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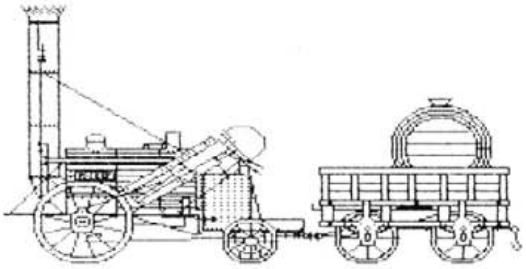
THE JOURNAL OF THE BRITISH APPLE SYSTEMS USER GROUP

August 1983 £1 VOLUME 3 No. 4



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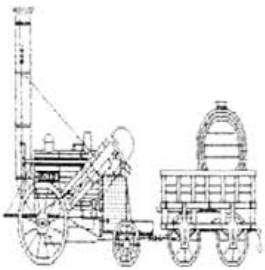

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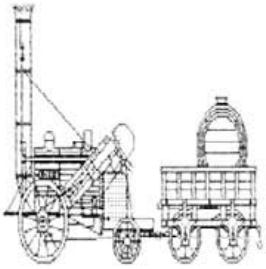

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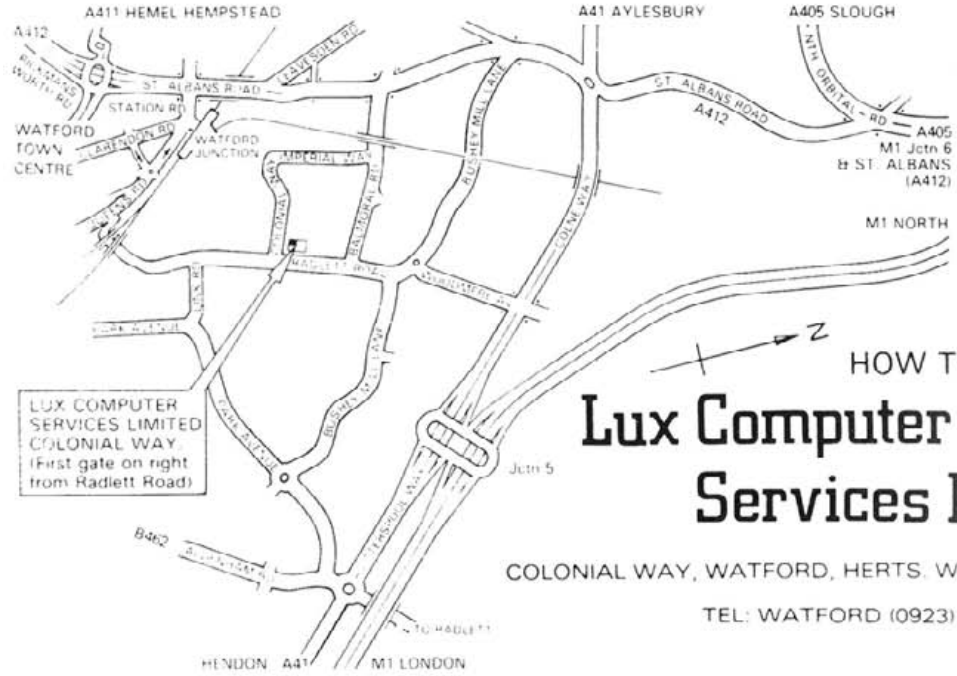

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HARDCORE is produced using Applewriter II, and printed on an APTEC Flowriter with a Madeleine Daisy-wheel

Front Cover

Norah Arnold created this using the Bit Stik and Zoom Grafix.

Editorial

Recently there have been criticisms that Hardcore lacks "bite". Could this be because we are too polite? Certainly one person admitted that having looked at a product in order to review it, she felt unable to put pen to paper as the product was so awful! Another reason, I feel, is that we have too many willing reviewers. People kindly offer to look at a product for a few days and then write about it. This seems fine, but in fact it is very unlikely that in such a short time a reviewer would find the more obscure faults or disadvantages that crop up with long use. Also there is a tendency to read the accompanying manuals and assume that what they say about their product must be true! This is a USER group after all. The people that should be writing about products should be those that actually use them.
Let's face it, if someone is contemplating buying a product, they want to know if there is a problem with it. If the product is good then there is no reason to worry if any member buys it. Of course we are happy to print that a product is good if it is, But we really need YOU, the User, to write and tell us if there is anything about a product that is not good. It could save someone from making a costly mistake. The whole point of a User Group is to exchange information that is not normally available to the general public.

On another point, we have now sorted out the previous problems with credits. Credits are now in the form of vouchers. One voucher may be used to purchase either a disk from the software library or a blank disk for only £1. We are sending contributors one voucher for each column that we print.

POTS

WORN OUT PADDLES

The pots for paddles are now available. If you haven't yet ordered yours, now would be a good time. They are called P15S Pots.
Please make sure you read this correctly!

Chairman's Corner

This is the first issue of Hard Core produced by BASUG Ltd. I believe that this event represents much of what BASUG has been doing in the last year. The change was made after professional legal advice had been taken by the committee on the best way to limit the financial liability of the members of the committee, while maintaining BASUG as a club, rather than a profit making commercial organisation.

Although the spirit of the club has remained in the true sense of the word amateur, it was vital that the organisation and administration of the club were properly developed to ensure the long term survival of the group. Accounting systems which meet the requirements of our auditors and VAT registration have been major areas of change. Many of these changes have not of course provided immediate extra benefits to the members, but they have established the foundations for growth both in the size of the group and for further services to members.

In the coming year, there are a number of areas of new development. I hope that by the time you get this magazine, there will be information on the Software Library 'Special Releases'. These programs will come with manuals, the aim being to get to members low cost, high quality software.

We also want to set up a hot-line help system based on the models of Call A.P.P.L.E. and Washington Apple Pie. We will need volunteers to answer problems, and we will also need the cooperation of all those who use the system to ensure that no unreasonable burden is placed on the 'Consultants'. We are also waiting for B.T. to install the first BASUG telephone, which will allow phone enquiries.

We also expect to hold more courses and meetings, throughout the country, and will help more local groups to get going.

****

If you use one of our advertisers, don't forget to mention that you saw it in Hardcore. Advertising pays for this magazine.

****

A Noddy Guide To Indexes

by Cliff Wooton

Indexes are simple. Not at all as complex as all those high flying computer experts would have us believe. I will try to lift some of the mystery from them here, but please bear with my rotten English and even more rotten jokes.

When thinking about an index system, the following sub-systems will be required.

A KEY STRIPPER
A FAST SORTER
AN INDEX BUILDER
AN INDEX SEARCHER
A LOADER

The first three are only required during the index build process while the last two are required only at search time.

The programs are easiest written as separate modules for simplicity and ease of debugging. Let me tell you, it is one whole lot easier to debug a small program than a big one.

Before writing the program it is wise to consider how the index access is to be designed and what language it is going to be written in.

I find machine code best for three main reasons.

1. It runs faster.
2. It is transferable from Integer to FP.
3. It is hard to disassemble (mine is, due to its basically unstructured nature.)
4. It covers up bad programming practices.
5. People are impressed with your cleverness.

The program subsystems themselves are essentially very simple. Let us assume that we have a series of records stored in a text file. The format of each record might be as shown in Fig 1.

FIELD NO	CONTENTS	SIZE	TYPE
Field 1	Surname	20 Chars	ASCII
Field 2	Initials	4 Chars	ASCII
Field 3	Phone No.	6 Bytes	BCD
Field 4	Address	40 Chars	ASCII
Field 5	Inside leg	2 Bytes	BCD
Field 6	Part no.	6 Bytes	BCD
Field 7	Left/Right	1 Byte	ASCII

Figure 1. Record Format.

Let us say that we want to build the index based on the value of the surname.

The index key will be field 1. The index key could be based on any of the fields within the record or could be the record number itself. The choice of key is immaterial, and only important is the fact that there is a key. This key is used by the key stripper which is the first part of the index build process.

The key stripper program will pass through the entire Text file reading a complete record at a time. As it retrieves each record it notes the contents (in this case) of field 1 and also the track and sector number in which the record starts and the byte displacement. These are stored together to form a record in a new file that will form the basis of the index. The record format of this new file is shown in Figure 2.

FIELD NUMBER	CONTENTS	SIZE	TYPE
Field 1 (key)	Surname	20 Chrs	ASCII
Field 2	Track	1 Byte	Hex
Field 3	Sector	1 Byte	Hex
Field 4	Byte	1 Byte	Hex

Figure 2. Index file record format.

This file will have the same number of records as the Base file. Each one will correspond to one in the master file and they will at present be stored in the same order as they were entered. The key stripper is now finished and may therefore be flowcharted in its entirety as shown in Figure 3. see over

During the execution of this program several pointers will need to be maintained.

1. A pointer to each record in the master file is needed. This is incremented by the master record length each time a new record is called up.

2. A pointer to the next pocket to be built in the new file will be required. This will be incremented by the Key length plus three bytes for the track sector and byte every time a new pocket is built.

3. A pointer to the track sector list of both files will be required if the program is performed in machine code using dynamic access to the disk via RWTS.

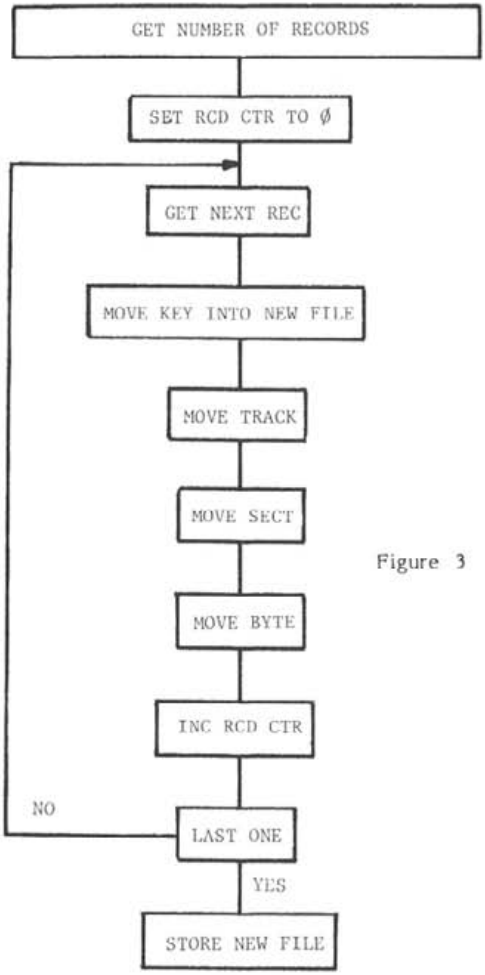

Figure 3

Having built an abridged version of the file, the sort program is used to arrange the keys and their associated track sector and byte printers into some logical order. This sort can be of any type but must be built to fit the records stored in the file to be sorted. The sorted key file is then stored in the disk if necessary.

At this stage the data in the master file can be accessed in two ways.

1. In the order in which it was keyed.
2. Indirectly via the sorted key list.

The indirect method is simple enough.

Complete records are retrieved and the pointers used to locate the specific record within the master file. This sort file can be invisible and form part of the index only, or may be accessible if it has its own directory entry. This indirect method of access is illustrated in Figure 4.

This is where the indexing starts to get a little tricky, not because it is complex but because it will require several intermediate files to be maintained at once.

The sorted file now becomes the primary index level or PIL.

The third program used during the build process comes into play. This is the index builder proper and has several stages. The PIL is searched and assuming it has been built in ascending order the smallest key value will be at the start and the largest at the end. This also applies to each sector of the key list. As we pass through the PIL we make a note of each record that is the last one encountered in each sctor. The number of records in each sector of the PIL depends on the length of the sort key chosen. We should start to build up a file whose length measured in records is the length of the PIL divided by the number of records in each sector. As we store these we modify the track sector and byte pointers to reflect values within the PIL instead of the master file. When a complete pass is made we will have built a smaller list of keys. This smaller list of keys will be called Intermediate Index Level One (IL 1).

This IIL has several properties worthy of note. Its most important being that it consists entirely of keys that are each the highest value of their corresponding sectors within the PIL. This IIL is stored and if it is more than one sector long it is used to replace the PIL while another pass is made to build IIL 2. Several more IIL's may be made until a level is built that occupies only one sector.

In the case of a very short master data file it is possible that the PIL itself could only be one sector long. In this case an index will not save any time in accessing the data. At each level a byte will need to be reserved in each sector indicating the level of the index being accessed. It would be most convenient for this value to be zero when the PIL is reached. When the index length has been whittled down to one sector in length it is defined as being the Highest Index Level. As mentioned previously this might also happen to be the PIL or might be one or

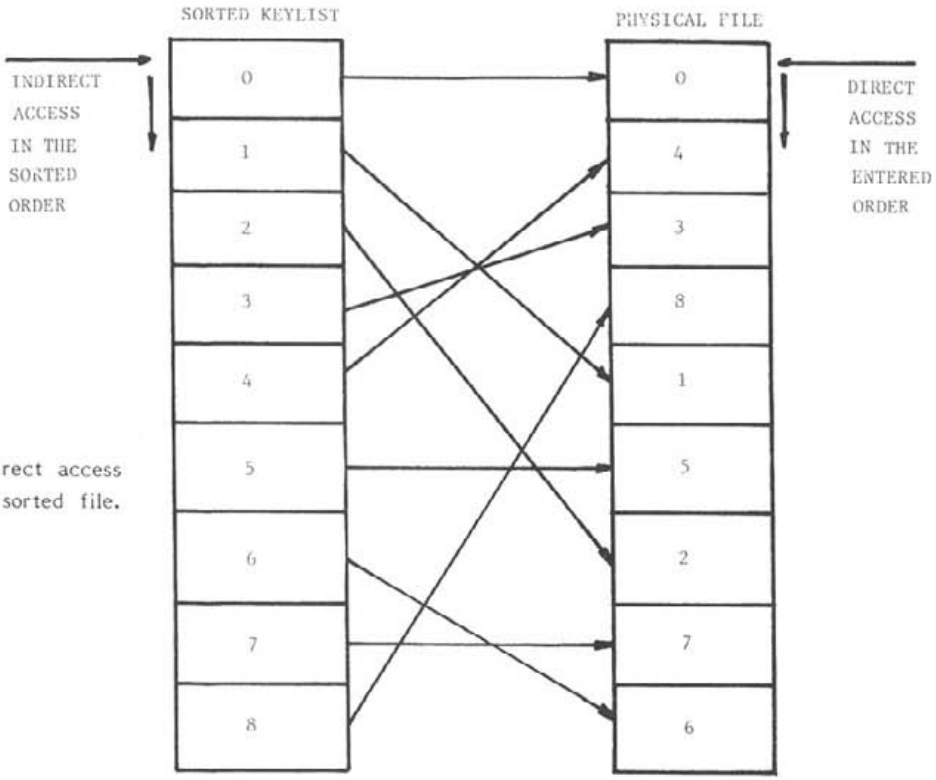

Figure 4.Indirect access via a sorted file.

more levels above depending upon the size of the Index/Sort key value.

The index is now complete and can have its own entry made in the disk directory. The intermediate levels need not have entries within the directory but could have if it was required. This would only have the advantage of different entry levels to the index. The index is now complete and functionally can be illustrated as shown in Figure 5. see over

That completes the index build procedure. The only remaining units of software to be written are the search modules. These will be used to inspect the index to locate the key value required.

First of all the search key is compacted into the same format as the index key. This will not be necessary in the case of a straightforward byte for byte storage but will be required if any compaction has taken place, for instance in the case of a BCD key.

The HIL is searched for a value of the key that is equal to or greater than the search key. The relevant sector is loaded from the next level down and a search performed in the same manner to locate the key again. This process is repeated, always looking for a key that is equal to or greater than that being searched for. When the PIL is reached the system should be informed. This is why the index level needs to be indicated in each level. The PIL should be searched to locate a key exactly equal to the search key. If one is not found then there is no corresponding record within the master file and the search process will halt. If an equal value is found then the track and sector within the master file are located and the record pointer set to point at the specific record within the master file. The index search program is now finished and can pass control to the routine that requested the search in the first place. If the record is required for processing or alteration the LOADER can be used to get the appropriate data into the system memory.

If we figure out a case history we can see the advantages obtained by using an index.

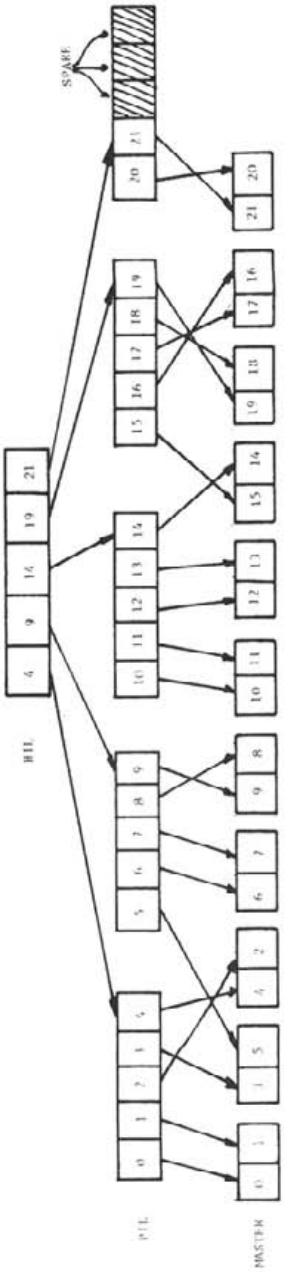

Figure 5. Index function.

Let us say that we have created a file with 1000 records each 64 bytes long. This file would be 64/256 x 1000 = 250 sectors in length. To locate a record in the middle, if the file has not been sorted, will require 125 sectors to be inspected. Normal disk access is abour 200 m.secs (600 m.secs max.), this works out at about 25 secs (75 secs max.). This is a long time when sitting at the console. This access time can be improved by just using a sorted file. Suppose we choose an access key equal to 7 bytes in length, adding the track/sector/displacement pointers. This would make the key length 10 bytes. We would now fit 25 keys into a sector so the sorted list would be 40 sectors in length. The total file is now 250 + 40 = 290 sectors in length, but the access time would now be based on sequentially searching 40/2 sectors. This would reduce the access time to 20 x 200 m secs = 4secs (24 secs max). This is an improvement but is not as drastic as it would be by using an index. By using the same key the index levels would be as follows.

FILE	250	SECTORS	1000	RECORDS
PIL	40	SECTORS	1000	RECORDS
IIL	2	SECTORS	40	RECORDS
HIL	1	SECTOR	2	RECORDS

The file would now be 250 + 40 + 2 + 1 = 293 sectors long, but the access time would require 4 sectors to be accesed, reducing the access time to 800 m secs (2.4 secs max) to locate any record anywhere in the index. The time could be reduced on some records by accessing directly into the IIL or assuming that the HIL was allowed to be 2 sectors long. This would be quicker for access to the first 625 records but would take 20 m secs longer for the remainder.

The concept of indexing is really not one of complexity but of arranging the data logically, and choosing an appropriate access key. The shorter the key the fewer index levels required. Each index level required is a disk access, and the fewer there are, the less access time is required.

Pascal Pages

***

```
        .PROC CLEARSCREEN

        RCALL CLRSCR
        RTS

        .FUNC SCRN,2

        POP RETURN
        PLA             ;POP 2 WORDS
        PLA
        PLA
        PLA
        PLA
        TAX
        PLA
        PLA
        TAY
        PLA
        TXA
        RCALL SCRNIT
        TAY
        LDA #0
        PHA
        TYA
        PHA
        PUSH RETURN
        RTS

        .END
; LORES ROUTINES
; SEE NIBBLE EXPRESS VOL II
; SCRN ADDED BY Greg Watson
;
```

```
(*INTRINSIC UNIT FOR INSERTING IN SYSTEM
LIBARAY TO ALLOW USE OF LOWRES GRAPHICS
BY INCLUDING 'USES LORESG' IN PROGRAM *)

(*$S+*)  (* SWAPPING OPTION MUST BE ON
            FOR UNIT *)

UNIT LORESG; INTRINSIC CODE 23;

  INTERFACE
    PROCEDURE LORESMODE;
    PROCEDURE NOTEXT;
    PROCEDURE TEXTMODE;
    PROCEDURE COLOR(C:INTEGER);
    PROCEDURE PLOT(X,Y:INTEGER);
    PROCEDURE HLIN(X1,X2,Y:INTEGER);
    PROCEDURE VLIN(Y1,Y2,X:INTEGER);
    PROCEDURE CLEARTOP;
    PROCEDURE CLEARSCREEN;
    FUNCTION SCRN(X,Y:INTEGER):INTEGER;

  IMPLEMENTATION
    PROCEDURE LORESMODE;EXTERNAL;
    PROCEDURE NOTEXT;EXTERNAL;
    PROCEDURE TEXTMODE;EXTERNAL;
    PROCEDURE COLOR;EXTERNAL;
    PROCEDURE PLOT;EXTERNAL;
    PROCEDURE HLIN;EXTERNAL;
    PROCEDURE VLIN;EXTERNAL;
    PROCEDURE CLEARTOP;EXTERNAL;
    PROCEDURE CLEARSCREEN;EXTERNAL;
    FUNCTION SCRN;EXTERNAL;

  END.
```

I saw a program in an earlier PASCAL PAGES column that allowed you to use the low resolution graphics on your programs. This is fine except that I didn't want to have to include the routines whenever I needed them (even via the compiler option) and I thought the most trouble-free method would be if I could use the routines just as I do the TURTLEGRAPHICS routines.

This lets you do just that. When you need the routines just include the statement 'USES LORESG' in your program and you can use the routines with no further worry.

The price you pay is the complexity of typing it in and getting the new UNIT into the SYSTEM.LIBRARY.

(1) Type in the assembler listing shown into a textfile and call it LORES.TEXT.

(2) Use the SYSTEM.ASSEMBLER to assemble this text file into LORES.CODE. NOTE: You may have to transfer the assembler files to the boot disk, and you may need to specify a file size for LORES.CODE - a size of 10 will cover everything.

(3) Enter the Pascal program and call it LO.TEXT.

(4) Compile LO.TEXT into LO.CODE.

(5) Use the SYSTEM.LINKER to link LORES .CODE into LO.CODE to produce a code file called LORESG.CODE.

(6) Xecute LIBRARY from APPLE3 to merge SYSTEM.LIBRARY and LORESG .CODE to form NEW.LIBRARY (see THE SYSTEM LIBRARIAN on p.186 of OPERATING SYSTEM MANUAL for an explanation of using the LIBRARY program).

(7) Change the name of SYSTEM.LIBRARY to OLD.LIBRARY and then change the name of NEW.LIBRARY to SYSTEM.LIBRARY.

(8) Use lo-res graphics.

NOTE: This assumes segment 23 is available in SYSTEM.LIBRARY (which it will be if you haven't added anything to the library yet) and this number used by the Pascal UNIT will have to be some other number if 23 is used.

```
PROGRAM LORESDEMO;  (* KALEIDOSCOPE *)

USES LORESG;

VAR C,W,I,J,K:INTEGER;

PROCEDURE PLOTBOTH(X,Y:INTEGER);

  BEGIN
    PLOT(X,Y);
    PLOT(Y,X)
  END;

BEGIN
  LORESMODE;
  FOR W:= 3 TO 50 DO
    FOR I:= 1 TO 19 DO
      FOR J:= 0 TO 19 DO
        BEGIN
          K := I+J;
          C := JAS DIV (I+3)+I&W DIV 12;
          COLOR(C);
          PLOTBOTH(I,K);
          PLOTBOTH(40-I,40-K);
          PLOTBOTH(I,40-K);
          PLOTBOTH(K,40-I)
        END
END.
```

Membership

Renewal Dates

Many members are concerned that their renewal dates seem to be incorrect. "My renewal date is for January and I joined in September!" is a typical cry. Do not despair. The renewal dates are American-style. They are in the order - month, day, year. So the member who joined in September will find that his renewal date reads 09-01-84.

APPLE ///

We have a volunteer to answer questions on the Apple ///. If you have a question please address it to the P.O.Box as usual.

Several articles have been submitted for Hardcore which are not suitable for printing. If articles are too long or too specialist, they may be sent to the software or literature libraries for possible inclusion. I am naming these articles so that the authors know that they have been received but will not be in print.

1. APPLE SALES CODES by Cliff Wootton

2. JOURNEY TO THE CENTRE OF THE DISK by Cliff Wootton

3. LOWER CASE ROUTINES by Thos. S. Korteweg

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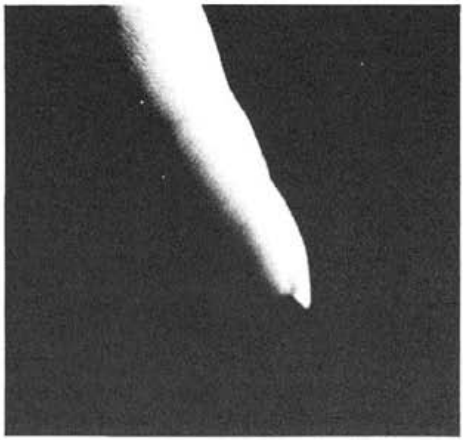

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AGM

MINUTES OF THE A.G.M.

Minutes of the Annual General Meeting of BASUG held at the Central Institute, Longford St., London at 2.00 p.m. on Saturday 2nd July 1983.

The meeting was opened by Bob Raikes, BASUG chairman, at 2.05 p.m. Approximately 50 members were in attendance, including all the outgoing committee.

1. It was proposed by Tony Williams, and seconded, that the minutes of the previous Annual General Meeting held on the 18th July 1982 were taken as read. This was carried unanimously.

2. Matters Arising. There were no matters arising.

3. Chairmans Report. The Chairman explained that following John Sharp's resignation as Secretary, in order to take up a new job, Norah Arnold had taken over as Secretary, and that he had then taken her place as Chairman.

On behalf of the committee and the membership, he presented a glass Apple paperweight to John Sharp, as a token of thanks for the amount that John had done for the club. John Sharp expressed his surprise and thanks and pointed out that many others had worked very hard for the group. BASUG had grown far beyond his original expectations.

The Chairman thanked all those present for attending the meeting, and noted members from Middlesborough, Nottingham, Bristol, Portsmouthh and Eire. He continued by stating that BASUG existed only because of its members and needed their support and contributions. He acknowledged that the majority of activities were still based in the South East, but looked forward to further opportunities to widen the area covered.

Looking back over the year, it might seem to most members that few major changes had taken place, but much had been done by the committee in building a firm administrative foundation for the long term growth of the group. Much had been done to set up BASUG Ltd, and administration of the group was now on a more professional footing.

During the forthcoming year, more emphasis could be placed on the growth of the group, both in numbers, and in terms of the services offered by BASUG to its members. In particular, it is the intention of the committee to set up a Consultants list on the Call A.P.P.L.E. model. This venture would need the support of many members to ensure success. To improve communications within the group, those standing for committee membership had agreed to release their phone numbers to members. The administrative centre would also shortly have phone facilities.

4. Secretary's Report. Norah Arnold refered to the fact that she had not been long in the position of Secretary in giving a report on the events of the last year. She was able to announce that BASUG Ltd had been incorporated as a company limited by guarantee on the 28th June, and that the certificate of Incorporation had been received on the 2nd of July.

Efforts had been made during the year to build a better relationship with Apple UK. Meetings had taken place, and the feeling was that Apple were now keener to deal with existing as well as new Apple owners.

Although some had fallen by the way-side, a number of Local and Special Interest groups had now got going. One of the problems encountered by SIG's was the wide geographical spread of those interested.

BASUG had succesfully participated in a number of exhibitions including PCW, the 4th London Computer Fair, The Midland Computer Fair, the recent Earls Court exhibition and Apple '83. Thanks were given to all those without whose help exhibitions could not be attended.

A number of workshops and courses had been held during the year. Courses included Pascal, two Assembler courses, Visicalc and File Handling. Workshops had been held in London, Birmingham, Nottingham, Cambridge and Milton Keynes.

5. Treasurers Report. Fran Teo explained that although she was not Treasurer at the time of the AGM, she had held this post until a short while ago, and she was therefore better equipped to answer any questions about the accounts.
At the last AGM, there had been no accounts to hand. This position had been rectified, and accounts for the period up to the end of

August 1982 had been prepared, audited and published to members. BASUG has been registered for VAT from the 1st July 1981, and there is some liability for VAT from that time until now. This was not an excessive amount, and calculations had been agreed with HM Customs & Excise. In order to allow for VAT liability, the cost of software library disks was increased, but no further increases are planned.
Although exact figures for this years accounts were not available until the accounts had been fully prepared and audited, she expected that there would be a small surplus over the year 1982/1983.

V. Quaintance then asked whether the committee had considered the possibility of registering the group as an educational charity in order to avoid Corporation Tax.
This had been considered in the past, but it had been felt that the restrictions placed on the groups activities by the relevant legislation were too great, bearing in mind the reliance of the group on sales to members as a source of income. It was anticipated that the Tax liability would not be large.

6. Election of committee. The following nominations for officers and committee had been received :-

Bob Raikes (Chairman), Norah Arnold (Secretary), Tony Williams (Treasurer), Fran Teo, Keith Chamberlain, David Bolton, John Rogers, Jim Panks, Quentin Reidford and John Wellsman.

There was a block proposal by Peter Trinder, which was seconded, and this was passed.

7. Any Other Business.

a) Apple UK. Some discussion took place about the actions and attitudes of Apple UK, and its relationship with BASUG. It was clear that Apple are taking a more positive view of existing users, although some dealers are not. Apple have said that they are prepared to take up problems with dealers on behalf of users. The committee asked that the experiences that members have of this system are passed to BASUG for possible publication in Hardcore.

b) Literature Library. Enquiries were made about the position of the Literature Library. John Rodger explained that a list of the items in the library could be sent to members on request. Items could then be borrowed, or on occasions be duplicated and posted on. This proved expensive, and demand had been small. The possibility of a Lending Library had been investigated, but items had been retained by borrowers for many months, despite repeated letters. Never the less, the committee was always reviewing all the activities of the club with a view to change and improvement.

c) Micronet. Following a question from the floor, David Bolton replied that Micronet were about to launch a hard wired modem for the Apple for about £75.00 as a special offer to BASUG members and those who had already ordered.

d) It was requested that future mailings about meetings contain all the neccesary information about meetings. The chairman apologised for the absence of a time on the last mailing about the AGM. V. Quaintance requested that future meetings be held at 2.30 to assist those who travelled a long distance, or worked in the morning.

e) D. Hendry asked whether BASUG could develop cheap hardware sales along the lines of Call A.P.P.L.E. This had been talked about at length by the committee. The main reasons that more had not been done were the neccesity to offer warranty back up, and also the amount of time neccesary. No volunteers had ever come forward to do this job.

f) It was suggested that a database be set up of members equipment in order that those who were considering buying something could consult existing users. When this had been done in the past as part of the membership database great problems had been encountered in keeping it up to date. This seemed a good potential use of Micronet.
A vote of thanks was given to the committee for their work during the last year.
The meeting closed at 3.22pm

Software Library

As Jim Panks has not been able to write for Hardcore, he asked me to tell you that the software library is now under new management (ie his). He hopes to add a lot more on CP/M, in Pascal and other languages. We always need more software so please write in.

SLOUGH '83

NO DESPOND AT SLOUGH

BASUG at the Windfall 83 Show
by Tony Williams

While not wishing to join the team from Stockport in their orgy of self-congratulation, we at BASUG also have to say "Good Show" to the Windfall organisers. Everyone I talked to agreed that this show has something different to offer, and that they came away well satisfied. Of course Apple 83 is no use whatsoever to ZX81 or Spectrum users, which is one of its strongpoints. Apple users do not have to wade through the crowds besieging stands of marginal concern to them. All the stands in the Slough Fulcrum Centre are Apple stands.

Attendance figures are lower than at some of the larger shows, but the interest is correspondingly more intense. Each inquiry can be treated at length and in depth by exhibitors, well by some of them, and hence more business is done. Put it this way - this is not a show for hordes of kids and space invaders but it is still fun for the serious user.

The initial impression was that attendance was down, but this was in fact not so - numbers were up on last year. The blazing sunshine outside - following a dreary spring - might have kept some potential customers away, but in any case, as Derek Meakin told me, those that attended the show came with money in their pockets and this was mightily pleasing to exhibitors wanting to take it off them. The successes this year and last mean that Windfall will be going ahead with its plans to "take Apple to the people" in the shape of "regional villages".

As for BASUG - it was fun for us too. Recruitment of new members was moderate, some forty or so, but since that was only one of our reasons for being there we were well satisfied. We manned our stand in order to put faces to our names, answer questions and ask some of our own. This is one of those occasions, highly gratifying to the committee when ordinary BASUG members come forward and quite voluntarily man our stand for hours on end. Jim Panks shouldered responsibility for setting up the BASUG stand. He was joined by Peter Trinder (who stepped in with the loan of his Apple IIe at positively the last minute) and others, not forgetting "BASUG GILBERT", in spending many hours talking to members, demonstrating various Apple capabilities and explaining "What BASUG can do for you!" Some of their time, but not much, went into catching the flak put up by irate members complaining at what BASUG failed to do for them in the past. They explained patiently that that all happened then, and cannot possibly happen in future - at least I hope that was what they said.

Local Groups

The South-East Essex Computer Club meets at:

The Esplanade (pub)
Sea Front - near the pier
Southend-on-Sea, Essex

Every Monday at 20.00 hours.

Various machines but the Apple users (around 10) considering forming their own break-away group.

Essex Group

Colin Poynder has offered to set up an Essex Group. As he has an hotel, he obviously has a possible place to hold meetings but he is very aware that Epping is not central for Essex. He would like anyone interested in joining an Essex group to contact him either by letter or phone giving their address so that he can sort out a convenient meeting place. He will then contact all those that were in touch to let them know details of time and place.

Colin can be reached at:
[illegible]
Telephone: [illegible]

Please let us know what is happening in your local group.

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DEALER ENQUIRIES WELCOMED

Book Review

Kids And The Apple (Prentice/Hall)
By Edward H. Carlson

reviewed by
John Bettle

This review enabled me to look at a book which I had contemplated buying for my children. Being a newcomer myself to practical computing I needed some assistance before starting to teach my children.

I started off by giving the book to my 13 year old son who has limited programming experience but does know his way around the "Apple". Initially I just left him to it with no comments from me. His first comment was "But I can do this", but after the first few chapters more questions arose from him and perhaps things were not as easy as first thought.

Here I think the book scores. It has some 33 chapters. These are all fairly short and add up like building blocks to a greater understanding of simple programming. The length of the chapters to me fulfil two major requirements of a child's text book - one, a quick sense of accomplishment without too heavy a drain on the reader and secondly, it forestalls boredom which a child gets if left to plough through acres of text.

Each chapter consists of three parts: First, notes for the parents or teacher to prepare them for the topic the pupil is about to start, thus giving them a head start on any possible queries that might arise. These notes can also be used by older students as part of the lesson. Secondly, the actual topic for the chapter. The topic is approached simply and with a feeling for a child's logic and also with an accent on hands-on experience of the computer. In this section there is an abundance of cartoons, which to the more advanced programmer may seem a waste of space, but I think they are used well not only to make the subject more lighthearted but also to put over ideas in a way children easily assimilate. For example memory locations are represented as several toy boxes each holding different toys, a much more understandable idea than a technical description. Thirdly, a section giving assignments to the child to make sure whether they have in fact understood the work they have completed or whether they

need further practice before carrying on. Answers are given at the back to these questions.

I personally like the question-answer technique used so often in American text books but certainly at the start my son did find this a strange system although he very quickly came to terms with it.

As at this time (prior June 9th) opinion polls are all the rage, I carried out one on this book. I asked several people in an age range of 12 upwards and with varying computer experience to give an opinion on this book. All but one were very impressed with it not only as a book for a child but for anyone who is new to computers who needs a gentler introduction than the one given by the Apple Tutorial and other Basic learning books.

My main critisism of the book was the price - £15.95. Although not vastly exhorbitant these days for computer books, I feel it is when the book has a very limited useful life as once successfully learnt, which is not that difficult, it has no lasting use as a reference book. So unless you have a very large family, the value for money is small which is a shame for what is a good book. I think it is a library book or more especially a book for schools with "Apples" who are going to get many years of good use out of it.

In conclusion you may have gathered I think this is an excellent book but at a price. One thing to remember, if looking at this book as a possible one for your children it is just primarily that, a book for children.

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DEALER ENQUIRIES WELCOMED

GPLE

A Review by Dougal Hendry

Global Program Line Editor
- Author: Neil Konzen

When a program has been on sale for over a year, and has a great "Word of mouth" reputation yet has not been reviewed by any UK magazine... the time has come for digital extraction !

At the outset, let me say that this is an unashamedly favourable review. I believe that this program is the single most essential utility for any Apple Basic programmer.

Why? Because it not only provides the line editor that should have been there from the start, but it can also find the lines for editing, handles lower case better than a IIe, provides programmable function keys, and even hides itself very effectively. It provides a 32 character typeahead buffer, works with both Applesoft and Integer, and many 80 column boards. Treat as a bonus the fact that a "Move DOS to the Languge Card" relocator program is provided as an option, along with the appropriate fixes for FID, Muffin and Renumber.

Let's look at the line editor. This core function is like the earlier, excellent but comparatively limited "PLE", from the same author. A CTRL-E followed by a valid line number presents that line in "Edit Mode" - the line is listed using the full screen width, with the cursor following the (right justified) number. The arrows move you as usual, but are not needed for tracing over the entire line. You keep the lot when finishing with a Return ! The real magic starts with a CTRL-I, for subsequent typing is inserted, while the rest of the line is automatically shuffled along to make room for it. CTRL-D deletes the character under the cursor in a similarly neat fashion. You can Zap all characters from the cursor to the first, (or n th), chosen character - a colon perhaps ? The cursor could be moved non-destructively to that chosen character, or straight to the beginning or end of the line. It's even possible to Restart the editing of a line, should you mess it up in a big way...

Global editing is the first enhancement over PLE. The line(s) for editing can be selected as a range of numbers, or all those containing a designated string, either from the whole program or a range of line numbers. Before entering edit mode on each line, the search string can be auto-replaced by another string. Global search and replace without editing is also possible.The search string may even be a sub-string - (when you know about tokenising, you can appreciate just how clever it is to spot the "IN" within "PRINT").

If you have a lower case chip, or run a IIe, you'll love GPLE. It happily allows entry of Monitor, Basic and DOS commands in lower case, supports the single wire shift mod, (or else CTRL-A), and even allows natural program "Input" of lower case. A lower case letter under the cursor appears not as flashing punctuation but as inverse upper case - an excellent aid to editing.

A very simple configuration program is supplied with the tweaks for various 80 column cards. I will remark that in supporting my Vision 80 card it saves the irritation of Shift-Key-bounce causing inadvertant Caps-Lock-mode change. It should work with the Digitek card, and also supports those from ALS, M&R, Videx and Wesper (Wizard).

The program links in through the DOS I/O hooks, and so must be reconnected after using a printer - an ampersand relinker is provided. Three functionally identical versions are supplied for different memory configurations. It can sit between DOS and the file buffers in a 48k machine, or on the "spare 4k" of the Language Card. This means that you could be forgiven for not knowing that it was there. It also survives INT, FP, and MAXFILES. The third version works with the relocated DOS, which precludes the use of an alternate language in the 12k bank and may not like packaged software but does give you back 10.5k of RAM.

Although there are many lovely trimmings like the ability to list a program a screenful at a time, the major facility that I have kept for last is the provision of over 1k of space for definitions of "Function Keys". These are realised through software, not hardware ! An example: typing ESC 1 gives me "CATALOG,D1 RETURN ESC S". The last part is another key function, "nested" within the one that I used, which CALLs a routine that works out and displays the number of sectors free. Very neat ! Now these definitions can be changed at will,

and saved to disk. Proper use of the nesting ability will give a lot of mileage out of that 1k, but I'm afraid that however much there was, we would ask for more. There are so many ways to use it - typing non-keyboard characters like underscore, entering and calling small, temporary m/c programs, in fact anything that reduces repetitive typing.

So, what's missing ? Not much. Most significant is the inability to re-order blocks of lines. This is useful when you realise that a chunk of code ought to be somewhere else, perhaps as a subroutine. The facility is provided in a lesser program, CRAE. Perhaps a reader has an ESC function that would help !

GPLE provides so much, and does it so well, that it is likely to be your Number One utility. When Neil Konzen writes a Word Processor, I'll be at the head of the queue...

GPLE: $38.50 for A.P.P.L.E. members, or about £40 U.K. retail, published by Synergistic Software. (32pp Manual).

Voice for Speechless

A voice for the speechless

By Nigel Wallace

For some years, in a desultory way when time permits, I have been playing around with applications for the Heuristics speechboard and the Mountain Hardware Supertalker for helping people with a very common form of physical disability, that of aphasia. It comes together with other forms of brain damage which means that in addition to loss of speech victims of this disability cannot use their limbs or fingers to type or communicate easily by other means. I used the Speechlink board to match to a code of grunts they could pronounce and these accessed a table of words stored on disk. It takes about 30 seconds to feed these successively into Apple's memory (about 3k bytes each, digitized at 2k per second) and a sentence of up to 12 words can be spoken via the Supertalker without the "speaker" having to press a key. Following this I devised a program using the same combination to teach speech impaired children to pronounce words correctly to a model uttered by Supertalker and matched by Speechlink.

My next project is for a severely handicapped child who cannot possibly repeat any sound reliably and it is a question of trying to get a happy response rather than tears. So for this I am using a simple voice switch in the hope that she will respond happily to pleasant questions over the Supertalker (being blind she can have no visual stimulation) and will be silent if things she doesn't like are suggested. Most disabilities allow for more than one response but this is an experiment which relies entirely on binary input, 0 or 1.

One reason I am writing this is that, sadly, Heuristics have gone out of business and Speechlink is no longer available. Several schools and centres for the disabled who want to use my programs are therefore unable to do so unless they can afford the very much more expensive Voice Input Shadowvet system described by Tony Williams in Hardcore, June 1983. This is all very well but an additional £950 is quite impossible for a disabled school. Are there any members of BASUG who bought Speechlink some time ago and no longer use it, perhaps because they've progressed to Shadowvet, and who would be prepared to donate or sell for a reasonable sum to one of these disabled organisations. If there are, could you please write to me -

Nigel Wallace
[illegible]
Cambridge
[illegible]

or telephone [illegible]

Epson Card Fix

Epson graphics card fix

by John Sharp

The patches for CP/M to make the Epson 8132 (MX/APP2) printer card work as detailed in the manual for the card are not correct for the latest Apple CP/M Version 2.23.

Patches with DDT are as follows:

for 44k CP/M 2.23

Enter DDT

	was	change to
SFE50	(5F)	52

for 60k CP/M 2.23

Enter DDT

SFE59	(68)	5B

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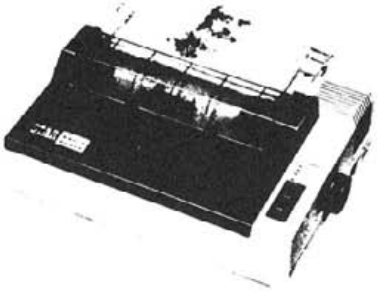

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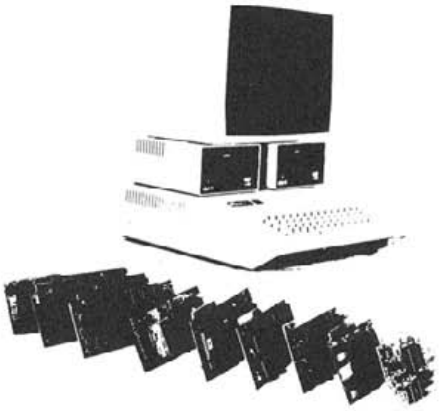

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Random Numbers

by R. G. Silson

The comments (p.38, June '83) on random numbers are somewhat misleading.

For serious use pseudo random numbers need to be of the same quality as true random numbers. Changing the seed is dangerous since it is almost impossible to know whether the sequences overlap. It also does nothing to improve the quality of the whole sequence if the parts are of poor quality.

I have spent hundreds of hours of computer time testing various pseudo random number generators and almost all, both in systems and in the literature, are to be avoided for other than simple demonstrations.

I now NEVER use system RND functions but always write my own. If a floating point fraction is required nothing less than 64 bit double precision is likely to be wholly satisfactory. The multiplier must be satisfactory e.g. a high power of a 2 digit prime number shifted so that only about 15 bits are whole numbers. This method gives every bit, in the binary fraction, of high quality not just the most significant as with most methods.
The standard format is:

R = R x MPY : R = R - INT(R)

However many purposes merely need a sequence of small integers. A simple technique gives very good results and has been tested in several sequences up to 1600,000 values.

Unfortunately, in Applesoft, it needs machine code routines but MBASIC allows its direct use.

Method:-

Allocate an array R( ) and fill it with 2^n random integers from any moderate to good source. A minimum of 64 words should be used. Two variables T1 and T2 are also given random values. The sequence at each call is:-

T3=R(T2) : R(T2)=T1 XOR T3 : T1=T2 : T2=T3

T3 is used as the random integer. If the address range is different from the random integer range, secondary variables with "AND" masks may be used for variables T2 and T3.

This method gives ranges always of 2^n but the out of range values may be skipped.

Theoretically larger arrays should be useful but 64 gives a sequence that shows a high randomness. If security is required one part of the word should be used for the address and another for the random integer that is output.

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Visicalc Corner

by Frances Teo

One of the reasons why I am so happy with Visicalc is that the Commands and Functions use plain English. All Commands start with a '/' followed by the initial letter of the command you want to use. Similarly, Functions are always preceeded by the symbol '@', followed by plain English! For example, to find the average amount in a list you use the formula @AVERAGE (A1...A20), the sum of the list would be @SUM(A1...A20) and so on. Calculations can also be linked within a function using the comma in this way,
@SUM(A1...A10,A20...A30,C10,B10) .

Here are some of the most commonly used functions:-
@SUM, @AVERAGE, @MAX, @MIN, @COUNT, @LOOKUP and (most important of all) @IF.

Lets examine @IF in more detail.

@IF(A1=25,10,0)

What is this formula saying? We have a statement which says A1=25, if this statement is true print the value 10, if this statement is false print the value 0. In other words Visicalc examines the first argument, if it is true the second argument is used, if it is false then the last argument is used. There are many ways in which this powerful function can be used. Let's take an example combining it with another function, the logical @AND.

Let's say that we have conducted a survey of staff at a factory. We have taken details of their salary and age and we want to pick out those who are over 45 and have a salary less than £10,000 p.a. Co-ordinate B1 has the age and Co-ordinate C1 has the salary.
The formula will be:-

@IF(@AND(B1>45,C1<10000,C1,0)

Therefore, if the statement is true, the contents of C1, i.e. the salary, will be printed. If the statement is false the value 0 will be printed.

Another way of utilising @IF is to trap error messages. When an ERROR message occurs (eg as a result of attempting to divide by zero) the error is transmitted through all the formulae that have reference to the original cell that contains the error. Unless we use @IF the only way to clear the errors is to blank out the original cell containing the formula causing the error. We have the formula @AVERAGE(A1...A10) at A11, as we have no entries in the range A1...A10 the word ERROR is sitting in A11. To rectify this, we change the formula to read:-

@IF(@ISERROR(A11),0,@AVERAGE(A1...A10)

Therefore if A11 shows ERROR print 0, if not print the result of the formula @AVERAGE(A1...A10)

Obviously the uses of @IF are many and varied and it is impossible to mention all of the ways it can be utilised. I leave it to your imagination to think of all the different applications. One word of warning to those of you still working with 3.2 Visicalc, you have not got @IF! This function is available only with Visicalc Dos 3.3.

Small Ads

I have the following Apple hardware for sale:

1x Disk Drive w/o Controller	£175
2x 7710A Asynch. Serial Int.	£ 60 each
1x IEEE 488 Interface	£100
1x Supertalker Kit	£ 60

I should also be interested in a negociable swop for 'Apfeldeutsch' tuition system.

T. Burch
[illegible]

****

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Course Review

by Madeleine Hamilton

I knew all about what Visicalc could do but I couldn't plough my way through the manual to discover how to make it work for me. So I jumped at the chance of attending a Basug Visicalc tutorial.

Accompanying me on the course was my 'experienced in the use of Visicalc' husband who came along "to keep you company though I doubt whether it'll be of much benefit to me." How wrong he was. Within the first 10 minutes he had to admit that he had already picked up three points about Visicalc that he hadn't known!

We were a mixed bunch on the course, most with little or no knowledge of how to use Visicalc. However, if many of the other attendees were like me they are now Visicalc addicts.

Frances Teo took us gently through the basics so that even the complete novice could keep up. Her introduction to Visicalc was both interesting and easy-to-follow and, in no time at all, she had us all experimenting on our screens. "Who's beeping?" was the phrase of the day as, one after another, we made errors and our hard working Apples protested at our errors.

I came away from that introductory course, my head reeling with details of 'templates' and formulae and eager to put into practice some of what I had learned. Within days of attending the course I had put everything I could lay my hands on on Visicalc. It still took a good deal of trial and effort but at least I now knew what to look for, and where, in the Visicalc manual - something I could not have coped with before the course.

I would heartily recommend anyone who has to deal with figures - statistics, sales records, cash flow, etc - to go on the next available Basug Visicalc course. It's worth weeks spent studying the manual and Frances Teo knows and teaches you lots of 'back doubles' that only months of practice could give you - and some of them you wouldn't discover for yourself even then.

I've already attended the Advanced Visicalc Course and am now waiting for a 'Specialised Uses' course to come along.

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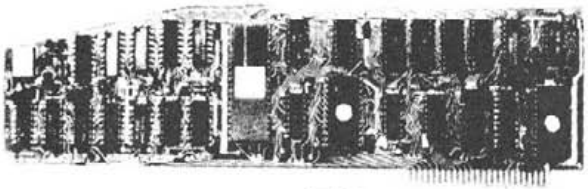
VISION-80



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Epson Pages

THE EPSON FX-80

USER-DEFINED GRAPHICS CHARACTERS
AND
BIT IMAGE PRINTING

by Norah Arnold

One attractive feature of the Epson FX-80 is the fact that this printer is not limited to the pre-defined character set. Any character or symbol that can be defined in a 9 x 11 matrix can be created and used as part of the printer's character set.

The FX-80 manual gives a fairly comprehensive account of how to create user-defined characters but if you are just beginning to experiment with them, don't start by trying the example program on page 3-39 of the manual. Some of the values given in lines 30 to 60 of this program are incorrect and should be changed to those given under the diagram on page 3-38.

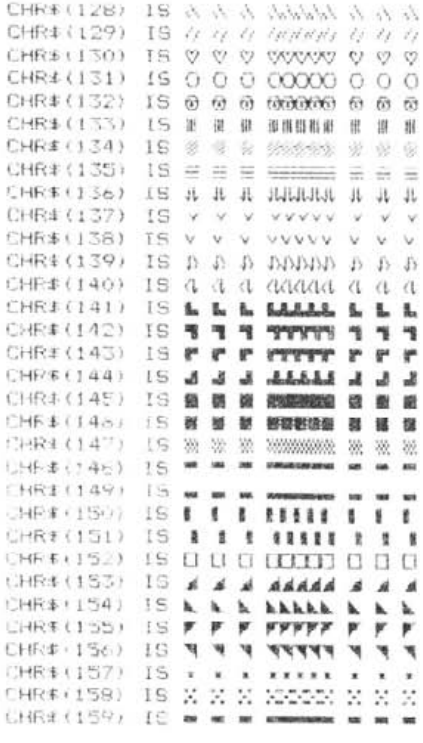
Now you may be optimistic enough to suppose that, having corrected the values, the program would work. Well it might, but it definitely will not if your printer interface card uses CTRL I as a command code. Unfortunately several cards do just this, so that you will find it difficult to PRINTCHR$(9) ie. CTRL I from BASIC without the interface card interpreting it and the characters following as a command. Some cards do have the facility to allow you to change the command code temporarily to another control character, to enable you to send the necessary characters to your printer. The Digitek Printmaster card which I use does allow the command characters to be changed so I was able to get round this problem.

Having mastered the technique of creating user-defined characters I set about the task of defining a set of graphics characters and immediately ran up against another problem. The Printmaster card has an extremely useful Silentype emulation mode which meant that it interpreted CTRL Q as a command to dump the hi-res graphics screen, following the manner of the Silentype. When I attempted to PRINT CHR$(17) ie. CTRL Q, from BASIC my program came to a halt while the printer did a graphics dump of an empty hi-res page one.

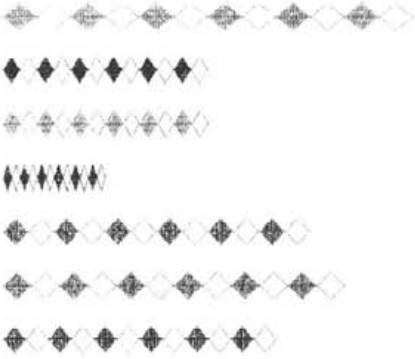
At exactly the right moment the June issue of 'Windfall' arrived and I read Mike Glover and Christopher Roper's article about their 'bypass code'. This very short piece of code enables you to send ASCII characters directly to your printer so removing any potential conflict with DOS or the printer card. The article is part of their 'Understanding the Epson' series and is entitled 'Make Life Easy - Talk Directly to your Printer'. On page 57 the bypass routine code is given for the Epson 8132 card and the Grappler. The code for the Grappler works equally well for the Digitek Printmaster.

The bypass code can be loaded at $300 and then the ASCII characters you wish to send to your printer must be preceded by a CALL 768. This enables a line giving the values for a single character definition such as:-
PRINT CHR$(139); CHR$(38); CHR$(9); CHR$(64); CHR$(9); CHR$(240); CHR$(9); CHR$(64); CHR$(9); CHR$(38); CHR$(0); CHR$(0);
to be replaced by:-
CALL 768,139,38,9,64,9,240,9,64,9,38,0,0
which is much neater.

Defining a set of graphics characters became relatively easy once the bypass code was installed. The following set was defined as ASCII characters 128 to 159.



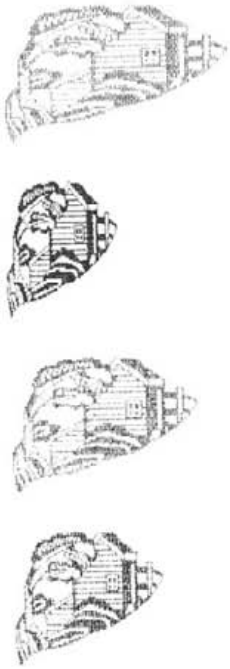
Here are just a few of the patterns one can make with this character set.



Bit image printing can also be used to print pictures which have not appeared on the screen except as a BASIC program.
Approximately seven hundred values were necessary to print this motif of a wooden cabin, which is shown in four different modes. This would be a cheap way of producing a small logo to add distinction to the heading of letters etc.

Bit image printing is also made much easier using the bypass code. The following program prints a pattern in each of the bit image printing modes which vary in density from 480 dots per 8 inches in mode 0, normal mode, to 1920 dots per 8 inches in mode 3.

```
10  REM  BIT IMAGE PATTERNS
15  CALL 768,27,49
20  FOR A = 0 TO 6
30  CALL 768,27,42,A,240,0
40  FOR I = 1 TO 8
50  CALL 768,1,3,7,15,31,63,12
7,255,127,63,31,15,7,3,1
60  CALL 768,1,2,4,8,16,32,64,
128,64,32,16,8,4,2,1
70  NEXT I
80  PRINT
85  CALL 768,27,42,A,240,0
90  FOR I = 1 TO 8
100  CALL 768,128,192,224,240,
240,252,254,255,254,252,248,24
0,224,192,128
110  CALL 768,128,64,32,16,8,4
,2,1,2,4,8,16,32,64,128
120  NEXT I
130  PRINT : PRINT : PRINT
140  NEXT A
150  CALL 768,27,50
160  END
```



HOTLINE

VOLUNTEERS NEEDED

HELPLINE

We would like to set up a Help line for BASUG members along the lines of those run by Call APPLE and Washington PI. In order for this to work we need a number of consultants who are prepared to be phoned between the hours of 7pm and 10pm on weekday evenings. In particular we seek specialists in :-

DOS
Applesoft
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Visicalc
Apple ///
Databases
CP/M
Pascal
Integer
Graphics
Word processing
Apple //e
Forth
Hardware

If you are keen to help but do not consider yourself an expert in any field, please put your name down as a local or regional contact. If anyone would like to talk about the system or put their names down, I (Bob Raikes) can be contacted on [redacted] between 7.00 and 10.00pm.

Be Brave !! Put your name down today.

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Bulletin Board

As many of you are interested in Bulletin Boards, I am printing in full this letter. Anyone who would like to act on behalf of BASUG, please get in touch.

****

Dear Sir,

The following list of Bulletin Boards have joined together to form the Association of Free Public Access Systems to be known as AFPAS.

AFPAS has no commercial axe to grind. Our aim is to help the hobbyist in the use of computer communications and to standardise protocols.

A Bulletin Board is a free service, available to all, run by system operators at their own expense (there are no government grants available for the hobbyist leading the way with new technology).

FORUM-80 HULL	[illegible]	"World's First International Board"
MAILBOX-80 LIVERPOOL	[illegible]	"TRS-80"
TBBS LONDON	[illegible]	"TRS-80"
FORUM-80 (NET-80)	[illegible]	"National TRS-80 User Group"
CBBS LONDON	[illegible]	"CP/M"
NORTH EAST REMOTE CP/M	[illegible]	"CP/M"
A.C.C.	[illegible]	"Amateur Computer Club"
BETTERSFIELD		"CP/M"

As from March 1st 1983 all the above systems have been configured to the same standard which is:-

BAUD RATE = 300
WORD LENGTH = 7
STOP BITS = 1
PARITY = EVEN

Two methods of file transmission will be available:-

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2) Binary Direct Transfer using Ward Christensen's MODEM protocol. This makes easy file transfer (error free) between most types of micros.

The MODEM or XMODEM program for this is available FREE, yes FREE of charge, from the CP/M User Group library for the TRS-80, LNW-80 or VIDEO GENIE from any Bulletin Board Sysop.

All members' Bulletin Boards run electronic message systems and large public domain software libraries.

User groups wanting further information for their members, contact your nearest Bulletin Boards or send S.A.E. to:-

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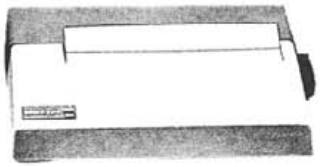

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Education

by Norah Arnold

A REPORT ON THE EDUCATION LECTURES AT APPLE '83.

"EDUCATION - FACTORS INFLUENCING THE CHOICE OF PROGRAMMING LANGUAGES."

Speaker:- Janet Rothwell, Senior Consultant (Education and Training Liason) National Computing Centre.

Janet Rothwell started her lecture by stating that the primary guiding principle for the use of micros in schools should be the curriculum and its needs. Teachers should ask themselves how the micros should be deployed to best meet the needs of the curriculum.

Brief consideration was then given to several ways of using a computer in school:-

- for computer "appreciation"
- to teach programming skills
- to pass exams in computer studies (Janet thought that there was not a great deal of scope in dated unimaginative computer studies curricula and saw them as being of limited use.)
- for administrative tasks
- for control applications, eg. physics
- for information retrieval
- as a teaching tool for CAL applications across the curriculum
- as a general problem solving tool for tutors and students across the curriculum

Janet saw the use of micros as problem solving tools as best suiting the aim of "educating children for life in a society where micro-electronics are commonplace and pervasive."

An Authoring System is a set of programs comprising an authoring language, editors and system software designed to make fewer technical demands on authors and reduce course development time. Janet thought that such systems could be helpful to teachers who were not expert programmers. PILOT was a good example of an authoring system, and Apple Super Pilot, developed from Apple Pilot and written in Pascal, was the best implementation of Pilot in Janet's opinion. We then had a quick look at a couple of the Super Pilot editors and were shown a typical Super Pilot program. It all looked very much like the old Apple Pilot and was much too short a glimpse for me to be able to determine exactly what made it 'Super'.

We then moved on to the most commonly used language, Basic, which Janet saw as being slow but adequate if you know what you are doing. The historical reasons for using Basic were now not applicable but we still use it and people invent reasons for using it. To write a simple program in Basic is easy but few people progress beyond this stage and are able to write very complicated programs successfully in Basic.

The most powerful argument against using Basic in schools was that it taught you to construct your program to suit the needs of the computer rather than the needs of the program. Logo, however, enabled the user to write programs in a straightforward logical manner.

At this point Janet contrasted two programs for drawing a house, one in Logo and the other in Basic and criticised some in-service teacher training programs that set out to teach Logo on a half-day course. "Impossible", said Janet and I thoroughly agree with her.

Logo was the best language to use at primary level because it encouraged the development of critical thought, but Janet also saw Logo as a powerful language in its own right. One use of Logo with older students was as an introductory language prior to the use of Pascal.

Pro-Log was seen by some as the programming language of the future. It has been adopted by the Japanese as the language for their fifth generation computer project. At first Pro-Log seemed not to have many applications for children in schools. Some researchers at Imperial College have developed materials for ten and eleven year

olds. (A Z80 card with CPM is necessary to run Pro-Log on the Apple.)

The use of Logo and Pro-Log helped to develop skills of logical thought which not only helped with programming but could then be applied to other areas of the curriculum such as linguistics, maths and physics.

Fortran and Cobol will obviously be around for some years to come but Janet thought that they should not be taught in schools. Many languages could be seen as serving a particular need. There is a demand for Cobol programmers in business, and for Fortran in scientific industry. Forth is growing in popularity, especially for control applications; many universities use Pascal and Lisp serves a particular need for some research applications.

"EDUCATION - CASE STUDIES"

First Speaker:- Ronald Stemplis of Holy Cross High School.

Holy Cross is the largest comprehensive school in Scotland and Ronald Stemplis described a series of decisions which had to be made and problems which had to be overcome as the school strove to integrate the use of micros with the existing curriculum. The most important decision made was that one micro in a class was no good; the minimum necessary was one micro to every two pupils. So which computer should they buy? Ronald listed their criteria for the choice of computer:-

-Qwerty keyboard (for typing etc.)
-Disk drives available
-Educational software available
-Reasonable cost

After discussions with a dealer they approached their PTA and mentioned a sum of sixteen thousand pounds for a large number of Apples. Once the laughter had died down more discussions were held and an attempt was made to bring down the price by organizing a network system.

Eventually the network was installed but for various reasons proved to be useless. After a few months a practically untested AROS system was installed; (Advanced Remote Operating System). Under this system each pupil using the network has their own 'tag' or password. Pupils cannot access the Master Disks or meddle with another pupils files.

AROS was a success although disks fail regularly through being run continually, and occasionally many pupils could become 'disconnected' through the accidental pulling out of cables. The biggest problem had been raising thirteen thousand pounds in a short period of time. The high cost was justified by the extensive use made of the system at all levels from remedial to teacher training.

Second Speaker:- Dave Brunner of Fulmead School, Havering.

Dave Brunner described Fulmead School as a typical comprehensive of 1000 children from 11 to 18 years. After exasperating experiences with a terminal linked to the Northern Poly, Dave was given the task of setting up a computer studies department with only two thousand pounds to spend. Having a 50% grant towards their first Apple system, Dave managed to get two Apple systems for the two thousand.

At first, with enthusiasm coming only from himself, Dave started with a Computer Club giving access to children who wanted it from 8.15am to 5.30pm.

The shortage of software was a difficulty, although now that the 'A' level computer studies had been going for several years, sixth formers were beginning to produce software to meet specific needs of the staff. Havering standardised on Apples and the Borough purchased a licence from the Minnesota Educational Computing Consortium to distribute the MECC software to all the schools in the Borough. These programs were downloaded to schools via a telephone link. Excellent manuals were provided with the disks.

One couldn't help being struck by the contrasting approach of the two schools concerned. One had enough Apples to make it a viable proposition for other departments in the school to use the computer room regularly for a whole class at a time, but children with a special interest in micros were denied access except as part of their normal instruction. The other school, with only a small number of micros, was having difficulty in persuading some departments to use them, but was able to provide access for those children who showed special interest and had a rota of staff who wished to take the machines home.

Programmer's Aid RAM Test

What's That Doing In There ?

The Programmer's Aid 1

(Part 1 of an Introductory Series
by Dougal Hendry)

Years ago, in 1981, you could spend £27 + VAT on a "Programmer's Aid 1" ROM to plug into your Apple II, or Integer Card, in order to add some useful extra facilities to your machine. It is a little publicised fact that this comes free with the DOS 3.3 System Master ! If you have a 16k RAM card, booting from this disc can put Integer Basic on the card - comlete with the contents of the Programmer's Aid...

In this article, I'm going to describe just the RAM testing routines in this Gift Pack. They run from the monitor, (if the monitor is unfamiliar territory to you, have the Apple II Reference Manual to hand and open at Chapter 3), and while we are there we ought to do a bit of bug-squashing first !

Apple burnt the ROMs wrongly, and for consistancy put the same error in the disk version. They had the good grace to issue a Tech-note though.

For a II+ and ramcard, boot the System Master, then INT and CALL-151, for the Monitor. To Read and Write enable the correct portion of the ramcard, we need C083 C083 Return - yes, twice. A D670L shows the first instruction as a JMP 02 CB, and there is not much there... It should be JSR D6 8A, so a D670: 20 8A D6 does the trick for the disk/RAM version. The extravagent souls with the Real Rom will have to put in a little more 02CB: 20 8A D6 4C 73 D6 .) This fix should prevent unpredictable behaviour while reporting a RAM error.

You might care to fix a minor boo-boo in Integer Basic error reporting at the same time. E47A:1C instead of the 06 will provide "Too Many Parens" if you nest your brackets more than 12 deep, instead of getting "Too Long". (Thanks, Chris Volpe, March Call-APPLE.)

To save reapplying the patches each time, you ought to save, (Intbasic,A$D000,L$2FFF), this version on a suitably labelled BACK-UP of your master disk, (always keep originals as original !). The most "ethical" method of applying patches is an EXEC file, but that's a different article.

Now we are ready for the test. Changing 9D02 : 1B FD F0 FD then 3EAG will cause DOS to disconnect itself so that it doesn't interfere, then D5BCG sets the Ctrl-Y vector to the test sequence. Type 1000.10 Ctrl-Y Return with no spaces, and wait. The asterisk ought to return in a half minute or so with a beep and no error message, if all's well. The first number entered was the Hex start address, the second the number of 256 byte "Pages" to be tested - this number times $100 MUST be no more than the start address. Don't try to test below $400 or above $BFFF. The recommended sequence is 400.4 (text screen memory !), 800.8 1000.10 2000.20 4000.40 8000.40 then the change-over areas 3000.20 and 7000.20

Errors are reported in a rather cryptic form, but the first portion is the erroneous memory location, and the last should be the chip's circuit board location (don't believe it on the IIe). Before swapping over any chips, do switch off and earth yourself to the power supply box; this is preferable to routinely unplugging the cable.

Tests can be combined by entering a following test's parameters instead of the Return - with NO spaces. It is possible to run repeating tests with a special format - precede the test parameters with an "N" and follow them with a "34:0 " before the Return (the only space follows the zero). Errors get 3 beeps and a message, a successful sub-test gets 1 beep; it runs until reset.
Do it overnight with the lid on to check the effects of warming up!

The Ramtest code is original Wozniak and for study can be found from D5BC to D691.

Reference: Programmer's Aid 1 , Installation and Operating Manual, Part No A2L0011.

The ACCELERATOR II

A Review by John Rodger

Is the trusty APPLE now a "Has been" in a new era of high speed, big memory micros with the latest processors?

Since its introduction the Apple has managed to keep up with the competitors by the introduction of various add on cards which plug in to those eight convenient slots at the back. Perhaps this even worked against Apple themselves when the][+ continued to sell well and the /// struggled.

One of the consequences of high volume sales over quite a few years is that there is currently a huge volume of software available to meet the needs of the business user as well as the home user. If you add to this the Z80 CPM software capability with yet another add on board then there is little doubt that in the software area Apple is unrivalled.

The new computers with their new processors either have very little software written as yet or run as a hybrid in an emulation mode with hastily modified or adapted operating systems to run existing software straight from the "old processors" (Have you tried the Sirius?). Things will certainly change but software takes time to develop!

A small company in the USA had the neat idea that if they could improve the efficiency of the Apple whilst maintaining its ability to use the vast software pool they would have a very marketable product. They successfully developed a plug in card to do just that and their product was then bought up by Saturn Systems and is now available in the UK via your dealer or direct from Pete and Pam (see their advert).

The benchmark tests (timings of standard short Basic programs used as measures of efficiency of micros) now show the Apple ahead of most of the new rivals including the Olivetti M20 and the IBM PC.

The ACCELERATOR is a very simple way of upgrading your Apple][,][+ or][e by allowing it to use a different 6502 microprocessor which runs at 3.5 times normal speed. Since, apart from the speed, the processor is identical in operation this means that all existing software (excluding CPM) should run at this new speed without any modification. This applies to Basic, Pascal, Fortran, Forth, Pilot, Logo, Assembly and machine code whether written yourself or booted from a highly protected disc. It also applies to the various activities and utilities associated with programming such as LISTing, EDITing, compiling etc.

Can it REALLY be that simple? There MUST be a catch (apart from the price).

Well I have been using mine for a few months now and apart from an initial patch to the board (now incorporated in production models) I have not found a single piece of software that does not work at significantly increased speed.

The card is neatly made and comes with a 35 page manual and a set up disk. The only part of the card you might have to adjust is a small set of switches to allow you to operate certain interface cards at normal speeds. One such card is the disk controller which obviously has to run at standard speed (slot 6 is already set to slow on the dip switch by the manufacturers). All of my peripheral cards work OK but I believe certain Modem cards have to be operated at standard rate. There are no chips to remove and the card simply plugs in to any slot.
(There are certain restrictions about where you put it if you have a Z80 card or you have a machine with Integer Basic on the motherboard.)

Most programs run at increased speed with no setup required at all. However programs that execute code that is resident in a Language card or RAM card in slot 0 require running the setup disk first and choosing an option called Phantom 0. This allows the accelerator to simulate the operation of the card in slot 0 but using its own 64k of high speed RAM in whatever slot it is placed.

If your programs are in Applesoft then you need to use the setup disk to select Fast Applesoft, but this is done once only at the start of a session and this mode remains until you switch off.

The setup disc has two further options which enable you to:-

force the machine to run at the standard speed (many games are fast enough for most people as it is)

disable the card so you can run your Z80 CPM software.

The documentation has a 13 page list of programs which run with the card and setup instructions for them all. However I have rarely needed to consult the manual as the simplest method of setting up seems to be as follows:

Try it without any setup - it will probably work anyway.
Try using Phantom 0 option.
Try Fast Applesoft.

It is interesting to note that some programs such as DB Master are written in Applesoft although the protection methods employed by the software house make listing etc. not normally available.

One side effect of speeding up the processor is that reading paddle values which are determined by a time dependant charging circuit give different values, or rather the rotation necessary to produce the full range is less. This could be adjusted by changing the potentiometer values or adding a capacitor if it really causes a problem.

This could also affect tape loading and saving although I haven't tried it. Maybe you end up with a high speed tape system if your tape deck has sufficient frequency range.

Who is likely to buy this card?

I think it is a bit pricey for the home user who probably doesn't need the increased speed although watching' Locksmith race through its algorithms in a third of the normal time or playing Sargon at three levels higher might be tempting.

The professional programmer will find tremendous time savings in Pascal and Basic Compiling, or assembly times with large source files.

The business user with big Visicalc or Multiplan spreadsheets or who wordprocesses large documents or has financial and accounting packages will find great benefits.

I have used Visicalc with the Ramex 128 RAM card, Videx 80 col card and the Super Expander preboot and found it a major improvement. The TABS suite of programs (written in Basic) are much improved with this card and one of the fast versions of DOS.

My only criticism of the system and documentation is that the manual suggests making several copies of the setup disk, which are configured in each of the different options, whereas it is extremely simple to select your option from the menu whatever the default. The default option is saved as a binary file using 512 bytes of which only one byte is used.

All of the TTL chips on the board have had their numbers buffed off and replaced by their own convention. You can't really blame them for trying to protect their interests in what I believe is one of the most exciting products for Apple to emerge in years.

hardcore

Contributions to Hardcore are always welcomed. Without them it would not exist. Whether you have a learned article, a 'quick tip', a problem or a solution, let us know.

If you have more than a short letter, it is helpful if you could send it on a disk, with a hard copy if possible. If you want to send printed copy, please do not cut it up but fill justify on a 9 cm (3.5 ins) column. We prefer copy on disk, either as a text file or an Applewriter I file. Pascal text files and others such as Wordstar files can probably be accommodated. Please use the minimum of embedded printer commands.

Remember, contributors receive credits for cheap Software Library or blank disks.

Seedlings

by Yvette Raikes

There are interesting rumours in the Apple community of a new small micro which has been reported in the press priced at under $500 in the U.S.A. Rumour has it that this is cassette based. Is this Apple's answer to IBM's Peanut?

****

I have also heard whispers of a new operating system for the Apple][which will handle interrupts and will work with Profile. It is rumoured to be similar to the P System. This would confirm the trend toward Pascal type environments on all Apple machines up to and including Lisa.

****

Has anybody seen any software which supports the theoretical double resolution graphics on the //e?

****

Apple are bringing out their own plotter.

****

Apple Monitor IIIs are still not available for Apple][systems at the moment because Hitachi (who make them) are unable to keep up with demand. It looks as though the new monitor will be available later in the year but we will have to wait and see.

****

Useful note:

The Videx "Ultraterm" 132 column card seen at Pete & Pam's stand at Apple '83 only works with monitors with long persistence phosphor. This is because in order to get the extra data on the screen, interlacing is used. This means that each screenful of information takes twice the time to be displayed so the screen flickers badly on a standard monitor. Unfortunately, Apple monitors, which are long persistence and do not flicker, are not yet available (see above). Does anyone know of another long persistence monitor?

****

A recent report by Philips on the ergonomics of terminals states that 1.5 seconds response time seems about natural, 4 seconds or more is rather long for a meaningful dialogue and that at 15 seconds conversation with the computer is impossible. Can anyone beat the 25 minute wait between goes on Computer Ambush? Does anyone have any strong views on this subject?

Workshops

AGM Printer Workshop

The Workshop on printers held in conjunction with the AGM was a great success. There was a turn-out of over 60 people who had come from far and near. The first talk given was by Bob Raikes on the basics of printers, covering dot matrix vs daisy wheel, ribbons, paper etc.

Next Jim Panks spoke on the use of glossary files in Applewriter][, about which he has written in Hardcore. Norah Arnold spoke on User defined character sets on the FX80.

Meanwhile, in the Systems room, Peter Trinder was giving demonstrations of the Apple D.M.P., in particular the graphics print feature. Samples of the printout are shown elsewhere in this issue.

There was activity in the Systems room all day, and it proved difficult to empty the room at the end of our allotted time. Thanks are due to all those who came and especially to those who worked so hard to make the day such a success.

P.S. For those of you who are awaiting the result of our Lisa draw, we are waiting for Apple to give us a final number and date so that the draw can take place.

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- ⋆ **make use of an exhaustive knowledge of disk lore?**

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TRICKY DICK examines, records, deletes, and edits. It can: (1) read individual sectors from protected disks, (2) list their contents in BASIC, assembler, ASCII, or hex, (3) edit them; (4) write them back to the disk. Tricky Dick cunningly bypasses most protection systems, allowing you to work on disks with nonstandard formatting, half-tracks, and altered DOS marks. It is also a chief executive program that directs the following undercover agents:

THE LINGUIST reads in a trackful of raw data for your scrutiny, translates all the address information, and allows you to inspect the track's formatting. It also translates all 3 types of DOS encoding (6 & 2, 5 & 3, 4 & 4), and works with Tricky Dick to list and examine programs or textfiles on any protected disk. Use The Linguist to recover valuable files from blown disks, improve your programming skills by studying commercial software, and analyse standard or altered formatting.

THE TRACER rapidly searches normal and most protected disks for up to six strings of your choice simultaneously (specified in ASCII or hex). The Tracer also verifies disk formatting, and sniffs out all hidden catalog or VTOC sectors. When it finds something, it transfers control to Tricky Dick and puts the cursor over the object of your search. A few further keystrokes allow you to make any necessary changes and write the sector back to the disk.

THE CODE BREAKER keeps your programs and textfiles from prying eyes by enabling you to translate them into a "secret code" during disk storage. This utility also deciphers encrypted commercial programs, allowing you to use Tricky Dick to read, list, and edit software never before accessible to any disk utility.

THE TRACKER closely shadows the disk drive arm, carefully recording all its movements and operations. The Tracker's job is to display, on either your screen or printer, a list of every track and sector accessed during a LOAD, RUN, SAVE, or any other DOS operation. This utility also tells you exactly where a read or write occurred during any disk access. Use The Tracker's services to locate the precise trouble spots on a clobbered disk, to determine sector skew patterns, to discover the location of hidden "nibble-count" tracks on protected disks, and to learn much more about how DOS works. You'll be surprised to see just exactly where the disk arm really does go!

What's more, you get permanent access to:

THE CIA FILES a 50,000+ word book designed to turn you into a disk expert. In addition to complete instructions for the 5 CIA utilities, the book contains an easy-to-follow hand-holding tutorial (written in plain English!) on all aspects of the Apple disk. Using the CIA utilities as your personal guides, you progress step-by-step to total disk mastery. You'll acquire a wealth of skills and information relating to disk repair and file recovery, DOS patches, copy protection, disk formatting, program encryption, and other vital topics. Much of the material has never before appeared in print.

All programs are unprotected, and hence can be copied, listed, and modified at will. They require one drive, DOS 3.3, and 48K of RAM.

TO GET THE CIA ON THE TRAIL OF YOUR DISK, SEND £35.00 TO:

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Pinball

THE FIRST SOFTWARE TOY

or

THE PINBALL CONSTRUCTION SET

by Peter Trinder

That is what the advertisement for PINBALL CONSTRUCTION SET that I saw proclaimed, drawing my attention to another masterpiece by the great Bill Budge of Raster Blaster fame. I have spent many an hour playing with this superb package and can recommend it not only as an absorbing toy but as an example of where we are going in software.

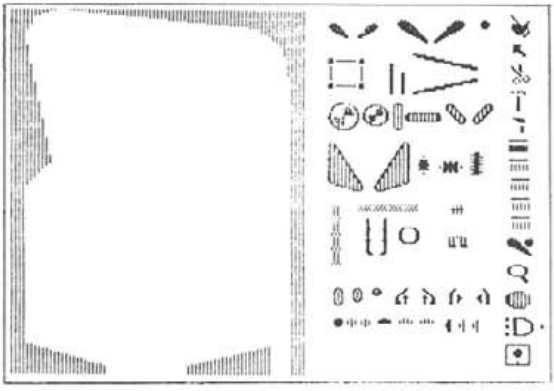
Like LISA the Pinball Construction Set uses the idea of icons, but not a mouse. The joystick is used instead of the mouse to move a hand icon around the screen allowing you to take parts from the right hand part of the screen and place them anywhere on the pinball table on the left half. (The paddles will work but it's not the best way.) There are all sorts of parts available and virtually no limit to the number that can be used - spinners, paddles, bumpers, magnets, hoppers and even a ball gobbler. On the right below the hand is an 'arrow'. When this is selected, 'nails' on the table are highlighted and by moving the arrow the table shape can be modified. A pair of scissors can be selected to 'cut' any error in 'nailing'. A 'hammer' is provided to put 'nails' into the board.

Select the 'magnifying glass' and a small portion of the table is enlarged on the right lower part of the screen and individual pixels can be 'painted' in or erased. This option allows you to add your own title to the upper right of the screen. Above the magnifying glass there is the single test mode. Select this and you can fire one ball to see if your table works in the way you want. Press Escape and you are back in the construction mode. Next select the 'world' mode which is under the 'magnifying glass' and the right screen shows four sliding switches so that you can adjust the 'gravity', 'time', 'kick' and 'elasticity'. Finally you can adjust the points and noise and wire-up the various bumpers by selecting the 'and gate' icon. This gives you a 'hand', 'pliers', 'screwdriver' and a 'wiring kit'.

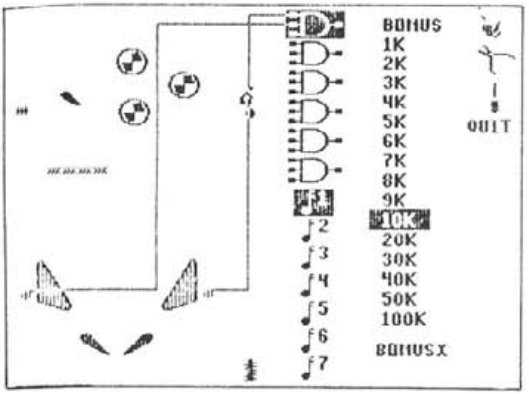
At any time you can select the 'disc' icon and a drive menu appears so that you can change drives, save the table you are working on and load up one of the four demo's that Bill Budge has provided for you.
The final option in this mode is called MAKE GAME and creates a stand alone game that you can give to your friends and it doesn't need the Kit disk to run it. The compiled game allows for up to four players and provides 6 balls per player. The saved stand alone game does occupy 121 sectors as a binary file.
This is no real problem but just a warning to have plenty of disk space. The error trapping appears to be faultless even when I tried to load a non-existant game or to save to a full disk.

The documentation is simple, clear but not extensive. However, this is no real drawback because it's so easy to find the way around. My only real feeling of slight inconsistancy was when testing the game because the balls don't run off the table at the bottom and you have to press Escape to return to the Construction mode and I feel that in line with the hands off keyboard concept then the other paddle button (or closed apple on the //e) could have been used, but this is a mere speck on an unsullied score sheet.

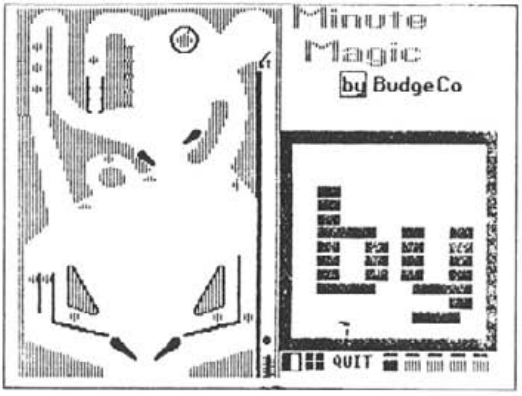
If there were ratings then I would give an AA+. Buy it and enjoy yourselves and take a rest from shooting at space or gobbling Pacmen or even Spreading Sheets.



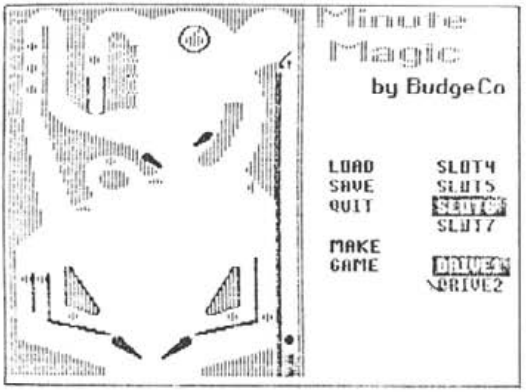
Kit when loaded



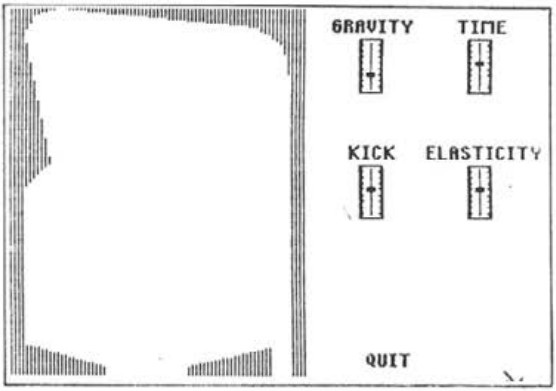
Select the And Gate and here is the wiring kit



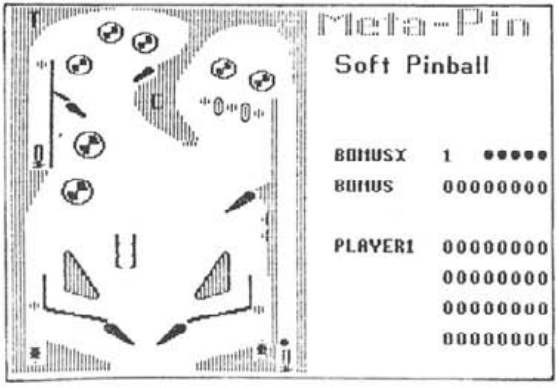
The magnifying glass for painting pixels



The Disk Icon allows DOS commands



The World Icon lets you alter the Gravity!



A complete game

Readers' Letters

Felixstowe, Suffolk

Dear Tony,

In a couple of years of messing about with Basic I have never come across an explanation of exactly how OR's and AND's work together. For instance

'IF MONTH=SEP OR MONTH=APRIL OR MONTH=JUNE AND DAYS>30'

doesn't always work unless each OR expression is bracketed and then the whole OR sequence is bracketed together. However SOMETIMES it does work without the brackets, and I have never been able to work out just what the requirements are. Would someone be good enough to enlighten me?

Way back in May 1981, Mr T Tse contributed to Hardcore an indexed random access program. This seems to me to be a magnificent piece of coding, and I have used it for a comprehensive address file. The snag is that it has now grown long enough for my inability to exactly remember the spelling of all the names to be an embarrassment, since only the correct name will produce a result. Nic Spicer in his review of the program said that it would be easy to alter it to include wildcard characters, and a 'continue search from last key found'. This is exactly what I need, and I wonder whether anyone has done it and is prepared to share the code. Alas my own knowledge of assembler is still nil, though I keep threatening to get stuck into it. What advice would all you proficient machine coders give me?

Yours

Tony Game

/Ed. -In simple terms, the reason why the ANDs and ORs in your statement don't work is because they are logically ambiguous, even in plain English. The answer is to use brackets to explain your precise meaning. The rules for evaluating expressions are on p.36 of the Applesoft reference manual. The operations are done in the following order:

1. Brackets
2. NOT
3. AND
4. OR

There would appear to be scope for an article here. Any offers?

John Rogers tells me that there is no "wildcard" program in the software library./

Fordingbridge, Hampshire

Dear Sir,

Re: What are these file buffer things for anyway?

The miscellaneous info. buffer is, in fact, the workarea used by the file manager, the routine which is the next level up from RWTS.

With reference to the write request flag, the three uses indicated are the only ones being used at the present time, although the meanings given are slightly incorrect. The true meanings are:

02 = volume freespace map changed and needs writing
40 = data buffer has been changed and needs writing
80 = T/S list buffer changed and needs writing

It may be easier to understand VDR (3.8) if it is considered to be the sector offset into the catalog just as the VDI is the byte offset within that sector.

Incidentally, if the first byte of the file name buffer is 0, then DOS considers it to be free for use.

With regard to the introductory disk, can you explain how the initial graphics are done? Why does part of the surrounding box keep disappearing and reappearing? Why can't I use HELP in Haunted Cave?

Yours sincerely,
Philip Colmer

/John Rogers writes:
The graphics are done with a combination of one of Bill Budge's 3-D graphics programs and

something like Magic Paintbox.
The disappearing box occurs because the 3-D graphics package uses both hi-res pages and I can't get it to stop. Does anyone know of a solution?
There is no HELP facility in Haunted Cave. How about someone writing one?/

Darlington, Co. Durham

Dear Sir,

I would be grateful for the prices of small ads.

Yours faithfully,
T. S. Monaghan

/Ed. -Small ads are free to members./

London N8

Dear Sir,

May I take this opportunity to suggest that a 2/3 day course on interfacing be run. This, I think, would deal more with the home constructors point of view than with what is available on the market, and would cover such topics as:

1) The concept of a bus system.
2) The Apple's I/O structure.
3) Application of 3 state devices.
4) Character I/O.
5) Controlling of motors, etc.
6) Interfacing devices i.e. 6502,6522.

Such a course would need to assume a basic understanding of electrical concepts, but not a lot more.

Simon Brown

/Ed. -Any offers to run such a course?/

Buckhurst Hill, Essex

HELP WANTED:

Has anyone had experience or devised routines for using the BBC Model B computer as a terminal/80-column card while linked to an Apple system via RS-232? Similarly, using an Apple as a memory/disk backup for BBC programs?

Also, has anyone yet solved the ITT/Pascal lower case problem outlined in the letters page of Hardcore vol.2 no.4?

Any advice gratefully received.

Mike Siggins

/Ed. -Article coming up in the next issue by Nik Kelly to help with the BBC problem./

Tring, Herts

Dear Sir,

Both in Hardcore and elsewhere comments have been made that the IIe should have had an 80 column layout as standard. This is an ill-considered remark. A monitor would then be essential at further cost. The system would be unusable should the monitor be faulty with delays likely. A TV is usually available for 40 cols.

Personally I prefer the larger characters. They are readable at a distance when checking long running programs and are far easier to read when at the keyboard.

Yours faithfully,
R. G. Silson

Sheffield

Dear Friends,

I'd like to thank you for the benefits that membership of BASUG has brought me over the last 18 months. Your hard work is much appreciated. I find Hardcore is just the right level, hard enough to make me think but not so complex that I get lost!

Yours sincerely,
Roger Mather

Mons, Belgium

Dear Sir,

In the Readers' Letters section of the June issue of Hardcore, Mr. David Steward wrote

Peanut Price Breakthrough

Apple II+ compatible Disc Drives
APPLEMATE £179.50
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All cards fully assembled and tested.

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concerning a problem he was experiencing with The Inspector in ROM. The problem is not one of incompatability between The Inspector and other hardware, but rather that The Inspector must reside in slot 0 to work correctly.
Assuming that The Inspector is plugged into D8 and not D0 as indicated in the letter, there are two possible solutions:

1. The easiest and most efficient solution, but one which requires The Inspector and the Integer Card to remain in slot 4 is to put the following code in a text file and then EXEC it:

```
CALL -151
C0C0
1000<D000.FFFFM
C0C1
C081 C081
D000<1000.3FFFM
C080
D800G
```

2. The second method requires one to first enter Integer Basic and then BSAVE INTBASIC,A$D000,L$3000 assuming that The Inspector is plugged into the card at D8.
Then enter the following code in a text file and EXEC it:

```
CALL -151
C0C1
C081 C081
BLOAD INTBASIC
C080
D800G
```

This last method has the advantage that the Integer Card can if necessary be removed, but is much slower than the first method. Both of these methods worked well for me after transferring my Integer Card to slot 4.

Sincerely yours,
Richard Sylvester

Sunningdale, Berkshire

Dear BASUG Members,

THE SPREADSHEET and MAGICALC

Sadly this program in its present form has a bug - enter 99.96 then /F1 (Format Integer) and answer is not 100 but 140! Don't panic. I gather help is on the way. I spoke to the Call-A.P.P.L.E. HOTLINE and they have this matter in hand for members who bought the program from the Club. I was also advised that ARTSCI would be dealing with those who bought it as MAGICALC but here I would suggest that you contact your supplier here in the UK first.

They are also aware that some of us would like to access the extra 64k on the 80 column extended card for the Apple //e. This matter is also in hand and will be dealt with at the same time, so they say.

Yrs etc,
Peter Trinder

Saudi Arabia

I would like information about the BIT STIK system. In particular, I would like to know about:

1. Its compatibility with the Apple Graphics tablet - does the system take data directly from the tablet or only after it is pre-processed through a utility routine?
/Keith Chamberlain writes: The system takes data directly from the graphics tablet using the x-y output./

2. Is it compatible with other graphics tablets, like the one by Versa?
/Norah Arnold writes: Images saved from the BIT STIK can be coloured in on Versawriter, but images from Versawriter do not contain the embedded commands that the BIT STIK uses.
Because the library files contain commands these cannot be used on Versawriter./

3. What plotters is it directly compatible with?
/Keith: Hewlett Packard - Calcomp - Tektronix - Strobe. All of which require special software./

4. What software and utilities come with the system?
/Keith: Replay, a program which will redraw a file without using the system software./

5. What other software and utilities are available for the system?
/Keith: Don't know./

6. Can I make 'unlimited' back-up copies?
/Keith: Yes./

7. Is the source code accessible to me so that I can adjust the system to suit myself?
/Keith: Yes./

8. Has an 'after-market' developed with other organisations offering compatible hardware and software? If so, what are their addresses?
/Keith: Don't know./

9. What is the speed with which the components are 'transferred' from the library file to the work page?
/Keith: Depends on the size of file, most supplied files load in less than one minute./

10. I was particularly impressed with the picture sequence on page 46 of the article. (Windfall vol.2 no.5 November 1982). What is the approximate time between each frame? For the entire sequence?
/Keith: The time interval depends on the complexity of the file./

11. How fast is a work page loaded to/from disk? A library file?
/Keith: This again depends on size of file and complexity./

12. Is the software compatible with the new RAM-disks? Hard disks?
/Keith: As the system requires two disk drives to be in the same slot it may not be possible to use hard disks or ram disks without a software rewrite./

13. The article mentioned attaching "a plug to a 12-volt pin near the game socket". Since I connect all my devices to the game socket through an external Expand-Port will I experience any problems?
/Keith: The BIT-STIK will work with the expand-port but you will still need to pick up a 12 volt supply./

14. Can the images, other than hi-res dumps, be manipulated from other programs? Easily?
/Keith: No./

15. Is the system directly compatible with Digisolve's 512x512 High Resolution Graphics card?
/Keith: No, but an upgrade is planned in the near future./

16. Can the system handle 3-D in addition to 2-D images?
/Keith: No./

Thanks for your indulgence.

Cordially,
Randy (C. Brandon Gresham, Jr.)

Colorado, U.S.A.

Dear Sirs,

In preparation to beginning Longfellow's First Apple Computer Club I decided to write you and compare notes.

It would be great to have an international influence and perhaps share some pen-pal activities. My students will range from 6 to 12 years of age. If interested please write.

Sincerely,

Lila

/Ed. If any of our younger readers are interested, the address is:

Lila Stoller
[illegible]

Do mention that you got the address from BASUG./

Wareham, Dorset

Dear Sir,

You published my letter about the //e in the June issue of Hardcore.

As I said, the sharpness of the display of the //e is inferior to that of the][+. It is not due to the "switch in the middle of the board", and in fact this switch is not present in the latest versions of the //e.

The problem is intrinsic to the design of the new machine. It will also be noticed, for instance, that inverse text has a solid (green) line at the bottom of the green block, and not the top as in the][+. This

arrangement is less satisfactory typographically if you put, say, the title of a program in inverse at the top of the screen - try it.

A further problem is that while the Monitor III improves the display over cheaper monitors, this machine is very hard to get hold of. I waited over three months for mine. It appears that Apple are trying to reserve the Monitor III for sale with Apple ///s. This is despite the fact that all the illustrations of the //e in the manuals and publicity literature show the //e with Mon III and its special Apple][stand!

Rumour has it that a new Apple monitor for the //e is in the pipeline, but Apple are not admitting this.

One of the good features of the][+ in comparison with some of its competitors was the quality of its display. It is most disappointing that the new machine, with many very worthwhile improvements, is inferior to the old in this very important feature. There are now new competitors with absolutely first-class video displays, so one hopes Apple will attend to these defects as quickly as possible.

Yours sincerely,

J. V. Lee-Potter

/Ed. -I have spoken to Apple and sent them your letter. They were unable to reply in time for this issue but we will publish their answer next time./

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Date	Edition
September 2nd	October
October 28th	December
January 6th	February
March 2nd	April
May 4th	June

Please send complete camera-ready artwork in monochrome. If the original is in A4, then the typeface must stand photographic reduction to A5. We can undertake minor alterations to copy.

DIARY

August

2nd	Herts Group - Games

September

6th	Herts Group - Databases
8th	South West London Group - Word Processing
10th	BASUG National Meeting (see update)
12th	Hants and Berks Group - Lisa Demonstration
28th-2nd Oct	Personal Computer World Exhibition

October

4th	Herts Group - Communications and Prestel
8th	BASUG National Meeting (see update)
10th	Hants and Berks Group
13th	South West London Group - Technical Software

November

10th	South West London Group - Peeks, Pokes & Calls
14th	Hants and Berks Group
24th-26th	North West Computer Show, Belle Vue, Manchester

December

8th	South West London Group - Games
12th	Hants and Berks Group

If you would like your events in the diary, please write in and tell us about them.

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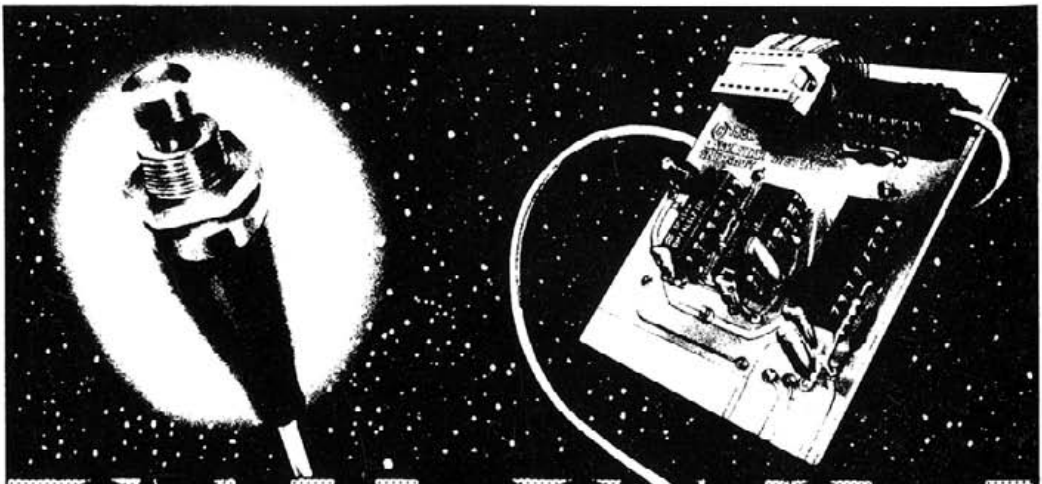

"SNAPSHOT"

The Disc Copy Card TWO

*Apple II or II+ or Franklin, one drive and Language Card/16K required. Works with most popular cards, including Apple, Microsoft, Computer Shop, Merlin, Bumex, Digitek, MPC, RH Electronics, Orange, Franklin, etc. Other brands: specify when ordering. Graphics dump requires graphics interface card and printer.

The disc copy card with all the great features of SNAPSHOT, plus:

WIDER COMPATIBILITY: Works with virtually any 16K card

EASIER TO USE: Just press the trigger on the attached extension cable. Never open your Apple's cover. Simple 1-2-3 copy procedure. Copies most programs in 30 seconds.

PEELINGS II magazine (Feb 1983) compares SNAPSHOT with Wild Card and Crack-Shot:

"Overall, with one of the supported RAM cards, SNAPSHOT is the best buy."

"The copy procedure is perhaps the easiest and clearest of the three cards."

SNAPSHOT will copy any memory-resident program that runs on the 48K Apple. SNAPSHOT uses your 16K RAM card* to interrupt a running program and dump the entire contents of 48K and registers to an unprotected backup disc. SNAPSHOT backs up programs that baffle nibble copiers like Locksmith without any complex parameter changes or trial-and-error hassle. And SNAPSHOT is still more effective, less expensive and easier to use than its imitators.

- ★ You have full, normal use of other hardware and software.
- ★ Ideal for debugging or analyzing programs.
- ★ Freeze-frame your game! Print the graphics on your printer and resume play.
- ★ Shooting down space invaders and the phone rings? Interrupt your game until later, or tomorrow. Save your high scores!
- ★ Repeatedly interrupt and resume running programs.
- ★ Faster and easier to use than nibble copiers or other copy cards.
- ★ Full monitor capabilities to examine, modify, trace, single-step or disassemble any interrupted program.
- ★ Suspend work with one program while you use another (for instance, interrupt word processing a letter to look up an address in a database, then resume the letter exactly where you left off.)
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