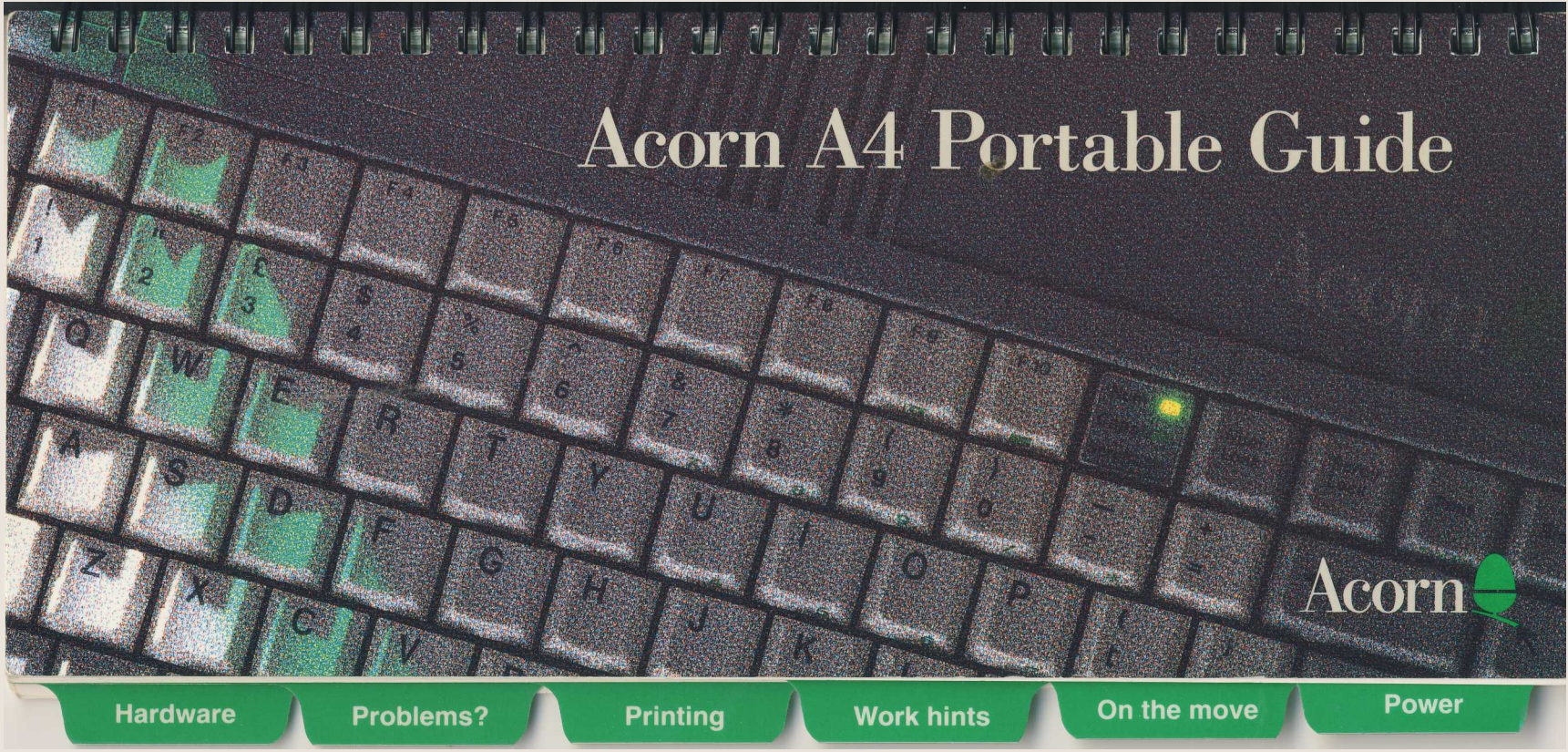
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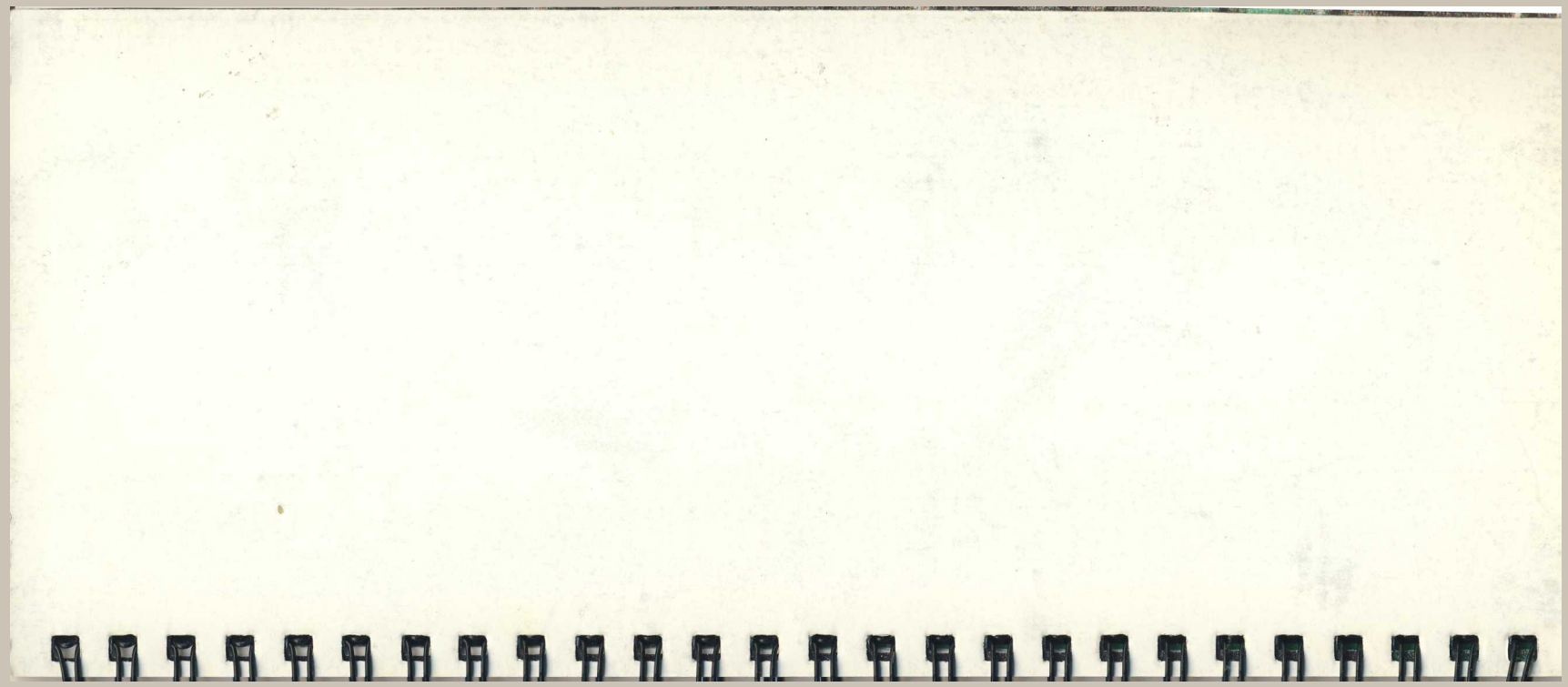

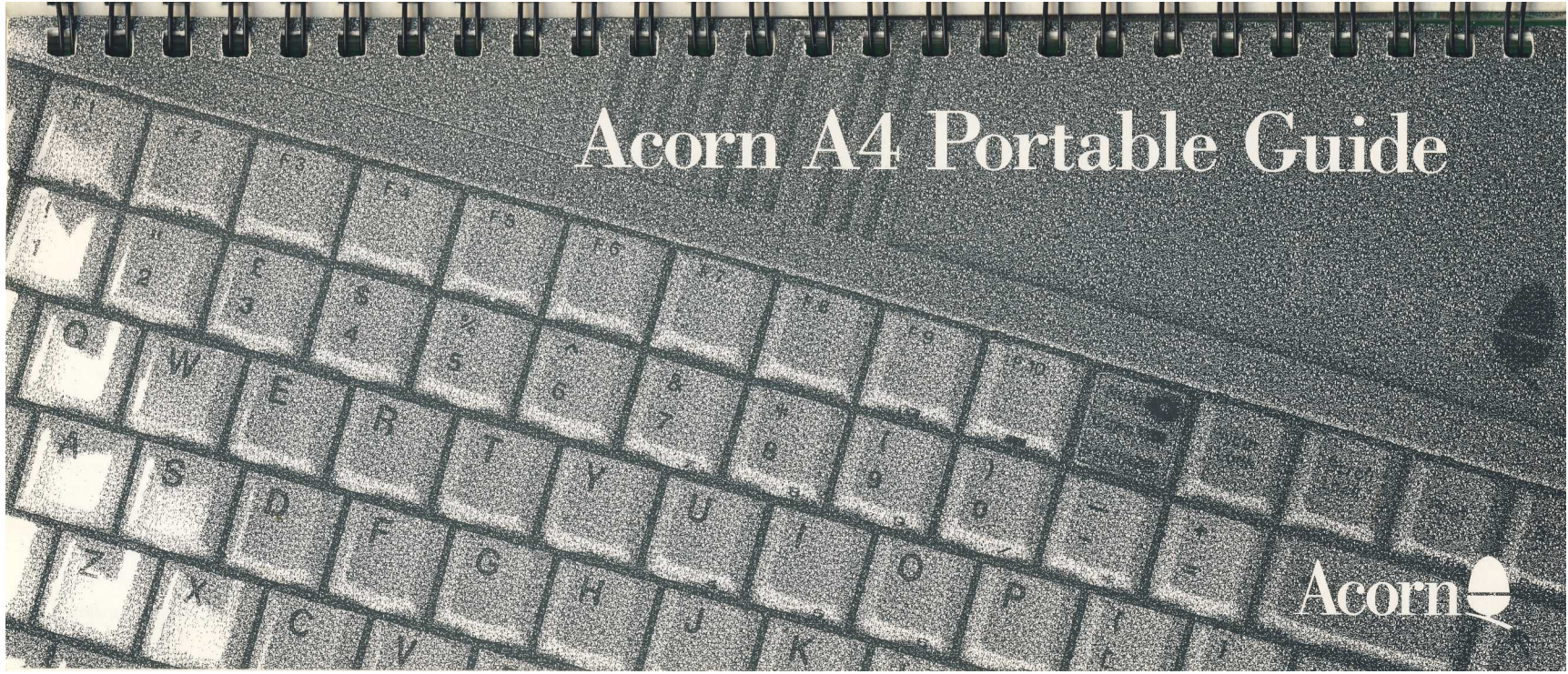
Acorn A4 Portable Guide
Acorn

Published by Acorn Computers Technical Publications Department

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This product is not intended for use as a critical component in life support devices or any system in which failure could be expected to result in personal injury.

If you have any comments on this manual, please complete the form at the back of the manual, and send it to the address given there.

Acorn supplies its products through an international dealer network. These outlets are trained in the use and support of Acorn products and are available to help resolve any queries you may have.

Note: Various third party monitors and other peripheral equipment are depicted or described in this Guide. The illustration or description of these or any other third party equipment does not imply any recommendation or endorsement by Acorn Computers Limited, and users must satisfy themselves as to the suitability of any peripheral equipment (including monitors) on advice from the equipment supplier.

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Guidelines for safe operation

The equipment described in this guide is designed and manufactured to comply with international safety standards EN60950 (BS7002), and is intended for use only as a portable computer. It must not be used for other purposes. It is important that unpacking and operation is carried out in accordance with the instructions in the *Welcome Guide*. For safe and reliable operation, observe the following guidelines:

- Keep the machine at a room temperature of +5°C to +35°C (+41° to +95° Fahrenheit) and a relative humidity of 10% to 80% (non-condensing). As a rough guide, if you feel much too hot, cold or humid, the conditions are probably too extreme for the computer as well. When moving the computer between environments of different temperature or humidity, allow the computer to adapt to the new conditions before using it.
- Always follow the instructions in *Safety guidelines* on page 2 when dealing with nickel-cadmium batteries.
- Avoid sudden extremes in temperature, exposure to direct sunlight, heat sources (such as an electric fan heater) sources of magnetic fields (generators etc) or rain.
- Avoid bending, twisting or hitting the display panel – it is one of the more delicate items in the computer. Don't ingest any material that leaks from a broken LCD panel. Wash off any leaked material that comes into contact with skin or clothes with soap and water.
- Ensure that wires and cables are routed sensibly so that they cannot be snagged or tripped over. Don't tug or twist any wires or cables, or use them to lift any of the units.
- Make sure you have read and understood any installation instructions supplied with upgrade kits before attempting to fit them. If you have any doubts, contact your supplier.
- Keep the original packaging in case you need to return the computer. Avoid bumping, jarring or dropping it in transit.
- This equipment is designed only to be used with the power adaptor supplied with it.
- Switch off and unplug the equipment and any accessories and remove the battery pack before opening any unit (to install an upgrade, for example).
- DON'T place any heavy objects on top of this computer.
- DON'T put your computer through X-ray security equipment or metal detectors at an airport – get it checked by hand. Don't check it in as baggage.
- DON'T attempt to open any display or monitor unit, whether supplied with the equipment or not.
- DON'T spill liquids on the machine. If liquid does spill, switch off the machine immediately, remove the battery pack, and take the computer to your supplier for assessment.
- DON'T obstruct or poke objects through the ventilation openings in the computer casing or the power supply, or cover them with anything.

If the plug supplied with the AC power adaptor is not suitable for the power supply in your country, consult your supplier.

UK information

As the colours of the cores in the power adaptor lead of this equipment may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

- The core which is coloured green and yellow must be connected to the terminal in the plug which is coloured green and yellow, or is marked by the letter E or by the earth symbol ⏚ .
- The core which is coloured blue must be connected to the terminal that is coloured black or marked with the letter N.
- The core which is coloured brown must be connected to the terminal which is coloured red or marked with the letter L.

The mains cord supplied with the power adaptor is already fitted with a moulded plug incorporating a 5A fuse. If it does not fit your socket-outlet, the plug should be removed from the mains lead and safely disposed of. The flexible cord insulation should then be stripped back as appropriate. A suitable alternative plug should then be fitted. If the replacement plug is intended to take a fuse, then a 5A fuse must be used.

In the event of replacing a fuse in the mains plug supplied, then you must use a 5A fuse ASTA approved to BS1362.

Never use mains plugs with the fuse carrier omitted. In the event of the loss of the fuse carrier, either replace with a carrier of the same type and manufacturer or replace the moulded plug with another mains plug, wired as detailed above.

Power

Power considerations 1

Power considerations

Switching on

If you're not using the power adaptor (i.e. you're using battery power only) simply open the computer's lid and switch on.

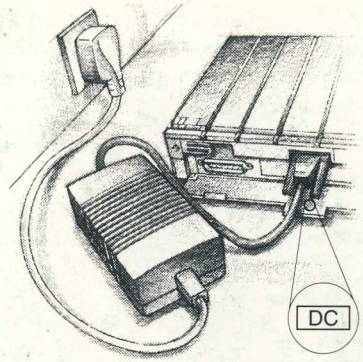
If you're using the adaptor, switch on like this:

1 Check the computer is switched OFF.

2 Connect the adaptor to the computer and power supply (see adjacent picture).

3 Open the computer's lid.

4 Switch on the adaptor and then the computer.



Note: This equipment is designed only to be used with the power adaptor supplied with it.

Switching off

Switch off as follows:

1 Save your work to a disc (hard or floppy).

2 Shutdown the computer (choose **Shutdown** from the Task manager menu).

3 Switch off the computer and close the lid.

If you've been using the adaptor, either

- leave it plugged in and switched on to recharge the batteries, or
- switch it off and unplug it.

Safety guidelines

Always follow these guidelines when dealing with nickel-cadmium rechargeable batteries, as they contain highly toxic chemicals.

- Never throw nickel-cadmium batteries away in household refuse – return them to your supplier.
- Never pierce or puncture batteries.
- Never throw batteries in a fire, or otherwise cause their temperature to rise above 50°C in use or 80°C in storage.
- Don't try to recharge batteries in extremes of temperature – as a general guide, if **you** feel too hot or cold, it's probably too hot or cold to recharge the batteries.
- Don't poke anything onto the exposed contacts of a battery pack that's been removed from the computer (whether the battery is charged or not).

Recharging the battery

When you see the low battery power warning, save your work then recharge the battery:

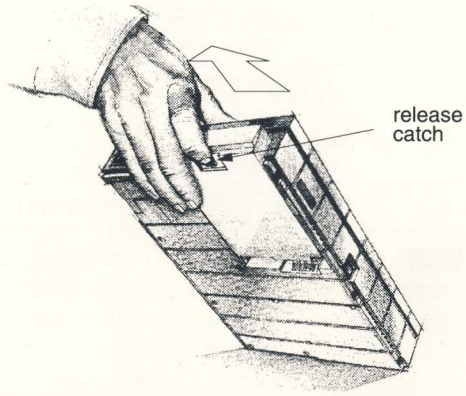
1. Connect the adaptor to the computer.
2. Switch on the power to the adaptor. Switch the computer OFF (unless you want to carry on working with it).
3. Leave the adaptor on for about 8 hours.
4. Once the battery is charged, switch off and unplug the adaptor, unless you're going to use the computer right away.

Removing and fitting a battery

IMPORTANT: Follow the instructions in *Safety guidelines* on page 2 for disposing of used battery packs.

To fit a new battery pack:

1. Shutdown and switch off the computer.
2. Pull out the battery pack from the side of the computer and replace with a new one.
3. Estimate the battery charge state, if you want to – see *Estimating battery charge state* on page 7.



Battery self-discharge

You should be aware that if you don't use the computer for a long time, the battery will slowly discharge by itself. It takes about two months to discharge fully if you leave it in the computer. If you remove a fully-charged battery from the computer, it will self-discharge in about three months. You'll need to charge the battery fully before you can use the computer on battery power only.

Battery status indication

There are four indications of battery charge and adaptor activity:

- The BatMgr indicator (described later on).
- The battery status indicator. This five-segment LCD shows the proportion of total battery charge remaining:

- The PSU activity indicator LED:

- The battery indicator LED: 

LED status	Meaning
Off	Normal discharge OR computer switched off OR flat battery
ON (green)	Trickle charge
ON (amber)	Quick charge
Flash (green)	Charger fault OR no battery fitted OR internal fuse blown
Flash (red)	Low battery power
Blink (red)	Forced shutdown occurred

Checking the battery level

If the BatMgr indicator isn't on the icon bar:

1 Click on the Apps icon on the icon bar.

2 Double-click on !BatMgr.

The BatMgr indicator will appear on the icon bar:

The variable length horizontal bar shows the proportion of total battery power remaining. If there is a question mark instead of a bar, see *Estimating battery charge state* on page 7.

Auto-starting !BatMgr

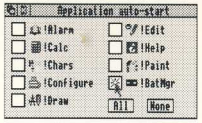
To change whether BatMgr auto-starts every time you switch on (it does by default):

1 Start !Configure (it's in the Apps directory).

2 Click on Configure's icon bar icon.

3 Double-click on the **Applications** icon.

4 Select the box to the left of BatMgr's icon:

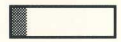


Low battery level warnings

Here's what happens and what to do when the battery level gets low:

- The following message appears on the screen:

- The screen starts to flash on and off, each flash being accompanied by a double beep from the loudspeaker.
- The battery indicator LED flashes RED.
- If the lid is closed, the screen will be off, but you'll still hear the beeps.
- BatMgr's indicator changes to a dark grey bar (red on a colour monitor):



The instructions on the following page tell you what to do next.

At this stage, you only have a few minutes left. You should:

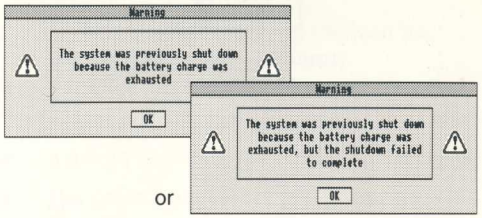
1. Open the lid (if it's closed) or press a key to stop the screen flashing.
2. Click on **OK** in the warning box.
3. Save any work.
4. Plug in the adaptor and charge the battery. Carry on working if you want.

   If you haven't got the adaptor handy, shut down the computer and switch off. You need to recharge the battery as soon as you can.

Automatic shutdown

If you miss or ignore the above warnings, the computer will shut down, and you may lose unsaved work. You won't be able to use the battery until you've recharged it.

Next time you switch on you'll see one of the following messages:



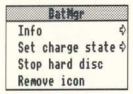
or

Click on **OK** to continue. If any applications you were using before shutdown have the auto-save function, you may not have lost unsaved work.

Conserving battery power

There are three ways you can conserve battery power:

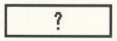
- Click Menu on BatMgr's icon bar icon and choose **Stop hard disc:**



- Use the F10 (blank screen) hotkey – see *Hotkeys* on page 14.
- Use !Configure to set the spindown delay period.

Estimating battery charge state

When you change the battery, the computer doesn't know the charge state of the new battery. BatMgr's indicator will show a question mark:



(You'll also see the question mark if you've taken the battery out of the computer and are powering the computer using only the adaptor.)

If you put in a battery and connect the adaptor, the battery will start charging. The question mark will remain in BatMgr's indicator until the battery is fully-charged.

However, if you carry on using the computer without connecting the adaptor, the question mark will remain until you get the low power warning.

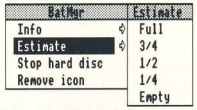
When you put in a battery, you can, if you wish, give BatMgr an estimate of how much charge you think the battery has. This has no effect on the actual charging of the battery. It does mean, however, that BatMgr's indicator will now give you an idea of how much charge remains (but only as close as your estimate!) rather than just displaying a question mark.

To display an estimate of the battery charge:

1 Click Menu on BatMgr's indicator.

2 Move the pointer to the right of **Estimate**.

3 Click on your chosen estimate.

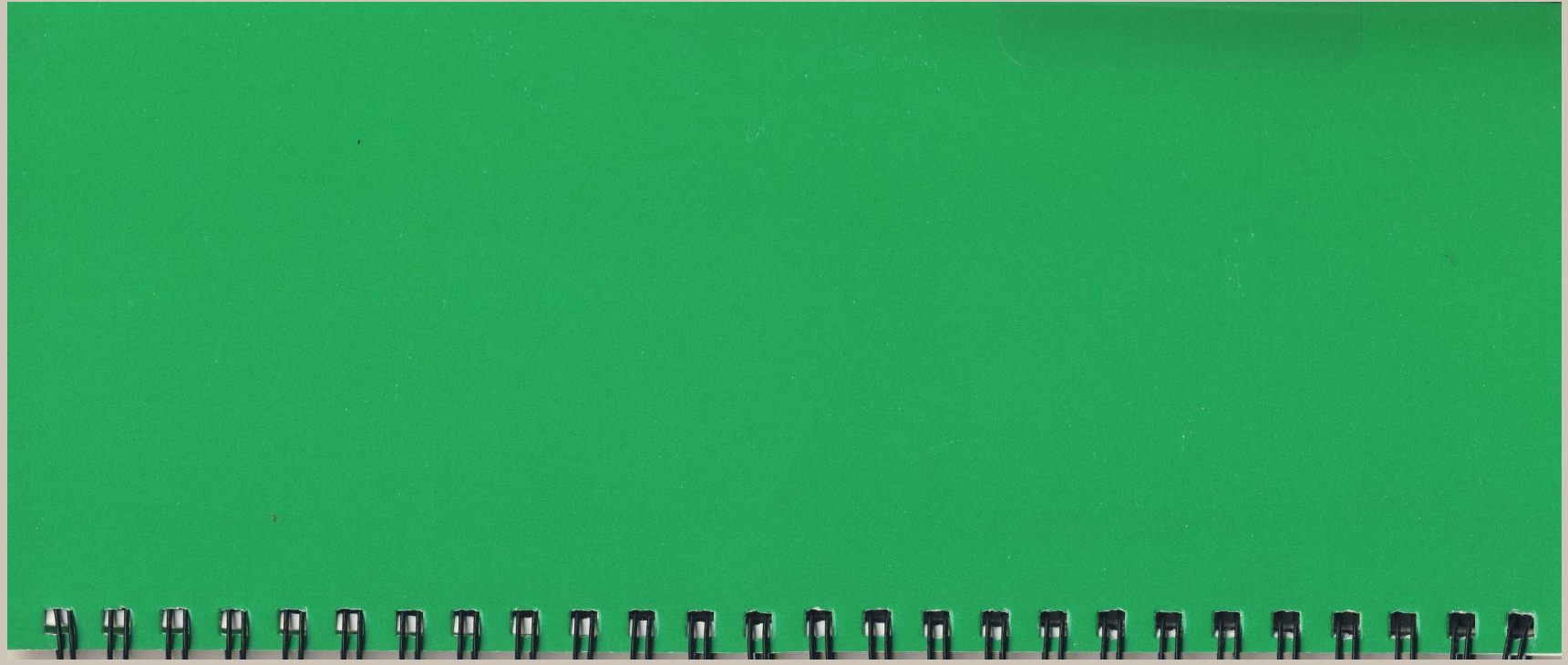


In this mode, the word **Estimate** appears under BatMgr's indicator, and remains until the battery is fully charged or the computer shuts down. You can revise your estimate at any time.

Power problems

If the battery indicator LED flashes GREEN, this either indicates that the battery isn't fitted, or that there's a problem with the adaptor or the charging system, and that you should get it checked by your supplier.

On the move



On the move

Preparations

Here's how to prepare for transporting your computer:

1. Save any work, shut the computer down and switch off.
2. Close the computer's lid.
3. Switch off and disconnect any peripherals.
4. Charge the battery (if necessary).
5. Switch off and disconnect the adaptor.
6. Pack the computer and anything else you need in a suitable carrying case.

What to take with you

You'll need to take some bits and pieces with you. A carrying case is invaluable. There are many different types and sizes available on the market, including two designed for your computer.

Here's an idea of what to pack with your computer:

- This book!
- Spare batteries (fully charged, of course!) packed in individual plastic bags.
- The RISC OS 3 *User Guide* and the RISC OS 3 *Applications Guide*.
- Floppy discs (both blank, and backup copies of useful applications).
- Power adaptor and cables.
- Mouse.

You won't need to take all of these items every time you travel. Aim to minimise the weight of your luggage: only pack essentials.

Foreign travel

If you're travelling abroad, there are a couple of extra things to think about before you set off.

Power requirements

Different countries have different mains power supplies, and use different power outlets.

Don't worry if you can't get hold of the right sort of power cable for the power adaptor before you go: buy a standard IEC power cable when you arrive at your destination. The adaptor is auto-ranging, which means that it can cope with most of the mains power supplies that you are likely to come across. You only need to make sure that the power cable you've got physically fits into power sockets where you're going.

Before you leave

To avoid any unnecessary delays at customs, contact the local customs office before you travel. They will advise you on the procedure for taking your portable computer into another country. Ask them in advance for any forms you'll need to fill in.

Before you actually set off, it's a good idea to check with your travel agent on a few points:

- Ask whether there are any restrictions on portable computers.
- Find out how much hand luggage you're allowed, and pack accordingly – you might be better off buying a large carrying case for your computer and putting everything you want with you on the journey in that.
- Ask whether you'll be allowed to use your computer on board.

Checking in

At the check-in desk:

- Don't check your computer in with the rest of your luggage – take it on board with you as hand baggage.
- If you intend to use your computer on board, confirm with staff that it's OK.

Customs

Follow these guidelines at customs:

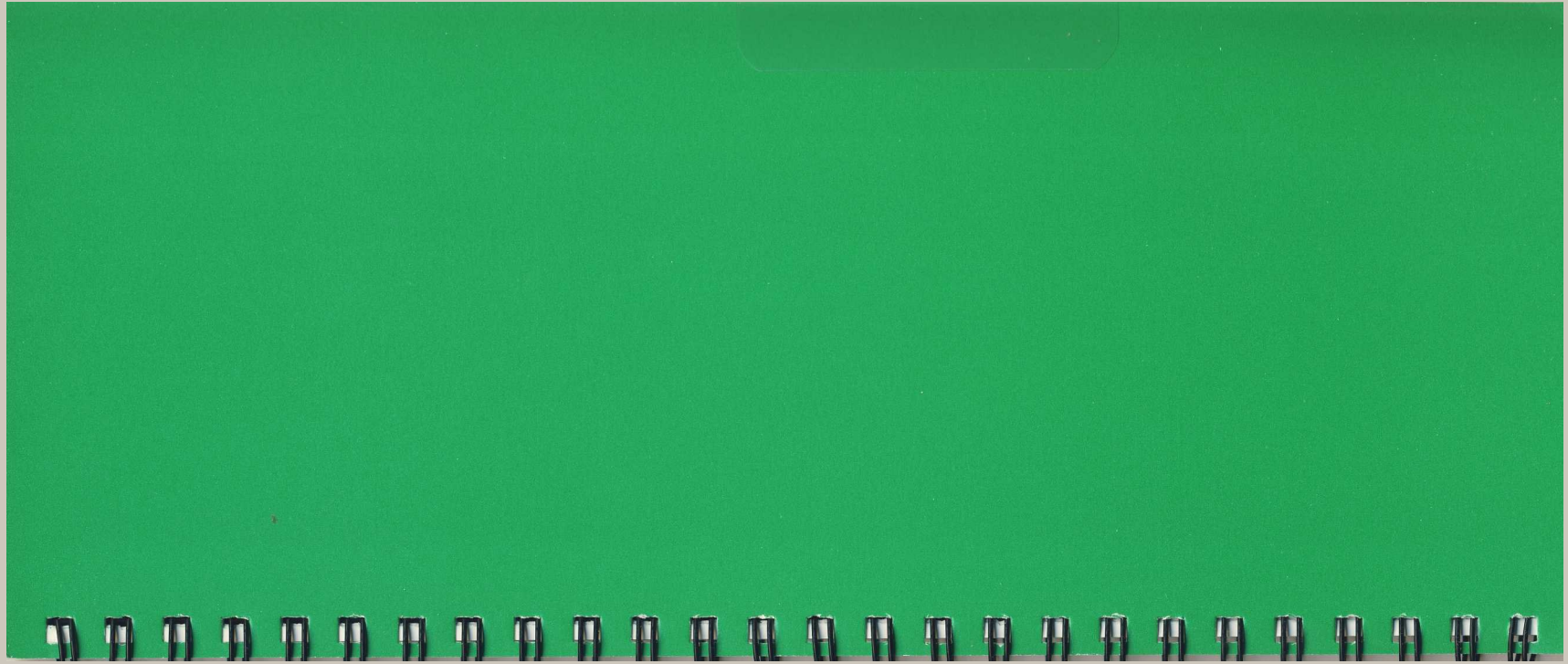
- Always declare your computer at customs. If you don't declare it on the way in to a country, customs there may not allow you to leave with it!
- Always get your computer checked by hand – never put it through an X-ray machine or metal-detector.

Have the adaptor (or a charged battery) handy in case you're asked to switch the computer on by customs or security officials.

Some points to remember

- When moving the computer between environments of different temperature or humidity, allow the computer to adapt to the new conditions before using it.
- Don't leave cables lying where people can trip over them.
- If you're using the computer on your lap and there's nowhere obvious to use the mouse, try using it on your leg. It works!

Work hints



Discs

Floppy disc types

Your computer uses 3.5 inch floppy discs. It can understand and format the types shown in the adjacent table.

So, for example, if you want to buy a disc that you're going to format to ADFS 800K, ask for a 1MB double density 3.5 inch disc.

Note: to ensure reliability, only format discs in accordance with the adjacent table.

Unformatted size	Filing system	Formatted size	Density
1MB	ADFS	800KB	double
2MB	ADFS	1.6MB	high
1MB	ADFS	640KB	double
2MB	DOS	1.44MB	high
1MB	DOS	720KB	double
1MB	Atari	720KB	double
1MB	Atari	360KB	double

Formatting a floppy disc

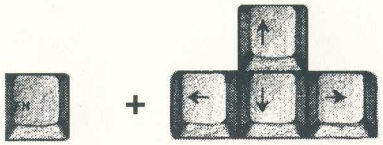
Warning!: When you format a disc, any data that was previously stored on it is permanently lost.

1. Insert the disc in the floppy disc drive (make sure it's not write-protected).
2. Display the Format submenu from the floppy drive icon bar menu.
3. Click on the format you want.
4. Type in a name for your disc.
5. Click on the **Format** box.

The keyboard

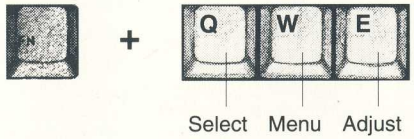
Moving the pointer

Hold down the FN key (or lock the keyboard in FN mode – see *Locking and unlocking* FN *mode* on page 18) and press the appropriate cursor key.



Simulating the mouse buttons

Hold down the FN key (or lock the keyboard in FN mode) and press Q, W or E:



You can perform double-clicking, dragging and so on like this. To drag diagonally, press two cursor keys at once and Q or E. Operations like dragging are easier if you lock into FN mode.

Hotkeys

Hold down the FN key and press the relevant hotkey. If the keyboard is locked in FN mode, simply press the appropriate hotkey without the FN key.

FN F9: Invert video

This makes the LCD panel display white text on a dark background.

Pressing FN F9 again toggles the effect.

FN F10: Blank screen

Use this to minimise the power consumed from the battery pack. It blanks the screen, turns off the backlight and spins down the hard disc (if fitted).

Pressing any key or moving the mouse will activate the screen again. Any hard disc access will start the hard disc spinning again automatically (this includes any background filer activities – a point to bear in mind if you're stopping the hard disc before transporting the machine a short distance without switching it off).

F11 and F12 keys

When you need to press F11 in an application, hold down FN and press F1. The same goes for F12 (using the F2 key).

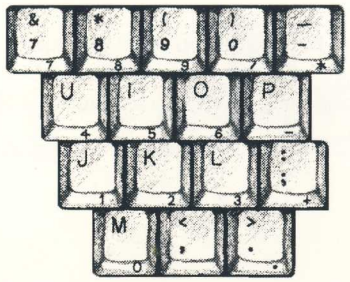
If the keyboard is already locked in FN mode (see *Checking whether you're in* FN *mode* on page 18) just press F1 or F2.

This principle extends to more complicated keystrokes, like Ctrl Shift F12:

FN mode – press Ctrl Shift F2
Non-FN mode – press Ctrl Shift **FN** F2.

Emulating a PC keyboard

The area of the keyboard shown below can either be a numeric keypad or a page/cursor keypad:



Numeric keypad mode

The functions of the keypad keys in this mode are marked on the front faces of the keys.

To get this mode, make sure NumLock is **ON** before you lock into FN mode.

Cursor/page control mode

You can also make the numeric keypad area simulate the cursor/page control of a standard PC.

To get this mode, make sure NumLock is **OFF** before you lock into FN mode.

The tables on the next page show keyboard short-cuts and the meanings of keys in FN mode.

Key	Meaning (FN mode)
F1	F11
F2	F12
F9	Invert video
F10	Blank screen
Q	mouse Select button
W	mouse Menu button
E	mouse Adjust button
↑	pointer up
←	pointer left
↓	pointer down
→	pointer right

Key	Meaning (FN mode)	
	keypad mode	cursor/page mode
7	7	Home
8	8	Cursor up
9	9	Page up
0	/ (divide)	/
–	× (multiply)	×
U	4	Cursor left
I	5	
O	6	Cursor right

Key	Meaning (FN mode)	
	keypad mode	cursor/page mode
P	– (minus)	–
J	1	End
K	2	Cursor down
L	3	Page down
↵ (Return)	Enter	Enter
;	+	+
M	0	Insert
.	. (dec. point)	Delete

Locking and unlocking FN mode

To lock (or unlock) FN mode:

1 Hold down the FN key.

2 Press and release the NumLock key.

3 Release the FN key.

Checking whether you're in FN mode

If you're not sure whether you're in FN mode, press the NumLock key once. Normally the LED marked NUM toggles when you press NumLock. When you're in FN mode it does not toggle.

Typing special characters

You can type accented characters using the keys marked with a black corner in the picture below (e.g. to type ö press **Alt ;** followed by **O**).

To type any of the other characters shown below, follow the guide in the inset.

Using applications

Starting an application

There are two main ways you can start an application:

- Double-clicking – move the pointer over the application's icon, and double-click Select.
- Dragging – drag the application's icon onto the icon bar, and release.

Some applications start running and/or open windows as soon as you double-click on their icon.

You can also start an application by double-clicking on an associated file (as long as the application is in the Apps directory, or its icon has been displayed since you last switched off).

Input focus

Often you'll have more than one application window open on the desktop. You can only input information in one window at a time.

To change the input focus to a different window, move the pointer over your chosen window and click Select.

Quitting applications

To quit an application:

1 Display the application's icon bar menu.

2 Choose **Quit.**

If you've saved everything you've done in the application, its icon will disappear from the icon bar.

If you've forgotten to save any work, the application will remind you, and give you the chance to save it.

Tips

The computer needs to find these system applications:

If your computer has a hard disc, these are in the root directory. The computer will see them as soon as you access the hard disc.

If your computer doesn't have a hard disc:

- Copy !System and !Scrap from the Applications disc onto a separate disc. Load this disc first (and display its directory display) each time you switch the computer on.
- Copy !Fonts from the Applications disc onto a disc of its own. When you get new fonts from your supplier, keep copies of them on this disc. Load this disc before you start any applications that use fonts.

The chapter entitled *System applications* in the RISC OS 3 *User Guide* tells you more about this.

Applications and memory usage

To get the most out of the memory available on your machine:

- Always quit applications if you're not using them – they take up useful memory.
- If you're using an external monitor, choose a screen mode that doesn't use much memory. The RISC OS 3 *User Guide* tells you how much memory screen modes use. *MonitorType and screen modes* on page 32 tells you which screen modes you can use with an external monitor.

Files and directories

Creating a new directory

1 Click Menu over the directory display in which you want to create the new directory.

2 Move the pointer across the arrow to the right of the **New directory** option.

3 Type in a name for the new directory and click on it (or press Return).

Saving a file

1 Open the destination directory display.

2 Click Menu over the unsaved file.

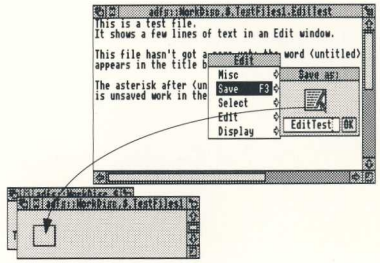
3 Move the pointer across the arrow to the right of the **Save** option.

4 Type in the file name.

A filename can have between one and ten characters, but **not** blank spaces or the characters $ & % @ \ ^ : . # * " |.

If you have saved this file before you can miss out the next step and press Return.

5 Drag the file icon from the save box into the destination directory display:



Loading a file

You can **load** a file by double-clicking on its icon (as long as the relevant application is in the Apps directory, or its icon has been displayed on the screen since you last switched off).

Copying and moving a file

1 Open the destination directory display.

2 Drag the file's icon to the destination directory display.

To **move** a file (i.e. delete the original) hold down the Shift key during step 2.

Deleting files and directories

Warning: once you have deleted a file, you can't get it back again, so use this option with care!

1 Select the object(s) you want to delete, then click Menu.

2 Click on **Delete** (it's in the submenu to the right of the **File**, **Dir.**, **App.** or **Selection** option).

If any files (or directories) have been locked against deletion, change their protection using the Access submenu.

Printing

Printing

Setting up

1 Make a copy !Printers (it's in App1) on your hard disc (or on a blank floppy disc, if you've not got a hard disc) and load it from there.

2 Click Menu on the Printers icon and choose **Printer control...**.

3 Load a suitable printer driver:

- Open the Printers directory in App2.
- Open the directory named after your printer-type (e.g. Acorn).
- Drag the appropriate printer driver (e.g. JP-150) to the Printer control window.

4 Set the Configure options:

- Click Menu over the printer's name in the Printer control window, and choose **Configure...** to display the configuration window.
- Alter any settings you need to (refer to the printer's manual) and click on **OK.**

5 Set the Connection options:

- Choose **Connection...**from the Printers menu.
- Click on the button next to the connection that your printer uses (e.g. **Parallel**).
- Click on **OK**.

6 Activate the printer (if necessary):

- Display the Printers menu again, and choose **Active**.

7 Save the current settings:

- Choose **Save choices** from the Printers menu.

Printing a file

1 Load the application used to create the file.

2 Open the file you want to print.

3 Make sure the input focus is in the file you want to print, then press the Print key. If that doesn't work, follow the next two steps.

4 Click Menu in the application window, and highlight the **Print** option (you may have to search through the submenus to find it).

5 Either click on **Print**, or, if there is a Print submenu available, fill in the number of copies you want and click on **OK**.

Another way of printing

You can often print a file by simply dragging its icon and dropping it on the printer icon on the icon bar, or by pressing the Print key.

Problems with printing

The most common problems with printing occur in the setup stage. If your computer thinks it is connected to the wrong printer, you will have trouble. Take care with the following when you set up:

- Make sure that you're using the correct cable, and that it's no more than 5m long.
- Make sure you use the correct printer driver. If there isn't one that matches your printer, you'll probably still be able to print: most printers have an Epson- or IBM-compatible mode.

  Check in the printer's manual if this is the case, and then choose one of the Epson or IBM printer drivers.
- Make sure that you have set the options correctly in the **Printers** menu and the Connection and Configuration windows.

Problems?

Problems?

No picture

Check that

- the screen has not simply blanked as a result of the **Blank delay** set in !Configure (if this is the case, moving the mouse or pressing the Shift key will restore the display)
- the computer is turned on (see *Switching on* on page 1)
- the battery indicator LED is not flashing red (if it is, see *Recharging the battery* on page 2)
- the adaptor – if you're using it – is connected properly (see *Switching on* on page 1)
- the brightness control on the LCD screen is not turned down too low (see LCD *screen brightness and contrast* on page 42).

If you're using an external monitor, check that the connection between the monitor and the computer is secure. Switch off both the computer and the monitor, and push in the connectors firmly. *Connecting monitors* on page 29 tells you how to connect an external monitor.

Self-test does not complete properly

If you do not see a message *similar* to the following when the self-test is performed

```
RISC OS 2048k
Acorn ADFS
```

or if the self-test does not complete properly (the screen may stay dark grey after you switch on, and the floppy drive indicator light may flash on and off a few times) contact your supplier. There may be a hardware fault.

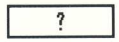
Flickering or flashing display

The screen will start to flash when the battery power is low even if the screen is blanked. This is so that you can see the computer's warning message. You'll also hear a tone, and the battery indicator LED will flash red. See *Low battery level warnings* on page 5.

Computer beeps

The computer beeps if the battery needs recharging, or if you've left the lid down **and** the computer switched on.

BatMgr's indicator is a question mark



This happens when

- you're using the adaptor and there's no battery fitted
- BatMgr doesn't know how much charge is in the battery – see *Estimating battery charge state* on page 7.

Battery indicator flashes

LED status	Meaning
Off	Normal discharge OR computer switched off OR flat battery
ON (green)	Trickle charge
ON (amber)	Quick charge
Flash (green)	Charger fault OR no battery fitted OR internal fuse blown
Flash (red)	Low battery power
Blink (red)	Forced shutdown occurred

Pointer won't move

If moving the mouse does not move the pointer, check that

- the mouse is firmly connected to the computer
- the surface you are moving the mouse across is firm enough to allow the ball in the base of the mouse to move. Move the ball with your fingers to check that the mouse works.

You might need to clean the mouse ball. See *Cleaning the mouse* on page 51.

If all this fails, try holding down Ctrl and pressing Break or the RESET button to start the computer up again. The RESET button is on the back of the computer – see *The back of the computer* on page 48.

Unexpected characters

If unexpected characters appear when you type text in using the keyboard, the computer might be locked in FN mode. To check if this is the case, see *Checking whether you're in* FN *mode* on page 18. To unlock FN mode, see *Locking and unlocking* FN *mode* on page 18.

Pointer not visible on desktop

If the pointer is not visible at all, check whether the command line (with * prompt) is at the bottom of the screen (you might have pressed F12):

If it is, press Return to get back to the Desktop.

Unexpected icons on desktop

You might have dragged a file or application to the icon bar, but accidentally let go too soon. See *Pinboard* on page 52 of the *Welcome Guide*.

Different screen display

If the computer starts up with a different display, or other unexpected things occur while you are using it, you (or someone else) may have set up the system configuration in a different way.

You may need to change the MonitorType, which is set to Auto (i.e. LCD, if fitted) by default. See *MonitorType and screen modes* on page 32.

Resetting and power-on in the RISC OS 3 *User Guide* tells you how to restore the computer to its default (factory) configuration. However, note that some settings are different on this computer:

```
Keyboard delay      25 (centiseconds)
Keyboard repeat     6 (centiseconds)
Screen blank time   5 (min)
Spindown delay      2 (min)
Auto-start !BatMgr yes
SoundDefault        1 6 2
Loud
```

Hardware

Connecting monitors

Although your computer has an integral LCD display, you might want to connect an external monitor (for example to display colour, or different screen modes).

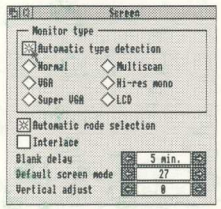
Your computer has been designed so that you can use it with a variety of monitors. Three in particular are described in this chapter. If you want to know how to connect monitors not mentioned here, check with your supplier.

General principles

1 With the computer switched on, start !Configure (from the Apps icon on the icon bar) to display the Configuration window.

2 Click on the Screen icon.

3 Choose **Automatic type detection:**



4 Shut the computer down and switch it (and any peripherals) off.

5 Connect monitor signal cable to monitor and computer (some monitors require an extra adaptor).

6 Connect monitor power cable to monitor and power supply.

7 Switch on monitor, computer and peripherals.

Connecting an Acorn AFK18

This multi-frequency monitor has a signal cable that connects directly into the 15-way VGA connector on the back of the computer.

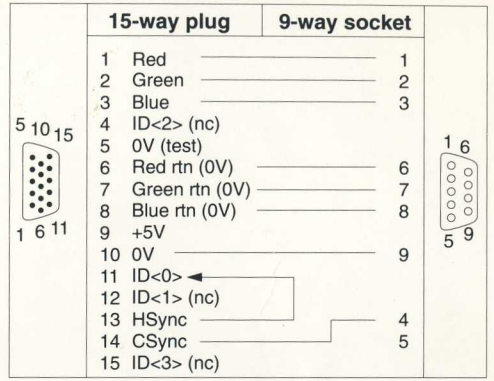
Follow the steps in *General principles* on page 29 to get a picture on the monitor.

Note: Most VGA monitors have a 15-way connector and should not need an adaptor.

Connecting an Acorn AFK17

The cable supplied with this medium-resolution colour monitor (and other TV-type monitors) is terminated at the computer end with a 9 pin D-type plug. You need a 15-way plug to 9-way socket adaptor.

Ask your supplier about monitor adaptors. Then follow the steps in *General principles* on page 29 (using the adaptor to connect between the signal cable and the computer) to get a picture on your monitor.



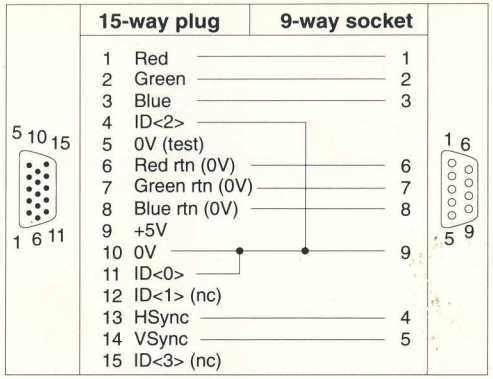
15-way plug		9-way socket
1	Red	1
2	Green	2
3	Blue	3
4	ID<2> (nc)	
5	0V (test)	
6	Red rtn (0V)	6
7	Green rtn (0V)	7
8	Blue rtn (0V)	8
9	+5V	
10	0V	9
11	ID<0>	
12	ID<1> (nc)	
13	HSync	4
14	CSync	5
15	ID<3> (nc)	

Connecting a multi-frequency monitor (9-way connector)

For example, an Eizo Flexscan 9060S.

The cable supplied with some multi-frequency monitors is terminated at the computer end with a 9-way D-type plug. You need a standard 15-way plug to 9-way socket adaptor.

Ask your supplier about monitor adaptors. Then follow the steps in *General principles* on page 29 (using the adaptor to connect between the signal cable and the computer) to get a picture on your monitor.



MonitorType and screen modes

MonitorType is a computer variable that controls which screen modes your computer can display.

For a description of screen modes, see the RISC OS 3 *User Guide*.

Note: For screen modes 0-15 on MonitorType 3. 4 and 5 the aspect ratio is typically 4:2 (these are known as letterbox modes).

The following monitor types and screen modes are defined:

MonitorType	Description	Screen modes
0	TV standard including SCART	0-17, 24, 33-36
1	Multi-frequency	0-21, 24-31, 33-46
2	High res mono	Not supported
3	VGA type	0-15, 25-28, 41-46
4	VGA/Super VGA	0-15, 25-31, 41-46
5	LCD	0-17, 24-28
Auto	Auto configure	Monitor-dependant

Changing the MonitorType

Normally, you don't have to worry about this. Sometimes, however, you need to be able to change this variable, to make use of all the screen modes available to an external monitor.

For instance, the way some cables are wired may make the computer think that a multi-frequency monitor is a VGA or SVGA monitor, so unless you change the MonitorType, screen mode 24 won't be available.

For example, to change the MonitorType variable to 1 without using !Configure:

1. Switch off the computer.
2. Switch on the computer, holding down numeral 1 key until the self-test has completed and the desktop appears.

For more information on this and other ways of setting the MonitorType, see the chapter entitled *Colours and screen modes* in the RISC OS 3 *User Guide*.

Changing the screen mode

To change the screen mode displayed on your monitor temporarily, proceed as follows:

1. Click Menu over the Palette icon.
2. Click on one of the screen modes listed in the **Mode** submenu (or move the pointer to the bottom of the **Mode** box, type in your chosen mode number after the caret, then press Return).

To change the screen mode permanently, use !Configure (see the RISC OS 3 *Applications Guide*).

Connecting printers and modems

Introduction

This chapter gives some examples for connecting printers and modems to the computer.

Serial port RS232

The serial port is by far the most versatile and sometimes the most troublesome port to use. The port supports two different types of peripheral or equipment: Data Terminal Equipment (or DTE – for example printers and computers), and Data Communication Equipment (or DCE – for example modems).

It follows that you will need different cables, depending upon which type of peripheral (DTE or DCE) you are connecting to your machine.

When you connect peripherals to the serial port:

- Ensure that screened cabling is used to connect up the peripheral, and that the cable screen is connected to the shells of the connectors.
- Consult the peripheral manufacturer's instructions for pin connections.

Printers on the serial port

Hardware connection

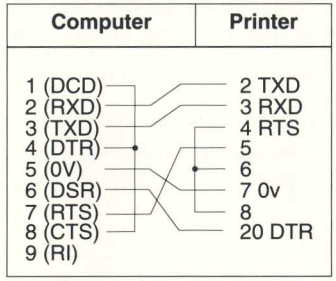
You should check carefully what options for flow control your printer uses, and if possible set it to XOFF/XON flow control. Some printers have alternative flow control mechanisms involving ETX/ACK (different control characters from XOFF/XON, transmitted under slightly different circumstances), or RTS/CTS (signals on additional wires on the interface cable).

Software connection

For information on how to set up the software side of things, see *Printing* on page 23. You'll also find more information in *Printing* in the RISC OS *User Guide*.

An example

The diagram shows the serial port signals used to connect to an Apple LaserWriter laser printer:



Modems on the serial port

A modem is usually connected up differently from a printer. This is because a modem is a DCE (Data Communications Equipment) device, whereas printers are DTE (Data Terminal Equipment) devices. The main difference is that the connections are 'straight through', in that the modem expects to *receive* data on the 'transmitted data' line, and vice versa, whereas when connecting terminal to computer or computer to computer the connections have to be crossed over.

Hardware connection

You may need to acquire or make an adaptor cable to connect a modem or other standard RS232 DCE device. Here's the wiring guide:

Computer	Modem
1 (DCD)	8 (DCD)
2 (RXD)	3 (RXD)
3 (TXD)	2 (TXD)
4 (DTR)	20 (DTR)
5 (0V)	7 (0V)
6 (DSR)	6 (DSR)
7 (RTS)	4 (RTS)
8 (CTS)	5 (CTS)
9 (RI)	22 (RI)

In practice you may leave out RI and DSR as they are not often used. If the modem doesn't provide a CTS signal, leave out this wire and instead connect it to RTS at the computer end.

If you are connecting a different type of modem from the one illustrated, the differences will be in which signals the modem looks at and can supply. You can configure some modems to use or ignore the various control signals, by means of DIP switch settings or by sending commands.

Software connection

For information on how to set up the software side of things, it's best if you check with your supplier, who will be able to tell you the communications package to use that best suits your modem.

Parallel port

The parallel port is commonly used to connect a printer, or to send data to a device using eight data pins in parallel, making a byte of character data.

There is a diagram of the parallel port pinout in *Parallel printer connector* on page 49.

Printers on the parallel port

Hardware connection

You need a 25-way D-type connector to connect a parallel printer to the computer. Often, the cable supplied with your printer will be suitable. If not, the table overleaf gives an example of how the pins on the computer's parallel port map onto a 36-way Centronics Delta 57 connector.

The mapping is typically 'one to one'. The signals you need will depend on the type of printer, and the settings of any switches on the printer. As a general guide, most printers will work without the signals marked Optional.

In the first instance, ask your supplier to make sure he gives you the correct cable. Check the documentation accompanying your parallel printer for more information.

Software connection

Printing on page 23 tells you how to configure your computer to use a JP-150 printer. You'll find more information in *Printing* in the RISC OS 3 *User Guide* and the manual supplied with your printer

Computer	Printer
1 (STROBE*)	1
2 (DATA0)	2
3 (DATA1)	3
4 (DATA2)	4
5 (DATA3)	5
6 (DATA4)	6
7 (DATA5)	7
8 (DATA6)	8
9 (DATA7)	9
10 (ACK*)	10
11 (BUSY)	11
18 to 25 — GND	19 to 30

Computer	Printer
Optional	
12 (PE)	12
13 (SLCT)	13
14 (AUTO FD XT*)	14
15 (ERROR*)	32
16 (INIT*)	31
17 (SLCT IN*)	36

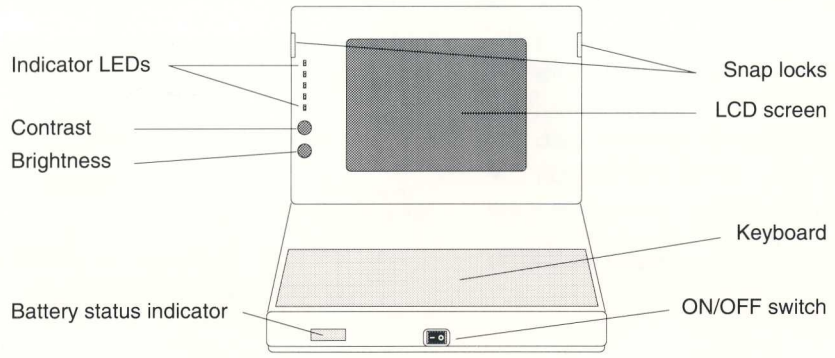
Hardware information

This section is a guided tour of the computer, including all its controls, connectors and switches.

The front of the computer

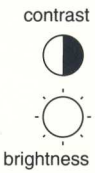
The picture opposite shows the computer with its lid open. There's a description of all the components on the following pages.

Later in this section there are descriptions of the sides and back of the computer as well.



LCD screen brightness and contrast

These two controls alter the LCD screen's backlight intensity and contrast. When running on battery power, use the lowest comfortable brightness to conserve power.



Battery status indicator

This 5-LCD indicator shows the percentage of total battery charge remaining.

Snap locks

There is one on each side of the computer. Press both to open the computer's lid.

LCD screen

The computer's display. Take care not to slam or drop the lid, or you may damage the LCD screen.

ON/OFF switch

This is the power switch for the computer.

Indicator LEDs

Starting at the top, the five LEDs are:

- **I/O indicator** (green) – This light comes on when you turn the computer on.

- **Battery indicator** – See *Battery status indication* on page 4.

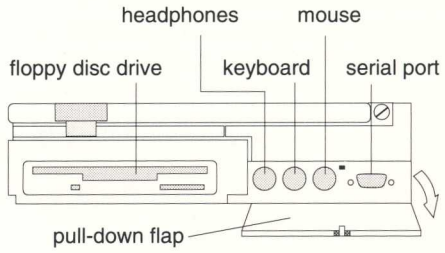
- **PSU activity indicator** (green) – This light comes on whenever the adaptor is plugged in and switched on.

- **Floppy drive indicator** (green) – This light comes on when the floppy disc drive is being accessed. Don't eject a floppy disc or turn off the computer when this light is on.

- **Hard disc drive indicator** (green) – Your computer will have this light whether or not it has a hard disc installed. The light only comes on when the hard disc drive is being accessed by the system. You can obtain a hard disc as an upgrade from your supplier.

The right side of the computer

The diagram below shows the righthand side of the computer with the flap open.



3.5 inch floppy disc drive

The floppy disc drive is located on the right. It includes a disc insertion slot, a drive indicator light, and a disc eject button.

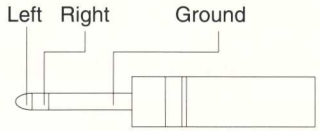
- **Disc insertion slot** – This is where you insert floppy discs.
- **Drive indicator light** – The indicator light comes on when the floppy disc drive is being accessed by the system.

WARNING: When the floppy disc drive indicator light is on, the computer is actually reading or writing data. Do not remove the floppy disc or turn off the computer while the light is on.

- **Disc eject button** – The disc eject button releases the floppy disc so that you can remove it from the drive. When you press the button, the disc pops partially out of the slot, allowing you to remove it by hand.

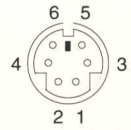
Headphones connector

The headphones 32Ω socket allows you to connect stereo headphones or your stereo amplifier system to the computer, through which you can hear sound produced by the computer. The lead must have a 3.5mm stereo jack plug.



Keyboard connector

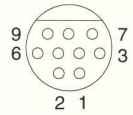
An external keyboard must be a PC-style AT protocol keyboard (102/103 keys including 12 Function keys) and have a 6-way mini-DIN plug on the end of its cable, that goes into the 6-way socket on the side of the computer:

Pin	Signal	Connector
1	DATA	
2	No connection	
3	0V	
4	5V	
5	CLOCK	
6	No connection	

Mouse connector

The mouse has a cable with a connector on the end which you can plug into the 9-way connector on the side of the computer.

The mouse has a 9-way mini-DIN plug that goes into the 9-way mini-DIN socket on the side of the computer. The pins on the socket are wired as follows:

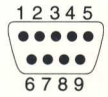
Pin	Signal	Connector
1	XREF	
2	SWITCH 1	
3	SWITCH 2	
4	0V	
5	XDIR	
6	5V (fused)	
7	YREF	
8	SWITCH 3	
9	YDIR	

Serial port

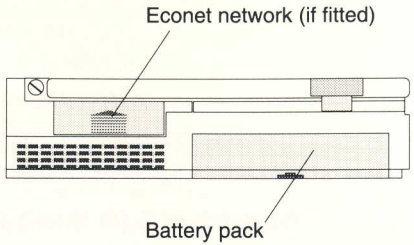
RS232

The serial port is a 9-way D-type plug. A serial device to be connected here needs a 9-way D-type socket on the end of its lead. Refer to the documentation accompanying your particular communications package for information on how to wire the lead to be used with the serial port. There is also some information in *Connecting printers and modems* on page 35.

The pins on the plug are as follows:

Pin	Signal	Connector
1	DCD I/P	
2	RXD I/P	
3	TXD O/P	
4	DTR O/P	
5	0V	
6	DSR I/P	
7	RTS O/P	
8	CTS I/P	
9	RI I/P	

The left side of the computer



Battery pack

Removable battery pack.

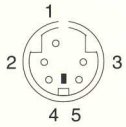
Econet network connector

Use this socket to connect the computer with other Acorn computers on an Econet local area network (LAN).

The socket is a 5-way mini DIN type.

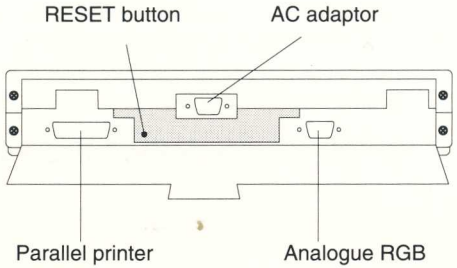
This requires an optional Econet network expansion card to be fitted (see your supplier).

The Econet socket is wired as follows:

Pin	Signal	Connector
1	DATA	
2	0V	
3	CLOCK*	
4	DATA*	
5	CLOCK	

The back of the computer

The drawing below shows the back of the computer with the flap open.



The following subsections describe the connectors on the back of the computer. An asterisk (*) after a signal name means active low.

Analogue RGB

This 15-way D-type socket is used to connect an external monitor to the computer (it is not suitable for TTL RGB monitors).

See *Connecting monitors* on page 29 for information on monitors that use this socket. See your supplier for information on colour monitors that work with the computer.

The pins on the plug are as follows:

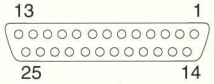
Pin	Signal	Pin	Signal
1	RED	9	+5V (750mA fuse)
2	GREEN	10	0V
3	BLUE	11	ID<0>
4	ID<2>	12	ID<1> I/P SCART /
5	TEST (0V)		slow switching O/P
6	R return (0V)	13	HSYNC
7	G return (0V)	14	VSYNC/CSYNC
8	B return (0V)	15	ID<3>

Parallel printer connector

This is a 25-way D-type socket. Parallel and serial printers are discussed in *Connecting printers and modems* on page 35.

The pins on the socket are as follows:

Pin	Signal	I/O	Pin	Signal	I/O
1	STROBE*	I/O	14	AUTO FEED*	O
2	D0	I/O	15	ERROR*	I
3	D1	I/O	16	RESET*	O
4	D2	I/O	17	SELECT IN*	O
5	D3	I/O	18	0V	N/A
6	D4	I/O	19	0V	N/A
7	D5	I/O	20	0V	N/A
8	D6	I/O	21	0V	N/A
9	D7	I/O	22	0V	N/A
10	ACKNOW-LEDGE*	I	23	0V	N/A
11	BUSY	I	24	0V	N/A
12	PAPER ERROR	I	25	0V	N/A
13	SELECT	I			



RESET button

The RESET button on the back of the computer is used to restart the computer without turning it off at the ON/OFF switch (press Ctrl RESET). Refer to the RISC OS 3 *User Guide*.

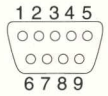
Warning: You'll lose any unsaved work when you do this.

Power adaptor connector

DC

The power adaptor's 9-way plug goes in here:

Pin	Signal	Meaning	Connector
1	UMAIN	charger system supply	
2	0V		
3	OE*	charger o/p enable	
4	0V		
5	CRSEL1	batt. charger current sel.	
6	UBAT	charger batt. supply)	
7	CRSEL2	batt. charger current sel.	
8	IBAT	current feedback signal	
9	0V		



Cleaning the computer

First, remember to follow the *Guidelines for safe operation* at the very beginning of this guide. In particular, switch off and unplug the computer and any peripherals.

You can clean the computer case by wiping it gently with a soft, slightly damp cloth. For advice on cleaning peripherals, refer to the relevant manuals.

Cleaning the mouse

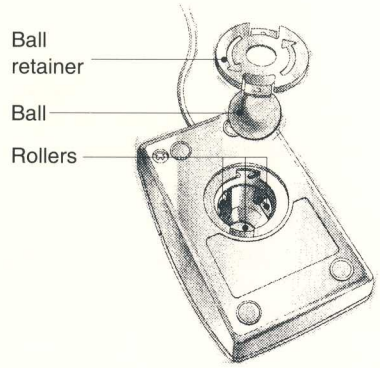
To clean the mouse, you need

- some tape head cleaner
- a cotton swab
- a lint-free, dry cloth.

To remove the ball and clean the mouse:

1 Unplug the mouse and turn it upside down.

2 Unlock the ball retainer by twisting it in the direction of the arrows by 90°.



3 Hold one hand over the ball and retainer and turn the mouse right side up, allowing the ball and retainer to drop into your hand.

4 Lightly moisten the cotton swab with tape head cleaner and apply it gently to the rollers carefully cleaning off any dust or dirt that may be clinging to them.

5 Make sure the inside of the mouse is free from dust.

6 Wipe the ball with the clean, dry cloth. Do not use a cloth which may leave lint, and do not use cleaning liquid on the ball.

To replace the ball and retainer:

1 Turn the mouse upside down and place the ball back in the case.

2 Return the retainer to its original position (lock it in place by twisting it clockwise by a quarter of a turn).

Cleaning the LCD display panel

Clean the LCD display panel with a soft cloth. Use one of the following solvents on the cloth and wipe lightly:

- isopropyl alcohol
- ethyl alcohol.

Do **NOT** use

- water
- ketone
- aromatics.

Don't use a dry or coarse cloth to clean the display – this will damage the panel.

Important!

If any material leaks out from a damaged LCD panel, do **not** ingest it. If it comes into contact with clothes or skin, wash it off immediately with soap and water.

Index

Reader's Comment Form – *Portable Guide*

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