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NUMBER 3
VOLUME 3
MAY 1981

INDEPENDENT PET
USERS
GROUP

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INDEPENDENT

PET USERS GROUP

Vol. 3, No.3

Newsletter

MAY 1981

Europe's first independent magazine for PET users

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EDITOR'S NOTEBOOK

Software designers may complain of the complexities of catering for several different ROM sets, not to mention printer characteristics, yet we seldom hear of the plight of the hardware designer. Ever designed an add-on to the memory expansion port? Ever tapped power from the PET's innards? Where in the UK does one get suitable connectors? The memory expansion port looks straight-forward enough, a normal 50-way ribbon connector fits fine until one attempts to fit both of them. At this point one discovers that the connectors on the PET motherboard are too close! A real professional job is therefore made by assembling the connector with an adhesive on the ribbon and when set, file down the sides of the connectors until they no longer foul each other (the adhesive is to stop them falling apart!).

Power should properly be taken from the internal power connectors. These connectors may be obtained from Molex stockists and is fine if you are going to market some wonderful high-selling add-on. Try buying just one connector and one polarising key....

Then there is the video. Line and frame syncs plus video are available on the user port connector, which you may not realise unless you had an early handbook. Unfortunately PET uses the US standard of 525 lines at 60Hz, and this in itself adds another complication. Presumably Commodore only intended these outputs to be for test purposes, but as a designer I have other uses for them.

R.D.G.

--o0o--

THANKS FOR THE MEMORY...

By John Ryder

To upgrade a 16K PET to 32K the 4108-type dynamic RAMs must be changed to 4116s. I noticed that the RAMs in my 16K machine were marked 4108 on top, but 4116 underneath. On checking, I found that 12 of the 16 were fully operational 4116s! I bought four new 4116s, changed the decoding links and now have a 32K PET.

It is quite common for chip manufacturers to re-mark large memory chips that fail on test at the high address lines only, but the 4116s work perfectly and so I conclude that they are failed high speed devices. My PET runs happily on 350ns RAMs.

--o0o--

SHOP WINDOW

Each new issue of Supersoft's catalogue brings with some useful items, really useful not just a package for the sake of it. Things like an edit routine that doesn't wipe your variables, master directory and index for your disks, Speedsort, Findstring and Font. The latter enables the user to define one's own character set and generate data to burn an EPROM to replace the standard character generator. Add to these several sort routines, and a number of special ROM chips to complete the selection. ROM-X replaces the UD8 chip in BASIC 2.0 to give the user auto-repeat on all keys, a more accurate clock, a 'lukewarm' start and an optional scroll pause with faster display as the key features. In addition, key entry points have been retained such that Microchess, Invaders etc will still run. Just getting to grips with machine code? Find assemblers somewhat mind-boggling? Try Mikro, the assembler on a chip, which is as easy to use as BASIC, yet has most of the features of a full assembler. For the more proficient there is Macro, a disk-based macro-assembler. All of these from Supersoft, 28, Burwood Avenue, Pinner, Middx. Tel: 01-866 3326.

MAXI-PROM is a two-chip set from Machsize which incorporates the Universal Wedge, auto-activation of SYS45056, repeat on all keys and a RUN/STOP key disable/enable facility. Machsize Ltd. are at York House, Clarendon Avenue, Leamington Spa, CV32 5PP. Tel: (0926)312542 or 32399.

25 new BASIC commands are available with the Business ROM to facilitate screen input conforming to and exceeding Commodore's specifications. Several foolproof input routines cater for use by inexperienced operators. For example GETKEY K\$, "ABC" will wait for, and only accept, A or B or C, shifted or unshifted. The position of the pressed key in the permitted string is returned in location 0. One can then use ON PEEK(0)GOTO100,200,300 for menu selection for example. Priced at £120 plus VAT. Details from Reprodesign Professional Microcomputer Services, 131, Market Street, Chorley, Lancs, PR7 2SG. Tel:02572-78376. (A review is scheduled for the next issue).

Also from Reprodesign is a unit called ROM Pager, a ROM expander board accommodating up to 8 different ROMs selectable by POKE36863,n where n is the nth ROM. ROM Pager costs £45 plus VAT.

Qwerty Computer services have introduced a number of small goodies including the following: a replacement cover for CBM printers enabling the print-head to be seen printing at £5.00, a paper tear-off device at £6.50 - very easy to install, a dual ROM slot at £15.00 to enable two ROMs to be switched to one socket, and a disk device at £10.00 which on error gives an audible warning and the disk error light shows red, but normally gives a 'power on' green as with the later drives. See centre advertisement for address details.

PETAID version 5.3 has a bi-directional link to Wordcraft, which coupled with the link from Visicalc to Wordcraft makes PETAID 5.3 a most powerful database for the 8000 series PETs. The package costs £330 from Stage One Computers. Tel: 0202-23570.

The CO 30C Absolute Optical Shaft Encoder is designed to give an 8-bit Gray code to the PET via the User port. The interface board is addressable in the range 0-15 and converts the latched Gray code to binary. Contact Cetronic Ltd., Hoddesdon Road, Stanstead Abbots, Ware, Herts, SG12 8EJ. Tel: Ware (0920) 871077.

SPACE INVADERS RESULT

By Charles White.

Despite a blustery, wet day, 60-odd enthusiasts braved the elements to wage war against the Invasion of the dreaded Space Invaders at the Civic Centre, Totton on March 21st. For seven hours the hall resounded to 'ping' and 'bang' as row after row of successive Invaders were repelled. The final half-hour became very exciting as Stephen Male's early lead was overtaken and he struggled to improve his score.

When the dust finally settled, Mr. Alan Leach of Totton was declared Adult Champion with an impressive score of 12030. Thirteen year old Adam Mavin of Fareham became the Junior Champion with his total of 4670. £103.80 was made for the Jimmy Saville Stoke Mandeville fund.

--o0o--

STEPPING WITH THE 'TOOLKIT'

R. A. Forster

If you want to STEP through part of your program, you have to STEP from the beginning. Not any more ! At the predetermined point add POKE124,3 (turns STEP on) and after the area of the problem add POKE124,0 (turns it off). The program will run normally to your added line at which you can STEP through the problem area. In addition, POKE124,2 turns TRACE on during a program. Note ensure that the Toolkit is turned on first !

--o0o--

MEMBERS SMALL ADS.

For sale, two-year old PET with CompuThink disk (8K + 24K expansion). No reasonable offer for all or part refused. Phone Mark Katz: 01-455 7132.

Wanted - SWTC-PR40 printer or similar for program listings. Preferably impact plain paper. Must have all necessary interfaces. Will exchange for 3-month old Voice Chess Challenger. M. P. Glynne, Tarn Cottage, Tarn Lane, Shadwell, Leeds 17. Work phone number 0977 556237.

--o0o--

BASIC EXPANSION MODULE - DOUBLE DENSITY PLOTTING

By B.D.Grainger

BEM1 is a machine code program which can be prepared on any PET. The source program will prepare the machine code at the top of available memory. This object code can then be SAVED so that it may be reloaded quickly when required. It may be reloaded above another program already in memory without loss of that program.

To prepare the source code first of all type the following BASIC program EXACTLY as shown:

```

100 PRINT"<clr><2dn><16sp><rvs>B.E.M.1
110 PRINT"<dn>BASIC EXPANSION MODULE NO.1 ADDS THE<4sp>
    FOLLOWING TO BASIC
120 PRINT"<dn>@SET(X,Y) WILL PLOT A DOUBLE DENSITY
121 PRINT"<12sp>POINT AT COLUMN X, ROW Y
130 PRINT"<dn>@RESET(X,Y) WILL ERASE A DOUBLE DENSITY
131 PRINT"<12sp>POINT AT COLUMN X, ROW Y
140 PRINT"<dn>@POINT(X,Y) IS 'TRUE' IF A DOUBLE
141 PRINT"<12sp>DENSITY POINT EXISTS AT
142 PRINT"<12sp>COLUMN X, ROW Y
150 PRINT"<dn>X=1, Y=1 FOR SCREEN TOP LEFT
160 PRINT"X=80, Y=50 FOR SCREEN BOTTOM RIGHT
170 PRINT"<dn>PRECEDE COMMAND BY ':' IF USED STRAIGHT
    AFTER <rvs>'THEN'
180 PRINT"<dn>PROGRAM WRITTEN IN RELOCATABLE FORM BY
190 PRINT"<12sp><rvs>B.D.GRAINGER
200 POKE042,175:POKE043,009:CLR
210 N=417:REM NO. OF BYTES IN LOCATED PROGRAM
220 P=463:REM NO. OF BYTES IN RELOCATABLE M/C
300 L=PEEK(052)+PEEK(053)*256
310 N=L-N:P=P-PEEK(042)+PEEK(043)*256+49+P-1
320 FORJ=L-1 TONSTEP-1
330 X=PEEK(P):IFX>0GOTO360
340 P=P-2:X=PEEK(P+1)+PEEK(P)*256:IFX=0GOTO360
350 Y=X+L-65536:GOSUB490:POKEJ,X%:J=J-1
360 POKEJ,X:P=P-1:PRINT"<hm>";X;"<1ft><2sp>":NEXTJ:GOSUB470
370 Y=N:GOSUB490:POKE52,X:POKE53,X%:POKE48,X:POKE49,X%
```

```

380 PRINT"<clr>SAVE PROGRAM WITH MLM AS FOLLOWS:
390 PRINT"<dn>.S ";CHR$(34);"BEM1";CHR$(34);",01";:X=
    N/4096:GOSUB450
400 X=L/4096:GOSUB450:GOTO500
450 PRINT",";:FORJ=1TO4:X%=X:X=(X-X%)*16:IFX%>9THEN
    X%=X%+7
460 PRINTCHR$(X%+48);:NEXTJ:RETURN
470 Y=L-87:GOSUB490:POKEL-205,X:POKEL-203,X%
471 Y=L-72:GOSUB490:POKEL-188,X:POKEL-186,X%
472 Y=L-418:GOSUB490:POKEL-82,X:POKEL-83,X%
473 Y=L-409:GOSUB490:POKEL-74,X:POKEL-75,X%
474 Y=L-398:GOSUB490:POKEL-67,X:POKEL-68,X%
475 Y=L-223:GOSUB490:POKEL-46,X:POKEL-42,X%
476 RETURN
490 X%=Y/256:X=Y-X%*256:RETURN
500 PRINT:PRINT"<2dn>WHEN RELOADING INITIALISE BY
    <rvs>SYS";L-65
510 SYS(L-51)

```

After typing the above, enter MLM and check the values in memory \$002A and \$002B. They should be \$AF and \$09 respectively. If they are not, you have mistyped the program. When the values are OK, change memory \$002B to \$0B, return to BASIC and do a CLR. Re-enter MLM and change memory as given below:

```

09E0 20 FE 86 00 05 8C 20 FE F7 00 60 20 FE 86 00 05
09F0 8C 45 8C 20 FE F7 00 60 20 FE 86 00 A0 FF 25 8C
0A00 D0 01 C8 98 EA EA 20 6D D2 68 68 60 20 F5 CD 20
0A10 78 D6 CA 8A 4A 85 88 90 03 A9 03 2C A9 0C EA 85
0A20 8C 20 CC D6 20 F2 CD CA 8A 4A 85 89 A5 8C 90 03

0A30 29 09 2C 29 06 EA 85 8C 20 FF 0D 00 A9 80 85 8B
0A40 A9 00 00 00 A4 89 F0 0A 18 69 28 90 02 E6 8B 88
0A50 D0 F6 18 65 88 90 02 E6 8B 85 8A A0 00 00 00 A2
0A60 0F 20 FF 03 00 B1 8A DD FE E7 00 F0 05 CA 10 F8
0A70 A2 00 00 00 8A 60 20 6C 7C E1 7E 7F E2 FB 7B 62

0A80 FF FE 61 FC FC A0 AA 20 FF 03 00 BD FE E7 00 A2
0A90 00 00 00 81 8A 60 AD 40 E8 49 20 29 20 F0 F7 60
0AA0 A5 88 38 F9 28 B0 08 A5 89 38 F9 19 B0 01 60 A2
0AB0 35 4C 57 C3 86 4F BA BD 01 01 C9 F9 D0 0D BD 02
0AC0 01 C9 C6 D0 61 A9 FF A2 FF D0 0F C9 8A D0 57 BD

```

```

0AD0 02 01 C9 CD D0 50 A9 FF A2 FF 85 0F 86 10 20 FF
0AE0 A2 00 A0 00 00 00 B1 77 C9 40 D0 40 A2 00 00 00
0AF0 20 FF A2 00 A0 FF C8 A1 0F D1 77 D0 05 20 FF 9B
0B00 00 D0 F4 A1 0F F0 17 20 FF 9B 00 A1 0F D0 F9 20
0B10 FF 9B 00 20 FF 9B 00 20 FF 9B 00 A1 0F D0 DA 4C

```

```

0B20 03 CE 20 FF A2 00 88 D0 FA C8 B1 0F 48 C8 B1 0F
0B30 48 60 20 FF A2 00 A6 4F 4C 76 00 00 00 E6 0F D0
0B40 02 E6 10 60 E6 77 D0 02 E6 78 60 53 45 54 00 00
0B50 00 FF FF 52 45 53 45 54 00 00 00 FF FF 00 00 00
0B60 50 4F B5 00 00 00 FF FF 00 00 00 A0 FE C6 2B B1

```

```

0B70 2A AA C8 B1 2A 85 35 86 34 A9 4C 85 70 A9 FF 85
0B80 71 A9 FF 85 72 A0 FF 84 2A C8 A2 03 86 2B A2 03
0B90 20 FF F5 00 D0 F9 CA D0 F8 20 FF F5 00 EA EA EA
0BA0 4C 79 C5 E6 2A D0 02 E6 2B B1 2A 60 FE 5F 00 AA

```

On completion of the above return to BASIC. You have now prepared the source code and you should SAVE it.

You can produce object code for BEM1 by running the program. Be sure to save the resulting object code as directed and make a note of the initialising command. You may use the new commands immediately after running the source program without further initialisation. When you reload the saved object code you must initialise it immediately after loading. This will recover any programs which were in memory at the time of loading and enable you to use the plotting commands. The instructions inbuilt into the source program should enable you to use the commands. This article ends with a sample program of the technique.

The instructions above are for PETs with upgrade ROMs. The BASIC program is applicable to BASIC 4.0 machines but note the following changes for the memory changes:

0A07 BC C4	0FA8 0D
0A0D F2 BE	0B04 0D
0A10 D4 C8	0B0C 0D
0A22 27 C9 20 EF BE	0B1C 0D
0AB2 CF B3 86 0F	0B20 00 BF
0ABB 7E	0B2B 0D 48 C8 B1 0D
0AC2 B7	0B37 0F
0ACC 87 ?	0B3E 0D D0 02 E6 0E
	0BA1 F0 B5 ?

I do not have a BASIC 4 machine so have not checked the above proposal. Those marked '?' are the most likely to be in error. OACC OAD3 points to the last byte of a JSR 0070 instruction which should be around BE87. OBA2 is a vector to a BASIC CLR.

Note that both versions use the random number storage area, so use RND(0) when BEM1 is being used. The BASIC 4 version also uses the D\$ pointer in zero page but I do not think this is a problem.

Finally, I often wonder if it is worth writing programs for old ROMs these days. In an attempt to find out I shall send instructions for the above program for old ROMs to anybody who sends an SAE to me at 73, Minehead Way, Stevenage, Herts. SG1 2HZ. If I do not get enough response this will be the last program I convert to old ROMs as it is getting time consuming to write programs for 3 different ROM sets !

```

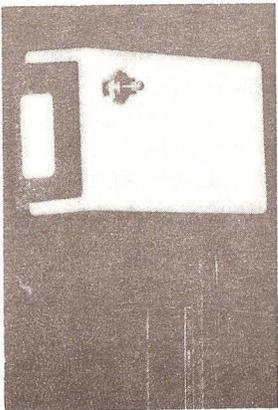
SAMPLE PROGRAM
5 PRINT"<clr>"
10 FORJ=1TO25
20 FORI=1TO80:@SET(I,J):NEXT
30 FORI=1TO50:@SET(81-J,I):NEXT
40 FORI=80TO1STEP-1:@SET(I,51-J):NEXT
50 FORI=50TO1STEP-1:@SET(J,I):NEXT
60 NEXTJ
70 I=INT(80*RND(0))+1
80 J=INT(50*RND(0))+1
90 IF@POINT(I,J)THEN:@RESET(I,J):GOTO70
100 IFNOT@POINT(I,J)THEN:@SET(I,J):GOTO70

```

--o0o--

Improve your programs, use light pen input and selection. Simply plug onto the user port. Demonstration program supplied with the unit. Unbelievable at only £15.00, was £25.00.

SWITCH UNIT



Control external devices using this unit - up to 8 devices can be controlled using the PET. Up to 5 amps can be switched. If mains switching is needed please stipulate when ordering (£1.50 extra per switch).
Single switch unit £11.00 then £5 per extra switch, e.g. 3 switch unit £11.00 plus 2 @ £5 = £21.00 (mains £25.50).
3 switch unit was £30.00.

Connect PET to a T.V. or to a Video monitor. This unit has its own fully fused power supply included - no need to use your valuable cassette connector. Three picture adjustment controls included. Truly a snip at only £31.50, was £42.00.

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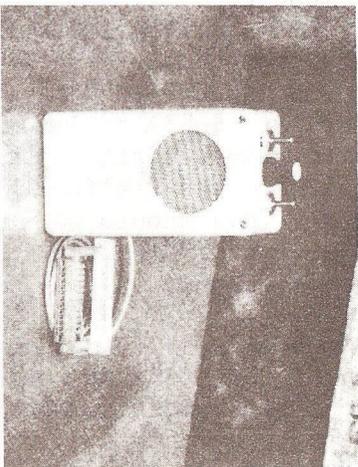


computer

Recover from 'crashes' easily without losing your MACHINE CODE or BASIC program. Simple to instal (3 plug-in connections). For new ROM (not upgrade) machines only. Pin connection at memory expansion connector. Incredible at only £7.00, was £12.50.

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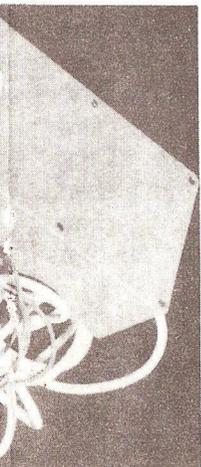
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REVIEW

MIKRO ASSEMBLER CHIP

Supersoft £50+VAT

Many people find beginning machine code programming a somewhat daunting prospect. POKEing memory with decimal values is OK for simple programs, but to advance as one's knowledge improves entails relearning a totally different technique in order to use an assembler. This re-learning is time wasted and can be a permanent barrier to more exotic programs. The Mikro assembler on a chip is ideal for such people. It retains many features of programming in BASIC using the 'Toolkit' for development and the beginner therefore feels at home and comfortable with this familiarity. The differences are that the notation is the assembly language that one may be trying to learn, plus of course the resulting program, not being BASIC, cannot be RUN.

Mikro allows one to write assembly language as if it were a BASIC program with line numbers (using AUTO of the Toolkit if desired) and edit the program in the normal manner. When one has taken the precaution of SAVEing it, use can be made of one of the chip's three commands. !A results in the assembly process checking for errors and assembling the object code in two places. One is from the address that you specified (if you did not then the second cassette buffer at \$033A is assumed), the other is in the area that Mikro reserves at the top of memory. This is 4K for a 32K machine or 2K for the 16K models. I puzzled awhile as to why this should be so, but all was clear when I wanted to assemble some code for a PROM at \$8800 in the external expansion range.

The command !F will format your code into the standard assembly format, but in so doing I found it removed multiple spaces from the comments. Although not in the handbook remarks are identified by the usual ';' character. This is indicated on an accompanying leaflet. There appeared to be no reasonable limit to the length of permissible labels even if it disturbed the formatting if it exceeded 11 characters. !F is similar to LIST and the same line number parameters may be used.

A most useful facility I found was the !N command. This calls the number conversion routine. Supply a number in one of decimal, hex (\$), octal (@), or binary (%) and this chip displays the number in all four bases. Decimal numbers must be in the range 0-63999 and other numbers 0-\$FFFF. Arithmetic expressions with plus or minus only can be evaluated also. If one uses a value outside the legal range of values a ?SYNTAX ERROR results, but unfortunately the error message persists until Mikro is reset (having first saved your program).

Mikro differs most from other assemblers in its pseudo-operations: .TEXT, .BYTE, .WORD, & .END become TXT, BYT, WOR & END without the fullstops. The only other pseudo-op supported is the equals symbol, eg *=1039 or *=*+10.

The handbook supplied with the Mikro chip is well produced and gives simple examples and explanations. The only omission I found was catered for in an accompanying sheet.

Compatibility with the 'Toolkit' was excellent. Mikro detects the presence of the Toolkit, if fitted, and initialises it at the same time as Mikro. The Programmers friend was equally compatible provided it was loaded before initialising Mikro, but activated after. DOS Support is disabled and despite many variations on a theme, I could not find a way of activating both simultaneously.

Mikro will give the user the option to print both source and object code when an error-free assembly is obtained, start and finish lines may be specified.

Being only an occasional machine-code programmer and having struggled with the vagaries of the CBM assembler, I found Mikro to be the finest chip since the 'Toolkit' and being in ROM it can't be corrupted by your code !

R.D.G.

MERGING PROGRAMS FROM DISK

Since reviewing the 'Programmer's Friend' last issue I have had more opportunity to use its facilities. I should have guessed when using the MERGE that all was not well, for although it worked at the time, the cursor returned without the 'READY' message. Subsequent attempted useage has shown it to be most unreliable and failing to fully load the two programs and/or failing to link or merge them. The following program from Pete Smith has proved most satisfactory:

```

100 REM MERGE! AUGUST 1980
101 REM AUTHOR P.J.R.SMITH
102 REM THIS PROGRAM READS TWO BASIC
103 REM PROGRAMS ON DISK AND MERGES
104 REM THEM INTO A NEW DISK FILE
105 REM FOR DUPLICATE LINE NUMBERS
106 REM THE LINE ON THE SECOND FILE
107 REM IS DISCARDED.
200 REM FIND OUT THE FILES
201 PRINT:PRINT"MERGE! AUGUST 1980":PRINT:PRINT
210 INPUT"FIRST INPUT FILE";F1$
220 INPUT"ON DRIVE NUMBER<2rt>0<3lft>";D1$:PRINT
230 INPUT"SECOND INPUT FILE";F2$
240 INPUT"ON DRIVE NUMBER<2rt>0<3lft>";D2$:PRINT
250 INPUT"OUTPUT FILE";F3$
260 INPUT"ON DRIVE NUMBER<2rt>0<3lft>";D3$:PRINT
300 REM LOAD MACHINE CODE
310 READI,J:FORK=IT0J:READL:POKEK,L:NEXT
400 REM OPEN FILES
405 OPEN15,8,15
410 OPEN1,8,2,D1$+":"+"F1$+"",P,R":GOSUB800
420 OPEN2,8,3,D2$+":"+"F2$+"",P,R":GOSUB800
430 OPEN3,8,1,D3$+":"+"F3$+"",P,W":GOSUB800
500 REM DO THE DIRTY WORK
510 SYS634:GOSUB800
600 REM FINALE
610 IFPEEK(186)THENPRINTSTR$(PEEK(186)):" LINES HAD THE
      SAME LINE NUMBER.":PRINT
620 CLOSE1:CLOSE2:CLOSE3:CLOSE15
630 END

```

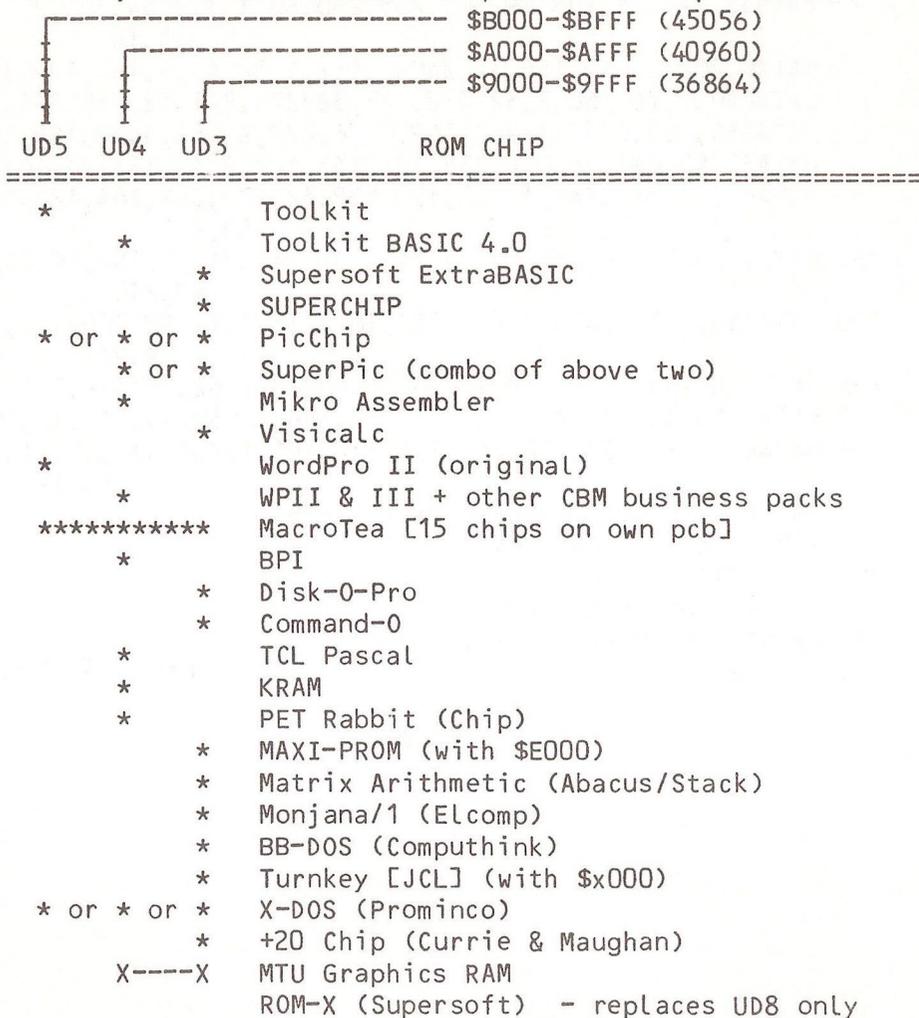
```

700 REM MACHINE CODE DATA
705 DATA634,865
710 DATA162,1,32,207,2,162,2,32,207,2,169,1,133,58,32,229
715 DATA2,169,4,133,59,32,229,2,162,1,32,240,2,162,2,32
720 DATA240,2,162,0,134,186,32,225,255,162,2,173,3,34,205,3
725 DATA33,144,23,208,19,201,255,240,40,173,2,34,205,2,
      33,144
730 DATA9,208,5,230,186,32,240,2,162,1,32,42,3,166,189,32
735 DATA240,2,76,160,2,32,112,247,32,225,241,32,225,241,76,204
740 DATA255,169,0,32,229,2,169,0,76,229,2,162,3,32,188,247
745 DATA32,50,242,76,204,255,138,133,187,9,32,133,63,169,0,133
750 DATA62,32,112,247,160,0,132,188,32,225,241,164,188,145,
      62,200
755 DATA166,150,208,10,192,5,144,238,170,240,9,152,16,232,
      169,255
760 DATA160,3,145,62,32,204,255,166,187,164,188,200,152,149
      59,96
765 DATA138,133,189,9,32,133,63,169,0,133,62,181,59,133,190,24
770 DATA101,58,133,58,160,0,145,62,144,2,230,59,165,59,200,145
775 DATA62,162,3,32,188,247,136,132,191,177,62,32,50,242,
      164,191
780 DATA200,196,190,144,242,76,204,255
800 REM CHECK FOR DISK ERROR
810 INPUT#15,EN$,EM$
820 IFEN$="00"THENRETURN
830 PRINT"DISK ERROR":PRINTEN$;"-";EM$
840 GOTO620

```

THOSE 'SPARE' SOCKETS.....

Faced with more chips than the three or even two 'spare' sockets will accommodate, I decided to prepare an inventory to enable readers to plan their requirement.



EPRoMs to fit the sockets are type 2716 (2K) or 2532 (4K). ROMs are type 2332. Note that the 'Spacesaver' objects to 2532 EPRoMs, but accepts 2332 ROMs.

R.D.G.

LOCAL GROUP ACTIVITIES

The highlight of the Gloucester Group's January meeting was the presentation of various business packages run on an 8000-series PET with floppy drives and printer (courtesy of Mr. Perry, a Gloucester dealer).

February's meeting comprised a talk on machine-code programming and on a new word processor nearing completion by one of the group, while March's discussion was on long-distance communication between PETs and a new type of sound generator for the machine. The latter, provided by one of our radio amateurs, caused much hilarity and not a few shocks during the evening.

Future meeting dates will be May 29th, June 26th, Sept 25th, Oct 30th, Nov 27th. All meetings to be at 23, Shepherd heaze, Wootton-under-Edge, at 8pm.

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SOFTWARE SALES

Owing to the increased cost of postage, postal charges on program tapes and blank cassettes will alter as follows:

Program tapes 1-2 programs	+ 25p (postage)
3-4 ditto	+ 50p
5-6 ditto	+ 75p
7-8 ditto	+£1.00

Blank cassettes: for each cassette purchased, add 15p postage.

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CLUB DISCOUNTS

The National Committee have decided to explore the possibility of providing a discount service to IPUG members on peripheral items such as printers and disk drives. Contact has been made with several suppliers and various discounts have been offered, a sample of which follows:

Printers	2-5 off (£)	6+ (£)
OKI Microline 80	299	279
OKI Microline 83	699	649
Epson MX-80 Friction	299	269
Epson MX-80 Tractor	345	325
Anacom 150	599	---
VDUs	2-5 off (£)	6+ (£)
TVI 912c	450	---
TVI 920c	500	475

VAT extra on all prices.

CBM Disk Drives.

The discounted prices on this item ranged from £799 to £678 (VAT inclusive).

The above mentioned service can only work through the Group to take advantage of bulk purchase. To get a feeling for member's requirements would bona fide prospective purchasers write to me stating their anticipated requirement. This is how I see it working; if sufficient members are interested in a particular item I will write to them asking for an individual cheque for same. Items will be purchased in bulk, but shipped to individuals direct. Enclose an SAE to Bob Wood, 13, Bowland Crescent, Ward Green, Barnsley, S. Yorks. S70 5JS.

[Other items include memory chips (4116, 2114, 2708, 2716), Visicalc normally £99, 10% off (limited period offer), Superchip/PicChip Combo for £75 + VAT (normally £90) - Note all discounts are for paid up IPUG members only -Ed].

CBM COLUMN

Recent deliveries of PETs and disk drives now have a revised mains panel, the most useful difference being the detachable mains lead. Another subtle difference is that the mains switch is now vertical, not horizontal, as I discovered when groping blindly behind the left-hand side. The big plus is the documentation which has also undergone a face-lift.

Having taken an in-depth look at the specification for the VIC-20, the new 'domestic' computer recently launched, I was most impressed in terms of value-for-money. I can't wait to get my hands on one !

Several members have expressed disappointment that the new 4022 printer is based on the Epson MX70 and not the MX80 (why not the CX80 and have colour printing !).

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BUYER BEWARE

By Alfred Minter.

Calco Software is a 'Commodore Approved' organisation and their address is Lakeside House, Kingston Hill, Surrey. Now Lakeside House is a block of flats with a press-button intercom system at the main entrance leading to some 40 or more flats. There are no names against any of the buttons, and so Calco Software cannot be visited as I discovered when I called to make a purchase and discuss what they had to offer. It follows from this that they are effectively protected from any follow-up by an aggrieved customer.

[Ed's Note: This is no reflection on Calco Software as a business concern, it could be that it is run from a private residence and unsolicited callers would not surprisingly be too welcome].

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TAIL PIECE

Last year a lot of Committee effort went in establishing a country-wide network of local groups such that members could enjoy personal contact with each other. Some of these groups are quite small, others most prolific. An unfortunate side-effect of this is that these groups now harbour many people who have not paid a national subscription. Since IPUG is non-profit making, we rely on this income to fund not only the Newsletter, but the dissemination of any other information such as last year's Compendium. Many such 'non-members' will not be reading this of course, but local group organisers will know who these people are.



Advertisement

EDUCATIONAL SOFTWARE FOR THE PET

Written by teacher/graduate team, all programs fit into 8K and are available for old or new ROM. Prices are inclusive. PRIMARY SCHOOL LEVEL (suitable for 6-10 year olds) Each tape contains four programs for £6

Fun with English I
Fun with English II
Whiz Maths.

The tapes cover spelling, grammar, comprehension, general knowledge, etc. The maths tape includes testing child's level, teaching place values, money conventions, adding games.

LANGUAGE PROGRAMS FOR ADULTS.

Language teaching tapes containing five programs £10 each
French I, French II
German I, German II

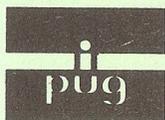
Covers vocabulary, grammar, hints, tests, revision, imitated pronunciation etc. Starts from the very beginning.

LANGUAGE EXERCISES.

Exercise tapes each contain 5 programs @£ 8 each. Each program is closely related to the relevant teaching program.

Exercises in French 1 and 2
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· MENTRIX, 420, VALENCE AVENUE, DAGENHAM, ESSEX.



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Printed, published and distributed by Carlton Press, 10 Bernard Road, Gorleston,
Gt. Yarmouth, Norfolk NR31 6EG, England, UK. Tel: Gt. Yarmouth (STD 0493) 61331