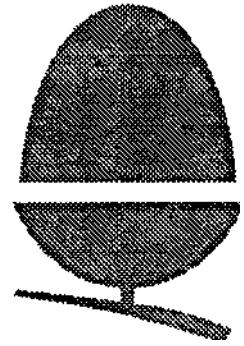# Developers' Newsletter No.20

October 1990

General news

• Archimedes 540 System

A brochure is enclosed describing the new Archimedes 540 System which was launched at the Acorn User Show in September.

In brief, an Archimedes 540 system has 4MB of RAM as standard, upgradable to 16MB. A SCSI controller, 100MB hard disc, ARM 3, MEMC1A and RISC OS 2.01 are fitted as standard. Please see Technical Information below for details of the minor module changes made in 2.01 to allow more than 4MB of RAM to be addressed.

This new addition to the Archimedes range of computers is proving very popular. Please be aware that there is currently a leadtime of at least a month for orders now being received, so, if you wish to purchase this new machine, orders must be placed early. Cheques will not be banked until we can fulfil orders.

• New Developers' Price List

The Developers' Discount Price List, October 1990 is enclosed for those organisations qualifying for Developers' discounts. Please use this list with immediate effect and discard any previous ones.

This new (October 1990) price list not only includes the price for the Archimedes 540 system described above but also, for the first time, UNIX workstations are included. Note also the reduced prices for the Archimedes 420/1 and 440/1 computers making them even more competitively priced against other RISC-based systems.

In summary, there are price reductions for Archimedes 420/1 and 440/1 systems and additions to the list include UNIX Workstations, Ethernet cards and the new Archimedes 540 system.

Please note that the Support Charge for UNIX Workstations can neither be discounted nor waived.

• RISC OS Style Guide

The RISC OS Style Guide is in the final stages of preparation. The anticipated publication date is December and the Guide will be provided to Developers as described below.

The Guide explains the standards of "look and feel" to which RISC OS compliant applications should be written; what they MUST do to conform as well as what they SHOULD do.

• Support for Developers

In order to receive direct support from Acorn, all Developers (ISVs, IHVs and VARs) must be registered with the ISV Department. A Registration Questionnaire is provided by Acorn upon request. This seeks to determine whether the Developer's product plans are complementary to Acorn's marketing aims.

Support resources are finite and Acorn reserves the right to reject applications for support where they do not meet the appropriate criteria.

Acorn assigns a high priority to the support of Registered Developers. From 1 January 1991, a new scheme for the support of registered Developers will be introduced. Details are provided on the enclosed leaflet. One of the significant changes is the introduction of a subscription. The subscription revenue will enable the developer support programme to expand and progress. Of immediate benefit is the RISC OS Style Guide which will be provided, free-of-charge, to all registered Acorn Developers following payment of their subscription.

As described in the leaflet, further to the basic registration, Acorn intends to form a group of developers who, by their significant commitment to the Acorn market, will be eligible for significant additional benefits.

All currently registered developers (ISVs, IHVs and VARs) will be given the opportunity to become Acorn Registered Developers at the outset - from 1 January 1991. We hope that you will agree that the benefits are valuable and that you will wish to register. If you decide not to take that route, perhaps because you no longer need direct support in developing your products, may we take this opportunity to wish you well with your business in the future. You will be welcome to reapply should circumstances warrant it.

As mentioned in previous newsletters, Acorn will issue Registration Numbers to Developers. As part of this exercise, please would those of you who have not previously, or recently (i.e. in the last 18 months),

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completed a Registration Questionnaire fill one in (a copy is enclosed) to ensure that our records are up-to-date? The Registration Number should, once assigned, be included in all communications with the ISV Department.

• Response to queries

The more formal support mechanism described above should help us to improve, still further, the response time to technical queries, enabling calls from non-registered people and organisations to be redirected to the appropriate department.

It has been noticed, in recent months, that some of you have been drawing on Acorn's Developer support resource for information already provided in newletters. This adversely affects the time available to respond to technical enquiries.

Please ensure that you keep on file copies of newsletters and their enclosures as well as the most recent Developers' Discount Price List.

• New 6502 Emulator

An enhanced version of 65Host, renamed the BBC Model B Emulator, has been developed and is now available via fulfilment. End users may purchase the new emulator with on-disc documentation. For Developers, as a special offer, a printed manual is supplied with the disc at the same price (£17 exc VAT plus p & p).

If you require a copy of the enhanced emulator, please send to the ISV Department, at the above address, an SAE and a note requesting a Developer's Voucher for the BBC Model B Emulator. The voucher will give details of price, to whom the payment should be made and the address to which the order should be sent.

The BBC Model B Emulator User Guide contains information on a variety of topics including the following: how to get a 6502 program running under RISC OS; how to make a RISC OS application from a 6502-based program; technical information about the emulators provided; legal, moral and support issues; detailed technical information about the emulators. The disc has, in addition to the emulators 65Host and 65Tube, a number of utilities and examples as well as documentation including the manual in electronic form.

Please note that binary distribution agreements for previous versions of 65Host do not apply to the distribution of this new version. If you require a licence to distribute the BBC Model B Emulator v 1.60 with your products you should apply formally for a licence to do so. The cost of such a licence is £250.00 exc VAT.

It is expected that this later version of the emulator will satisfy most of the outstanding needs highlighted by end-users and Developers; further development is unlikely.

• Released Acorn modules

Following on from the mention in the August 1990 newsletter of stolen software, a list of released Acorn modules has been compiled; a copy of the list is enclosed.

In addition to the list, Developers may have copies of the various utilities listed with the August newsletter and other items may be provided by this department to Developers to answer specific queries.

Possession of any of the modules, utilities or other Acorn code does not imply permission to distribute it unless this has been agreed with Acorn's Legal Department under the terms of a binary distribution licence.

If you have received, from whatever source, any software not covered by the above, please be aware that it may mislead you as to Acorn's future intentions and that it may have been illicitly obtained. Please destroy it. If in doubt, do contact us for advice.

International news

• Approvals

Acorn has recently received approvals in Germany confirming that the new "International A3000" *meets* the European CENELEC specifications EN 55022 for EME and EN60950 for electrical safety. This is good news *as* it will help our future expansion into other European countries.

• Germany

Three distributors have been established in Germany: Cebas in Heidelberg, Anagramm Systems in Wessling and GMA in Hamburg. The distributors report difficulty in obtaining pricing information from UK software houses. Please remember, when setting your prices, that these are distributors, not dealers, and will therefore require distributor discounts in order to be able to pass your products on to dealers at a price which enables the dealers to sell at a reasonable profit.

Acorn computers and their software and hardware add-ons are new to the German market. There is, therefore, an element of need to 'buy' into the market with realistic pricing. There is big opportunity there, particularly among the `technofreaks'. The names that are first in the market are likely to be those which later become the established and respected ones.

Although English language versions of your products may be acceptable to a narrow subsection of the market, a German language version would be considered essential for broader market acceptance. Contact Richard Sumner at Acorn (Fulbourn Road office Tel: 0223 245200) for advice on this.

• Canada

At the instigation of Olivetti Office, Acorn's importer in Canada, a few software suppliers (selected by Olivetti as relevant to the schools at this early stage in their awareness of Archimedes software) will visit Toronto at the end of October for a static `roadshow'. The idea is to show the teachers and educational decision makers that there really are people in the UK producing creative educational software.

It is likely that, in the future, further events in Canada may arise. In May 1991, for instance, the Educational Computing Organisation of Ontario is holding an International Conference entitled 'Education, Technology and Society, Emerging Partnerships'. It is possible that some developers may be asked if they are interested in attending. So, when preparing your 1991 budgets, you may wish to allocate at least some for possible overseas travel.

Marketing News

Consumer awareness of Acorn equipment has been raised by recent advertising campaigns and special packages. As more computers are sold, so will more software and peripherals be sold. The information below will provide you with details of such activities.

• Jet Set from ZCL

Jet Set is a new BBC A3000 package sold exclusively through independent retailers. The software selected by ZCL to be supplied in the Jet Set package is Interdictor from Clares Micro Supplies, Trivial Pursuit from Domark, Superior Golf from Superior Software and Euclid from Ace Computing. A TV adaptor is supplied with every pack. Jet Set retails at £749.99 inc VAT.

• BBC A3000 by mail order

Information about the Learning Curve package has gone into thousands of homes during the autumn. The Learning Curve features in the Christmas supplements to mail order catalogues in the Great Universal Stores group.

• Archimedes Learning Curve

Following the success of the Learning Curve based on the BBC A3000, Acorn has responded to market demand and put together a package based around a hard disc machine. The package comprises:

> Archimedes 420/1
> 1st Word Plus
> Acorn DTP
> PC Emulator (DR DOS)
> Genesis (from Software Solutions)

The RRP for the Archimedes Learning Curve is £1299 excluding VAT. This is an 'end-user' offer and therefore not eligible for Developer Discounts.

• SCSI cards

As a result of a proliferation of technical enquiries on the subject, we have become aware that several companies are designing SCSI cards. Please bear in mind that SCSI is a developing standard and compatibility issues between peripherals are complex. We would advise careful analysis of these issues before offering the market yet another SCSI expansion card.

• A New Fileserver From Acorn

A new fileserver, which was demonstrated at the Econet conference in June, is under development at Acorn *as a* joint venture with Software Solutions. It is preliminarily called the Level 4 Fileserver.

The new fileserver runs on any Archimedes computer that has at least 1MByte of memory and appropriate disc storage. It may be run as a desktop application, or in a standalone mode for maximum performance and security, and provides users with file access and mail facilities over Econet.

The fileserver can transfer files from any standard media type, including Winchester or floppy disc, SCSI or ADFS, CD ROM (Compact Disc with CDFS), or use the Internet Protocols to communicate to a remote host via Econet or Ethernet and NFS. Activity monitoring is included to improve the quality of information the System Manager requires.

Compatible with existing Acorn fileservers, the Level 4 Fileserver offers the advantages of RISC performance, flexibility and economy, allowing the server to double up as a user machine on lightly loaded networks and encouraging the sharing of data between work groups.

Also included in this software-only product is an advanced Printer Spooler which can support multiple printers and RISC OS Management software that vastly simplifies the task of setting up and day to day administration of the server by using the friendly desktop.

Currently in the final stages of development, this product will shortly enter rigorous testing at a number of chosen trial sites. It is expected to be available in the New Year.

• Broadcast Loader From Acorn

Classrooms can provide one of the severest tests of a network when all pupils need to download the same application at the start of a lesson; they can cause network loading far in excess of the levels conceived of by the network industry, and it often results in frustrating delays.

To go a long way in alleviating this problem, Acorn is developing an Archimedes Broadcast Loader program. Designed by Digital Services Ltd, this elegant software module is transparent to the user and enables the broadcast of files that are required by several users.

Independent of fileserver type, the module is loaded to all

client users and utilises a new broadcast packet type to ensure that multiple requesters of a file are all loaded simultaneously.

Although BBC and Master 128 machines may not participate in broadcast transmissions, they may co-exist on the same network as Archimedes computers. Currently in the final stages of development, this product will shortly enter rigorous testing at a number of chosen trial sites before its release at the end of this year.

A modification is required to the Econet Bridge ROM to ensure compatibility with this new advance in network functionality. This will be made available from Acorn *as a* part of the package.

- **Printer drivers**

Acorn is about to release a new set of printer drivers - relase 2 - enhanced versions of the original release.

Printing files graphically (e.g. from !Draw and !DTP) occurs in the same way as under the original release of the printer drivers. Release 2 of the printer drivers mainly improves the text printing facilities. This is because it provides a special " fancy" text file format which allows underlining, subscript, superscript, bold, light and so on. The printer driver also lets you put a title on each page and/or number the lines, when printing "fancy" text. As standard, a simple text file will come out as "fancy" text, but the special features can be turned off and so you get the same sort of output as with the original printer drivers. Some further details are provided in the Technical Information section below.

- **Consumer Business Unit**

Over the past year, the Consumer Business Unit has been trying to develop a stronger relationship with various computer magazines that address the consumer market, in order to increase the awareness of Acorn in the market. Several of the magazines are happy to expand their Acorn coverage but need more information about new and existing products.

Do send information about your existing products, if you have not already done so, and news about new products to some (or all) of the following publications:

CTW - Computer Trade Weekly magazine -

Address: CTW, Specialist Retail Press Ltd, Business & Technology Centre, Bessemer Drive, Stevenage, Herts, SG1 2DX (Tel: 0438 310184 Fax: 0438 741247)

Contact: Stuart Dinsey - Editor

CTW have a weekly, paid-entry section for new releases called The Release Schedule. They also have editorial on anything that is of trade interest.

New Computer Express -

Address: New Computer Express, Future Publishing Ltd,

30 Monmouth Street, Bath, BA1 2BW (Tel: 0225 442244 Fax: 0225 446019)

Contact: Andy Storer - Editor

N.C.E. have a quarter page on Archimedes each week, but are potentially able to expand this to a page, so please fax information to them whenever possible.

Micro User -

Address: Database Publications Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP (Tel: 0625 878888 Fax: 0625 879966)

Contact: Steve Turnbull

BBC Acorn User Magazine -

Address: Redwood Publishing, 20-26 Brunswick Place, London N1 6DJ (Tel: 071 490 1444)

Contact: Barry Monk

A & B Computing-

Address: A&B Computing, Argus House, Boundary Way, Hemel Hempstead, Herts, HP2 7ST (Tel: 0442 66551 Fax: 0442 66998)

Contact: Peter Fitzpatrick

Computer Shopper -

Address: Dennis Publishing Ltd, 14 Rathbone Place, London, W1P 1DE (Tel: 071 631 1433 Fax: 071 636 5668)

Contact: Diana Charlton

If you have any comments or questions regarding Consumer marketing at Acorn, please write for the attention of Adrian Critchlow at Acorn Computers, Fulbourn Road, Cherry Hinton, Cambridge, CB1 4JN

- **Education Business Unit**

The Acorn Village at the BETT Show.

As many of you will know, there will be an Acorn Village at the BETT (British Education and Training Technology) Show which is to be held at the Barbican in London in January 1991. This annual exhibition is the principal computer show in the year for teachers and others involved in education.

As a focus attraction for the 'village', Acorn is organising the creation of a CD ROM actually at the Show. This is intended to paint a picture of the use of computers in schools, providing a fascinating insight into what children are currently doing with computers and software.

This insert in the Newsletter is to give you advance warning. Roger Broadie from the Education Business Unit will shortly be writing to those organisations exhibiting Acorn software or related hardware at the BETT show, including those in the main body of the show *as well as*

those in the Village. The letter will provide details of space on the CD ROM which can be made available to software houses for them to promote their products. The Education Business Unit is interested in including versions of programs for evaluation (disabled so they will not save or print), rolling demos and example files created by children or others.

They are also collecting examples submitted by schools, and there is an opportunity for developers to be part of the process of selecting which examples, produced with their programs, will be included on the disc. Details of this will also be in Roger's letter.

If you have any queries about BETT and the CD ROM to be made there, you should contact Linda Storr at Acorn's Fulbourn Road Office (Tel: 0223 245200).

Scottish Schools Equipment Research Centre

Would your software be any use to teachers of technology or science in Scotland?

The Scottish Schools Equipment Research Centre advises Scottish secondary schools on the design and purchase of equipment for use in technological studies and the sciences, and provides training in its use.

A major area of this work today is in the use of computers for design, control, and data logging and analysis. The selection and use of computers and associated equipment cannot be divorced from the selection and use of the associated software. SSERC are therefore interested in evaluating any software which might be of interest to secondary technology or science teachers.

It is clearly in the interests of vendors of worthwhile software that SSERC are able to give accurate information to potential purchasers, and SSERC would be grateful for evaluation copies of any relevant software. They cannot undertake to produce a formal evaluation of everything they are sent; if you require one this must be negotiated beforehand.

Evaluation involves examining and reporting on software. Formal evaluation is done against an educational specification and a consistent test procedure drawn up by Centre staff.

Once a test report has been compiled, a draft version is sent to the supplier or author for comment. After any comments have been taken into account, a final version is produced. Copies of these final reports are made available to the Centre's clients and, from time to time, summaries of tests on several related applications may be published in the SSERC Bulletin. These describe test results and salient features of the test methods and are the basis of buyers' guides.

For further information contact Scottish Schools Equipment Research Centre, 24 Bernard Terrace, Edinburgh, EH8 9NX (Tel: 031 668 4421).

Technical information

• RISC OS 2.01 new modules

Minor modifications have been made to some RISC OS 2.00 modules in order to cater for the larger memory of R260 and Archimedes 540 workstations and for the VGA and SuperVGA modes available using those machines. The modified modules are *as* follows:

MOS Utilities	2.01
FileSwitch	1.67
Desktop	2.07
System Devices	1.14
FileCore	2.04
ADFS	2.05
Econet	5.44
NetFS	5.53
NetPrint	5.31
SoundDMA	1.16
SoundChannels	1.20
SoundScheduler	1.13
Obey	0.13
Window Manager	2.05
Task Manager	0.24
Podule Manager	1.09
IRQ Utils	2.50
Window Utils	2.50
ARM3 Support	1.03

• New Podule Specification

An updated version of the podule (or expansion card) specification for the Archimedes range of computers has been prepared. This document contains only minor modifications; for instance, it clarifies details such as Eurocard measurements and includes mechanical drawings.

If you require a copy of the above documents, please send in your request, preferably on a separate sheet since it will be filed until we can supply the spec and we do not wish to overlook other matters. The new Podule spec. will be sent as soon as it is printed.

• Concept Keyboards

A filetype (&CA7 "Concept") and SWI chunk have been allocated to the Concept Keyboard Company. The internal data structure of the filetype is under discussion with NCET and others and is intended to cover all Concept Keyboard overlay files. Likewise, the SWIs used in common by Concept Keyboard applications will be defined. Further information will be provided as it becomes available.

• Additional guidelines for software writers

Direct memory addressing

Programs must not call routines at particular addresses in the system ROM, since the position and/or existence of

such routines is likely to change in future versions of the operating system. All communication with the operating system should be by means of SWI calls.

Window handles

Application writers should not assume the range of handles returned by the system. In particular, future releases of the window manager may return window handles outside the current range.

• Fileswitch and the filing systems

As part of the RISC OS development we are proposing to rationalise the interface between FileSwitch and the filing systems. This will involve FileSwitch doing more of the work for the filing systems, and the filing systems having to support fewer of the FileSwitchfiling system interfaces. This note is to test the waters to see whether any of the proposed changes are going to cause you any problems. So, if you can foresee a problem, or if you can see that the changes are going to stop your favourite filing system working, then please get in contact with us so we can take your views into consideration. Here are the proposed changes:

In general, FileSwitch will have much more control over the absolute directories ($, @, %, & and \), and will perform all of the catalogue/examine/fileinfo functions. All file paths will be passed through to the filing system with wildcards converted to unwildcarded names (where possible), the paths expanded back to $, % or & as appropriate and ^s sorted out. Normal filing systems will have their paths expanded back to $ always, and only filing systems which support FSEntry_Func 18 (set directory contexts) will have their paths expanded back to % or &. So, a filing system will have less work to do to work out what file the given path is refering to.

Other FSEntries won't be used *as* their functionality can be simulated using other FSEntries (eg load and save file). And still other FSEntries (catalogue current/library directory, examine same, info and fileinfo) are being replaced so that there is consistency between the filing systems about how these are presented.

FSEntry_Open:

> Create and open for update will no longer need to be supported. This will be replaced by FileSwitch doing a create then an openup.

FSEntry_File:

> Save file. This will no longer be used, instead a create, openup, multiple-putbytes and close sequence will be used.

> Write load address, Write execute address, Write attributes. These will be replaced by FileSwitch reading the file's information, updating it, then writing it back using Write catalogue information.

Read catalogue information (no length). This will no longer be used as no external interface to FileSwitch provided access to this call.

> Load file. This will be replaced by an openin, multiple-getbytes, close sequence.

FSEntry_Func:

> Set current directory and set library directory will no longer be used. These directories will be managed by FileSwitch.

> All directory catalogues will be performed by FileSwitch. All directory examines will be performed by FileSwitch.

> Examine objects will be done by FileSwitch.

> Access objects will no longer be used - multiple FSEntry_File is (write catalogue information) will be used instead.

> Read current directory name and privilege byte will no longer be used.

> Read library directory name and privilege byte will no longer be used.

> Set directory contexts will no longer be used.

> Output full information on object(s) will no longer be used.

• Advance warning for RISC OS application writers

At the moment, applications are expected to pass 200 in R0 when calling Wimp_Initialise. They should continue to do so for for RISC OS 2.00 and for RISC OS 2.01 (version 2.05 of the Wimp - see list of new modules above) as supplied with R260 workstations and Archimedes 540 computers. Future releases if the Wimp will use this version number to filter out events and flags which the application does not know about.

The final release of the wimp for future versions of RISC OS will only support applications which specify the version they know about *as* 200 or the release version.

The wimp will give an error and the application will fail to initialise if the version number is not specified as described above.

• The new printer drivers (v 2.44)

Some information follows which may be of use to you in planning your applications' use of the new set of Acorn printer drivers.

Filetypes and the printer drivers

The way in which a file is printed depends upon its type:

File type: **Printed as:**
Command (&FFE) "plain" text - as under original printer drivers
Obey   (&FEB) "plain" text - as under original printer drivers
Text   (&FFF) **"fancy" text - line numbering, titling, highlights etc.**
Printout (&FF4) (not PrinterPS) all bytes sent straight to the printer
PoScript (&FF5) (PrinterPS only) all bytes sent straight to the printer

For anything else, the application checks if other applications know how to print the file. If this fails, it checks with the user whether to print the file, giving him the choice of printing it as "plain" text, "fancy" text, or not at all. This is so that 1st Word Plus files, for instance, can be printed as "fancy" text. The "fancy" text file format is mainly the same as the 1st Word Plus file format, and so most of the highlighting is printed correctly by release 2 of the printer drivers. This means you don't have to load 1st Word Plus to print out your 1st Word Plus files (although there are some restrictions, described below, including headers, footers and graphics). Note that if you have already 'seen' 1st Word Plus then it will automatically be loaded when you try to print.

You can override the application's treatment of a particular type file by setting system variables of the form Alias$@PrintType_xxx, where xxx is the appropriate type. If the variable exists, then the application performs *@PrintType_xxx <filename> before doing anything else. It then checks for the existence of <Printer$Temp>. If this exists then it is printed (using plain, fancy or literal printing, depending upon the type of this file). You can therefore print via a print utility program by using:

*Set Alias$@PrintType_xxx *PrintUtil %0 -to <Printer$Temp>

The !Boot files of !Draw and !Paint demonstrate some examples of this.

Control codes

This alters the way in which control characters in "fancy" text files are handled.

Graphics page size information

Page size and margins supplied here must reflect the actual printable area of the page, and cannot be used to alter the format of text printed as a result of dragging text files onto the printer icon.

Text page size information

This information is very printer specific; it specifies how many lines should be left at the top and bottom of each page, and how many columns should be used for the left and right margins.

NFS printing

There is a new option on the printer drivers in additions to Serial, Parallel, Econet and File. This is for NFS printing, for use with the TCP/IP suite available from Acorn.

Multiple file printing

If a file is dragged from a directory viewer on to the printer icon while the printer is printing or paused, then the file is added to the end of a queue of files.

Fancy text

The standard control sequences recognised in "fancy" text files are a subset of those used by 1st Word Plus.

Plain text

Control characters (other than end-of-line) in files printed as "plain" text are sent literally to the printer.

`Fancy text' file format

The 'fancy' text file format is fairly simple. It consists of plain text, with added special sequences.

The 'PrData' file

This file contains printer configuration information. It is read when the application starts, and updated by the " Save choices" menu item. Included in the file are the printer-specific control sequences used to print "fancy" text features.

Fuller technical information about the Printer Drivers, including the 'fancy text' file format will be included in the Readme file on the disc containing the Printer Drivers when they are formally released.

Enclosures

Archimedes 540 brochure
Developer's Registration Questionnaire
Developers' Scheme leaflet
October 1990 Developers' Discount Price List
List of released Acorn modules

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