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BACK TO WORK

After the euphoria of Xmas, back to the treadmill. First, I would like to thank all those who sent cards and other seasonal good wishes. Next, my apologies for the lateness of this issue. I had made insufficient allowance for the interference of the holiday season; February issue will also be late, and it will take some months to get back to the usual punctuality. A further excuse, of course, is the index. I had failed to take account of the fact that I could not complete this until I had fully prepared the present issue. The index provided is only of Names and Titles: I *hope* to provide a supplementary index dealing with the majority of subjects, to follow in a month or two (or three).

* * * * *

Thank you all very much for your support over the past year. The coming volume should have a number of new features. "LETS WRITE A PROGRAM" will be of interest to novices, and of interest also to those whose programming skill is greater than my own - I look forward to their corrections and advice. "SUBROUTINE" is a feature which has been demanded by several readers: truly portable subroutines which anyone can incorporate intheir programs, either in Basic or in Machine-code. However, it is to *you* that I look for the material for this column. "PEEK & POKE" will continue, but will be intermittent from now on.

* * * * *

May I remind readers that this newsletter is confidential to the named subscriber, who alone may enter competitions, take up 'special offers', and write in for help and advice. Naturally, a subscriber's immediate family are equally welcome to write in, and will have honorary status as subscribers with regard to all the facilities of the newsletter. Shared subscriptions are also acceptable, provided the sharing subscribers are named. However I would remind some readers that the newsletter *is* copyright, and photocopying it in entirety for further distribution is not only dishonest but unlawful. Recently I received a letter from a prospective subscriber in the Far East: having somehow obtained some copies of the newsletter, he considered himself entitled to subscribe for the rest at a reduced rate!

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SIGNALS

DAVID RIHOY enquires whether any of the WAGNER extensions will be available in this country. He wrote to ELKAN, and received a reply, scribbled on the corner of a leaflet about software, to the effect that ELKAN no longer deal in hardware.

ELKAN apologise for this answer, which they blame on a new and inexperienced member of staff. However the situation is by no means satisfactory. I have written to WAGNER, who have passed my letter to SPIEDEL, who has the export rights. I have written to SPIEDEL, to ask him to quote for a quantity of the TOOL-2 (TAPE-OPERATION), so I could make them available to subscribers. I received no reply from him (this is several months ago). I have spoken to ELKAN, who says he is unable to import these profitably, since SPIEDEL wishes to supply to him at more or less retail prices. On the other hand, ELKAN claims he retains the exclusive U.K. agency for the WAGNER extensions, and although he is not willing even to quote any prices himself, he is not willing to permit anyone else to trade in these items of hardware either. However on page 22 ANGUS CRAWFORD describes how he obtained one of these TOOL-2 direct from SPIEDEL, after delay of 2 months, for £93 (exclusive of Customs and VAT). It is understood that the ultimate source of this hardware is in Switzerland: I am trying to track it down.

I am indebted to E.MACMILLAN, ANGUS CRAWFORD and J.BLAND for various very interesting information from USA.

The September edition of TRS News contains an alphabetical list of op-codes, which are also listed numerically, both in decimal and in Hex. Very useful for reference. The October edition contains a useful article on using machine-code. Both these issues are now available in UK, at about £1, from Tandy Computer Centres such as Centrepoint.

Some readers may be familiar with 'Pocket Computer News', an American publication, edited by Nat Wadsworth, the author of DBASE (page 35). It is further advanced than this newsletter, but deals with other machines besides ours. I do not myself subscribe to it. However it is advertising a 4-part series on machine-language, price $29.95, published over 6 months. The extract I have seen seems helpful, detailed, patronising and verbose. Write to : PCN, PO Box 232, SEYMOUR, CT 06483, USA.

CRISTER SKOGLUND writes that SHARP in Sweden are as unhelpful as SHARP (UK)

One of the difficulties is that SHARP develop new models faster than their staff can get to know them: and the Pocket Computer Division being mixed with other departments , and the lack of comprehensible documentation, does not help either.

L.E.SIMONS gives more details of the problem he raised in last month's SIGNALS. Whether one treats SHARP's instructions as Hex op-codes, or as mnemonics, or even as the two mixed-up together, there is still an unresolved loose end.

J.K.GAUTON has been trying to obtain sticky tally-rolls (for label printing) without, as yet, any success. He adds that he has obtained the EASIONE program advertised last month, and likes it, except for one or two minor disadvantages.

The EASIONE program will be reviewed next month.

Readers who ordered - and paid for - software from KUMA, complain that as yet, despite many weeks of waiting, they have received nothing but excuses.

You have been warned!

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PEEK, POKE & MEMORY - X

Making use of the CE 161

Despairing of really understanding the lengthy, repetitive, and partly meaningless manual that accompanies this 16K, battery-backed memory module, I evolved my own methods of taking advantage of its facilities. Most of these are equally applicable to the 8K CE 159.

I do not bother with the 'preservation switch', relying on systematic use to avoid wiping out anything I wish to preserve. I also make back-up copies of anything important. What one must do, is this:

> *BEFORE REMOVING THE MODULE FROM THE COMPUTER, NOTE THE CONTENTS OF THE SYSTEM POINTERS (30821 to 30826) . MAKE SURE COMPUTER IS TURNED OFF BEFORE REMOVING MODULE.*
>
> *ON REPLACING MODULE IN COMPUTER, POKE PREVIOUS VALUES INTO SYSTEM POINTERS.*

Your program is now restored. You may find your first line, however, has become strangely numbered: for instance, 65281, instead of 1. This is because 255 has replaced 0 in the first byte of program, particularly if you wrote NEW. Cure this by POKE STATUS 2 - STATUS 1, 0

Every other module starts programs, after the RESERVE, with 197 in 30822. (The module starts at 32, 0 or 56, 0 or 64, 0 in 256ary, and after 197 bytes of RESERVE starts the program area itself.) However the manual for the CE 161 says that the area between 197 and 255 is a 'prohibited area'. Naturally it does not say why. It suggests that instead of NEW 0 you should write NEW 256, thus starting program area at 256 which in 256ary is 1,0. This idea, of keeping 'page 0' for reserve, and starting programs at the begining of 'page 1' seems sensible and natural. However SHARP inevitably fail to tell one WHY the area is prohibited. Try and see what happens if you ignore their advice. [Please let me know the result]. A difficulty with this start at 256 is that programs originally written for other modules , if they refer to 197, would not be fully portable without slight modification. A case in point is some of the utilities in this newsletter. For instance, NEW "INSTANT RESCUE" on page 86 starts line b) :

> *b) POKE G, 72, PEEK 30821, 74, 197, ...*

Here 197 must be changed to PEEK 30822 , or to 0 for use with CE 161 only.

I should mention that the CE 161 runs from 0 to 16383, and is followed immediately by the standard unexpanded RAM. Therefore when you take the module out of the computer, although programs are preserved, unfixed and DIMensioned variables are lost, since they are inserted backwards from original STATUS 3, which is at the end of the standard RAM. This can be avoided by re-adjusting pointers at 30873 and 30874 to be 2K earlier (see page 76). In this case you must NOT use the RUN command, or you will wipe out this adjustment. Programs must be started by DEF or GOTO

Over Xmas I carried 11 programs in my module, without MERGEing problems. After loading each program I noted the system pointers, wrote NEW STATUS 2 and loaded or wrote the next program. Noted contents of pointers again, and so on. Each program was immediately retrievable by re-entering contents of relevant system pointers. However it was not possible to EDIT with this system, since any extension of a program would overwrite the next. In order to edit, it was necessary to enter the contents of 30821 and 30822 for the program to be edited, and then contents of 30823 and 30824 for the last program in the module.

It needed a fair amount of concentration, not always available during the festive season. Since notes on little bits of paper can be (and were) easily lost, a second line of defence was to POKE the information about pointers into free space in the RESERVE TEMPLATE AREA.

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INDEX

*This is the basic 'index' program,*a variation of which has been used to prepare the indexes at the end of this issue. It must be adjusted for individual requirements. In particular, the DIMensioning must be tailored to the task in hand. A$(n), line 10, and D$(0),line 11, hold the names. You may well require names more than 6 characters long. B$(n) hold the series of numbers attached to the names. Line 31 (if you remove the REM preface) can act as an error-trap, preventing the entry of a number as part of a name, instead of separately.Lines 32, 34, 41, & 42 allow the correction of wrong entries. Line 33 allows the termination of entering; and moving on to the sort, and printout, routines. Line 80, with line 110, tests whether a name entered is already listed; if so, it attaches the number to the name already existent, and prevents the name being entered a second time. Line 220, with subroutine at 500, sorts names alphabetically, and re-arranges the B$(n) holding the numbers, to match. The numbers are entered in string form, with a space between each number. Printout is in CSIZE 1, giving a 36-chr. line: the subroutine at 3000 avoids splitting a number in printout, and allows carrying over numbers to a next line.*

```
 1:BEEP 1
 2:LOCK
 3:CSIZE 1:COLOR
   0
 5:CLEAR
10:DIM A$(100)*6
11:DIM D$(0)*8
20:DIM B$(100)*80
21:DIM V$(0)*80
22:DIM U$(0)*80
23:DIM T$(0)*80
26:C$=" ":N=1
27:PAUSE N
28:IF N=100GOTO 2
   00
30:INPUT "NAME ";
   A$(N)
31:REM E=ASC
   RIGHT$ (A$(N),
   1):IF E>47AND
   E<58BEEP 3,200
   ,100:GOTO 30
32:IF A$(N)="+"
   GOTO 30
33:IF A$(N)="*"
   GOTO 200
34:IF A$(N)="/"
   LET N=N-1:GOTO
   30
40:INPUT "NUMBER=
   ";B$(N)
41:IF B$(N)="+"
   PAUSE "REPEAT"
   :GOTO 30
42:IF B$(N)="/"
   LET N=N-1:GOTO
   30
49:M=0
50:B$(N)=C$+B$(N)
70:FOR G=1TO N-1
75:IF G=NGOTO 100
80:IF A$(G)=A$(N)
   LET B$(G)=B$(G
   )+B$(N):M=M-1
100:NEXT G
110:IF SGN M=-1LET
   N=N-1
120:N=N+1:GOTO 27
199:BEEP 7,20,200
200:L=0
210:FOR Z=1TO N-1
220:IF A$(Z)<A$(Z-
   1)GOSUB 500
280:NEXT Z
330:IF L=1GOTO 200
400:FOR F=1TO N-1
410:GOSUB 2010
420:NEXT F
430:BEEP 2,250,500
431:STOP
500:D$(0)=A$(Z):A$
   (Z)=A$(Z-1):A$
   (Z-1)=D$(0):L=
   1
510:V$(0)=B$(Z):B$
   (Z)=B$(Z-1):B$
   (Z-1)=V$(0)
520:RETURN
2010:FOR K=1TO N-
   1
2020:LF 1:LPRINT
   A$(K)
2030:IF LEN B$(K)
   <37LPRINT B$
   (K):GOTO 204
   0
2035:GOSUB 3000
2040:NEXT K
2050:BEEP 2:END
3000:TS=36
3010:IF MID$ (B$(
   K),TS,1)=C$
   GOSUB 4000:
   RETURN
3020:TS=TS-1:GOTO
   3010
4000:BK=LEN B$(K)
4005:T$(0)=LEFT$
   (B$(K),TS):U
   $(0)=RIGHT$
   (B$(K),BK-TS
   )
4010:LPRINT T$(0)
4030:U$(0)=C$+U$(
   0)
4040:LPRINT U$(0)
4050:RETURN
```

** as promised last April (page 22)*

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MAILING LIST

This program is merely an elaboration of the one on page 31. Read this page in conjunction with the earlier edition. An important change is that lines 6 onwards have had 10000 added, to enable DATA entries to correspond with subscription numbers. Thus subscription no. 23 is at line 230, etc. Since this program is initially designed for my own use, and is flexible - I add or remove a few lines for particular purposes - there may be a few redundancies and loose ends lying around.

lines

10007: ...:GOSUB 22000: ... If the prompt "start at" is responded to by 0, another prompt will allow the entry of a name, surname, place, etc, and the corresponding label will be printed out. It would be slightly faster if adapted to search for surnames only. Line 21000, with 21015, extracts surname or part-name for comparison.

10007: for 'repeat' writing of label, delete REM in this line.

10025:...:GOSUB 16000:...If you delete RETURN in line 16000, the subscription information number is examined, and the label printed or not as instructed. In the case shown, labels are printed only for subscriptions expiring January 1984. Z is used as a flag.

10030:....:GOSUB 15000:.. This subroutine chooses correct colour for numbers on labels, helpful for postal sorting; i.e. black for UK, blue for 'specials', red for Europe, green for overseas outside Europe.

10040,10060 reduce CSIZE for addresses over 6 lines long.

10120: .. GOTO 15-8*(XQ=0) .... continues printing roll of labels *except* where a label was specified by name, not number. (see 10007 above).

11000 to 11009 prints a list of names and numbers only, without addresses, for quick reference.

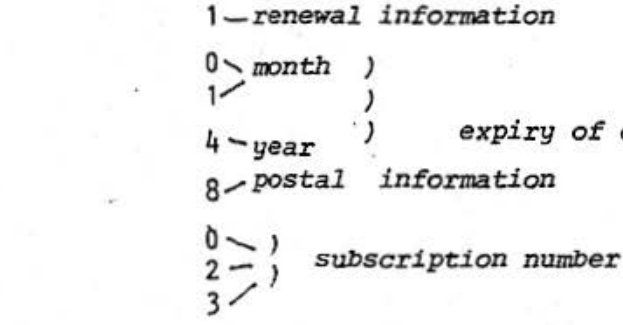
20000 to 20080 (called by DEF F) is used with the above to head listing with the date of the updating. It also records system pointers, for removing and replacing module. (see page 118).

25000: is used for producing an alphabetically sorted list of surnames, which are extracted from the DATA holding the full name by the subroutine at lines 50000-50040. This was developed for internal reference only,and hyphenated names are retrieved in the form of the last part only. A more sophisticted version, taking account of hyphens, apostrophes, etc. would be not hard to develop.

You may care to check the number, as it appears on your label. (However during the present spate of renewals, not all entries are updated yet). Take for instance the number on line 230:

```
DATA 10148023,4,"RONALD COHEN"
```

This breaks down thus:



[program overleaf...

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```
    1:RESTORE :WAIT
      0
    2:DIM A$(9)*24
    3:ON ERROR GOTO
      5
    4:READ A:READ B:
      FOR F=1TO B:
      READ A$(F):
      NEXT F:PRINT A
      ;"  ";A$(1):
      GOTO 4
    5:WAIT 333:BEEP
      5:PRINT A;" #
      ";A$(1):END
  230:DATA 10148023,
      4,"RONALD COHE
      N"
  231:DATA "STATUS 1
      500","62 BLENH
      EIM CRESCENT",
      "LONDON W.11"
10006:"X"R1=1:X=1
10007:INPUT "start
       at ";X:XQ=X
      :GOSUB 22000
      :RESTORE X*1
      0:REM INPUT
      "repeat ";R1
10010:GRAPH :
      ROTATE 1:
      RESTORE X*10
10015:X=180:Y=0
10020:READ S:READ
      L
10022:FOR F=1TO L
10023:READ A$(F)
10024:NEXT F
10025:GOSUB 16000:
      IF Z<1GOTO 1
      0020
10030:GLCURSOR (0,
      0):CSIZE 2:
      GOSUB 15000
10031:LPRINT S
10037:COLOR 0
10040:V=(L<7):K=20
      +10*V
10060:CSIZE 2+V
10070:FOR F=1TO L
10080:FOR G=1TO R1
10090:GLCURSOR (X,
      Y)
10091:LPRINT A$(F)
10092:NEXT G
10100:X=X-K:Y=Y-K
10110:NEXT F
10120:TEXT :CSIZE
      2:LF 15:
      GRAPH :
      ROTATE 1:
      GOTO 15-8*(X
      Q=0)+1E4
11000:"L"INPUT "L/
      E?";PE:FOR F
      =10TO PE*10
      STEP 10
11001:LLIST F:LF -
      4
11002:NEXT F
11009:BEEP 4:END
13000:"V"POKE 86,1
      ,58,3,34,44,
      34,4,241,141
      ,5,59,6,44,2
      ,34,0
13001:BEEP 1:END
15000:S$=STR$ S:M$
      =MID$ (S$,5,
      1):M=VAL M$:
      COLOR 0+(M=0
      )+3*(M=7)+2*
      (M=9)+3*(M=3
      )+2*(M=5)
15001:RETURN
16000:Z=1:RETURN
16010:T$=STR$ S:IF
      MID$ (T$,3,2
      )<>"14"LET Z
      =0
16100:RETURN
20000:"F"TEXT
20050:COLOR 3:
      CSIZE 2:J$=
      STR$ INT (
      TIME /100)
20060:IF LEN J$<4
      LET J$="0"+J
      $
20070:LPRINT
      RIGHT$ (J$,2
      );" ";LEFT$
      (J$,2);" 84
        ";
20080:COLOR 0:
      LPRINT PEEK
      30823;PEEK 3
      0824:END
21000:"N"INPUT Q$:
      LL=LEN Q$:
      WAIT :
      RESTORE
21005:READ A:READ
      B:FOR F=1TO
      B:READ A$(0)
21010:WAIT 333
21015:IF RIGHT$ (A
      $(0),LL)=Q$
      BEEP 2:PRINT
      A$(0);A:
      GOSUB 23000:
      RETURN
21025:NEXT F
21035:GOTO 21005
22000:IF X=0BEEP 3
      :GOSUB "N"
22005:RETURN
23000:X=1000*(A/10
      00-INT (A/10
      00))
23005:WAIT :
      RESTORE :
      RETURN
25000:ON ERROR
      GOTO 30000:X
      =1
25002:DIM A$(10)*2
      4,N$(160)*20
      ,Y$(160)*8
25010:READ A:READ
      B:FOR F=1TO
      B:READ A$(F)
      :NEXT F:BEEP
      1,10,10
25020:N$(X)=A$(1):
      Y$(X)=STR$ A
25025:GOSUB 50000
25030:X=X+1:GOTO 2
      5010
30000:C=0:BEEP 1,9
      ,90
30010:FOR F=1TO X
30020:IF N$(F)<N$(
      F-1)LET N$(0
      )=N$(F):N$(F
      )=N$(F-1):N$
      (F-1)=N$(0):
      C=1:GOSUB 55
      555
30050:NEXT F
30060:IF C>0GOTO 3
      0000
40000:FOR F=1TO X
40002:CSIZE 1
40005:IF LEFT$ (N$
      (F),1)<>
      LEFT$ (N$(F-
      1),1)LF 1
40010:LPRINT N$(F)
      ;" ";RIGHT$
      (Y$(F),3)
40020:NEXT F
50000:Q=LEN N$(X):
      P=Q
50020:IF ASC MID$
      (N$(X),P,1)>
      64LET P=P-1:
      GOTO 50020
50030:N$(X)=RIGHT$
      (N$(X),Q-P)
50040:RETURN
55555:Y$(0)=Y$(F):
      Y$(F)=Y$(F-1
      ):Y$(F-1)=Y$
      (0):RETURN
```


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TRAMSOFT TOOLKIT 2

Hardware review by ANGUS M. CRAWFORD

As a pilot on one of our holiday airlines, I use my PC-1500 for navigation and fuel consumption problems. I am always editing and adding to these programs to make them quicker and more accurate, as getting lost or running out of fuel is not conducive with a long flying career. These programs, with their data, are quite long and a major setback has been the lenth of time I spend Loading, Saving, and Cload?-ing each change.

Last fall I ordered a Toolkit 2 from Walter Speidel(page 71 Status 1500) for DM 371 or 93.86 Sterling. The package, when it arrived a couple of months later, consisted of an aluminium box the size of a pack of cigarettes and an instruction manual (in German!). as I speak no German, I got a German-English dictionary from the library and waded in.

The toolkit has one function-It Saves, Loads, and Verifies at about 20 times the speed of the CE-150. The commands for a Basic program are: FSAVE (FS.) to Save; FLOAD (FL.) to Load; FCHAIN (FC.) to Chain; and VERIFY (VE.) to Cload?. The first time I FSAVEd one of my longer programs I thought I had made a mistake as the prompt came back after only about 7 seconds (this program normally takes 6-7 minutes to save)! So I NEWed my PC and FLOADed the same program. MAGIC-there it was. Again only about 8 seconds of tape run. I have often lamented the lack of a Disk for my PC but now, who needs it.

The other new commands are: FSAVE M = CSAVE M; FSAVE V =PRINT # and FSAVE P / FLOAD P which seem to be used as a sort of Supermerge for multiple programs though I have not tried out this facility (the dictionary was overdue).

Overall, TOOLKIT 2 is a well designed, rugged piece of hardware with a comprehensive (Ithink) instruction manual. The sheer speed of execution in tape operations is its crowning glory, but if you don't want a printer, you can use the Toolkit directly with the PC-1500 for a fast casette interface for about 2/3 the cost of the CE-150. Also great for traveling as it takes up far less weight/room than the CE-150.

NOTE
If you have had trouble with the dreaded ERROR 44, I have found that many of these are caused by the tape being pinched by the recorder when stopped by the remote function. By always starting and stopping the recorder myself I have almost no problems now with tape errors. (Ihave a CE-152).

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SPORTS NEWS

CHRIS LEDSAM writes to say that he has much enjoyed the "GOLF" program in the December issue, and that it is well worth the labour of keying it in. IAN TRAYNOR complains that his uncomputerised relations win every time!

LEWIS LENSSEN (aged 15) achieved a "hole in one" with his very first shot. He has received as a prize "The Book of Heroic Failures" (heartily recommended by the Editor as one of the funniest books ever written). An invitation to Mr Lenssen to repeat this feat has not yet met with a response.

L.P.GOODHEW (the solitary spectator at the "Noughts and Crosses Olympics" referred to on page110) indignantly protests that he was not asleep! He states that he was merely meditating. He adds that he was present merely because he had lent his computer for the contest, at the editor's earnest request. His further comments are irrelevant.

A PRIZE of £5 is offered for the best 6 holes of GOLF, according to the program in the December issue. Conditions: A standard handicap of 7 is recommended. Scores will be moderated by higher or lower handicaps, which must be stated. The six holes must be on a continuous strip, (though not necessarily completed in a specific period of time). A series of 7 holes may be played, one only of which may be cancelled. The score of the best 6 will be counted. Closing date: March 7th. Your editor managed to play 6 holes in only 19 strokes.Alas! the 7th had to be abandoned after a further 21 strokes!

SPORTSPAK. For those who lack the time to key in lengthy programs, "GOLF" and "HANGMAN" (with a built-in vocabulary of 350 words) from the December issue, are being made available on cassette, to subscribers only, at £4.95 for the pair of programs. Allow 15 days delivery in U.K. (p & p inclusive). Add £1.50 for overseas postage and packing. From STATUS SOFTWARE. 8K is essential.

MINDBOGGLE CORNER

If Z>>THO!:1>TJO!:1* , or T8#NB14+8ND14+$

- or even ΠA,WKR$=4AWMR$=4-

not to mention vZEpdk=UMZpfk=UMF One might well say that it matters not whether G or N. In fact, to put it another way, 121 and 125 are indifferent. So what is the value of Y ? And why ? Despite the obfuscation of the clues, the answer could hardly be more simple. Entries (if any) by 18th February, please. Usual prize.

* * * * *

Not one single entry for the November competition, for a software solution to speedier loading. TIM LANDON tells me he is working on the problem, but that a result will take the best part of a year !

No correct entries for the December competition. Several readers tried rewriting the entire DATA statements, ignoring the clue 'FIND MY SIMPLE MISTAKE'. The first statement of the first line should read:

1: TEST:... instead of 1:TEXT:...

* * * * *

When MINDBOGGLE competitions offer "the usual splendid prize" some readers have taken this to mean "mere fame and glory". Not so. Prizes are usually worth in the region of £5. They are not specific, but are negotiable.

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