TECHNICAL QUERIES

Alan Wrigley answers your queries on converting Draw
files to other formats, and reading text from a file,
while David Spencer deals with VRAM upgrades,
dual processors for the Risc PC, and start-up faults

Q Dear Sir
There seem to be a number of utilities for
converting sprites to and from formats other than
that used by Acorn. Is there any way, apart from
scanning, to convert Draw files to a format which
may be read by a PC or Apple Mac?

Anne Nichols

A It s possible to convert some vector-based
graphics to and from Acorn systems, but it isn t
quite as straightforward as with pixel-based images. Draw
will accept some types of DXF file, which is a format that
can be output by some PC packages such as AutoCAD.
The subject was covered back in RISC User 4:5.

To transfer files from Draw, the only method that comes to
mind is to go via ArtWorks. ArtWorks can accept Draw files,
and can then export the image as an EPS file in a selection
of formats including CorelDraw and Illustrator. I have used
this method myself to transfer a Draw file into Illustrator 5
on the Mac, using ArtWorks as an intermediary and
selecting Illustrator 3.0 EPS format for output.

Q Dear Sir
I have written a program which saves strings as
lines of text using BPUT#. If I load the file into Edit
I can see that the data is correct, but I cannot find
a way to read the data back into my Basic
program as a set of strings. Can you help?

Roger Brooke

A There is a very useful command in Basic V for
doing just this, though it was not present in earlier
versions of BBC Basic. The command is GET$#,
and it will read any control-terminated line of text from a
file into a string variable. Control-terminated in this context
means linefeed (ASCII 10), carriage return (ASCII 13) or
null (ASCII 0). So to read a line of text into text$ from a
file whose handle is held in file%, you would use:

    text$=GET$#file%

Coupled with the Basic V enhancement to BPUT# which
allows you to save a linefeed-terminated text string to a

file, this enables you to read and write standard Acorn
format text files from within Basic programs.

Q Dear Sir
Could you please clarify the confusion that I have
over the amount of video RAM that may be fitted
to the Risc PC. Previously, you ve said that the
limit is 2Mbytes, although I read in another
magazine about a company producing a 3Mbyte
card. What is the actual limit?

John Morton

A The answer to this isn t quite as straightforward as
it seems. Currently, 1 and 2Mbyte VRAM cards
are available for the Risc PC, and these are the only sizes
that RISC OS 3.5 will support. However, the socket into
which the VRAM plugs is actually wired up such that it
could in the future accept a 4Mbyte card, whilst the IOMD
system controller chip that is responsible for controlling
the VRAM can support up to 8Mbyte VRAM.

Obviously then, there is room for expansion and it may be
that bigger VRAMs become available in the future, but
they will require extra software to make use of them.
Incidentally, the way the Risc PC hardware works will only
allow 1, 2, 4 or 8Mbytes of VRAM (or none at all of
course). Therefore there must be a misunderstanding
somewhere with regards to a 3Mbyte VRAM card.

Q Dear Sir
I read with some interest your preview of the
ARM700 card. However, one question I have that
was not answered is what happens if I fit both the
ARM610 and ARM700 cards at the same time?
Does RISC OS share the tasks between them?

Roger Chapman

A The simple answer is no - you get a blank screen!
RISC OS knows very little about the fact there can
potentially be two processors fitted. Any second
processor card fitted (such as the forthcoming PC Card)
has to contain quite complicated circuitry to arbitrate

between the two processors. This extra hardware ensures that both processors can access the same RAM and I/O devices without conflict. Then, for example, the PC Card BIOS can write to an area of memory, and an ARM code program running under RISC OS can pick the data up.

In order to fit a second ARM processor, it would need to be on a special card along with the arbitration hardware. It would also need extra software to decide how to split the tasks between both processors, and I can assure you that controlling parallel processing like this is not a trivial task. However, Acorn did develop a second ARM card of sorts to help test the Risc PC during development, and it remains to be seen whether any third parties will take this on to produce a marketable product.

Q Dear Sir
I recently upgraded my A3000 to RISC OS 3.1, and now each time I turn it on I am faced with a red screen for about thirty seconds during which time the floppy disc light seems to flash some sort of code. After this the computer appears to start normally. Is it possible that there is a fault with my RISC OS chips?

Barbara Hill

A What you are seeing is the result of the RISC OS Power-On Self Test (POST). This was a feature that was first added to RISC OS in version 2.01 (the A540 version), and its purpose is to test the computer s hardware each time it is turned on. The fact that you are seeing a red screen indicates that a failure has been detected. Your dealer would be able to decode the drive light flashes to find out more details about the nature of the fault. It s quite likely that the fault existed before you upgraded, but was never detected. This suggests it must be quite minor. A memory fault affecting a single (seldom used) location is the most likely culprit.

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if you have access to a fast modem you can transfer large files without consulting the bank manager. With a good compression ratio and a V34 (28,800 baud) modem you could probably transfer up to 400K a minute.

To use the voice facilities, you will need a voice modem. Unfortunately this opens up a can of worms at the present time, since there is no accepted standard for voice modems. ArcFax has a driver for Zyxel modems, but until a common standard is established it is probably safer not to rush out and buy a new modem. The situation is fluid, and the balance may be tipped by a major manufacturer like Pace deciding to enter the field.

Once you have a voice modem, the operation is very similar to FaxPack. The modem can detect whether a call is voice, fax or data; if it s voice it plays a sound sample file containing your outgoing message. The incoming message is then stored on your hard disc as another sound sample. Unlike FaxPack, which samples at a fixed rate and requires 10K of disc space per second, ArcFax s sample rate can be configured, as can the maximum message time before cut-off. This makes it very much more flexible, and if space is tight on your hard disc you can probably get away with a setting that requires just 2K per second, though with lower sound quality. You can also use ArcFax to record your outgoing message (if you have a microphone), and you can record parts of a conversation by starting the process while you are talking on the line.

This is not the end of the story for voice modems however. They can do other things such as recognising touch tones and identifying the telephone number of the caller before answering. The former is already possible with

ArcFax v. 1.10	
Supplier	David Pilling
	PO Box 22
	Thornton Cleveleys
	Blackpool FY5 1LR
Price	£35.00 inc. VAT

Latest Fax on the Arc
ArcFax, while the latter facility requires both the right modem and the right signals from the telephone company - we will explore these exciting possibilities in a future issue when we will look at voice modems in more detail.

To make use of such facilities, ArcFax allows you to write script files, called servers , which take control of the software once the call has been answered. For example, if you have a voice modem and it detects a voice call, your server could play an outgoing message inviting the caller to press one of a number of different keys on the telephone keypad, and carry out a different action depending on the key pressed. You could select from a number of different messages, or you could even call from your mobile on the way home to tell the computer to switch on the heating, provided you have a hardware connection between the computer and the heating controller. The possibilities are limited only by your imagination.

ArcFax 1.10 is one of those products that will