

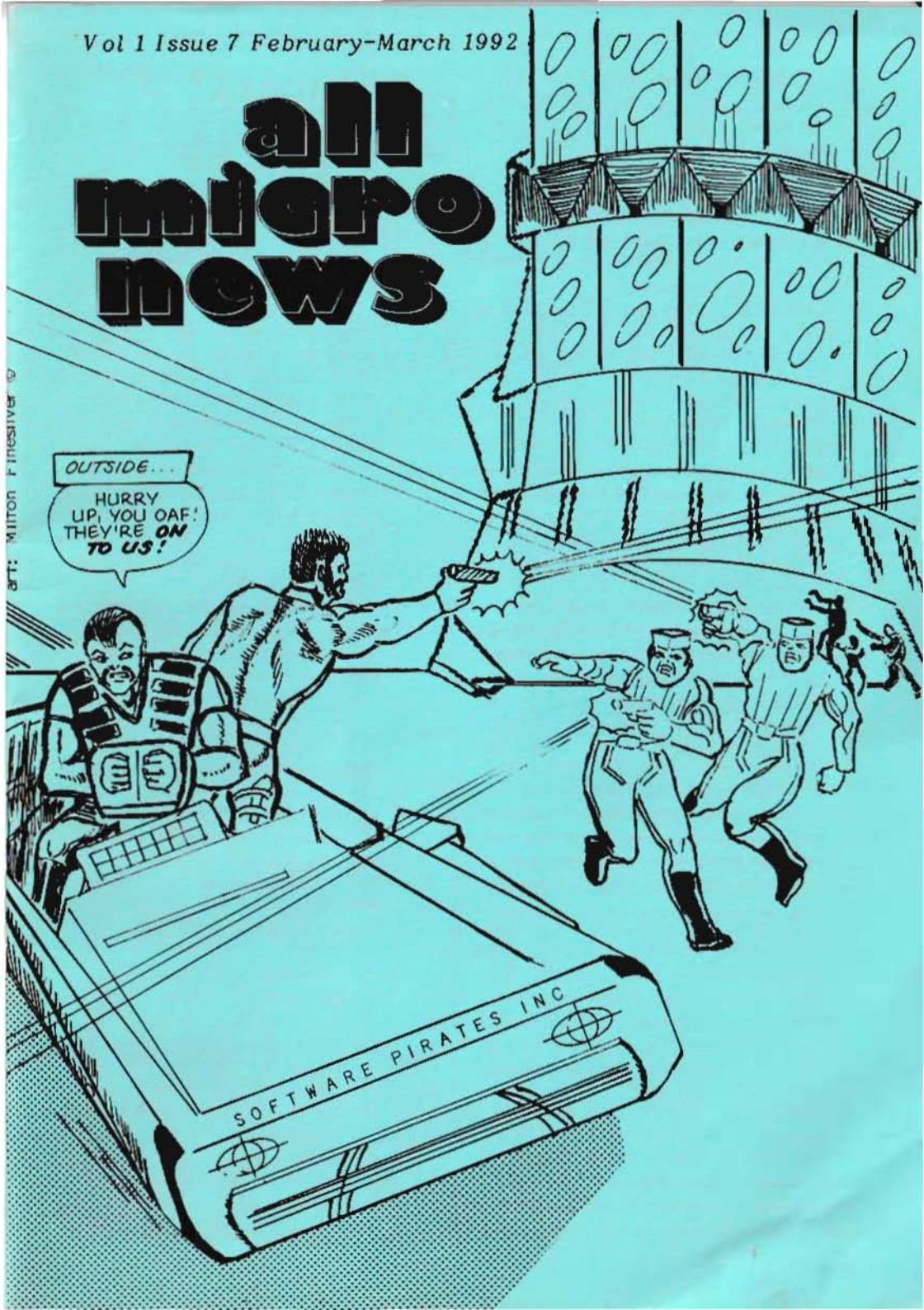
Vol 1 Issue 7 February-March 1992

# all micro news

OUTSIDE...

HURRY  
UP, YOU OAF!  
THEY'RE **ON**  
TO US!

ART: MILTON F. INESSIVER ©





ALL MICRO NEWS, Upland Centre,  
2 Upland Road, Ipswich, Suffolk IP4 5BT  
Tel (0473) 272002 Fax (0473) 272008  
Make all payments to A.M.N.

[ ] Subscriptions

UK 3 issues £5.00 6 issues £9.00  
12 issues £15.00

Overseas (International Money Order only)

3 issues £6.50 6 issues £11.50  
12 issues £20.00

[ ] Back issues 50p each: EM vol1 Issues 3  
to 12, vol2 Issues 1 to 12, vol3 Issues  
1,2 AMN Issues 1 to 5 AMN Issues 1 to 6

[ ] Advertising Rates

Full page £15.00 Half page £9.00

Members' private ads are free

[ ] Please quote your membership number on  
all correspondence. The last line of your  
address label contains your four-figure  
membership number followed by the total  
of issues remaining on your subscription.

[ ] How to submit articles

Articles should be sent on disk with  
accompanying printout. Short pieces are  
okay on paper only. But even one-liners  
take time to type into our system.  
Please label disks and casings with your  
name, address and membership number. A  
return address label would also be appre-  
ciated. Programs should contain REM  
statements with your name and membership  
number, and which versions of Dos, Xbas,  
etc have been used. Camera-ready artwork  
should be in black ink on white paper and  
posted flat between protective boards.

[ ] Public Domain software correspondence  
and orders: AMN PD LIBRARY, 39 Parkside,  
Westcliff-on-Sea, Essex SS0 8PR  
EINSTEIN PD copying charges:  
£2 a volume on to your supplied formatted  
disk or add £2 per 3in disk required  
IBM PC PD supplied on disk per volume:  
5.25in £2.00 3.5in £2.25  
FOR BOTH LIBRARIES: Add 50p per disk for  
postage + handling NON-MEMBERS: Please  
add £1.00 per disk on top of the postage  
Latest list: send largish sae + five 17p  
stamps to cover cost of photocopying

# Guest editorial

ROLL up! Roll up! Here's another  
exciting instalment in the  
continuing adventure we call All  
Micro News.

Thrill to the sight of Milton  
Finesilver grappling with user  
areas and reviewing the features of  
DR Dos 6.0 and Wordstar for Windows  
on the most up-to-date IBM PCs.

Gasp as Peter Carter uncages the  
dangerous human-eating user areas.

Stare with astonishment while  
Andrew McRobbie dissects a volume  
from our famed public domain  
libraries; followed by Milton  
Finesilver wending his way through  
a potential minefield.

Tremble as you get caught up in a  
screen maze and increase your  
vocabulary as you try out a word  
search, adapted for Xbas on the  
Einstein machines by John McGill.

And give a big round of applause  
to Graham Bettany who provides the  
heavy metal entertainment on pages  
12 to 17, without the aid of a  
safety net!

Then make sure you're with us  
again for the next edition!

-- Milton Finesilver

## Highlights this Issue

- p3 Turn the ogre of user areas  
Into your tame slave;  
by Milton Finesilver
- p8 Build up those levels; Peter  
Carter shows you how
- p11 The codes of Soundex
- p18 PD software: It's only what you  
make of it; by Andrew McRobbie
- p21 Pointing pixels at the printer
- p22 Hugs and eternal triangles
- p24 Set your sights on mystery maze

# Turn the ogre of user areas into your tame slave

*Stretching your micro should always be a worthy aim. But is there any point adding a 790kb external drive if you can't sort your files into some meaningful order? Here, Milton Finesilver sizes up the concept of user areas (and their PC variants under DR Dos 6.0) while Peter Carter does the really hard work by showing Xtal-Dos and Xbas fans how to get at 'em*

WE'VE all, at one time or another, bemoaned the lack of any user area facilities in the various versions of Xtal-Dos.

Apart from the lack of compatibility with the CPM Submit utility, it appears to be the only major aspect the UK company Crystal Research omitted from Xtal-Dos in its aim to match the pioneer Digital Research's genuine and much-admired CPM 2.2.

True, the user area system and its natural successors — named disks in CPM Plus, root and sub-directories in MS-Dos, and folders and windows in the Apple Macintosh desktop — really only come into their own with a hard disk.

But there's no reason why user areas can't be a handy way of organising your Einstein floppy disks, and invaluable if you store lots of files on CF2DD or 3.5in disks.

Remember of course that Xtal-Dos gives you up to 12 per cent more space on 1mb (unformatted capacity) disks than do Amstrad PCW or IBM PC formats. That's 70kb of more files and more reason to arrange them with style!

If you have an Amstrad PCW or CPC6128+, you already enjoy access (along with owners of the CPM-compatible Commodore 128 machines) to the regular



art: Milton Finesilver

and familiar user areas 0 to 15 directly from the A: prompt at boot-up.

Of course, the CPM 2.2 pack marketed via Tatung for the Einstein (and still listed in the B&H catalogue) also offers this facility for the standard 3in CF2 drives. So far as I know, neither it nor the ACC modified version with Amtat can be configured to recognise the Xtal-Dos format for 80-track double-sided drives.

For that, look to PD variants of CPM installed with the Xtal-Dos drive allocators.

Anyway, included in the Tatung CPM package is Xitan Basic, which can give you catalogues for user areas 0 to 31. Since you could copy XBasic to another disk, and revise the directory and system tracks for Xtal-Dos with a PD utility such as Goeincpm, you can use XBasic under Xtal-Dos.

But if you save a file while in, say, user area 31, you may have trouble finding it later outside Xitan's Basic — whether in CPM or Xtal-Dos.

You could have to resort to a disk sector editor such as Eindisk (PD again) to call up the actual directory entry from sectors 0 to 3 of track 2 (or 0 to 7 of track 1 with a 790kb disk), and alter the first byte of the relevant directory entry from hex &1F back to 00.

Proud owners of the AmstradPCW range may be aware that Locoscript, its popular word processor, is set up to exploit the latter set of CPM user areas for the limbo files. These are items which have been deleted from the main document directories but have yet to be overwritten on the disk.

This rather ingenious idea from Locomotive Software makes it easier for you to recover files deleted in error.

On the disk management screen you should be able to perform the emergency

operation of simply moving the directory entry back from the limbo area into the land of the living. It's real Dr Kildare stuff, with no need for Norton's Utilities or blood transfusions, and a fine example of making user areas work for you, rather than just having them sitting there and looking decorative.

And at least one software house has had the foresight to design a CPM opening screen for PCWs in the same columnar and sectional format as the 90-character by 31-line Locoscript screen, complete with the limbo files user areas.

If you have the famed Nsweep PD utility, you'll know that you have immediate access to manipulate user areas, whether under conventional CPM or Xtal-Dos or one of the PD operating systems.

The giant among Z80 word processors, Wordstar 4 CPM version (the package being used to typeset this very feature), allows full access to user areas 0 to 15 — even under Xtal-Dos.

For instance, with the L command, you can move between user areas with ease, and log on to any one of as many legal drives as you want. Running WS4 under Mike Pugh's modified Dos 1.5 for the Einstein 256, you can even use the PCW ram drive name of M: if you so desire.

But what if you are editing a file in one area and want to refer, or relate your text, to another file in another area? No problem, mate, as Barry Humphries was once heard to have said!

As an aside, I have not redefined the cursor keys or delete key on either my TC01 or my Einstein 256 in installing Wordstar 4.

The down cursor generates ctrl-J, for instant on-line help; up cursor gives ctrl-K for block and save; right cursor gives ctrl-D; left cursor renders ctrl-H for delete left; and the del key stays

with ctrl-Y, which Wordstar accepts as delete line.

So pressing the up cursor followed by L activates the facilities to change the logged drive and, optionally, the user area, but without affecting your current file's status or home drive.

This means you can display with ctrl-KF any files in a different directory or on another drive, or look for a file to insert into your current file, or write a marked block into, copy between two different user areas, or delete or rename.

If you can install Wordstar 4 to run under ZCPR3, you also have access to named disks and directories in a similar fashion to the established MS-Dos style.

Now, suppose that (totally unlike me) you own one of the spiffy new PCs with a 80286 or 80386 chip and at least 2mb of ram and running Microsoft Windows in colour. And what if you have at least 400 quid to spare (or left in your tax-deductible expenses kitty for 1991-92)?

Then, there's no argument. By now, you should already have moved up to using Wordstar for Windows.

WSWin (even the official abbreviation is a mouthful) offers the usual text-editing facilities of Wordstar Professional (version 6.0 is the current upgrade of that package), together with page layout, design and typographical superiority until now mostly only found in Aldus Pagemaker or QuarkXPress.

WSWin supports local area network software such as Novell Netware — with which you'll need a Wordstar multi-user licence, at extra cost. But what is a lan but merely a more sophisticated configuration of user areas?

In essence, each PC terminal can log on as a different user area, using a secret password. Each user area is

assigned a partition of the file server's hard disk to store its exclusive files. Common software, in this case WSWin, and any other utility software, is made available to all terminals.

Each operator can see only directories or sub-directories of files matching that user area code. Also, some areas can be set to allow complete or limited public access.

Imagine a newspaper office. Each reporter would be working on his or her own news reports. The news editor could have priority to scan partially-ready files on the reporter's directory, but no other reporter would have access.

If a big story arose — say the local constituency election — the first reporter could copy the main story to a second reporter's machine. That file would be added to, and then sent to the news editor and chief editor for approval. Files can be swapped all over the office, but a reporter working on a confidential item would still be able to lock or protect that file, or attach a password to scramble its contents.

Despite the expense and size of the system — you could be dealing with potentially far more than 16 or 32 terminals — the principles for a network remain the same as our CPM user areas, locked files, or passwords in Xtal-Dos on a compact floppy disk.

While Microsoft Windows has certainly been snapped up by millions of PC users in the past couple of years, it faces stiff opposition from, surprise, surprise, Digital Research with DR Dos 6.0.

First, some living history. You're probably familiar with the tale. But here it is again: when IBM bosses need operating software for their 1981-vintage PC, they pass over the creators of CPM (they are at lunch when IBM drops



by) and instead go to Microsoft — which promptly plunders the best parts of CPM for its own system, MS-Dos.

Skip a few years. It's now September 1986. Amstrad is unveiling its PC1512. Bundled is not only MS-Dos 3.2, but also Digital Research's Gem (also found on the Atari ST, and inspired by the GSX graphics language included with CPM on the Acorn Z80 add-on and in CPCs and PCWs) and DR's Dos Plus.

By the time the PC1640 is launched, Dos Plus is dropped (Amstrad claims users are confused by having two operating systems to run the same software). For 1988, Amstrad launches its PC2000 series. Gem is supplanted by Microsoft Windows in the bundle.

Now we're back up to date, and time seems to have gone full circle. In 1991 Digital Research unveiled, with plenty of publicity fanfare and critical acclaim, DR Dos 6.0 — and that uses a strong wimps graphical user interface shell called Viewmax which knocks Gem for six.

Top journalists at the Business Computing Show at Earls Court were showered with a reviewer's guide, technical products brief, colour transparency showing a PC monitor lifting off because of DR Dos 6.0's extra power, a potted history of DR, and loads of press releases.

Included was a glossy pic of DR's OEM sales manager Anthony Speakman grinning enigmatically at Martin Brefit of Opus Technology, which happens to be one of several manufacturers happily bundling DR Dos 6.0 with their new models. But will Amstrad's PC range be rejoining the DR fan club later? I wonder...

By the way, the most royal of computer journalists even received full working copies of the product in question. I

wasn't among such honoured and envied souls. Believe me, this isn't just sour grapes. I still don't own an IBM clone and so wouldn't have been able to carry out a pukka benchtest for AMN.

But the press kit is thorough in detailing DR Dos 6.0's innovations for me — particularly in relation to file handling. The system can compress 80mb of data files into a 40mb hard disk. The Taskmax module gives a clipboard-style facility, allowing users to transfer chunks of data between programs, even across directories or those user levels.

There's a security guard technique which means you can leave your machine switched on while you go to the loo, knowing that no-one else can use your software or access your files until you return to the keyboard and tap in your secret password.

The aforementioned Viewmax helps you punch up directories on the screen, copy or delete files and sub-directories, launch programs. The finder facility beloved by Macintosh owners is also emulated here, so tracking down elusive files — wherever they may be in the system — is a doddle.

Recovering accidentally deleted files is no trouble, and batch processing builds on the principle pioneered by Submit in CPM.

When DR Dos 6 is bundled by a manufacturer, it can be used to save battery-backed power. Also, a PC supplier can elect to have the kernel, bios and ccp operate from a rom chip.

More than five million PCs are expected to be using DR Dos 6.0 by the end of this year.

Meanwhile, did you know that Digital Research has set about adding code to DR Dos 6.0 to make it compatible with Microsoft Windows? Deja vu in reverse!

# WordStar for Windows Inc.

Novato, California

**T**



The first beta test version of WordStar for Windows, our layout-based word processor, was released in mid-July, on schedule for a full product launch this September.

Plans call for a North American release followed in approximately 30 days by the U.K. release. Subsequent localized versions in German, French, Italian, and other languages will follow as they are completed.

WordStar for Windows' 13 foreign language dictionaries will ship shortly after the U.K. release. Dictionaries will be available in: French, Canadian French, German, Swiss German, Spanish, Italian, Finnish, Dutch, Continental Portuguese, Norwegian (Bokmal), (Nynorsk), Danish, and Finnish.

WordStar for Windows demonstrates the power, sophistication and elegance of the Windows operating system. It's an entirely new way of doing things, offering the strength of a high end text word processor and the flexibility of a completely integrated page layout, table, and drawing package. WordStar for Windows is one of the most exciting products ever seen."

Word and WordPerfect are traditional text-oriented word processors. Page layout requires the use of a separate DTP program," he continued.

WordStar for Windows is a more powerful and affordable than any other word processor. It has a better interface than any other word processor, with the power of a high-end word processor and the high-end color and pre-processed document power they want.

WordStar for Windows is a Windows program. It does offer transparent file formats, and an online choice of commands. WSWin's SAA compliant accelerators, commands.

WordStar for Windows releases schedule to WordStar use to WordStar upgrade paths. Future design with WS features, high on WordStar for Windows

**PRICES:** In each case, these are the most recently-quoted prices I can find. Vat and carriage extra.

Tatung CPM 2.2 with Xitan Basic & CPM User Guide by Thom Hogan: £102

PD software: see page two

Wordstar 4 CPM version: £169

Wordstar for Windows: £399

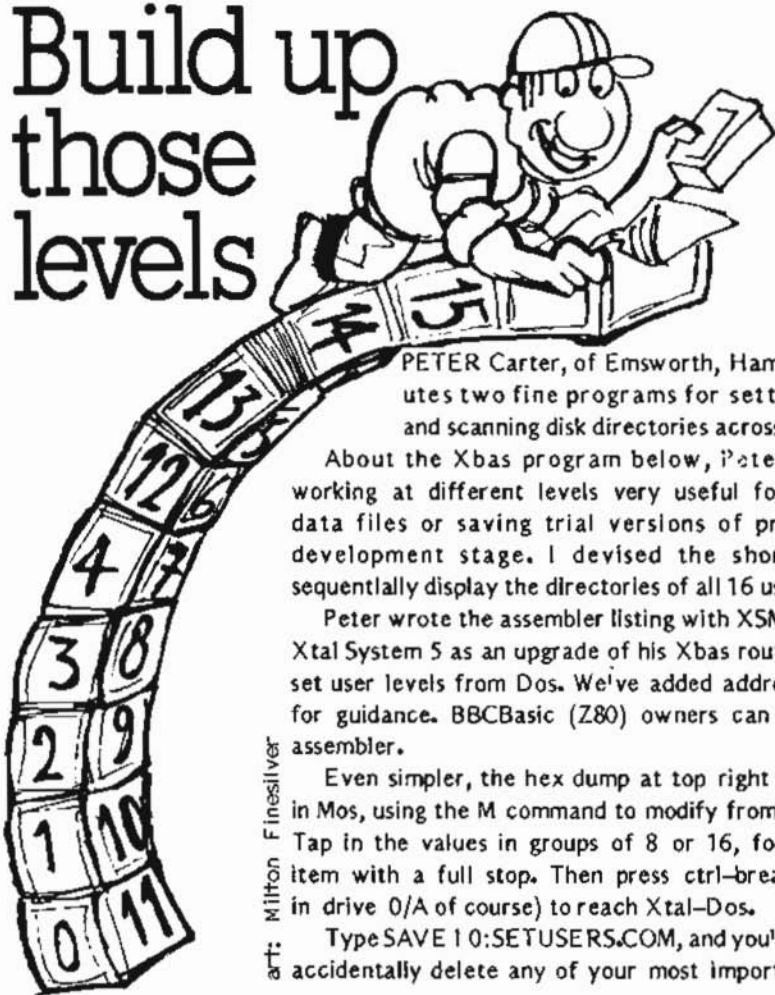
DR Dos 6: £79

## Contacts

Digital Research (UK) Ltd, Oxford House, Oxford Street, Newbury, Berkshire RG13 1JB Tel (0635) 35304  
Wordstar International Ltd, Chancery House, St Nicholas Way, Sutton, Surrey SM1 1JB  
Tel 081-643 8866

Locomotive Software Ltd, Allen Court, High Street, Dorking, Surrey RH4 1YL Tel (0306) 740606  
B&H Computers, Bank Top Works, Southowram, Halifax, West Yorkshire HX3 9NJ Tel (0422) 330408

# Build up those levels



PETER Carter, of Emsworth, Hampshire, contributes two fine programs for setting user levels and scanning disk directories across all 15 levels.

About the Xbas program below, Peter says: "I find working at different levels very useful for separation of data files or saving trial versions of programs in the development stage. I devised the short program to sequentially display the directories of all 16 user areas."

Peter wrote the assembler listing with XSM and HLOAD in Xtal System 5 as an upgrade of his Xbas routine (EM 2/9) to set user levels from Dos. We've added addresses and values for guidance. BBCBasic (Z80) owners can use its built-in assembler.

Even simpler, the hex dump at top right can be entered in Mos, using the M command to modify from address &0100. Tap in the values in groups of 8 or 16, following the last item with a full stop. Then press ctrl-break (with a disk in drive 0/A of course) to reach Xtal-Dos.

Type SAVE 10:SETUSERS.COM, and you'll never mix up or accidentally delete any of your most important files again!

Art: Milton Finesilver

10 REM SCANUSER.XBS by Peter

Carter © All Micro News

20 REM Xbas 5.02 Xtal-Dos 2.05

30 REM uses CPM function 32

60 CLEAR &A000:CLS

70 PRINT " to halt scroll, hold  
break "

80 INPUT "> for level directories enter 1  
<enter> to set levels enter 2 <enter> ";A

90 IF A=2THENGOTO110

100 FORN=0TO15:X=N:GOTO120

110 INPUT "which level (in  
decimal 0 to 15) ";X

115 IFX>15THEN110

120 POKE&A000,&0E,&20,&1E,X,&CD,  
&05,&00,&0E,&20,&1E,&0FF,&CD,&05,  
&00,&32,&60,&A0,&C9

130 CALL &A000

140 PRINT " user level now set  
at "PEEK(&A060)

150 DIR

160 FORT=0TO70:NEXT

170 IFA=1THENNEXT

180 IFA=1THENPRINT "any key "

INCH\$:A=2:CLS:GOTO110

190 END



0100	CF	CF	0C	4C	45	56	45	4C	20	4E	4F	57	20	...	LEVEL NOW
010D	41	54	2D	2D	2D	20	AE	0E	20	1E	FF	CD	05	AT---	.....
011A	00	CF	AA	CF	CF	0A	0D	50	45	54	45	52	20	.....	PETER
0127	43	2E	20	43	41	52	54	45	52	20	43	41	4E	C.	CARTER CAN
0134	20	4E	4F	57	20	53	45	54	20	54	48	45	20	NOW	SET THE
0141	55	53	45	52	20	4C	45	56	45	4C	20	46	52	USER	LEVEL FR
014E	4F	4D	20	30	20	54	4F	20	46	AE	CF	9C	FE	OM 0	TO F....
015B	1B	CA	00	00	FE	3A	38	0A	FE	47	38	0A	FE	.....	
0168	67	38	0A	18	EB	FE	30	30	0A	FE	41	30	0C	.....	
0175	FE	61	30	06	18	DD	D6	30	18	04	D6	20	D6	.....	
0182	37	0E	20	5F	CD	05	00	CF	CF	0A	0D	4C	45	.....	LE
018F	56	45	4C	20	4E	4F	57	20	41	54	2D	2D	2D	VEL	NOW AT---
019C	20	AE	0E	20	1E	FF	CD	05	00	CF	AA	C9	00	.....	

;SETUSERS.COM by Peter Carter © All Micro News

```

                                ORG 100H      ;program start address
0100 CF      MESS1:  RST 08H      ;mos call
0101 CF      RST 08H      ;print message following
0102 0C      DEFB 0CH      ;form feed
0103 4C4556454C294E4F  DEFB 'LEVEL NOW AT--- '
      572041542D2D2D20
0113 AE      DEFB 0AEH      ;delimiter + 80H. Do it
0114 DE20      LD C,20H      ;load dos function
0116 1EFF      LD E,0FFH      ;get user code
0118 CD0500      CALL 0005H      ;call dos function
011B CF      RST 08H      ;mos call
011C AA      DEFB 0AAH      ;outputs A register, sp
                                ;displays user level
                                ;
011D CF      MESS:  RST 08H      ;mos call
011E CF      RST 08H      ;print message following
011F 0A0D      DEFB 0AH,0DH      ;c/r & l/f
0121 504554455220432E20  DEFB 'PETER C. CARTER CAN NOW
      434152544552204341  SET THE USER LEVEL FROM 0 TO F'
      4E204E4F5720534554  ;insert your own name but
      205448452055534552  ;stick to 15 letters and spaces
      204C4556454C204652  ;
      4F4D203020545F2046  ;
0157 AE      DEFB 0AEH      ;delimiter + 80H. Do it
                                ;
0158 CF      KEY:  RST 08H      ;mos call
0159 9C      DEFB 9CH      ;mos function key input
015A FE1B      CP 1BH      ;compare with esc
015C CA0000      JP Z,0H      ;if =esc then back to dos

```

† program listing continues on page 10

† program listing continued from page 9

```

015F FE3A          CP    3AH      ;compare with : (colon)
0161 380A          JR     C,KEY1   ;if =< : then goto KEY1
0163 FE47          CP    47H      ;compare with G
0165 380A          JR     C,KEY2   ;if =< G then goto KEY2
0167 FE67          CP    67H      ;compare with g
0169 380A          JR     C,KEY3   ;if =< g then goto KEY3
016B 18EB          JR     KEY      ;goto KEY
                        ;
016D FE30          KEY1: CP    30H      ;compare with 0
016F 300A          JR     NC,KEYEND; if =>0 then goto KEYEND
                        ;
0171 FE41          KEY2: CP    41H      ;compare with A
0173 300C          JR     NC,KEY5   ;if =>A then goto KEY5
                        ;
0175 FE61          KEY3: CP    61H      ;compare with a
0177 3006          JR     NC,KEY4   ;if => a then goto KEY4
0179 18DD          JR     KEY      ;goto key
                        ;
017B D630          KEYEND: SUB  30H      ;convert to ascii
017D 1804          JR     LEV      ;goto LEV
                        ;
017F D620          KEY4: SUB  20H      ;convert to ascii
                        ;
0181 D637          KEY5: SUB  37H      ;convert to ascii
                        ;
0183 0E20          LEV:  LD    C,20H    ;load dos function
0185 5F            LD    E,A          ;set user level
0186 CD0500        CALL  0005H    ;execute dos function
                        ;
0189 CF            PRINT: RST  08H      ;mos call
018A CF            RST  08H      ;print message following
018B 0A0D          DEFB  0AH,0DH    ;c/r & l/f
018D 4C4556454C204E4F DEFB  'LEVEL NOW AT---- '
                        572041542D2D2D20
019D AE            DEFB  0AEH      ;delimiter + 80H. Do it
                        ;
019E 0E20          LEVEL: LD    C,20H    ;load dos function
01A0 1EFF          LD    E,0FFH    ;get user level
01A2 CD0500        CALL  0005H    ;do it
01A5 CF            RST  08H      ;mos call
01A6 AA            DEFB  0AAH      ;prints <A>, space;
                                ;displays user level

01A7 C9            RET
                        END

```

JOHN Luther, of Shrewsbury, Shropshire, has contributed this Xbas version of Soundex, which provides four-place codes for each word or name you type in.

But there's a catch 22: John has forgotten to reveal what to do with the codes after you've run the program!

While it would be foolish to turn this into a full-blown All Micro News competition, we will rustle up a token gift for the bright reader who supplies the best explanation.

```
1 REM Soundex: Xbas version
by John Luther © All Micro News
2 REM originally in Computers in
Genealogy 1/5 Sept 1983 and 3/9 p393
3 REM printchr$(27)+"e"+chr(27)+"h":
clear:p%=2:last$="&":for mallard basic
on PCW range or Microsoft Basic
4 CLEAR:P%=2:LAST$="&"
5 PRINT "***** soundex coding
program *****"
6 INPUT "type name to be
coded and press <return> ";N$
7 L=LEN(N$):DIMX$(L)
8 PREFIX$=LEFT$(N$,1):REM select
prefix from initial letter of name
9 IF PREFIX$=" " THEN PREFIX$=MID$(
N$,P%,1):P%=P%+1:GOTO9:
REM remove leading spaces
10 M=ASC(PREFIX$)
11 IF M>96 AND M<123 THEN PREFIX$=
CHR$(M-32):REM to upper case
12 CODE$=PREFIX$
13 FOR I=P% TO LEN(N$)
14 X$(I)=MID$(N$,I,1)
15 X=ASC(X$(I))
16 IF X>96 AND X<123 THEN X=X-32:
REM convert to upper case
17 IF I=P% AND X=ASC(PREFIX$)
GOTO35:REM double letters uncoded
18 IF X=65 OR X=69 OR X=73 OR X=79 OR
X=85 OR X=89 THEN TEMP$="*"
19 IF X=72 OR X=87 THEN TEMP$="+"

```

## The codes of Soundex

```
20 IF X=39 OR X=45 OR X=95
THEN TEMP$="&":REM code
for embedded hyphen & apos
21 IF X=66 OR X=70 OR X=80 OR X=86
THEN TEMP$="1":REM code for b+f+p+v
22 IF X=67 OR X=71 OR X=74 OR X=75
THEN TEMP$="2":REM code for c+g+j+k
23 IF X=81 OR X=83 OR X=88 OR X=90
THEN TEMP$="2":REM code for q+t+x+z
24 IF X=68 OR X=84 THEN TEMP$="3":
REM code for d+tde for q+t+x+z
25 IF X=76 THEN TEMP$="4"
26 IF X=77 OR X=78 THEN
TEMP$="5":REM code for m+n
27 IF X=82 THEN TEMP$="6"
28 IF X=32 THEN TEMP$=" ":
REM code for embedded space
29 IF TEMP$=RIGHT$(CODE$,1)
AND LAST$="*" GOTO31:REM allow
repeated code if separated by a vowel
30 IF TEMP$=RIGHT$(CODE$,1)
GOTO35:REM reject other repeat codes
31 LAST$=TEMP$
32 IF TEMP$="*" GOTO35:REM
vowels not coded
33 IF TEMP$="&"+GOTO35:REM
hyphens+apostrophes+h+w not coded
34 CODE$=CODE$+TEMP$
35 NEXT I
36 CODE$=CODE$+"000":REM zeros
37 CODE$=LEFT$(CODE$,4):REM
select first four characters
38 PRINT:PRINT "soundex code
for ";N$;" is ";CODE$
39 PRINT:PRINT "to code next
name (y/n) ?" Y$:Y$=INCH$
40 IF Y$="y" OR Y$="Y"
THEN GOTO3 ELSE END

```



## Post Bag

---

**Dear AMN,**

I write to you as a new member, having just received my first edition. I sent for PD208 after reading Andrew McRobbie's comments. It was worth having. If it is of any help Wordfile was listed by A. J. Wilson in Einstein User Vol 3/1 and instructions were printed in the following issue, 3/2. I was impressed by the EVERCO programs and would appreciate the address where a list of EVERCO software can be obtained.

**Bob McDonald.**

**ED..** We agree the EVERCO demos are superb, they were written by Chris Cook, who unfortunately has moved on to other things. Zexl, Powerdraw and the 256 mouse program Colourplus came from EVERCO and are still available.

**For Sale;** SAM Coupe, 256k, 3.5" disc drive, Flash Art Package, Technical Manual, Sam & Spectrum games. Only six months old. £130.**Paul Hill.**

Tel: 0438 813636 (after 6pm)

**Dear AMN,** Does anyone out there have for sale or swop one or more in the series of Einsoft business software; Invoice System, Sales Ledger, Bought Ledger and Mailing. **Ken Nicholl**  
Tel: 081 5023217

**For Sale;** Einstein TC01, Twin Drives, 80 column card, green screen monitor. Dbase II, Fortran (MS80), Wordstar, BBCBasic, Cracker, Grafdraw, Tasprint, etc. £200.

**Paul Smith.** Tel: 0704 822200

**Wanted;** Einstein Spectrum Emulator and original Einstein software.

**B. Johnston.** Tel: 0324 813875

Below is a letter from Mike Mallet of the Sharp Users Club which may be of interest to Einstein users;

I was interested to read DUG Grout's article on CP/M in the last issue. My main interest is MS-DOS, as I have a Sharp PC4501A portable. Actually I missed CP/M in its heyday but have recently become interested, having aquired a Husky Hunter portable and the loan of an Osbourne 1. Therefore, although I don't have any of the older Sharp computers, I hope I can pass on some useful hints.

CP/M was at one time THE operating system running on 8080 and Z80 processors. The main versions were 1.4 and 2.2, a later version 3, also known as CP/M Plus was supplied with the Amstrad PCW. With the introduction of the 16 bit 8088 and 8086 processors CP/M was re-written to CP/M-86 and the new name CP/M-80 was used to refer to the earlier versions. However with the introduction of the IBM PC and MS DOS, CP/M eventually lost its popularity.

By todays standards, CP/M offers only basic facilities; but in the days when every computer was different, it offered a virtually machine independent operating system for software to run on a wide range of computers. Unfortunately there was no real standardisation of disc formats, so it can often be difficult to transfer software from one machine to another; 3", 3.5", 5.25" and 8" discs were all used, together with different numbers of tracks and sectors and other advanced variations.

If you know where to go, it is still possible to get software and information to keep an old computer going. Most of the well known computer packages such as Dbase, Supercalc, and Wordstar started life under CP/M; but very few are now commercially available. However things are still kept alive by user groups and the Public Domain Software suppliers.

The Public Domain Software Library still holds a wide range of CP/M software in many disc formats for less than £5 a disc, they also do a useful CP/M installation kit with manual for £11.50. They are at Winscombe House, Beacon Road, Crowborough, Sussex, TN6 1UL; (0892 663298).

There is also a 'CP/M and MS-DOS User Group' who offer software and a newsletter. They are at 43 Birbeck Road, London, SW19; (081 5430824). There are still a few bulletin boards with CP/M sections. Of course you will need a comms set-up, but at least this avoids the problem of disc formats. Some I have used are RCPM on 0964 550745 and BOOG on 0252 626233.

Most books are out of print but a few are held by local libraries. I would recommend; Osborne CP/M User Guide, Thom Hogan; Osborne/McGraw Hill; Second Edition (1982); ISBN 0-931988-82-9.

If you do manage to obtain software it is often not in the right disc format. One way to connect the two types of machine together is to use a serial link. at the most basic level, the CP/M utility PIP can be used but there are more sophisticated comms programs. The well known KERMIT file transfer program is available on a wide range of micros.

Some micros came with CP/M utilities to read different formats but most of these were not very comprehensive. The best programs are available for the IBM PC compatibles - so it is possible to use the route:

CP/M source > IBM > Sharp, (Einstein?) Programs that will do this are MEDIA-MASTER, 22 DISC, and XENOCOPY.

Incidentally, if you have upgraded to an IBM compatible PC then it is possible to run your old software, (if you must!) under a CP/M Emulator. Many of these, such as 22NICE, are available from the Public Domain/Shareware Libraries. There is also a very useful Public Domain utility for exchanging files between CP/M and MS-DOS called STREAM.

ED .. Hope that was of some interest to Einstein owners, remember that Sharward Services can supply the original Digital Research CP/M reference manual for £9 inclusive and Serial Transfer, a file exchange program for PC to Einstein and vice-versa for £19.95. If anyone has articles from any other user group or newsletter please send it to AMN and I will contact the relevant group to see if our interest overlap and we could use each others information.

**HACKERS** .. Are you proficient at XBAS hacking? do you want a challenge and possible profit? Sharward Services have two copies of the Micro Simplex accounts for sale at £6 inclusive. Only problem is that it is password protected so it needs hacking to unlock it before use. If you can crack it B+H will be interested as they cannot sell their stock because Micro Simplex no longer exists. Interested? Tel; 0473 272002.

# HOLLYWOOD BUSINESS SUPPLIES

19 Simon Road, Hollywood, Birmingham, B47 5LH.

Tel: 021 430 8477

Fax: 021 430 8193

BULK PACKAGED DISKS		
REF.	TYPE	PRICE
BK35	3.50" DSDD	£4.00 (10) Sony
BK35H	3.50" DSHD	£7.00 (10)
BK96	5.25" DSDD	£5.20 (20)
BK96H	5.25" DSHD	£8.50 (20)
100% Error Free. C/W Sleeves, Labels etc..		
Made by Fuji, Kao, Kodak etc Only the BEST!		

CF2 DISKETTES	
Maxell branded for 100% reliability.	
Singles	£ 1.85
Box 10	£17.50

3M & KAO BRANDED DISKS		
Size	Type	Price/Box
3.50" #	DSDD 720k/1MB	£ 6.95*
3.50" #	DSHD 1.44/2MB	£12.00
5.25" #	DSDD 48TPI 360K	£ 4.70
5.25" #	DSDD 96TPI 800K	£ 7.50
5.25" #	DSHD 1.2/1.6MB	£ 7.50
# Available in Rainbow packs (Kao), 2 each of		
5 colours. ADD £1.20 per box prices above.		
* SONY now available (Not Rainbow)		

SOFTWARE	
<b>NEW! MSDOS Ver 5.00 £44.99*</b>	
Up to 421k, FREE on 286/386/486 systems! EMS & UPPER mem support on 386/486. Quick Format & Unformat utilities. On line help system. PC Shell & Task manager. QuickDisk.	
*SPECIAL OFFER - While stocks last. Normally £69.00	
<b>MS WINDOWS VER 3.00 £74.99</b>	
The most popular GUI (Graphical user interface) yet on the PC! Move into the world of drop down menus, icons etc.	
Min system req:-	
80286 processor or better (AT)	
EGA or VGA Display 1MB Ram Mouse	

DISK STORAGE		
ANTI STATIC LOCKABLE DISK BOXES.		
REF	TYPE	PRICE
PL5050	5.25" 50 CAPACITY	£3.95
PL5070	5.25" 70 CAPACITY	£4.50
PL5100	5.25" 100 CAPACITY	£5.00
PL5140	5.25" 120/140 CAPACITY	£6.30
PL3040	3.5/3" 40/25 CAPACITY	£3.95
PL3080	3.5/3" 80/50 CAPACITY	£5.00

RIBBONS		
	Compat	Orig
STAR LC10	£3.00	£4.00
STAR LC24 etc	£4.00	£5.00
Panasonic 1081	£3.00	£7.50
Panasonic 1180	£3.00	£7.50
Panasonic 1123/24	£3.00	£7.50
Amatrad DMP2000	£3.00	n/a
Citizen 120D etc	£3.00	n/a
1000's more available. Call for prices.		

COMPUTER PAPER		
HI QUALITY LASER PAPER 80gsm A4 (500)		
LISTING	11x9.5 1Pt Plain 60gm Mperfl (2000)	£10.50
LISTING	11x9.5 2Pt NCR Plain (1000)	£14.00
LISTING	A4 1Pt Plain 70gm Mperfl (2000)	£16.00
LISTING	A4 1Pt Plain 90gm Mperfl (1000)	£10.00
Other sizes available. Please call.		

MICE	
IBM SERIAL MOUSE.	
HI QUALITY serial mouse.	
Fully Microsoft & PC Mouse compatible.	
Includes mouse driver software. IMAGE 72	
Painting software & manuals Mouse & pen holder	
9 to 25 way serial adapter.	
<b>ONLY £20.00</b>	

Please make Cheques & Postal Orders payable to "Hollywood Business supplies"

Credit card (ACCESS & VISA) & VISA Debit Card Orders WELCOME. (No surcharge)

Please add the following delivery charges to your order.

1 - 3 Day Postage £2.95

Next Day Courier £11.00

All Prices are EXCLUDE VAT @ 17.5%. Please add Postage & VAT.

Callers by appointment please. Please ask for Mike on telephone enquires.



# HOLLYWOOD BUSINESS SUPPLIES

19 Simon Road, Hollywood, Birmingham, B47 5LH.

Tel: 021 430 8477

Fax: 021 430 8193

	386SX - 25Mhz	
NEW!!!		
•	80386SX 25Mhz (Landmark V2 = 33Mhz)	
•	1MB 0 WAIT RAM (expandable to 8MB)	
•	SVGA CARD 512K (1024 x 768)	
•	14" COLOUR SVGA MONITOR (.28 pitch)	
•	51 MB IDE HARD DISK 15ms + Buffer(9ms)	
•	1.2 OR 1.44MB FLOPPY DRIVE	
•	MSDOS Ver 5.00	
	<b>ONLY £869 Exc</b>	

	SUPER VGA	
CARD		PRICE
REALTEK SVGA CARD 512K (EXP 1MB)		£60.00
TSING SVGA CARD 512K (EXP 1MB)		£75.00
Both suitable 8 & 16 Bit bus. XT & AT 1MB Upgrade = £17		
MONITORS		
SAMSUNG VGA MONO 640x480		£ 99.00
SAMSUNG SVGA COL 1024x768 .28		£240.00
HYUNDAI SVGA COL 1024x768 .28		£225.00*
*Subject to Availability.		
SAMSUNG Include 12Mths ON-SITE Warranty		

	MOTHERBOARDS	
V20-12	XT 12Mhz OK	£ 38.00
286-16	80286 16Mhz OK	£ 75.00
386-16	80386SX 16Mhz OK	£149.00
386-20	80386SX 20Mhz OK	£185.00
386-25	80386SX 25Mhz OK	£210.00
386-33	80386DX 33Mhz OK 64K Cache	£370.00
386-40	80386DX 40Mhz OK 128K Cache	£450.00
486-20	80486SX 20Mhz OK 8K Cache	£435.00
486-25	80486DX 25Mhz OK 64K Cache	£625.00
486-33	80486DX 33Mhz OK 256K Cache	£699.00

	CASES	
SLIMLINE CASE & 200W PSU		£ 85.00
DESKTOP CASE & 200W PSU		£ 90.00*
MINI TOWER CASE & 200W PSU		£ 95.00*
FULL TOWER CASE & 230W PSU		£145.00*
* Includes speed display 0-99Mhz		

	ADD ON CARDS	
XT IO+ S/PIC/FDC/CLK		£33.00
XT HDC (IDE) 2xHDD		£24.00
XT HDC MFM or RLL 2xHDD		£35.00*
AT IO+ (IDE) HDC/FDC/2S/PIC		£25.00
AT HDC (IDE) 2xHDD/2FDD		£20.00
TWIN SERIAL CARD XT/AT		£16.00
AT TWIN SERIAL + PARALLEL		£18.00
XT/AT 2MB EMS/EXT RAM CARD OK		£65.00
* Subject to availability.		

	SYSTEMS, PRINTERS, FAX	
HYUNDAI, EPI, PANASONIC EPSON, SHARP, STAR SEAGATE, NOVELL, MICROSOFT SAMSUNG, HEWLETT PACKARD		
CALL FOR MODELS & PRICES		

	LASER TONER	
NEW CARTRIDGE		
HP Series II/III TONER		£50.00
RECHARGED CARTRIDGE		
HP Series II/III 100% AS NEW		£30.00
Others available. CALL		

	MEMORY	
TYPE		Each
41256-8 256K x 1 Bit 80ns		£ 1.45
44256-7 256K x 4 Bit 70ns		£ 4.25
1MB-8 1MB x 1 Bit 80ns		£ 4.25
SIMM-8 1MB x 8 SIMM 80ns		£32.00
SIMM-7 1MB x 9 SIMM 70ns		£34.00
CALL IF NOT LISTED.		

Please make Cheques & Postal Orders payable to "Hollywood Business supplies"

Credit card (ACCESS & VISA) & VISA Debit Card Orders WELCOME. (No surcharge)

Please add the following delivery charges to your order.

CARDS ETC £3.50 MONITOR/PRINTER £11.00 SYSTEMS £15.00

PLEASE ADD VAT @ 17.5%.

Callers by appointment please. Please ask for Mike on telephone enquires.

## News and Views

Did you all think Crystal Research had drifted away into oblivion? I certainly did but it appears that Trevor Brownen, one of the original partners is still running the company and supporting the Einstein! Which means System 5 is still available for those looking to use larger capacity disc drives and want an XBAS Compiler. System 5 offers a lot more than DOS80 but TANSTAAFL or to those in the know There Aint No Such Thing As A Free Lunch and costs twice as much at £40. It is available from Sharward Services or B+H. For your money you will get an upgraded DOS that will support 3.5" or 5.25" drives upto 800k, an XBAS compiler that will give speed increases of upto 4 times on XBAS programs, 80 column support for XBAS, graphics dump from XBAS and some improved utilities to set the clock, RS232 port, and additional XBAS commands such as Repeat/Until and While/End. Also on the disc is an Assembler for the machine code buffs!

Talking to Trevor Brownen the other day he did say it would be possible to configure System 5 to support the full capacity of 1.2M bytes on a 5.25" drive or 1.4M bytes on a 3.5" drive. Has anyone out there done this? or does anyone know how to do it? Do let AMN know if you have the relevant info.

## QUASAR

At Christmas B+H released a dedicated E256 game, the first I can recall, called Quasar. So a few notes on the said game would be in order. This game was written by Chris Cook of Everco and the music was added by Josef Karthausen, who wrote the Einstein Midi software. Unusually the game is not auto-load so after CTRL-BREAK typing QUASAR starts the loading sequence, I say sequence because it takes some seconds to load the first stage from side A, after this is complete you have to turn the disc over to complete the operation. Side B has to be left in the drive as the game runs.

The opening screen displays Quasar with some nice? noises and the keys required to play the game, P- up, L- down, W- left, E- right and Space to fire. Joystick control is also supported. Now not having a joystick it took me 15 minutes to get past the opening screen because although it says press fire to continue, it really means press shift!! O.K. we now enter the land of QUASAR, knowing where the game originates and having played ZEXL it is no surprise that the game design is similar. You are controlling a small spacecraft that is flying in a vertical maze type environment, to progress through the levels you need to destroy the door at the bottom of the screen. You must deal with enemy craft that are constantly appearing, although in the opening screens these are fairly stupid and represent little threat.

Starting with six lives gives a good chance to progress through the levels and if you like a shoot-em up that involves some thought you will enjoy this disc. The game is played mainly in the vertical plane with the maze scrolling very smoothly, there is a limited amount of horizontal movement and extermination is the order

of the day if the sides or the channels of the maze are met. As I have only made it to level 3 I am unsure of the higher levels but the game starts in very easy mode and gets progressively more difficult, a design of game I think all software writers should adhere to!

Graphics are good, as they should be and sound is adequate. At £19.95 I rate it expensive but very playable. Available from SS or B+H.

### Diagnostic Disc

Also released by B+H recently is a diagnostic disc for the Einstein TC01, this is a standard part of PC's these days and is very useful in certain instances if you are having some problems with your machine.

The disc is an Auto-Boot and goes through a series of tests that check the Disc Drive, ROM, RAM, VRAM, Time, Keyboard, Alpha Lock LED, Colour and Sound Channels A,B, and C.

A most useful check is that of the disc drive as there is a speed test which allows the user to adjust the speed of the disc unit whilst the test is running. (Yes you do have to remove the unit from the Einstein first) this will eliminate a lot of problems on a drive that has intermittent read/write errors. There is a diagram with the disc showing where to adjust the speed which is just as well as the potentiometer is very small and well hidden on the board!

Costs £19.95, which is much less than a new 3" drive!

### PD Update

Bert Surridge has produced an up-to-date version of PD 170, the program that finds exchanges from STD codes and vice-versa. He has also written an identical program for the IBM PC PD library which will replace the rather inadequate S008.

### Shows

If you have not had B+H's flyer then why not? listed are some Radio Rallies that they are attending so if you want to go along and find some Einstein bargains then here are the dates and venues;

**Sunday 15th March, Blackpool Radio & Computer Show, Norbeck Castle Hotel, North Shore, Blackpool.**

**Sunday 22nd March, Pontifract Show, Carlton Community Centre, Carlton, Pontifract.**

Sharward Services will be at the following rallies;

**Sunday 15th March, Wythall Radio Rally, Silver Street, Hollywood, Birmingham.**

**Sunday 24th May, East Suffolk Wireless Revival, Maidenhall Sports Centre, Maidenhall Approach, Ipswich.**

**Sunday 19th July, Sport & Leisure Centre, Brinkley Lane, Colchester.**



# PD software: it's only

I HAVE had the PD115 disk in my collection for a while, so my first step with the new review copy sent to me by Graham Bettany at SharwardServices was to check the directory and see if any of the programs had been updated.

There are 16 files catalogued, five of which are document files which can be read from Dos by the disp command.

The first file, PD115.DOC, gives explanatory notes on the files on disk.

**BANNER.BAS** and **BANNERP.BAS** require Microsoft Basic to be loaded before they will run. Not so handy if you don't have MBasic. The version I use, 5.21, is available on PD175A or PD175B. If you have Mallard Basic, bundled with PCW machines or as part of the CPM package for the Spectrum +3, then that is fairly compatible with MBasic.

In emergency, some readers may recall that Personal Computer World once prepared a list of MBasic commands translated into other Basics, including Xbas on the Einstein, so it could be possible to convert such programs.

I loaded and listed BANNER.BAS. The program prints out large capitals and numerals to the screen.

On running the program, you are asked for six inputs:

- ¶ a horizontal X value

91 vertical Y value; I entered 2 for each  
 91 whether the output is to be centred;  
 if you enter no, the output cannot be  
 identified on 40 cols

¶ whether or not all characters should be printed; anything other than all produces a division by zero error but this

*In his continuing quest to rummage along the value-packed aisles of our great EinsteinPD library, Andrew McRobbie proves the truth in the old saying that some you win, some you lose, as he tries to reappraise PD115*

may also be due to the 40 columns layout

¶ whether to set page; if not, you cannot read on 40 cols

¶ Finally, you have to enter the message; something like "AMN" will do

The big letters scroll up the screen with each enlarged letter made up of smaller capital letters.

The left-hand stroke of the first character, "A", would be made up of a column of small A letters, similar to the effect shown below.



BANNERP.BAS is the same program, except that this version sends the output to a printer.

If X and Y are given values of 2 then the character printout measures 2.25 x 1.75 units while X and Y values of 3 output 3.5 x 2.75 characters.

Both programs work okay, but I am sure

# what you make of it

---

that there was an Xbas program published in issue 1/5 of Einstein Monthly which carried out the same function.

I had no problems loading the next program, BIGWORD.COM, from Dos.

When run, it asks for the name of an output file which is created and saved to disk for sending to a printer. You then type in one word at a time and press the <esc> key to end the input.

The output is a 7 x 8 matrix. Typing ctrl-R then DISP and the name of the text file will print it out.

Loading BLOCK.COM is similar to BIGWORD, but the program gives you the option of inputting two characters per letter for an enhanced effect, one printed in one direction of the print head and the other character in the opposite direction.

But it won't work with graphics characters.

Input is limited to eight characters per word but any more than five will overprint on an 80col printer unless condensed print is selected on the printer. Output is a 12 x 12 matrix.

A calendar-generator comes under the spotlight next.

Reading the document file tells you that the correct input for the program, CALENDAR.COM, takes the form of USAGE: CAL [MONTH] YEAR.

So to run, type CALENDAR 08 91 and the program prints out the days of the week for the month of August.

If you type 1991 after the second space, only the first two characters are read and the program prints out August

1919—well, the right century at least. If you tap in CALENDAR 1991, that means the whole year is printed out but is unreadable on a 40 col screen.

If sent to a printer, it prints out nicely. Again, I used the ctrl-R <enter> command before calling up the program name at the 0: prompt.

This is another idea for which you'll find a perfectly-serviceable Xbas version in a back issue of EM. Try 1/9.

The next piece is called E-SKETCH.BAS. It can be loaded and listed as if it were a standard source file, but when run using the PD version of Microsoft Basic, it prints garbage to the screen.

This may simply be a case of carrying installation lines for another console, such as the Heath-Zenith which uses an <esc>-y code to send text to the screen and pops up a lot in PD software.

Some of the UK's older PD libraries, such as PD-Sig, also contained Ebasic and CBasic programs. This may well be one of those, explaining why it would need further diy programming before running on the Einstein or other CPM systems.

But I will try it on my other machine, an Oric, to see if I have better luck.

The next prog on the disk, called GOTHIC, also had glitches and so would also need further installation for the TC01. Very annoying!

You'll have to read the document file for NOTEPAD, which really needs an 80-column card, before running the program.

It lists the keys which should be used; but I couldn't get them to work.

## Wild warblings

When making notes using the Notepad program with a 40 col screen, text is listed one letter per line down the left-hand side of the screen.

When your note is saved then loaded again however, the text is as it should be. Each note seems to be a fixed length too, no matter what you type.

If you have one of the older OKI printers — such as the OKI mate 20 colour thermal printer used with the ICL One Per Desk and, presumably, its CPM disk drive add-on — then the next item may be for you.

It's called OKI CHAR.COM, and its 8k document file explains how you can alter settings to suit an OKI printer.

But the TC01's 80-column card is required so that you can see your settings displayed properly on screen before sending them to your printer. I don't have an OKI printer either.

Last item on this disk is TYPWYT.COM.

As you type a line of text or delete a mistake, the output is sent to the printer. In this case all the characters were sent twice Ilikkee thhilss.

Verdict on PD115: As I pointed out, I already had this disk. I think it could be judged simply by asking if I had actually found long-term use for any of the miscellaneous programs such as the big print, notepad or calendar modules among its 96kb. The answer is no I suspect that this could well be one of the poorer PD disks on offer. I would not recommend it.

DON'T lose sleep (or have nightmares), but there may be a hitch with PD operating systems for the TC01.

Andrew McRobbie alerted me to it with his review of PD 163 (see AMN 1/5). He casually mentioned that he couldn't get ctrl-P to prompt printer output for TYPE1, the marvellous PD utility which allows you scan a whole slew of files.

Well, PD 163 and 164 constitute Bill Powell's version of ZDos (see Postbag, EM 2/10). That is an installation by Phillippe Henry of Richard Conn's ZCPR, built up from the original CPM.

I use it daily, with Exsub, to boot up Wordstar 4 for producing my AMN pages.

ZDos uses the CPM directory format. All the records on the second line of each entry (on the disk, not on the screen) are bunched up into the first eight bytes. The remaining eight bytes are reserved for time and date-stamping in CPM Plus. Xtal-Dos separates the records with 00, or 01 to denote side two of an 80-track double-sided disk.

ZDos uses CPM commands rather than Xtal-Dos codes to control printer output. So from what Andrew has reported, it would appear that PD 163 and 164 may have been distributed without ZDos on the system tracks.

Have you had similar problems with operating systems from our PD library?

Send me a fully-detailed letter, care of the AMN address on page two. Tell me when you received the disks, from whom, and with receipt and payment details, and I'll see what I can do.

— Milton Finesilver

# Pointing pixels at the printer

HERE'S a program contributed by Robin Petty, of Basingstoke, Hampshire, which seeks to send graphics screen dumps in variable sizes to a Panasonic printer.

Robin tells us that while working on a text magnifier, he saw an item in AltMN calling for a variable dump to be added to the Bell Superdraw package. As he was working on such a subroutine, he sent it in, hoping its principle would be of interest to other readers, and that they could make it work.

Although Robin has now moved on to using a plush Commodore Amiga, his Einstein TC01 is still in the family.

His brother is using it to teach his children, ages 4 and 7, all about computers and games and how to reach the high scores! Very much a case of Einstein — The Next Generation!

By the way, Robin is having trouble obtaining a satisfactory printout from the Panasonic when it is connected to the Amiga. Apparently, every character prints out as the next character in the Ascii list! Can any Amiga-nauts in our audience help out? Drop a line to the AMN Postbag section with your tips.

```
10 REM SCRNDUMP.XBS for Panasonic
KXP1081
20 REM by Robin Petty© All Micro News
30 DIM A(256)
40 PRINT@0,0;"Printout size (1-3)";:
INPUT F:PRINT@0,0;MUL$( " ",40)
50 PRINT#1;CHR$(10)
60 PRINT#1;CHR$(27)+"A";CHR$(3):
REM linefeed
```

```
70 IFF=1 THEN ST=8:V1=0:V2=1:
REM standard printout, half A4 width
80 IFF=2 THEN ST=4:V1=128:V2=2:
REM double height, 80 cols, full width
90 IFF=3 THEN ST=2:V1=128:V2=2:
REM quad height, 80 column, full A4
100 FOR Y=184 TO 0 STEP -1:ST=L=0
110 ON FGOSUB 200,260,330:REM scan
120 PRINT#1;CHR$(27);"K";CHR$(V1);
CHR$(V2):REM selects bit image mode
130 FOR L=0 TO 255
140 A=A(L)
150 IFF>1 THEN PRINT#1;CHR$(A);
CHR$(A);:ELSE PRINT#1;CHR$(A);:
REM bit printout
160 NEXT L
170 PRINT#1;CHR$(10):NEXT Y
180 END
190 REM end of main loop
200 FOR X=0 TO 255
210 BIT=128
220 FOR B=Y TO Y-7 STEP -1:P=POINT
(X,B):IF P=1 THEN A(L)=A(L)+BIT
230 BIT=BIT/2:NEXT B
240 L=L+1:NEXT X
250 RETURN
260 FOR X=0 TO 255
270 P1=POINT(X,Y):
IF P1=1 THEN A(L)=A(L)+192
280 P2=POINT(X,Y-1):
IF P2=1 THEN A(L)=A(L)+48
290 P3=POINT(X,Y-2):
IF P3=1 THEN A(L)=A(L)+12
300 P4=POINT(X,Y-3):
IF P4=1 THEN A(L)=A(L)+3
310 L=L+1:NEXT X
320 RETURN
330 FOR X=0 TO 255
340 P1=POINT(X,Y)
350 P2=POINT(X,Y-1)
360 IF P1=1 THEN A(L)=A(L)+240
370 IF P2=1 THEN A(L)=A(L)+15
380 L=L+1:NEXT X
390 RETURN
400 END
```

```

10 REM HUG&KISS.XBS© All Micro
News
20 REM Xbas 5.1, Xtal-Dos 2.0
30 RST:V=PEEK(&FB3E):IF V<128
THENPOKE(&FB3E),V+128:OUT=22,0
40 GOSUB350
50 CLS:BCOL1:TCOL15,0:
POKE(&FB4F),32:PRINT@7,1;"Hugs
and kisses":POKE&FB4F,40
60 TCOL4,0:PRINT@14,3;
"ABCDEFGH IJK"
70 FORN=1TO11:TCOL4,0
80 PRINT@10,N+3;CHR$(N+96):NEXT
90 X$=" x x x x x":O$="o o o o o":
FORN=4TO12STEP2
100 TCOL2,0:PRINT@14,N;X$
110 TCOL13,0:PRINT@14,N+1;O$:
NEXT
120 TCOL2,0:PRINT@14,14;X$
130 PRINT@4,19;" If it's your
turn, type across"
140 PRINT@4,20;"co-ordinate
followed by down co-"
150 PRINT@4,21;"ordinate in
caps only eg DC <cr>"
160 PRINT@4,22;" type q to
quit to DOS"
170 REM play and check
180 FLAG=-1
190 IFFLAG=-1 THENA$="x":C=2
200 IFFLAG=1 THENA$="o":C=13
210 C$=A$+" to play"
220 TCOLC,0:PRINT@16,17;C$,:
INPUTM$
230 IFM$="q" THENGOTO570
240 X$=LEFT$(M$,1):X=ASC(X$)-51:
Y$=RIGHT$(M$,1):Y=ASC(Y$)-61
250 Y$=CHR$(ASC(Y$)+32):
PRINT@31,17;X$+Y$:GOSUB340
260 IFX<14ORX>24ORY<4ORY>14
THEN330
270 L$=SCRN$(Y):N$=MID$(
L$,X+1,1):IFN$<>" THEN330
280 PRINT@X,Y;A$
290 PRINT@0,17;CHR$(21)
page 22

```

# Hugs and

*READERS may have realised current editions of AMN are put together by co-editors based 80 miles apart -- Milton Finesilver in Wembley with Graham Bettany in Ipswich. Among the many problems which can occur with such a set-up is that the identities of people con-*

```

300 GOSUB470
310 FLAG=FLAG*-1
320 GOTO190
330 PRINT@16,17;"false move - miss":
GOSUB340:PRINT@0,17;
CHR$(21):GOTO310
340 FORN=1TO500:NEXT:RETURN
350 BCOL13:TCOL15,4:
POKE&FB4F,32:
PRINT@7,1;"Hugs and Kisses"
360 POKE&FB4F,40:
PRINT@12,3;"> instructions <"
370 PRINT@0,5;"Welcome to the Einstein
version of a two-player game
invented a century ago in America.";
380 PRINT"One player is Hugs (o) and
the other is Kisses (x).";
390 PRINT" They take turns to fill the
grid ";
400 PRINT"with their symbols.
Kisses has to complete a continuous line
of x symbols from top to bottom while
Hugs has to ";
410 PRINT"complete a line of o symbols
across the screen.";
420 PRINT"Target each blank grid
position with the across co-ordinate
followed by the down

```



# eternal triangles

tributing programs and features to AMN get lost in the InterCity shuffle. That's why the pair of routines included on this spread are minus their senders' names. Sorry! Things could have been worse: we could have put the wrong bylines on these programs. Or they

could have been misplaced compo entries. Or revived from earlier issues or AMN's predecessor titles. They could even have been already in Einstein User (still released now-and-then by B & H in Halifax)!  
◦ Let us know if you have problems running any of the routines in All Micro News

```
co-ordinate, eg FD <cr>
430 PRINT "The program toggles the
alpha lock key & LED into caps mode.
But to confuse you, ";
440 PRINT "it converts your typing to
lower case!"
450 PRINT @8,23;"press any key
to start!";
460 K$=INCH$:IFK$<" "
THEN RETURN
470 REM check for win
480 FOR J=14 TO 24 STEP 2:
FOR I=5 TO 13 STEP 2
490 S$=S$+(MID$(SCRN$(I),J,1)):
NEXT I:GOSUB 540
500 NEXT J
510 FOR I=5 TO 13 STEP 2:
FOR J=16 TO 24 STEP 2
520 S$=S$+(MID$(SCRN$(I),J,1)):
NEXT J:GOSUB 540
530 NEXT I:RETURN
540 IFS$="00000"ORS$="xxxxx"
THEN 550:
ELSE S$="":RETURN
550 PRINT @0,19;CHR$(22);" ***
winner is "A$" ***":GOTO 50
560 END
570 CLS32:BCOL1:TCOL13:
```

```
PRINT @12,11;"whoops!";CHR$(&0A);
"You're about to be dumped!";
CHR$(&0A);"into Xtal-Dos!";
580 PRINT @6,17;"unless...!";
PRINT @12,19;"you quickly
press",CHR$(&0A),
"<shift> and <break>!"
590 FOR X=0 TO 1000:NEXT X:DOS

10 REM TRIANGLE.XBS: plots 19858
points in 15 minutes: © All Micro News
20 REM Xbas 5.02 on TC01; can
also run with Xbas compiler on
E256 but generates a loop error
30 RST:BCOL1:ORIGIN 28,96
40 A%=0:B%=0:C%=0:N%=0:
M%=2+RND(12)
50 TI$="000000":WHILE VAL(TI$)<1500
60 X%=RND(3):ON X%+1 GOTO 70,80,90
70 A%=A%/2:B%=B%/2+48:GOTO 100
80 A%=A%/2-48:B%=B%/2-48:GOTO 100
90 A%=A%/2+48:B%=B%/2-48
100 C%=ABS(A%/12):
IF C%<2 THEN C%=C%+M%
110 GCOLC%:PLOT A%,B%:
N%=N%+1:WEND
120 BEEP 25:PRINT @0,1;"time ";
TI$,@26,1;N%;"POINTS":BEEP 25
```

John McGill wanders in from Wolverhampton, West Midlands, to pull from his suitcase the maze prog here and the word search generator on the next spread. John says "They work perfectly well as they stand," but could benefit from structured programming. "I am not an expert and it needs someone who knows what they are doing to unscramble them."

# Set your sights on mystery maze

```
1 REM QUIKMAZE.XBS
2 REM from Creative Computing,
  Morristown, New Jersey, US
3 REM adapted for Xbas 5.02 by John
  McGill © All Micro News
4 REM line 165 uses ctrl-B for graphic
  screen dump. Alternatively, try
  subroutine featured in AMN1/3
5 REM Or use ctrl-A CHR$(1) for text
  dump of screen to printer
6 RST:V=PEEK(&FB3E):IFV<128
  THENPOKE(&FB3E),V+128:OUT&22,0
7 TCOL5:BCOL11:WIDTH
32:PRINT@12,12;"Welcome to
  QUIKMAZE. It's not quite Hampton
  Court or Alice Through the Looking Glass"
8 PRINT@12,15;"But it's fun
  anyway!" :WIDTH255
9 PRINT "First, choose the maze size"
10 INPUT" * Width up to 127 ";H
11 INPUT" * Depth up to 97 ";V
12 REM for output to printer only,
  dimensions can be up to about 25
  units each
13 CLS:PRINT#0:REM to duplicate
  screen output to printer,
  try adding !OM10,0
14 H=INT(ABS(H)):V=INT(ABS(V))
15 DIMW(H,V),V(H,V)
16 Q=0:Z=0
17 X=INT(RND(1)*H+1)
18 FORI=1TOH
19 IFI=XTHEN22
20 PRINT ":-|";
21 GOTO23
22 PRINT" | ";
23 NEXTI
24 PRINT" | "
25 C=1:W(X,1)=C:C=C+1:R=X:S=1
26 GOTO34
27 IFR<>HTHEN32
28 IFS<>VTHEN31
29 R=1:S=1
30 GOTO33
31 R=1:S=S+1:GOTO33
32 R=R+1
33 IFW(R,S)=0THEN27
34 IFR=1THEN70
35 IFW(R-1,S)>0THEN70
36 IFS=1THEN51
37 IFW(R,S-1)<>0THEN51
38 IFR=HTHEN42
39 IFW(R+1,S)>0THEN42
40 X=INT(RND(1)*3+1)
41 ONXGOTO107,111,115
42 IFS<>VTHEN46
43 IFZ=1THEN49
44 Q=1
45 GOTO47
46 IFW(R,S+1)>0THEN49
47 X=INT(RND(1)*3+1)
48 ONXGOTO107,111,124
49 X=INT(RND(1)*2+1)
50 ONXGOTO107,111
```

51 IFR=H THEN 62	96 GOTO 98	R=1:S=1:GOTO 33
52 IF W(R+1,S)>0 THEN 62	97 IF W(R,S+1)>0 THEN 100	138 IF Z=1 THEN 141
53 IFS<>V THEN 57	98 X=INT(RND(1)*2+1)	139 R=INT(RND
54 IF Z=1 THEN 60	99 ON X GOTO 115,124	(1)*H)+1:S=V
55 Q=1	100 GOTO 115	140 V(R,S)=V(R,S)+1
56 GOTO 58	101 IFS<>V THEN 105	141 FOR J=1 TO V
57 IF W(R,S+1)>0 THEN 60	102 IF Z=1 THEN 27	142 PRINT "I";
58 X=INT(RND(1)*3+1)	103 Q=1	143 FOR I=1 TO H
59 ON X GOTO 107,115,124	104 GOTO 106	144 IF V(I,J)>3 THEN
60 X=INT(RND(1)*2+1)	105 IF W(R,S+1)>0 THEN 27	Z=V(I,J)-4:GOTO 146
61 ON X GOTO 107,115	106 GOTO 124	145 Z=V(I,J)
62 IFS<>V THEN 66	107 W(R-1,S)=C:C=C+1:	146 IF Z<2 THEN 149
63 IF Z=1 THEN 69	V(R-1,S)=2:R=R-1	147 PRINT " ";
64 Q=1	108 IFC=H*V+1 THEN 138	148 GOTO 150
65 GOTO 67	109 Q=0	149 PRINT " ";
66 IF W(R,S+1)>0 THEN 69	110 GOTO 34	150 NEXT I
67 X=INT(RND(1)*2+1)	111 W(R,S-1)=C:	151 PRINT
68 ON X GOTO 107,124	C=C+1:V(R,S-1)=1:S=S-1	152 FOR I=1 TO H
69 GOTO 107	112 IFC=H*V+1 THEN 138	153 IF V(I,J)>3 THEN
70 IFS=1 THEN 91	113 Q=0	Z=V(I,J)-4:GOTO 155
71 IF W(R,S-1)>0 THEN 91	114 GOTO 34	154 Z=V(I,J)
72 IFR=H THEN 83	115 W(R+1,S)=C:C=C+1	155 IF Z=0 THEN 160
73 IF W(R+1,S)>0 THEN 83	116 IF V(R,S)=0 THEN 119	156 IF Z=2 THEN 160
74 IFS<>V THEN 78	117 V(R,S)=3	157 IF J=V THEN 158
75 IF Z=1 THEN 81	118 GOTO 120	158 PRINT " ";
76 Q=1	119 V(R,S)=2	159 GOTO 161
77 GOTO 79	120 R=R+1	160 PRINT ":-:";
78 IF W(R,S+1)>0 THEN 81	121 IFC=H*V+1 THEN 138	161 NEXT I
79 X=INT(RND(1)*3+1)	122 Q=0	162 PRINT ":-:"
80 ON X GOTO 111,115,124	123 GOTO 70	163 NEXT J
81 X=INT(RND(1)*2+1)	124 IF Q=1 THEN 134	164 PRINT @,22;"Do
82 ON X GOTO 111,115	125 W(R,S+1)=C	you want to output this
83 IFS<>V THEN 87	126 C=C+1	maze ":-:"A\$=INCH\$
84 IF Z=1 THEN 90	127 IF V(R,S)=0 THEN 130	165 IFA\$="Y" THEN
85 Q=1	128 V(R,S)=3	PRINT @,22;"Here's a
86 GOTO 88	129 GOTO 131	maze for you to puzzle
87 IF W(R,S+1)>0 THEN 90	130 V(R,S)=1	out":PRINT CHR\$(2):
88 X=INT(RND(1)*2+1)	131 S=S+1	rem graphics screen dump
89 ON X GOTO 111,124	132 IFC=H*V+1 THEN 138	166 FOR X=0 TO 5000:next
90 GOTO 111	133 GOTO 34	167 PRINT @,22;"Do you
91 IFR=H THEN 101	134 Z=1	want another maze?"
92 IF W(R+1,S)>0 THEN 101	135 IF V(R,S)=0 THEN 137	B\$=INCH\$
93 IFS<>V THEN 97	136 V(R,S)=3:Q=0:	168 IFB\$="Y" THEN
94 IF Z=1 THEN 100	GOTO 27	CLS:RUN 9
95 Q=1	137 V(R,S)=1:Q=0:	169 END

```

1 REM WORDPUZZ.XBS
2 REM from Creative Computing,
  Morristown, New Jersey, US
3 REM adapted for Xbas by
  John McGill © All Micro News
4 CLS32:BCOL14:TCOL12,4:
  PRINT@2,10;"Word Search
  Puzzle Generator"
5 POKE&FB4F,40:PRINT@4,14;"This
  program asks you to define a";@4,15;
  "grid and the words it has to hide"
6 PRINT@2,17;"They can run
  across, down, diagonally,";
  @11,18;"forward or backward"
7 PRINT@1,20;"If the routine
  persistently refuses to";@1,21;
  "fit in a particular word, you will
  have";@1,22;"to use fewer ";
8 PRINT"words or a larger grid "
9 FORX=0TO6000:NEXT:RST:TCOL13
10 DEFFNA(Z)=INT(RND(1)*Z+1)
11 INPUT"How many columns on
  your printer? (If noprinter is
  connected, reply 40) ";TW
12 INPUT"Do you want a
  solution printout? ";X$
13 INPUT"Width of puzzle
  in columns? ";W:MD=W
14 IFW*2<TWTHEN16
15 PRINT"That will not fit
  in ";TW;" columns ";GOTO13
16 IFW<1THEN13
17 INPUT"and the length ";L:
  IFL>WTHENMD=L
18 IFL<1THEN17
19 INPUT"Total number of
  words for puzzle? ";M
20 IFM>=2THEN22
21 PRINT"Sorry! We need at
  least two words ";GOTO19
22 DIMA$(L,W),W$(M)
23 DIMW(M,3),DXY(8,2),DD(28)
24 PRINT@4,8;"Now enter title of
  puzzle within","TW;" letters at most"
25 INPUTXY$

```

```

26 PRINT"Enter a new word
  at each question mark "
27 PRINT"To redo the previous
  word, type a hyphen "
28 PRINT"When you run out
  of words, type a full stop "
29 FORI=1TOM
30 INPUTT$:IFT$="-"THENI=I-1:
  PRINT"redo ";W$(I);"...":GOTO30
31 IFT$="."THENM=M-1:GOTO51
32 IFLEN(T$)=0THENPRINT
  "Input error; redo ":GOTO30
33 J=1
34 TE$=MID$(T$,J,1):
  IFTE$>"a"ANDTE$<="z"THEN41
35 IFTE$<"A"ORTE$>"Z"THEN37
36 T$=LEFT$(T$,J-1)+CHR$
  (ASC(MID$(T$,J,1))+32)+RIGHT$
  (T$,LEN(T$)-J):GOTO41
37 IFTE$=T$THENT$="":GOTO32
38 IFJ=LEN(T$)
  THENT$=LEFT$(T$,J-1):GOTO42
39 IFJ=1THENT$=RIGHT$
  (T$,LEN(T$)-1):J=J-1:GOTO41
40 T$=LEFT$(T$,J-1)+RIGHT$
  (T$,LEN(T$)-J):J=J-1
41 J=J+1:IFJ<=LEN(T$)THEN34
42 PRINT"-";T$;"-"
43 IFLEN(T$)<=MDTHEN46
44 PRINT"That's too long. Try again"
45 GOTO30
46 FORIZ=1TOI-1:
  IFW$(IZ)<>T$THENNEXT:GOTO48
47 PRINT"You have already entered
  that one. Try another ":GOTO30
48 W$(I)=T$
49 NEXTI
50 PRINT"That's it...";M;" words"
51 PRINT"Now just you wait..."
52 FORI=1TOM-1
53 FORJ=I+1TOM
54 IFLEN(W$(I))<LEN(W$(J))THEN
  HZ$=W$(I):W$(I)=W$(J):W$(J)=HZ$
55 NEXT:NEXT
56 FORI=1TO8:READDXY(I,1),

```



```

DXY(1,2):NEXT
57 FORI=1TO28:READDD(I):NEXT
58 DATA 0,1,1,1,1,0,1,-1,0,-1,-1,-1,-1,
59 DATA 0,-1,1,2,4,6,8,2,4,6,8,2,4,6,8,
2,4,6,8,2,4,6,8,2,4,6,8,1,3,5,7
60 FORI=1TOM
61 LE=LEN(W$(I))
62 NT=0
63 SD=DD(FNA(28))
64 SD=DD(FNA(28))
65 SX=FNA(W):X1=SX+(LE-1)*DXY
(SD,1):IF X1<1OR X1>W THEN64
66 SY=FNA(L):X1=SY+(LE-1)*DXY
(SD,2):IF X1<1OR X1>L THEN64
67 NT=NT+1:IF NT<>W*L*2 THEN72
68 PRINT "We cannot fit in "W$(I)
69 INPUT "Start again? ";A$
70 IF LEFT$(A$,1)="Y" OR
LEFT$(A$,1)="y" THEN60
71 W$(I)="":GOTO80
72 J=SY:K=SX
73 FORP=1TOLE
74 IF LEN(A$(J,K)) AND A$(J,K)<>
MID$(W$(I),P,1) THEN64
75 J=J+DXY(SD,2):K=K+DXY(SD,1):
NEXTP
76 J=SY:K=SX
77 forP=1toLE:A$(J,K)=mid$(W$(I),P,1)
78 J=J+DXY(SD,2):K=K+DXY(SD,1):next
79 W(1,1)=SX:W(1,2)=SY:W(1,3)=SD
80 NEXTI
81 FORI=1TOL
82 FORJ=1TOW
83 IF A$(I,J)=" " THEN
A$(I,J)=CHR$(FNA(26)+96)
84 NEXT: NEXT
85 FORI=1TOM-1:FORJ=1TOM
86 IF W$(I)<=W$(J) THEN89
87 HZ$=W$(I):W$(I)=W$(J):W$(J)=HZ$
88 FORK=1TO3:HZ=W(I,K):
W(I,K)=W(J,K):W(J,K)=HZ:NEXTK
89 NEXTJ:NEXTI
90 INPUT "How many copies to print?";N
91 PRINT "Is your printer connected? For
each copy, hit <enter> to begin"

```

```

92 PRINT "If you selected solution
printout, press <enter> one extra time"
93 FORC=1TON:GOSUB94:NEXT:
GOTO111
94 INPUT "Press <enter>";A$:PRINT
95 T=(TW-2*W)/2:PRINT
96 PRINT#1:REM if you do not have a
printer, delete lines 96 to 98
97 PRINT chr$(27);chr$(87);chr$(1):
REM Epson FX-80 and TP100 codes for
double-width character printing
98 PRINT chr$(27);chr$(65);chr$(24):
REM sets printer to three lines to inch
99 PRINT tab((TW-LEN(XY$))/2);XY$
100 PRINT:PRINT
101 FORJ=1TOL:PRINTTAB(T);
102 FORK=1TOW:IFA$(J,K)="."
THENPRINT". ";GOTO104
103 PRINTCHR$(ASC(A$(J,K))-32);" ";
104 NEXT:PRINT:NEXT
105 PRINT "Find these hidden
words in the above puzzle"
106 FORJ=1TOM:IF LEN(W$(J))=0
THEN109
107 IF POS(0)+LEN(W$(J))>TW-2
THENPRINT
108 PRINTW$(J)
109 NEXT:PRINT#0
110 RETURN
111 IF LEFT$(X$,1)="Y"
OR LEFT$(X$,1)="y" THEN113
112 END
113 FORI=1TOL:FORJ=1TOW:
A$(I,J)=" ":NEXTJ:NEXTI
114 FORI=1TOM
115 LE=LEN(W$(I)):J=W(I,2):K=W(I,1)
116 FORP=1TOLE
117 A$(J,K)=MID$(W$(I),P,1)
118 J=J+DXY(W(I,3),2):
K=K+DXY(W(I,3),1):NEXTP
119 NEXTI
120 XY$="Here is the answer key "
121 GOSUB94
122 PRINT:PRINT
123 END

```



# Sharward Services



Upland Centre  
2 Upland Road, Ipswich, Suffolk IP4 5BT  
Tel 0473 272002 Fax 0473 272008



Clearout time again, items marked with an asterisk are used but working and in good condition. Please ring before ordering as most are one offs. All prices are fully inclusive of VAT and P+P.

Mouse/joystick converter for the Einstein (blue mouse only) .... £6  
Replacement Einstein keyboard .... £12      Analogue Joystick ....£6\*  
High quality mouse mats .... £2.50      MT 81 serial interface card .... £20\*  
3", 3.5", 5.25" disc head cleaners .... £3.00 each.  
Smith Corona dot matrix printer, no manual, works O.K. with Einstein graphics, tractor/friction, parallel/ serial, with Einstein cable and 500 sheets of paper ... £65\*  
Kuma Non-Vat Accounts .... £8      Tasprint, (needs Tasword) .... £11  
Infocom adventure games plus Speak utility to enable Einstein to 'speak' the game to you as it runs; Whishbringer, Zork III, Ballyhoo & Spellbreaker .... £10 each.  
Wordstar .... £20\*    Datastar .... £20\*      Screenplus .... £8  
Wire Printer Stands, 80 column, .... £8      Screensoft Cash Accountant .... £8  
WDPRO, (well someone might want the manual!!) .... £6  
FMP Masterbill modules;  
Order Confirmation, Remittance Advice, Delivery Note .... £6 each  
Kuma Communications with Viewdata .... £6  
50 capacity 3.5" storage boxes, (take 3" discs) ... £6 100 capacity .... £7.50  
Citizen 124D printer, 24 pin, IBM/Epsom graphics, push/pull tractors, 2 letter quality fonts plus draft mode at 144 cps, 80 columns, back or bottom paper feed, 2 year warranty, complete with 500 sheets of paper, 100 labels and either an IBM or Einstein printer cable .... £195

## IBM Bits and Bobs

GEM 1st Word+, Gem 3 with Gem Paint and 1st Word Plus .... £29.95  
Mosaic Spreadsheet with Presentation and Information Manager .... £29.95  
MS DOS 4.01 manuals .... £7    MS DOS 3.3 manuals + discs .... £9.95  
3.5" 720k disc drives, Teac, .... £29.95;      3.5" 1.44M/720k, Teac, .... £45  
5.25" to 3.5" chassis, includes adaptor and power cable .... £8  
720k drive plus chassis .... £36, 1.44M plus chassis .... £50  
16k parallel printer buffer cards, (LPT2) expandable to 64k .... £9.95  
Schneider Euro PC, (IBM compatible), single 3.5" 720k, XT, 512k, mono display - tilt/swivel, includes MS DOS and Microsoft Works, (Spreadsheet, Database, Word Processor) 1 year warranty - brand new .... £199.

This ad just made the print run;

**For Sale;** Twin drive Einstein, 80 column card, 256k silicon disc, Philips mono monitor, manuals and software; Dbase II, Cracker, Wordstar, M Basic, PD etc. £250 plus carriage G. H. Turner, Tel 081 6586685.