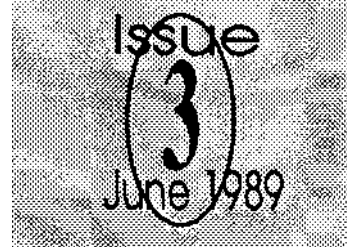# Acorn Customer Service News

Issue 3 — June 1989

• *All the documents in this news-letter are available through the SID system.*

• *Back issues are available via the SID system and may also be obtained from Customer Services.*

• *Any suggestions you may have for information you would like to see in future issues should be sent to the News-letter Editor via SID Mail (ID 1000) or by post at our head office address.*

Acorn
The choice of experience.

'NEWS BULLETIN'

1. **Consumables NOT subject to Acorn Warranty cover**

   A number of Warranty claims are being received for broken parts that are not covered by the Acorn warranty. One such item is the Plastic Keystrip on the Archimedes series. Items such as these are not intended to be detached from the main assembly and thus if breakage occurs, the cost of replacing the broken part resides with the customer. Under normal circumstances, claims for such items will be returned marked End User Damage.

2. **RAM Price increase.**

   Part Number: 0704,105 (I.C. 4464 DRAM 120 Ns). New Price £7.50 effective immediately.

3. **Bracket for Miniscribe Drive - Part Number: 0177,001**

   When replacing Tandon or Western Digital for Miniscribe drives a new drive bracket will be required and should be requested on your Service Reports and Purchase Orders. In both instances the brackets will be free issued.

4. **Warranty Repairs**

   Please ensure that units returned to central workshops for warranty repairs are accompanied by proof of purchase. Failure to do so may result in either the unit been returned unrepaired, or an invoice for out of warranty repair may be raised against the submitting organisation.

5 **EEPROM**

   We would like to reiterate that the EEPROM in Master Compacts is a consumable, like a battery, and requires replacement at intervals. Reference is made to the functions and limitations of the EEPROM in the Compact User Guide page B 10 and the Service Manual page 17.

   Replacement EEPROMs are available for purchase through the Customer Services Spares and Warranty Department in the usual way.

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6. Monitors used in conjunction with the A3000 Computer

Please note that, whilst the existing Archimedes monitor (AKF11) is compatible with the A3000, the SCART lead packed in some of the earlier monitors is too short to use with the A3000. Also, since the A3000 does not have an IEC power output connector, the monitor will require an additional mains lead with the appropriate IEC connector attached. This mains lead is available as a product (ANG14), and is the same as that used with the Master Compact, Winchester drive etc.

When a monitor is despatched as part of an A3000 order the additional lead (ANG14) is supplied, and all monitors now in stock have the longer, more flexible SCART lead packaged as standard.

Where a dealer supplies an ex-stock monitor for use with an A3000, the dealer must check that the monitor has the longer SCART lead included, and also must supply the additional mains lead.

Both the longer SCART lead and the mains lead are available from Customer Service Spares and Warranty Dept, Part Number 0999,466 and 0870,353 respectively.

7. Hard Disc Returns From Stacking Filestores

When returning a suspect or faulty Hard Disc Drive, please note that any leads that are soldered onto the drive unit e.g the LED flying leads, are considered part of the subassembly and should be left connected.

As a general principle, this should be applied to all subassemblies returned to Acorn. Replacement units are always issued with soldered leads attached and therefore a unit returned to Acorn, with these leads removed, may be deemed incomplete and returned to you unrepaired.

8. Customer Support Survey

In the appendix of this news-letter, we have included a Customer Support Survey. This survey, which forms part of our continuing drive to improve the level of support for our products, is intended to allow us to gain a clearer understanding of the information needs of our customer base. We are using the new Archimedes range DTP package as the basis for this survey which, because of its complex nature, lends itself to this type of evaluation.

When completing this form, please bear in mind that our aim is to identify the shortfalls in the customer knowledge base thereby allowing us to concentrate our support efforts in the appropriate areas.

A3000 FIELD SERVICE PROCEDURE

Service Policy

1.   All potential A3000 service agent**s** must attend A3000 training course before they are permitted to -

   a)   open machine and repair,

   b)   purchase initial stocking spares at discount rate,

2.   The Training Course will cover all aspects of A3000 repair, from how to disassemble, to how to identify SMT failures.

3.   At the Training Course they will also receive -

   a)   a Technical Manual,

   b)   test software and documentation,

   c)   a VOUCHER permitting them to order and receive A3000 spares (not PCBs) up to a maximum value, at a discounted rate.

4.   After the Training Course, the dealer/ASC will be permitted to perform module level repairs (PCB via advanced replacement), and, subject to him having certified that he is equipped and capable of repair at component and/or SMT level, will be authorised to perform warranty repair at those levels at Acorn's sole discretion. Such authorisation will be subject to confirmation via random audit.

   NOTE: ALL COMPONENTS AND SERVICE MANUALS WILL BE AVAILABLE FOR PURCHASE BY ACORN ACCOUNT HOLDERS AND, VIA ACORN DISTRIBUTORS, FOR SALE TO DISTRIBUTORS DEALERS.

SERVICE Operation

ACORN Central Service Workshops

The following organisation is as an ACORN approved Central Workshop for the A3000 series product range -

CALLFIND,

RETURNS No.:   To be advised

ADDRESS: Ronsons Way
                            214 St Albans Road
                            Sandridge
                            St Albans
                            Hens
                            AL4 9PY

No Training received

5.   **Prior** to receiving training, the dealer/ASC must contact the Central Workshop (CW) and return whole machine to CW for repair.

In these circumstances, the dealer/ASC will fund the cost of submitting the product to CW, and Acorn will fund the return of the repaired product.

Training received but not approved for COMPONENT and/or SMT level

6.   Dealer will only receive warranty credits and replacement parts for warranty work performed at MODULE LEVEL i.e. they will receive NO warranty credits or parts for performing component level repair.

7.   Upon receipt of the suspect machine, the dealer/ASC will verify that the machine is faulty by using the test disc.

8.   If the fault is shown to be in the PSU, keyboard membrane, disc drive, drive cable, Mouse or RISC OS ROM set, then the dealer REPLACES the faulty 'module' and submits a SERVICE REPORT with the FAULTY MODULE to Acorn Spares Dept. for replacement and credit.

9.   If'the fault is located in the main PCB, then -

a)   dealer contacts nominated Central Workshop (CW),

b)   identifies himself, the faulty unit (by serial number), its date of purchase,

c)   CW will indicate to him a RETURNS NUMBER that must be used in all communication regarding this fault.

d)   CW will despatch to the dealer a replacement PCB for delivery the following day.

10   Upon receipt of the replacement PCB by the dealer, he must -

a)   substitute the replacement PCB for the faulty one,

b)   retest the unit to verify that the fault has been rectified,

c)   return the unit to the customer,

d)   complete the detail on the SPECIAL SERVICE REPORT (supplied with the PCB),

e)   place the SPECIAL SERVICE REPORT with the faulty PCB into the container in which the replacement was received,

f)   despatch the packaged PCB to the CW site from whence it came WITHIN A PERIOD OF 10 DAYS.

NOTE the returned PCB must be received by the CW WITHIN the 10 days following receipt of the replacement, therefore delaying despatch until the 9th. day may cause the window to be missed, and a levy incurred.

NOTE   the dealer/ASC MUST obtain proof of posting to ensure that, if the PCB is not received at the CW, he is not invoiced for its value.

11.   The dealer/ASC will be credited at a set rate (to be advised) per verified machine fix, plus replacement of the faulty module (where appropriate).

Training received, approved for COMPONENT Level but NOT SMT Level servicing

12.   Dealer will be paid credits for work undertaken to component level BUT WILL NOT RECEIVE CREDITS for work undertaken on SMT components.

13.   The dealer will proceed to diagnose the fault as in sections 7. and 8. above.

14.   If the fault is located to the main PCB, then the dealer/ASC will -

a)   seek to identify the faulty component,

b)   if the faulty component is NOT an SMT device, then the dealer will replace the component, and retest the unit to verify the repair,

c)   if the component IS an SMT device, then the dealer/ASC will follow the procedure as given in sections 9. and 10. above. i.e. he will NOT attempt to replace an SMT component himself.

15.   The dealer/ASC will be credited: rate to be advised

Trained and approved for COMPONENT AND SMT level servicing

16.   ALL repairs to serviceable modules may be undertaken by dealer/ASC as well as those service functions identified above.

17.   The dealer/ASC will be credited: rate to be advised.

<u>DEAD-**ON-ARRIVAL** Product : GRA process</u>

18.   Any A3000 product that is deemed to be dead-on-arrival i.e. is faulty upon receipt by the dealer, will be exchanged by Acorn under the terms of the GRA Procedure.

19.   Any unit suspected of falling into this category, MUST BE CHECKED by the dealer to verify that the machine is indeed faulty, before invoking the GRA process.

20.   Any unit returned under the GRA Process (DOA), that is found to be no-fault-found (NFF) when examined by Acorn, will be subject to a levy upon the returning dealer.

21.   Any unit returned under the GRA Procedure must be complete, with all manuals, attachments, leads and enclosures with which it was initially supplied, and must be in an AS RECEIVED condition.

Any unit returned with missing items or not in an AS RECEIVED condition, will be subject to a levy upon the submitting dealer.

A3000 FIELD SERVICE POLICY

Support

The A3000 series products are based on Archimedes 300 and 400 series architecture, and utilise the same **RISC OS** operating system (not Arthur 1.2).

As such, knowledge and experience of Archimedes applications and the RISC OS operating system, will be directly applicable to the A3000 series.

The distribution base will be expected to have a good working knowledge of RISC OS and its applications. If problems are encountered by the distribution base, then DISTRIBUTOR'S DEALERS should contact their SUPPLYING DISTRIBUTOR, and Acorn's direct dealers, distributors and ASCs should contact Acorn via the appropriate Hot-Line, the Technical Mailboxes on SID, or by reference to the SID database.

Where the A3000 is being sold through RETAIL outlets, retail staff will require Archimedes support training, inclusive of GO/NO-GO product integrity checking, via the Dealer functional test software.

Service Training

A Service Training course covering all aspects of the A3000 series from module level to SMT component level will be available to distributors, dealers, and Approved Service Centres at the time of launch of the A3000 series product.

Service

Service of the A3000 will be undertaken through the dealer/distributor/Approved Service Centre base, supported by a number of Acorn approved Central Workshop sites. Prospective service centres will be ' authorised to perform service of the A3000 series product, commensurate with their service capability. All service agents must attend the A3000 Service Training course prior to commencing service.

Service centres who do not have the capability to service at component level or SMT level, will utilise the advanced replacement service for main PCBs provided through the Acorn Central Workshop. The ` servicing' of other modules within the system will be effected by module replacement only, except in the case of the keyboard membrane. Service credits and replacement parts/sub-assemblies (where appropriate) will be issued upon the receipt by Acorn Spares and Warranty of a suitably completed Service Report, accompanied by the faulty parts (where appropriate).

Service agents who elect to submit whole machines for repair to Central Workshop will not qualify for service credits, and must fund the carriage of the machine into Central Workshop. Return carriage will be funded by Acorn.

In this context, service centres associated with large retail outlets selling the A3000, will be expected to assume the role of Approved Service Centres, and receive the training, and be equipped to provide service down to SMT level.

A3000 SERIES FIELD SERVICE STRATEGY

1.   The A3000 series product will be serviced in the field at either module level (swap-out), or at component level, by any authorised Acorn Dealer, Distributor or Approved Service Centre that has received A3000 Service training, and is equipped and capable of servicing at the appropriate service level.

2.   The A3000 comprises a number of physical modules viz

*   A3000 motherboard (main PCB),

*   Power supply unit,

*   floppy disc drive,

*   keyboard assembly,

*   Mouse,

*   RISC OS ROM set,

*   floppy disc drive cable.

The main PCB and keyboard assembly are the only modules that are capable of service in the field.

All other modules are regarded as non-serviceable in the field, and must be replaced as modules if failure occurs.

Stocks of modules (bar main PCB), components for field serviceable modules, plastics and packaging are available through Acorn Spares Dept.

3.   There are 3 levels of service viz.

`MODULE' Level,

where diagnosis is made to module level, and the faulty module replaced, OR a mechanical repair e.g. keytop replacement, disc swap, cable change, keyboard membrane replacement or case change.

COMPONENT Level (main PCB only),

where, in the case of SERVICEABLE MODULES ONLY,   diagnosis is made to

specific faulty components on the module, and the faulty components replaced. This level EXCLUDES the replacement of SMT components.

SMT Level (main PCB only),

where, in the case of SERVICEABLE MODULES ONLY, diagnosis is made to specific faulty components on the module, and the faulty components, INCLUSIVE OF SMT COMPONENTS, replaced.

4.   Where a COMPONENT LEVEL service agent identifies that a faulty component is of the SMT type, and he is not equipped nor approved to undertake this type of repair, then 'repair' of the module should be accomplished by MODULE SWAP-OUT i.e. revert to module level.

5.   A3000 Service Training, down to component level, will be available from the date of launch of the A3000 machine. Dealers and Service Centres will be expected to indicate WHICH level of service they are equipped and capable of performing prior to be being accepted onto the Training Course. See Para. 9.

6.   All Acorn approved dealers and ASCs are required to attend training course before servicing A3000 machines at any level.

7.   Prior to attending the A3000 service training course, dealers/ASCs in receipt of faulty product from a customer should arrange shipment of the full product, suitably packaged in its original carton, to the nominated Acorn Central Workshop site: See below.

8.   Dealers and ASCs will be authorised to service EITHER at module level only, OR at component level, OR at Surface Mount Technology (SMT) level. A dealer/ASC authorised to service at SMT level is obviously authorised to service at the preceding levels also.

Authorisation to service at a particular level will be given by Acorn to those organisations that certify, prior to attending the Training Course, that they are equipped, trained and competent to perform service at that level. Such authorisation would be subject to confirmation by an Acorn random audit. Service claims for in-warranty repair will only be entertained by Acorn commensurate with the level of service authorisation e.g. service claims for component level repair will not be accepted from service organisations authorised for Module level servicing only.

If upon audit, or following experience with the service organisation, it is evident that the level of service capability has been overstated, then the service organisation concerned will be given a period of one month in which to rectify any deficiencies; after which, if the desired level of service capability has not been achieved, the service organisation will be relegated to a service level commensurate with their competence.

10.   Authorised dealers/ASCs will be permitted to purchase an initial stock of spare modules (not PCB), components, plastics, packaging AT A DISCOUNT and UP TO A MAXIMUM VALUE.

Certificates to submit with the initial Spares stocking order will be supplied on attendance at the A3000 training course.

11.   Central Workshops have been established that will -

    a)   accept full A3000 machines for repair,

    b)   provide an ADVANCED REPLACEMENT service on MAIN PCBs to Acorn dealers and ASCs,

12.   Advance replacement of PCBs will be operated directly by Central Workshops, with dealers/ASCs who fail to return PCBs within 10 days being invoiced for the cost of the PCB plus administration costs.

If, subsequent to the invoice stimulus, a PCB is returned; the cost of the PCB will be reimbursed, but the administration costs will continue to be levied.

13   Where a dealer or ASC determines that a fault exists on a main PCB WITH a fitted upgrade e.g. RAM upgrade or Serial upgrade, then in the first instance he should use the Dealer Functional Test software to seek to isolate the fault to the main PCB OR a fitted upgrade. If an A3000 has an Econet module fitted, and the reported fault is network related, the A3000 will pass the Dealer Functional Tests. In this case, the Econet module will in all probability be faulty. Econet approved dealers/ASCs may then verify the functionality of the module by applying the Econet tests on their test rig.

Faulty upgrades should be returned to Acorn Spares and Warranty on a Service Report, and replacement upgrades will be issued.

Main PCBs submitted to Central Workshop for replacement MUST be devoid of all upgrades i.e. all fitted upgrades must be transferred to the 'new' PCB, since only main PCBs will be issued from Central Workshop.

14.   Dealers, ASCs and retailers returning FULL product to Central Workshop will do so at their own cost. Return carriage costs from the Central Workshop will be paid by Acorn.

15   Dealers, ASCs and retailers returning faulty PCBs (to workshop), or other faulty parts (to Spares Dept), will be credited with carriage costs (fixed) plus labour costs appropriate to the level of repair performed, plus replacement parts where appropriate.

If upon receipt by Acorn or its agents, such returns are found to be NO FAULT FOUND (NFF), then the submitting dealer, ASC or retailer may be levied with the handling, carriage and administration costs associated with processing the claim.

ALL such submissions, whether to Central Workshop or to Acorn Spares Dept., MUST be accompanied by a duly completed Service Report. Failure to complete the Service Report

correctly, or failure to submit a Service Report, will inevitably result in delays in processing the submissions, and may result in the submission being returned without being processed.

16.   Reference should also be made to -

(i)   A3000 Field Service Policy, and

(ii)   A3000 Field Service Procedure.

SUPPORT INFORMATION DATABASE

Introduction

The Support Information Database, or SID, is rapidly becoming Acorn's prime means of distributing information and software to the dealer and ASC base. The system is accessed through a country-wide network called Fastrak which offers local-call access with error-free data transmission. All this adds up to a cheap means of keeping in touch with Acorn.

To improve the service provided through SID, a replacement system will come into operation at the beginning of July, running on Archimedes computers. This new system will offer better response times, more sophisticated mail and bulletin board facilities, and a more up-to-date database.

Later on in July, a link will be forged between BT's Prestel system and SID, creating a unique opportunity for Prestel subscribers. They will be able to access SID through the Prestel system for no more than 2p per minute.

FREE advertising on SID

With at least 10,000 users accessing SID from July onwards, we are pleased to announce that dealers will be allowed to put one frame of advertising on SID, subject to our acceptance, totally free. The advertisement will only be accepted if it conforms with the British Code of Advertising Practice.

If you would like more information on SID, please contact Philip Colmer at the Fulbourn Road address.

SURFACE MOUNT TECHNOLOGY FIELD REPAIR

The new Acorn A3000 computer contains, on the main PCB, a quantity of Surface Mounted (SMT) components. The four main ICs, the ARM, MEMC, IOC and VIDC RISC chip set, and a large number of the passive components, are all SMT devices and as such require specialised SMT rework equipment to allow them to be replaced.

Along with the necessary equipment, engineers carrying out SMT replacements must be suitably trained both in SMT technology in general and specificaly on the equipment they will be using.

It is expected that Acorn will continue to make use of SMT devices, which improve equipment reliability, in future products, indeed, larger numbers of SMT devices will probably be used.

At present the majority of our registered dealer workshops and ASCs do not have SMT capability, but we do expect that the greater proportion will want of make provision for this. We have already been contacted by a number of our service workshops who have requested guidance on the type of equipment that would be most appropriate for use with the A3000 PCB.

As a result of these enquiries, we have been assessing the various SMT equipment manufacturers to determine which of these offers the most appropriate equipment in terms of functionality, price and after sales support and training. We expect to have completed these activities on or around the second week of July, at which point we will provide you with deetails of the the equipment and manufacturer that we feel will be most appropriate.

For those of you who wish to pursue your own line of enquiry in advance of any guidance from ourselves, the following points may be of some help.

* A number of different heat sources are used, heated inert gas, probably nitrogen based, or hot air is most appropriate.

* The tool heads available must fit the packages in use on the A3000 PCB and be suitable for use with 'J leaded' ICs.

* A fine degree of control over gas/air flow and temperature must be available, along with the ability to distribute the heat evenly over the lead solder contact joints without excessive heating of either the component body or the surrounding PCB. A device which effectively uses the component as a heat sink, or unevenly heats the leads, is not felt appropriate.

* The range of tool heads must be suffcently large to cater for the devices in use on the A3000, and any other equipment that you are currently repairing, along with any other packages that Acorn may subsequently use. The manufacturer's ability to produce one off, or small quantity tool heads to order within reasonable time-scales should be confirmed.

* It is preferable if the tool manufacturer can also supply all the accessories required, e.g suitable solder cream, applicator, solder braid dispensers etc.

The level of training and support should be investigated to ensure that, upon receipt of the equipment, you are not left to fend for yourself. A suitable training scheme would consist of one or two days off site at a training venue, or a shorter more intense one to one session on your own premises. The latter is probably more appropriate since the training will be specific to the equipment that you wish to repair.

400/1 RAM Upgrade

> **Note:**
>
> **Thls upgrade should only be Installed by an Acorn Approved Servlce Centre. If thls instruction Is disregarded, the guarantee on on either thls upgrade or the computer, or both, may be Invalldated.**

Applicable models
- Archimedes 410/1
- Archimedes 420/1

Purpose

To install a 1Mb RAM upgrade kit in an Archimedes 400/1 series computer.

One or three kits may be installed in a 410/1, to upgrade the RAM to 2Mb or 4Mb respectively. Two kits may be installed in a 420/1, to give 4Mb of RAM.

Note: There is no 3Mb memory option, and you cannot install more than 4Mb of memory.

Parts required

One or more 400/1 RAM upgrade kits.

Fitting the kit

Dlsassemble the computer

> WARNING:
> TAKE ALL PRECAUTIONS REGARDING STATIC ELECTRICITY AND EARTHING IN ACCORDANCE WITH BS 5783.

Remove the main PCB:
- Remove the cover of the computer
- Remove the front moulding assembly
- Unplug the backplane
- Disconnect the maJn PCB power connectors. The full disassembly procedure is given in the 400/1 Service Manual.

Insert the ICs

1 Remove the ICs from their packaging.
2 Check that all pins on the ICs are straight. If any appear crooked or splayed, you will need to realJgn them; use a pin aligning tool.

3 Locate the area of the board where the memory is fitted. A dJagram of this area is shown in Figure 1. If you are upgrading from 1Mb to 2Mb, the new ICs will be interleaved with the existing soldered memory chips. if you are upgrading from 2Mb to 4Mb, the new ICs will be fitted into the upper row of empty sockets.

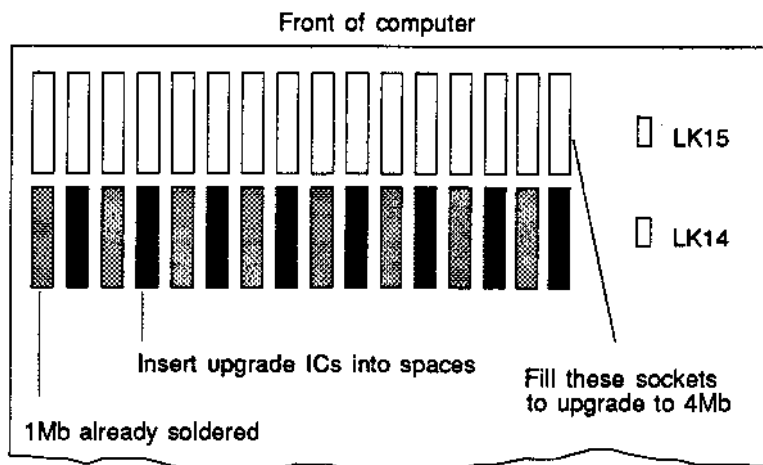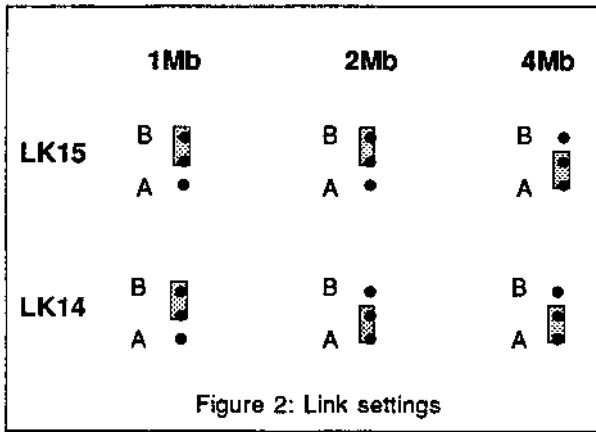4 Fit the ICs with the bevelled edge facing towards the back of the computer.

Figure 1: Memory banks and links

Change the link settings

The link settings on LK14 and LK15 (see Figure 1) need to be changed so that the computer can make use of the new memory.

FJgure 2 shows the settings of the links.

Figure 2: Link settings

On a computer with 1Mb of memory both links are set to position B.

- If you have upgraded to 2Mb then set 1ink LK15 to posItion B and LK14 to positJon A.
- If you have upgraded to 4Mb then set link LK15 to position A and LK14 to posJtion A.

Attach the serial number label

Attach the serial number for the 1Mb upgrade in position A (see Figure 3) on the underside of the PCB. If upgrading to 4Mb, attach the extra serial numbers in positions B and C.

Reassemble the computer

Reassemble the computer following the procedure given in the 400/1 Service Manual. Remember t0 replace any expansion cards you may have removed.

Change the front panel model label

Peel off the old model label on the front panel, and fit the appropriate new label from the kit.

Test the computer

Endorse the guarantee form

Fill in the 'Installation details' on the packing list and guarantee form (part number 0483,051) enclosed with the kit.

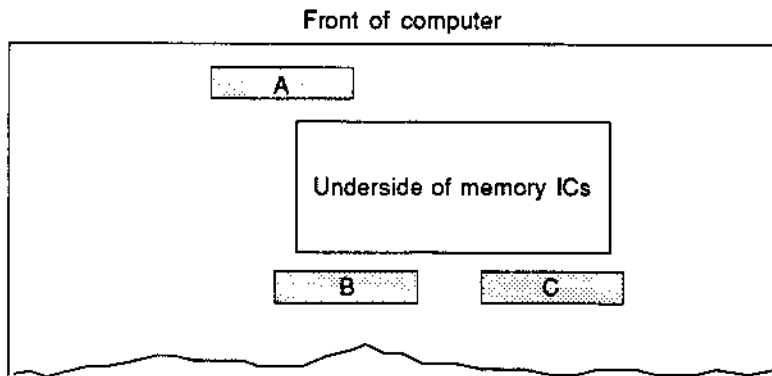The installation is now complete.

Figure 3: SerJal number positJons

MEMC1 A Upgrade

Note:

This upgrade should only be Installed by an Acorn Approved Service Centre -contact your supplier for details. If thIs Instruction Is dIsregarded, the guarantee on either thIs upgrade or the computer, or both, may be InvalIdated.

Applicable models

- Archimedes 305
- Archimedes 310
- Archimedes 440

Purpose

To upgrade existing machines to include a MEMC1 A memory controller. This is a necessary upgrade before fitting Acorn SCSI and (440 only) Floating Point expansion cards, and also increases performance generally by about 10%. This modification is not required on Archimedes 400/1 series, Acorn R140 or A3000 systems.

Parts required

All models:
- MEMC1A (part number 2201,375)
- MEMC1A PAL (0277,401)

Archimedes 440 only:
- 33R (33ohmm) resistor (0502,330).

PCB modification procedures

WARNING:
TAKE ALL PRECAUTIONS REGARDING STATIC ELECTRICITY AND EARTHING IN ACCORDANCE WITH BS 5783.

ArchImedes 440 only

1 Switch off and disconnect the computer from the mains supply.

2 Remove the top cover and the backplane (if fitted) disconnect the power leads, and remove the maJn PCB, in accordance with the disassembly instructions given in the service manual.

3 Desolder and remove transistor Q14 from the board.

4 Desolder and remove 330R (330Ohm) resistor R121 from the PCB.

5 Take a new 33R (33ohmm) resistor (part number 0502,330) and form it as shown below:
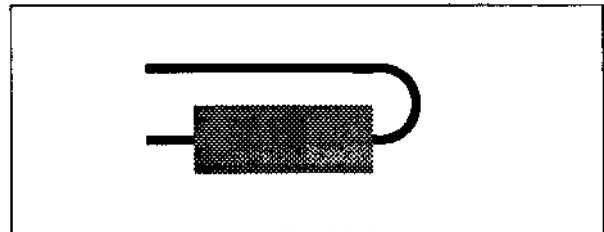
6 Solder the resistor between the emJtter and base pads of Q14 on the PCB as shown below:

(view on component side of PCB)
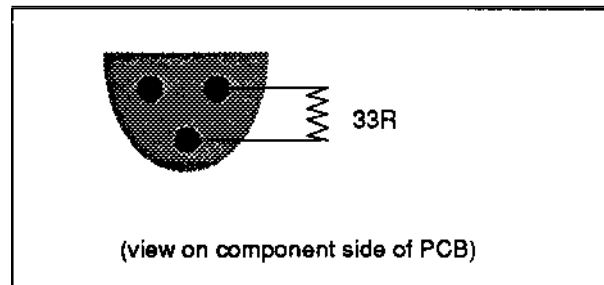
7 Using the correct tool, remove the MEMC device from position IC45, and replace with a new MEMC1A (part number 2201,375), making sure that the orientatJon of the device is correct – the cut-off corner of the chip should match the corresponding feature of the socket.

8 Remove existing PAL from position IC44, and replace with a new MEMC1A PAL (part number 0277,401).

9 Reassemble the computer.

10 Test.

11 Complete the 'Installation details' on the Upgrade Guarantee form (part number 0476,363).

ArchImedes 305 and 310

Follow steps 1-2 and 7-11 only of the 440 modification procedure detailed above.

Acorn Computers Training Centre

Course Schedules for

Acorn Dealers

July 1989

Course	Dates		Course Codes	Fee (inc VAT) £
Econet - Use and Management	3	July	EC01	28.75
Econet - Installation and Maintenance	4	July	EC02	28.75
Intro. to Model B & B+ Hardware Servicing	6 - 7	July	HRD1	28.75
Archimedes Component Level Update	20	July	ARCO	28.75
Master Series Hardware Servicing	24 - 25	July	HRD2	28.75
The ARCO course will be available only to applicants who have previously attended the module level servicing course. (ARM2T)				

Acorn Computers Training Centre

Course Schedules for
Acorn Dealers
August 1989

Course	Dates	Course Codes	Fee (inc VAT) £

There are no relevant courses scheduled for August.

Acorn Computers Training Centre

Course Schedules for

Acorn Dealers

September 1989

Course	Dates		Course Codes	Fee (inc VAT) £
Intro. to Model B & B+ Hardware	5 - 6	September	HRD1	28.75
Archimedes Component Level Update	8	September	ARCO	28.75
Econet - Management	14	September	ECO1	28.75
Econet - Servicing	15	September	ECO2	28.75
Master Series	19 - 20	September	HRD2	28.75
Archimedes - Basic Training	21 - 22	September	ARM2T	28.75
Archimedes Component Level Update	26	September	ARCO	28.75

The ARCO course will be available only to selected applicants.

Acorn Computers Training Centre

Course Schedules for

Acorn Dealers

Novemnber & December 1989

Course	Dates	Course Codes	Fee (inc VAT) £
Master Series hardware servicing	9 - 10 Nov	HRD2	230
Archimedes - basic training (technical)	14 - 15 Nov	ARM2T	230
Archimedes - basic training (sales)	16 - 17 Nov	ARM2S	230
Econet - Management	21 Nov	ECO1	115
Econet - Servicing	22 Nov	ECO2	115
Archimedes - basic training (technical)	29 - 30 Nov	ARM2T	230
Archimedes - basic training (sales)	1 - 2 Dec	ARM2S	230
Intro. to Models B/B+ hardware	6 - 7 Dec	HRD1	230
Master Series hardware servicing	8 - 9 Dec	HRD2	230
Archimedes - basic training (technical)	12 - 13 Dec	ARM2T	230

ACORN COMPUTERS LIMITED

TRAINING COURSE BOOKING FORM

Please return completed booking form and cheque to:

Training Administrator
Acorn Computers Ltd.
645 Newmarket Road,
Cambridge.
CB5 8PD.   Tel: Cambridge (0223) 214411

Name / address of company:
Address
(Block capitals please)

.... telephone:............................

Official Order No.	

Course Code	Date	No. of Places	Name of Delegates

The Registration Fee is payable directly to Acorn before the commencement of the course.

Hotel accommodation varies from £20.00 to £50.00 per night. Please indicate price range you wish, Delegates are responsible for settling their own accounts on leaving.

Please book single room accommodation as follows:

Date	Nights	Price Range	Name

Special dietary requirements?
Please ensure these are accurate, menus cannot be changed on course day.

Signed..   Date..

PLEASE MAKE CHEQUES PAYABLE TO Acorn Computers Ltd.

Customer Services Evaluation
DTP Report Form

Date :   / /

Dealer/ASC Name •..

Customer Name -..   ....

Establishment : ....

Customer Address • ....

....

....

....

Description of difficulty encountered :

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Machine type : A440 ❑ A440/1 ❑ A420/1 ❑ A410/1 ❑ A310 ❑ A3000 ❑

Machine RAM size : 1 Mbyte ❑ 2Mbytes ❑ 4 Mbytes ❑

Hard Disc fitted to machine : Yes ❑ No ❑

✓ as appropriate.

Version number and date of DTP Package • ....

Please return the completed form to :

Department PD
Customer Services
Acorn Computers Limited
Fulbourn Road
Cherry Hinton
Cambridge
CB1 4JN