Technical Support Bulletin

i³ WORKING

Number 4   May 1997

solutions for today and tomorrow

Dealer Confidential

This Bulletin provides an update on technical issues relating to current i³ products. It supplements Bulletin#3a, dated 29th February 1996. Prices exclude VAT and carriage unless otherwise stated.

Contents

All Trademarks acknowledged

1: Enhanced Product Specifications

2Mbit Flash ROM

From spring 1996 the size of the Flash ROM installed on all i³ EtherLan interface cards was increased from 1 to 2Mbits. This means that the full Access+ and AUN (Net/Level 4) release can be accommodated on the card, without the need for soft-loading any modules, and with a reasonable amount of 'free' space for any future enhancements. 2Mbit Flash ROMs were fitted to all cards from serial number 00:60:63 (see the notes on discs for Licensed Upgrades in *Section 9* for a reminder of how to find the serial number of a card when it is installed in a computer).

Unfortunately this means that different discs are needed to upgrade the new 2Mbit cards from those used for the older 1Mbit cards; this point is discussed in *Section 7* of this *Bulletin.*

The older 1 Mbit i³ EtherLan interface cards, and the EPROM cards supplied through Acorn Computers Limited, can be upgraded to 2Mbit Flash ROM. For cards up to about 2 years old this is fairly straightforward, but cards older than that may require significant hardware upgrading before they can accommodate the larger Flash ROMs. Experience has shown us that we do have to insist on these upgrades being a 'return to i-cubed' operation, although we can normally schedule the work to suit your needs. Please note that all such upgrades include the provision of the latest software release, including CMOS Lock, at no extra charge. (Addition of Access+ software to a card, or upgrading from Access to Access+, is chargeable since these upgrades are supplied under license from Acorn Computers Limited.)

CMOS Lock Software

You should have received preliminary information on this product some time ago. It offers 'peace of mind' for network managers, providing quite robust configuration protection for their networked computers. There are three principal protection options, together with an additional security feature:

O **Restore CMOS** settings on power-up: Every time the computer is turned on, or `hard-reset', its CMOS area is restored from a copy held in the Flash ROM on the i³ EtherLan card. This restores the computer's configuration, and also a number of other settings (such as which Access+ drives are mounted).o

Intercept CMOS configuration commands: This means that *Configure commands and a number of other commands which alter the contents of the CMOS memory, are intercepted, producing an error message instead of having any effect. (Note that some configuration commands have an immediate effect as well as altering the CMOS settings; activating this option prevents the command from having any effect at all.)

O **Set** Machine Password: If you activate this option you will be prompted to enter a password for the computer. Subsequently, whenever the computer is switched on or `hard-reset' the password will have to be entered before the computer will initialise.o

Prevent Unplug or Shutdown of CMOS Lock module: This security feature prevents a user from unplugging, killing or re-initialising the CMOS Lock module. This makes it significantly harder to circumvent the CMOS Lock protection.

More information about the facilities provided by this software is given in the CMOS Lock manual, a copy of which can be ordered using the form attached to this Bulletin.

CMOS Lock now forms part of our `standard' software release (in all versions; AUN only, Access+, ClassShare client, etc.). It is also available as a free upgrade to all cards supplied from I st July last year (in fact for all cards from serial no: 00:63:18, which gives some 'margin' in customers' favour). These upgrades are included for in the Software Upgrades discussed in **Section** *7*.

All older i^3 EtherLan cards can also be re-programmed to include CMOS Lock, except for:

❑ Cards which need to continue running DCI-2 software versions — the CMOS Lock software is only available with DCI-4 software releases.◌

 Access+ cards with only 1M Flash ROM, which do not have room for the additional software (indeed, these cards cannot be Flash ROM upgraded beyond EtherH version 4. 06, for the same reason).

When applied to older i^3 EtherLan interface cards this upgrade is charged as follows (preferred dealer prices, with end-user prices in brackets):

> £12 (£15) per card
> £96 (£120) for a small-site Educational Site Licence *(up to 15 computers)*
> £144 (£180) for a full Educational Site Licence *(more than 15 computers).*

If the upgrade is required for Acorn Flash ROM cards then the above charges will be £20, £160 and £240 respectively'. In every case we need to be supplied with the serial numbers of **all** cards to be upgraded (and told whether they are Acorn or i^3 cards), together with details of the software currently installed, and the name of the end-user. **The upgrade is supplied free of charge with all 1 to 2Mbit Flash ROM upgrades.**

Extended Warranty

At the same time as we moved to 2Mbit flash ROM we extended the warranty period on all our cards to 5 years from the date of purchase.

AppFS Client Software

From Autumn 1996 our standard software release has not included the AppFS client software. This change was made in response to feedback from dealers and end-users which suggested that the presence of this software in the release was causing confusion. This **Bulletin** provides dealers with an opportunity to obtain a re-programming disc which will convert cards from `AUN only' to 'AUN with AppFS client'. **In addition, if you are ordering cards for customers who use AppFS you should include:**

Product code: **AppFS** (AppFS client programming disc)

on your order; a copy will then be supplied free of charge. Under other circumstances the supply of this software will entail a handling charge, as detailed in **Section 9.1**◌

The total number of computers to be upgraded determines whether the 'small(or the 'full' site license is required, while the mix of Acorn and i^3 will be used to determine the license fee.

2: Acorn Interface Cards — Product Update

As many of you will be aware, we have been manufacturing the interface cards supplied by Acorn Computers Limited for nearly two years. In the past, these cards have – on Acorn's instructions – been fitted with an EPROM rather than the Flash ROM used on the cards we market ourselves. We are very pleased to say that in the summer of 1996 Acorn moved over to Flash ROM memory for their cards, improving the 'future-proofing' of these products. However there are some points to note about the Acorn cards:

The product codes which form part of the ROM image are different to those for the corresponding i^3 EtherLan cards. This means that i^3 re-programming discs will not work on Acorn Flash ROM cards.

The string returned by a *Podules command now indicates that the card is an Acorn interface card (along with its i^3 type code, as detailed below).

The move to Flash ROM for the Acorn cards corresponded with the introduction of version 4.18 of the EtherH Ethernet driver.

Routine upgrades to the Flash ROM contents of these cards (e.g. to a later version of the EtherH driver or of the Acorn networking software) will be a matter for Acorn Computers/Xemplar, and will not normally be handled by *i3.*

Protocol conversion discs for these cards (e.g. to ClassShare client/AppFS client; to include CMOS Lock; to Avignon bridge; etc.) will be produced by i^3 as demand dictates and will always be chargeable.

O These cards are not recognised by the Internet section of the network configuration program provided with the StrongARM upgrade (as part of RISC OS 3.7). This is because the configuration software recognises a 'valid' network interface card only by its podule product code. The software does not recognise the new Acorn product codes, even though the new codes were properly obtained through the Acorn allocations procedure. Acorn has distributed a 'work-around' to this problem to 'Clan' members; this comprises creating an Obey file in the directory:

```
!Boot.Resouroes.!InetSetUp.Auto
```

This file comprises the single line:

```
Set InetSetup$Driver$NIC i-oubed NIC:eh0:EtherH:4.16:EtherH16
```

(make sure there is a Return at the end of the line). Acorn suggests this file should be called AEH7 8, but the file will work equally well for AEH62 and AEH78 interface cards. Note that if you subsequently remove your Acorn network interface you should also delete this `recognition' file. A copy of this file is included in the StrongARM support on the *Modules soft-loader disc* mentioned elsewhere in this newsletter.

The current Acorn interface cards, with their i^3 type code as returned by ·Podu les, are:

AEH 62: Risc PC/A7000, combo card, no Access+ (E600-type)
AEH 75: A5000 (etc.) 'Eurocard' style, combo card, with Access+ (E500A-type)
AEH 77: A3000 (and A3020/A4000) podule slot, combo card, with Access+ (E100A-type)
AEH 79: A3020/A4000 network slot card, 10 Base 2 only, with Access+ (E200A-type) AEH 78: Risc PC/A7000, combo card, with Access+ (E600A-type).

Acorn have announced that at some stage they will be producing network cards which incorporate support for OmniClient 1I. While we have no information on likely timescales for this change, we would expect new AEH order codes to be introduced at that time. However we would not expect any change to the product codes incorporated in the ROM images.

3: Acorn and i³ Interface Cards: A Note for Xemplar Agents

Feedback from some dealers who are also Xemplar agents suggests they feel unable to promote our cards because of their undertaking not to source Xemplar products from alternative suppliers. We would point out that whereas our cards and the Acorn cards (as supplied by Xemplar) are based on the same hardware, they remain quite distinct products. The advantages of the i^3 cards are:

o CMOS Lock configuration protection software provided as standard. o

5 year warranty on all cards.

O Conversion to other protocols available (AppFS and ClassShare Client) free of charge (upgrade discs may be subject to a handling charge; see *Section 9).*

O Network slot card for A3020/A4000 available in 10Base2 and 10BaseT versions (E200/E201).

o All other cards available in 10BaseT only versions at lower cost (El 01, E511, E601).

o Better documentation (and support).

In addition, we offer a number of options which do not feature in the Acorn range:

o E513 'Eurocard' **10BaseFL/10BaseT** card offering fibre-optic connection to the desktop; ideal for long server-hub links.

O **Avignon bridge** cards: Low-cost data segregation; similar to !Gateway but offering much improved performance without requiring any configuration. In addition the Avignon bridge software will integrate effortlessly and transparently with Access+ and full 1P networks, including forwarding data from non-Acorn computers. The Avignon software also allows multiple interface cards in a single computer (which may include one or more E513 cards) – ideal for Acorn servers.

o Network Solutions' ClassShare Client, Server and ClassROM cards available'.

Please contact our Customer Support Manager, Sharon Butler, if you require more information about the range of i^3 EtherLan interface cards.

4: EtherLan Ethernet Interfaces Current Product Status (including Known Bugs)

Note that a release of the EtherLan software is characterised by the version number of the EtherH driver module (obtained by entering *Help EtherH). All current i^3 releases incorporate Acorn's DCI-4 release of networking software.

Technical Support Bulletin 3/3a gave an historical over-view of DCI-4 networking software releases. In general this *Bulletin* only covers changes since Spring 1996, although *Section 5* includes a reminder of the position regarding Access+ upgrades for older (1Mbit) i^3 EtherLan cards.

Support for Virtual Interfaces

The significant software change during 1996 was the addition of support for virtual Ethernet interfaces on the E500 and E600 series EtherLan cards; i.e. making an $i3$ EtherLan interface card able to appear to the network as two distinct interfaces (or

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[2] ClassShare Server and ClassROM cards are subject to a license fee.

`hosts'). The most common application of this feature is where one host is used by the RISC OS environment while the other is used by a PC card/processor. This feature is provided in the only versions of EtherH we regard as current, versions 4.16 and 4.18, which are functionally identical. With the Avignon Bridge software the current release is EtherHB versions 4.17 and 4.18 (again the two versions are functionally identical).

These driver versions were more extensively beta-tested in the field' than any previous release. However:

❏ This testing was prior to the availability of the StrongARM processor.

❏ At the time of testing the PC card/processor software was undergoing extensive development, and did not provide reliable support for Windows '95.

❏ We did not have the opportunity to purchase a StrongARM upgrade until after Acorn had started to ship these to 'end users'. Acorn did provide limited facilities, at their own premises, for testing our network cards on a StrongARM system – but without a PC card and on a very small network with only one StrongARM computer (so we were unable to test communication between two StrongARMs) and without any non-R1SC OS servers.

Unfortunately, experience on 'real' networks has revealed some 'bugs' in the version 4. 16/4.18 driver. These are most likely to show up:

❏ When running a StrongARM Risc PC.◌

 When using virtual Ethernet interfaces (i.e. if EHVirtual is configured on).

❏ On a very busy network where there is large numbers of damaged data packets.◌

 On E601/602 cards where the main controller chip is manufactured by Winbond (the large majority of our cards, of all types, use the MX version of this chip).

That being said, it remains the case that a large majority of users appear not to be experiencing any problems with EtherH version 4.18.

In December we beta-released EtherH driver version 4.19, addressing the StrongARM related problems which had been identified at that time. This driver has been more effective than we initially expected, and even some 'worst case' hardware/network combinations seem to have shown acceptable performance with this driver. This driver is freely available on our Web site and is included in the StrongARM support on the *Modules soft-loader disc* mentioned elsewhere in this newsletter. A very few sites have been issued with later beta releases, but distribution of these is strictly controlled. We are continuing to work on the driver, and while this remains the case beta releases of the driver will only be made available in soft-loadable form. We do not expect to release new Flash ROM software releases before the middle of the year.

We have also been working with Acorn (ART) investigating problems elsewhere in the Acorn networking protocols, particularly in the area of exhaustion of memory buffers (Mbufs). We expect this work to lead to changes in some other network modules.

CMOS Lock Initial Release – **a warning**

The original release of CMOS Lock – CMOSLock module version 0.06 – had a very significant 'bug' when using AUN, such that the station number could not be set correctly. This version was only in production for a week before being superseded by the current version, module version 0.07. We would **strongly recommend** that any

cards with version 0.06 are re-programmed to version 0.07. The upgrade discs described in *Section* 7 include provision for carrying out this upgrade.

5: Other Support/Development Issues

Technical Support ealls

We continue to receive a lot of support calls concerning general Acorn networking issues. We're pleased to try to help – within reason – where we have relevant knowledge. However we would remind dealers that general support for Acorn networking problems should be sought through Xemplar (for educational customers) or through Acorn (ART). Where a support call is not directly related to our product and we are not able to resolve it relatively quickly we may find it necessary to refer you back to those sources. Please note that Acorn have published a number of networking-related *Application Notes* which are available on their FTP site.

Running Unix on Archimedes computers

Within the Acorn marketplace there is a growing interest in Unix. To our knowledge, two Unix implementations (BSD and Linux) have been ported to Acorn hardware, although in both cases development is continuing. These implementations require their own drivers for the Ethernet hardware (rather than using the EtherH driver we provide, which is used by R1SC OS and DOS/Windows on an Archimedes). We are providing ongoing support for the groups developing these Unix ports.

Access+ Upgrades on 1Mbit EtherLan cards

*This information was originally given in **Bulletin 3/3a.***

In moving from DCI-2 Access to DCI-4 Access+ the total size of the Acorn networking modules increased very significantly, to such an extent that it is not possible to accommodate the entire networking stack (Access+ and AUN/Level 4) in a 1Mbit Flash ROM. This restriction applies to all i^3 EtherLan cards prior to serial number 00:60:63. To summarise the position:

❏ The Access+ release for 1Mbit Flash ROM cards (EtherH v4.06) does not include the Net and ADFSFiler modules. The immediate effect of this is:

ADFSFiler: Computers running RISCOS 3.1 will not have the Share option available from their Hard Disc icon bar menu. However, they can still export a disc, or part of a disc, by using the *Share command, either from the command line or within an Obey file.

Net: Users cannot access Level 4 file servers; there will not be a Net icon on the icon bar. In addition, they cannot print using the NetPrint protocol, although Access/Access+ printer sharing is unaffected.

❏ Users who only wish to use Access/Access+ (generally those who are not using the Level 4 file server) are very unlikely to be affected at all by the lack of the two modules just mentioned. Indeed, the lack of the newer ADFSFiler is often considered an advantage, since it makes it less likely that users will set up unwanted 'shares'. Should the newer ADFSFiler be required on hard-disc computers it can be soft-loaded (see notes below); wherever possible this should be done from the local hard disc. Note that there is no point in loading this module on computers which do not

have a hard disc, since the changes incorporated in this module have no bearing on the use of floppy discs.ᵒ

Where users need to access Level 4 or other AUN-based services (such as network printers which use the NetPrint protocols, rather than the Access+ printer sharing mechanism) it will be necessary to soft-load the Net module. In doing this, please note:

> Wherever possible the module should be soft-loaded from a local hard disc. This process is quick, reliable and avoids overloading the network.

> It is possible to soft-load the module from an Access+ shared disc, as part of a ! ShareBoot boot sequence. This is quite easy to set up, and in many cases will work absolutely reliably. However it has to be recognised that when many stations (typically 10 or more) are attempting to run such a boot sequence simultaneously then the boot operation may fail on some clients. This is most likely to occur when a room of computers are powered on simultaneously, by operating a single master switch. Staggering powering on the computers, even by only a couple of seconds per station, is likely to allow them all to boot successfully.

> We believe that the work we have been doing with Acom/ART investigating the operation of various modules in the Acorn networking stack may lead to a 'fix' for this problem.ᵒ

On the Access+ disc we supply with new i³ EtherLan Access+ cards, and on all Access+ upgrade discs, there is a directory called BootMods. This includes copies of the Net and ADFSFiler modules, along with utilities for soft-loading them. Instructions for the soft-loading process are included in ReadMe files. This directory is also included on the *Modules soft-loader disc* mentioned at various points in this *Bulletin*. We strongly recommend that the soft-loading configuration is carried out by the dealer/installer/support centre rather than being left to the customer's network manager. Note that we anticipate modifying this soft-load procedure at some point, to reflect changes Acorn have made to the internal organisation of the !System application. These changes will be 'cosmetic' rather than having any bearing on the efficiency of the soft-loading process.

0 Because of the lack of space in the Flash ROM, the most recent version of the EtherH driver which can be supplied in Access+ releases for 1Mbit interface cards is version 4. 06. Should a later version of the driver be required this can be soft-loaded. Once again, support utilities and the necessary instructions will be found in the BootMods directory on Access+ discs, and on the *Modules soft-loader disc*. As with the Net/ADFSFiler soft-loads discussed earlier, loading from a local hard disc is preferable to loading across the network.

As mentioned earlier, it is also possible to upgrade the i³ EtherLan cards from I to 2Mbits of Flash ROM.

CMOS Lock version 0.07 — Addendum to printed documentation

It appears that, in some situations, when the Acorn `AUN' networking protocol modules start up they attempt to write to the computer's CMOS memory. If CMOS Lock's **Intercept CMOS configuration commands** option is active then this attempt will generate an error and the module initialisation will fail, with the result that the Net

icon will not appear on the icon bar. We are currently investigating this problem and considering how to 'work round' it; in the mean time if a user encounters this behaviour they should be advised not to use the **Intercept CMOS configuration commands** option (the machine's CMOS configuration can still be reset to its standard state every time the computer is re-booted). We would welcome any feedback on the extent to which customers are encountering this a problem.

Note that this problem/restriction **does not apply** to users who are only using Access+ networking.

¡³ EtherLan E512 Card: Auto-selection on A7000 computers

We are aware that where an E512 card (the 'Eurocard' style card) is installed in an A7000 computer[3] the auto-selection between the 10B ase2 and 10BaseT interfaces can be unreliable. In this situation we strongly recommend using the link (JP2) to force the computer to use the required interface. If you encounter a situation where this solution is not acceptable please contact our Technical Support service for further advice.

6: Old Stock

In recent months there have been a few instances of dealers shipping old stock to customers – in one instance the card supplied to an 'end user' was well over a year old. We feel it is sensible for larger dealers/support centres to keep a small stock of cards, and accept that there are occasions where even the smallest trader ends up with a card 'on the shelf. However, we are most anxious that goods supplied to your customers are up to the latest specification. In particular:

❑ No one should be offering 1Mbit Flash ROM cards to end-users as new product. (1Mbit cards have serial numbers lower than 00:60:63).

❑ All cards should include the CMOS Lock software, with CMOS Lock module version 0. 07. (This can only be checked by installing the card in a computer). Provided a card has a serial number after 00:63:17 then it will be fitted with a 2Mbit flash ROM and the upgrade discs described in the next section are all that is needed to ensure the latest software version is installed.

Should you find you are holding any 1 Mbit cards in stock, or 2Mbit cards with serial numbers between 00:60:63 and 00:63:17 please make a note of the serial numbers and ring our Technical Support to discuss the situation. We are prepared to consider upgrading IMbit cards to 2Mbit Flash ROM 'at cost', provided they are complete with full original packaging and have never been supplied to a user.

Please note that this offer only relates to ¡³ cards; old stock cards we have built for Acorn Computers has to remain a matter between yourselves and your supplier.

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[3] Clearly an A7000 needs to have a backplane fitted before it will accommodate an EtherLan E5I2 card.

7: Flash ROM Upgrades

Note that for the sake of completeness this section of the Bulletin duplicates some information given elsewhere in the Bulletin.

With the release of version 4.18 of the EtherH Ethernet driver we have made a new set of Flash ROM upgrades available. Because of the number of software release variants this is a fairly complex matter. The following points need to be borne in mind

❑ The re-programming discs needed for upgrading 1Mbit Flash ROM cards are different to those used for 2Mbit cards.

❑ Only AUN, AppFS and ClassShare Client software protocols are unlicensed. These can he installed on any card, regardless of the software previously installed there. However, if one of these protocols is installed over a 'licensed' protocol, all trace of the licensed protocol is lost. If it is later decided to re-install the licensed protocol the license fee will have to be paid again.

❑ Except for the unlicensed protocols just mentioned, and the CMOS Lock module for cards covered by the next paragraph of these notes, the only freely distributed upgrades are ones which install the latest version of the EtherH driver along with the protocol modules already present on the card.

❑ CMOS Lock protection was due for release on 1st July 1996; however because of some problems in the beta test programme it was not incorporated into the software release until the Autumn of 1996. All cards shipped after the 1st July without CMOS Lock can be upgraded free of charge to include the CMOS Lock module (this is implemented such that all cards with serial numbers from 00:63:18 can be upgraded free of charge; this represents a dispatch date somewhat earlier than Ist July).

❑ On 1Mbit Flash ROM cards it is impossible to install the Access+ release *with a* version of EtherH any later than 4.06; this point was discussed more fully in **Section 5 above.**

❑ The Flash ROM re-programming software is able to detect the size of the Flash ROM installed on an EtherLan card. Attempting to use a re-programming disc on a card with the 'wrong' sized Flash ROM will cause an appropriate error message to be generated.

❑ Other license conditions may be checked in one or both of the following two ways:

By reference to the card's serial number; this may be used as a means of dating the card.

By reference to the software modules already installed on the card.

These licensing conditions are encrypted into the upgrade programs. The license file included on an upgrade disc is provided for **information only.** It is not referred to during the upgrade process, and deleting or altering it will have no effect on the cards which the disc will successfully re-program.

❑ As was mentioned earlier, there are situations in which it may be necessary to soft-load a new EtherLan driver (e.g. if you have a 1 Mbit Access+ card, where the latest EtherH driver available in Flash ROM is 4.06; or if you have a need for the beta release of EtherH v4.19, which is only available in soft-loadable form). Similarly, where you have I Mbit Access+ cards you may need to soft-load one or both of the modules Net and ADFSFiler. All these soft-loaders are available on a single floppy disc. Also on that disc is a copy of a set of Acorn networking modules which may be useful for debug purposes, and some StrongARM resources, including the auto-recognition file for the Acorn AEH62/AEH78 interface cards, and a copy of EtherHl6 v4.19 beta.

❏ If you install any software upgrades which incorporate CMOS Lock protection you will also need a copy of the CMOS Lock management disc.

❏ If you install or upgrade any ClassShare software releases you will also need a copy of the latest ClassShare management disc. Note that a ClassShare client upgrade can also be used to upgrade ClassShare Server and ClassROM EtherLan cards to the latest version of the EtherH driver.

Attached to this *Bulletin* is an order form which can be used to order:

o The complete set of software upgrade/support discs   *or*

O The set of upgrade discs, except for the ClassShare discs   *or*

o Individual discs to match your requirements.

Note that:

❏ This is your only opportunity to acquire these upgrade discs free of charge; hereafter these discs will only be supplied on the terms set out in *Section 9.*

❏ You are expected to take back-up copies of the discs you receive – both for your future use and to ensure there are no faults on the discs. We suggest you copy these discs onto a secure hard disc.

❏ Many of the discs in the set are 1.6Mb Acorn format. If you wish to apply one of these upgrades to an EtherLan card in an A3000, A300 series or A400 series computer you will need to copy the required part(s) of the upgrade to an 800k floppy disc.

❏ If you want to supply a Flash ROM upgrade to a customer you may provide them with a copy of the upgrade we have supplied to you, provided the disc label includes the legend 'Copyright i-cubed limited'. If you wish you can make what you feel to be an appropriate handling charge for this service.

❏ An exception to the above 'terms of supply' is the AppFS client software conversion disc. Since the AppFS software is no longer supplied as standard on the i^3 EtherLan cards you can order a copy of the conversion disc free of charge with any order for EtherLan cards; please see Section 1 of this *Bulletin* for order code details.

❏ If you install CMOS Lock on a customer's i^3 EtherLan cards, or upgrade their ClassShare EtherLan eards, you must provide the customer with a copy of the appropriate management disc. Master copies of these discs are included in the upgrade sets, while extra labels for the management discs can **be ordered on the attached form.**

Coming Soon – Flash ROM Reprogramming from the Desktop

As announced previously, our aim is to produce a version of the Flash ROM reprogramming software which:

❏ Is provided as a Desktop application.

❏ Builds the required upgrade 'on the fly' taking account of the software already installed on the card and any additional licensing included on the upgrade discs.

❏ Reduces the number of floppy discs needed for an upgrade (or set of upgrades).

As a first step towards this, we have just finished alpha-testing of a desktop version of our current re-programming software. This version integrates the upgrades for the 1 Mbit and 2Mbit cards, for a particular software release, into a single upgrade application. When the application is run the user has to specify whether the card being upgraded requires the 1Mb or the 2Mbit ROM image, an appropriate error message is subsequently generated if the

wrong choice is made (there are good technical reasons why the current software cannot detect the image size required). The application also provides details of the software already installed on the Flash ROM, and of that included in the upgrade. Our alpha tests showed the need for a few alterations; we arc looking for volunteers to beta test the software once those changes have been made. If you would he willing to assist us with this please let us know.

8: Documentation Issues

Revised and new manuals

We have now completed the move to a more standardised style for our documentation. In addition, the following two documents have been significantly revised, mainly to take account of the Virtual Interface features of version 4.18 of the EtherH EtherLan driver:

O The *EtherLan Combo Card: User Guide*

O *Using a PC card with your i³ interface card: Application Note*
There is also a new manual:

O *CMOS Lock User Guide*

Other publications of possible interest

The following older publications may also be of interest to anyone who does not already have a copy:

O *EMC Compliance: Technical Note.* An introduction to the requirements of EN 5502 which came into effect on 1st January 1996.

o *The Educational User's Guide to Ethernet.* Now in three parts:

> *A: Ethernet Explained*
>
> *B: Bridged Ethernets*
>
> *A Networking Glossary*

A fourth part, describing IP *addressing and net masking* (as currently available on Acorn computers, and not incorporating more recent recommendations) is also available in draft form **if specifically requested.**

0 *An introduction to Acorn Access+:* Somewhat more detailed than the 'glossy' sheet Acorn supply, but at a simpler level than Acorn's Access+ booklet, which this is intended to complement.

o *Ethernet Bridges: Application Note:* An elementary introduction, which will be supplied with the *User Guide* for our *Avignon Bridge* EtherLan cards.

All of these documents can be ordered on the form accompanying this *Bulletin.*

9: Procedures and Personnel —Changes and Reminders

Personnel

> Doug Berry's letter which accompanies this *Bulletin* tells you about changes 'at the top' of i³. However, far more significant on a day to day basis is the fact that, after a long search, we have now found an additional Repair and Test Engineer. Sean Mobbs joined us in January, and is already making a valuable contribution to our repair work.

Procedures – Very Important

Some reminders, some changes, and some warnings that we are going to implement policies which we have often not enforced in the past. Taken together, these proposals may seem somewhat harsh; however many of the changes reflect the fact that we are anxious to move away from a situation where our most diligent customers are effectively subsidising others who may be somewhat less so. If you have any concerns over what follows then **please** phone to discuss them with us.

o Returns: Please always contact us for a Returns (RMA number) before sending back any items to us. This allows us to track your returns, and safeguards your interests.

o Warranty: As mentioned earlier, warranty on 2Mbit EtherLan cards is five years. However, we would remind you that warranty on earlier cards was one year. A significant proportion of the cards now coming back for repair are outside warranty. To date we have been rather lax in monitoring this! While we intend to continue to allow some 'date tolerance' on the customers' side, we are now carrying out a policy of charging for out-of-warranty repairs. A typical repair charge is £25 to £35 per card (plus carriage and VAT), and we will always provide a precise repair estimate if you require one. For your convenience the table below relates serial numbers to the **dates we will be using** as the end of warranty date. Because of some 'holes' in our card final test data this table represents a particularly generous interpretation of the twelve month warranty period. Should we locate the missing records we reserve the right to revise these dates – although we will, of course, notify you in advance of any such change.

Out of warranty dates for i³ EtherLan interface cards

Note that all warranty/repair matters on Acorn cards should be referred to Acorn Computers.

Out of warranty	Serial **number less than**
Now	00:42:ff
1st Jun 1997	00:47:ff
1st Aug 1997	00:4e:ff
1st Sep 1997	00:52:ff
1st Oct 1997	00:55:ff
1st Nov 1997	00:60:63

Thereafter: 5 year warranty applies

We would also point out that a small minority of repairs is not covered by warranty – for example where a card has clearly been physically or electrically abused.

o 'No Fault' returns: It remains the case that over a quarter of the cards we receive for repair prove to have no fault! Clearly it costs us money to inspect and test such cards; it can often take longer to satisfy ourselves that a card has no fault than it does to locate and repair a reported fault. In consequence, in **future we will be** making an inspection and test charge of £12.50 per item (plus carriage and VAT) for returns which prove to **have no** fault. (Note that in this context we will count an EtherLan E200 card and associated MAU as a single item.)

There may be occasions where, after attempting to identify a problem through our normal Technical Support arrangements, we agree to accept an item back for investigation; clearly in this case there will not be any question of making an

inspection and test charge. This fact should be clearly indicated on the RMA form we issue; if you believe we have agreed to a return on these terms and this fact is not indicated on the RMA form then you must query this with us before you send anything to us.

To help customers avoid `no fault' inspection and test charges we have produced a Pre-return Test Guide for our EtherLan cards (copy attached). Some support software for use with this is included on the Soft-loaders disc (see order form). We suggest you, or your customer, should always work through this Test Guide before returning a card to us.

o Time is money: With most repairs, the labour charge is higher than the cost of the ` spares' used. The more fault information you are able to supply the sooner we will be able to locate and remedy the problem. The result — your equipment is returned sooner, and if it is outside warranty the repair cost will be kept to a minimum. The most useful single piece of information is whether the card was being used on a 10Base2 or a 10BaseT connection. (Note that although this will often help us locate the fault, all 'combo' cards are tested on both their 10Base2 and their 10BaseT port as part of their final test.)

O Flash ROM re-programming discs — unlicensed upgrades: *Section 7* of this *Bulletin* offers you the chance to obtain, free of charge, any of the (unlicensed) re-programming discs which you require. This is your final opportunity to obtain these discs without charge. Previously our price list has shown some of these discs available at a cost of £5 per upgrade. It isn't really worth our while raising an invoice for that amount, so these charges have often been waived. **From 20th** May these discs will be charged at £10 per upgrade, with a minimum order charge of £25. This price includes carriage but excludes VAT. (End-user price £12 with £30 minimum charge.)

Alternatively, we will supply upgrade discs for £7.64 (£6.50 + VAT) per upgrade, including postage, with no minimum order charge, if we receive cash with order (yes, this does mean that orders at this price must be sent to us by post). We will try to avoid supplying these upgrades direct to end-users, but where we do so the charge will be £8. 62 (£7.50 + VAT).

Note that in this context 'an upgrade' is suitable *either* for 1Mbit EtherLan cards *or* for 2Mbit EtherLan cards, and may be supplied as a single high density disc. Please note that ClassShare upgrades always include a ClassShare management discs, and any upgrade which incorporates the CMOS Lock software will included the CMOS Lock management software and a single copy of the CMOS Lock manual and password information.

o Flash ROM re-programming discs — licensed upgrades: With these upgrades we need to be supplied with a list of the serial number of the cards to be upgraded. The serial number will be found on a label on the card; alternatively it is identical to the last three bytes of the card's Ethernet (MAC) address, which can be found with the *Podules command. For example:

```
*podules
Podule 3: i-cubed ltd, EtherLan 500 interface (00:c0:32:00:10:fd)
```

(where some lines of output have been omitted) shows an EtherLan card with serial number 00: 10:fd.

These serial numbers must be supplied in hard-copy form — letter, fax or email. Under no circumstances will we take serial numbers over the phone, because of the scope for mistakes.

Experience shows that errors in serial number lists are all too common. We will always do our best to correct these (but again we require hard-copy instructions). However in future any corrections required because of errors in the information supplied to us will be **charged at £10 per upgrade** (not per card). Please bear in mind that issuing a 'correction' disc involves very nearly the same effort for us as issuing the original upgrade.

o **Flash ROM re-programming discs — all releases:** Because of the size of an upgrade release, and our wish to supply relevant supporting material, our policy is not to supply upgrades by email. (This is an issue of the length of time our email connection is tied up for, rather than cost). Under exceptional circumstances we will supply a single upgrade program (i.e. the upgrade for a single card type, either for 1Mbit or for 2Mbit Flash ROM) by email. If you require an upgrade urgently and can supply us with the list of serial numbers by mid-day we can usually ship the upgrade in the same day's post. If requested we will send it using the Special Delivery service, to guarantee delivery the following morning, although clearly use of this service will be reflected in the delivery charge.

10: Dealer and Support Centre Days/ Training. Your Suggestions, Please

It is now well over a year since we held our last round of Dealer Days. While those days were very well received by those who attended, we were somewhat disappointed at the levels of attendance. This, combined with the very significant changes in Acorn marketing arrangements over the last year (including the emergence of Xemplar), mean we are reviewing what we should provide in this area. We would welcome your thoughts on this subject. We considered preparing a questionnaire, but decided that might actually restrict the responses we received — so you are invited to offer **any** suggestions. A non-exclusive list of things you might like to comment on is:

O How long should the session be? Half day/Whole day/Longer?

o How far are you prepared to travel for such a session? o What would you like to see covered? Possible topics are:

0 The i^3 product range, including CMOS Lock, Avignon Bridge EtherLan cards, Papyrus network printer sharer.

0 Simple debugging and fault finding.

0 Ethernet network design, including structured cabling.o

The role and future of 100Mbit Ethernet.

0 Ethernet and network protocols — background (theory and regulations).

o Advances in Fibre installation.o

Managing Acorn Networks (Access+ and/or AUN-Level 4). 0

Configuring Acorn computers for network use.

0 An introduction to 1P addressing and mixed platform networking.

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o Would you be willing to pay for more in-depth training on any of the topics outlined above, or any others you might wish to suggest? In general, our Dealer Days include material from our commercial training courses, along with Commercial/Marketing sessions; we arc interested whether you would be interested in our offering the full training courses to Dealers – at a special rate, of course.

11: In the Pipeline ...

O We now have a beta-test version of an EtherLan interface card for the new Acorn NC. This card will also work in the Risc PC, but not in older computers. Please contact us if you require more information.

O We are considering releasing future 'routine' Flash ROM upgrades only on CD-ROM, and would be pleased to hear your views on this. We are particularly keen to hear if this would cause difficulties for any dealers.

O We are continuing to work in consultation with Acorn Computers (ART) to investigate possible 'problems' in the Acorn networking modules. We hope that they will soon be making a more recent set of network modules available for developers, and that these will be incorporated in our next release.

o We are continuing to work on the EtherH driver to improve the performance and reliability of the virtual interface feature.

O Network Solutions will soon be releasing their greatly enhanced version of the Level 4 File Server, which offers significantly higher performance, new features and improved management facilities. We are pleased to say we will be one of the main distributors for this product. Please see the enclosed release information.
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12: on the World Wide Web

Our Web site is now 'on line' at http://www.i-cubed.co.uk. Please visit it and let us have your comments.

As mentioned, the beta release of EtherH version 4.19 has been on the Web site for some time. From now on we will be using the site for our latest information – both technical and commercial – so it is worth visiting it from time to time. The non-confidential version of this *Bulletin* will appear there shortly, and when we have a later EtherH driver available for general beta release the preferred route for its distribution will be via the Web site.

Significant changes to the Web site will always be announced in the **comp.sys.acorn.announce** newsgroup.

Finally, if you have an email address we would like to know what it is.i3