

Developers' Newsletter

No 35 October 1994

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General News

Pocket Book II

Pocket Book II, which is based on the Psion 3a, was launched in the second week of September.

The product includes all the applications normally found on the Psion 3a (database, word processor, spreadsheet, clock/alarm, diary, calculator, World and OPL) including extensions to the standard spreadsheet plus Plotter, JP150 printer driver and Spell with Thesaurus.

Pocket Book II comes in two 'flavours' - 256K and 512K and is available to Developers on special offer for a limited period of three months. Please complete both Special Offer order form and relevant New Product Agreement and send them with payment to Developer Support if you wish to take advantage of this offer.

Don't forget that Acorn Registered Developers are eligible under reciprocal arrangements to join the Psion Registered Developer scheme at a reduced rate. Contact Acorn Developer Support for details.

A-Link

Those Developers who purchased the original A-Link and software may like to know that there is an upgrade disc available from Acorn Direct. To obtain A-Link version 2 you should send your disc together with payment (£9.95 inc VAT and P&P) to Acorn Direct, 13 Denington Road, Wellingborough, Northants NN8 2RL. This upgrade is available to UK users only.

Risc PC600 CD

The subject of many enquiries to Developer Support has been the promised Risc PC with internal CD-ROM drive. This will soon be available and we have a Special Offer on this product for Registered Developers. Special Offer order form and New Product Agreement are enclosed with this newsletter.

For existing owners of Risc PC, an upgrade CD-ROM drive is available for a limited period. See the Developers' Price List for pricing details. As this is normally a Dealer-fitted upgrade, Developers purchasing this item through Developer Support need to be confident that they can fit it successfully themselves.

New Developers' Discount Price List

A new Registered Developers' Discount Price List, October 1994, is included with this Newsletter. Please destroy the March and April price lists and use this one instead.

Replay Starter Kit

The Replay Starter Kit is a new stock product (SKB82) and comprises a CD-ROM, High Density disc, User Guide, and a guide to Desktop Multimedia. It includes ARMovie version 0.34 together with Shapes and Trajectories, a selection of Replay clips (several of which will show off the Risc PC at its best) and some PhotoCD stills. The Moving Blocks compressor, provided with the kit, offers faster compression and better quality than Moving Lines. See the Developers' price list for pricing.

Acorn World 1994

Acorn World is Acorn's flagship show and will take place from 28th to 30th October inclusive, at Hall One, Wembley Exhibition Centre. The show is family orientated and will include features such as: games arcade, live training sessions, commodities market, clowns, jugglers, crèche, technical 'clinic', dealer and software stands, theatre, show offer (via our dealers), Photo CD processing, education section, OnLine Media and Risc PC in-depth demonstrations.

We are advertising the show through TV, Radio, National Press, Acorn and PC based computer magazines and consumer magazines.

The show regularly attracts not only loyal Acorn enthusiasts and educationalists but also people who have heard that the show is a good day out and offers an opportunity to view and experience Acorn hardware for the first time.

Acorn in the press

Coverage of Acorn in the press has increased in recent months. As well as the traditional educational stories and computer trade, coverage has been included in Management Today, Computing, The Independent and The Sunday Times. Acorn has also been featured on Blue Peter (more to follow), Big Breakfast (twice) and Radio 5 Live (as well as Local Radio Stations including radio Cambridge, Notts, and LBC). There is more to come.

We now have a well-established relationship with the major PC publications in the UK, which are ready and waiting to review the Risc PC with an Intel card. We are holding our reviews in the PC press until the PC 486 Card becomes available.

PR Opportunities for Developers

We are interested in receiving news of good 'stories' - your successes and exciting news. Items relating to installations of your products, of case studies and of projects under development are all of interest. If you have email access, you can email to newsroom@acorn.co.uk or, if you don't have email, you could fax to James Tutt at Text 100 (Fax: 081 242 4200).

Your products in Germany

Acorn's German subsidiary continues to grow with distribution in major outlets and lots of press coverage (35 reviews of Acorn products). So if you have or are working on German versions of your products please let our German PR agency know. Contact Julia Bradshaw at Text 100 GmbH (Fax: 010 49 89 982 8881).

Risc PC deliveries

We are sorry that some Developers have had to wait for their Risc PCs. We know that most of you who have ordered them have now received them. You'll be glad to hear that the situation is improving all the time although the turnaround time for a Developer order for Risc PC is not yet immediate. The main shortage has been for the top configuration Risc PC and monitor. We have been pleasantly surprised by the demand for this configuration from many of our customers.

Phased payment

Several Developers have been confused by the phased payment option for Risc PC. This option is available for Risc PC only for the purchase of one Risc PC system at the standard Developer Discount Price. It is not available for Special Offer prices. Only one Standing Order per Developer may be in operation at any one time.

Risc PC 486 Card

The Risc PC PC card is not expected to be available before early 1995. Prototypes will be in test very soon. The custom ASIC, a key component in the card, is later than originally expected because Acorn, Aleph 1 and Future Technology Developments International agreed to add additional features to it. This was to enhance the way the ASIC interfaces with IOMD.

Contacting Developer Support

When you send things to Developer Support, please ensure that they are clearly marked on the outside FAO Developer Support and not addressed to any individual. When staff change, are ill or are on holiday, items marked for an individual may be missed. If your communication includes, a technical query it would aid us in speeding up the system if you could mark the envelope with a Q in the top left hand corner.

Don't forget that if you have access to electronic mail, email is a very efficient way of sending detailed technical queries. The address for Developers' queries is ISVQuery@acorn.co.uk

Email addresses

One of the Developers has expressed a wish to be able to contact other Registered Developers by email. If you have an email address, please could you email it to us indicating whether or not you are willing for us to supply it to other Developers. If enough Developers respond, we might send a list out on the next Developers' disc.

C Conference

The promised C Conference for Developers was held in Northampton in August. Developers were provided with a disc containing the specifications for Aquarius (interim project name), Acorn's new development environment which is currently at the alpha test stage. They were also given details of how the beta release will be made available to Registered Developers in October. Any Developer who was unable to come to the meeting but would like the disc and details, please contact Developer Support and we will send them to you. A letter was sent at the end of September to all Developers known to be working in C inviting them to purchase the 'Aquarius' beta.

News from Online Media

Extracts follow from a news release issued on Friday 30 September:

"In Cambridge today, Online Media will be "switching on" what is believed to be the world's first interactive television trial to be based on ATM digital technology.

The trials are being launched by a consortium of Anglia Television, ATM Ltd, Cambridge Cable and Online Media. The consortium, set up by Cambridge Cable, is headed up by Online Media, also selected to supply the intelligent, digital set-top boxes for the trial. The technologies involved are Online Media's set-top boxes, ATM Ltd's digital ATM (Asynchronous Transfer Mode) networking technology and Cambridge Cable's fibre based cable network, which is already available to some 67,000 homes in the Cambridge region.

The technology involves linking a set-top box, which looks like a smaller version of a video recorder, to the television set in people's homes. They will then have access to a variety of services from a control centre in Cambridge. Multimedia telecommunications allows video, voice, data and other services to be mixed at will on a single telecommunications network.

The "on-demand" services on offer include movies and local news and weather from Anglia TV. Subscribers can access these as and when they wish and manipulate them -by fast forwarding, pausing and rewinding - using a remote control as if the film were playing from their own video recorder.

Educational software applications will be available through the system, from companies such as educational specialists Sherston Software and Cambridgeshire Software House. Anglia TV's CD-ROMs are also being converted to run on the system. Other services being developed for the system 2

include: interactive shopping, audio on demand, music videos, sport and banking.

Games originally used on Acorn's 32 bit RISC computers are being converted to run on the set-top box. In the future, another compelling feature will be a range of games which can be played "across the network". With a football game, for example, several homes linked to the system could be connected to the same game at the same time and would be able to play as a team against another home or groups of homes. This adds a whole new dimension of human interaction and team dynamics to the game. Fantasy adventure games based on the same concept will be an option in the future."

The Cambridge trial uses a low-cost set-top box based on Risc PC technology and is capable of running Risc PC and Archimedes software with small modifications concerning the user interface. A number of Developers are working with OnLine Media to convert their existing software for use on the set-top box. Applications being developed include a range of educational software and games for which we see great potential in the future. If you would like to progress this in relation to your own products, please contact Geoff Vincent at OnLine Media (tel: 0223 518571, fax: 0223 518520, email: gvincent@omi.co.uk). Some guidelines are available for Developers wishing to consider modifying their software to run from a set-top box. Please request Set Top Box Software Developers' Notes from Developer Support if you require the guidelines.

Risc PC Programmer's Reference Manual

The Risc PC Programmer's Reference Manual (i.e. PRM vol 5 plus Index) is due into the warehouse imminently. Until now, Developers have been able to purchase a draft copy. We would advise that you obtain the published version to ensure that your information is up-to-date. The Risc PC PRM (AC05) is listed on the October Developers' Price List.

Technical News

Ordnance Survey NTF file converter

In partnership with The Ordnance Survey, Acorn commissioned Minerva Software to code a module which could be incorporated into third party products to allow Educational establishments to convert NTH datafiles to RISC OS format. If you wish to make use of the module in your own Educational software, we can license it to you. Please send a formal request. The fee is £100 plus VAT.

Risc PC Technical Reference Manual

Risc PC Technical Reference Manual (ACJ12) is about to be sent for printing. Copies are expected in the warehouse available for sale in late QTR 4. The TRM includes Issue 5 of the Expansion Card Specification. For pricing, see the October Developers' price list.

AiEC addresses

Marty of you will have recently received a letter from Acorn's Education Unit asking about provision of evaluation copies of your products to Acorn in Education Centres. We would urge you to respond. If anyone who has not received that letter would like a list of AiECs' addresses and contact names, please contact Developer Support for a copy.

Special scheme for Acorn 'Enthusiasts'

In response to the enormous amount of interest in Acorn and its technology shown by enthusiastic end-users, Acorn recently announced the Acorn Enthusiasts' scheme/club.

The club (name to be announced) is for people who take pleasure in using Acorn computers and is run by Acorn Computers Ltd, bringing the people who use Acorn computers together with the people who make Acorn computers.

Members of the club will receive early information about projects and technologies which Acorn is working on or investigating, opportunities to obtain early releases and beta-releases of products to be launched, some discounts on current products and a chance to give feedback to Acorn to change or affect the products Acorn is developing.

New members will receive a pack containing information about Acorn's current thoughts and developments together with exclusive club mementos. Over the course of a year, four newsletters will be sent out to members with news and information from Acorn and Acorn's software and hardware community.

Please note, however, that owing to copyright restrictions, the module may only be used in Educational software for the UK and not in software for other purposes unless a higher licence fee is paid.

Expansion Card Specification, Issue 5

The Expansion Card Specification, Issue 5 which is included in the Risc PC Technical Reference Manual is now released. Copies have been ordered for Developers and will be sent in QTR 4 to those of you known to be

hardware Developers. The new spec includes information previously provided to you in the Extended Expansion Card Interface Functional Specification (Issue B) and the Expansion Card Software Functional Specification (Issue 0).

New Allocation request application

Developers' Disc 35 contains a brand new allocation requesting application called ! Allocate. The new application combines all the functionality of !Alloc, ! Request and !Reserve into one application. The main benefits of the new application are as follows:

- o One application serves all allocation needs
- o Requests are made by the saving of a single data file rather than returning the complete application
- o Can generate an email request by the saving of a uuencoded data file
- o Standard user interface for all different allocation types
- o On-line help for each allocation type
- o Each item requested is displayed in a list

This application should be used for all future allocation requests rather than the old, separate applications. See Developer Disc 35 for more information.

MPEG for Risc PC

Wild Vision, in association with Acorn, Computer Concepts and Anglia Television, are about to release a new MPEG decompression capability for the RISC PC. This will bring full screen full motion video, CD quality audio and Dolby Surround Sound to the Acorn platform - and, because MPEG is fully integrated into the Replay architecture, existing applications which understand Replay can display television quality video and audio with no additional programming required.

Anglia TV is already preparing dual format multimedia CD-ROMs which contain both Replay software video and MPEG video materials. The selection of which type of video to play will be made by the application, and will be dependent upon the availability of an MPEG board in the user's computer system.

CDFS corruption

There is a known bug in CDFS which affects some operations (e.g. OS_GBPB 11) which catalogue CD-ROM discs and request full details of the specified files (e.g. Date Stamp/Time Stamp). When such calls are issued, a corruption of up to 20 bytes may occur beyond the end of the user specified buffer. One detour for this problem is to create, but not use, a dummy 20 byte buffer immediately after the user specified buffer.

This bug was identified in release 2.13, but may also occur in earlier CDFS releases.

Using ImageFS with foreign filetypes

When using ImageFS, foreign bitmap files such as TIFFs become disc images i.e. their object type (as returned by OS_File) changes from being type 1 to type 3. This can cause problems with certain conversion applications that check for an object type 1 (file) rather than type 3 (directory/file).

Another potential problem with this is when using OS_File 20, 21, 22 and 23. With disc images these return the filetype as &1000 (directory) and not the disc image's filetype. A workaround for this is to use OS_File 17 and OS_FSControl:

```
SYS"OS_File",17,<filename> TO ,,r2,r3,r4,r5
```

```
and then call SYS"OS_FSControl",38,  
<filename>,r2,r3,r4,r5,1 TO ,,r2
```

This call uses the load/exec addresses to calculate the correct object filetype returned in r2. In assembler, r1 can be re-used across the calls as it is preserved by OS_Hile.

Very few applications fall over regarding this but it is worth remembering it for any future applications you develop.

Wimpslots under RISC OS 3.50

When using certain applications on a Risc PC, the Wimpslot can get rather large (i.e 10Mb+). When wimpslots of this size are used, the Desktop can slow down. This only happens when the owner of the large wimpslot is not masking the NULL event in the polling loop. The slowing down of the Desktop can be linked with the need for re-programming the memory pages between polls. This can cause frustration when using something like a Desktop Publisher as professional publishing houses regularly use files of up to 20Mb. Also it is wise not to use application workspace for documents of this size because of the limit of 28Mb.

The recommendations therefore are:

* Use dynamic memory areas for document data. This will overcome the memory paging problem and also the 28Mb limit on application workspace.

* Encourage programmers to mask NULL events and any other events that are not being used in the polling loop. This will speed up the Desktop when large applications are running.

Using path variables

If you have set up a path variable like the following:

```
Set MyHiles$Path adfs::4.$myfiles.
```

and you then issue a Filer_OpenDir command like that below:

*Filer_OpenDir MyFiles:

you will be able to access all the files but an error will be generated if you try and move or delete any of them. The error is generated because a path can contain multiple elements.

Problems with PDriver EnumerateDrivers

This SWI has some problems and you should not rely on the results that it returns. The validity of the results it returns vary depending on what drivers are loaded and incorrect results ("junk" values) can be returned under certain circumstances.

Colour Picker documentation

Developers' Disc 33/34 contained a RISC OS 3.10 version of the Colour Picker module (the same *as the* one in RISC OS 3.5). The documentation that was supplied on the disc was incorrect and did not cover the details required to implement it in an application. The correct documentation can be found on Developers' Disc 35.

The Font Manager and Justified Text

When you are painting fonts from right to left, the Font Manager can become confused about the spacing and the string will come out appearing squashed (i.e. not nicely spaced as would be expected). If you are painting using the Font Manager from right to left, then you should take this into account. An obvious workaround for this would be to calculate the length of the string you are writing using Font StringWidth (SWI &40085) and then plot the string forwards from the original position minus the string width. This will then plot using the correct spacing.

Slabbed icons and anti-aliased fonts

Under RISC OS 3.5 if you have a slabbed icon with a validation string of either R6 or R5 (which causes the icon to slab in when clicked on) AND the icon *is* set to have an anti-aliased font (not using the current system font but a specific font set in its template), then the deskop will go back to the standard system font when the icon *is* clicked. Hence, you should avoid using anti-aliased text in your icons so that the user's chosen system font is used.

Registers and Calling SWIs

The Programmer's Reference Manuals (both RISC OS 2 and RISC OS 3 versions) state that registers R0-R9 are available when calling SWIs. This is not true as RISC OS has always placed the SWI chunk number in R9. Hence, only registers R0-R8 are available when calling SWIs.

Handling Quit requests from the Task Manager

All applications should avoid routinely generating a CTRL/Shift/F12 keypress whenever they receive a quit request to which they object because the user has unsaved data. Doing this out of turn can cause the entire desktop to shut down!

The correct behaviour is documented in the RISC OS 3 PRM in the section 'Restarting the desktop closedown sequence' on page 3-232.

Application notes

Listed below you will find titles of Application Notes which we have selected as relevant to Developers. If you require copies of any of these, please fax or email Developer Support listing those you require. These requests will normally be given a lower priority so if you have an urgent need for one of the Application Notes, please make this clear when sending your request.

- 201 Scrap Files - the use of !Scrap and ScrapFile storage
- 202 Writing Games for RISC OS
- 205 Writing Applications for the Acorn A4
- 206 Acorn Replay - Implementation Details
- 207 Acorn Replay - Rules for Use
- 211 Error Messages Made Easy
- 220 Printers Supported by RISC OS 3 printer drivers
- 222 Fonts - a shared resource for RISC OS 2 and RISC OS 3
- 226 VIDC Screen Mode parameters information
- 228 Purchase and installation of a simple AUN network.
- 229 TCP IP - Socket Level Interface
- 234 Peripheral Interfacing via the Serial Port
- 240 The RISC OS Selection Model and Clipboard
- 241 The RISC OS Drag-and-Drop System
- 244 Disabling relocatable modules and other resources in RISC OS.
- 246 Pocket Book Hints and Tips
- 249 Connection of Monitors to Acorn Computers
- 251 Risc PC boot sequences: Their use in a hard disc or network environment.
- 253 New features of RISC OS 3 Version 3.5
- 254 Risc PC monitor definition files explained
- 258 Downloading software from Acorn's FTP Server
- 259 Choosing SIMMS for use with the Risc PC
- 260 Risc PC Technical Questions and Answers
- 261 Using the TCP/IP Protocol Suite (Release 2) and AUN on the same network.
- 262 Risc PC Screen Resolutions and Colour Combinations
- 263 Customising the Risc PC boot sequence
- 266 Developing CD-ROM products for Acorn machines

Developers' Disc 35

The disc contains the following:

Allocation

!Allocate which is an application for requesting allocation of filetypes, SWIs, error blocks, module IDs etc. The !Readme file describes the allocation application and its use.

Developers' Newsletters 25-34 Contents list

Colour Picker documentation - as mentioned earlier in the Newsletter.

Drawfile

which contains an updated version Drawfile module supplied to Developers with Newsletter 31.

UpgrDisc2

Some items from the RISC OS Upgrade Disc 2 which was mailed to Dealers with Customer Services News, Issue 23.

!Alarm v 2.61 which is an upgrade to !Alarm with RISC OS 3.1.

T1toFont v 1.26 which is an upgrade to the T1ToFont

application supplied on RISC OS 3.1 applications disc. The Readme file in the UpgrDisc2 directory gives details the conditions under which !Alarm and T1ToFont are supplied to Registered Developers which are as follows:

!Alarm v 2.61 and !T1ToFont v 1.26 are supplied to Developers for their own internal use. We would ask you not to distribute them. We wish customers to receive the entire disc which they can obtain from their Dealer. The RISC OS 3 Upgrade Discs have been supplied to Dealers with Customer Services News.

RISC OS 3 Upgrade Disc 1

Upgrade Disc 1 contains !Printers v 1.24 which updates !Printers 1.22 sent to you with Developers' Newsletter No 32. Customers can obtain the RISC OS Upgrade Discs 1 and 2 from Acorn Dealers. We therefore felt it would be useful to Registered Developers to have a copy of the latest printer drivers for testing and support purposes.

Enclosures:

Developers' Discount Price List October 1994

Pocket Book II Special Offer Order Form and Agreement

Risc PC600 CD Special Offer Order Form and Agreement

Developers' Disc 35

RISC OS 3 Upgrade Disc

PocketBook II leaflets

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