprocessor. To load an application into the computer,

move the mouse pointer over the application icon and double-click on it.

Those items without a pling preceding their name will either be files or directories.

Files

Files are created by applications. They could be word processed work, graphic images, songs or many other things. They will usually have their own associated icon so you know which application has created them. For example, !Edit files have the 'text and pen' icon:

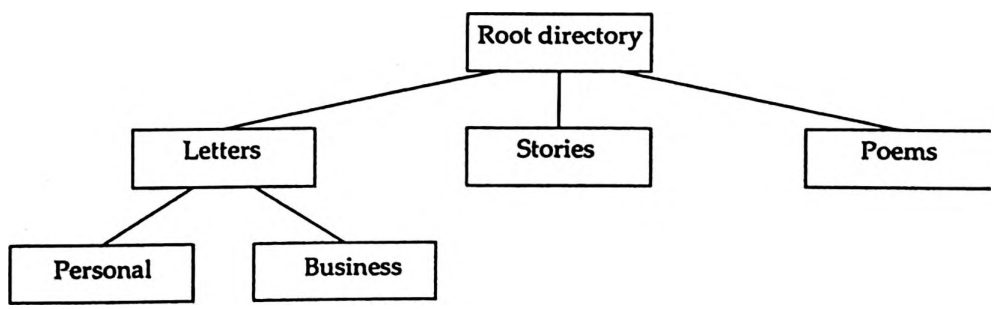
Double-clicking on the file will usually load it into the application which produced it (provided the relevant application has already been loaded or the computer knows where to load it from).

Saving files from an application varies depending on the particular application you are using. The usual method it to follow a 'Save' option from a menu, name the file as desired and then drag the file icon into an awaiting disc window. For more explicit details of this you will have to consult the appropriate software manual.

Directories

Directories are identified by their blue 'folder' icon.

They can be thought of as being equivalent to a cardboard document wallet - they have a name and may have items contained inside them - which may include further document wallets. Double-clicking on a directory will open the directory and display its contents. Discs can be subdivided by using directories. For example, a disc used to store word processing files may have separate directories for letters, stories, poems, etc. These sections could be further divided if required. The Letters directory may contain further directories dividing it into personal and business for example. Directories may contain any type of file or application.



Configuring your machine

What does this mean?

There are many different ways in which a computer can be 'adjusted' to take account of the type of software you want to run on it, other devices you may have connected to it or simply how you prefer the machine to behave (how loud you want the 'beeps' to be for example). Setting these is called 'configuring' the computer. Usually, this only needs to be done when the machine is new or when you want to change the settings for some reason. A small battery inside the computer means that these settings are remembered even when the power is switched off.

A badly or incorrectly configured machine can at worst be impossible to use (there may be nothing on the screen) or may be very slow to operate.

Why isn't the machine configured correctly when you buy it?

Everybody uses their machine for different purposes and has their own personal preferences as to how they like the machine to behave, so one setting won't suit everyone. Before you can use your machine efficiently, it is a good idea to configure it to your liking. In particular it is vital to change one or two of the settings in order to get the best from your machine. Once these are set they remain set even when the machine is switched off (unless you tell it otherwise) so it only needs to be done once. How you go about setting it depends on whether your machine is RISC_OS 2 or 3 and how much memory it has. To identify whether it is RISC_OS 2 or 3 see the beginning of this chapter.

If the machine has been in use for a while and may have been configured incorrectly in the past, it is worth doing a 'delete-reset' before you re-configure it. This will return the machine to its factory settings and ensure you are at a common starting point. To do this, switch off the computer, hold down the DELETE key and with it held down switch on again. After a few seconds a red border should appear around the edge of the screen. If you now release the DELETE key the machine should start up normally. You will now need to configure your machine by referring to the appropriate section below (RISC_OS 2 or 3).

RISC_OS 2 machines

The important item to set on these machines is the size of the Fontcache. This is an area set aside to store information about the fonts (type styles) you are using. If it is set too small, as it is when the machine is supplied, many pieces of software (particularly text based software such as word processors and desktop publishers) run unbearably slowly. Printing can also become so slow that even cricket begins to look exciting. How large you make the fontcache depends partly on how much memory you have

available. On 1 mb machines, about 96K is a suitable compromise. On a 2 or 4 mb machine, 200k is suitable as a starter.

To set this do the following:

- Press the F12 key on the keyboard - a small * should appear at the bottom left of the screen.
- Type the following, ensuring you copy this exactly (on a 1 mb machine substitute 96K for 200K): *configure fontsize 200k.
- Press the RETURN key twice.

The machine is now permanently set although the new fontsize will not come into effect until the machine is switched off and on again or reset, since it only reads its configuration settings when it starts up. To reset the machine, hold down the CTRL button on the keyboard and press and release the BREAK key.

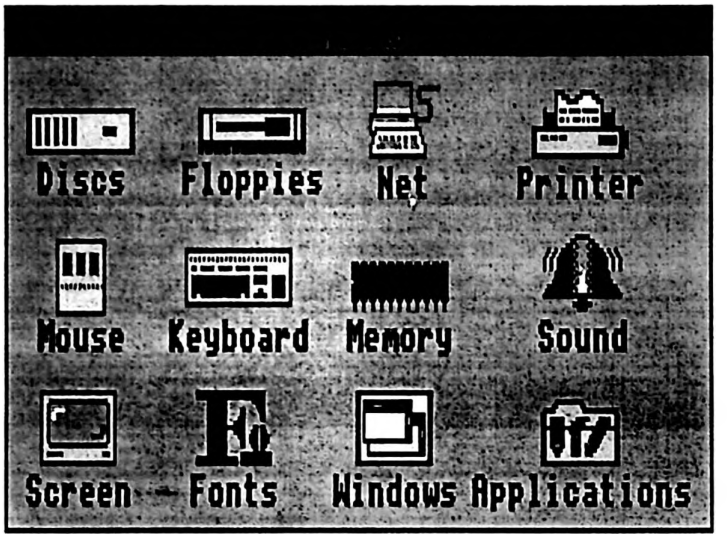
There are other settings which can be changed too, such as the speed of the mouse etc. Refer to the section of your manual covering the !Configure application for further details.

RISC_OS 3 machines

There are two important settings for these machines. One is the fontcache the other relates to how fonts are displayed on the screen. The fontcache is an area set aside to store information about the fonts (type styles) you are using. If it is set too small. as it is when the machine is supplied, many pieces of software (particularly text based software such as word processors and desktop publishers) run unbearably slowly. Printing can also become very slow. How large you make the fontcache depends partly on how much memory you have available. On 1 mb machines, about 96K is a suitable compromise. On a 2 or 4 mb machine, 200k is suitable as a starter.

To set the above do the following:

- Using the mouse, move the pointer over the 'Apps' icon near the bottom left of the screen and click on it. A window will appear on the screen.
- Double-click over !Configure. After a short pause the !Configure icon will appear at the bottom right of the screen - this shows that it is now running.
- Click on this to get the 'Configuration' window on the screen (shown below).



- Click on the 'Memory' icon and by clicking on the right arrow besides the 'fontcache' section increase the number to 96 or 200 as required. Now click on the cross near the top left of the window to close it.
- Click on the 'Fonts' icon. Increase the 'use anti-aliasing for characters' setting to 30 (the setting below it will automatically increase as well) and then click on the OK box. This will make fonts appear much more clearly on the screen.

If your machine is fitted with a hard disc drive as well as a floppy drive and you have just performed a 'delete-reset' as detailed earlier you may notice you no longer have a hard disc icon at the bottom of the screen. If this is the case, do not panic! Click on the 'Discs' from the configuration window. Many of the discs fitted to the A5000, 4000 and 3020 machines are IDE discs. Click on the up arrow to increase the number of IDE hard discs to 1 and then click on OK. You should now have your hard disc back!

The machine is now permanently set although the new settings won't come into effect until the machine is switched off and on again or reset since it only reads it configuration settings when it starts up. To reset the machine hold down the CTRL button on the keyboard and press and release the BREAK key.

There are other settings which can be changed too such as the speed of the mouse etc. Refer to the section of your manual covering the !Configure application for further details.

Setting up printer drivers

Virtually all software you use with the computer will require a suitable printer driver to be loaded before you can print from it. A vast number of different types and makes of printers can be used with the computer and part of the printer drivers' job is to tell the computer what type of printer is connected to it in order for it to send the printer information in a form it will understand. The printer driver can be loaded at any stage before printing although you may find it easiest to get into the habit of loading it when you first switch the computer on, if like me, you are prone to forgetting things!

The system of printer drivers is different for RISC_OS 2 and 3 machines. **Do not use RISC_OS 2 drivers on a RISC_OS 3 machine** - they will work occasionally but are unreliable and can cause all sorts of strange and confusing effects. Also, if you accidentally load a RISC_OS 2 driver into a RISC_OS 3 machine and then realising your mistake try to load a RISC_OS 3 driver - it won't - you will need to switch off the machine and start again.

To set up the drivers for your machine refer to the relevant section below.

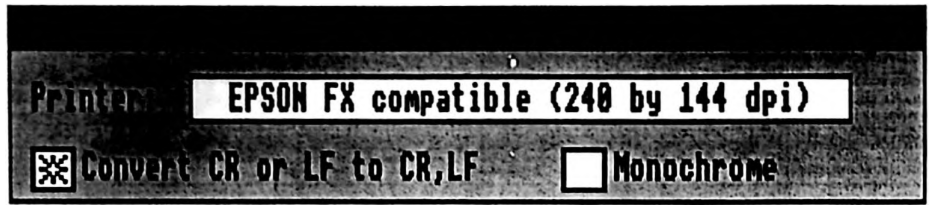
RISC_OS 2 machines

The two most commonly used printer drivers in education are !PrinterDM (which will drive a whole range of dot matrix printers, e.g. Epson and Star makes) and !PrinterIX (for use with the Integrex colourjet 132). Both of these printer drivers are supplied on the applications discs which come with the computer. If you have a different printer to the above, it may be that you need to obtain a driver specially written for it - contact the supplier about this.

Each printer driver will have a number of settings used to identify the particular model of printer and the quality of print required.

First find the disc containing the required printer driver. For this example we will assume we are using an Epson LQ 400 printer, so we will use the !PrinterDM application from applications disc 1.

- First ensure that the disc is not 'write protected' (slide the plastic tab in the corner of the disc so the hole is closed).
- Insert the disc and click on the disc drive.
- Double-click on !PrinterDM.
- After a short delay a printer icon should appear at the bottom left of the screen.
- Click the left-hand button on this and a window will appear on the screen:



- In the centre of the window will be a box displaying the current settings of the driver. If you click on this box it will cycle through the different settings available. The options are for the model of printer (FX, LQ, etc.) and the resolution (quality of print). Resolution is quoted in dpi (dots per inch). Clearly the more dots you fit into every inch on a page the higher the quality of the end product - the down side is that it also takes longer to print. You will have to experiment to get the balance between printing time and quality best suited to your needs. The following settings are what I suggest as a good 'middle ground' starting point:
  - If you have a 9 pin printer, probably with a model number starting FX or LX, use the 'FX compatible 240 by 144 dpi' setting.
  - If you have a 24 pin printer, probably with a model number starting LQ use the 'LQ compatible 180 by 180 dpi' setting.
  - If you are using an Integrex printer then load !PrinterIX and set it on 'Medium resolution 160 by 126 dpi'.

- Once the driver is set up as required you need to save the settings so you do not have to do it all again! Press the middle button over the printer icon at the bottom of the screen and select 'save choices'. Now the next time you load the printer driver it will have the settings preserved and will be ready to use straight away.

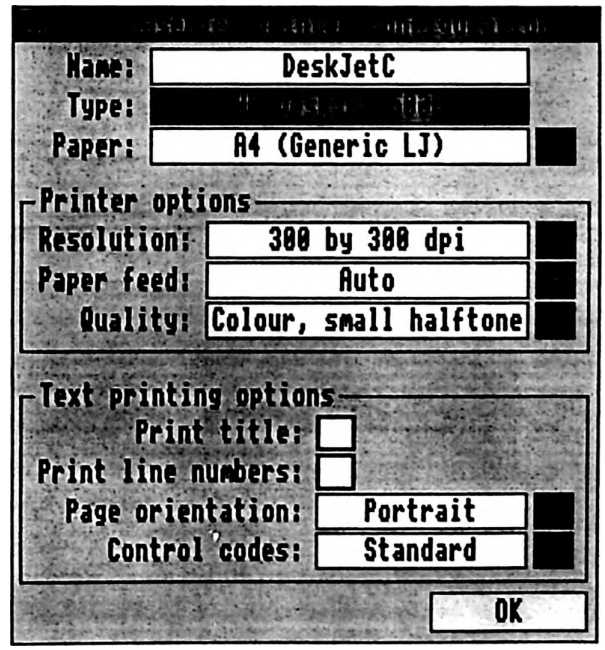
RISC_OS 3 machines

The system of printer drivers used by RISC_OS 3 is different to that used by RISC_OS 2. Rather than needing a different printer driver for different makes of printers, it has a single printer manager (!Printers) which can be set up to drive a wide variety of printers using the printer modules provided. This is a great advantage if you use a number of different types of printer with your machines. The drawback is that the initial setting up of the manager is a bit complex - however it does only need to be done once - so get a large mug of coffee and a packet of biscuits and here goes!

- First ensure that the applications disc is not 'write protected' (slide the plastic tab in the corner of the disc so the hole is closed).
- Insert your RISC_OS 3 applications disc into the computer, click on the disc drive icon and then double-click on the blue 'Apps1' directory. Now double-click on the !Printers icon to load the driver.
- A printer icon will appear at the bottom left of the screen. Click the menu button over this and select 'Printer control'. This will give you a grey window in the middle of the screen.

- Go back to applications disc and double-click on the 'Apps2' directory (if you are using a machine which has been upgraded to RISC_OS 3 from RISC_OS 2 then you need to insert your Applications 2 disc). Now double-click on the blue 'Printers' directory. A window will open with the names of many different makes of printers. Double-click on the one you wish to use. Further files will appear with the names of individual models of printer. Do not panic if your printer is not there, there is probably an 'equivalent' for it (see list below).
- Drag the printer file you require into the printer control box you opened earlier. Its name will now appear in the box.
- If you wish to use more than one type of printer with your machine(s) repeat this process to include any other types of printer you wish to use.

- You now need to check each driver is set as you require it. Double-click over the first printer name in the control box. A large window with lots of confusing words will appear! The Resolution setting is the most important one.



- Click on the arrow to the right of this and you will see a number of different options available. Click on the one you need (see list below).
- If you have a colour printer you will also need to set the Quality in a similar manner to above (see list below).

- Once you have performed the above steps for all the printers you are going to use, you can proceed. If you only intend to install a single printer you can ignore the next couple of steps.
- You can choose whether the printers you have installed are 'active' or 'inactive'. Generally, if you usually use the machine with just one printer then that is the one you want active. If you regularly use it with two different printers then you want them both active. This means that when you load the printer driver both printers will appear on the icon bar and you merely click on the one you are using on that particular day.
- To make a printer active or inactive, click the menu button over its name in the printer control box and choose the appropriate setting.
- Once you are happy with the settings, SAVE THEM! Press menu over the printer icon at the bottom of the screen and select 'Save choices'. The next time you load !Printers these settings will be retained.

At this stage it is a good idea to make a copy of !Printers on a blank disc and use this as your 'everyday disc' to load the printers from. Please note that you also need to copy !Scrap (also on the applications disc) to your new disc as well, otherwise it won't work! (see section on copying discs if you are not sure how to do this).

Printer settings (RISC_OS 3)

These are suggested drivers and settings to use with printers commonly found in schools. Some settings are a compromise between quality and speed of printing, so you may wish to alter them to suit your needs - at least they'll get you started!

Printer	Driver	Resolution	Quality
Epson LX or FX	FX80	240 by 144	Grey, sm. halftone
Epson LQ	LQ860	180 by 180	Grey, sm. halftone
Integrex 132	ColJet 132	160 by 126	Col., sm.halftone
HP Deskjet	Deskjet+	300 by 300	Grey, sm. halftone

NB. Star printers can use the Epson drivers for mono-chrome. Use the Star drivers for colour.

It is possible to set up two versions of the same driver simultaneously. For example, if you have an LQ printer you may wish to have one driver set at a low resolution for fast draft printing and another set at high resolution for final drafts. To do this, simply drag the same printer module into the printer control box twice. Following the above instructions set each driver as appropriate - click in the 'name' box when adjusting the settings and rename each configuration with an appropriate name such as 'draft' and 'quality'. Finally, make each setting 'active' as above. Both settings should appear on the icon bar. Simply click on the setting desired before printing.

Printing tips

- Before printing it is always advisable to save your work. If the printer is not set up correctly, not connected, or the printer driver is set incorrectly there is always a chance that the computer will 'hang up'. This means that the computer will get stuck in a 'loop'. The only way out may be to reset the machine - if your work is not saved it will be lost, so it is always best to play safe!
- If you wish to stop printing part-way through or if the printer does not appear to be responding, then pressing the ESCAPE key will usually abort the printing. Note that there may be a delay between pressing ESCAPE and the computer responding and a further delay before the printer stops printing (assuming it started in the first place!).
- If you interrupt printing as above, then it is often a good idea to reset the printer (by switching off and on again) before trying to print again, otherwise you may end up with garbage coming out!
- If printing is very slow, it can be speeded up by lowering the resolution (although you will lose quality) - see above for details. Note that an incorrectly set fontcache can also cause slow printing (see beginning of this chapter).
- If your printer produces rubbish and resetting it does not cure the problem, then it could be that you have the wrong printer driver loaded or that the settings on it are incorrect (see 'setting up printer drivers').

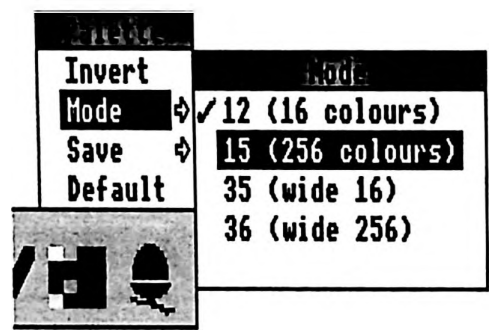
Changing mode

The Acorn computers are capable of running in many different screen modes. That is you can choose the size and quality of display on screen. The computer usually starts up in mode 12 (or mode 27 if you are using a multi-sync monitor). This can display a maximum of 16 colours (or shades of grey) on screen. It is suitable for many types of work.

Sometimes however, we may wish to change this screen mode. A common example is when using something which is graphically based, such as an art package, or when viewing artwork on the screen. In this situation we may want to display more colours to give a higher quality image. Here we may wish to change to mode 15 (or 28 for multi-sync monitors). This allows us to display 256 colours on screen.

To change mode

- Move the pointer over the palette icon at the bottom right of the screen.
- Press the middle mouse button and follow the arrow to the right of 'Mode' and select the mode required.



- If the required mode is not on the list available, it can be chosen by entering its number in the bottom line.

The 'wide' modes, 35 and 36 (RISC_OS 3 only) can also be useful in that they effectively increase the amount of screen which is used, therefore giving you a larger work area.

- NB 256 colour modes use more memory than 16 colour modes.

The Task Manager

The Task Manager is a window which can be opened to show details of how the computer is managing its resources (what 'jobs' it is doing and how much space or memory they are using up). It also allows the user to intervene and 'tell' the computer how much space to allocate to certain tasks. It must be said that any changes made via the task manager are temporary (they will be forgotten when the machine is switched off) and if a machine has been suitably configured (see earlier) the average user will rarely need to use the task manager. However, there still remain some software manuals which casually mention changing strange settings via the task manager to overcome problems without actually telling the user how to do it! As users become more advanced they may also make more use of the task manager to optimise their machine for certain situations. For these reasons this section has been included.

To access the Task Manager

RISC_OS 2 machines

- Press the middle mouse button over the 'A' symbol at the bottom right of the screen.
- Select 'Task display'.

RISC_OS 3 machines

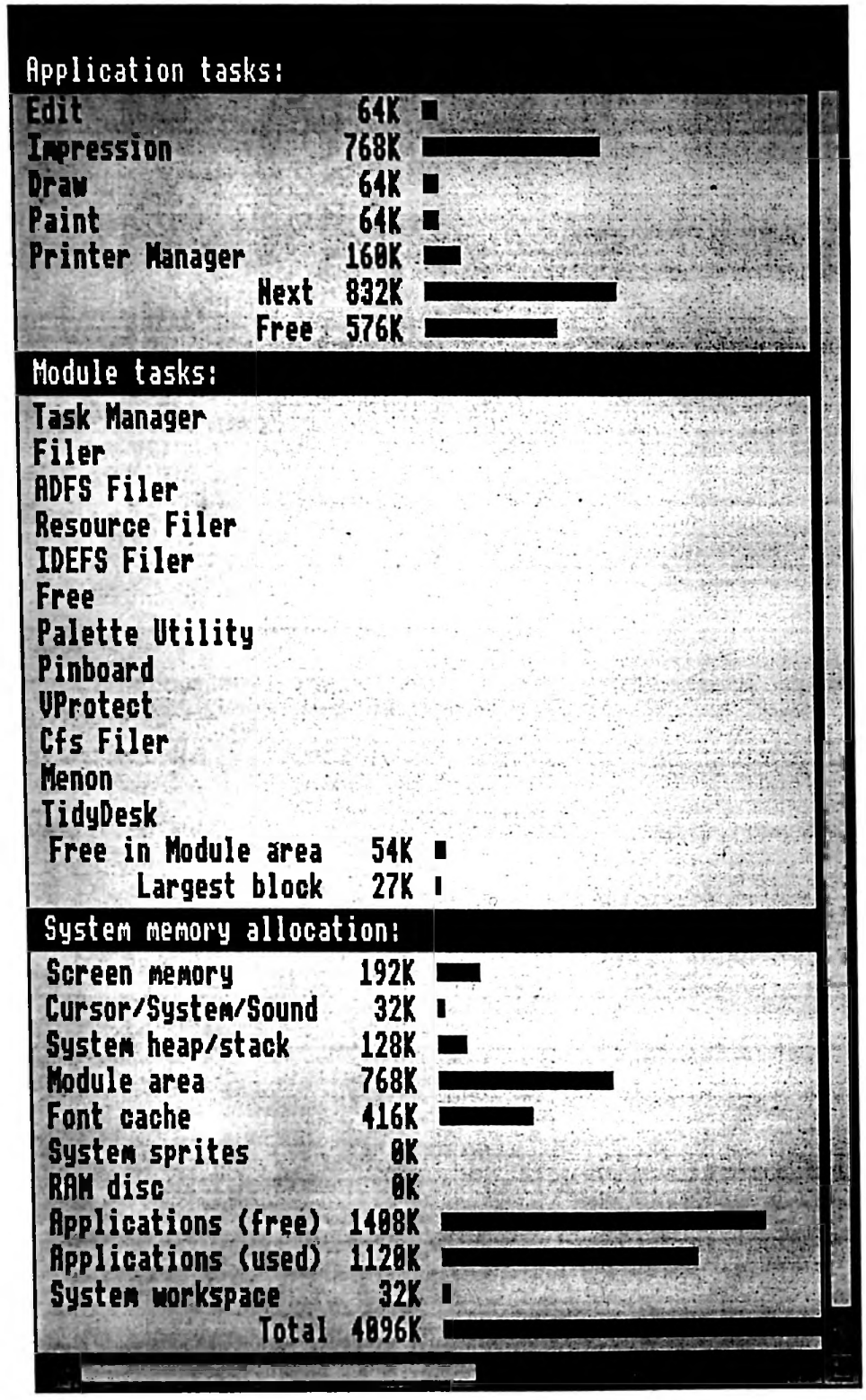
- Press the select button over the green acorn symbol at the bottom right of the screen.

A large window will open (see next page) detailing what software is running, how much memory it is occupying, how much memory is reserved for other tasks, etc.

The main point to realise is that the green bars are fixed - the amount of memory allocated to that task cannot be altered by the user. However, the red bars can be changed in size by dragging the ends of them with the left hand button on the mouse pressed. In this way, you can change memory allocations. The main area used for this is the 'System memory allocation' area towards the bottom of the task display.

I do not propose to go further into explaining what each of the items are or what effect changing their allocation will have. This is beyond the scope of this book. Needless to say most people find they are best left well alone!

But... you now know where to find them and if instructed to perform some strange operation on them will know what to do.



The task display detailing memory usage.

Keeping it going

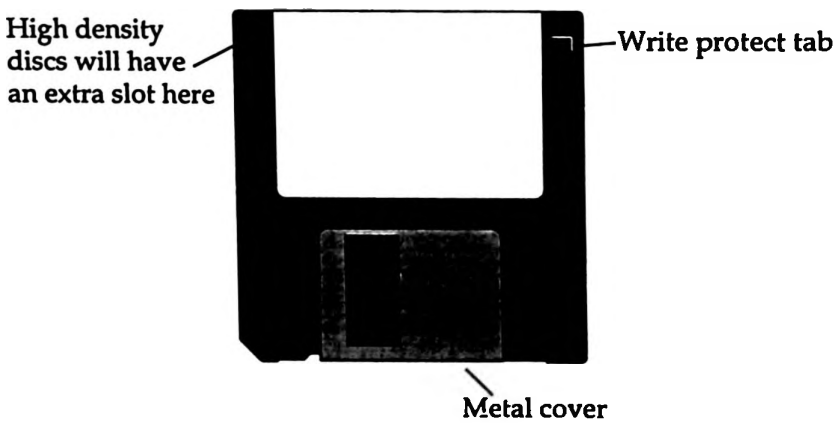
This chapter covers:

- Disc information
- Looking after your discs
- Formatting discs
- Naming discs
- Making backup copies of discs
- Copying part of a disc
- Deleting files
- Organising your discs (floppy & hard discs)
- !System
- !Scrap
- !Fonts
- !Printers
- Viruses

Discs

As you will already know, your computer uses discs to store information. The vast majority of modern computers use the 3½ inch floppy and Acorn machines are no exception. Many people make the mistake of calling these 'hard discs', since the outer cases are not flexible like the 5¼ inch discs used by the BBC machines. This is not correct - the case may be hard but the disc inside it is still floppy! Your computer may also be equipped with a hard disc but this is something totally different (see 'hard disc'). The disc is kept covered by a metal cover. When not in use, this keeps the surface of the disc free of dust and dirt. As the disc is inserted into the machine this cover slides out of the way to expose the disc surface.

In the corner of the disc is a hole with a black plastic tab which can be moved to cover or uncover the hole. This is the write protect tab. If the hole is open (i.e. you can see through it) the disc is write protected. This means that information on the disc can be read by the computer but not changed - you can't save work or delete files already on the disc. This can be useful for protecting valuable information. In the closed position all operations are possible. High density discs are of a higher quality and are capable, on certain machines, of holding twice as much data as a 'normal', double density disc - see below under 'formatting'. These discs are easily identified since they have an extra notch cut opposite the write protect tab as indicated.



Looking after your discs

There are a number of golden rules to follow to ensure your discs and the information on them is kept safe. Like most rules, most people bend them from time to time with no ill effect and always say, 'Well I've done it before and nothing happened,' when finally one day they lose 3 weeks work.

- Try to keep your discs in as dust free an environment as possible.
- Do not slide the metal cover to the side to expose the disc, and if you do, never touch the disc surface (this is instant death to any disc!).
- Do not leave the discs on heaters, in strong sunlight etc.

- Do not place the disc on magnetic or electrical equipment, e.g. the monitor of your computer.
- Do not switch your computer on or off with a disc inside the drive.
- It is usually the case that the most abused and insignificant disc will work for years without the slightest of problems, and yet the one containing all the pools results for the next three years, which has been treated like royalty, will give the dreaded 'disc error' just when you need it most. Therefore, if the information on your disc is important/valuable/life-saving **keep a backup of it** - just in case!

Managing your discs

If you are going to be using a computer to any extent, and certainly if you are in the situation of being 'responsible' for a computer(s), either for your own use or for others to use, then at some time or another you are going to be involved in formatting and copying discs. It's not really all that difficult if you follow the next few pages.....

Formatting discs

What does 'formatting a disc' mean?

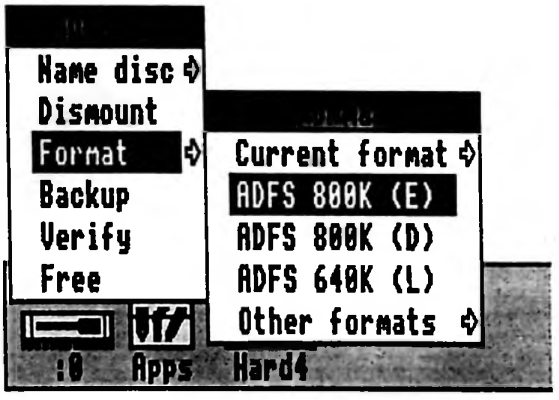
Formatting involves the computer 'drawing' a series of concentric circles on the surface of the disc. Different makes/types of computer use different 'patterns' to format their discs, so although a disc from a PC is the same as a disc from an Acorn machine, if it has been used it will have been formatted differently.

The vast majority of discs you buy come unformatted - if you insert one in your machine and click on the disc icon you will either get an obscure disc error, or you will be informed that the machine cannot recognise the disc. Before the disc can be used for the first time it must be formatted.

If you are using a RISC_OS 2 machine, or if the disc is to be used with both RISC_OS 2 and RISC_OS 3 machines, then use the 800K E format. If your disc is to be used *exclusively* with A3010, 3020, 4000, 5000, and A4 machines, then you could still use the 800k E format - however, if you have high density (HD) discs (these can be recognised by the fact that they have an extra notch cut opposite the write protect hole), you may choose to format them in 1.6 Mb format. This has the advantage that you can fit twice as much data on a disc, but remember older machines such as the A3000 won't be able to read these discs *even if they have been upgraded to RISC_OS 3.*

To format a disc

- Insert the disc in the disc drive.
- Click the middle mouse button over the disc drive icon at the bottom left of the screen.
- Follow the arrow out to the right of where it says 'Format' - a new menu will appear (your computer may have a slightly different set of format choices to the ones shown here).



- Click the left-hand mouse button over 800K E or 1.6 Mb as required.

  Double clicking on "Format" will format the disc at 800KE (on RISC_OS 2) or 1.6M (on RISC_OS3) without the need to move through menus.
- Depending on whether you are using RISC_OS 2 or RISC_OS 3, you

will either have to click the left-hand button or the Y key to confirm or click on the appearing window where it says 'Format'.

- The computer will now begin to format and check the disc.

Occasionally during formatting you may get a message such as 'Mapping out defects'. This means there is a problem with the disc surface (it could be damaged in some way). Press ESCAPE and remove and re-insert the disc. Try formatting it again. If the same problem occurs again it is usually best to discard the disc.

N.B. If a disc which has been used for some time starts giving 'Disc Error' messages it usually means the information on it has been damaged in some way. If the disc has not been physically damaged, e.g. scratched, boiled in tar etc., then it can usually be reformatted and used again (although the information on it will of course be lost in the process). If the problems mentioned above occur when trying to reformat, it suggests that the disc has been physically damaged in some way and will have to be discarded.

Transferring work to or from other computers

If you ever need to transfer text to of from a PC machine (such as those used in most offices) you do so quite easily if you have a RISC_OS 3 machine. First you need to format a disc in DOS format.

- Follow the instruction above for formatting discs but instead of selecting one of the 'ADFS' options follow the 'Other formats' option and select 'DOS 720K' or 'DOS 1.4 mb'.
- If you save work from a word processor on your Acorn machine as 'plain text', 'text file' or 'ASCII file' the disc can then be taken to a PC and fed into a word processor it is running.
- The above process can be applied in reverse to bring text from PC to Acorn machine.
- Note that only the text will be transferred. No information about the formatting, style, size, etc. will be retained.

Recovering work from a damaged disc

When a disc becomes corrupted or damaged it is unusual for the contents of the whole disc to be lost. More commonly, much of the contents can be recovered - possibly allowing you to save those valuable files which took weeks to create. Only those files which actually lie across the damaged portion of the disc are lost. To recover files from a disc with a disc error on it, try the following:

- Create a RAM disc (see 'Copying using a RAM disc').
- Drag the files, one at a time, from the damaged disc onto the RAM disc window. If an error is reported then it is unlikely you will be able to recover that particular file - move on to the next one.
- Once you have copied as much as possible on to the RAM disc, insert a fresh, formatted disc and drag the files from the RAM disc on to the new disc.

It may be possible to reformat the corrupted disc for re-use (see above).

If you have lost a piece of particularly valuable work (e.g. a long word-processed document) there are utilities available which may be able to recover most of it (even if the above method has failed). However, they do require some technical knowledge, so if you do not feel you have that expertise then it is better to entrust the work to someone who does!

Of course, the moral of the story (he said smugly) is that you should always keep a backup copy of anything which would cause a personal tragedy/breakdown if lost.

Naming discs

When a disc is formatted it is given a name, this name being the time and day on which it was formatted. This is not very helpful since when working with the disc later you may get messages such as:

'Please insert disc 09_25_Thu'

which isn't exactly very meaningful! More helpful is to re-name the disc with a more useful name, e.g. Workdisc, Records1 or whatever is relevant to the disc you are using.

To name a disc

- Insert the disc in the drive and press the middle mouse button over the disc drive icon.
- Follow the 'Name disc' option and into the box provided type the desired name and press RETURN.

Your disc is now named but please note the following points:

- You can only use up to 10 characters in a disc name.
- You must not use spaces.
- Some punctuation marks (e.g. full stops) are not allowed, so punctuation is best avoided.
- Avoid having two discs with the same name in use on the same machine at the same time. This will cause chaos as the computer will get totally confused!!!
- Using the 'Backup' command (see below) will overwrite the name of the disc with the one being copied.

Making backup copies of discs

What does 'making a backup' mean?

Making a backup copy means copying the entire disc from one (source disc) to another (destination disc), in other words producing a duplicate copy. This is generally needed either for security reasons (in case a disc is damaged) or because you need an extra copy of a disc to use (if this is the case, first ensure that you will not be infringing any copyright agreements by doing so).

To make a backup copy

- Begin by checking you have a formatted disc to copy the source disc onto (N.B. If there are any files on the destination disc they will be overwritten and therefore effectively erased).
- Insert the source disc (the one to be copied) into the disc drive.
- Click the middle mouse button over the disc drive icon at the bottom left of the screen and select 'Backup'.
- Depending whether your machine is RISC_OS 2 or 3 you may be asked to ensure the source disc is write protected (not essential but a good safety precaution) and to confirm your choice, or a window may appear asking you to insert the source disc and click on OK.
- Once it has read the disc you will then be asked to insert the destination disc and prompt the machine to carry on.
- You may be asked to re-insert the source disc and then destination disc again to complete the copying process.

Copy protection

Some software houses 'protect' their software from theft by making it 'uncopiable'. The copy process may have appeared to be successful, but if you try to run the software it will either not work at all or may request that you insert the original 'keydisc' in order to start up. You will usually be informed in the manual supplied with the software whether or not you can make a backup copy of the software. Whilst it is understandable why some companies take these measures, it can also be very annoying, particularly in a school environment, to be forced to use your original disc given the dangers of it becoming damaged.

Copying part of a disc

You may need to copy just part of a disc, i.e. one or more files on it. This could be because you want to copy a file from one disc to another.

Copying single files

If you have just one file to copy then use this approach:

- Insert the source disc (the one containing the file to be copied) and click on the disc drive icon.
- Now insert the destination disc (the one onto which you wish to copy the file) and click on the disc drive icon.
- If the windows for the two discs overlap obscuring the file you are trying to copy, then move one of the windows by dragging it by its title bar (the bit saying 'ADFS:: .....').
- Drag the required file from one disc window to another. The computer will instruct you which discs to insert and the file will be copied onto the destination disc.

Copying directories/applications or several files

Often you wish to copy not just a single file, many files or a directory or application containing many files. For users of RISC_OS 3 machines the technique is very similar, but for RISC_OS 2 users the procedure is rather different.

RISC_OS 3 machines

For RISC_OS 3 users this can be done in exactly the same way as detailed above - the only difference being that if you want to copy a number of items in one go, you click on each of them in turn using the *right-hand* mouse button. Once you have selected the items required, dragging one of the selected files with the left-hand mouse button to a new disc window will copy all of the files.

RISC_OS 2 machines

RISC_OS 2 users can use the above method but will find that every file is copied individually - each requiring a disc swap. Hence, copying a single application (which will often contain many files) could easily entail 40 disc changes! Luckily there are a couple of alternatives...

- If the machine is fitted with a hard disc then use this as a temporary storage area - copy the files from the source disc to the hard disc, then from the hard disc to the destination disc, finally deleting them from the hard disc.

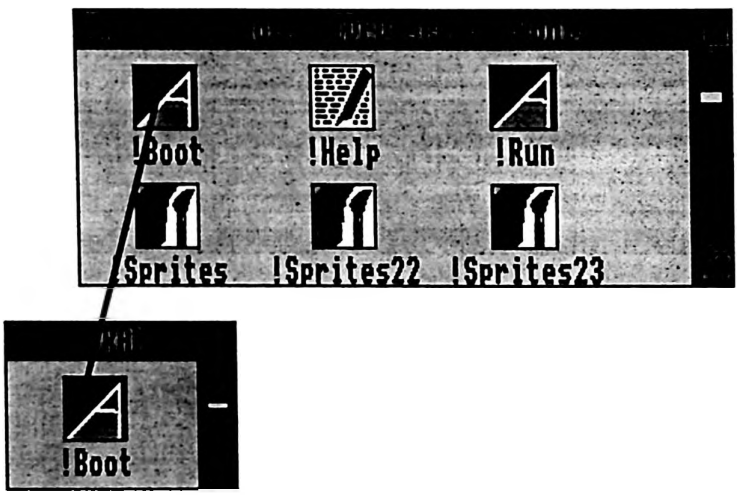
- If you do not have a hard disc then you need to set up a 'RAM disc'. A RAM disc behaves just like an extra disc drive but it is only temporary and will be lost when the machine is switched off. It can aid in copying files by acting as an intermediate storage area in the same

way as a hard disc can (see above). Copying using this method is slightly more complex but is preferable to putting discs in and out of a computer all day!

Copying using a RAM disc

If you have any applications running on the machine you may not have enough memory left to create a RAM disc - quit these or reset the machine before you proceed if possible.

- Click on the coloured 'A' icon (or Acorn symbol on RISC_OS 3 machines) at the very bottom right of the screen with the menu button and select 'Task display'. A window will appear in the centre of the screen.
- Move down the window using the down scroll arrow until you come to 'RAM disc'. Click the left-hand button to the right of it and drag out the red bar to approx. 800K (it is not all that important exactly how much, 800K will hold a full disc's worth if necessary). A black 'chip' will appear on the icon bar at the bottom of the screen. You can now close the task display window by clicking on the cross near its top left corner.
- Click on the black 'chip' on the icon bar to open a window. This is to be a temporary 'store'.
- Insert the disc containing the files to be copied. Click on the disc drive to see what is on the disc. Drag the files you wish to copy from the disc window to the RAM disc window you opened in step 2. You now have a copy of the file(s) in a temporary store.



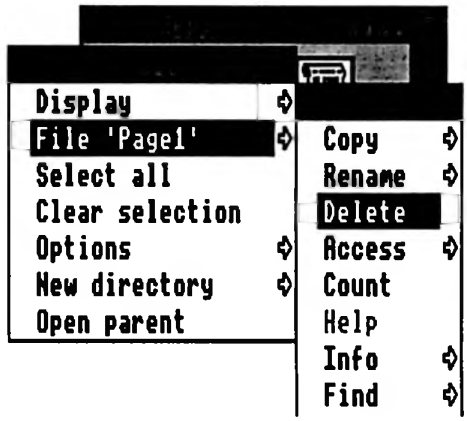
- Now insert the disc onto which you want to transfer the files (it need not be a blank disc - files can be added to those already on it if needed). Click on the disc drive to open its disc window.
- Finally drag the files from the RAM disc window into the destination disc window. The disc will now contain the files copied across to it.
- Resetting the machine with Control/Break will remove the RAM disc.

Deleting files

Any files on a disc which are no longer required can be deleted freeing the disc space to be used again. Use with care though, because once deleted you will not get them back again!

To delete a file(s)

- First click on the disc drive to open the disc window.
- Locate the file you wish to delete.
- Click the menu button over the file - a menu will appear.
- Follow out to the right of the arrow by File *'Filename'* and click on 'Delete'. The file will be removed.



To remove several files at once click on them in turn with the right-hand mouse button. Now press the middle button. The same window as above will appear, but 'File' will have been replaced by 'Selection'. Follow this out and click on 'Delete' as above. This will remove all selected files.

Locked files

Sometimes when trying to delete a file you will get a message saying the file has been 'locked'. It is possible to lock files in order to protect them from accidental deletion. Unfortunately, it makes it a real pain if you really do want to delete them.

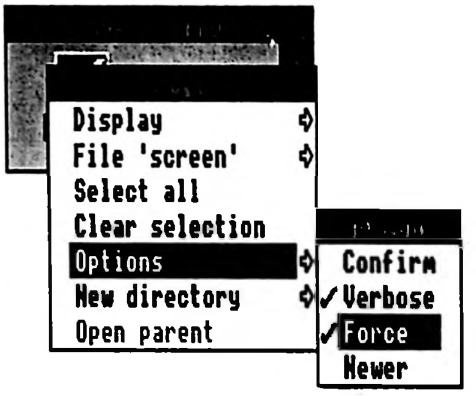
RISC_OS 2 machines:

To unlock a file, move the pointer over it and press the middle button. Follow the 'File .....' menu and then the 'Access' menu. Switch the 'locked' option off and click on OK. Now repeat the delete operation. This is fairly straightforward for single files, but if you are trying to delete a directory or application with locked files inside it, then they must also all be unlocked first. Often it is quicker to reformat or backup the disc than to delete the files in these cases.

RISC_OS 3 machines:

Not too much problem here:

- Move over the disc window and press the middle button.
- Follow the 'Options' menu and click on 'Force'.



- If you now repeat the delete operation the files will be wiped.

Remember to go back and click on 'Force' again to switch this option off, otherwise none of your files will be protected!

Organising your files

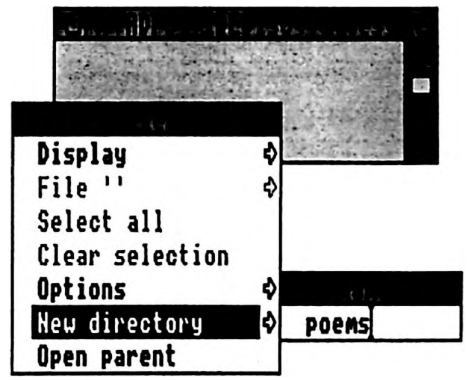
It's no surprise that the more you use the computer, the more files you create and the more need there is to keep them properly organised. This is particularly important if you are using a machine with a hard disc - its sheer capacity for storage means that unless you have some system for organising the contents, finding work can soon become like looking for a needle in a haystack.

Floppy discs

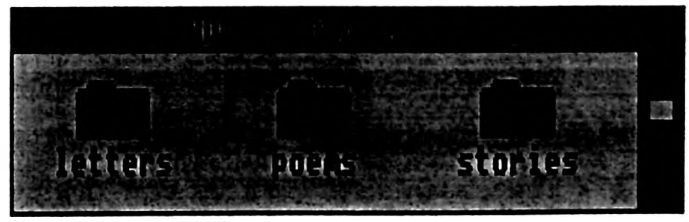
The majority of applications for the Acorn computers allow you to save files you have created on any disc you choose. It is therefore possible to use a single 'work disc' to save all work related to a topic, be it text, pictures or whatever. This disc could be subdivided using directories (this is outlined in 'Getting Started').

The 'root directory' is the window which is displayed when you first click on the disc drive. To divide the root directory into sub-directories do the following:

- Insert the disc and click on the disc drive - the root directory will be displayed.
- Move the pointer over this window and press the middle button.
- Follow the 'New directory' option, type in the name of the new directory to be created and press RETURN.



- A blue folder will appear with the given name.
- The above can be repeated to create many such directories if desired.



Once created, double-clicking on a directory will open it up and display its contents (obviously, if the directory has just been created it will be

empty). Files can be saved into these sub-directories in the same way as saving into the root directory. You can also have directories within directories.

Moving through directories faster

If you double-click on a directory icon with the right-hand button instead of the left-hand button then as well as opening the relevant directory the directory you were previously viewing will close. This is very useful when moving through several layers of directories as it saves having to close the windows manually.

Hard discs

Organising a hard disc is the same in principle as for floppies, in that you will still be using a system of directories. Therefore you will need to refer to the section above. The difference is in scale and the fact that certain applications need to be in certain places.

The root directory (the window which opens when you click on the hard disc icon) should contain the following:

- !System
- !Scrap
- !Fonts
- !Printers

In addition, there should be directories leading to subsections of the disc. What these subsections are depends on what you want to use the machine for and is a matter of personal preference.

You could try setting up the following directories as a starting point and add or amend as you see fit:

- Writing
- Art
- Databases
- Clipart
- Utilities

These could then be further sub-divided.

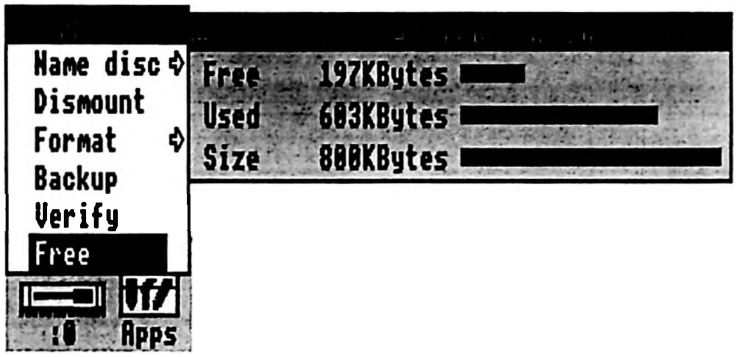
To actually copy files or applications into the directories, follow the instructions given earlier under 'Copying part of a disc'.

Files can also be copied from one part of the hard disc to another by simply dragging the file from one disc window to another. This will give a duplicate copy. To actually *move* the file, hold the SHIFT key down whilst dragging. This is much quicker than copying then deleting.

Disc space

Obviously, a disc (floppy or hard) only has a certain amount of space in which to store information and will eventually become full. To find out how much space is left on the disc:

- Move the pointer over the relevant disc icon near the bottom left of the screen.
- Press the middle mouse button and select 'Free'.



The amount of space both used and free will be displayed (either in bytes or kilobytes). Clearly it will take some experience to find out how much space different types of file occupy, and then to be able to judge what will and won't fit in the space left on a disc. Generally speaking, text and word processed files take up very little disc space. Sprite files from art packages and scanners are particularly memory hungry and, depending on a variety of factors, it is quite possible that you may only fit a couple of images on one 800K floppy disc.

If you attempt to save a file on a disc which does not have sufficient free space, a 'Disc full' error message will be displayed and the file will not be saved. At this point, you can either choose to delete a file(s) from the disc to make room for the new file, or to insert a different disc containing enough room for the file. Alternatively you could give up the idea of saving the file altogether!

Compression

There are methods by which more information can be squeezed onto a disc. This involves 'compressing' or 'archiving' the files on the disc so they occupy less space. This compression can be carried out using one of several commercially available applications. Some files compress more efficiently than others. When using sprites, for example, it is not uncommon to be able to fit five times as many files onto a disc. This can be very useful for storing or transferring large amounts of information. Inevitably it does involve an extra effort when saving or using these files but some systems are quite easy to operate.

Organising your discs

To get your computer running efficiently and free of as many problems as possible, it is worth considering how some of your discs and the files on them are organised.

!System

What is the '!System' application?

You may notice that many discs of software (the applications disc supplied with the machine being one of them) have an application called !System included on them. !System is an application which may contain a variety of 'resources' used by programmers to enable their software to run. It saves them time having to constantly re-write commonly used routines. If an application you buy needs a !System to run, then invariably the correct !System will be supplied with the software. So far so good - however there are times when problems can occur.

What problems are associated with !System?

Not all !System applications are the same. They will look the same but the resources inside them (*modules* as they are called) may well differ.

After being switched on, the first time the computer 'sees' a !System application (i.e. a disc window containing !System is displayed on the screen) it remembers this particular !System as the place to look when it needs to find resources. If consequently you insert a second disc with its own, different !System application and try to load an application from it, the computer will go to the original disc for its resources. If these resources are not present on the first disc then you will start getting error messages such as '.... not found'. To make matters worse, modules are constantly being improved and updated and you then get the situation where software not only needs a particular module to operate but a fairly recent version of it. This can lead to error messages which tell you that a module is 'out of date'.

How can I avoid these problems?

There are a number of ways to overcome difficulties involving !System.

- If you mainly tend to use applications individually, as is common in schools, then simply resetting the computer before loading a new application will solve the problem since it will force the computer to use the correct !System which belongs with new applications when loaded.
- When loading an application from a disc also containing a !System application, double-clicking on !System before loading the main

application may solve many of the problems, since this will force the computer to treat this new !System application as its resource bank rather than any which it has previously seen (this will not solve problems with out-dated modules however).

- One solution is to have one 'Master !System disc' (if you have a machine with a hard disc then you should put a copy of !System in the root directory of the hard disc and treat this as a 'Master !System' -see the section on 'hard discs' for details of how to do this).

You could possibly fit this on the same disc as your printer driver for convenience. This would need to be kept up-to-date as you purchase new software. Provided this was 'seen' by the computer before anything else was loaded, any problems associated with the !System would disappear. If you were in the habit of loading a printer driver from this disc before you started work, then this would be the case and you would be killing two birds with one stone.

Updating !System applications

The vast majority of applications supplied with a !System application are also supplied with an application called !Sysmerge.

This allows you to update a !System application with the minimum of fuss. It is very easy to use and full directions are given as you use it, so detailed instructions are not needed here. The basic principle is:

- Double-click on !Sysmerge.
- Drag your original (master) !System application on to the window which will have opened.
- Drag the new !System application onto the window.
- Your master !System will now be updated if necessary.

Remember - this must be done with **every** new piece of software you get containing a !System application if your master is to remain up-to-date.

!Scrap

What is the '!Scrap' application?

In addition to a !System application, many discs also contain a !Scrap application. This provides temporary storage for the machine when performing certain operations, such as printing or transferring information between applications. Its operation is totally automatic.

What problems are associated with !Scrap?

Like !System, the first time the computer 'sees' !Scrap it will use this particular version of it to store information. This can lead to much disc swapping as you may be asked to constantly insert a disc you thought you had 'finished' using.

How can I avoid these problems?

One 'cure' is as follows:

- Try to ensure there is copy of !Scrap on most of the applications you use - it doesn't take up much disc space (see section on 'disc copying' if you're not sure how to do this).
- Double-click on !Scrap on the disc you are currently using. This will force the computer to use this version of !Scrap if required - since the disc is already in the disc drive, no disc swapping!

!Fonts

What is the '!Fonts' application?

A font is a particular typeface (or more correctly, family of typefaces). Many applications such as word processors, desktop publishers, graphics packages etc., use fonts. The !Fonts application stores and manages details of these fonts. You can change !Fonts to contain any font styles you have available to you. Many additional typefaces can also be purchased and added to your collection within !Fonts (disc space permitting).

Any application which needs font information will look in the first !Fonts application the computer has seen (in a similar manner to that for !System).

What problems are associated with !Fonts?

Similar problems can occur regarding !Fonts to those detailed for !System:

- You may be asked to swap discs constantly because the computer is looking for the first !Fonts application it saw, rather than the one on your current disc. Double-clicking on the !Fonts application you wish to be the current one should cure this.

  N.B. Disc swapping problems of this nature can be even worse if the fontcache is too small. Refer to 'Configuring your machine' in 'Getting Started' for further details.

- When loaded, some applications look for a particular font. If that font is not available because the computer is looking in a different !Fonts application not containing the required font, then the application may refuse to load. Double-click on a !Fonts application containing the required font (probably supplied on the disc with the application) before loading the software.
- RISC_OS 2 and RISC_OS 3 machines need different !Fonts applications (although there are a few 'smart' !Font applications around which recognise which type of machine they are in and act accordingly).
- RISC_OS 3 machines have three font families built into them (Trinity, Homerton and Corpus). When using an application which uses fonts, these will be available alongside any which are contained in the current !Fonts application.
- A RISC_OS 3 !Fonts application will not work in a RISC_OS 2 machine.
- If you put a RISC_OS 2 !Fonts application in a RISC_OS 3 machine and double-click on it, it will work with some software but will disable the fonts built into the machine until it is reset.
- Most applications which need !Fonts will need the computer to have seen !Fonts *before* they are loaded. On a RISC_OS 3 machine, if a !Fonts application has not been seen, then only the fonts resident in the machine will be used.
- If you create a piece of work using certain fonts, save it and later try to re-load it on a machine not having access to the same fonts used in your document, problems will occur. Always ensure the fonts you have used will be available if you intend to re-load work in the future, or send a disc containing files you have created to others.

Customising !Fonts

As stated earlier !Fonts can contain any selection of fonts available to you.

If you are using a hard disc then !Fonts should be placed in the root directory and you will have little restriction on the number of font families you can place inside it. If you have a floppy disc then you are limited by the space available on the disc. The number of fonts a disc will hold depends on the complexity of each font used, whether you are using RISC_OS 2 or RISC_OS 3 and whether you are using high density discs or not. Under the 'worst' combination of these situations you should be able to manage at least 20 different typefaces on a disc.

It is technically possible to 'daisy-chain' several discs together to increase the number of fonts available. However, in my experience, you spend more time swapping discs than working. So I don't recommend it! If you are keen to have a larger number of fonts available, then I would suggest you consider adding a hard disc to your machine.

Whilst you may be limited in the number of fonts you can have available at any one time, you can choose which fonts are included in your selection. The following section describes how to add to or alter the contents of a !Fonts application. Before you proceed however, note two points:

- Always work with a backup copy of the !Fonts application, not the original (just in case things go wrong!).
- Remember that some applications expect to find a certain 'default' font when they are loaded - if they cannot find this font they may not work. Many look for the Trinity font, others may need their own font (Phases looks for its Jotter font for example). If this is the case, ensure that this font is not deleted from the selection available.

To alter a !Fonts application

To alter your !Fonts disc do the following (if you are unsure how to delete and copy files refer to the relevant section before proceeding):

- Insert the disc containing the !Fonts application you wish to alter and click on the disc drive icon so !Fonts is displayed on screen.
- Hold the shift key down and double-click on !Fonts. A window will open showing the fonts it already contains, together with some other files. Each font family is contained in its own blue directory. If you wish to remove a font family to make room for others, simply delete the appropriate blue directory.

  N.B. Do not delete any of the other files inside !Fonts since this will stop it working.
- To add fonts to the application, it is a question of inserting another !Fonts disc with the new fonts on, opening up this !Fonts application in the manner described above and copying by dragging from one disc window to another.

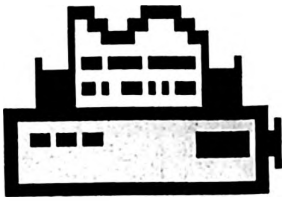
  N.B. On a RISC_OS 2 machine, it is recommended you copy the font via a RAM disc (see section on copying), otherwise each file is copied individually and you could be there all day swapping discs!

Once the new fonts application is created, reset the machine and load in the application you wish to use. You should now find your new font selection is available.

Where can I get more fonts?

Amassing a huge collection of different fonts for every occasion can become rather obsessional! Fonts are available from many sources. The Datafile and Skyfall both do large collections of public domain fonts which are very cheap and very good. Design Concept produce their own, unusual fonts, whilst the Electronic Font Foundry produce a complete selection of very high quality 'professional' fonts (including many foreign language fonts), albeit more expensively than the others mentioned (addresses near the back of the book).

!Printers



What is the '!Printers' application?

This is a printer manager supplied with RISC_OS 3. In order to print from almost all applications it is necessary to have !Printers loaded and correctly set up for the printer you are using (for more information on this see chapter 1).

What are the problems associated with !Printers?

Most of the problems encountered centre around the initial configuration of !Printers. These problems are dealt with in chapter 1.

One other irritation associated with the !Printers application is that the computer requires the disc containing !Printers to be present in the machine every time you tell an application to print. This is not a problem on a machine with a hard disc, but on a floppy based machine it can mean swapping discs every time you wish to print.

How can I avoid these problems?

There are a couple of ways around the disc swapping problem (apart from buying a hard disc!).

- One way is to copy !Printers onto the disc containing the application you wish to use it with (remember to copy !Scrap onto it too). This will mean you are reducing the number of discs you are working with (and therefore disc changes).

  N.B. One hitch here could be that depending on the application in question, there may not be enough room left on the disc to accommodate !Printers. If this is a problem, the following may help:

- Assuming you are not using a postscript printer (not many of you will be) you can very simply halve the amount of space taken up by the !Printers application:

  On a *copy* of !Printers, hold down the SHIFT key and double-click on !Printers. This will open the application rather than load it.

  Delete the directory called 'ps'.

  Now use the application as usual. You may now have enough space to fit it on disc where it previously would not go! There are ways of further space saving by removing other parts of !Printers, but you need to have a little more knowledge of what printer you wish to use it with otherwise you may stop it working all together!

Stop Press!!!

Shortly before going to press, Acorn released a later version of !Printers which avoided all the disc swapping. This should be available from your nearest Acorn dealer.

Viruses

There was great debate about whether this section should be included in this book. There are viruses around which can infect the Acorn machines, and whilst the number of these will inevitably increase (as they will on all types of computer) the threat they represent needs to be kept in proportion. Therefore do not panic and think you are instantly at risk from the dire consequences of lethal infection!

A virus is no different to any other piece of computer software in that it instructs the computer to carry out certain operations. The difference lies in the fact that the virus usually hides itself within a 'legitimate' piece of software. When that software is loaded, the virus is unknowingly loaded as well. Once loaded, the virus can then copy itself onto other discs inserted into the machine - hence it spreads. Most of the viruses on the Acorn machines are fairly tame. Most of them cause more annoyance than anything. There are however one or two nastier ones which can wipe information from discs etc.

Viruses cannot survive in an Acorn computer once it is switched off. Hence, you can be guaranteed that when you first switch your computer on it is virus free. However, as soon as an infected disc is inserted or a hard disc is accessed, then the virus will be loaded again.

The simple way to stay virus free is to obtain a virus killer. Pineapple Software currently sell VKiller. This can be used to clear viruses from infected discs and act as a watchdog against future infections. Whichever virus killer you use, then it is important to keep it up-to-date as viruses are constantly changing.

There also exist public domain virus killers.

Peripherals

This chapter covers:

- Printers
- Hard disc drives
- Memory
- Scanners
- Digitisers
- CD ROM
- Speakers
- Overlay Keyboards
- User port
- MIDI port
- Sound samplers

Peripherals

A 'peripheral' is the term used for anything which is connected to or 'added on' to a computer. Some of these devices are very common, indeed without them the usefulness of the computer is severely limited. Others are more 'exotic'. The purpose of this chapter is to explain some of the peripherals available together, where appropriate, with their associated advantages and disadvantages. If you are considering buying, you should then be in a better position to make a more informed decision.

Printers

Essential to 99% of users. The Acorn machine is capable of driving a wide variety of printers, partly thanks to its printer driver system. Each type of printer has its own characteristics.

Dot Matrix

These are well established, resilient, cheap to run and very noisy! They rely on a series of pins hitting an inked ribbon onto the paper - hence the unavoidable noise. They commonly come in two varieties, 9 pin and 24 pin, the latter being slightly more expensive but giving better quality. Ribbons need to be replaced fairly regularly to maintain a good, black print (something to consider if you often need to photocopy printouts). Recently an increasing number of people are turning from dot matrix to inkjet printers.

Inkjet printers

These are becoming increasing popular mainly due to recent price cuts. Inkjet printers rely on spraying ink onto the page. As a result they are almost silent in operation. Print quality is much higher than from a dot matrix printer with less 'banding'. Also, unlike dot matrix printers, printouts are always black and photocopy with excellent results. Running costs are slightly higher than for a dot matrix, although there are refill systems available which cut costs. Print quality can be very dependent on the type and make of paper you use - it is worth experimenting to find out which gives the best results. Printer prices are now similar to those for a 24 pin dot matrix, and with print quality being almost indistinguishable from that produced by a laser printer, offer extremely good value-for-money. Particularly noteworthy are the Hewlett Packard Deskjet, the Integrex Betajet and the excellent Canon Bubblejet.

Laser printers

The most expensive and best. Laser printers are quick, quiet and give excellent results. It is possible to use a wide variety of laser printers with the Acorn machines, although for speed and ease of use the Laser Direct by Computer Concepts is probably the best. If you can afford it, buy it!

Colour printers

For graphics work, colour printers are becoming more essential and luckily more affordable. If you are going to be doing more than an occasional colour printout, avoid dot matrix colour printers. They are very slow and the quality begins to deteriorate almost as soon as the ribbon is used. Much better are the colour inkjet printers. The Hewlett Packard Deskjet and the Integrex Series 2 both offer superb quality colour output at a reasonable price. They also have interchangeable ink cartridges - slot in the black cartridge and you have a near laser quality monochrome printer too - the best of both worlds! Print quality can be extremely dependent on the type and make of paper you use - it's worth experimenting to find out which gives the best results.

Hard disc drives

Almost all the current Acorn range of computers are now either fitted with these as standard or they are available as an optional extra, so it's not strictly a peripheral, but I had to put it somewhere! Having a hard disc is like having a very large and fast floppy disc built into the machine. This means that once you have loaded software onto it you do not have to constantly insert and swap discs. It also means an end to most of the problems associated with different versions of !System, !Fonts, etc. and allows you to have more software at your fingertips, endless different fonts available.....

If you are considering buying a machine which is going to be used more than once in a blue moon, then it is worth putting a few extra pennies into getting one with a hard disc. Once you've used one you'll not want to go back.

Hard discs are available as 'add ons' for people with machines not already fitted with one. Prices depend on the size (capacity), type of drive and model of machine to which it is to be fitted. Due to all these variables, you need to speak to your local dealer to get an idea of how much it would cost.

Memory

Again, not really a peripheral but I've started now! The more memory you have, the more flexible your computer is. To check how much memory your computer is fitted with, watch the screen when the machine is first switched on. Just below the 'Acorn RISC_OS' message it will say '512K', '1024K', '2048K', or '4096K'. These correspond to ½, 1, 2, or 4 megabytes respectively. To be of real use, the machine needs to be fitted with at least 2 Mb. If you are going to be dealing with a lot of graphics work, particularly with scanned or digitised images, then 4 Mb would be useful. Memory prices have dropped recently, e.g. an A3000 can be upgraded from 1 to 2 Mb for around £30 and represents excellent value.

ARM 3

This is an upgrade available for all 300, 400 and 3000 series machines. ARM 3 is supplied as standard on the A5000 and A4. It involves replacing the main processor (ARM 2) in the computer with a faster one. *This is not to be confused with the difference between RISC_OS 2 & 3 which is a completely separate issue.* An ARM 3 machine will appear exactly as any other except it will run some 3 - 5 times faster. With many applications this is not noticeable. However, certain operations such as complex screen redrawing using packages like Draw, font cacheing, some printing operations, etc. really are transformed. For primary education the advantages of an ARM 3 machine over an ARM 2 may be questionable. However, if you are an intensive user or one who performs certain complex operations on the machine, then the upgrade can be invaluable. Note that this upgrade is not available for A3010, 3020, or 4000 machines.

Multi-sync monitor

For the third, 'not necessarily a peripheral', we have the multi-sync monitor. This is now standard on some of the Acorn range of computers and available as an option on the others. It effectively gives you a much higher quality display than a standard monitor. This means much smaller text can be read on screen without causing eye strain. There is also noticeable less 'flicker' on screen which some people find particularly annoying using the usual RGB monitor. For the extra cost of around £50 it is well worth having if you are buying a new machine.

Multi-sync monitors use different screen modes to standard monitors. Mode 27 is the multi-sync equivalent of mode 12, and mode 28 is equivalent to mode 15 (see 'changing mode').

Scanners

Scanners allow images to be copied from the printed page on to the computer. Once there, the images can be manipulated and processed to achieve many varied results. Scanners come in two basic forms. Hand scanners allow the scanning of a 4 inch width (the length is only dictated by the amount of memory available). A4 scanners allow the scanning of a complete A4 page (if there's enough memory). Hand scanners are an excellent way of grabbing illustrations, photographs, etc. for inclusion in a piece of work.

Scanners come in two parts. The scanner itself and a 'podule' (circuit board) which is fitted into the computer it is to be used with. They are supplied with software which allows you to process the image once you have grabbed it.

Digitisers

Another piece of hardware which has recently seen a huge drop in price. A digitiser allows you to capture images from a video source (video camera or video cassette player). Once grabbed they can be stored,

processed, used to illustrate work etc. Various makes are available although the 'Vision' series from HCCS offers a particularly easy and cost effective route into scanning, costing between £50 and £100 depending on your machine and whether you require colour digitising.

CD ROM

A CD ROM is a data storage device allowing huge amounts of information to be stored on a single compact disc (the same type as used for music). The sheer capacity of storage means that new avenues have been opened. There are already large numbers of CD ROMs available for PC and Macintosh computers but discs specifically aimed at Acorn computers are only just becoming available. These include titles such as complete encyclopedia on a disc (including still and even moving pictures), image libraries, sound libraries etc. Search facilities are generally provided to enable quick location of information. In most cases, text or pictures can be exported from the CD into the word processor you are using for greater flexibility. CD ROM looks set to become increasingly important in the future. For more information on CD ROM see next chapter.

Speakers

Whilst the Acorn machines have good sound capability, the speakers fitted to the computers are not good for more than the occasional beep! If you are going to be working with music or sounds then it is worth getting some additional speakers for your machine. If you have a Hi-Fi near your machine, then you can connect a lead between your 'headphones' socket on the back of the computer to the 'aux' sockets on the Hi-Fi. Alternatively, it is possible to buy amplified speakers to plug straight into this headphones socket. They are available from many sources, but Argos do a pair for around £15 including a mains adaptor. They really do improve the sound dramatically.

Overlay Keyboard

This is an alternative way of inputting information into the computer. It is mainly used in education for young children or those with special needs. Used in conjunction with a piece of software such as 'Conform' (see software guides) a keyboard overlay can be tailored to individual needs for use with word processing, databases etc. In order for them to work, you may need to have a user port fitted to your machine (see below). There is now also a board that connects through the serial port.

User port

This is a small socket and associated circuitry which is fitted inside the computer. Its most common use is in education where it allows overlay keyboards and control devices to be connected to the computer. Often a user port is included in other 'add ons' fitted to the computer such as MIDI ports etc.

MIDI port

MIDI stands for Musical Instrument Digital Interface. If you have an instrument which is 'MIDI compatible' then the addition of a MIDI interface to your computer will allow you to control your MIDI instrument (commonly a keyboard) via the computer. This opens up all sorts of exciting possibilities in terms of music composition and editing.

Sound samplers

Sound samplers allow sounds to be captured by the computer and then used in different ways (in much the same way that a digitiser allows you to grab pictures). Once captured, sounds can be used with some of the music software available as new 'voices', or they can be used in conjunction with multi-media software (Magpie, Genesis, Optima) creating 'talking books'.

The simplest way into sound sampling is via one of the microphone/ recorder devices available. This consists of a microphone and software. The microphone plugs into the printer socket on the computer and from there you can very easily record your sounds.

CD ROM

This chapter covers:

- CD ROM Background
- Hardware requirements
- Choosing a CD ROM drive
- Setting it up
- Configuring the system
- Running a disc
- The future

CD ROM

Initially it was intended to give CD ROM a brief mention in the chapter about peripherals and leave it at that. However, recently CD ROM has become increasingly important in the Acorn world. It appears to be emerging as a standard for software development and production. On other platforms such as Macintosh and PC computers there is already a large amount of CD based software. As computer user's expectations grow and programmers become more adventurous, CD ROM, due to it huge storage capabilities and cheapness of manufacture, is going to become an increasingly popular means of distributing software. This, combined with the fact that buying and setting up a CD ROM and selecting discs for it has not always been the most straightforward thing to do, has led to a chapter in this book being devoted to just that.

The background

What is it?

CD ROM is essentially a mass storage system - like having a disc than can hold hundreds of times more data than the floppy discs we are all familiar with. The essential difference though is that CD ROMs are to the average person in the street a read only storage system. In other words we can look at what is on the disc, use the information in any way we wish but we can't add to or change that information. The discs themselves are identical to those which you can buy of your favourite band or singer - the only difference with CD ROMs being that the information on them can only be 'listened to' by a computer - I suppose you could listen to them if you really wanted but even after a few plays I still find them difficult to dance to....

What can it do?

The fact that it is not possible to save information on a CD ROM is not really a drawback - after all we have floppy and hard discs to take care of that job. The value of the CD ROM lies in manufacturers having a cheap, compact (sic.) way of distributing huge amounts of information. This means that a whole encyclopaedia can be put on a single disc - including not just text but pictures (both still and moving) and sounds. A disc could contain hundreds of editions of a particular newspaper - this could be searched very simply to extract all the articles relating to a particular person or subject. Thousands of images could also be stored on a disc to be used for illustrating work. Adventure games take on a whole new meaning simply because of the sheer amount of information which can be drawn upon. Photographic film can now be transferred onto CD ROM so you could use your holiday snaps, pictures of projects, etc. in your computer work And the the list goes on... Most CD ROM kits even include an application which allows you to plug an amplifier or headphones into your CD drive and play music CDs on it too!

Incidentally, one other point which makes CD ROM a very attractive method of data storage form the distributors point of view is its security.

Software theft of the 'I'll just do you a quick copy,' variety which is currently a considerable drain on many companies can be wiped out over night.

As with many applications on Acorn machines the key to their versatility lies in being able to transfer information from on piece of software to another. CD ROM is no exception. If text is found in an encyclopedia CD ROM it could be transferred to a word processor for editing or amending. An image could then be taken from another CD ROM to illustrate the work.

Brilliant! - What do I need?

- Firstly you need a computer. Any of the computers covered by this book can be used to drive a CD ROM. However there are some other minimum requirements. 2 mb of memory in the computer really must be considered a minimum. If you are going to do a lot of work with CD ROM, particularly passing data from CD ROM to other software then you'll soon wish you had 4 mb.
- A hard disc drive is not essential but really does make life an awful lot easier.
- The next thing you need of course is a CD ROM drive together with a suitable interface. This is where you have to start making decisions. And, as usual, the answers aren't always straight forward...

Until recently there was only one way of connecting your CD ROM drive to an Acorn computer and that was via a SCSI (pronounced scuzzi) podule. SCSI (Small Computer Systems Interface) is a well recognised standard which allows a variety of devices to be connected to a computer, to 'talk' to each other, and to understand one another. Hence if you wanted CD ROM you had to buy the CD ROM drive and a SCSI interface (which are not that cheap). Recently however, two companies in particular (Morley and Cumana) have produced 'low cost' CD ROM drives which include their own interface system negating the need for the SCSI podule. This makes a much more economical entry into CD ROM. They are simple to fit and offer a quick and cheap(ish) solution. The down side is that the low cost system is unlikely to be as expandable in the future as SCSI. Many other products support SCSI and having a SCSI podule fitted to your machine means that in the future when new SCSI devices are developed your machine will be able to use them.

Deciding which route to take, SCSI or 'low cost' is not easy and depends on a number of other factors - money being one of them of course! If your computer is fitted with a SCSI hard disc drive it will already have an interface fitted. Therefore you can buy a SCSI CD ROM drive on its own, plug in and off you go - lucky you! If you aren't sure if your machine if fitted with a SCSI podule then do the following:

- Press the F12 key.
- Type in: *Podules followed by RETURN. This will list any podules fitted in the machine - if SCSI is mentioned then you could be in luck.

Assuming you don't already have an interface fitted then which route should you take? If you are intending to add a hard disc drive to the machine at the same time as the CD ROM then SCSI could be quite attractive - one interface will drive both the hard disc and the CD ROM and the computer will remain more adaptable to cope with future developments.

If you don't already have a SCSI podule and are not adding a hard disc drive then the choice is largely governed by money (isn't it always?). Both the SCSI and the low cost option can offer similar performance. SCSI offers greater future versatility but is going to cost more. You pay your money and make you choice...

Once you have decided which route to take, ensure the drive you intend to buy is multi-session capable for PhotoCD. This means that should you wish to use PhotoCD to transfer photographic film to disc you will be able to read the images on your CD ROM drive.

Actually doing it

Setting the drive up

Regardless of which system you chose to fit the kit will basically come in two parts - the CD ROM drive and its interface podule. The podule first has to be fitted in the computer. This is a fairly simple ten minute job which could be done by anyone with a 'screwdriver level' of technology capability. The exact procedure will depend on the computer you are fitting it to but full instructions will be provided with the podule. It really is very easy to do if you follow the instructions, but if the thought of waving a screw driver at a computer makes you break out in a cold sweat and visions of blue sparks and insurance claims flash before your eyes then you could always entrust the work to someone else.

Once the podule is safely fitted it's just a question of plugging the CD ROM drive into the podule, switching on, and off you go! Or is it?

Configuring the system

The CD ROM will only run if the system if configured correctly. One advantage of the Morley system is that it configures the system itself. You will still need to ensure you have the rest of the computer configured to your liking of course (see chapter 1).

If you are using a SCSI system you will need to configure the system 'manually'. There should be instructions with your kit and there is likely to be a disc with a SCSI manager application to help you configure the machine. If there is then load the SCSI manager and make alterations as instructed.

I have set up kits from some sources where I have not found the directions supplied to be sufficient for most people. Added to which some individual CD ROMs may have differing requirements. Here therefore is an 'approximate check-list' of things to check for.

SCSI devices - you will need to tell the computer how many SCSI devices you are using (for most people this will be 1 although if you have more, a SCSI hard disc for example, this number should be adjusted accordingly). If when switching on your machine you find you have eight CD icons at the bottom of the screen this is because this setting is incorrect (and not because the supplier has made a large error in your favour!). Sometimes this setting can be changed from the SCSI manager software and sometimes by pressing the middle mouse button over the CD icon at the bottom and changing the 'Devices' option.

Buffers - This sets aside space in the computer memory as a temporary store for information read from the CD ROM. If it is too small you may find reading discs becomes very slow and some may fail to run altogether. As usual it is a compromise - bigger is better, up to a point, but any space set aside for the buffer is being taken from computer memory available for other tasks. On a 4 mb machine you will have more memory to play with and can afford to set this at 256K. With a

2 mb machine you may be forced to settle for less if you are to leave enough memory for other applications to run. Again, it may be possible to set this from the application supplied with the kit or you may be able to do it from the CD icon at the bottom of the screen.

Fontcache - if you are to be using a CD ROM containing text (who said, 'no'?) then, as for any other similar application it is important the fontcache it set to a reasonable size (see Chapter 1). I used one CD ROM which repeatedly crashed without explanation until I discovered, by chance, that it needed a larger fontcache.

Any of the alterations you make above will remain set once the machine is switched off. Therefore you should only need to set them once. If, however, a delete-reset is performed on the computer, the configuration process will need to be repeated.

Discs PC/RISC_OS

Having performed the above operations you should now have the CD ROM kit up and running. Now it is time to choose which discs to run on it.

There is the option of running two types (formats) of CD ROM. The first are discs designed to be run on a PC. There is a huge array of the CD ROMs for the PC available on every subject imaginable. Having said that if you are considering using them in education you could be disappointed. Many are American in origin and many cover very specialised subject matter (brain surgery for sheep farmers). Although designed to be run on a PC they can be run on an Acorn machine using the PC Emulator software available form Acorn themselves. I must say, however, I really can not recommend this route. The setting up process can be complex and the results are often disappointing. If you really need to run PC based CD ROM - get a PC!

This leaves the second option - discs produced specifically for the Acorn machine. These have seemed fairly limited in number so far but are beginning to appear much more rapidly of late. The quality has been mixed, some being converted from American PC discs, but once again this situation is rapidly improving.

Running a CD ROM

Assuming you have chosen a CD ROM which has been written specifically to be run on an Acorn machine there are likely to be two main ways of loading the application to run the CD ROM.

In order to actually run many CD ROMs you need what is called the 'driver' software. This may be supplied on the CD ROM in which case it is transparent in use - You insert the CD ROM, click on the CD ROM icon at the bottom left of the screen and double-click on the relevant application in much the same way as loading software from a conventional hard or floppy disc.

Some CD ROMs, however, have the driver software supplied separately

on a floppy disc. If you have a hard disc fitted to your machine this driver application must first be copied onto the hard disc (see Chapter 2). Double-clicking on the driver application will then automatically request the CD ROM to be inserted into the drive (if not already there) and off you go.

Once you have reached this point you will need to refer to the manual for the individual software for details of how to use it. As with disc based software, every one is different. However, the nature of the better CD ROMs currently available means that they are very intuitive in use and hopefully you should not experience too many problems.

It should be noted that all comments in Chapter 2 regarding !System and !Fonts files apply equally to CD ROMs. Therefore if you are have problems with requests to insert a CD ROM you were using half an hour ago for no apparent reason it would be worth referring to that chapter.

The Future

It is likely that over the next couple of years CD ROM will increasingly become a standard media for distributing software. On Acorn machines there will be a rapidly expanding choice of quality software available. Some of this software will be very innovative and will allow computers to be used in ways not yet considered. Therefore investment in a CD ROM drive should extend the useful life of your machine

The Software Guides

This chapter covers:

- The aims of the guides
- Software copyright
- Software versions
- The guides:

  Ovation

  Phases#3

  Full Phase

  Conform

  My World/My World 2

  Vision Digitiser

  Notate

  Revelation

  Keycount

  FontFX

  Clipart

  Chars

The software guides

The aims

There is an ever-expanding market place of software for the Acorn machine, with new titles appearing almost daily. Many of these are aimed at the education market, although that doesn't mean that the software is not useful outside this area.

One problem facing users is that with all this software available it can be very hard to make an informed choice as to which items to purchase - especially since few pieces of software can be 'tested' before purchase. Once this hurdle is overcome, time still has to be found to become familiar with the software before it can be used in the classroom.

The section will, hopefully, serve two purposes. Firstly to provide a pointer towards some of the more common software currently in use in education. This in itself should provide a clue as to the most suitable software available, although it must be said the guides here are not exhaustive and there are certainly many fine pieces of software not mentioned here. Secondly, if you already have the software or have just purchased it, they will provide you with a simple 'get you going' guide. Again, these guides are intended to *supplement* the manuals provided with the software, not replace them. The guides only cover the essential basics - for more detail or more specialised information refer to the manual.

Before starting with guides on individual pieces of software, it is worth dwelling for a few moments on the legal aspects of software copyright, since this covers issues which affect all of us.

Remember, the software included in these guides represent the author's views and only cover some of the good software available. Many other good packages exist and are used widely.

Software - the legal side

There has been a great deal of publicity in past years about many aspects of copyright in education. These have ranged from 'moral' discussions of the subject to reported cases of individuals and institutions prosecuted for breach of copyright.

Software is particularly prone to theft, since unlike most other media it does not deteriorate in the copying process. If you photocopy a book, the copy is never as good as the original - a copied piece of software is identical to the original.

Over the years there have been a great many 'blind eyes' turned to illegal software in schools, although there are signs recently that schools are taking a more responsible attitude to ensuring they are operating 'above board'.

Software companies have taken various measures to protect themselves against loss by illegal copying. These include 'protecting' their discs so they cannot be copied, using a variety of code words of colours which

need to be entered before the software will operate, using special hardware 'keys' which need to be plugged into the machine etc. It is quite understandable why the companies have chosen to take these measures - they need to cover their development costs and make a living themselves, but they all cause inconvenience.

Some people claim ignorance when being asked about the copyright situation of software they are using. Whilst this is no real excuse it is true that the variety of conditions applying to different software can cause confusion. Below are some of the common terminologies used to describe the copyright situations affecting software. As always, check the small print supplied with the software to be safe, and if still unsure, contact the company concerned.

Single user licence

The most common situation. Purchasing the software allows you to use it on one machine at any one time. You may make a copy for security purposes - in case the disc becomes damaged (if the disc allows you to). You cannot use a disc to load it onto one machine, then another, then another until all the computers in the school are running from one disc!

Site licence

If you have a site licence you may make as many copies of the software as you require for use within the purchasing establishment only. Sometimes there is a limit on the maximum number of machines on the site. The cost of site licences vary and are sometimes related to the size/age range of school, but are commonly 3 to 5 times the cost of a single user licence. If you already have a single user licence and want to upgrade to a site licence, then the money already spent can usually be offset against the cost.

Some software companies include a site licence in the basic price of software, i.e. buying a single copy entitles you to make as many copies as you require for use within the purchasing establishment. This often represents very good value for money and is worth looking out for.

Local Authority licence

Some local authorities purchase an authority licence to allow the schools served by them to copy certain pieces of software. Due to changes in the organisation of LEAs this will become increasingly uncommon in the future.

Public Domain

Some software is described as Public Domain. This means it can be freely copied provided certain conditions are adhered to. This usually includes not altering the software in any way and not selling it for profit. There are many public domain sources (see 'useful addresses'). Public domain software is, predictably, a fairly mixed bunch - some of it excellent and rivalling commercial packages, some of it totally useless. If you are prepared to sift through what is available then it can be very rewarding.

Shareware

This is also found in public domain libraries. The difference is that if you find the software useful you need to pay a registration fee. This is usually a very modest sum and may then entitle you to more recent versions, fuller documentation, technical support etc.

Software versions

Unlike many products, which once purchased remain the same, computer software is constantly under development. Hence, as improvements are made, the software is updated.

These 'changes' are usually for one of two reasons. There may be problems or 'bugs' with certain aspects of the software which a later version will correct. Alternatively, new features could have been added to the software to make it better or easier to use.

If you wish to contact the company at any time to ask advice about using their software or to report 'problems' with it, then it is important that you know which version of the software you have. Most software, when loaded, appears on the icon bar at the bottom of the screen. Pressing the menu button over this icon and following the 'info' option will usually show you the version number.

If you are a 'registered user' then you will usually be informed of any major changes to the software. You may be sent the latest version free of charge or possibly be asked to pay a small handling fee for the update. You generally become a 'registered user' by returning the registration card provided at the time of purchase.

In the following guides I have provided the current version number of each piece of software at the time of writing so you can see if you are up-to-date. Remember, there is no real need to update unless you are having problems or if new features are now available which you do not have in your version.

Before you start...

Before you use a piece of software you should always make a backup copy (where permissible) and store the original somewhere safe. In this way, if the disc you are working with becomes damaged, you can make a new copy from the original. See the software's manual about the situation regarding backup copies, since it varies between software companies. Details of how to make a backup can be found in the chapter 'Keeping it Going'.

Ovation

Supplier

Risc Developments Ltd.

Latest version at time of writing: 1.415

Synopsis

Ovation is a powerful and flexible desktop publishing package. It can be used for anything from simple word processing to complex newspaper type layouts and books. It is particularly intuitive to use and in education, is particularly applicable to keystage 3 and above, as well as for staff personal use.

The package

Ovation is supplied on 4 discs - the program disc, work disc, clipart disc and extras disc. Two points are worth considering when starting to use Ovation, as in my mind they can simplify its use.

The work disc supplied actually contains the !Fonts application and still leaves some room to save work. I would recommend, however, using blank discs to save work on. This will leave more room on the work (or 'fonts' disc as it has become) to add a printer driver and extra fonts if desired. For details of how to do this see section on 'Keeping it Going'.

The clipart disc is in the form of a number of ovation documents, each containing a number of items of clipart. Using it involves cutting and pasting between these documents and your own. This can be rather long-winded and complicated. A far simpler method is to use clipart in drawfile or sprite format. This is available from many sources (see the clipart section in this chapter) .

Ovation comes with a single user licence. Site licences are also available.

Using Ovation

To begin Ovation

Insert Fonts disc. Click on disc drive. Remove disc and insert the Ovation program disc. Click on disc drive and then double-click on !Ovation. After a short time the Ovation scroll will appear at the bottom of the screen. You are ready to go!

Starting a new document

To open a new A4 portrait piece of work (up the right way as opposed to on its side!) simply click on the scroll at the bottom right of the screen. To

open a page of a different size, a landscape page or one containing columns etc., click menu over the scroll, select 'New Document', set the appearing box as required and then O.K. it.

Once you have opened the page you may wish to change your view of it (particularly with A4) so you can see the full width. Click menu button, slide off view and choose 'Variable 80%'.

N.B. On a RISC_OS 3 machine it is possible to use a wider screen mode so you can see the full width of the page without reducing the view of it. To do this, click the menu button over the palette icon (at the bottom right of the screen beside the acorn). Follow the 'mode' option and select '35 wide, 16 colours'.

Now type some work in!

Editing work

Editing work is similar to most word processors. The caret (the red pointer) can be moved using the arrow keys on the keyboard or by clicking the left-hand mouse button at the appropriate place. The delete key deletes the letter to the left of the caret.

To alter the appearance of a section of text, it first needs to be highlighted so the computer knows which bit needs to be changed.

Highlighting

Click with the select button at one end of the section to be highlighted and keep the button held down (this section could be a letter, a word, a sentence, a paragraph, the whole piece of work or anything in between). Now drag the pointer across the area to be highlighted. Once you have reached the other end release the button. The section will remain highlighted.

Making changes

Once highlighted, changes can be made to that section. These changes include size, font, style (bold/italic - where applicable), underlined, format (left, centred, justified etc.) and many more. These can be selected by bringing up the main menu (by pressing the menu button) and sliding out of the various sections on it. You can then select your choice. Alternatively, and much quicker is to use keyboard short cuts. These save going through all the menus each time you want to make a change. Most need you to hold down Ctrl and Shift together and then press the appropriate letter - below are the most useful ones.

CTRL/SHIFT C - Centre section
CTRL/SHIFT L - Set section left
CTRL/SHIFT R - Set work right
CTRL/SHIFT B - Bold
CTRL/SHIFT I - Italic
CTRL/SHIFT U - Underline

CTRL/SHIFT N - Return to normal text i.e. not bold etc.

These are fairly simple to remember and use and really do speed up working.

Moving text

Text can be moved by cutting and pasting.

To cut or copy a piece of text, first highlight it. Then press the menu button, follow the 'Edit' option and select 'cut' or 'copy'. To paste the text back to a new position, place the caret (red cursor) where the text is to be inserted and select 'paste text' from the Edit menu. Text can be pasted repeatedly to make multiple copies of it.

Frames

All text or pictures are contained in frames. A page can contain many frames, some nested inside others if wished.

Inserting frames

Decide whether the frame is for text or a picture. At the bottom left of your page you will see several small symbols. Click on the 'T' for a text frame and the box with the cross in for a picture frame. Now move up to the page where you want the frame. Press and hold down the select button at one corner of where you want the frame to be. Drag the frame out to its diagonal corner and release. The frame will appear with 8 red 'handles' on it.

Altering frames

By moving the pointer over a red handle it will change to a 'dart' shape. This can be used to drag the handle and re-shape the frame. Moving to the middle of a frame and dragging using the right-hand button will move the whole frame.

Adding borders

The fine line forming the frame will not normally be printed unless you put a border around it. This can be done using the 'frame border' option in the object menu or by Ctrl + Shift F.

(N.B. The frame must be 'active' i.e. have red handles on it before this is done - if it is not active, make it so by clicking inside it first). From the frame border choices choose the style you want. You will then need to delete the zero entered under frame thickness and type in the thickness of frame you desire. Then O.K. it.

Using pictures

Make sure you have created your picture frame as above and that it is active. Insert the disc containing the picture. Click on the disc drive. Double-click on the appropriate directory, e.g. animals. Find the file of the correct name and drag it into the picture frame. You may now close the

windows left over from this operation by clicking on the crosses near the top left corner of them.

Re-sizing pictures

If you re-size a picture frame, the picture itself will remain the same size. To re-scale the picture you need to go to the object menu and choose either 'scale to fit' (Ctrl + shift G) or 'Fill picture frame' (Ctrl + shift H). The first will retain the shape of the original whereas the second will distort the picture to fit it in if necessary.

Saving work

Insert the disc you wish to save the work on. Click on the disc drive. Double-click on the blue directory you want to save the work in (if applicable). Press menu over your work, follow the 'File' and 'save as' options. Use the delete key to delete the word 'Document....' and type in your own, more appropriate name for the work. Move the pointer over the scroll box and drag it to the window where it is being saved. You can now safely close the document by clicking on the cross near the top left of the page.

Loading work

To load work merely double-click on the file.

Using the spell checker

From the 'spell' menu choose 'check story'. A box will appear with your first mistake and a selection of likely alternatives. If you are happy with the original work select 'continue' and the word will be left unchanged. If you wish it to be replaced with one of the alternatives, double-click on the one you want - it will automatically be corrected in your document. If the spelling is correct but not recognised by the spell checker, 'continue' will skip to the next error.

And more...

Ovation is very powerful and has many features. The above should get you started with some of the more commonly used features but obviously there are many more useful items not mentioned here. Refer to the Ovation documentation for more details.

Phases#3

Supplier

Northwest SEMERC

Latest version at time of writing: 1.09 (versions of Phases#3 earlier than 1.08 had occasional printing problems under RISC_OS 3)

Synopsis

Phases is a simple desktop publishing package allowing the combination of text and graphics. It has been designed to be simple to use and is commonly used by children at key stages 1 and 2. Phases#2 (an earlier incarnation of this program) has had several enhancements and is now recommended for both RISC_OS 2 and RISC_OS 3.

The package

Phases#3 is supplied on a single disc containing the main program and a number of sample files. Accompanying the disc is a manual and keystrip.

A site licence is included in the price of the software.

Using Phases#3

To begin Phases#3

Place the keystrip supplied over the function keys at the top of the keyboard. Insert the Phases#3 disc and click on the disc drive. Double-click on !Phases. Once loaded, click on the Phases icon at the bottom of the screen to open a page.

Working with Text

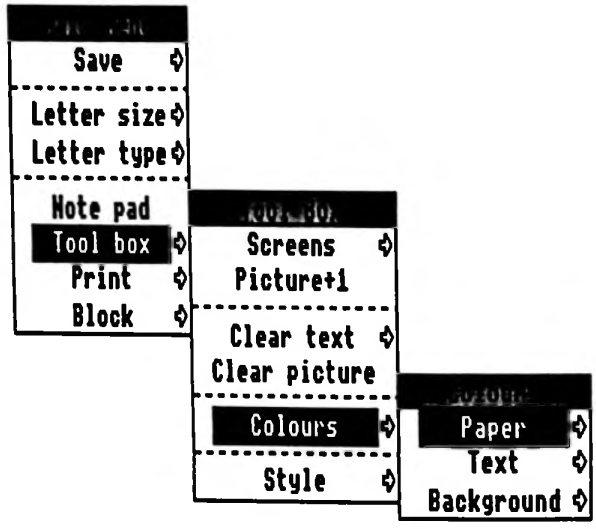
Entering text

Text can be entered and edited in the usual manner. The red caret can be moved using the arrow keys on the keyboard or by clicking at the desired position with the left-hand mouse button. By placing the caret in the middle of a piece of text words can be inserted or deleted. The RETURN key forces a new line/paragraph to begin. To rejoin lines which have been split use key F7.

Changing the text styles

Text size can be changed using the menu system (see below) or more easily by using the function keys 1-6 (see keystrip). These changes will be applied to the paragraph the caret is currently in.

Text type (font) can be change using the menu system - press the middle mouse button, follow the 'Letter type' option and select the required font from the list. Again this will be applied to the paragraph the caret is currently in.



Text (and paper) colour can be changed by following the 'Toolbox' and the 'Colours' menus. Again these are applied to the paragraph the caret is in. Holding down Shift whilst making colour changes will affect the whole document.

Moving text

Blocks of text can be moved around the page to allow re-drafting and re-ordering of writing.

To move a block of text:

First move the red caret to one end of the text to be moved and press the 'set marker' key (Shift/F1). Move the caret to the other end of the block of text and press 'set marker' again - the block will now be highlighted. Now press 'cut' (Shift/F2). The text will disappear from the screen. To paste it back in at a different place, first move the caret to where you want to insert the block of text then press the 'paste' button (Shift/F4). The paste key can be used more than once for multiple copies of a piece of text. Text can be cut and pasted from notepad to document and vice-versa. Blocks of text can also be deleted using the 'delete block' key (Shift/F5).

Saving work

Saving can be performed via the main menu but is more easily done via key F8. To save work press F8, type in a name for the work (max. 10 characters) and click on OK or press RETURN. This will save the work into the work directory on the Phases disc.

If you wish to re-save a piece of work with the same name, i.e. you have changed or added to it, holding SHIFT whilst pressing F8 will re-save the work without having to enter a name again.

Loading work

To load a piece of work go to the disc window, double-click on the 'work' directory and then double-click on the chosen file.

Printing

Pressing the PRINT key on the keyboard will print a single copy of the document (ensure you have first loaded a suitable printer driver). Alternatively, following the 'Print' option from the menu will give greater control over a variety of print options.

Starting a fresh piece of work

In order to begin a new piece of work, press menu over the Phases icon at the bottom-right of the screen, follow the 'New screen' option and click on OK.

Working with Pictures

Adding pictures

Clipart (in both Drawfile and Sprite format) can be used to illustrate work. Insert the disc containing the clipart and display the disc window containing the file you require. Then drag the file from the disc window onto the page.

Moving pictures

Click once on the picture to highlight it. Click again near the centre of the picture and, holding the button down, drag it to its new position.

Re-sizing pictures

Click once to highlight the picture. Click again near the bottom left or right-hand corner of the picture and, holding the button down, drag the corner in or out, up or down. The picture will re-size.

Duplicating pictures

Click once to highlight the picture. Go through the 'Toolbox' menu and click on 'Picture+1'. By repeating this several times, borders etc. can be produced.

Deleting pictures

Click once to highlight the picture. Go through the 'Toolbox' menu and click on 'Clear picture'.

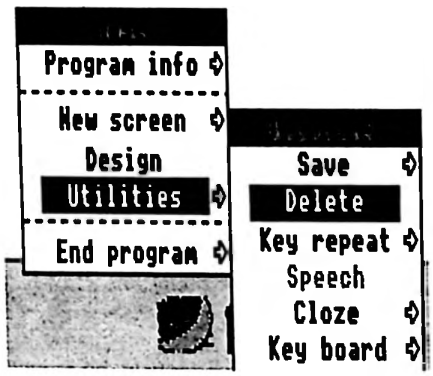
Extras

Deleting work from the disc

Work cannot be deleted in the usual manner. If you try, you could leave pictures etc. behind and use up some of your disc space.

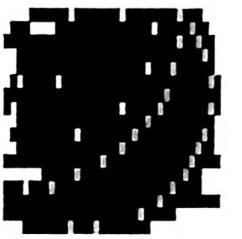
To delete files first double-click on the work directory to see the files.

Next, press the middle button over the Phases icon at the bottom right of the screen. Follow the 'Utilities' option and click on 'File delete'.



A 'bonfire' picture will appear at the bottom of the screen. If you drag one of your Phases files onto this window using the left-hand mouse button and drop it on the bonfire, it will be deleted!

Full Phase



Supplier

Northwest SEMERC

Latest version at time of writing: 1.09 (versions of Full Phase earlier than 1.08 had occasional printing problems under RISC_OS 3)

Synopsis

Full Phase is a simple desktop publishing package based on Phases#3 (see above). In use it appears exactly the same as Phases#3 except it has several additional features. These include the use of word banks, speech, the ability to import pictures via a concept keyboard and the creation of cloze exercises.

The package

Full Phase is supplied on two discs. One contains the main program, the other a number of sample files and a utility for running concept keyboard overlays produced using Conform (see page 65). Accompanying the discs are a manual, keystrip and overlays.

A site licence is included in the price of the software.

Using Full Phase

Since Full Phase is similar in many respects to Phases#3, only details concerning its additional features are included here. See the software guide for Phases#3 elsewhere in this chapter for help with its basic features.

Speech

Full Phase has a speech system built into it which can be set to read the text in different ways, e.g. read the whole text, the current sentence, read back words as you type etc. All speech is accessed via the keyboard by referring to the keystrip. Some of the more useful options are given below.

Speech on/off -	CTRL/F9 - This needs to be switched on before any of the speech options will work.
Echo letter -	SHIFT/F9 - Reads each letter back as you type it in.
Echo word -	F9 - Reads each word back to you as you finish typing it.
Speak word -	Right ALT key - Speaks the word the caret is on.

Speak sentence - SHIFT/right ALT - Speaks the sentence the caret is currently in.

Speak story - Left & right CTRL - Speaks all of the text.

Wordbanks

Full Phase has the very powerful feature of using wordbanks. These allow the user to set up a list of words which will be available on screen. By clicking on the chosen word it will be inserted into the text at the current place. This can be of great use for many children.

Creating a word bank

A wordbank file is a plain text file containing a list of words. This can be created by most word processors or by using !Edit supplied with the machine. The following instructions explain one way (I think the best way) of creating a word bank using Full Phase itself.

- Load Full Phase and start a page in the normal way.
- Type in your word list separating each word with a space. These words should be typed into the normal text page - not the wordbank or notepad. Do not worry about the size or style of the writing.
- Open up a disc window where you intend to save the word bank. This could be the Full Phase disc or perhaps better would be a blank disc on to which you could compile a large selection of wordbanks.
- Move the pointer over the Full Phase icon at the bottom of the screen and press the middle button. Follow the 'Utilities', then 'Save', then 'Text' options. Name your word bank and drag the text icon to the disc window. Your wordbank will now be saved on the disc.
- You may repeat the above process to create a number of different wordbanks on the disc.

Loading a wordbank

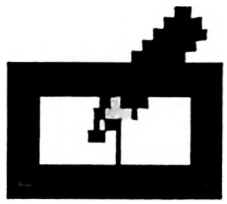
When working with Full Phase a new wordbank can be loaded at any time:

- Press CTRL W. This will open a blank wordbank window.
- Insert the disc containing the required wordbank file (if not already in the machine) and click on the disc drive to display the file.
- Drag the file from the disc window into the wordbank window. The wordbank will appear and is ready to use.
- To load a different wordbank simply drag a new wordbank file into the wordbank window - the new file will replace the old.

Using a wordbank

With a wordbank loaded, text can be entered on to the page in the usual manner. In addition, clicking on a word in the wordbank window will insert that word at the current caret position.

Conform



Supplier

Northwest SEMERC

Latest version at time of writing: 1.32

Synopsis

Conform allows you to create and use concept keyboard overlays in conjunction with almost any other RISC_OS application. This means that the concept keyboard could be used as an alternative means of input to word processing programs, databases etc. Overlays are easy to create and can incorporate text and pictures producing very attractive and professional end results.

The package

Conform is supplied on a single disc. This includes the main program !Conform, which allows you to create and edit overlays and a further application !RunCK, which allows the overlays to be used with other software. There is a small selection of clipart on the disc too. A manual accompanies the disc.

N.B. In order to use a concept keyboard with any of the Acorn machines it usually needs a User port fitted. This can be found along the back edge of the machine. If one has not been fitted already, then see the 'Peripherals' chapter for more information. A Concept Universal may be connected through the serial port with the appropriate lead.

A site licence is included in the price of the software.

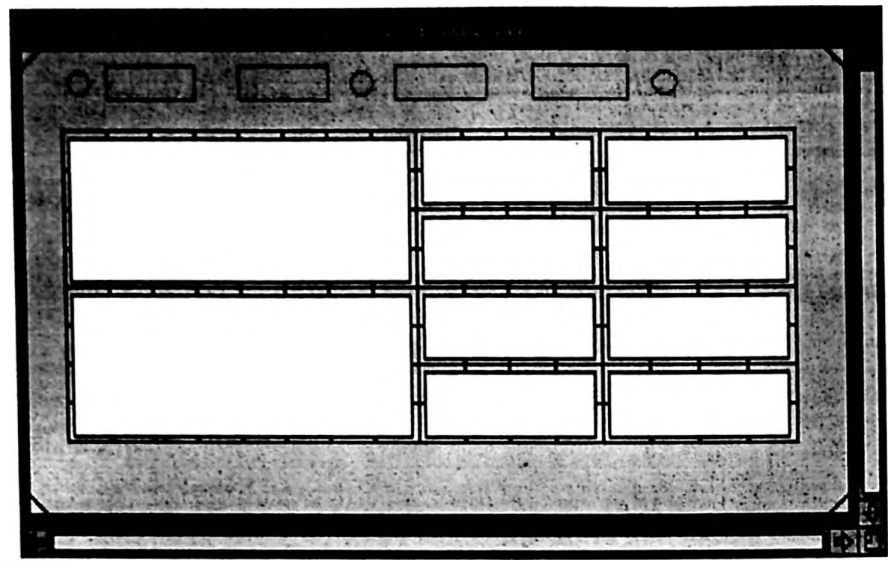
Using Conform

To begin Conform

Insert the Conform disc and click on the disc drive. Double-click on !Conform.

Creating an overlay

Click on the Conform icon at the bottom of the screen to open a new overlay. A grid will open up on the screen. At this stage you can either decide to create an overlay from scratch or base it on a preset grid layout (see main menu).



To define a new, area use the left-hand mouse button and drag a box over the area you want to use. This will be created in white on the screen. Many areas can be defined. To delete an area, drag over it using the right-hand button.

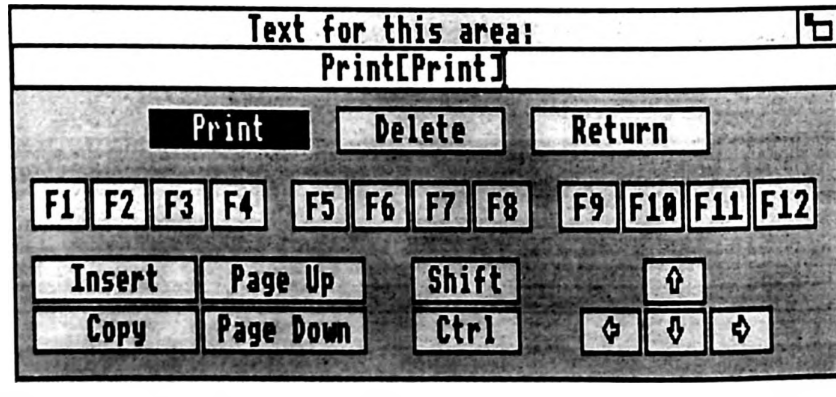
Using text

To set the text for an area, first double-click on the area with the left-hand button. A window will open into which you can enter your text. This can include punctuation, spaces etc. and can be quite long if desired. When finished press RETURN. The text will appear in the box. If the box has a red border it means the text will not fit into the box. Use the 'Style' option from the main menu to reduce the text size or reduce the number/length of words used.

Areas can be edited by double-clicking on them again - the text can then be altered.

Using control codes

Control codes are generated by keys such as cursor keys, shift, delete, return, print etc. To use these, first define an area and double-click on it as above. The text window will appear. Click on the 'toggle window size' icon in the top-right corner of the window. A larger window will appear.



By clicking on the required option a control area can be set up. Press

RETURN to confirm. Control areas have blue borders. If text is typed in first it can be combined with a control command.

Inputting pictures

Pictures can be used to represent the text you have typed in. This is done by dragging a picture file (sprite or drawfile) onto the area it is required in. N.B. If you wish to save and recall your overlay together with its pictures at a later date you must also drag the picture file into one of the import windows (see manual).

The Main menu

Save - to save an overlay drag the icon to a disc window.

Grids - allows you to select from a series of preset grid patterns. These can be altered to suit your needs.

Imports - opens a window to show what clipart is available on the disc.

Clear - to start a fresh overlay.

Style - sets the size, style of text etc.

Print - to print your overlay.

Saving an overlay

Overlays are saved in the usual way. Open a disc window by clicking on the disc drive, press the menu button and follow the 'Save' option. Give the overlay a name and drag the file to the disc window.

Using your overlay

To use an overlay you must load the !RunCK application from the program disc and then drag the overlay file you have created from disc onto the !RunCK icon at the bottom left of the screen. Pressing the concept keyboard will then input the text for the given area into any other package which is loaded (e.g. a word processor).

My World/My World 2

Supplier

Northwest SEMERC

Latest version at time of writing: My World 1.08, My World 2 1.47

Synopsis

My World is available in its original form and as a more recent, extended version - My World 2. My World enables graphic objects to be manipulated on screen. It has a whole host of ready-made support screens available for it on wide ranging topics suitable for children from reception age up to Key Stage 3. Objects can be placed anywhere on the screen, duplicated, re-arranged and text added to them. They can be saved as drawfiles and printed. All this is achieved with extreme ease. My World 2 takes the concept a stage further in enabling objects to be accessed in 'sets', to be rotated and scaled as well as other additional features. In addition to the ever increasing number of support screens available commercially it is possible to produce your own screens to use with My World.

My World screens can be used with My World 1 and 2. My World 2 screens can only be used with My World 2.

It is impossible to do justice to the range of applications and levels of ability to which My World is suited. The only way to find out is to try it!

The package

My World is supplied on a single disc containing the main program together with a selection of screens to use with it. My World 2 comes on two discs. Disc 1 contains the main program, some sample screens and an application allowing simple access to accented characters (for foreign languages). Disc 2 contains additional screens. A manual accompanies both packages.

A site licence is included in the price of the software.

Support discs

As mentioned earlier, there are numerous sets of support screens available for My World. When you first get them you will need to run an application on the disc called !Makedisc. This will effectively copy your original My World onto a disc together with your new screens. Once this is done it can be used as a complete disc in its own right. Full instructions are provided - you just need to follow them!

Using My World

Generally, the basic principles of using My World and My World 2 are the same, therefore the following instructions apply to both. Where differences occur they will be noted.

Getting started

Insert the My World disc and click on the disc drive. Double-click on !MyWorld (or My World 2). The My World icon should appear towards the bottom right of the screen. Click on this and the My World title screen will appear. Press the middle mouse button and select 'See screens'. Double-clicking on the screen of your choice will load it ready for work to begin. To stop using a screen and start using a new one, simply load a new screen on top (as above).

Using screens

Every screen is different but here are a few general rules.

My World:

- Click on an object once with the left-hand mouse button to pick it up and once again to put it down. Objects on the main screen can be moved, objects around the screen border are duplicated when you click on them.
- To remove an object from the screen, pick it up and click on the dustbin (if available) - note that the tip of the blue arrow must be on the bin.
- To add text, click on the pen icon (if available), type in the text, press RETURN, position and click to place the text. Text can be altered (size, colour etc. by pressing the menu button before placing the text).
- If you press the menu button in an attempt to load a new screen and instead get the text menu, enter a few letters (anything will do), press RETURN and try the menu again.

My World 2:

This is exactly the same as above with several additions:

- When you click on some objects a further window will open offering a wider choice of objects. You have clicked on a button that opens up a 'pop-up' window.
- Clicking on a rotation button whilst 'carrying' an object will rotate it in the desired direction.
- Clicking on a scaling button whilst 'carrying' an object will scale it up or down.

Customising/making screens

There are two fundamentally different ways of creating your own screens for My World. One way is to alter or customise the screens already provided with My World (or ones purchased separately). This is very simple to do and is possible using just the My World software. The

second way is to create your own screens from scratch. This is done using software called !Draw which is supplied with all the Acorn machines. This method is more flexible since you can create screens on any subject matter you like, but it does require more skill since you will have to draw your own pictures and need a fair working knowledge of !Draw. Furthermore, the creation of screens which take advantage of the extra features of My World 2 is more complex still.

All three of these methods are outlined below.

Making space

Before new screens are created you should ensure you have sufficient disc space to store the new screens you create. Many of the My World sets of screens virtually fill the disc once the My World program has been copied alongside them. To free some space to work with I usually organise my working disc in the following way:

- Make a backup of the My World disc containing the main program together with the current set of support screens you wish to use. Decide on the particular screens you want to use for a particular session or programme of work (you will most likely find that you only wish to use a few of the screens supplied at any given time).
- Click on the disc drive and double-click on the 'Screens' directory. Delete all the screens you *do not* wish to use (see chapter 2 for details of how to do this if you are not sure). **N.B. Only do this on the backup copy of the disc!** On My World 2 only you will also need to delete the appropriate files from within the 'Libraries' directory. You will now have a disc containing only the screens you currently need and enough space on the disc to add some of your own.
- To return to the full set of screens you merely need to make a backup from the original again.

Customising existing screens (My World 1 & 2)

- Load the screen you wish to customise into My World (1 or 2) in the usual way.
- Make the desired alterations to the screen using the usual My World features. This could involve duplicating objects, moving them to different locations, adding text etc. N.B. The 'basis' screen supplied with My World 1 is a blank screen containing just a dustbin and pen tool. This is ideal for creating text based exercises.
- Once you have the screen as desired press the middle button and select 'Screens'.
- With the pointer over the My World screen press the middle button and follow the 'Save' option.
- Delete the words 'MyWorld' and enter a suitable name for your new, altered screen.
- Drag the drawfile symbol from above the name into the disc window opened just now.
- Your new screen is now saved.

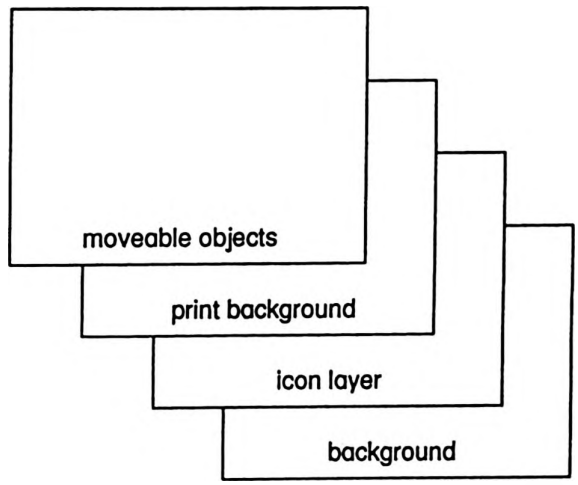
Creating screens using !Draw

In order to create screens in this way it is, not surprisingly, necessary to have some knowledge of using !Draw. This is supplied with all Acorn machines. With RISC_OS 2 machines it can be found on Applications disc 1, with RISC_OS 3 it is built into the machine and can be accessed by clicking on the 'Apps' directory at the bottom left of the screen. Detailed instructions for using !Draw can be found in the user manual supplied with the computer, and some knowledge of this is assumed for the rest of this section.

I feel it is fair to say that creating screens in this way may not be for you if you are new to the machine and do not yet feel confident in using it. By all means have a go - after all you cannot do any harm - but do not be put off if you do not achieve immediate success.

The easiest way to start is by using the 'basis' screen supplied with My World 1. This will produce screens which will work with both My World 1 and 2. They will not, however, take advantage of the extra facilities offered by My World 2.

- First load !Draw.
- Now insert the disc containing the 'basis' screen. Double-click on the 'Screens' directory and load 'basis' by double-clicking on it. Note that it is not necessary to load My World. You should now have the basis screen loaded into !Draw. By using the !Draw tools you can now add objects to the screen. These could be drawn yourself or be pieces of clipart dragged in from clipart libraries.
- Once the screen is as required, it is important that the objects used are grouped and layered in a certain way. If they are not the screen will not behave as expected when used with My World (or may not work at all). The structure of screens for use with My World is as follows:



Background: This consists of a single object (or objects grouped together) to form the background on the screen. This will be fixed and will not be printed if the 'Print screen only' option is selected.

Icon layer: This is the layer containing the text and bin icons (if used). It also contains any copiable objects (i.e. ones which are duplicated when clicked on in My World). They must all be grouped together.

Print background: This usually contains the 'working area' of the screen. It can also contain fixed objects which cannot be altered in My

World. The print background is always printed.

Moveable objects: These are objects which can be moved but not duplicated in My World. They could include text objects giving instructions which could be read when the screen is first loaded and then put in the bin. This layer of objects must not be grouped.

N.B. Not all screens will have a moveable objects layer. This is the only layer which is permitted to be missing.

To ensure the layers of your drawing are in the correct order do the following in this order:

- Using !Draw, select all the moveable objects in your drawing (if any). Send these to the back by pressing CTRL B or using the menu.
- Select all the objects making up the print background. If there is more than one object group them together by pressing CTRL G. Now send this group to the back by pressing CTRL B or using the menu.
- Select all the objects in the icon layer. If there is more than one object, group them together by pressing CTRL G. Now send this group to the back by pressing CTRL B or using the menu.
- Finally select the background and send it to the back by pressing CTRL B or using the menu.
- You now need to save your screen with a new name into the 'Screens' directory on the My World disc.
- To test the screen, quit !Draw, load My World and load the new screen in the usual way. If it does load, you need to check that the objects you intended to be moveable are indeed moveable, and ones which you expected to stay put, stay put! I once created a screen and on trying to discard an object in the dustbin, found that the dustbin duplicated itself!. If you experience problems with it not loading or not behaving as expected, the most likely cause is that you have got either the object grouping or layering wrong. In this case, load the screen back into !Draw, ungroup all the objects, group them together again, re-layer the objects and try again.

By loading existing My World screens into !Draw and ungrouping the layers you will gradually get a better idea of the screen structure.

Creating My World 2 screens

The structure of My World 2 screens is similar to that of My World 1. However, more complex features can be built into them using a method of 'scripting'. This is quite complicated and I would not suggest you attempt creating these screens unless you are already confident in creating screens for My World 1. As with My World 1 screens, one of the best ways of learning about the structure of the files is to load some existing screens into !Draw to see how they work.

The following is a series of questions and 'exercises' to help guide your learning about the structure. You will need to refer to the My World 2 manual for more details of each feature.

Please note: My World 2 has a screens folder just as My World does. It also has a Libraries folder. This folder contains further folders belonging to each screen. Each of these folders may contain one or two more folders - one for pop-ups and one for links. It is important that the elements that make up a My World 2 screen fit into this directory structure.

Try looking at the following screens supplied with My World 2:

Teddy

- Load Teddy into !Draw and examine the scripting that creates the 'snap-to-grid' quality of fitting teddy's clothes.
- Pages 41 and 42 of the documentation gives descriptions of the scripting for grids and magnetic points.

Goldilocks

- Load Goldilocks into !Draw and find out what makes the buttons to link screens work.
- Load the bedroom (in the library folder) into !Draw. Examine the pop-up button for characters. How does it work?
- Examine the button for rotating pictures. How does this work?

Tiles

- Load the pop-up window 'tools' from the Tiles. There are several buttons in this window. Find out how the rotate, scale, flip and pop-up buttons work.

Buttons

Buttons in My World can be very sophisticated. The following outlines some of the simpler ones. More details can be found on pages 37 - 39 in the My World 2 documentation.

Each button has to have a name. If the button is a sprite, then the sprite name needs the relevant prefix.

e.g. !#name

If the button is a !Drawfile, then the name can be written using the text icon in !Draw, changed into transparent text colour and grouped with the object.

Button names:

!#<link>	links a button to a new screen and loads that screen e.g. !#bedroom
!!<popup>	links a button to a pop-up window and loads that window e.g. !!people

Transformation buttons:

Buttons that transform an object in My World 2 have a name beginning with ! e.g. !scale or !big.

The scripting or message at the side of the screen gives the action of that button.

!rotate!<name> links a button to a rotation of a set number of degrees

e.g. !rotate!lie

degrees in the scripting gives the angle of rotation.

e.g. !rotate!lie 90

!flipx and !flipy flip an object about the relevant axis.

e.g. !flipx

!Scale<name> creates a scaling button.

e.g. !scale!big

the horizontal and vertical scale factors can be set in the scripting.

e.g. !scale 2 2

!close will make a button that closes a window.

Scripting

Scripting within !Draw tells My World 2 where and how to make an action happen e.g. where and what size to make a pop-up window appear, what scale to enlarge or decrease an object etc. This can be quite detailed and is explained in the manual. Experimentation with the existing screens is probably the best way to learn.

Try changing the scripting in the Goldilocks bedroom for instance and see what effect this has.

Layering

The layering in My World 2 is basically the same as My World. The only addition being that the moveable objects area also contains the commands/scripting.

Vision digitiser

Supplier

H.C.C.S.

Synopsis

Digitising involves taking an image from a video source (camera or video player) and converting it into a sprite which can be used or manipulated by a computer. It is particularly useful for illustrating work produced using a desktop publishing package, or for using as a 'starter image' with an art package such as Revelation.

The vision digitiser is available in both colour and monochrome form (the colour version gives the option of monochrome as well). It can also be fitted, whether internally or externally, depending on the model of computer in question. It is therefore important to state the model when making enquiries or ordering.

The package

The package consists of a hardware podule which will either need to be fitted inside the machine or may be plugged in externally (see above), a cable for connecting your video camera or cassette recorder to the podule (although you may need to obtain a different lead for many types of cassette recorder) and a disc containing the software. The software is serial numbered to its own podule, so if you have more than one digitiser you must only use each disc with the podule with which it was supplied.

Using the digitiser

First connect the digitiser to the computer (unless it is fitted internally) and connect the video source to the digitiser using an appropriate cable. Now insert the Vision disc and double-click on !Vision (or !CVision if using the colour version) to load the software.

To get the best quality pictures it is important that you use mode 15 rather than mode 12, which is what the computer is usually set to when it is switched on. Also, you will not be able to use colour at all unless you are in mode 15. Do this as follows:

- Press the middle mouse button over the palette icon at the bottom right of the screen.
- Follow the 'Mode' option and click on 'Mode 15'.

This must be done *before* you begin to grab your images.

Click on the Vision icon at the bottom of the screen. A window will open - this can be fully opened by clicking on its top right corner. Assuming the video source is switched on and connected correctly, the picture will appear in the window. It will be updated about once a second and will make all operations such as clicking the mouse very slow to respond, as if you are typing through treacle - be patient and give it time to respond!

To grab an image

When the desired picture is on the screen press the middle button and select 'Process'. After a short pause the grabbed image will reappear on the screen and the computer will return to its normal speed. The image can now be saved by pressing menu, following 'Save', naming the file and dragging it to a disc window. Pressing menu and clicking 'Continuous' will allow you to repeat the above process to grab a new image if desired.

Contrast and brightness can be controlled from the menu but the image must be re-processed each time to see the effect it has had.

Colour

If you have the colour version of the software you can convert your image to colour in the following way. Grab the image as above but do not save it yet. Press the middle button and select colour 1 or colour 2. Colour 2 is the highest quality and takes about 6 minutes to convert. Colour 1 only takes 1 or 2 minutes. Once converted save your image as above. If you find that trying to convert picture to colour doesn't appear to work, then it is likely that you are not working in a 256 colour mode (Mode 15) - see above.

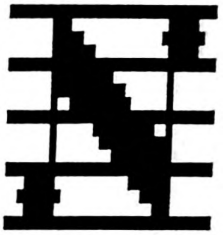
Disc space

Digitised sprites take up a lot of disc space! In mode 15 you will only fit 5 pictures on a disc, in colour you will only fit 2 on!

What next?

Once you have your image on disc it can be loaded into an art package such as Revelation, or a DTP package such as Ovation or !Draw.

Notate



Supplier

Longman Logotron Ltd.

Latest version at time of writing: 1.2a

Synopsis

Notate is a music composition and manipulation package which uses standard music notation. It is specifically aimed at the education market and is particularly easy to start using. It has the capability of being connected to a MIDI compatible instrument such as a keyboard. This allows tunes composed in Notate to be played through the keyboard or conversely, music to be played into Notate via the keyboard.

The package

Notate is supplied on two discs. The first contains the main program, a selection of different voices (instruments) and a variety of example tune files. The second disc contains a large number of extra voices to use with Notate. Accompanying the discs is a manual and keystrip.

N.B. If you wish to use Notate in conjunction with a MIDI instrument then you will need a MIDI interface fitted to the computer (see 'Peripherals' chapter).

Notate is supplied with a single user licence or site licence.

Using Notate

Beginning Notate

If you are going to be using a keyboard with Notate, connect this up first. Two MIDI leads are required. The 'MIDI out' socket on the keyboard should be connected to the 'MIDI in' socket on the computer and vice versa.

Insert the Notate program disc, click on the disc drive and double-click on !Notate. After a short pause the Notate icon will appear at the bottom of the screen. Clicking on this will open a new stave for composition whilst double-clicking on a song file on disc will load tunes created earlier.

Composing

First open a fresh stave as above. The program defaults to 4/4 time with no key signature. If something other than this is required, pressing the menu button and following the 'Song' option allows you to set both of these.

Drag the required note/rest from the top of the screen to its position on

the stave. The note can be moved or re-positioned by dragging with the left-hand button. Dragging it off the stave will remove the note. Dragging with the right-hand button copies a note of the same time value - this saves having to pick every note from the top of the screen. Notes will sound when they are released or when they are clicked on.

Notes can also be 'recorded' by clicking on a representation of a keyboard on the screen or from a MIDI keyboard (see below).

Editing

Music can be copied, moved and deleted in blocks in a similar way to which a word processor operates. First highlight the block of music in question by dragging from one end of the section to the other using the left-hand button. When the button is released the section will remained highlighted. Press the middle button and follow the 'Edit' option. Select 'copy', 'move' or 'delete'. If 'copy' or 'move' is selected, a 'note' will appear on the pointer. Click this at the place the music is to be inserted.

Playing

To play the music on the screen click on the green play button at the top of the screen.

Adding staves

Up to 8 staves can play simultaneously. To add a new, stave press the menu button and follow the 'Track', 'New stave' options. From here the type of stave (treble, bass, percussion) can be selected as well as the position it will appear at.

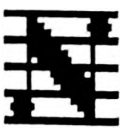
Changing voices

Press F5. Press menu over the track voice you wish to change, select the new voice and click on OK (this can be performed whilst the tune is playing if desired). If you click on OK with the right-hand button the voice selection window will remain on screen. This allows you to change several voices in one go. If only a few voices are available, more can be loaded from disc - click on the disc drive, double-click on Voices and then double-click on the voices you wish to load.

Mixing

Pressing F6 puts the mixer on the screen. The level of each track can be controlled by the up and down arrows. Clicking on the track number at the bottom of the mixer allows you to hear just the selected tracks.

MIDI



If your computer is fitted with a MIDI interface it can be connected to a MIDI compatible keyboard. This allows Notate to play out using the voices in the keyboard and also allows you to play notes into Notate via a

keyboard, rather than dragging notes on the screen.

N.B. When playing out through MIDI, the voices selected using the method described above will have no effect. Instead, use the MIDI setup window (Ctrl F9). This can be used to select the voices for each track (the voices available will depend on the keyboard you are using).

Revelation

Supplier

Longman Logotron Ltd.

Latest version at time of writing: 1.05

Synopsis

Revelation is an image creation and manipulation package. It has all the usual tools found in most painting software, together with some powerful image processing features. This makes it particularly effective if used in conjunction with digitised images. Many users find Revelation a particularly 'friendly' package to work with.

The package

Revelation is supplied on two floppy discs. The first contains the main program, the second a curriculum guide. They are accompanied by a manual.

The licence is a single user licence, although a site licence is available.

Using Revelation

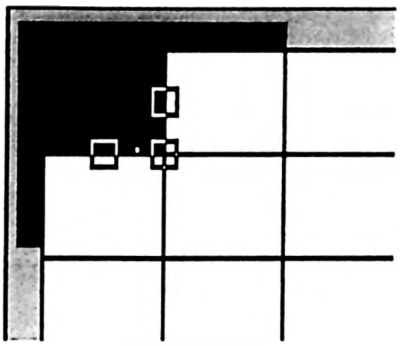
Before beginning Revelation it is important to decide whether you want to use it in 16 colour mode or 256 colour mode. Apart from the difference in the number of colours available, 256 colour mode also allows extra features such as colour washes, blending, colour shifting etc. and is therefore generally recommended except in cases where you want to restrict the use of the software - for young children or beginners for example.

The computer is usually set up to start in 16 colour mode, therefore if you wish to use Revelation with 16 colours you merely need to double-click on the !Revelation icon with the left-hand mouse button. To use 256 colours you will need to change to a 256 colour mode such as mode 15 (see 'Changing mode' in the 'Getting Started' chapter).

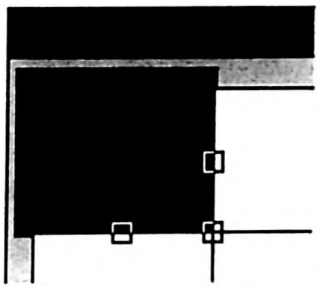
N.B. You cannot change mode once Revelation is loaded.

Creating a new page

Click the left mouse button over the Revelation icon at the bottom right of the screen. A window will appear, a portion of which is shown below. The dark black rectangle represents the paper size.



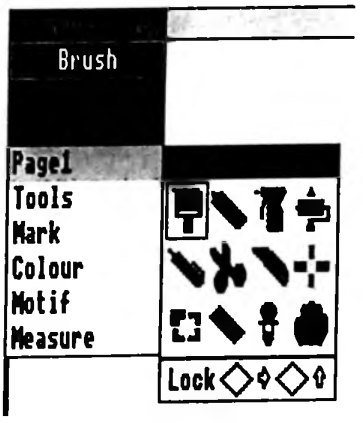
The most commonly used size of paper is that of the screen. This is represented by the dark grey bars along the outside. To increase the paper size to fit the screen, move the pointer inside the small handle at the bottom-right of the black rectangle. Hold down the left-hand button and drag the handle so it aligns with the grey bars.



Now click on 'create'.

Clicking at the top right-hand corner of the window which appears will open it up to its largest size.

Pressing the middle mouse button will give a menu at the side of the screen. Clicking on 'Tools' will give the tools menu etc.



These menus can be 'torn off' so they remain on screen, making work much easier and quicker. To do this, get the tools menu on screen. Move the pointer over the title bar of the window and drag it to a different part

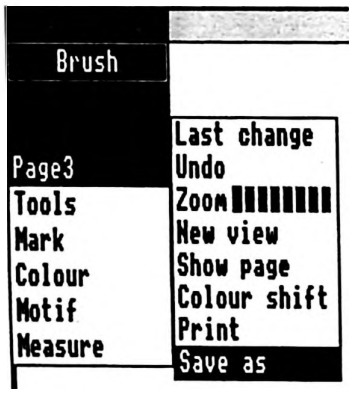
of the screen. This will 'tear' it off and it can now be positioned at a convenient place on the screen. The same applies to the other menus. Having both the tools and colours menus torn off is a good starting point.

You are now ready to paint!!

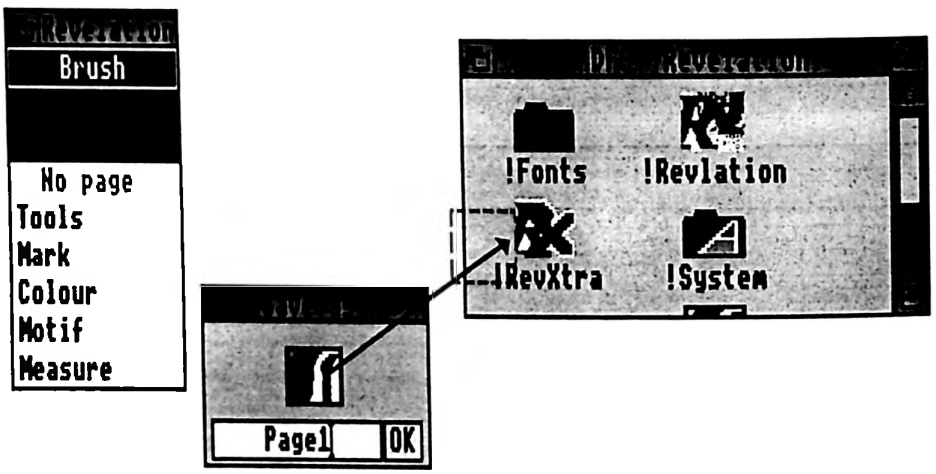
Saving and loading work

Revelation saves work in a similar way to most other software used on this machine. First you need to have a disc window in which to save the work. This can be done by inserting the disc on which you wish to save the work and clicking on the disc drive.

Now come to the Revelation main menu and click where it says 'Page1' (this could be Page 2, 3 etc., or if the work has been saved before the title of the work will appear here). This will create a 'save box' as below.



The name can be changed if desired. Now drag the picture box to the disc window.



When a file has been saved once, you no longer need to go through this process each time to re-save it. Simply click on 'Save as' and then on 'OK'. This will update the file with the altered piece of work.

Remember to save your work regularly just in case something horrible happens!

To load a file into Revelation, simply double-click on the file or drag it to the Revelation icon at the bottom of the screen.

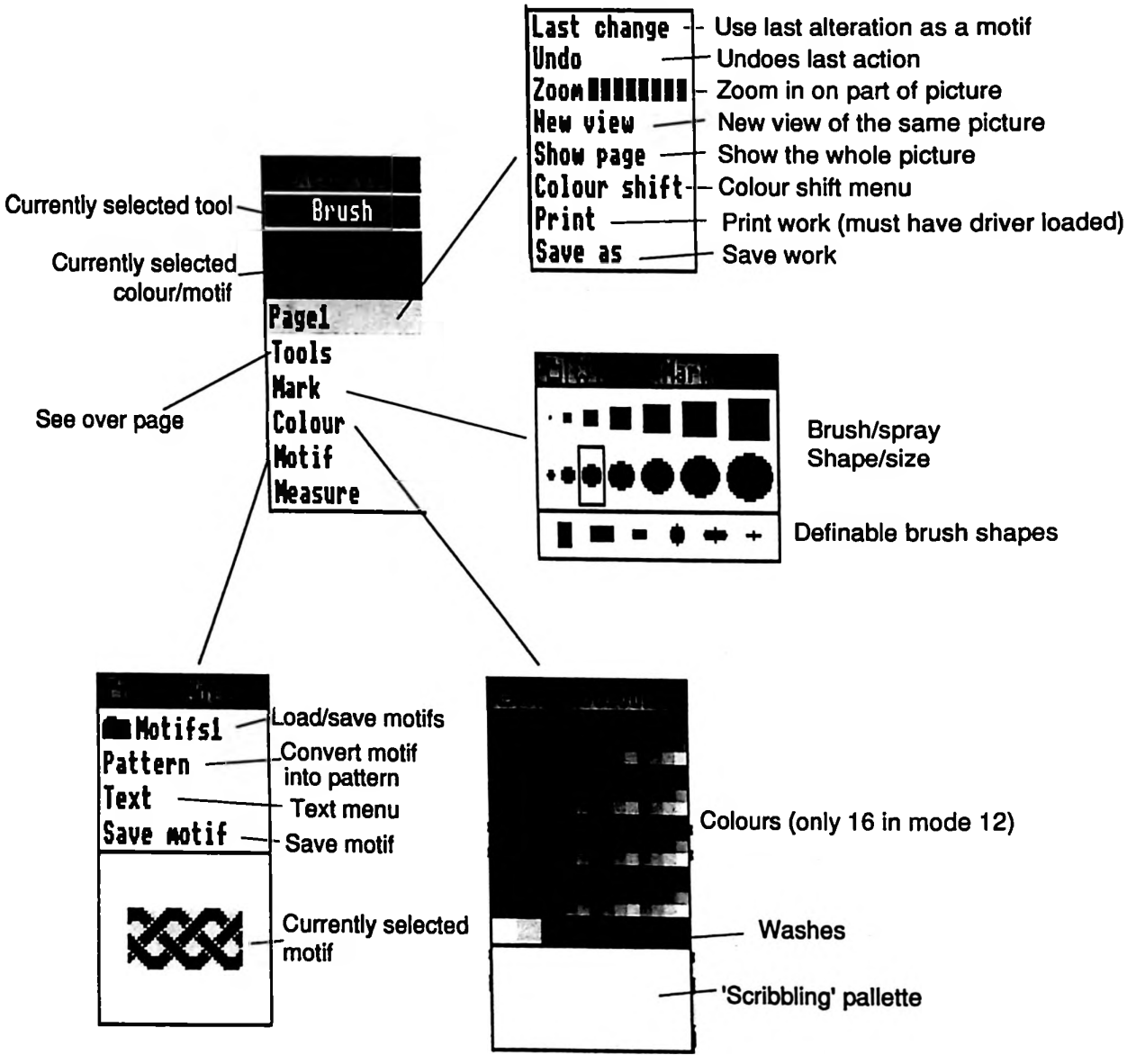
Revelation pictures are saved as what are called Sprite files. These files are common to many packages, e.g. if you have digitised a picture from video it will also be in Sprite format and therefore can be loaded into Revelation and worked on from there. Many Desk Top Publishing packages and Word Processors also accept pictures in Sprite format, so pictures created in Revelation can be used to illustrate your written work.

Files can usually be dragged straight from Revelation into another piece of software without having to save them on disc in between, but you need to see the instructions of the receiving software to check exactly how to import the files.

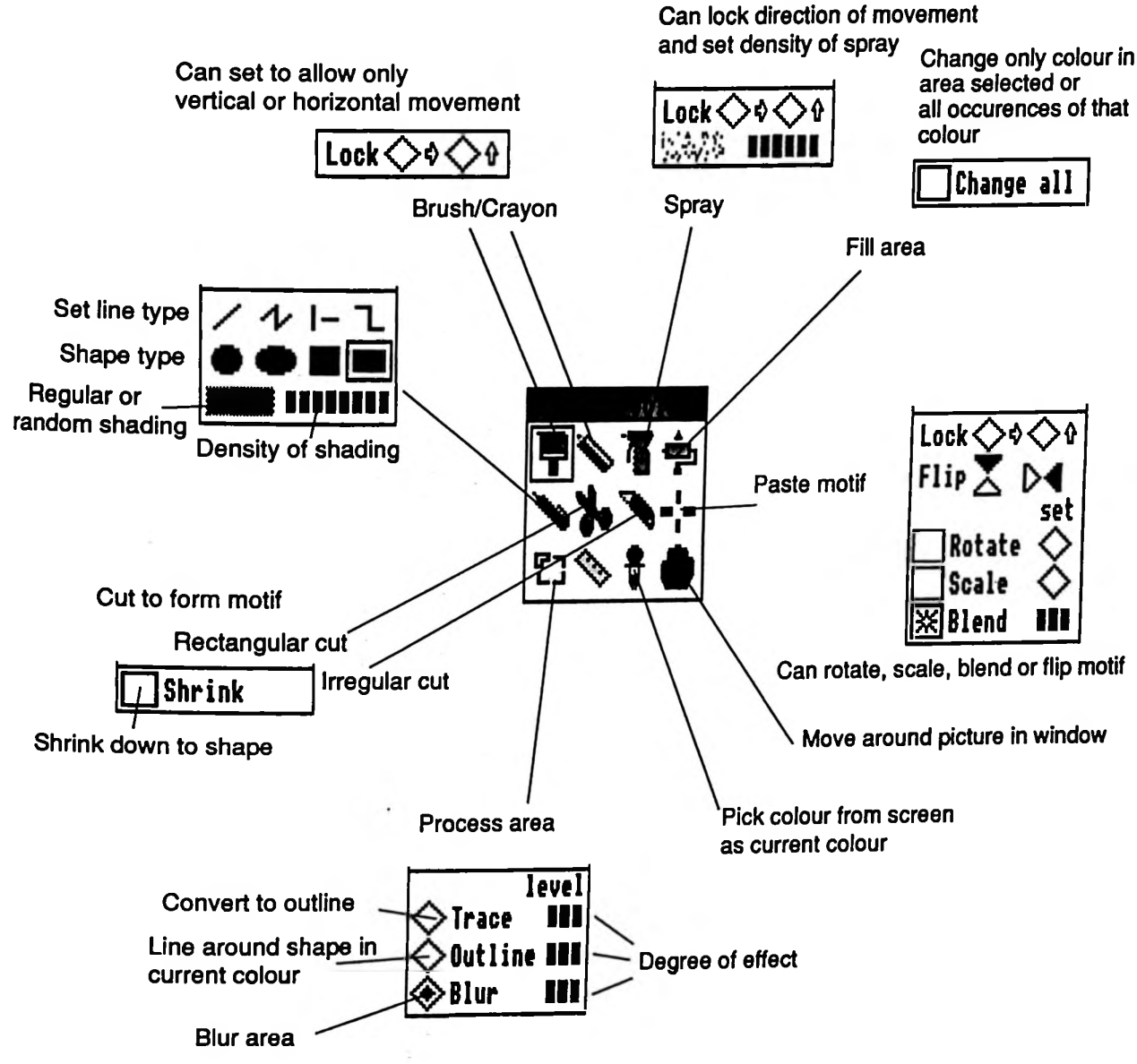
Painting with Revelation

Revelation is a very powerful and flexible package. To explain all its features is not the purpose of this book. Hopefully the above information will get you to the point where you can begin to experiment with the tools available. To give further assistance, the following two pages contain 'maps' of where to find the tools and a brief description of what they do. Obviously you need to refer to the manual provided with Revelation if you require more information on how to use them.

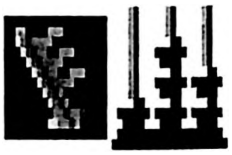
The main menu



The tools menu



Keycount



Supplier

Anglia Television

Latest version at time of writing: 1.03

Synopsis

Keycount is a spreadsheet which is easy enough to use as a 'first' spreadsheet, yet flexible enough to be used for more complex applications.

The package

Keycount is supplied on a single disc containing the Keycount application together with some example files. A manual accompanies the disc.

Keycount is supplied as a single user licence, although a site licence is available.

Using Keycount

Starting Keycount

Load it by double-clicking on its icon. It will load and appear at the bottom of the screen. To open a default spreadsheet click on it at the bottom of the screen. To change the default size, number of decimal places shown etc. press the menu button over the icon, follow the configure option and enter the password. Now set the appropriate items.

Entering data

To enter information simply click on the cell (box) you wish to enter it into, type in the entry and press Return. Text (labels) will be shown in one shade of grey, numeric information in another. Mistakes can be corrected in a similar manner to using a word processor.

Going further

To find out what the icons at the top of the screen do, simply move the pointer over them and a message will be displayed explaining their function.

Pictures can be stored in the spreadsheet to help stimulate children's interest and motivation.

Selecting cells

Many functions involve selecting cells. This is done by holding the left-hand button down on the first of the range of cells to be selected and dragging the pointer to highlight the rest of the cells in the block required.

Graphing

To create a graph from a set of data first select the graph tool and select the graph type required. Now select the cells to be graphed (see above). Click where it says 'Set 1 is :' (on the actual words), the cells selected will be shown. Click on 'See set 1'. By having two different sets of data selected and choosing 'See', both graphs can be superimposed - other graph types require both sets of data to create the graph. Once created the graph can be re-sized on the screen by dragging the bottom right-hand corner. It will remain active, i.e. if data on the spread sheet is now altered the graph can be seen to change.

Entering formulae

Totalling columns or rows - select the cells to be totalled by dragging as above. Click in the cell the answer is to appear in so the red caret appears in it. Click on the sum tool at the top of the screen.

Entering other formula - formula can be typed in using grid references for the cell e.g. C2 + B2. Alternatively, clicking the right mouse button on a cell will enter its reference into the formula you are typing.

Other, more complex functions are available - see the macro list in the configure window.

Copying a cell or formula

Select the range of cells into which you wish to copy the formula. Click on the cell or formula you wish to copy and select the fill tool to perform the operation.

FontFX

Supplier

The Data Store

Latest version at time of writing: 5.36

Synopsis

FontFX allows you to manipulate text and then convert it into a 'picture' for use within other programs e.g. Ovation, !Draw, Phases etc. It is very easy to use, extremely good value-for-money and adds another dimension to presentation and design work.

The package

FontFX is supplied on a single disc. There is no printed manual although a manual is provided as a file on this disc which could be printed if required. If you have a RISC_OS 2 machine you will need to have a !Fonts application available to provide the fonts for FontFX to work on. RISC_OS 3 users will have some fonts available built into their machine, although they can of course use a !Fonts application to provide a wider variety of typefaces.

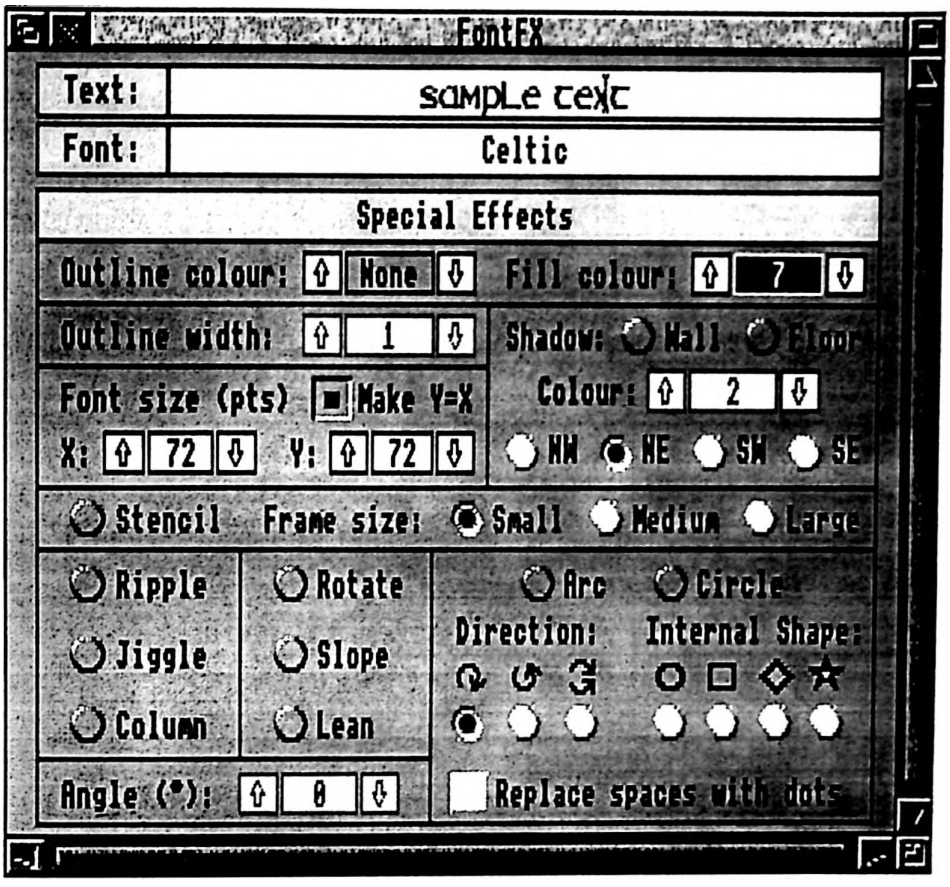
FontFX is supplied as a single user licence although a site licence is available.

Using FontFX

Loading FontFX

If using a RISC_OS 2 machine you must have 'shown' the computer a !Fonts application before loading FontFX. To do this insert a disc containing !Fonts and click on the disc drive (if you are already using Ovation, Phases, !Draw etc. this will already have happened). You can now load !FontFX by double-clicking on it. Since RISC_OS 3 machines have some fonts built into them it is not essential for the machine to see !Fonts before using FontFX - if you do though you will have a wider variety of fonts to work with!

Once FontFX is loaded, clicking on its icon at the bottom-right of the screen will open the following window:



Creating text

Type your text into the top box (where it says 'sample text' above). Various options can be selected from the window with the left-hand button. To de-select an option, use the right-hand button. Many of the options can be combined for more varied effects e.g. a 'ripple' can be combined with a 'slope' and a 'shadow'.

Pressing the middle mouse button and following the 'Fonts' option will allow you to choose a new font from those available.

To see what you have created, press the middle button and select 'Create' from the menu. After a short wait the drawing will appear.

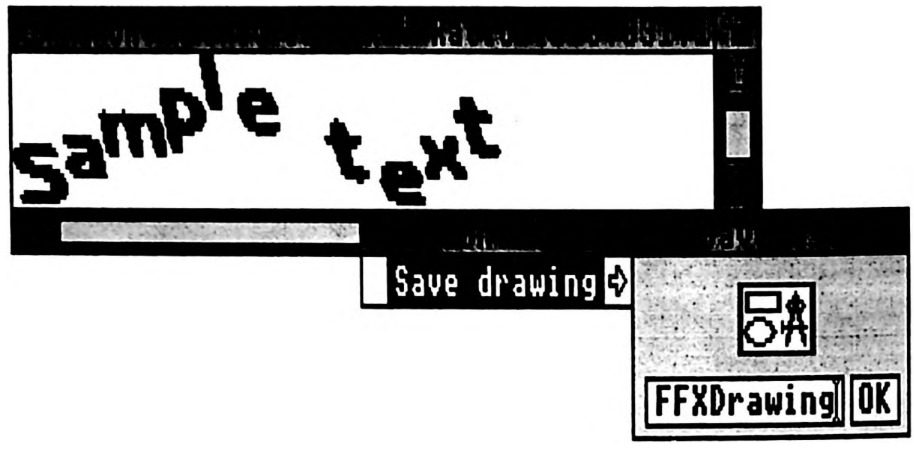
If you wish to change something, alter the settings in the main window and select create again - the drawing will be updated. Bear in mind if you are intending using this drawing within another piece of software, the size is probably unimportant since most packages will allow you to re-size the drawing without loss of quality.

Hints & tips

- Selecting a black outline and a white fill will give you outline text.
- With some very bold fonts a white fill and line colour on a dark wall shadow can be unusually striking giving an almost 'embossed' effect.
- The 'stencil' allows 'cutout' letters to be created. If these are laid on top of a pattern or object then it will be seen through the letters. This can be very effective if used in conjunction with artwork created on a package such as Revelation.

- If 'Arc' is selected its angle can be altered by using the angle box - this may seem obvious but it's amazing how many people do not realise this (myself included until recently!).

Saving your image



To save an image, move the pointer over the image and click the middle mouse button. A save box will appear. This can be dragged to a disc window to save the file to disc or can be dragged directly into a receiving piece of software such as !Draw, a desktop publishing package etc.

Clipart


The term 'clipart' refers to images stored on a disc. They can be used for illustrating work produced on the computer. A good library of catalogued clipart makes a very valuable resource. Clipart comes in two main forms - spritefiles and drawfiles.

Sprites

Sprites can be produced from a digitiser or scanner or be created from scratch on the computer using an art package such as Revelation. Clipart in sprite form can be more 'realistic' than drawfiles as it may have been captured from the 'real' object. The drawback of sprites is that they take up quite a lot of disc space and when enlarged, begin to look very 'blocky'. The illustrations at the beginning of each chapter in this book are sprites.

Drawfiles

Drawfiles are created on the computer and therefore have more of a 'design' feel to them. They take up less disc space and can be scaled to any size without loss of quality. Good quality drawfiles produce excellent printed results. Below is an example of a drawfile:

Software which accepts clipart will usually accept it in both sprite and drawfile format.


Availability

Clipart is available from a wide variety of sources covering many subject areas. Some sources worth investigating are as follows (addresses given in Chapter 6):

Anglia Television

The Datafile (public domain)

Matt Black

Midnight Graphics

Northwest SEMERC also supply sets of Paint and !Draw files based around curriculum areas.

Chars (RISC_OS 3 only)

Supplier

Acorn (supplied as part of RISC_OS 3 - built into the computer)

Synopsis

Chars allows access to some of the more unusual typeface characters not normally accessible from the keyboard. The most common need to use it is to obtain accented characters for foreign languages. Chars can be used in conjunction with any software which accepts text input from the keyboard, although its primary use will be with word processors and desktop publishing packages.

Using Chars

Loading Chars

Have your wordprocessor DTP software etc. loaded first before you continue. Click on the 'Apps' directory near the bottom left of the screen. A window will open displaying the range of characters available in the given font.

Pressing the middle mouse button will display the fonts available and allow you to choose a new font if required.

Transferring characters

When using a word processor etc., clicking on a character in the Chars window will insert it at the current caret position in your work.

N.B. Not all fonts have a full character set, especially many of the public domain and 'budget' fonts available.

RISC_OS 2

Although Chars, described above, is only available if you have RISC_OS 3 fitted to your machine, there are several very similar versions of Chars available on disc for RISC_OS 2. One version of this is supplied with Ovation and others are available from public domain libraries.

Alternatives

For those who require easier access to accented characters, there are also a number of software modules available which allow you to access foreign characters by a combination of key presses rather than by using the mouse. This is much quicker if you tend to work a lot with foreign languages.

When it all goes horribly wrong...

This chapter covers:

- General problems
- Error messages

Problems

Problems involving computers most commonly come in two forms - things which won't work satisfactorily or at all, and error messages which aren't understood and therefore cannot be solved. This problem section is split into these two areas.

General problems/annoyances

Machine seems to be very slow, particularly when displaying writing and printing

If this is accompanied by constant disc activity then the chances are the problem is caused by the Font Cache being set too small. This could be because it has never been set correctly, a rogue piece of software has reset it, or someone has performed a 'delete reset' on the machine. See section on 'Configuring the machine' for information on how to reset the font cache.

Constant requests from the machine to swap discs for no apparent reason

There are three applications which can cause these problems: !System, !Scrap and !Fonts. The first time the computer 'sees' each of these applications during a session it will remember on which disc it saw them and always return there if it needs to access them again e.g. suppose you use Disc A containing a !Scrap application at the beginning of the day and then put it away and later, during the day, use Disc B which also contains a !Scrap application. If Disc B needs to access the !Scrap application it will ask you to insert Disc A to use its !Scrap application, since that is the first one it saw. The same principle applies to !System and !Fonts applications. One cure is to reset the machine (Ctrl-Break) if you have finished using an application and want to start something completely fresh - though this is not always convenient. Reading the section on disc management concerning these applications could help you to rearrange your disc to minimise this problem.

Printing is very slow

If when using a dot-matrix printer printing is very slow with the printhead passing back and forth over the paper several times before advancing the paper a line, then it is likely that the resolution of the printer driver is set fairly high. By altering the setting of this, and hence lowering the resolution, it is possible to obtain faster printout times (for details of how to do this see the section on printer drivers). The down side of this is that by lowering the resolution you lower the quality of the end product - you must make the choice of balancing quality with speed.

Printer is producing 'rubbish'

If this is a 'one off' event then it is likely that the printer has been sent a spurious control character, accidentally resulting in everything else appearing as garbage (this can sometimes happen if a print operation is interrupted by the printer being switched off or by pressing ESCAPE). Switching the printer off and on again and trying again should cure it. Failing that, switch the computer off and on again, re-load the software and try printing again.

If doing the above still does not cure the problem then it is likely that either the wrong printer driver has been loaded or that it is not correctly set (see 'setting up printer drivers').

N.B. All the above assumes that 'rubbish' was not typed into the computer in the first place!

Configured settings keep being 'forgotten'

If the configured settings are constantly being 'forgotten' by the computer, requiring you to frequently re-configure the machine, it is likely that the batteries in the machine which help retain these settings need replacing. A300 and 400 series machines use two Alkaline batteries which can be replaced by the user (see user manual for details). Acorn recommend replacing these annually although experience shows that in many cases they will last for several years without difficulty.

Some models (notably the A3000) have rechargeable batteries which the machine re-charges when in use. If the machine has not been used for a long period of time then these may become discharged causing loss of configuration. By merely re-configuring and then using the computer, they will recharge and the problem should be rectified.

No picture on screen

If when switched on no picture appears on screen check the following:

- That both the computer and monitor are switched on and their power lights are on.
- That the brightness control (found on the front of most monitors - possibly hidden by a cover) has not been turned right down.
- That the lead connecting the monitor to the computer is connected and the plugs are pushed home properly (it is easy for these to become partially disconnected especially if the computer has been moved). *Switch the computer and monitor off before you check this.*
- Finally it could be that the computer has lost its configuration settings. To correct this, perform a 'delete-reset' as described in the section 'configuring your machine'.
- If all this fails to correct the fault, then you will probably need to seek technical advice as it is likely to be a hardware fault.

Mouse pointer vanishes or freezes

This can be caused by a variety of usually unrepeatable phenomenon. Occasionally it can be cured by pressing the ESCAPE key, although in many cases this is a 'fatal' error or 'crash' and the only way out is to reset the machine and start again. If this is a persistent problem occurring repeatedly when performing a certain action with a piece of software, then it is likely to be a software fault and it is worth contacting the software producers. If it happens persistently at random times and does not appear linked to particular pieces of software or operations then it is possible that there is a fault in the computer itself.

Lines or marks appear to be 'left behind' on the screen

Sometimes the screen does not 're-draw' itself correctly (this can happen when using certain fonts in some word processing packages for example). To force the computer to re-draw the screen correctly:

- Press key F12
- Press RETURN

The screen should be re-drawn correctly although the problem may well re-occur under the same circumstances. Work **will** be printed correctly however.

Disc contents appear to be 'incorrect'

When using two discs with the same name the computer can sometime become confused as to which disc it is actually looking at! If you insert the first disc and click on the disc drive icon the contents of the disc will be displayed correctly. If you later insert a second disc of the same name and click on the disc drive one of two thing could happen. You may receive an 'ambiguous disc name' error (see 'error messages' section) or you may see displayed, incorrectly, the contents of the first disc again. To cure this:

- Press the middle button over the disc drive icon.
- Select 'Dismount'.
- Click on the disc drive icon again to display this disc contents (correctly this time!).

Try to avoid using discs with identical names.

Error messages

Error messages are the thing which at one time or another (i.e. most days!) tempt people into causing their computer serious damage. Like most things many errors are easily solved providing you know how to solve them. The unfortunate thing is that finding that information, in a simple to understand form is sometimes impossible. Hopefully this section will provide the necessary support.

It is impossible to list all of the errors which can occur. Many are specific to the particular software you are using and others are so obscure or occur so rarely they are not worth mentioning. Here I have listed errors which whilst hopefully not too common, I have certainly been asked about them more than once!

Many error messages are of an informative nature advising you to do something or warning you of the consequence of something you may be about to do unintentionally. These are generally clearly worded and need no further explanation. Others can be more persistent and their cause less clear. Below are some explanations of these together with possible solutions and/or ways to prevent them happening again.

If you are unsure of the cause or meaning of an error not covered here and are intending seeking advice from someone write down the exact message together with any numbers included as it happens - it makes life much easier!

..... is out of date

This occurs when the application you are attempting to load needs a later version of one of the modules contained in the !System application the computer is using (the module will be named in the error message in place of the dots in the above example). There can be a number of factors causing this problem. Try these solutions in the order they appear below:

- One cause could be that the machine is looking in the wrong !System application. If the disc containing the application you are trying to load has a !System application on it, then double-click on this first and then try loading the application again. If the 'out of date' error persists then it could be that the machine has already loaded the older version of the module.
- Resetting the machine and starting again may cure this problem. If this isn't convenient try the next solution. If it does cure the problem but it is one which causes annoyance by re-occurring regularly, then look at the section concerning the !System application in the disc management part of this book for a more detailed explanation of the !System application and how it operates.
- To force the newer module to be loaded insert the disc containing the application and locate the !System application on it. Hold the SHIFT key down and double-click on !System with the left-hand mouse button. Double-click on the 'Modules' application. Inside you should find a file with a name similar to that mentioned in the annoying error messages (it may be an abbreviated version of the name). Double-click in this file. Now close all the windows you have just been opening (the windows on the screen, not the ones in the room which you just

opened to cool you during your frustrations!). Try reloading the application again.

- If you are still getting the same error, if there was no !System application on the disc or if on opening the modules application there was no file with a similar name as described, look at the section concerning the !System application in the disc management part of this book for a more detailed explanation of the !System application and how it operates.

Abort on data transfer

This is a nasty one! Unfortunately once this occurs you are almost certainly going to lose your work. Usually caused by bugs in the software. The only way out is to reset the machine and start again.

Address exception

Another nasty one! Unfortunately once this occurs you are almost certainly going to lose your work. It can be caused by a number of things. Sometimes power surges or static can cause this problem or sometimes it's faulty software. Generally it's a case of gritting your teeth, resetting the computer and starting again, usually accompanied by helpful comments from people such as 'I hope you remembered to save your work recently'. If you are getting this problem on a regular basis with one particular piece of software, then it is probably worth contacting the software producer to find out if there are any known problems with it. If this problem happens regularly with a variety of software it could be a fault of bad connection in the machine which needs looking at.

Ambiguous disc name

The computer has seen (or thinks it has seen) two different discs with the same name. This can often happen if you have just made a copy of a disc or if you are sharing a disc between two machines and swapping it between them whilst people are using them. It is not a serious problem - just click on 'OK' to tell the computer to accept the disc currently in the disc drive.

Can't transfer file (use *Set Wimp$scrap <filename>)

The computer has nowhere to temporarily store information. The cure is to insert a disc containing a !Scrap application and click on the disc drive. !Scrap is supplied with many applications and also on the RISC_OS 3 applications disc.

Disc error

This can be caused for a number of different reasons. It could be that the disc is not formatted - formatting the disc (see 'formatting') will cure this. It could also be that the disc has become corrupted. This could be due to mishandling. As the problem is likely to lie in just one part of the disc it may be possible to recover some of the data on the disc (see section on disc management). Finally, providing the disc has not been physically

damaged (e.g. by putting jam or coffee on it) it can usually be formatted again and re-used. If errors are generated when trying to re-format the disc then it needs to be thrown away.

Data lost

This can happen sometimes when trying to save to a write-protected disc. Remove the disc, slide the write-protect tab to the closed position, re-insert the disc and repeat the operation you were previously attempting.

Disc full

Fairly self explanatory really! There is not enough free space left on the disc to perform the save action you are attempting. Either delete some files from the disc to make more space and try to save again, or insert a different disc with more free space and save on to that instead.

Drive empty

There is no disc in the disc drive or it has not been fully inserted.

Escape pressed

This is a really useful error message which informs you that you have just pressed the ESCAPE key!!!

Fatal internal error

This is a nasty one! It is usually caused by bugs in the software. Unfortunately once this occurs you are almost certainly going to lose your work. Generally it's a case of gritting your teeth, resetting the computer and starting again, usually accompanied by helpful comments from people such as 'I hope you remembered to save your work recently'. If you are getting this problem on a regular basis with a particular piece of software, then it is probably worth contacting the software producer to find out if there are any known problems with it.

Filecore in use

This error should only occur on RISC_OS 2 machines. It happens when you are using many (more than 8) discs in one session. It leaves you in the frustrating position of being able to do anything you want with your work on the screen whilst being unable to save and often print it! There is a temporary fix which can sometimes allow you to save your work (but only sometimes!).

- Press the F12 key and type the following pressing RETURN after each line:

  *RMKILL FILECORE

  *RMREINIT ADFS

  Press RETURN twice and try to save you work again. If this fails then I'm afraid you will have to reset your machine - losing your work in the process. If you do manage to save your work still ensure you reset

the machine and load the work again since as stated above, the 'fix' is only temporary.

If you know you are going to be using a lot of different discs during a session you could try the following to prevent the above happening:

- If you have used a particular disc and are not likely to use it again during that session you can tell the computer to 'forget' it, and hence lessen the chance of exceeding the magic number of 8 discs which can lead to problems. To do this press menu over the disc drive and select 'dismount' before removing the disc.

  N.B. Doing this does not mean that you cannot use that disc again during the session - just that the computer will have to reload the information when you first click on the disc drive - you will just notice a short delay.

File locked

You have tried to update or delete a file which has been locked to protect it. If you really want to delete or update the file you will need to unlock it first (see section on 'deleting files').

File open

This can sometimes occur if an operation has previously been interrupted by an error or by pressing ESCAPE. To cure it press F12 and type: *Close at the bottom of the screen. Now press RETURN twice. With any luck you should now be able to repeat the original operation successfully. If there are still problems you may need to reset the machine.

File 'System.Modules. ..... not found'

This error will occur whilst you are trying to load a piece of software if a particular module (its name will appear in place of the dots in the above example) which it needs cannot be found in the !System application. If this is a problem which doesn't usually occur the most common cause is that the computer is looking inside the wrong !System application. If the disc containing the application you are trying to load has a !System application on it, then double-click on this first and then try loading the application again. If this fails then look at the section concerning the !System application in the disc management part of this book for a more detailed explanation of the !System application and how it operates.

Font ..... not found

The named font cannot be found in the !Fonts application. The chances are the computer is looking in the wrong fonts application. Double-click on the !Fonts application associated with the application you are using and reload the application (also see section in the 'general problems' of this chapter on 'Constant disc swapping').

Font cache full

The font cache is probably not set to a large enough value - see section on configuring the machine to rectify this.

Internal error: Abort on data transfer

See 'Abort on data transfer'.

Internal address error

See 'Address exception'.

Locked item

See 'File locked'.

No room in RMA

See 'Not enough memory in module area'.

No run action specified for this file type

You have double-clicked on a file but the computer doesn't recognise what type of file it is, therefore what to do with it. When the computer 'sees' an application it is automatically told what icon (picture) to use to represent the file and also what application to load it into when you double-click on it. If the computer hasn't seen the appropriate application during a session, then any files related to it will appear as blank, white boxes and this error message will be generated when you double-click on it. To rectify the situation insert the disc containing the relevant application and click on the disc drive so it is shown on a disc window. Now repeat the loading procedure.

Not enough memory .....

You do not have enough memory left to do what you are trying to do! You may be able to free some memory by closing down applications which you are not using - move the pointer over the icon of the unwanted application at the bottom of the screen, press the menu button and select 'quit'. Now re-try the original operation. This may be a constant problem on 1 Mb machines - considering upgrading the machine to 2 Mb.

Not enough memory in module area

The computer doesn't have enough memory available to it in a certain area. You may be able to correct this by increasing the module area using the Task manager (see section on task manager) and then trying again (it could also be that you are running out of memory generally and need to free some first - see 'Not enough memory'). Sometimes 'parts' of software are left behind in the computer's memory even when you have quit them. This takes up space which can only be recovered by resetting the machine. This does not usually cause a problem but when memory is tight it may make all the difference - if you have an application (or combination of applications) which usually runs on a machine, but one day doesn't because of a lack of memory, then resetting the machine may cure the problem.

!Printers can't find !Scrap application

See 'Can't transfer file (use *Set Wimp$scrap <filename>)'.

N.B. If you are making a copy of !Printers (RISC_OS 3) as recommended in the 'Setting up printers' section, ensure you also make a copy of !Scrap on the same disc.

!Printers needs PDriver 3.16 or later

This happens when trying to load a RISC_OS 3 printer driver into a machine which has previously had a RISC_OS 2 driver loaded in it. The simplest cure is to save your work, reset the machine (CTRL/BREAK) and load up again. However, if you want to avoid resetting and loading up again you could do the following:

- Press key F12 (a '*' will appear at the bottom of the screen).
- Type in the following, ending each line by pressing RETURN:

  *RMKILL PDRIVER

  *RMREINIT PDRIVER

Protected disc

The disc you are trying to access has been write protected. Remove the disc, slide the write-protect tab to the closed position, re-insert the disc and repeat the operation you were previously attempting.

System heap full

The computer doesn't have enough memory available to it in a certain area. You may be able to correct this by increasing the 'System heap/ stack' area using the Task manager (see section on task manager) and then trying again (it could also be that you are running out of memory generally and need to free some first - see 'Not enough Memory').

System resources cannot be found

Many applications need the computer to have seen a !System application before they can operate. If they need this then it will be supplied on the disc when you buy the software and needs no special attention. Problems occur when you make a copy of the application without also copying the appropriate !System application as well (if you are using the 'Backup' command to copy your discs, then these !System applications would automatically be copied as well). The cure is to insert a disc containing the relevant !System application and click on the disc drive so the computer has seen where it can access !System. Further complications are caused by the fact that different !System applications, whilst appearing identical, can have differing contents (see '.....not found').

Useful Addresses

Contained in this chapter are the addresses of suppliers and software houses mentioned elsewhere in this book.

Useful Addresses

Acorn Computers Ltd.
Acorn House
Vision Park
Histon
Cambridge
CB1 4AE
0223 254254

Anglia TV
SCA (Anglia Television)
PO Box 18
Benfleet
Essex
SS7 1AZ
0603 615151

Arch Angel Public Domain
PO Box 41
Exeter
EX4 3EN

Beebug Ltd
117 Hatfield Road
St Albans
Herts
AL1 4JS
0727 840303

Cumana Ltd.
Pines Trading Estate
Broad Street
Guildford
Surrey
GU3 3BH
0483 503121

Computer Concepts Ltd.
Gaddesden Place
Hemel Hempstead
Herts.
HP2 6EX
0442 63933

Data Store
6 Chatterton Road
Bromley
Kent
BR2 9QN
081 460 8991

Datafile
71 Anson Road
Locking
Weston Supermare
Avon
BS24 7DQ
0934 823005

Design Concept
30 South Oswald Road
Edinburgh
EH9 2HG
031 668 2000

Electronic Font Foundry
The Studio
Gibbs House
Kennel Ride
Ascot
Berkshire
SL5 7NT
0344 891366

HCCS Associates Ltd
575-583 Durham Road
Gateshead
Tyne and Wear
NE9 5JJ
091 487 0760

Morley Electronics
Morley House
West Chirton Way
North Shields
Tyne and Wear
NE29 7TY
091 257 6355

Longman Logotron Ltd.
124 Cambridge Science Park
Milton Road
Cambridge
CB4 4ZS
0223 425558

Matt Black
PO Box 42
Peterborough
Cambs.
PE1 2TZ
0733 315439

Midnight Graphics
5 Victoria Lane
Whitefield
Manchester
M25 6AL
061 766 8423

Northwest SEMERC
1 Broadbent Road
Watersheddings
Oldham
OL1 4HU
061 627 4469

Northern Micromedia
Resources Centre
Coach Lane Campus
Coach Lane
Newcastle upon Tyne
NE7 7AX
091 270 0424

Pineapple Software
39 Brownlea Gardens
Seven Kings
Ilford
Essex
IG3 6NL
081 599 1476

Skyfall Public Domain
PO Box 2220
Birmingham
B43 5RZ

Glossary

This chapter explains all those horrible words which people use when talking about computers!

Glossary

Adjust button	The right-hand mouse button. Not used very often but sometimes performs the opposite action to select.
Adjust size icon	Found at the bottom-right of a window. Dragging this allows you to change the size of a window.
Application	A piece of software (program) which can be used to perform a function (e.g. word processor). An application name always begins with a '!'.
Backup	A duplicate copy of a disc.
Caret	The small, red vertical bar which indicates where text will appear (sometimes called a cursor).
Click	A single press and release of a mouse button. 'Clicking' usually refers to pressing the left mouse button (select).
Clipart	Libraries of images stored on a disc. They can be used for illustrating work produced on the computer.
Close icon	The 'cross' icon near the top-right of a window. Clicking on this will close the window.
Delete-reset	Performing a 'delete-reset' involves holding down the DELETE key with the computer switched off, and whilst holding it down switching the computer on. This has the effect of restoring the factory configuration settings. This can be useful if you get in a knot with your configuration settings or if the computer is exhibiting a number of symptoms described elsewhere. You should only need to do a delete-reset very rarely - do not confuse it with 'resetting the machine' which merely involves re-booting the computer by pressing CTRL-BREAK , RESET or switching off and on again.
Desktop	Refers to the environment in which most people work with the Acorn machines - using windows, icons, menus and pointers.
Digitiser	A device which connects to the computer and allows you to use images from a video source (camera or video cassette recorder).
Directory	A directory is identified by its blue folder icon and is found in a disc window. A directory can contain different forms of information in the same way that a cardboard wallet can. Double-clicking on a directory folder will open it and display its contents.
Document	A file, possibly containg text, graphics, etc.

Double-clicking	Two presses of the mouse button (usually the left-hand button) in quick succession.
Dpi	Dots Per Inch. Refers to the resolution or quality often in in association with printers. The higher the dpi the finer the quality.
Drag	To drag something you move the pointer over the object, press and hold the mouse button (usually the left-hand button). With the button held down, move the mouse to the new position and release the button.
Drawfile	The images created by !Draw are saved as drawfiles. Much of the clipart available commercially is in drawfile format and is accepted by many publishing and word processing packages.
Escape	Pressing the ESCAPE key will perform a variety of actions depending on the circumstances. Its most common action is to stop the computer performing an action which has already been started e.g. pressing ESCAPE during a printing operation will usually abort the print (although there may be a short delay before this happens).
File	A file is a piece of information stored in the computer or on a disc. When work is saved it is saved as a file.
Font	A typestyle. Each font has a name and can be displayed at different sizes. Many fonts are available in different weights and variations e.g. Trinity medium, Trinity bold, Trinity medium italic etc.
Format (disc)	When referring to discs it describes the way a disc has been prepared for use on a computer - a disc must be formatted before it can be used and there are different formats which can be used.
Format (work)	When referring to working with documents, 'format' describes the layout, size, style etc. of the piece of work.
Hourglass	The blue 'eggtimer' which appears on the screen indicating that the machine is busy.
Icon	A small picture or symbol used to represent a function.
Icon bar	The light grey strip along the bottom of the screen.
Justify	Text is said to be 'justified' when the words line up along the margin. Most text is left justified but some may also be right justified.
Menu	A window which allows choices to be made. A menu can be obtained by pressing the middle mouse button.

Menu button	The middle mouse button.
Mouse	The three button device used to control the computer.
Mouse pointer	The arrow (or other symbol) which appears on the screen and is controlled by moving the mouse.
Podule	A circuit board which connects to the computer (usually inside the computer). Podules expand the computer in some way to enable it to perform new tasks e.g. Digitiser podule, MIDI podule etc.
Pointer	The arrow (or other symbol) which appears on the screen and is controlled by moving the mouse.
RAM	Random Access Memory. Usually refered to when talking about the memory of the machine in gerneral. ie. 'a two megabyte computer'.
Reset	The act of resetting the computer. Three ways of doing this are by pressing CTRL/BREAK, pressing the CTRL together with the RESET button or by switching the computer off for a few seconds and then back on again.
ROM	Read Only Memory. Refers to information which can be accessed but not altered. Hence CD ROM.
Scanner	A device allowing printed material to be 'photographed' by the computer. It can then be incorporated in documents etc.
Scroll	To move through a document or window to view or access its contents.
Scroll arrows	The vertical and horizontal arrows which appear in the right and bottom edges of many windows. Clicking on these will scroll through the window in the chosen direction.
Scroll bar	The light grey, vertical and horizontal bars which appear in the right and bottom edges of many windows. Dragging these bars allows to scroll through a document or window.
Select	The action of making a choice - usually performed by clicking on the choice with the left mouse button.
Select button	The left-hand mouse button. It is the button most often used as it is used for picking and selecting items.
Send to back icon	The icon is found at the top left of many windows. Clicking on it will send the window behind any other windows which are on the screen.
Sprite	A computer 'picture' file. Many art packages save work

	produced on them as sprites. Some clipart is also saved as sprites.
Toggle size icon	Found at the top right of many windows. This will resize the window. Useful for opening a window to its full size.
Write protect	If a disc is write protected, new information cannot be saved on it and existing information cannot be altered or deleted.

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Those entries marked '†' are error messages.

T

U

V

W

Finding a computer manual pitched at the right level can be a difficult job. Many are pitched too high and are hard to understand, some fall at the other end of the scale and just do not contain all the answers needed.

This book is aimed directly at the average classroom teacher or non-specialist IT Coordinator who needs to know enough to use the computer, solve any problems they encounter and keep things running smoothly, but doesn't want to spend every waking hour pawing through jargon-filled manuals.

As well as helping with the 'basics', this book also has a comprehensive guide to common problems which occur, and their solutions, as well as quick reference/starter guides to many of the commonly used pieces of software in education.

If you want an easy life with computers do not be without this book.

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