

## ALL MICRO MAGAZINE

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(for users of the Einstein and other golden oldies micros)

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(opinions herein are not necessarily those of the publisher)

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COMPUTER SHOW DATES FOR YOUR DIARY

ALL MICRO SHOW will be on Saturday 12 November this year.

ALSO a

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SPRING ALL MICRO SHOW

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on Saturday 16 April.

As usual, they are at the Bingley Hall, County Showground, Stafford, (2 miles out on the A518 Uttoxeter road & AA signs from junction 14 on the M6,) with plenty of free on-site parking, a shuttle bus from Stafford railway station & town centre, and overnight parking possible if you're coming from Thurston or Truro. It's well worth making the effort to attend (we hope to be there again) and if you need further info (or advance tickets) contact Sharward Services on 0473-272002.

COUNTRY-WIDE COMPUTER FAIRS:- Your membership card is valid for discount. Feb 13, Gillingham; Feb 26, Norwich; Mar 13, Nottingham; Apr 02, Slough. Phone 0225-868100 for more.

NORTHERN COMPUTER MARKETS:- We keep phoning for discount vouchers for you. They keep promising. Nothing ever results. Try showing your membership card & let us know if they allow discount on it. Every weekend, Birmingham/Bradford/Liverpool/Manchester/Newcastle/Oldham/Preston/Sheffield/Stockport/Stoke venues. Phone 061-881-0569 for details.

ALL FORMATS COMPUTER FAIRS:- Extra dates (not shown on your discount vouchers) are:- Feb 12/Mar 19/Apr 16/May 21/ Jun 11 Northwest; Feb 13/Mar 20/Apr 24/May 22 West Midlands; Feb 26 /Mar 26/Apr 23/May 28 Northeast; Feb 27/Mar 27/May 29 Glasgow; March 6/May 15 West; Mar 13, London; Apr 09 Essex; Apr 10(was 09) Cardiff; Apr 17 Belfast. More:- 081-856-8478

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## A BEGINNER'S GUIDE TO THE EINSTEIN (Part 1) - A.C.McROBBIE

When you unpack your Einstein computer (the original model is often referred to as "Albert") you will notice a disk drive slot at the front, as it uses "floppy disks" and not tape cassettes to store programs, games, etc. It also has a lot of sockets to which things can be connected, including one for a TV or a display monitor. The grey button alongside the External Disk Socket at the rear of the machine is the Reset Button. This is used to restart the machine if it "freezes up", without having to switch it off & on again.

### USING FLOPPY DISKS

The Einstein uses 3" CF2 disks in its built-in drive(s), rather than the more recent 3.5" disks used on many IBM-compatible computers. They are identified by side, A and B. The disks are single-sided, but you can use either side of the disk separately, giving storage space for about 200,000 characters on each side. Albert can tell you the names of the programs on each disk, how much room they take up, and how much space is left.

It is always best to keep your original program disks stored safely in their plastic cases, and only use them to make working copies for everyday use. Like your working disks, they should be protected from dust, dirt, food, drink, heat & cold, and also away from electric motors, phones (and the TV/monitor!) as the data on them is stored magnetically & is easily scrambled. At the top LHS of each disk is the letter A or B depending on which side you look at. An arrow points to the WRITE PROTECT HOLE in the disk. This has a tab which can be slid to close the hole (if you want to write data to the disk) or to open it on program disks (to protect them against accidentally being written to or corrupted).

These CF2 disks are available from fishing ports (boats use them for their radar), from Amstrad dealers (the PCW uses them), computer fairs & the UKEUG software library.

### GETTING STARTED WITH YOUR EINSTEIN

Plug in the Einstein and connect the computer to the TV using the lead supplied. The socket is on the RHS of the computer. The lead is connected to the aerial socket of the TV. Switch on the TV and the computer. A green Power light will show at the front LHS of the computer. Adjust the TV till you get the best picture from the computer signal.

Provided you have not switched on the machine with a disk in the drive you should see amongst other things the characters "Xtal MOS 1.2" appear, and the CURSOR (a Flashing Square beside a > sign on the TV). This shows that you are in the Machine Operating System (MOS), & have not yet loaded

the Disk Operating System (DOS). If these characters do not appear, press the Reset Button fully in and release it, then re-tune the TV. With more experience you may use the MOS level, but for now you'll load the Disk Operating System and programs from disk when you use your Einstein.

Unlike many "home computers" the Einstein loads BASIC from disk just like any other program, so it only takes up memory space when you actually want to use it. To load a program from disk, carefully slide the disk into the disk drive in the direction of the arrow at the TOP LHS OF THE DISK. When fully inserted, the disk will click into position. HOLD DOWN the CTRL key and TAP the BREAK key. This will load the DISK OPERATING SYSTEM or DOS (which is stored on nearly every disk). This is called "booting up". While the disk is spinning, a light will glow either GREEN which indicates Side A, or RED for Side B of the disk. Once the light goes out, you should see 'Xtal DOS 1.31' (or something similar) at the top of the the screen. The cursor, (a flashing white square next to 0:) will also appear. This display is called the "DOS prompt", and it shows which disk drive the computer is currently set to use. You can have up to four disk drives connected to the computer (i.e. 0 to 3).

To remove your disk, press the button fully home, but ONLY when the disk drive light is out. Also you should NEVER switch the machine off with a disk still in your disk drive, or if the Dos prompt is not displayed on the screen.

### FILE NAMES and DIRECTORIES

The names of the programs or files are kept in a DIRECTORY on each disk side. If you type DIR then press ENTER, the DIRectory of that side of the disk will be displayed and the DOS prompt will re-appear. If it doesn't there is more to be listed, so press the space bar. Using BASIC, DIR does much the same, but doesn't show how much disk space is still free. There are also utility programs (like CAT.COM) to list files alphabetically (also showing file sizes & disk space free).

File names have to obey certain rules. The first EIGHT LETTERS form the PROGRAM or FILE NAME, while the THREE LETTERS AFTER THE DOT form the FILE TYPE OR EXTENSION. The difference between a PROGRAM and a FILE is that a PROGRAM is a special type of file that contains a series of commands that the computer processor will respond to. A program is to a computer much as a recipe is to a cook, but it will often be in a form that only the computer can read.

Programs often create DATA FILES, and the FILE EXTENSIONS often indicate the type of program that created files, or that they are intended to be used with:-

.ASC are files containing data stored in a standard format (ASCII code) which can easily be transferred between computers and can be read by almost any program. ----->



.BAS files need MBASIC.COM loaded first (Microsoft BASIC)  
 .BBC " " BBCBASIC.COM " " (BBC BASIC)  
 .BLK " " 40EF83.COM " " (FORTH language)  
 .BIN " " BRADFORD.COM " " (Printing program)  
 .EDF " " EASIDATA.COM " " (Database)  
 .GDR " " GRAFDRAW.COM " " (Graphics & Text)  
 .LOG " " LOGO.COM " " (LOGO Language)  
 .MEM " " SCREEN.COM " " (Art Package)  
 .MEM " " CRACKER.COM (same EXTn as above) Spreadsheet  
 .MUS " " BBCBASIC & MUSIC.BBC " " (Music files)  
 .SDT " " SPREAD.COM loaded first (Spreadsheet)  
 .SS4 " " EDIT.COM " " (Database)  
 .UFT " " WDPRO.COM " " (Wordprocessor)  
 .XBS " " XBAS.COM " " (Xtal BASIC)  
 .CAT) Document files of some sort which can be read from  
 .DOC) DOS by typing DISP FILENAME.EXTENSION.  
 .FIL) eg. DISP HELPREAD.ME (NB. no inverted commas req'd)  
 .HLP) Files with these extensions can be loaded into  
 .INF) Tasword, the word processor, to play around with.  
 .TXT)  
 .BIN) Information to be loaded into a specific memory area  
 .OBJ) in the computer and are called up within other  
 programs.

All .COM files (COMMAND FILES) WILL RUN ON THEIR OWN without the need to load a language or other program first. eg. Simply type the FILENAME and press ENTER to load the program you want to run.

#### LOADING XTAL BASIC

With the Operating System loaded, the 0: Dos prompt showing, and a disk containing XBAS.COM in drive 0:, type XBAS & press ENTER. Crystal BASIC should then load from the disk and "Xtal BASIC 4.2" should appear, with the prompt "Ready". You are now in BASIC. Type LOAD "KEYBOARD" and press ENTER. The BASIC program KEYBOARD.XBS will be loaded (provided that it is on the disk, and you have put the "quotes" round the filename). Type RUN and press ENTER to start the program. Press SHIFT and BREAK at any time to stop it and return to the Ready prompt, or CTRL and BREAK to leave BASIC and return to the Dos prompt.

#### SUMMARY

So far we have briefly explored the 3 levels of operation:-

- 1) MACHINE OPERATING SYSTEM (MOS).  
Switch on the machine WITHOUT a disk inserted.
- 2) DISK OPERATING SYSTEM (DOS).  
WITH a disk inserted, switch on, reset, or CTRL-BREAK.
- 3) LANGUAGE SYSTEM (XBASIC).  
Load from the DOS prompt. Use the PROGRAM NAME as a command.

[CONTINUES NEXT ISSUE]

#### MEMBERS INTRODUCE THEMSELVES - Peter Oxton

In response to your request for information from members, I summarise below my involvement with the Einstein. I'm nowadays in a 486 Windows world, but still hold quite a lot of work on Albert. We (the Unit where I work) got our first machine about 8 years ago; a single drive TC01 which still staggers along today despite several new keyboards and drives brought about by over-enthusiastic games players. We also have a slightly newer twin drive TC01 with an 80 column card used for several years for word processing in the main with a Panasonic 24 pin DM printer.

Not too long ago, we were given an Einstein 256 second-hand. It proved cheap and nasty when set alongside the TC01: its belt-driven disc drive soon played up and it remains languishing in a cupboard.

At the time we bought our first Einstein, it came with BBC BASIC (Z80 version) and a partial version of DR LOGO: we still have these and the supporting literature, although I've never delved deeply into either language.

DOS/MOS: we have the manual on these: I've a reasonable grasp of the DOS. I tried the Glentop machine code programming tutorial for the machine, but quickly lost faith when even I could tell there are crucial printing errors in codes on the first few pages of the book.

XBAS: again we have the manual plus the Basic Tutorial disc. Another book which makes a lot of sense is Relatively Basic from Solo Software: this has some useful utilities. I estimate that I became reasonably proficient in the language: two of my programs are in the PD library: PD300 has a Blockbusters screen display programme and PD208 (I think) "Key", a keyboard familiarisation game.

\*\*\*\*\* ED:- Yes, it's on pd208 and it's great fun! \*\*\*\*\*

WDPRO was our bread and butter word processing package for some years: many people hate it as it isn't WYSIWYG, but we found it quite powerful in that you can output printer control codes directly from the text file. I think we know most of the wrinkles in this one.

WORDSTAR, REPORTSTAR, INFOSTAR: we have these, plus voluminous manuals. I used Wordstar for a while, but found it limited in controlling our printer through code outputs. Really only useful for Mailmerge.

CRACKER: we used this for accounting, etc: a very powerful and adaptable program. We have the manual too.

If we can be of help to newer Einstein users, they're welcome to contact me (preferably by writing) at:-  
 455 Yardley Wood Road, Moseley, Birmingham. B13 OTA



## AN INTERACTIVE FUNCTION EVALUATOR IN PASCAL - Sid Dunn

If you have kept your Einstein because you've found it indispensable, then it's likely that you have a serious interest in programming. It follows that if you regularly solve problems, then you'd probably benefit from using a well-structured compiled language like Pascal, rather than an interpreted one like BASIC.

Many people have a use for a simple program which will tabulate the value of a function for a range of a single variable.

In the BASIC native to the machine we may do this very readily:

```
10 INPUT "Enter a function of X";A$
20 FOR X=1 TO 5
30 PRINT X,EVAL(A$)
40 NEXT X
```

Despite its many virtues Pascal has rather rudimentary arrangements for input; transactions are organised in terms of single characters or numbers. The way round this is to make use of the compiler; it usually offers one particular service by including in the source code a piece of text wherever you choose. The only restriction is that the text has to be summoned from an external file in a specified way.

In order to make this as painless as possible I use two short programs called putf and tabf. The former asks for the function to be typed in at the keyboard, then writes it to disc and displays a message asking for the file tabf to be called from disc and compiled.

Compiling usually results in a rather busy screen; this can be partly remedied by using the directive which switches off the listing.

Programs putf and tabf (together with a screen dump of a typical session) are shown below:-

```
PROGRAM putf;{asks for a function of u to be entered at the}
VAR ch:CHAR;      {keyboard & stores it on disk in}
data:TEXT;        {a file called ANYFUNCT.ASC}
BEGIN
  REWRITE(data,' ANYFUNCT.ASC');{open file on default disk}
  WRITELN('Enter f:=f(u)');{input function of dummy variable}
  READLN;{get past blank line assumed by READ}
  WHILE NOT EOLN DO
    BEGIN
      READ(ch);{get one character}
      WRITE(data,ch){write it to disk}
    END;
  WRITELN(data);{provides end-of-line marker to file}
  WRITELN('Now: hpein tabf;b,t,1-'){tells compiler things}
END.
```

```
PROGRAM tabf;{tabulates a function entered at the keyboard}
VAR x,y:REAL;{x is the actual variable} {by program putf &}
n:INTEGER;      {stored on disk in ANYFUNCT.ASC}
FUNCTION f(u:REAL):REAL;{expressed in terms of dummy variable}
BEGIN {fetches text from default disk}
  {$F ANYFUNCT.ASC}
END;
BEGIN
  FOR n:=0 TO 10 DO
    BEGIN
      x:=0.0 + n*0.1;
      WRITELN(x:4:2,f(x):8:3){actual variable substituted for}
                                {dummy variable}
    END;
  END.
```

```
2:putf
Enter f:=f(u)
f:=u*u*u-(3*u)/4
Now: hpein tabf;b,t,1-
```

```
2:hpein tabf;b,t,1-
File exists - Delete?y
Hisoft Pascal for the Tatung Einstein
Version of 24 October 1984
Copyright Hisoft 1984.
All rights reserved.
End address: 1433
```

```
2:tabf
0.00  0.000
0.10 -0.074
0.20 -0.142
0.03 -0.198
0.04 -0.236
0.05 -0.250
0.06 -0.234
0.07 -0.182
0.08 -0.088
0.09 -0.054
1.00 -0.250
```

This has been done using Hisoft Pascal. Two features to note (which may differ from other implementations):-

(1):the string in quotes in the REWRITE statement in putf must be 14 characters long; the first two are blank, signifying the default drive.

(2):the body of FUNCTION f, while not so strictly specified as to length, also has no drive identifier to match putf.

Enthusiasts may wish to add column headings and divide-by-zero traps and other frills as well as programming the function keys or using CP/M utilities.

## WIRING THE ARM

FIG.7A shows the circuit diagram. The two potentiometer tracks are connected in parallel, both in series with a dropper resistor across a 13.8v dc power supply. These power supplies were made in their thousands when the CB craze was all the rage and now they can be picked up quite cheaply from second-hand shops or car boot sales.

The total resistance across the supply is:

$$2.5K + 4.7K = 7.2K \text{ ohms}$$

With a supply of 13.8V we have:

$$I(\text{mA}) = 13800 \text{ (mV)} / 7200 \text{ (ohms)} = 1.91 \text{ mA}$$

The voltage across the tracks of the potentiometers in parallel is:  $1.91 \times 2.5 = 4.79 \text{ volts}$

Since the maximum rotation we require is about 75 degrees, and the effective track is 240 degrees, a simple calculation will reveal that the maximum voltage fed to the ADC will be:

$$4.79 \times 75 / 240 = 1.49 \text{ volts}$$

and the maximum digital range will be:

$$255 \times 1.49 / 2.1 = 180$$

This value of course is theoretical, as in practice the power supply will not be quite 13.8 volts, and the effective track may be a little more or less than 75 degrees. However, we won't be far out.

Wire the arm as shown in FIG 7B. I drilled a small hole near each potentiometer and wired on the under-side of the arm. To facilitate the wiring I araldited a small strip of Veroboard on the under-side of the arm between VR1 and the push-buttons, but I'm sure that some of you will have other ideas (and probably better ones!).

The purpose of the push-buttons will now be made clear. PB1 grounds the wiper of VR1, and hence feeds a logic 0 to the ADC(0) input. Once this is detected the program will save the screen contents to memory, thus allowing us to save it to disk.

PB2 grounds the wiper of VR2, and hence feeds a logic 0 to the ADC(1) input. Once this is detected the program will temporarily suspend operation, thus allowing the Arm to be moved without plotting. (This is only as long as the button is depressed).

After wiring, check the connections thoroughly. Make quite sure that the 13.8v line is dropped by the 4.7k resistor (this can be soldered to the Veroboard if required). When completely satisfied that the circuit is correct, connect the DIN plug into the Analogue 0 socket, and the supply wires to the 13.8v supply.

FIG7A

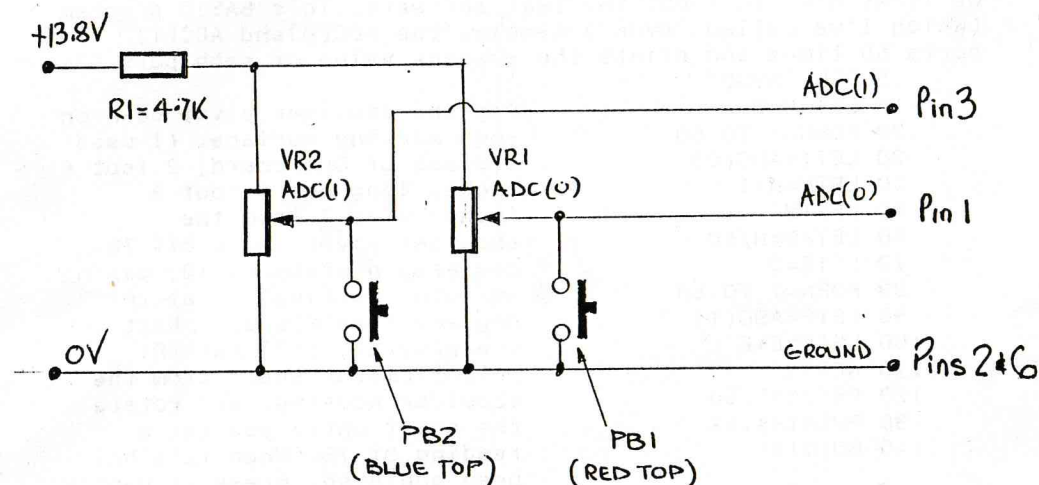
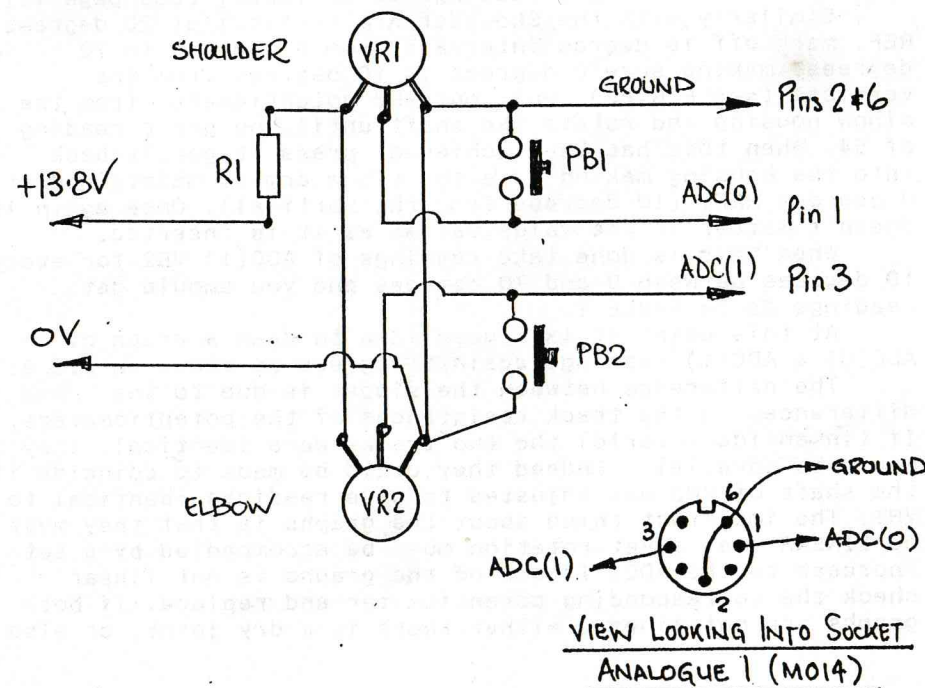


FIG7B





## SETTING UP PROCEDURE

Before we get down to the business of calibrating the arm, we first have to input the test software. This BASIC program (which I've called "AVGE") samples the ADC(0) and ADC(1) ports 50 times and prints the average value of each port.

```

5 REM "AVGE"
10 LET H=0
20 FOR N=1 TO 50
30 LET I=ADC(0)
40 LET H=H+I
50 NEXT N
60 LET A%=H/50
70 LET E=0
80 FOR N=1 TO 50
90 LET F=ADC(1)
100 LET E=E+F
110 NEXT N
120 LET C%=E/50
130 PRINT A%, C%
140 GOTO 10

```

Pin the shoulder pivot down on your working surface. (I used a piece of Chipboard, 2 foot 6 inches long and 1 foot 3 inches wide.) From the shoulder pivot, mark off 70 degrees in steps of 10, making sure the vertical is at 20 degrees (see FIG.8A). Next run the program, pull out VR1 potentiometer shaft from the shoulder housing, and rotate the shaft until you get a reading of 78. When this has been achieved, press it gently

back into the housing making sure that the shoulder arm is vertical. It doesn't matter if the value varies as the shaft is re-inserted. When this is done the next step is to take readings of ADC(0) VR1 for every 10 degrees between 0 and 70 degrees. You should get readings as in TABLE1 (see page 13).

Similarly with the Shoulder Arm vertical at 20 degrees REF. mark off 10 degree intervals from 0 degrees to 70 degrees, making sure 0 degrees is 10 degrees from the vertical (see FIG.8B). Pull out VR2 potentiometer from the elbow housing and rotate the shaft until you get a reading of 54. When this has been achieved, press it gently back into the housing making sure the elbow arm is maintained at 0 degrees REF. (10 degrees from the vertical). Once again it doesn't matter if the value varies as it is inserted.

When this is done take readings of ADC(1) VR2 for every 10 degrees between 0 and 70 degrees and you should get readings as in TABLE 1.

At this point it is a good idea to draw a graph of ADC(0) & ADC(1) readings against Degrees as shown in FIG 9.

The difference between the slopes is due to the differences in the track resistances of the potentiometers. If (in an ideal world) the two tracks were identical, they would be parallel. Indeed they could be made to coincide if the shaft of VR2 was adjusted to give readings identical to VR1. The important thing about the graphs is that they must be LINEAR i.e. a set rotation must be accompanied by a set increase to the ADC. If one of the graphs is not linear check the corresponding potentiometer and replace. If both graphs are not linear, either there is a dry joint, or else

FIG 8A

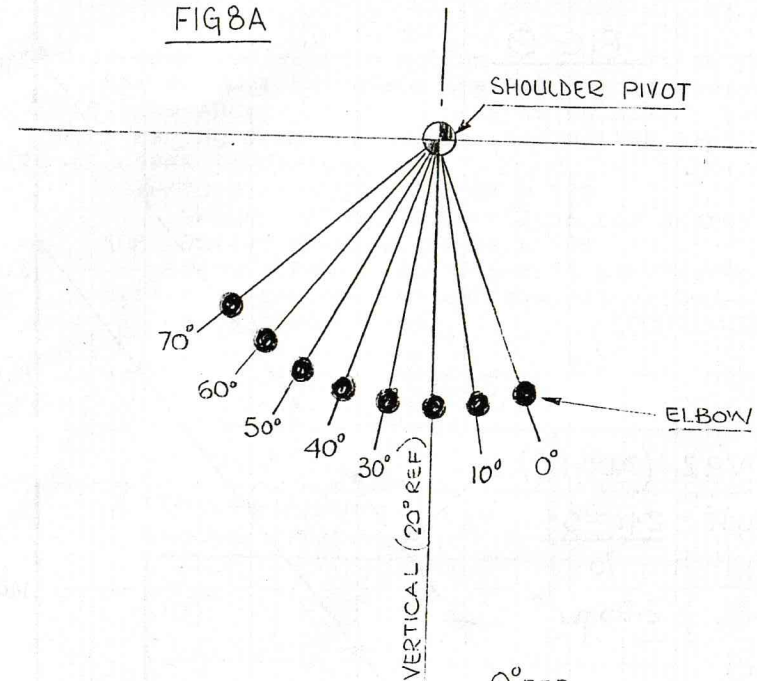
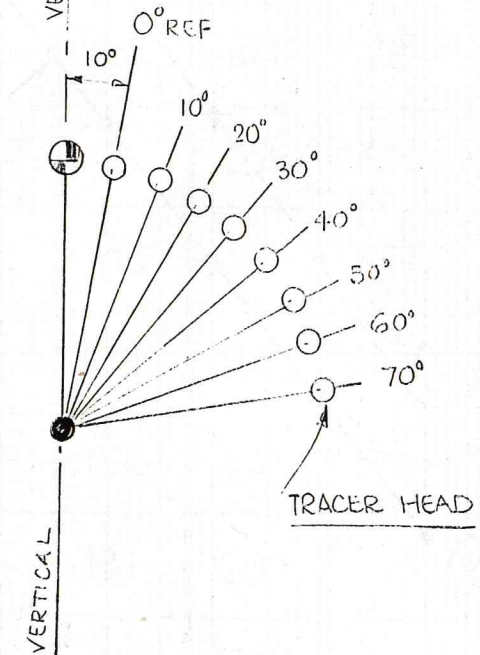
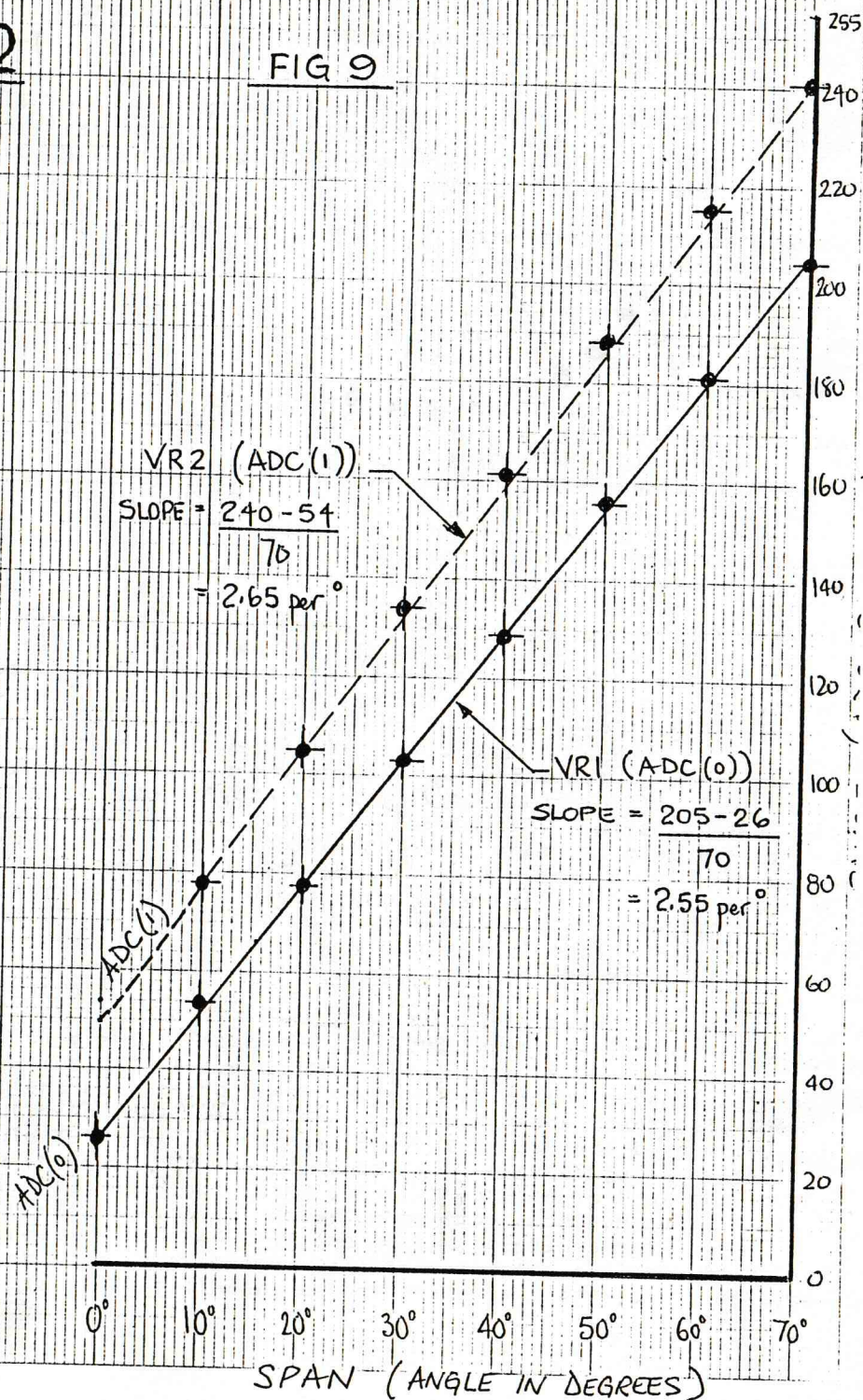


FIG 8B







the dropper resistor is acting in a non-linear fashion.

Now we must calculate the ADC reading per degree for ADC(0) and ADC(1). This is easy as we simply subtract the lower reading from the higher reading (THE RANGE), and divide by the SPAN in degrees:

FOR ADC(0): RANGE = 205 - 26 = 179

RANGE/SPAN = 179/70 = 2.55 per degree

FOR ADC(1): RANGE = 240 - 54 = 186

RANGE/SPAN = 186/70 = 2.65 per degree

Notice we are near to our nominal value of 180 for the range as calculated earlier. [CONTINUES NEXT ISSUE]

TABLE 1

SHOULDER (ADC 0)			ELBOW (ADC 1)	
DIRECT READING	ABSOLUTE READING	A°	DIRECT READING	C°
0°	-20°	26	0°	54
10°	-10°	54	10°	78
20°	0°	78	20°	105
30°	+10°	103	30°	134
40°	+20°	129	40°	161
50°	+30°	156	50°	188
60°	+40°	181	60°	215
70°	+50°	205	70°	240



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The relationship between the software library and the user group has never been explicitly stated in the magazine, and some controversy has resulted from our recent purchase from Jim Ellacott of the assets and goodwill of the UKEUG Einstein software library for a considerable sum of money. It's therefore appropriate to review the position.

According to the editorial records the library was set up by Jim Ellacott in the brief period between the formation of the East Anglian Einstein Association and the transfer of administration of the U.K. Einstein User Group to EAEA.

We're told that all the income derived from the software library was donated to UKEUG funds until after the departure of Mike Smallman to "pastures new", when it was agreed that half the income would be so donated, with Jim retaining the other half to defray his costs and expenses.

The actual ownership of the software library is unclear. Jim claims that he owned all the physical assets, since he provided all the labour and the funds to create it, and in the absence of some formal agreement or memorandum covering the point this isn't at all an unreasonable view.

Despite his assurances in October 1988 Einstein Monthly Graham clearly never anticipated a rescue package being set in train for the Einstein user group, and made clear to us before we took over that the Einstein pd library assets could not be transferred to us, as he had given an undertaking to Jim that he would "hand the library over to Jim to run as his own" in the event of his (Graham's) ceasing to run AMN (as it had by then become).

Jim did offer to make copies of the Einstein pd volumes available to us, but so many practical problems arose that we considered it prudent to take up his alternative offer, & buy out his interests in the Einstein pd library instead.

Although the purchase was not budgeted for (and caused severe temporary cash-flow problems), the price paid did represent a realistic valuation of the media containing the software (as a bulk lot of second-hand 3" disks for re-use).

With Jim's help we're overcoming a few teething problems with disks that we can't read on our tame Albert, and the whole of the library content is expected to be available to members by now. In case you don't have a copy, we're reprinting the library list in the magazine.

As soon as we can get a round tuit we're intending to put a lot of effort into bringing the library content up to the same standards of accessibility and ease of use as the best modern IBM shareware libraries, but this will take time.

Meanwhile the Einstein pd library content is available in traditional form. The copying charge is £1 per volume if you supply a formatted 3" disk, with suitable packaging and

return postage. You should allow one disk side per volume.  
As always, PLEASE QUOTE YOUR MEMBERSHIP NUMBER when ordering.

If you prefer, we can provide the disk. In this case you should add £2.00 for 1 disk, or £1.50 per disk for more than one disk (the price includes postage).

If you provide some disks, but order more from us to make up the total quantity needed, you must enclose enough postage to cover the return to you of your own disks.

## EINSTEIN SOFTWARE VOLUMES AVAILABLE:-

pd	volume #	description	display column width
001		FORTH-79, FORTH+++ and F83 programming language...	80
002		Extended SUBMIT; Telex Comms; 'Small-C' compiler...	80
003		Miscellaneous document files for the other disks...	80
004		BRADFORD fonts; dBASE II tutorial & retrieval prg...	80
005		BDOSZ replacemt DOS; Z80 'Small-C' monitor; Utils...	80
006		'Small-C' language compiler and libraries.....	80
007		Electrical Eng; Ham Notebook; Mail label system...	80
008		Disk Catalogue system; Assembler & Disassemblers...	80
009a		misc PD.Software Library catalogs of CP/M volumes...	80
009b		" "	80
010a		misc PD.Software Library catalogs of CP/M volumes...	80
010b		" "	80
011		FORTH-83 supplements to PD 001.....	80
012		Console Command Processor and Extended SUBMIT....	80
013		Einstein Direct Disk Dump & Disassembler.....	80
014		MBASIC Touchtype Typing Tutor .....	80
015		Remote Bulletin Board System; Library SWEEP.....	80
016		Remote Bulletin Board System.....	80
017		WORDSTAR patch to insert ctl chars in DOC files...	80
018		Modem utils; Customisation of WORDSTAR program...	80
019		Programming utils; Reverse assembler & debugger...	80
020		Z80 Control Command Processor.....	80
021		Comms file transfer; Video displly oriented editor...	80
022		KERMIT and MODEM 7 for Einstein with source code...	80
023		Amstrad & Einstein utilities and games (part 1)...	80
024		Amstrad & Einstein utilities and games (part 2)...	80
025		COBOL compiler with demo progs; Catalog program...	80

more next issue .....

ELSEWHERE IN THIS ISSUE is a Pascal programming article by Sid Dunn. He's based his article on the Hisoft version of Pascal, which B&H no longer list, & is probably only available if you can find a second-hand copy for sale.

However, you CAN obtain a copy of a full commercial Pascal package - J.R.T. Pascal - from the software library at a mere fraction of the commercial cost. With an on-disk manual, we'll throw in volume pd001 (FORTH) to make a two-language 4-disk set at just £7.50 on your disks (you supply post & packing), or £12.50 if we supply disks & p+p.



# PSION Series 3 to Einstein file transfer - Ted Cawkwell

As a Psion Series 3 owner without access to a PC I have devoted some time to attempts to transfer the S3 files to a 3.5" disk on my Einstein TC01 as this is a much cheaper option than using the incredibly expensive SSD's supplied by Psion in lieu of floppies. (SSD's are Solid State Disks - EPROMS in practice).

The S3 is equipped with a special 6 pin serial port which is said to use a high speed RS232 configuration. It certainly defeated my attempts to make my own lead, so I mortgaged the house again and bought the purpose made Serial Link, but not without some trepidation as it is designed for PC's and Macs, although there is mention of connecting to any computer with a standard Serial port.

A lead has to be made to connect the Einstein to the Serial link. The plugs required are a 5pin domino and a 25 pin D type. Connect as follows:-

Domino		D type
pin 1	to	pin 7
pin 2	to	pin 4
pin 3	to	pin 3
pin 4	to	pin 5
pin 5	to	pin 2

Pins 6 and 20 on the D are connected together. The domino can be connected in two ways 180 degrees apart. If nothing seems to happen when you try the next few paragraphs reverse it and all should be well. Then mark it!

After one or two false starts and a few re-reads of the manual I discovered to my delight that the trusty Albert is one of those computers that does connect! How could I have doubted it? I have even transferred a file in OPL language from the S3 (known as "the Slice" in the trade - it does rather resemble a slice of bread folded over, but what a filling!) to the Einstein and then back to the Slice, recompiled the program and RUN it successfully. The only problem - very minor - is that S3 non-ASCII characters come back as Einie non-ASCII!

The routine is as follows:-

Set up the Einstein (as receiver) in DOS which will be 2.05 to use 3.5" disks but 1.31 is OK for 3" and type COPY SRL: TO 2:FILENAME.EXT (e.g. for drive 2) but don't press ENTER yet.

NB. a disk containing COPY.COM must be in drive 0.

Set up the Slice in COMMS Terminal Emulation mode and use the Menus to set Protocol as ASCII, Port speed 9600, 8 bits, 2 stop bits and 0 parity. Set handshaking to RTS/CTS on, all

others Off. (This is the Einstein default set-up.) Then select Transmit and choose the file to send. Press ENTER on the Einstein and wait for the disk drive to stop, then press ENTER on the Slice. All that will apparently happen is that the S3 will count off the blocks transferred. Fear not! When the blocks stop changing, key Control Z on the S3 (i.e. the TRANSMITTER) and the file will be stored on the chosen drive and Albert will return to DOS. Add salt and pepper and repeat as liked!

The rules seem to be; set up the receiver first, check the Serial port settings each time and only send ASCII files. It is possible to print out Slice programs on the printer connected to Albert by using COPY SRL: TO LPT: and the 3 Link manual gives ways of converting awkward files to ASCII. Various other options of connecting Einies serial port are given on page 47 of the Einstein MOS/DOS Introduction manual.

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## EXPLORING dBASE II PROGRAMMING

John Luther can turn the printer on and off from within dBASE programs using the SET PRINT ON and SET PRINT OFF commands (and EJECT will give a form feed) but he'd like to be able to give other printer commands from programs too.

The dBASE User Manual barely hints at an answer, since the average user won't need such sophistication, but there seem to be one complicated and two simple ways of achieving this. To do it the hard way you could try using SET CALL TO and writing a machine code routine (see User Manual, 3-32).

If your printer DOESN'T support software control, the easiest way seems to be to use the SET ALTERNATE TO command (3-145) to echo the output to a named text file. This can then be tidied up using a word-processor program.

Using Wordstar 3 you can insert ^PC into the text wherever you require (to pause the printer) while you set the printer mode manually. (If you use another word-processor check the equivalent procedure.) If all else fails, split the file into sections and print it as a series of mini-files, manually setting the printer mode (& paper position) for each before printing it.

If your printer DOES support software control, the Ashton-Tate Advanced Programmer's Guide to dBASE III Plus (1987 edn) has a section on this (inc dBASE II), pp.377/8.

For an Epson FX80, after SET PRINT ON, ?? CHR(15) will enable condensed mode, and ?? CHR(18) will restore to normal.

If you are using formatted output, after SET FORMAT TO PRINT, @ <co-ordinates> SAY CHR(27) + "P1" will enable proportional mode, and @ <co-ordinates> SAY CHR(27) + "P0" will restore normal mode. If you have a different printer, you'll need to check your User Manual for your set of codes.



**XMAS COMPETITION RESULTS:-** We've hunted high and we've hunted low, but we can't find the half dozen entries that came in even before we'd finished sending the magazines out. It's not fair to draw the winner out of the hat when not all the entrants are in it, so we've postponed the results to the next issue. Meanwhile, if you sent your wordpuzl entry in BEFORE CHRISTMAS, please contact us at once (with a copy) so that we can make sure your name is in the hat. If you meant to enter but never got a round tuit, get your entry in straight away. Everyone wins in this competition!

#### CONTRIBUTING TO THE MAGAZINE

Articles, letters, hints, tips, queries, and "small ads" are always welcome on any aspect of the Einstein (or other "golden oldies" computers). We consider EVERYTHING for publication, and it makes life much easier for us if you let us have a print-out on paper, plus a copy of the file on 3" disk. It creates a lot of extra work for us if you create a "right-justified" file, so PLEASE set your word-processor to "unjustified" BEFORE creating your masterpiece. It DOUBLES our workload, stripping out all those UGLY rivers of white!

If you don't have an Einstein, we can handle disk files on 3.5" or 5.25" PC disks (in MsDos format), or we can read most Amstrad 3" CP/M format disks (if you say which format).

#### MANY THANKS

for your help & support in contributing letters, articles, queries, hints, tips, & small ads. For this, the first mag of 1994, we've had to increase the size from 16 to 20 pages, and if you continue to provide input on paper & disk (and let us have disk copies of the paper letters you've sent in already), we'll have to increase the number of pages again!

#### BUT WE STILL NEED YOU

Firstly we need help at the Stafford show (16 Apr & 12 Nov). Three or four members on the stand is ideal, as enquirers don't have to queue, everyone gets a chance to "do the show" when things are quiet - AND YOU GET IN FREE!

The cost of carting your secretary/editor from Sth Kent to Stafford to run the show stand is hard to justify on the group's limited income. It would be much more sensible if 2 or 3 Midlands members (or a family team?) could organise this side of things. Hiring show space costs money too, but Dave Arts has come up with some good ideas to overcome this.

#### THE USER GROUP IS AT RISK

Members die. Members move & don't tell us where to. Members upgrade & don't renew. Novices buy Einsteins from ads, boot fairs, auctions, & don't know we exist. The user group can't survive without all those lost Einstein owners out there - and vice versa. Your secretary/editor is already putting in over 60 hours a week and needs YOUR help in contacting them. Have YOU got us a mention in YOUR parish magazine yet? Are we in YOUR public library database? At YOUR supermarket?

And will someone PLEASE volunteer to keep us visible in the MicroMart and PC Mart free ads before yours truly cracks under the strain? Being visible to lone users IS important!

#### GOTTA MODEM?

Then we need YOU to monitor Bulletin Boards for anything Einstein, make us visible there, & keep us advised. How about the OBSOLETE conference on FIDO-NET to start with?

#### MEMBER'S AD

Want COBOL, with manuals. Will swap for "Working with dBASE & dBASE II". Contact: Tony Perkin, 28 St.Mary's Close, Wyke, Bradford, BD12 8RE. Phone 0274-679450

#### CALLING XBAS PROGRAMMERS

John Briggs has a PC, but no Einstein. He has many useful GWBASIC programs (some converted from XBAS), & seeks an XBAS programmer to co-operate with in converting his listings to XBAS so we can all run them. Contact him at 44 Glebe Close, Maids Moreton, Buckingham, MK18 1RW. Phone: 0280-815029.

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#### SALVAGE THOSE BAD DISKS -- Frank Wadl

I read the first of the new ALL MICRO MAGAZINES with interest and wishing to support our cause I sent a PD.213 disk to help Tony to re-establish the library. Duly I was sent two disks for my one. Being a bit of a program collector I have accumulated hundreds of programs, most of which are interesting, but of no use to me. (I sometimes wonder why some were written at all). However, once in a while one comes across a gem, and one such is on PD.101 and is called FBAD-EIN.COM.

Have you ever had one side of a disk spoil because of the bad sector syndrome? Have you tried to reformat with the Einstein BACKUP program and failed on the verify? The VERIFY program on Neil's utilities also tells you there is something wrong and where it is; the big but is what to do about it.

Help is at hand:- FBAD-EIN is the bad sector lock-out program which is built into MsDos FORMAT, but not into XtalDos BACKUP. First it tests the directory area, and then it tests the data area, indicating sectors tested onscreen with a series of asterisks. Should it come across a bad sector, it stops, notes it on the screen display, records it in the directory structure as part of a dummy file, and proceeds to the end. Should there be a clear disk it will display "No bad blocks found", but if bad sectors were found it will say which were locked out.

The disk is now re-usable and when typing DIR from DOS it will show the bad sectors as being part of the dummy file [UNUSED].BAD. I have managed to salvage a number of sides of disks, and I am sure there are many out there who have experienced the same problem, and will find this utility an invaluable addition to their software toolbox.



## ALL MICRO MAGAZINE

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BACKPAGE INFO  
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ALL MICRO MAGAZINE is published bi-monthly BY SUBSCRIPTION ONLY. One copy of each issue is mailed free of charge to current members of the U.K. EINSTEIN USER GROUP (UKEUG). All contributions, subscriptions and enquiries should be sent to Ivy Cottage, Church Road, New Romney, Kent, TN28 8TY. Telephone or personal enquiries cannot be dealt with.

Membership of the user group is available at £10 per year (6 issues), with discounted rates of £18 per 2 years (12 issues) and £27 per 3 years (18 issues). An information pack is available. (S.A.E. please) Members residing outside the UK pay slightly more to cover extra postage costs.

The magazine and user group are run in their spare time by unpaid enthusiasts on a VERY tight budget. If you require a reply please include a S.A.E., OR WE MAY NOT BE ABLE TO AFFORD TO PAY THE POSTAGE BEFORE MAILING YOUR REPLY!

User group MAGAZINE BACK NUMBERS are available (post-free) at £1 each for single copies, or £5 for 6 copies.

The following issues are currently available:-

EINSTEIN MONTHLY volume 1: 5,6,7,8,9,10,11,12

EINSTEIN MONTHLY volume 2: 1,2,3,4,5,6,7,8,9,10,11,12

EINSTEIN MONTHLY volume 3: 1,2

ALTERNATIVE MICRO NEWS volume 1: 1,2,3,4,5

ALL MICRO NEWS volume 1: 1,2,3,4,5,6,7,8,9,10,11,12

ALL MICRO NEWS volume 2: 1

ALL MICRO MAGAZINE: #65,#66.#67

EINSTEIN USER MAGAZINE: In theory B&H Computers of Halifax publish this quarterly, but the last issue came out more than 2 years ago, and they haven't replied to our offer to adopt their subscribers & any unpublished material. They may still be selling "THE FULL SET OF 19 ISSUES" for £10. They do provide hardware and software support for the Einstein, plus a "computer hospital" for sick Einsteins. All Einstein owners should have their catalog and be on their "Einstein Flyer" mailing list. Contact them on 0422-330408/352905

OTHER COMMERCIAL SUPPORT: Sharward Services of Ipswich, 0473-272002, organise the All Micro Show (16April & 12Nov94) and USED TO provide Einstein hardware / software / repairs. They may still do, but no-one seems to know when we phone!

EINSTEIN SOFTWARE LIBRARY: Details of the Einstein software library are announced regularly in the magazine. See page 14.

ALL BANK DRAFTS, CHEQUES, POSTAL ORDERS, etc., should be made PAYABLE TO "EINSTEIN USER GROUP" PLEASE.