

Developers' Newsletter

No 29

August 1993

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Acorn 

General News

Acorn House

In August, Acorn's personnel from its two biggest Cambridge offices will move to a new, single site in Cambridge. Acorn House is an airy-looking, modern block in an attractive purpose-built, business setting, not far from the A45 north of Cambridge. With most staff on one site (the Warehouse and Training Centre stay where they are), it should become rather easier for Developer Support to find the person who possesses that vital piece of information that a Developer needs.

The new address will be:

Acorn Computers Ltd
Acorn House
Vision Park
Histon
CAMBRIDGE
CB4 4AE

Telephone and fax numbers for Developer Support will remain as now (Tel: 0223 254248 Fax: 0223 254264).

In order to effect the move, Acorn will be virtually incommunicado between 13 and 18 August inclusive. We will make every effort to reduce to a minimum inconvenience to Developers.

Telephones

When you call in to Developer Support or some other Acorn Direct Dial numbers, you may be answered by Acorn's recently-installed, voice-messaging equipment. The VMX 100 system is attached to the Acorn PABX and will be phased in during the Autumn to cover a wider range of tasks including the management of customers who call on the main Acorn number. The system has many benefits but, in particular, it enables messages left by callers to be retrieved easily from the local telephone extension and also remotely. We are already finding it provides more flexibility than the previous answering machine. Please bear with us, particularly around the time of the company move in August, if the system isn't perfect at its current beta testing stage!

Sending discs to Developer Support

When you send discs in to Developer Support, we would be grateful if you would please ensure that they are well padded so they do not become damaged in the post. We have had to return many discs recently owing to postal damage. If a disc does arrive damaged it slows down our response rate to you. Please also ensure that the disc is labelled with your company name and some identification of the content.

Serial Port Leads

As some of you may be aware, the subject of lead connections to Serial Ports can provoke never-ending discussion with the user left bewildered by how non-

standard this supposed standard is. In addition to this confusion that the whole industry suffers, the Archimedes range has encountered its own difficulties due, in particular, to the earlier use of the 6551 comms chip. This chip was found to have various deficiencies, some, but not all, of which were fixed in later mask versions of the chip. Although the PC/AT serial port connector standard was chosen for the Archimedes range, the 6551 chip required some different lead connections than those found in the PC clone industry. Software application writers have sometimes referred to and assumed the use of these Archimedes-specific leads that were essential for early machines. Since the introduction of the A5000, Acorn has used PC clone industry chips which support the Serial Port. The use of these industry-standard chips enables customers, in most cases, to use standard 'PC' Serial leads.

It is imperative that application writers base their new products or product updates around the industry standard approach to lead connections for popular devices. It may be necessary to refer to lead or configuration variants for 6551 chip users, but these should be regarded as exceptions rather than the rule. If you need further guidance on this subject, please contact Developer Support. In general, any device and associated lead that functions with an MS-DOS application and a 9-pin serial port connector on a PC clone should work unchanged with a RISC OS application on an A5000 or later machine.

CDFS 2.14 patch module

Version 2.14 of the CDFS module overcomes a problem found in Version 2.13 when reading 'High Sierra' format CD ROMs. It is required if:

- You already have CDFS version 2.13 either as part of the Acorn SCSI/CDFS ROM Part No. 0273,280-02 or on the Cumana SCSI Cards supplied by Acorn under Sales Codes CAO06 and CAO08.

AND

- You need to use 'High Sierra' format CD-ROMs.

Version 2.14 of the CDFS module is NOT required if:

- You are using CDFS version 2.10 (as part of the Acorn SCSI/CDFS ROM Part No. 0273,280-01 or other, third-party SCSI card ROMs).

OR

- You do NOT need to use 'High Sierra' format CD-ROMs.

To check the version of CDFS that you currently have installed, enter the command line (press f12) and type:

*Help Modules <return>

Towards the end of the list you will find an entry similar to:

CDFS 2.13 (23 Nov 1992)

CDFS 2.14 module can be supplied to Developers on request.

An apology

The note in Newsletter 28 about fax and email was

incorrectly credited to Computer Concepts. It should have read Lionel Haines, the programmer of !Email. We offer our apologies to Lionel.

Requirements for becoming a CDR beta tester

Acorn has been working on a CD Recordable application which is now in beta test state.

The requirements for organisations which want to act as Beta test sites for the Acorn CD Recordable application are as follows:

- Philips CDD 521 Compact Disc Recorder
- Philips Professional CD Recordable 63 minute media ISOForm Issue 02
- CDWrite Version 0.01
- A5000 or A540
- 16 bit SCSI card
- SCSIFS 1.10
- CDFS 2.10 or later

- Fujitsu M2266S-512 1 gigabyte winchester drive
- or
- Sony SMO-C501 600 megabyte magneto-optical drive
- or
- Sony SMO-C301 128 megabyte magneto-optical drive

It is strongly recommended that testers have one of the above items but very small CDs may require less disc space.

CD Simulator application (Eesox) - also recommended.
Standard CD ROM drive for test purposes

If you are interested in being a beta test site and have the necessary equipment, please contact Stewart Palmer at Acorn on 0223 254308 or by letter or fax.

Documentation for users of application software

Users of computer software tend to be less than eager to consult the manuals that accompany it; this is often because they have previously had difficulty finding the information they wanted when using such publications. A new British Standard Guide, BS 7649, will help to ensure that, in future, documentation for application software meets the user's needs.

BS 7649, the 'Guide to the design and preparation of

documentation for users of application software' was published in May 1993. Although many software products provide the user with information and instructions interactively on the computer screen, there is still a need for clear and comprehensive documentation on paper, from awareness and appreciation documents to comprehensive reference manuals. With the aim that documentation should enhance the usability of the software it describes, BS 7649 recommends how such paper documentation should be prepared in parallel with the software itself as part of an integrated development process.

BS 7649 supplements the guidance on content and presentation given in BS 4884 Technical manuals, by exploring in depth the particular needs of the user of application software. It gives guidance and makes practical recommendations that will help the reader to produce documentation that:

- gives the user of application software accurate information in a suitable form;
- is clearly presented, with page designs and illustrations that are appropriate to the user;
- enables the user to find information easily.

BS 7649 is directed at those responsible for specifying, designing and preparing user documentation. It can be used in any organization, whether or not it has a dedicated documentation department and professional technical authors. In all cases, it can provide a basis for local standards and procedures.

BS 7649 is available from BSI Publications in Milton Keynes (Tel: 0908 221166).

Schedule

In response to users' requests, Acorn Computers is shortly to launch a new diary application for the Acorn PocketBook. Due for launch in mid August, Acorn Schedule comes on an SSD ROM card which slots into one of the drive bays on the Pocket Book. Acorn Schedule combines the functions of a diary, a personal organiser, a calendar and timetable. Acorn Schedule will sell for £49.95 inc VAT (for the Developer price, please see the Developers' Discount Price List) but for a limited introductory period - until 30th September 1993 - it will cost just £19.95 inc VAT. This special offer price will not be discounted for Developers. In addition, with immediate effect, the Acorn Pocket Book is being reduced on special offer to £169.95 ex VAT (£199.69 inc VAT). The new Developers' Discount price reflects this introductory offer which expires on 30th September 1993.

Marketing News

Acorn World Show

Here is a reminder that Acorn World is being held at Wembley Exhibition Centre between the 29th and 31st October 1993 inclusive. As you know, Acorn World is being organised by Acorn as a showcase event. Acorn World will take the whole of Wembley's Hall 1 and will, we hope, display the quality of organisation, approach and features associated with a major player in computing.

Acorn will have a corporate stand which will act as the gateway for the show and a theatre which will have seminars that focus on direction and strategy as well as retaining the fun element for families. As well as the old favourites, such as the games arcade, there will be new targeted features. These will include an Education area with Acorn and AECs, and a Publishing area showing how a magazine is typically produced. Of course, the range of Acorn-oriented software and hardware developers will also be present and Acorn will use the show to bring together its International partners. Acorn World will have an exciting and fresh feel and will be a focus for Acorn's

products and technology. As you will have seen, the promotion of the show has already begun.

Acorn will be using the theme of past, present and future. We will continue to use Vision for the Future as the slogan for all of our activities.

Acorn will be working with EPS (a specialist exhibition company) to whom all enquiries for stand space should be passed (Contact: Stephen Bozdan, tel: 0784 483818).

If you sell or make anything for the Acorn product range, an exhibition area at Acorn World 1993 will enable you to reach a wide range of customers and potential purchasers. If you are a partner of Acorn then this is the place for your name to be seen.

For attendees, this is a fun show which will open a window onto the wide world of Acorn. The show will chart Acorn's successes and give a Vision of what the immediate future has in store.

We fully expect that Acorn World will attract a higher number and quality of visitors than any previous Acorn show because of the high profile that this event is being given. Acorn is spending more money than ever before to attract paying visitors with money to spend on your

products. The advertising targets existing Acorn owners, families looking to purchase a computer for Christmas and publishing professionals in the London Area. In addition, we will have a targeted campaign to attract educationalists from surrounding areas. Local and National advertising is scheduled. The specialist PR agency for the show, Text 100 (Contact Rebecca Young Tel: 081 740 4455) will focus on Acorn and its partners.

The Professional Market - Printing Companies' requirements

Small print houses' generic requirements are RISC OS Compliance. They also expect proportional fonts. A continuing concern in this market is that Developers tend to see increased sophistication and 'better' as synonymous, whereas only about 5% of the market appreciate the additional features. Testing should always take into account naive users and applications should provide 'hand holding' in the early stages.

If Developers feel they have appropriate products for the professional market, they are welcome to contact Simon Woodward or Kirk Allchome at Acorn and to provide a review copy for them to evaluate its suitability.

Technical News

RISC OS Style Guide

The next version of the Style Guide, Release 2, is due to go for printing in August, and should be available during October. It will be mailed automatically to all currently Registered Developers and also to purchasers of the RISC OS 3 Programmer's Reference Manual which was shipped without the Style Guide (provided that they have returned the voucher from their RISC OS 3 PRM pack). The new release has involved much discussion both within the company and with various developers who have provided input. We thank all those who have contributed. We believe this new version represents a good consensus of the way the RISC OS user interface should be delivered by an application to the user. It tidies up and extends many areas covered in Release 1. It also covers the area of 3D 'Look 'n' Feel' and shows examples of how applications can work with !NewLook (see details later in this newsletter) installed with RISC OS 3.1 to provide consistent dialogue boxes, menu structures etc.

Excessive use of windows

A point was raised recently with regard to the use of an excessive number of windows by some applications. For users with entry level monitors and small screen 'landscapes', this can leave the screen very cluttered and difficult to use. The next edition of the RISC OS Style Guide (see above) recommends that application writers consider the use of tool panes to vary the functionality of existing windows and hence control the overall number of windows used within an application.

Floating Point Accelerator

The Floating Point Accelerator chip has now been announced and is available as a product from Acorn. The chip comes with FPE400 software which supercedes FPE280. This software works both as an emulation and as support for the FPA chip itself when fitted. The FPE400 software is intended to work with RISC OS, but a beta RISC iX version is available on request. Performance improvements over the FPE vary greatly between applications, but have been measured at factors in the range of 10 to 50 times for floating point sensitive areas of applications software, particularly for the four primitives (add, subtract, multiply and divide).

The Retail price of the product (ALA23) is £99 exc. VAT, with a developer price of £80.19 exc. VAT. Early A540 owners may need to have an exchange processor card supplied, as early machines had an ARM3 card fitted without an FPA socket. This card can be provided by the Technical Support department, on request, in September if the Serial Number of the A540 is quoted. Developers requiring the card should, from September, request it from Developer Support.

NewLook

!NewLook, which provides a 3D look-and-feel for RISC OS 3.1 users, is supplied on Developers' Disc 29. Please load it and try it with your applications. NewLook will be made available to the general public at the Acorn World Show. It is provided to you now to give you the opportunity to consider updating your applications to meet the new style before NewLook is generally available. You may demonstrate your products with the new style loaded but you must not distribute NewLook to other companies or individuals prior to the show.

BorderUtils

BorderUtils is a module that is required by the RISC OS 3.10 Window Manager to enable the use of 3D window tool buttons, such as those provided by !NewLook. Before any 3D window tools are used this module must be loaded.

The BorderUtils module can also be found inside the !NewLook application.

BorderUtils is provided on Developers' Disc 29.

Kodak Photo CD file format

Acorn recently signed a licence agreement with Kodak which permits us to deliver a comprehensive Photo CD support capability for the Archimedes platform. The Photo CD products are currently in development, and will be released in the near future.

The products in development include:

Developers' Toolkit

- an Archimedes version of the standard Kodak Developer's Access Toolkit (C library functions)

Delivery Toolkit

- CDFS update allowing access to mode 2 form 1 CD-ROM discs
- RMA module which provides access to the compressed images on the Photo CD disc
- Sample application providing basic access and manipulation of Photo CD images
- ChangeFSI update allowing more comprehensive manipulation of Photo CD images

The following summary lists the Photo CD.SWI calls which are available via the RMA module. These calls will allow application developers basic access capabilities to images stored on Photo CD discs. For a detailed list of SWIs, please contact Developer Support.

Summary of PhotoCD SWI calls

It is intended that the SWI calls will handle both Overview Pacs and Image Pacs with the same call. For example, PCDOpen() and PCDopen() will both call the PhotoCD_Open SWI. Since the Image Pacs have are numbered starting with '1' (ie filename has format "IMG0001.PCD") then it is intended that Overview Pacs will be referenced using the value '0'.

- PhotoCD_Open Open an Overview or Image Pac.
- PhotoCD_Close Close an Overview or Image Pac.
- PhotoCD_GetPacName Generate the full image/path name for the given image.
- PhotoCD_GetSize Return the size of the thumbnail or full image.
- PhotoCD_GetRotation Return the rotation of the thumbnail or full image.
- PhotoCD_GetCount Returns the number of images in a Overview or Image Pac.
- PhotoCD_GetBytesPerRow Returns the number of bytes required to represent a row of

the image.

- PhotoCD_ReadImageInfo Return scanning information about the specified image.
- PhotoCD_GetBlock Read a block of image data from a thumbnail or full image.
- PhotoCD_ReadInfoFile Return information about the current PhotoCD.
- PhotoCD_ApplyTransform Transform an in-memory image.
- PhotoCD_ConvertCoord Convert between coords at different resolution steps.
- PhotoCD_ConvertYCCtoRGB Convert one or more YCC values to RGB values.
- PhotoCD_MiscOp Perform miscellaneous functions.

Details of the more comprehensive functions provided by the Developers' Toolkit will be available shortly.

ChangeFSI

ChangeFSI has been modified, following Developers' feedback, to provide better programmer interfaces. ChangeFSI used to claim all the memory in the system while processing; this made it difficult for anyone to catch ChangeFSI's output on anything other than a disc's Scrap file and then reload it. In particular RAM based scrap files could not be used. A version with these modifications is available for Developers to use. If you don't have it but would like a copy, please request it.

The Games modes module

The games modes module is a module that has been specifically developed for the use of game-style applications which take over the whole screen. This module is intended to support the use of VGA monitors, but with lower demands on processor power and screen memory than the standard VGA mode 27 and 28. The games modes module provides two modes and these are as follows:

Mode No.	Dimensions	BPP (no. Colours)	Screen Memory	Vertical Refresh
48	320x480	4 (16)	96K	60Hz
49	320x480	8 (256)	160K	60Hz

This module is available from Developer Support on request.

NB: the module is still under development; some of its attributes may change.

Games Application Note

The Games Application Note has been undergoing revision to take account of the new games modes, specifically designed for VGA monitors, VIDC20 and other developments. Version 1.02 is now available. It is not only relevant to games writers but also to those developers writing other software which takes over the machine, i.e. those applications which are RISC OS Compatible rather than RISC OS Compliant. Ask Developer Support if you need a copy.

Rendering Drawfiles

As part of on-going developments, Acorn have produced a module which provides a SWI interface for rendering DrawFiles in a window. The module was developed following discussions on providing a language-independent library interface. This module is a development version only and has not been fully tested. It can be supplied for review purposes only and should not be used in any distributed products.

If you require an evaluation copy of this module, please contact Developer Support.

New Application Notes for Developers

Developer Support have two new application notes in preparation which are expected to be ready at the end of August. They are as follows:

Writing Modules in C (using CMHG)

Using the RISC OS Printer Drivers from Desktop C

If you require copies of these application notes, please request them from the end of August.

Developers' Disc 29

The disc contains:

Directory 3D holding the NewLook application (see above) which provides a 3D look-and-feel for you to try. This version must not be distributed.

Directory BugFix holding module BorderUtils and a ReadMe file explaining its use.

Directory Newsletters holding the contents list from recent Developers' Newsletters

News from non Acorn sources

Centresoft

Centresoft, the largest distributor of computer software in Europe, supplying retailers such as Boots and John Menzies exclusively as well as major stockists such as Virgin, Game and over 1000 independents, is planning to distribute Acorn 'edutainment' software (i.e. games and educational software with an entertainment bias).

To this end a meeting was held recently for some of the major games suppliers. We trust that everyone concerned received their invitations. We think they must have done because the room was full, but if, by any chance, yours did not arrive and you do have appropriate, finished, packaged products, do contact Centresoft.

Product selection is controlled by Bernadette Abbott, Computer Director and, in the first instance, you should contact David Noble, Assistant Purchasing Manager, on 021 625 3388.

Uniqueway's ARLib

Acorn Replay Soundtrack Playback C-Library for Developers and Programmers:

ARLib Overview

This library is primarily intended for the playback of Acorn Replay soundtracks, although the components can be used in other ways.

Source code is provided as an aid to understanding and for tracing any problems that may occur. Only the object code provided in the library should be included in any product as only that can be supported. Any bugs or problems with the library should be reported to Uniqueway. All software is © S.J. Middleton and Uniqueway Ltd. 1993. Please ensure that you clear with Uniqueway the precise details regarding the library's distribution.

Functionality

The library can be used at its simplest with just 2 functions. `armovie_init()` sets things up and then `armovie_playsound()` will initiate multi-tasking audio playback of any Replay file. Assuming the host application makes use of the standard Risc_OSLib event handling routines then the file will be played with no further work needed by the front end.

Facilities are :-

- play a selected region of a file.
- loop all or part of a file seamlessly, a number of times or indefinitely.
- stop the sound prematurely.
- queue up another file to be played when the current finishes.
- interrogate the library to find out what is currently playing.
- play any one of the soundtracks in the file.
- will handle any of the Replay standard audio types (4 bit ADPCM, 8 bit linear signed, unsigned and VIDC format, 16 bit linear).

The support routines in the library may also be used to manipulate Replay files generally, e.g. decode Replay header (get descriptive text, frame rate, length ...)
extract the default sprite

Overheads

The library will add about 15K to the unsqueezed size of the host application. It uses the alarm module of Risc_OSLib to handle its processing whilst playing, thus should place a very small overhead on the running of the application.

Licences are available for Developers and Programmers who wish to use the library for inclusion in their own products. The licence fee is £175 for commercial use in distributable products.

For further details contact Paul Middleton at Uniqueway. Uniqueway Ltd, 42 Crwys Road, Cardiff, CF2 4NN 0222 644611 Fax 0222 644622

The Electronic Font Foundry - Font Licensing from EFF

Many developers have often wondered where to find high quality fonts at affordable prices. EFF can offer Acorn Registered Developers licensed fonts from only £0.25 per copy sold. All EFF Fonts are fully Hinted, with skeleton lines where appropriate. All EFF fonts can also be supplied with Auto-kerning information in RISC OS 3 format.

EFF have a range of over 600 fonts, available in over 50 languages, including;

Afrikaans, Albanian, Assamese, Bengali, Bihiri, Braille, Bulgarian, Byelorussian, Croation, Czech, Danish, Devanagari, Dutch, English, Esperanto, Estonian, Faroese, Finnish, French, Gaelician, German, Greek (Ancient), Greek (Modern), Greenlandic, Gujarati, Gurumukhi, Ancient Hebrew, Modern Hebrew, Hindi, Hungarian, Icelandic, Irish, Italian, Lappish, Latvian, Lithuanian, Macedonian, Maltese, Marathi, Nepali, Norwegian, Polish, Portuguese, Punjabi, Rumanian, Russian, Sanskrit, Serbian, Slovak, Slovene Spanish, Swedish, Tamil, Turkish, Ukrainian Vietnamese, and Welsh.

EFF can now also supply ITC and Letraset Fonts under licence from ITC in America.
For more details contact Aaron Timbrell at EFF on 0344 891355 or Fax 0344 891366

From Alternative Publishing Ltd

Alternative Publishing Ltd is a graphic design house specialising in the use of Acorn Computers in Desktop Publishing. We would like to offer our design, imagesetting and printing services to other Developers in the run up to the Acorn World Show. Most developers will want to produce colourful, glossy literature for Acorn World 93 and what better way to save time and money than to produce the original artwork on their in-house Acorn computers. Specifically, Alternative Publishing could offer the following services:

- 1) Simple bureau and print services: finished artwork

Enclosures:

August Developers' Discount Price List
Developers' Disc 29
Card with Acorn's new location details
Acorn World leaflet

Every effort has been made to ensure that the information in this newsletter is true and correct at the time of printing. Products described in this newsletter, however, are subject to continuous development and improvements and Acorn Computers Ltd and other contributors reserve the right to change their specifications at any time. Acorn Computers Ltd cannot accept liability for any loss or damage arising from the use of any information or particulars in this newsletter.

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could be provided on floppy discs as, e.g. Impression/ArtWorks/Draw, files and then colour proofed, separated and finally printed. Having sourced large-press colour printers willing to offer quantity trade discounts, we could offer an example: 5000 Full Colour A4 115 gmsart gloss leaflets, including separation, print, finishing and delivery for under £350 - not much more than is charged locally for just spot colour work.

- 2) Full graphic design, separation and print facilities.
- 3) Scanning, imagesetting, etc as required.

Contact:

Alternative Publishing and Communications Bureau Ltd
319A Pentagon House,
36 Washington Street
Glasgow, G3 8AZ

Tel: 041 248 2322

Fax: 041 248 3638

TJ Reproductions

Developers have mentioned that they have been pleased with work (advertisements, leaflets etc.) done for them by TJ Reproductions. Looking for more details on your behalf, Developer Support, therefore, contacted TJ who have provided the following information:

T.J. Reproductions who already provide a DTP Bureau and Disc-to-Print service for Acorn computer users are trying further to promote professional Acorn desktop publishing by producing a monthly technical guide/magazine called re-Print. This is designed to fill in the grey area between the screen and the commercially printed page and give designers using Acorn computers a number of advantages over Mac/PC users.

T.J. Reproductions support most DTP related software and are happy to beta test software thoroughly rather than trying to sort out customers problems at the print stage. They use both Apple and Acorn computers and have many years experience within the printing and publishing trade. They are willing to help Acorn software/hardware companies by testing or promoting professional quality DTP products in an attempt to reduce further the real, or imagined, advantages that Mac users have.'

From 18 August contact:

Developer Support
Acorn Computers Ltd
Acorn House
Vision Park, Histon,
Cambridge CB4 4AE

Developers' direct line: 0223 254248

Direct fax: 0223 254264