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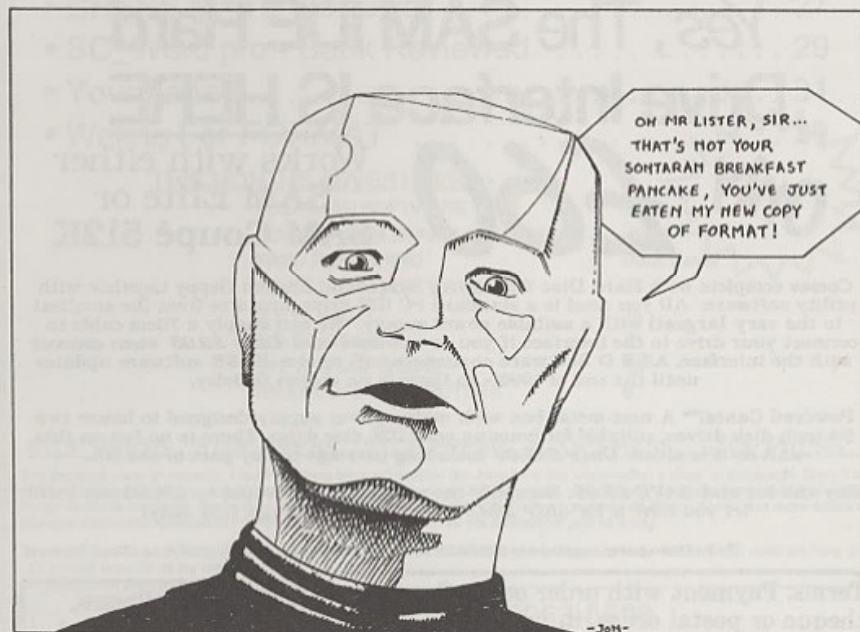
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FORMAT

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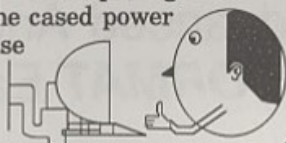
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addressed envelope for list.

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STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS...ST

2nd Scotland show announced. Fred Publishing have set Sunday 9th June for a 2nd 'show within a show' in Edinburgh. Sorry it is short notice but please make sure you all turn out to support the Spectrum & SAM scene - show those PC owners there is still real enthusiasm for our favourite machines. Fred will be there course, so will FORMAT, S.D. Software and several others. If you need more details send a stamped addressed envelope to Fred Publishing (see their advert for the address) or give us a ring.

Sorry that the Readers Service Page is missing this month, we left it out to give more room to the letters. If you need anything, just see last months issue for all the details.

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NEWS ON 4

AMIGA RIGHTS SOLD

Escom, the German based company that purchased the remnants of Commodore International last year, have announced that they are selling their rights to the Amiga range to American company Viscorp for around \$40 million. Escom are believed to have paid only \$12 million for the whole of Commodore but they have had to shoulder the burden of splitting the company's operation to allow the Amiga to float as a separate subsidiary. Escom are keeping the Commodore name to use as a brand name for home/office type PCs.

FUTURE HIT AGAIN

Bath publishing house Future Publishing have been hit by another dramatic drop in the sales figures for their computer/console games magazines.

Sega Power went down 37% to 26,500 while multi-platform title Games-Master saw its ABC drop 22% to 32,100.

On the computer front, Amiga Power dropped a massive 39% to average only 18,700 sales per issue - quite low figures when you think that YS was dropped when sales were still around 22,000 per month.

VAT OR NOT VAT

Have you ever found yourself confused about prices when looking through adverts in the high-street magazines? Yes? Well I'll bet money that most of the confusion will have been caused by the fact that most advertisers do not include VAT in their prices. Their claim has been that they were aiming their wares at trade customers and therefore did not need to obey the law that required adverts to clearly show a VAT inclusive price - something that all adverts in **FORMAT** have always done.

But now Trading Standards and the

Advertising Standards Authority are stepping in. From now on all adverts in computer magazines 'not restricted to trade distribution' will have to obey the law and show the prices including VAT. A step that can only lead to an easier life for customers in the long-run.

CONSOLES - v - DECK CHAIRS

A new twist has been added to the 'games machines are bad for you' argument following the recent publication of a report by the DTI's Consumer Safety Unit.

Figures in the report show that nearly 50 accidents involving games systems were reported to hospitals in the UK last year. Most involved young children tripping over cables or hitting their heads on protruding parts of cases. However, fights over console systems were also being cited along with adults dropping items of equipment on their feet as they tried to banish kids to another room to play their latest mega-noisy game. Included in the report are a number of accident case studies including: A child, who while playing a console game, was poked in the eye by his impatient friend. A mother throwing a computer at the wall in frustration over her children squabbling over a game - only to hit her 10 year old on the head. And let's not forget the 35 year old woman who 'trapped her arm behind the dog basket' - she had been walking across the room when she tripped and fell, the situation being made worse because she tried to avoid hitting her husband's pride and joy (his PC to you and I) as she fell - whether the dog was in the basket at the time is not reported.

Credits:

URGENT we need your news. Anything you think other people should know about. Each item printed earns the contributor 3 months extra subscription (please claim when next renewing).

The Editor Speaks

Excuse me while I get my breath back, Phewee, what a day! Saturday the 20th April I'm talking about, the day of the 6th Gloucester show. It was very hard work, but well worth it when I think of all the happy enthusiastic Spectrum and SAM users who turned up and had such a wonderful time. The next show is already booked for Saturday 26th October so get that in your diary right away. We've booked this one early so we can have the extra hour in bed the following morning. You will find a bit more about one of the hi-lights of the show in an article from Jenny elsewhere in this issue.

This month I've done something I've never done before. I've 'surf'd the net', or, to be more precise, it was more like crawling the net - I never realised that the so-called cyberspace revolution could be so dull, slow, boring and frustrating. Asked by a friend "could you just download some printer drivers for the Hewlett Packard Desk Jet 660C?" my good natured reply was "of course, no trouble". Did I live to regret it, I sure did. Logging onto Compuserve is a lottery to start with, its all OK having local access numbers - if you can get through, but the truth is that so many of the local access ports are on low baud rates, so those on faster levels get snowed under. My local is mid-range at 9600, faster than some others in the area, so it gets snowed under. Once logged on, you have to wait ages for each screen to download because Compuserve relies heavily on graphics (big chunky ones) which actually makes life slower than the old Prestel system that used to use 1200 baud for download. Ok, then access the World Wide Web and start

searching screen after screen to track down HP's home site. Of course there are lots of people trying to access the same site (the only sites that get heavier access than the computer company sites are those devoted to pictures of disrobed females, need I say more) so after nearly an hour I give up and try again later, after midnight in fact when the access times were a bit better.

This time I do get through and start to download the file. It does not tell me how big it is, it just keeps printing an ever larger figure for the number of bytes it has successfully read, often with reasonably long periods of inactivity. Nearly an hour later, it finally finishes. 2,114,610 bytes in the file, 53 minutes to download - and they have the audacity to claim this is the future for all of us.

I'm still looking for some items I wanted to download, the indexing systems (of which there are many) are just so messy they are often a hindrance rather than a help, mainly because it is difficult to word a search 'in context' but also because they are frequently out of date and point to sites that no longer exist.

I don't think I will resort to the net very often, unless I buy shares in British Telecom first that is. However, for those with more time and money there are several good Spectrum sites around and even a small showing from the SAM community. But be warned, the best time to get fast(ish) response is around 6am - not the sort of time most of you will really want to turn on a computer to access the World Wide Web I'm sure.

Until next month.

Bob Brenchley, Editor.

Below you will find details of the full range of SAM hardware now available.

CODE	DESCRIPTION	PRICE
COMPUTERS - Now with extended two year warranty.		
W1020	SAM <i>elite</i> - 512K - Single Drive. 512K RAM, Built-in Printer Interface, Scart cable for direct connection to monitor or scart TV.	£199.95
W1021	SAM <i>elite</i> - 512K - Dual Drive. As W1020 but with twin disc drives.	£259.95
W1025	SAM Coupé - 512K - Reconditioned but with new modern style drive fitted, V3 ROM, new keyboard, 6 months full warranty. Limited availability.	£139.95
W1026	SAM Coupé - 512K - Reconditioned with single slimline drive, V3 ROM, New keyboard, 90 day warranty. <i>Very limited availability.</i> Ideal first step into the world of SAM.	£RING
INTERFACES (work with both SAM <i>elite</i> and SAM Coupé unless otherwise stated)		
W1101	SAM Disc Drive Upgrade. Have a second drive fitted to your SAM <i>elite</i> or a replacement/second drive for your Coupé. Fitting and return postage included in price. Ring 01452-412572 for instructions on how to send your computer.	£79.95
W1124	SAM Coupé Disc Upgrade Kit Version 2 - all you need to upgrade to a twin drive machine or to fit a replacement for your existing drive. Needs reasonable soldering skills to fit. Comes complete with all instructions & components. All you need is a standard 3 1/2" drive mechanism.	£29.95
** NEW **		
W1125	SAM Coupé Disc Upgrade Kit - as above but ready assembled. All you need is a disc drive and a screwdriver to fit.	£39.95
** NEW **		
W1102	External Parallel Printer Interface - the SPI (for Coupé).	£24.95
W1106	SAM Mouse System. Interface, Mouse and Software. Plugs into mouse port on rear of SAM. More and more software now works better if you use a mouse.	£39.95
W1107	External Disc Drive Interface and Parallel Printer Port (for Coupé).	£44.95
W1108	Internal 256K Upgrade (for older SAMs with only 256K of memory).	£34.95
W1109	<i>TWO^{up}</i> allows 2 interfaces to connect to SAM expansion port at same time.	£19.95
W1401	SAM Power Supply.	£24.95
W1402	SAM Power Supply with TV Modulator.	RING

Prices valid until 1st September 1996. E.& O.E.

Ordering: Write your order clearly, state your name; full address and phone number and quote your INDUG number (if you are a member) as this helps to speed orders. **Payment:** Cheques and UK Postal Orders, should be made payable to **FORMAT PUBLICATIONS**.

Postage & Packing: Price includes UK P&P. European customers add 15% for delivery, other overseas customers please write for quote. Overseas customers can pay using the **FORMAT** foreign exchange scheme.

STOP PRESS

We would like to hear from a hardware designer with experience working with RAM to help in the development of a new version of the 1Mb RAM Pack for SAM. We would also like to have ideas from any SAM owners for new hardware projects.

SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

Let me open **Short Spot** with a start on offerings from Miles Kinloch. As I mentioned last time, Miles has sent me, all the way from Edinburgh, a new version of 'Betafix', which fixes all the known bugs in BetaDos, the improved DOS for the PLUS D; the magic box of tricks that hangs on the back of your Spectrum and contains all the chipperly to work a pair of disc drives. This new version of 'Betafix' also incorporates all the modifications to ensure trouble-free snapshots: those which were previously published separately in 'Snapfix'. Now my problem is there's too much here. If I fill the complete column with the stuff, people who have a SAM and, perhaps, a Spectrum +3 will have just cause to complain (though not *too* hard, for I rarely get enough stuff for the +3 - and I publish virtually all the meagre snippets I get - c'mon, all you +3 owners; there *must* be some quirks about your machines that let you do unusual, useful or even useless things that are interesting).

So I've decided to split the stuff over two months to allow me to use other bits and pieces: there, that's fair, isn't it?

The first important point to note is that you *must* have a *completely unmodified* BetaDos system file to work on. In other words, the file first created by the BetaDos maker (BDM) program. This program should *never* be used on a DOS already altered with some of the earlier bug fixes, such as those from previously published versions of 'Snapfix' or of earlier versions of 'Betafix': one

must start again with a fresh system file. The reason for this is that in lines such as 130, code is transferred to a new location. If this operation has already been carried out by a previous 'Betafix' version, however, the modified code will already have been moved, and it would therefore not be the intended piece of code which was moved on the second occasion.

The next point concerns the G+DOS file, which the BDM program modifies to produce BetaDos. This G+DOS file must also contain no modifications or patches (including SNAPFIX and the G+DOS bug fixes); it must be in *exactly the same form* as originally created by the CONFIG program supplied with the PLUS D. Note that if the G+DOS file has been altered in any way, the BDM program will not make the changes correctly, and a corrupt "+sys Beta" will result.

There is a relatively unusual problem over data-checking in 'Betafix'. The program is a mixture of direct POKEs and POKEs in FOR-NEXT loops, so a conventional checksum arrangement is inappropriate. After all, a mistake could be made just as easily in typing the addresses as in entering the bytes. To overcome this problem, Miles has devised a two-stage machine-code routine (line 40) that checks both. It works by first of all zeroing all 6850 bytes from 40960 (done by USR 40001 in line 50), then doing a 'dummy run' of the POKEs, returning at line 200. USR 40015 (checksum variable c2) then sums

all the bytes POKEd, proceeding, if the sum is correct, to USR 40040 (c3) in line 52. The latter totals all the addresses (i.e. the addresses themselves, as opposed to their contents) holding a zero byte; in other words, those which have not been POKEd. This sum will agree with the figure specified only when all the proper locations have been POKEd, and no others. Finally, the data in Line 40 are themselves checked (in the normal way, this time!), at Line 45 (c1). Hopefully, all this checking will add up to error-free typing!

Here's the whole 'Betafix' listing. Next month I'll list the features and also give you a revised, up-to-date special 'Betatester'. Run this before and after fixing the G+DOS, and see the difference!

```

10 REM BETADOS BUG FIXES
15 REM (INCLUDING SNAPFIX)
20 REM (PD) By Miles Kinloch
30
40 CLEAR 4e4: RESTORE : LET check=1: LET c1=0: LET c2=0:
  LET c3=0: FOR a=40001 TO 40065: READ d: LET c1=c1+d: P
  OKE a,d: NEXT a: DATA 33,0,
  160,17,1,160,1,193,26,54,0,
  237,176,201,221,33,0,0,33,0
  ,160,1,97,13,94,35,86,35,22
  1,25,11,120,177,32,245,221,
  229,193,201,221,33,0,0,17,0
  ,160,1,194,26,26,183,32,2,2
  21,25,19,11,120,177,32,244,
  221,229,193,201: REM Routine
  e to perform initial check
  of data
42 PRINT "Confirming data - pl
  ease wait..."
45 IF c1<>6330 THEN PRINT "CHE
  CK DATA - ERROR IN LINE 40!
  ": STOP
50 RANDOMIZE USR 40001: GOSUB
  70: LET c2=USR 40015: IF c2
  <>40484 THEN PRINT "CHECK D
  ATA - ERROR IN BYTES!": STO
  P
52 LET c3=USR 40040: IF c3<>48
  180 THEN PRINT "CHECK DATA

```

```

- ERROR IN ADDRESSES!": STO
P
55 PRINT "Put a disk with a PR
  EVIOUSLY UN-MODIFIED Betado
  s system file in Drive 1, t
  hen press any key.": PAUSE
  0
60 LOAD d1"+sys Beta"CODE 4096
  0
65 CLS : PRINT "Please wait...
  ": RESTORE 70: LET check=0
70 FOR a=44149 TO 44160: READ
  d: POKE a,d: NEXT a: DATA 1
  91,40,9,254,223,40,5,205,23
  6,54,32,4: POKE 44156,254:
  POKE 44157,165: POKE 44158,
  0: REM Fixes OPEN # command
  statement end
80 FOR a=46403 TO 46410: READ
  d: POKE a,d: NEXT a: DATA 2
  15,130,28,247,200,215,153,3
  0: REM Fixes FORMAT dn,n co
  mmand to work on drive spec
  ified
90 FOR a=45175 TO 45236: READ
  d: POKE a,d: NEXT a: DATA 7
  8,111,46,32,111,102,32,70,1
  4,101,101,32,75,45,66,121,
  116,101,115,32,61,160,205,2
  15,34,210,124,4,205,220,2,1
  95,72,24,237,115,102,32,205
  ,178,50,24,7,237,115,102,32
  ,205,173,50,195,220,2,205,2
  ,7,58,16,62,195,181,36: REM
  Fixes command codes 67, 68
  and 69, also sorts SAVE @/
  LOAD @ error bug
100 POKE 41726,172: POKE 41727,
  48: POKE 45729,166: POKE 45
  730,48: POKE 45737,157: POK
  E 45738,48: POKE 45446,220:
  POKE 45447,2: POKE 43178,1
  53: POKE 43179,48: POKE 431
  81,141: POKE 43182,48: POKE
  43267,162: POKE 43268,48:
  POKE 43270,141: POKE 43271,
  48: POKE 45749,246: POKE 45
  750,50: POKE 45789,42: POKE
  45790,210: POKE 45791,58:
  POKE 45798,204: POKE 45799,
  228: POKE 45800,12: POKE 47
  627,195: POKE 47628,121: PO
  KE 47629,49: REM Miscellane
  ous POKes to call new patch
  es etc.

```

```

110 FOR a=45812 TO 45818: READ
  d: POKE a,d: NEXT a: DATA 1
  67,201,211,239,195,246,55:
  REM Clears carry flag after
  successful SAVE @/LOAD @,
  also makes SAVE @ command s
  pin proper drive before sav
  ing
120 FOR a=45250 TO 45318: READ
  d: POKE a,d: NEXT a: DATA 2
  2,1,7,73,110,115,101,114,11
  6,32,83,79,85,82,67,69,32,1
  00,105,115,227,205,138,23,2
  2,1,7,73,110,115,101,114,11
  6,32,84,65,82,71,69,84,32,1
  00,105,115,227,58,26,62,184
  ,202,212,35,219,235,50,210,
  35,58,211,35,211,235,58,210
  ,35,50,211,35,201: POKE 452
  46,24: FOR a=41935 TO 41939
  : READ d: POKE a,d: NEXT a:
  DATA 195,239,48,0,0: REM I
  ncreases speed and reliabil
  ity of SAVE...TO... when co
  pying between 2 drives
130 FOR a=44916 TO 44949: POKE
  a-4,PEEK a: NEXT a: FOR a=4
  4946 TO 44963: READ d: POKE
  a,d: NEXT a: DATA 205,79,4
  9,195,2,7,205,135,47,195,10
  1,52,205,152,47,195,121,40:
  FOR a=44971 TO 45006: POKE
  a-7,PEEK a: NEXT a: FOR a=
  45000 TO 45011: READ d: POK
  E a,d: NEXT a: DATA 195,79,
  49,235,237,91,197,58,58,79,
  62,233: FOR a=41643 TO 4168
  6: READ d: POKE a,d: NEXT a
  : DATA 217,229,217,33,197,3
  4,229,237,115,102,32,195,20
  3,47,214,24,254,21,210,55,4
  9,17,222,34,24,212,229,205,
  215,34,225,217,225,217,205,
  142,22,195,80,0,225,217,225
  ,217: REM Preserve HL'
140 POKE 41621,35: POKE 41110,1
  35: POKE 41694,135: POKE 41
  696,152: POKE 41698,158: PO
  KE 41702,164: POKE 41710,17
  0: POKE 41714,176: POKE 417
  22,182: POKE 41734,211: POK
  E 44965,196: POKE 44971,135
  : POKE 44977,196: POKE 4498
  3,135: REM (Alters the call
  s to relocated routines)

```

```

150 POKE 41704,217: POKE 41705,
  52: REM Alters command code
  56 to be able to cope with
  disks formatted for more t
  han 80 files
160 FOR a=43828 TO 43848: READ
  d: POKE a,d: NEXT a: DATA 2
  05,79,49,205,218,43,48,13,2
  4,93,205,72,49,205,2,7,205,
  76,14,24,82: FOR a=42777 TO
  42785: READ d: POKE a,d: N
  EXT a: DATA 24,64,241,24,81
  ,254,88,32,93: POKE 42701,7
  7: POKE 42770,11: POKE 4270
  7,62: POKE 42708,43: POKE 4
  3803,10: REM Creates comman
  d LOAD d1 etc. to change cu
  rrent drive. Also fixes for
  m of MOVE command: MOVE #s
  TO dn"name"
170 POKE 46391,245: POKE 46392,
  205: POKE 46393,177: POKE 4
  6394,36: POKE 46395,241: RE
  M Fixes FORMAT d* command s
  o syntax is accepted (in co
  njunction with line 180)
180 FOR a=42318 TO 42328: READ
  d: POKE a,d: NEXT a: DATA 1
  95,124,4,58,58,92,254,14,19
  2,225,201: FOR a=42154 TO 4
  2164: READ d: POKE a,d: NEX
  T a: DATA 221,33,108,253,19
  5,80,0,175,195,36,51: POKE
  43147,205: POKE 43148,81: P
  OKE 43149,37: POKE 43150,0:
  POKE 47636,170: POKE 47637
  ,36: REM Keeps IX correct a
  fter FN calls (for better c
  ompatibility with 128 BASIC
  ), sorts error message with
  SAVE "", fixes problem wit
  h capital D when saving or
  erasing. Also part of code
  for fixing FORMAT d* syntax
  bug.
185 FOR a=45396 TO 45439: READ
  d: POKE a,d: NEXT a: DATA 2
  05,138,23,127,32,77,71,84,3
  2,38,32,66,101,116,97,83,11
  1,102,116,32,40,49,57,57,48
  ,41,32,66,68,79,83,32,49,46
  ,51,13,141,62,201,50,155,32
  ,24,212: REM Relocate boot
  message in buffer area
190 FOR a=45078 TO 45093: READ

```



```

d: POKE a,d: NEXT a: DATA 2
05,79,49,195,132,5,254,160,
200,254,83,200,195,198,55,2
25: FOR a=41213 TO 41217: P
OKE a,0: NEXT a: POKE 42606
,37: POKE 42607,48: POKE 47
043,195: POKE 47044,28: POK
E 47045,48: POKE 46828,167:
POKE 46829,195: POKE 46830
,142: POKE 46831,22: POKE 4
7063,236: POKE 47064,54: RE
M Fixes problems with print
ing to a file opened RND
191 REM Lines 192-197: SNAPFIX
192 FOR a=45250 TO 45294: READ
d: POKE a,d: NEXT a: DATA 7
3,110,115,101,114,116,32,79
,82,73,71,32,100,105,115,22
,7,205,138,23,73,110,115,101
,114,116,32,84,65,82,71,69,
84,32,100,105,115,227,245,2
05,56,46,241,195,21,33
193 FOR a=44593 TO 44610: READ
d: POKE a,d: NEXT a: DATA 2
4,40,205,72,49,24,14,42,254
,63,62,103,195,234,45,205,1
85,46
194 POKE 45246,19: POKE 44576,1
8: POKE 44580,14: POKE 4121
1,64: POKE 41206,195: POKE
41122,231: POKE 41123,48: P
OKE 44736,195
195 FOR a=44739 TO 44747: READ
d: POKE a,d: NEXT a: DATA 2
05,185,46,33,56,0,34,141,92
196 FOR a=44519 TO 44530: READ
d: POKE a,d: NEXT a: DATA 1
95,125,15,35,35,35,35,190,1
92,195,112,40
197 FOR a=43120 TO 43127: READ
d: POKE a,d: NEXT a: DATA 3
5,175,190,192,43,34,254,63
200 CLS: IF check THEN RETURN
: REM Return here from init
ial data check
210 INPUT "Is your Spectrum a 1
28K machine (y/n)? "; LINE
a$: IF a$="N" OR a$="n" THE
N GOTO 270
220 IF a$<>"Y" AND a$<>"y" THEN
GOTO 210
230 INPUT "Is your Spectrum a +
2A (y/n)? " "Answer 'n' if
it has been fitted with a +2
ROM chip by installing B.G.

```

```

Services conversion kit.
' LINE a$: IF a$="Y" OR a$=
"y" THEN POKE 42156,152: PO
KE 45088,67: GOTO 270
240 IF a$<>"N" AND a$<>"n" THEN
GOTO 230
250 INPUT "Is your Spectrum an
original Sinclair machin
e, i.e. the type with the b
lack case (y/n)? " "Note -
some early +2's used the ol
d Sinclair casing, so answe
r 'n' if it has an Amstrad
ROM. " ' LINE a$: IF a$="Y"
OR a$="y" THEN POKE 45088,
52: GOTO 270
260 IF a$<>"N" AND a$<>"n" THEN
GOTO 250
270 PRINT "Press any key to res
ave Betados.": PAUSE 0: CLS
280 SAVE d1"+sys Beta"CODE 4096
0,6850
290 STOP
9999 SAVE d1"BETAFIX"

```

Many thanks, Miles.

After that start, with a cracking Spectrum program, we'd better move quickly to SAM. And of course after last month's offering's there's a little note from Ettrick Thomson, which adds to our knowledge of Roman numbers and their manipulation. Firstly, Ettrick mentions that Gerald Symes' program has been corrupted in the process of transcribing it from a listing. I told you I had problems typing these in, didn't I! Ettrick thinks he's worked out what it should be (if nothing appears next month, Ettrick, please send in your version), so his main comment is merely that it's restricted to numbers less than 4000.

"The subtlety of Gerald's Roman to Arabic program," writes Ettrick, "lies in recognising that e.g. 4 can be represented either by IIII or by IV." The first is straightforward: 1+1+1+1=4. The second is treated as 1+5=6; then, since 5 is greater than 1, 2*1 is subtracted, and

you end up with 6-2=4; similarly for IX, XL, XC, CD, CM. This program works perfectly well for genuine Roman numbers: e.g. MCMXCVI gives 1996. Unfortunately, any old collection of Roman numerals will be given a value: e.g. IVCXCM gives 1984, whereas Ettrick's program would say "is not a Roman number".

Russian Division is more complicated than the better-known Russian Multiplication, but the essence of both is that one of the numbers is effectively a binary number: in Division it is the quotient, in Multiplication the multiplier.

Consider 29 multiplied by 19. Russian Multiplication first produces the first two lines below:-

```

29 58 116 232 464
19 9 4 2 1
1 1 0 0 1

```

The first is repeated multiplication by 2; the second is repeated division by 2, ignoring remainders. The third, Ettrick's addition, puts 1 below odd numbers, 0 below even, and is 19 in binary but backward: 19=10011 in binary. Many of you will have written programs to do this.

Then:-

```
29*19=29*(1+2+16)=29+58+464=551
```

Where you add the numbers in the first line that are above odd numbers.

In this listing of SAM Basic to do Russian Multiplication, there is the function BAND, unknown to the 1989 edition of the Manual! Thus p BAND 1 is zero if p is even, unity if p is odd, and is quicker than the alternative p MOD 2. BAND is Binary AND, working on individual bits of integers. Since 1 in Binary has zeros except for the unit bit, p BAND 1 selects the unit bit of p, which

will be 1 if p is odd, 0 if p is even.

```

5 REM Russian Multiplication
:Ettrick Thomson
10 INPUT #2;"Enter multiplic
nd & multiplier,""+ve inte
gers < 65536""multiplicand
: ";d'"multiplier: ";r
20 LET p=d AND (r BAND 1)
30 DO
40 LET d=2*d,r=r DIV 2
50 LET p=p+(d AND (r BAND 1))
60 LOOP UNTIL r=1
70 PRINT "product: ";p

```

Ettrick mentions that he missed Dipole's November 1995 column, and so has no direct knowledge of J Keith Wood's algorithm for Russian Division, but he assumes Roy Burford's version is a faithful translation. In that case, the algorithm is very, very long-winded. Here is a program with a much shorter algorithm in Spectrum Basic.

```

5 REM Russian Division: Ettri
ck Thomson
10 INPUT "dividend: ";dd'"divi
or: ";dr
20 PRINT "dividend: ";dd'"divi
or: ";dr
200 DIM p(33): DIM d(33)
210 LET p(1)=1: LET d(1)=dr
220 LET a=1: LET n=1
230 LET n=n+1: LET a=2*a: LET d
r=2*dr
240 LET p(n)=a: LET d(n)=dr
250 IF dr<=dd THEN GOTO 230
260 LET q=0
270 FOR i=n TO 1 STEP -1
280 IF dd>=d(i) THEN LET dd=dd-
d(i): LET q=q+p(i)
290 NEXT i
500 PRINT "quotient: ";q'"remain
der: ";dd

```

Finally, thanks for your kind comments about enclosing text. I confirm that if it is a DOS-compatible disc with an ASCII or ANSI file, then it's quicker for me to load it and then modify it, otherwise it's quicker for me just to type it in from paper!

Many thanks for your help and all your

contributions. Cheers!

Now a little note from Peter Williamson of Sleaford, Lincs. He has a little hint for those who are using Basic plus machine code in a routine. When a program needs to reset RAMTOP to accommodate a program which has both Basic and Machine Code routines, one cannot use CLEAR 30000, say in the program, as this command not only resets RAMTOP, but it also clears out any variables loaded with the program, and often you need these loaded to save the space in defining them afterwards - or the hassle! The alternatives are either to type in the command before loading your routines (but this is clumsy!) or to use a pre-program followed by the main program. The pre-program autoruns, sets RAMTOP, and if needed, opens extra pages before it loads the main program. For example:

```
10 REM PREPROG
20 OPEN25: CLEAR 475135 (or w
  whatever you want...)
30 LOAD "MAINPROG"
```

The pre-program is saved by SAVE "MYPROG" LINE 10, and the main program by SAVE "MYPROG1" LINE 10, and as they are both auto-running, one can forget there are actually two programs in operation: the first one loads and runs the second. Bless you, Peter.

Now back to Roy Burford, and to one of the bits left over. For with his Russian Division, Roy also enclosed a little program derived from E. H. Lockwood's 'Book of Curves': this one's on parabolas.

(Parabola: what's that? Well, type it in and see!).

```
1 REM Inspiration-E.H.Lockwood
  d. A Book of Curves. Cambridge
  University Press. 1963.
  p3. The Parabola. Tangent
  lines are loci of set square
  edge.
2 REM Perspiration-on paper a
```

```
nd ZX Spectrum+ 128K by B.C
.R.Burford 250295.
10 LET x1=12: LET y1=87: REM P
 ivot point of set square, 9
 0 degree corner follows hig
  h-res column 0 and 255(x1=2
  30 but not required)
20 PLOT x1,y1: PLOT 255-x1,y1:
  PRINT AT 10,7;"Parabolic E
  nvelopes"
30 FOR o=.15 TO 1.55 STEP .05
40 PLOT 0,y1+x1/TAN o: DRAW TA
  N (PI/2-o)*(175-y1-x1/TAN o
  ),175-y1-x1/TAN o
50 PLOT 255,y1+x1/TAN o: DRAW
  -TAN (PI/2-o)*(175-y1-x1/TAN
  o),175-y1-x1/TAN o
60 PLOT 0,y1-x1/TAN o: DRAW TA
  N (PI/2-o)*(y1-x1/TAN o),-y
  1+x1/TAN o
70 PLOT 255,y1-x1/TAN o: DRAW
  -TAN (PI/2-o)*(y1-x1/TAN o)
  ,-y1+x1/TAN o
80 NEXT o
90 PLOT 0,0: DRAW 0,175: PLOT
  255,0: DRAW 0,175
```

If you like it, please let me know, as Roy has a number of these up his sleeve. Many thanks, Roy.

Next, Andrew Precious of Acomb, York. Andrew has no disc drive at present, and has sent me a cassette, full of new stuff for the Speccy, so I've managed to dig out my geriatric cassette player, and here we are.

'Cancel Down' cancels down fractions into lowest terms. Simply enter the numerator and denominator, and let it do the rest.

```
10 CLS
20 INPUT "Numerator :";n;"De
  nominator :";d
30 IF n>d OR n<>INT n OR d<>IN
  T d THEN GOTO 20
40 PRINT n;d
50 FOR c=n TO 2 STEP -1
60 PRINT AT 3,0;"Checking /";c
  ;" "
70 IF n/c=INT (n/c) AND d/c=IN
  T (d/c) THEN LET n=n/c: LET
  d=d/c: GOTO 90
80 NEXT c
```

```
90 PRINT AT 3,0;"Cancelled dow
  n""n'd
100 STOP
```

'Instantpic' is a no-frills block of code that displays a pre-loaded SCREEN\$ file on the screen in a particularly uninteresting way! To create the routine, type the addresses where you want the code and picture to be stored, when prompted. To use it, load the picture to the address you decided on earlier, then every time you want to display the screen, simply type the USR call that you were given. *It is important* that the code (12 bytes) and SCREEN\$ file (6912 bytes) do not overlap.

```
10 CLEAR 24999
20 INPUT "Start address?";a
30 IF a<25000 THEN GOTO 20
40 LET l=12
50 FOR p=a TO a+1-1: READ b: P
  OKE p,b: NEXT p
60 INPUT "Address of SCREEN$ f
  ile?";f
70 IF f<25000 THEN GOTO 60
80 POKE a+1,f-256*INT (f/256)
90 POKE a+2,INT (f/256)
100 INPUT "Save code (Y/N)?";s
  $: IF s$="Y" THEN SAVE "Ins
  tantPic"CODE a,l
110 PRINT "Initialize with""RA
  NDOMIZE USR ";a
120 STOP
130 DATA 33,0,0,17,0,64,1,0,27
140 DATA 237,176,201
```

'TwoFonts' creates one of two fonts, bold or double vision, which can then be saved and accessed using two POKES. Enter the address you wish for the font to be stored at when prompted, and note down the POKES to access the font. *To return to the original font*, POKE 23606,0: POKE 23607,60.

```
10 CLEAR 25999
20 INPUT "Start address of fon
  t?";a
30 IF a<26031 THEN GOTO 20
40 LET x=a-256*INT (a/256)
50 LET y=INT (a/256)
```

```
60 LET l=768
70 FOR p=26000 TO 26030: READ
  b: POKE p,b: NEXT p
80 POKE 26001,x
90 POKE 26002,y
100 INPUT "Please select a font
  ""(0) Bold""(1) Double vi
  sion""f: LET f=ABS (INT f):
  IF f>1 THEN GOTO 100
110 RESTORE 200+10*f
120 READ v,w: POKE 26014,v: POK
  E 26015,w: RANDOMIZE USR 26
  000
130 INPUT "Save font (Y/N)?";s
  $: IF s$="Y" THEN SAVE "Fon
  t"CODE a,l
140 PRINT "Save font with""SAV
  E""filename"" CODE ";a;".76
  8""Access font with""POK
  E 23606,";x;": POKE 23607,"
  ;y-1
150 STOP
160 DATA 17,0,128,33,0,61,1,0,3
  ,197
170 DATA 126,70,203,56,0,0,176,
  18
180 DATA 193,35,19,11,62,0,185,
  32,238
190 DATA 184,32,235,201
200 DATA 0,0
210 DATA 203,39
```

Cheers, Andrew, and we'll try and include some more next month.

Finally, I would just like to show that we cover everything (well, we try, anyway), and to prove it, I'm going to give you a little extension to the program 'mystify' sent in recently by Matthew Gallagher of Maidstone. He's had a lot of hassle with programming in C: indeed, he mentions that it was due to Ray Bray, in the end that he was able to sort things out, and get the compiler up and running. Armed with this help, he now has been able to rewrite 'mystify' in C. He has not done any specific timings, but tells me that it runs a "darn sight faster than the Basic version". Anyone like to play with this and comment on the differences, for in construction, the program is virtually the same as it was

when written in Basic.

```
#include "graphics.h"
#define tail 10
void main(void)
{
    int q[4][tail],w[4][tail];
    int x[4],y[4],a[4],b[4];
    int c,f,n,p;
    x[1]=59,x[2]=154,x[3]=123,x[4]=19;
    y[1]=121,y[2]=102,y[3]=27,y[4]=60;
    a[1]=1,a[2]=2,a[3]=3,a[4]=1;
    b[1]=2,b[2]=3,b[3]=1,b[4]=3;
    c=1,f=0,p=1;
    cls(0);
    mode(4);
    while (!kbhit()){
        pen(p);
        for (n=1;n<5;n++) {
            if (x[n]+a[n]>255) a[n]=-a[n];
            if (x[n]+a[n]<0) a[n]=-a[n];
            if (y[n]+b[n]>191) b[n]=-b[n];
            if (y[n]+b[n]<0) b[n]=-b[n];
            x[n]=x[n]+a[n];
            y[n]=y[n]+b[n];
            q[n][c]=x[n];
            w[n][c]=y[n];
        }
        line(q[1][c],w[1][c],q[2][c],w[2][c]);
        line(q[2][c],w[2][c],q[3][c],w[3][c]);
        line(q[3][c],w[3][c],q[4][c],w[4][c]);
        line(q[4][c],w[4][c],q[1][c],w[1][c]);
        c++;
        if (c==(tail+1)) {
            c=1;
            f=1;
            p++;
            if (p==8) p=1;
        }
        if (f){
            pen(0);
            line(q[1][c],w[1][c],q[2][c],w[2][c]);
            line(q[2][c],w[2][c],q[3][c],w[3][c]);
            line(q[3][c],w[3][c],q[4][c],w[4][c]);
            line(q[4][c],w[4][c],q[1][c],w[1][c]);
        }
    }
}
#include "graphics.c"
```

Finally, I've got a program for creating and compiling a fixture list for an amateur sports league. There's quite a

lot of it, but I shall try and include it bit by bit in the coming Short Spots if there is any interest. So please let me know.

Well, if I don't stop writing now, I shan't get this finished to get down to Bob at the SAM and Spectrum Gloucester show - long past, of course, by the time you read it. Please keep all your snippets coming to me; without them I can't put a column together. Please send them to:-

**John Wase,
Green Leys Cottage,
Bishampton,
Pershore,
Worcs,
WR10 2LX.**

See you next month.

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The Draw Report

By:- Jenny Bundock.

There I was, on the Wednesday before the show, slaving away trying to get things ready in the usual last minute rush, and the telephone rang. I had this delightful conversation with Russ Hopkins who, a while ago, reluctantly ended his INDUG membership, (he had to move on to the PC for various reasons involved in his work) but there, sitting in its box, brand spanking new and hardly been touched was an original SAM Coupé, bought in the very early days from MGT. Russ didn't want to sell it, and suggested perhaps we could take it off his hands in the hope that we would find a good home for it.

And so the idea of holding a Special Prize Draw, at the Gloucester show only two days away, began. After careful thought, Russ, and everyone at **FORMAT**, agreed that all the proceeds from the Draw would go to the Dunblane Primary School Appeal. We arranged to have Amtrak collect the machine and get it to us. West Coast checked it over and upgraded the ROM and RAM.

Saturday came and there was Aaron (my 9 year old boy) on the door taking lots of money for the entrance fee, and using all his boundless cheek and charm to extract more money out of jingling pockets to buy raffle tickets. Aaron coped extremely well and deserves a big pat on the back!

We would like to thank everyone who bought raffle tickets and who donated, either with loose change in pocket or

extra prizes for the raffle. We managed to raise £82.90 altogether and here is a list of the prizewinners and donors.

First prize, the SAM Coupé donated by Russ Hopkins from Harrow in Middlesex, was welcomed with open arms by Simon Cooke, ticket number 40.

Second prize, two years free subs to INDUG, donated by yours truly, and won by ticket number 57, Stewart Skarden.

Third prize went to ticket number 27 and Sean Bernard walked away with one years free subscription to Zodiac magazine produced by Michael Stocks.

Fourth prize was donated by Bill Hall of Hall Video Products, this was Bills first appearance at our SAM/Spectrum do's and hopefully wont be his last. Bill donated the Titling package, mentioned in Vol 9 N° 7 in the article 'Video Titling' by Deryck Morris. Terry Ekins from Jupiter Software won this on ticket number 60.

Fifth and Sixth prizes were two copies of *Blokker* produced and donated by Mungus Software owner Stephen McGreal. They were won by ticket Number 23 held by John Garner and ticket number 14 held by J.L.Attridge.

Apart from one, all other prizewinners stayed for the raffle at 4pm. Bob was up on the stage shouting out the numbers as Carol Brooksbank was picking them out. The atmosphere was jolly and everyone seemed to be in good spirits. Perhaps we shall organize another raffle for the next show, we shall see.....

The HELP PAGE

Edited By:- Ray Bray.



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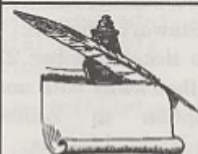
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We kick-off this month with another of those annoying printer problems. Archie Perry of Stalham near Norwich recently replaced a Star LC200 9-pin printer with a Panasonic KX-P2135 24-pin colour printer which, whilst giving excellent results with all other programs he has used, it steadfastly refuses to print anything from SAM Paint. This is reminiscent of one or two queries we have had in the past. SAM Paint uses image graphics when printing and, if the mode to which the printer is normally set does not support the necessary codes, then you have a problem. Unfortunately I do not have access to the KX-P2136 handbook so I can only give general instructions on what to look for. Firstly, carefully check through the handbook to see whether it is necessary to change any of the DIP switch settings to enable the printer to work in the graphics mode - the authors of manuals seem to find the most obscure positions to print such vital information! Next, if the handbook lists the printer control codes for graphics, check whether they include the standard Select Graphics Mode Command ESC "g" which SAM Paint uses, and which is standard for most printers. If you are using the Epson emulation mode for all other work, try switching to the IBM mode when using SAM Paint. That is about all the guidance I can give you without more information, but please let me know whether or not it helps you solve the problem so that I can inform others accordingly.

The next letter comes all the way from India. P.S. Bhathena of Bombay has two problems. Firstly he says that he has a

PLUS D which works perfectly well with his 48K Spectrum but, when he attaches it to his 128K Spectrum, it fails to work and he gets a lot of corruption on the screen. He has had the 128K tested and it works in all other respects. Secondly, he wishes to make an alphabetical directory of each of his floppy discs and has a program called Supersort but doesn't know how to use it. Is there a Basic program which can do the job?

With reference to the PLUS D problem, if the system was working with the 48K it should work with the 128K/+2, providing they are fully serviceable. The +2A, however, needs a simple interface to allow the PLUS D to operate. A common cause of PLUS D problems is that the edge connector sometimes fails to make complete contact. Although your thermal printer and Multiface work properly, they don't use all of the pins used by PLUS D therefore it is worth cleaning and checking the 128K edge connector. The other action you can take to ensure that a good connection is achieved, is to support the PLUS D's case by placing some packing under the rear of the unit.

Moving to the second question, I am not familiar with the Supersort program but no doubt one of our readers will be able to give advice on how to use it. In the meantime here is a Basic program which will provide an alphabetically sorted directory, listing filenames starting in upper case letters followed by those starting with lower case letters. Being a Basic program it is rather slow, taking about one minute to sort and list 80 filenames, nevertheless, if you only

need it to make a hard copy of all your disc directories it will be adequate.

```

10 REM PLUS D DIRECTORY SORT
20 CLEAR 40000: LET f=1
30 DIM a$(80,10):DIM b$(80,10)
40 FOR t=0 TO 3
50 FOR s=1 TO 10
60 LOAD @t,s,40001
70 FOR a=40001 TO 40512 STEP 2
80 PRINT AT 0,0;"File No. ";f
90 LET n$="": LET t$=""
95 LET x=PEEK a: GOSUB 400
100 LET b$(f)=t$
110 FOR b=1 TO 10
120 LET n$=n$+CHR$(PEEK (a+b))
130 NEXT b
140 LET a$(f)=n$: LET f=f+1
150 NEXT a
160 NEXT s
170 NEXT t
190 REM Sort Routine
200 LET c=80
210 LET c=INT (c/2)
220 PRINT AT 0,0;"Countdown: ";
c;" "
230 IF c=0 THEN GOTO 340
240 LET d=80-c: LET e=1
250 LET f=e
260 LET g=f+c
270 IF a$(f)<a$(g) THEN GOTO 320
280 LET t$=a$(f): LET r$=b$(f)
290 LET a$(f)=a$(g): LET b$(f)=
b$(g)
300 LET a$(g)=t$: LET b$(g)=r$
310 LET f=f-c: IF f>0 THEN GOTO
260
320 LET e=e+1: IF e>d THEN GOTO
210
330 GOTO 250
340 CLS: FOR n=1 TO 80
350 PRINT a$(n);" ";b$(n)
360 LPRINT a$(n);" ";b$(n)
370 NEXT n
380 STOP
400 REM File data sub-routine
410 IF x=0 THEN LET t$="Erased"
420 IF x=1 THEN LET t$="BASIC"
430 IF x=2 THEN LET t$="Num Arr
ay"
440 IF x=3 THEN LET t$="$ Array
"
450 IF x=4 THEN LET t$="CODE"
460 IF x=5 THEN LET t$="48K Sna
p"
470 IF x=6 THEN LET t$="Microdr

```

```

ive"
480 IF x=7 THEN LET t$="Screen
$"
490 IF x=8 THEN LET t$="Special
"
500 IF x=9 THEN LET t$="128K Sn
ap"
510 IF x=10 THEN LET t$="OPENTY
PE"
520 IF x=12 THEN LET t$="EXECUT
E"
530 RETURN

```

The next item is some further information on a query covered in the Help Page of last month. T.McKay writes to say that our suggestion that the printer channel settings were the key to his SAM problem (getting his printer to work with Specmaker when BetaBASIC was loaded), was correct. He found that by inserting the two POKES 23749,32 and 23750,57 in a menu from BetaBASIC did the trick. Unfortunately the COPY command still does not work. He has tried inserting MOVE in line 4010 of Masterfile for Specmaker version 3.0 but the printer only outputs garbage. Can any reader help T.McKay with this COPY problem? In summary the position is as follows:-

Specmaker Version 2.5

Masterfile. Line 4010 LPRINT: COPY: GOTO USR R - works OK.
BetaBASIC. LPRINT works - COPY doesn't work.

Specmaker Version 3.0

Masterfile. COPY does not work.
BetaBASIC. LPRINT works - COPY doesn't work.

It is extremely useful to get such feed-back from readers as, not only is it is satisfying to know when we have been of help to you, but it also enables us to build up a data base of answers to the various problems in which we can have complete confidence. For my part I will try and remember to state at the end of a reply to a query if feedback is required.

Ian Bailey from Palmerston, New

Zealand has written in to describe some modifications he made to a 48K Spectrum fitted with PLUS D which drastically improved the picture quality. Ian says: "First replace the RF lead with one made from good quality foil and copper shielded coax cable such as RG59U. Next inside the Spectrum you will find a quartz crystal marked X2, this is in the Colour Sub-carrier Oscillator which should operate at a frequency of 4.43361875 MHz. Early Spectrums were fitted with a 4.4336 MHz crystal which causes the dot pattern interference. I changed mine for a 4.433619 MHz crystal as this was the closest to the required frequency. If you get only black and white pictures after changing the crystal, check your soldering on both sides of the board. If you don't feel competent with a soldering iron, then have this done by an experienced TV repair man who should also be able to obtain the crystal."

Ian also had a couple of questions. Firstly he wished to know whether there was some way he could use his PLUS D and Multiface together. He recalls there used to be a thing called a Twoface which allowed switching between peripheral equipments and wondered where he might get one. The Twoface would certainly do the job but unfortunately this is no longer available and I can only suggest that you keep an eye on the small ads. in **FORMAT** in case someone has one for sale. Ian's second question is how do you load and save PLUS D files from machine code? This topic was covered in detail in the Help Page in **FORMAT**, Vol 8 N°2, October'94 Help Page - 8/2 (back issues available if you need one).

Finally, I would like to add my support to Bob's views stated in last month's Letters Page. If anyone is experiencing difficulty in getting to grips with programming we are here to help. I am conscious that a lot of the queries

answered in this section of **FORMAT** must, to the beginner, seem very technical if not downright esoteric at times. All I can say is that we can only answer the questions sent to us and at no time is a query rejected because it is 'too simple'. We never take the attitude that someone who fails to comprehend the basic elements of programming must be a dullard; we have all been there ourselves and still feel inadequate at times when we come up against new developments. If you think that you might feel embarrassed to have your name published alongside what you consider to be a trivial question, we are quite happy not include a name.

Lastly I sympathise with those readers who have had to learn their programming via the SAM handbook and would strongly support Bob's recommendation of the '30 Hour Basic' (Spectrum Edition) handbook for anyone who is having difficulties with Basic. I learnt Basic programming from this some 13 years ago and still occasionally refer to it. Also I support Eric Day's recommendation of the Bernard Babini book, 'Learning to Program in C', (also mentioned in last month's Letters Page). It gives a sound introduction to the use of the language and is indispensable if you wish to use SAM-C, but don't feel like splashing out on one of the more expensive handbooks.

That's all we have for this month. Please keep sending your problems/answers to the following addresses:-

Anything SAM or General Purpose:-

Ray Bray (**FORMAT** Help Page),
Spring Cottage, Bourne Close,
Porton, Salisbury, Wilts, SP4 0LL.

Anything +3, CPM:-

Mike Atkins (**FORMAT** Help Page),
70, Rudgwick Drive,
Bury, Lancashire, BL8 1YE.

Please remember that if you want any discs/printouts etc returned then you must include an SAE.

Alternate Character Sets IN WORDMASTER

By:- George Siougas.

Last time I told you how to handle the printing of alternative character sets in Tasword 2. I needed this facility because, being Greek, I needed access to the special Greek characters on my printer.

Well I have accomplished the same conversion for Wordmaster too. The only difference from the Tasword's one, is that as there is no way to enter the copyright symbol (which if you remember I used as a control to switch character sets) in the text, so I've had to use something else for a control code.

I suspended one of the seven graphic numbers which are offered by Wordmaster for user-definition. I chose the GRAPH 7, which enters the code 31 in the text, so you haven't got to (and you should not!) define anything at all in GRAPH 7.

As with the Tasword conversion I first needed to find a place to stitch my code into the existing machine code of Wordmaster. Having disassembled Wordmaster, I found:-

```
56030 LD A, (HL); loads A with the chr$ code.
56031 AND 127; if A>=128 then let A=A-128.
56033 CP 32; check if A is holding the "space"
56035 JR Z, 56068; character and jump if it is.
56037 JR NC, 56052; jump if A>=33.

56039 CP 10; check if A is holding the "line feed" character
```

```
56041 JR Z, 56090; and jump if it is.
56043 CP 14; compares A with 14.

56045 JR C, 56052; if A<=13 then jump.
56047 CALL 56142; call (comes here if 14<=A<=31),
56050 JR 56053; then jump.
56052 RST 16; print CHR$ A.
56053 INC HL; increases the address of the file.
56054 DJNZ 55998; jump back to loop. We have to overwrite part of the above routine (56037 to 56040) with this:
56037 JP 23760; jump to my printing routine.
56040 NOP; unused memory byte.
```

To make the modification above, add the direct commands below:-

```
CLEAR 50000
LOAD d1"WM m/code"CODE
POKE 56037,195
POKE 56038,208
POKE 56039,92
POKE 56040,0
SAVE d1"WM m/code"CODE 54174,11362
```

Again add a REM statement at the start of Wordmaster's Basic just as we did with Tasword:-

```
1 REM XXXXXXXXXXXXXXXXXXXXXXXXXX
XXX... (176 Xs)
```

Then add the direct command:-

```
POKE 23756,0
```

to make the line above uneditable. Now, if you don't own an assembler skip on a little bit and I will give you a code poker routine. On the other hand, if you have an assembler, or just what to see what is

going on, then here is my patch routine:-

```
ORG 23760
;where to place the routine.
JR NC, CALC_A
;jump if A>=33.
CP 31
;is A (chr$ code) the GRAPH 7 character?
JR Z, SWITCH; jump if so.
CP 10
JP 56041
;check if A is holding the "line feed" character, and jump to WM; if it is.
CALC_A PUSH HL; save HL.
PUSH AF; save AF.
LD A, (FLAG)
CP 0
;check if the flag is set to 0; (0:normal / 1:alternative)
JR Z, NORMAL
;and jump if it is.
POP AF
;restore AF, gets here if flag; is 1).
LD H, 93
LD L, A
;make HL pointing a table from; (93*256=) 23808 to 23935,; depending on A
;(i.e.:LD HL, 23808+A)
LD A, (HL)
;now load A with the alternative; value from the table above.
BACK POP HL; restore HL.
JP 56052
;jump to WM printing routine.
NORMAL POP AF
;restore AF (comes here if flag; is 0)
JR BACK; and jump.
SWITCH LD A, (FLAG)
;let A=flag value. (comes here; only when a GRAPH 7 character; is reached in the text)
XOR 1
;if A=0 then let A=1
;but if A=1 then let A=0.
LD (FLAG), A
;load flag with the new value.
LD A, 32
;load A with the ASCII code of; space, so as to print a space
```

```
;instead of chr$ 31 (we need to; print something or else the; justification would be ruined).
JP 56068
;jump to WM space-printing; routine.
FLAG EQU $
;make FLAG=current address.
DEFB 1
;make flag hold value 1 for the; first time, so as to print the; alternative; chr$ set until the; first GRAPH 7; character is; reached in the text. If you; want the opposite then make it; "DEFB 0". (e.g. English users; who just need the alternative; set for special occasion)
NOP
NOP
;unused memory at 23806/7
```

You may now proceed, creating the table from 23808 to 23935, as you did for the Tasword 2. After that:-

```
SAVE d1"WM" LINE 100
```

Again here there are some rare occasions (even rarer than with Tasword 2) where the fill justification is not correct, but you can handle this easier in Wordmaster, with some clever use of the GRAPH DEL control character.

OK, if you don't own an assembler you can still use the routine if you take the following steps.

After saving the modified Wordmaster code (as explained above), you should reset the computer. Then enter the following program:-

```
1 REM XXXXXXXXXXXXXXXXXXXXXXXXXX
XXX... (176 Xs)
10 POKE 23756,0: REM makes the
line above, uneditable
11 FOR n=23760 TO 23807: READ
m: POKE n,m: NEXT n
12 DATA 48,9,254
13 DATA 31: REM or any from 25
to 31, for GRAPH1 to GRAPH7.
14 DATA 40,26,254,10,195,233,2
18,229,245,58,253,92,254,0,
40,9,241,38,93,111,126,225
```



```

,195,244,218,241,24,249,58,
253,92,238,1,50,253,92,62,3
2,195,4,219
15 DATA 1: REM or 0 for printi
ng normal chr$ set at first
16 DATA 0,0: REM unused bytes
17 REM the rest of the program
copies the normal chr$ set
in the table from 23808 to
23935 and then asks for you
r modifications.
18 FOR n=0 TO 127: POKE 23808+
n,n: NEXT n
19 FOR n=33 TO 126
20 PRINT "Type code to be sent
","in the place of ";FLASH
1;CHR$ n;FLASH 0;" charact
er".
21 INPUT "(ENTER to leave unch
anged): "; LINE a$
22 IF a$<>" THEN POKE 23808+n
,VAL a$
23 CLS: NEXT n

```

and RUN it. When you finish, delete lines 10 to 23 (only line 0 should remain), then add the direct commands:-

```

CLEAR
MERGE d1"WM"
SAVE d1"WM" LINE 100

```

If you need to change the character generator of Wordmaster (the data for the characters occupies 768 bytes starting at address 64512), you may be pleased to know that you can copy the data for the characters you created for Tasword 2, as long as you multiply each byte by 17. But remember: the first byte of each character (8 bytes) should be 0. Anyway, only the next 7 bytes can be displayed by Wordmaster.

Finally, I would like to mention, that if you have any difficulties either with the Tasword 2 or with the Wordmaster conversion you can contact with me in the address below:-

GEORGE SIOUGAS,
Agiou Dimitriou 96,
546 31 Thessaloniki,
GREECE.

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C-MATHS

PUTTING THE POINT BACK INTO SAM-C MATHS - Part 3.

By:- Ray Bray.

This month I will describe six additional functions you might wish to add to the library, and will also include one more program listing to demonstrate the use of the FPCALC functions.

All but one of these new functions are standard FPC facilities and, Although the operations that these new functions perform can be carried out by normal programming techniques, their use will simplify the program. The list of standard FPC operators includes one to stack Pi/2 which is useful in many angular calculations, but it would also be convenient to be able to stack Pi. The first of the new functions define these two operators:-

```

//STACK Pi/2
#ifdeclared stkpi/2fp
void stkpi/2fp()
{
#asm
rst 40
defb 240
defb 51
#endasm
#endif

```

```

//STACK Pi
#ifdeclared stkpi
void stkpi()
{
rst 40
defb 240
defb 240
defb 1
defb 51
#endasm
}
#endif

```

Another useful FPC operator is the one

which duplicates the top value on the stack. This was listed in the table of codes given in the last article but, for those readers who are not familiar with using the FPC, I felt that some explanation of its purpose might not go amiss. This operator is particularly useful if the result of a calculation being performed on the stack has subsequently to be used twice within a calculation. Instead of having to remove a copy of the value and replace it later when required, it is sometimes feasible to duplicate it on the stack before carrying out the next part of the calculation. The copy can then be used later in the process by either using the 'swopfp' command, or, when it becomes the second value on the stack, by using it with the top value to perform a calculation or, alternatively, by removing the top value and performing the next process with a new value. This may sound complicated but it is just a matter of keeping track of what is happening to the values on the stack. The coding for this function is as follows:-

```

//DUPLICATE TOP VALUE ON STACK
#ifdeclared dupfp
void dupfp()
{
#asm
rst 40
defb 37
defb 51
#endasm
}
#endif

```


Storing Values.

The FPC has memory set aside for holding six 5-byte values which can be used as temporary storage of results. These stores are numbered 0 to 5 and have three types of operators associated with them:-

stodfp(int). Copy the last value on the stack to memory 0 - 5 and delete the value from the stack.

stofp(int). As above but do not delete the value from the stack.

rcfp(int). Transfer the value from memory 0 - 5 to the stack.

To copy the top value on the stack to memory number 3 and delete the value from the stack will require the command **stodfp(3)**. The code for the function 'stodfp' is as follows:-

```
//STACK TO MEMORY & DELETE
//int m = memory number
#ifdef declared stodfp
void stodfp(unsigned int m)
{
    #asm
    pop af
    pop bc; Memory number
    push af
    push bc
    ld a,200
    add a,c
    ld (sto_1),a
    rst 40
    sto_1:deff 0
    deff 51
    #endasm
}
#endif
```

The coding for the other two functions is similar. The first alteration required is to change the function names in lines 3 & 4 and then, for 'stofp', alter 'ld a,200' to read 'ld a,208' and change both labels to 'sto_1'. In the case of the 'rcfp' function, alter 'ld a,200' to read 'ld a,216' and change both labels to read 'rc_1'.

Add all six new functions to the FPCALC.C file and re-save the file, not forgetting to add the six function prototypes (line 4 in the example above), to the Header file.

Well that completes the FPCALC library. Some of the functions can be used in conjunction with the standard SAM-C functions in compound statements and it is worth experimenting to achieve more compact source programs. For instance, if it is required to place several different values on the stack within a program, but it is not necessary to keep the values, then a single variable (say 'temp[12]') can be declared and when it is necessary to put a value on the stack (say 10.75), then this can be achieved with a single statement as follows:-

```
'stkfp(strcpy(temp,"10.75"))'.
```

Finally, here is the listing for a more complex program to demonstrate how FPCALC can be used to draw a pie-chart. This was developed from a Basic program sent in by Ben Booth and published in the February 94 issue of **FORMAT**. To keep it short I haven't included routines to colour code the segments or to print the title or the segment descriptions. That can be a small exercise for you to conduct. The source code was written to run with Issue 1 of Small-C and will require minor amendments to work with Issue 2 and SAM Vision. As some of you may have found, not all programs are immediately transferrable between these three versions of SAM-C, as some functions have been omitted, altered or require a different syntax in the later versions, which can lead to major rewrites of some programs written using Issue 1.

Pie-Chart Program Listing

```
//NOTE: Set ORG to 25900
//before assembly.
//Program PIECHART.C
#include "stdio .h"
#include "string .h"
#include "fpcalc .h"
#include "graphics.h"
#include "circle .h"
#include "string2 .h"

main()
{
    int i,segs,xp1,yp1;
    char val[100][12],total[12],
    round[4],semi[4],fac[12];
    char vlu[100][12],xc[4],yc[4],
    rc[4],xp[12],yp[12];
    bootfp();
    strcpy(xc,"125");
    strcpy(yc,"90");
    strcpy(rc,"65");
    strcpy(total,"0");
    strcpy(semi,"180");

    //Enter data:-
    at(0,10);printf("PIE-CHART");
    at(4,0);
    printf("Enter No. of segm'ts:");
    scanf("%d",&segs);
    at(6,0);
    printf("Enter value:");
    for (i=0;i<segs;i++)
    {
        at(6,13);printf(" ");
        at(6,13);inputfp(val[i]);
        dropfp();
    }

    //Compute sum of segments:-
    stkfp(total);
    for (i=0;i<segs;i++)
    addfp(0,val[i]);
    fetchfp(total,0);//value left
    //on stack

    //Compute factor value:-
    // (360/total)
    stkfp(strcpy(round,"360"));
    swopfp(1,2);
    divfp(0,0);
    fetchfp(fac,1);//value removed
    //from stack.
    //Compute rads. per segment:-
    // (value*factor*Pi/180)
    for (i=0;i<segs;i++)
    {
        multfp(val[i],fac);
        divfp(0,semi);
        stkfpipf();
        multfp(0,0);
        fetchfp(vlu[i],1);
    }

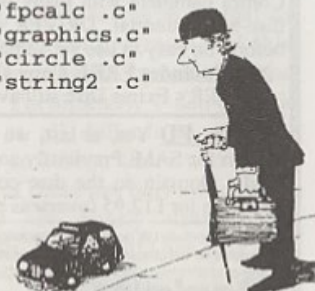
    cls(1);
    circle(125,101,65);
    //Note that the origin for a
    //circle is the top LH corner
    //of the screen so the 'y value'
    //is different from the plot
    //'y value'.
    plot(125,90);drawto(190,90);
    strcpy(total,"0");

    //Draw the segments:-
    for (i=0;i<segs;i++)
    {
        // (xp=cos(vlu[i]+total)*rc+xc):-
        addfp(vlu[i],total);
        fetchfp(total,0);
        cosfp(1); //Working in rads.
        multfp(0,rc);
        addfp(0,xc);
        fetchfp(xp,1);

        // (yp=sin(total)*rc+yc):-
        stkfp(total);
        sinfp(1);
        multfp(0,rc);
        addfp(0,yc);
        fetchfp(yp,1);

        //convert to numbers and draw:-
        utoi,dtoi(xp,&xp1);
        dtoi(yp,&yp1);
        plot xp1,yp1;drawto(125,90);
    }

    #include "string .c"
    #include "fpcalc .c"
    #include "graphics.c"
    #include "circle .c"
    #include "string2 .c"
}
```



"Mini-cab sir?"

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CHESS MATE

For SAM

A Review By:- Carol Brooksbank.

At last - *Chess Mate* - the long-awaited first SAM chess program. It is the result of a collaboration between Jupiter Software and Quazar, the people who make the Quazar Surround 16-bit sound card for Sam.

As I don't have the sound card, I can't tell you about the sound and speech on *Chess Mate* so I am assessing this purely on its performance as a chess program. I suspect that most serious chess players would question whether a chess program is really a suitable platform for hi-fi sound and speech demonstrations, however impressive. It is helpful if the program makes a beep to indicate check or an illegal move, which this one does without the sound card, but beyond that I certainly prefer a chess program, like a human opponent, to be quiet.

There are 8 skill levels. You can select the one you want at the start of the game, and can switch levels once the game has started, but you can't switch between black and white during the game, though you can opt for either at the start.

The program plays a strong game, and I found it harder to beat on the comparable levels than the two Spectrum chess programs I am familiar with - *Psion Chess* and *Cyrus Chess*. In fact, I think level 1 could do with playing a little more like a beginner, perhaps making the odd mistake. I think an absolute beginner would find it hard to win, even on level 1, and that can be

discouraging. One of the great advantages of playing computer chess is that it allows you to develop your skills and go up a level when you are finding you always have easy wins on the one you are currently playing. If level 1 is too good, the beginner cannot get a foot on the ladder.

On the higher levels, like all chess programs, it takes a long time to consider its moves. A hot key to force it to move immediately would be useful. It is a common feature in computer chess.

The program supports all the usual chess manoeuvres, including castling, pawn taking en passant, and pawn promotion to any piece. It neatly avoided being trapped into a draw by continuous check. At first I thought it always made the same response to an opening move at the lower levels, but after playing several games I found I was wrong. It does have several responses to, say, E2-E4, and it is just coincidence if you get the same one in successive games.

I was very impressed by the game programming, which seems to be just as good as the Spectrum programs, but this version is let down by the game presentation. Fortunately, I don't think it would be at all difficult to put the defects right, so I hope there will be an update. Most of them are only cosmetic.

The pieces are poorly drawn and clumsy looking. The knights are ugly and bulbous, and the bishops look like cats. The board is about the same size as the

one used in *Psion Chess* and *Cyrus* both of which had perfectly acceptable piece representations, so perhaps the graphics artist could take a look at those. (I am glad to say *Chess Mate* uses the standard flat board representation, and does not attempt a 3-d mode, because 3-d chess may look impressive but is invariably confusing in play.)

The program uses standard algebraic notation, but the letters are across the top of the board. It is a small point, but it is easier to work out the square co-ordinates when you are playing from the bottom of the board, which the human player should be, if the letters are at the bottom. Which brings me to a serious blunder in *Chess Mate*. When the human player elects to play black, the program takes the white pieces, but the black pieces stay at the top of the board. It is very unnatural to play black like that, as though your pieces are lined up at the opposite side of the board, because everything seems the wrong way round. It is a serious defect which really must be put right. The human's pieces, whichever colour, should always be at the bottom of the board.

Two other things need urgent attention. There is no indication, other than the moving of the piece, of what move the program made. If you blink, you don't see the move. I am sure Gary Kasparov keeps a mental picture of the state of the board and knows at a glance what has happened, but we lesser mortals could do with a 'my move' display. (I suspect that the Quazar sound takes care of this by speaking the move, but the program should also cater for those who don't have the sound effects, or who have them but turn them off, as users of electronic chess sets with speech usually do once the novelty has worn off.)

The other thing is that as soon as checkmate is reached, the program returns to the title screen. There is no chance to study the board, and if it takes you by surprise and mates you with a move you didn't see coming, you are left wondering what happened. It needs a pause and 'press key to start again' at the end of a game.

Another feature normal in chess programs is lacking in this one. There is no take-back facility, and there is no way of changing the board during play. You might get away without them if moves are made by clicking on a piece and then on its destination square, but it is easy to make mistakes when you enter a move by entering two square co-ordinates, as you do with this program. A wrong keypress, resulting in D4 when you meant D5, can be fatal and ruin the game for you, and some way of going back to the previous position is needed.

If you allow board changing, the possibility of exploring the options available from a particular position, or of solving chess problems are straightaway available, and the program is that much more useful.

A computer chess program is much more than just an opponent when there isn't a human available. It should be a tool to help you develop and improve your game too. The writers of *Chess Mate* forgot about that. It is a very good opponent, but nothing more. The chess algorithm they have used is so good that only a few minor changes are needed to make this a splendid program. A few extra facilities like printer support so that you can keep a printed record of games, game saving so that you can return to a half-finished game or try

Please turn to page 30.

WORD Pro EXPLAINED

A Review By:- Carol Brooksbank.

At the Gloucester Gathering in April I was handed a copy of a new book called *A step-by-step guide to 'Desk Top Publishing with SC_WORD pro v.2.2'* Jan 1996. It is a couple of dozen A4 pages, produced very professionally with *SC_WORD pro*, and published by its author, D.E. Piggott.

Those who have tried *SC_WORD pro* will know that the program is quite tricky to use until you get used to it, and the handbook is not always as clear as it might be. The author of the Guide says that his first task with *SC_WORD pro* was to produce a run of 50 copies of a newsletter, in colour, with clipart for added interest. Not surprisingly, he suffered some user errors. But he persevered, and the end result, which is reproduced in the guide, is excellent.

The guide is a step-by-step description of how this newsletter was produced. It is intended to be used in conjunction with the *SC_WORD pro* manual, because it casts light on exactly what the manual means in some areas, and gives practical hints about how to get the best out of the program.

The author shows how to design the layout of the page, the arrangement of text boxes, illustrations, headers and so on, on a blank piece of paper before you start using the program, so that you have an outline plan to work to.

He reminds you that you will need a supply of specially formatted 'image' discs before you start - a fact I usually

manage to forget about and have to exit the program to do some formatting.

He then takes you through very detailed instructions for every stage of producing the newsletter. He explains the meaning and function of the various options on the preferences menu, how to print one, two or three-column text, how to design advertisements, how to use hi-res printing. At every stage he describes what will appear on screen if you have done things properly. He ends the section with the valuable advice "Allow yourself plenty of time, don't rush, and double check EVERYTHING!"

Although at the end of the exercise, you will have produced a copy of someone else's newsletter, you will also have gained a lot of understanding of the best way to use *SC_WORD pro*. The tips for getting the best out of the program will come in handy when you turn to producing your own work.

There is a section on the additional programs for line drawing, screen dumping and also on using Steve's Software's extensive clipart library. There is a section, again with examples and instructions, on creating white text in coloured ribbons. The final pages show how technical drawings created with *FLASH!* may be used in conjunction with text in boxes to produce the instructions for making a desk-top computer workstation.

My copy also came with some loose-leaf typescript pages with suggestions for

general design ideas, designing letterheads, business documents, menus and recipes, and award certificates. I suspect that these are the first draft of another chapter for the book itself.

I found it a very useful book, with clear explanations of good ways to do things. I use *SC_WORD pro* quite a bit, but I still found some new useful hints. I would have been very glad of its help during my early struggles with the program.

It is perhaps a little expensive - £6.00 + £1.00 p&p (£2 overseas) may seem rather a lot, but a lot of work has gone into it - and if you are struggling to get to grips with *SC_WORD pro*, you will probably think it is money well spent.

Obtainable from: D.Piggott, 41, Essetford Road, Ashford, Kent. TH23 5BT.

Chess Mate Review - Continued from page 28.

variations from a particular move would make it a superb one.

I suspect that the sound capabilities have loomed a little too large in the preparation of *Chess Mate*, taking up too much programming time and memory space for the good of the program. If programs written for the 48K and 128K Spectrums can have all the facilities you expect in a good chess program, it should certainly be possible to provide them on Sam.

I hope the authors will take another look at *Chess Mate*. It is so near to being a superb program, that it is very disappointing to find that it is irritating to use because of a few minor defects. It can be obtained from Quazar or from Jupiter, price £9.99. (Cheques to the person named).

C. Piggott, Quazar, 204 Lamond Drive, St. Andrews, Fife, KY16 8RR.

S. Ekins, Jupiter Software, 2, Oswald Road, Rushden, Northants. NN10 0LE.

FORMAT

SAM REPAIR SERVICE

We are pleased to be able to offer readers an official, West Coast approved, repair service for SAM Coupé and SAM élite computers and add-ons.

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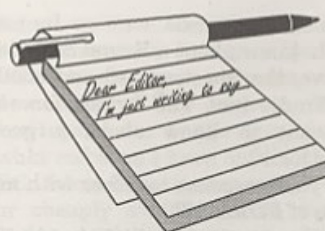
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YOUR LETTERS

Dear Editor,

I've just purchased a second-hand SAM Coupé to enable me to take the first steps away from my aging Spectrum+128K. So far so good, but there are a couple of questions that I need answers to so here goes:-

1) The screen comes up with a person's name when I switch on. This must be the last owner (although I bought it at a car boot sale, so I can't be sure) and I would like to change it to my own name. How do I do this as there is nothing in the manual?

2) I would like a second disc drive but understand that the fit-in ones are no longer available. What do I do?

Any advice would be welcome as I would like to start adding to my new (second-hand) machine.

Yours sincerely, David Chaplin.

Welcome to the SAM scene David, at least this way you are not throwing away the years of knowledge you have built up on the Spectrum (although I hope you will not be discarding your Spectrum totally if it still has life in it).

Your first question is easy to answer, you can't change it. The name has been blown into the ROM, possibly by the previous owner if he had access to the technical equipment. To find out if you have an up-to-date ROM type PRINT PEEK 15 as a direct command to display the ROM version number (actually the version number multiplied by 10). If the number you get is 30, 31 or 35 then you have one of the variants of the version 3 ROM and it should work with most software. Anything less than 30 needs

replacing, which you can do through us by ordering a ROM Upgrade Kit (£12.95 including UK p&p) which has the ROM (easy to fit, all you need is a screwdriver) and a new copy of SAMDOS.

Adding a second drive is now easy. Just get a drive upgrade kit (see the West Coast advert) in either assembled or build-it-yourself form, add a drive from your local computer shop and away you go. The new style kits will also allow you to replace your existing drive if that ever proves necessary, whereas the old kits would only allow one drive to be fitted. **Ed.**

*As an afterthought. I would like to warn readers against buying internal mods for their SAM unless they clearly have West Coast approval. None of the ones that I know of are at all necessary and all of them will invalidate the warranty on your machine. Added to this there could be serious, and possibly costly, hidden problems if you ever need your machine repaired outside the guarantee period. **Ed.***

Dear Editor,

If you could let me know of a place (East Midlands if poss) that can repair an intermittent fault on my Spectrum 128+ and PLUS D interface and Disc. It resets itself without warning, any help would be appreciated.

Yours sincerely, L.St.Cyr.

We've had a lot of companies mentioned over the last few months but I'm not sure which would take on a PLUS D repair as well. However, if it is a Datel disc drive with a separate power pack, then that could be the problem, get the output voltage checked as this can

often lead to similar problems to those you are having. **Ed.**

Dear Editor,

Enclosed is my renewal for another year of your excellent magazine.

With regard to the problem raised by Michael Williams in the Help Page (April 1996), about reloading a Basic program held as code, may I suggest the following:-

- 1) Load a larger Basic program.
- 2) Locate Prog. Start by PRINT DPEEK SVAR 160 - 16384
- 3) Load code at this address
- 4) Do a CLEAR
- 5) Save the program

Yours sincerely, Geoff Eglington.

Many thanks Geoff, I've not had time to try it yet but it looks like it could well solve a few peoples problems. **Ed.**

Dear Editor,

I don't know your language so good so I'm sorry if I'm going to make you crazy with my indiscreet writing. I hope you understand what I want and why I'm writing.

Firstly to tell you, here we have 20 hard-core Spectrum users and we publish a paperzine with the name 'Zine of Greece Spectrum Club'. We write it in the Greek language but issue 5 is going to be a selection of the contents of back issues in English. We make badges with the message "In Spectrum we trust". We sent you some for you to give to some of your hard-core Spectrum users. We can send you some more if you want but perhaps its better to publish our name and address so that your members can send for themselves.

Here we had a meeting for 6 days for all Greek Spectrum owners. The group SND (Spectrum Not Dead) is what we called it! Thirteen people turned up and saw the first copy of our zine No 3.

What SND is doing is to work on a Sampler, with menus just like the

Spectrum starter menus.

I want to know about a Sound Sampler for my love, the Spectrum +3 and about the Art Studio (not The Artist) for +3. Also I want to know about a good assembler for +3.

I await your response together with my next issue of **FORMAT**.

Sotiris Kanelis, Dafnomili 37A, 114 71 Neapoli Exarchaia, Athens, Greece.

Yours sincerely, Sotiris Kanelis.

Well your English is miles better than my Greek, and I'm pleased to hear about the user group Sotiris. I would welcome better copies (full size prints) of the photographs you sent as we may be able to get them into **FORMAT** some time. One question though, why did you wrap up several parts of the package in hand-writing carbon paper as it made everything so dirty, is it just a strange Greek custom or is there another reason? **Ed.**

Dear Editor,

I am taking this opportunity to write about quite a few things that have come to mind. I hardly know where to start.

First, we all know the speccy can do most of the things any other computer can do, but we also know other computers nowadays, can do things better. There is one thing though that the Spectrum has got which no other computer has got, and that is, its Speccy heritage, and this heritage is free or cheap and largely free of the restrictions of copyright, (if the titles seen on shareware discs and CD roms for the PC Spectrum emulators are anything to go by.) So I will confine myself to that aspect of the speccy scene in particular. It's been (Imperially) said, rightly!? that anarchy rules, though I don't mean it in the same way as it was said, but to me the speccy scene has a very disorganized past, but I may be biased because my interest lies, in that past, not being lost. No new speccies are being made, so

actual speccies are going to dwindle, as are the users, as time goes by. But on the PCs, speccies have a chance of having a new lease of life because of its own heritage, I am in the process of saving what software I have on PLUS D and the PC. A lot of the speccy software is freely or cheaply available from the internet and/or with shareware emulators (some 2500 titles / manuals / instructions / mag-tapes / demo's etc.) I am aware though, of a CD Rom with 2000+ speccy titles, that has had objections from a couple of copyright holder's about the fact that their titles were on the CD, the problem is I don't know which ones they were? It would be nice to know (and have a list on) which titles could be swapped and/or distributed with impunity, because the thing that bugs me is that, all tapes and discs that the speccy progs are on, are gradually deteriorating as time goes by, and if copyright holders will not relinquish copyright, (or lists on what could be freely distributed, are not being made available) then they, (the speccy progs) will die their death. The same will be true of all the info, in all the books, and mags, which are at the moment in the hands of a few speccy die-hards, and not available to any would be new user.

What chance then, of the speccy scene continuing, if all that there is, that made that speccy scene what it was, and is, going to be lost, through the stubbornness of copyright holders, or miserly die-hards, or magazines that do not see the necessity of organizing a way out of the demise. Fortunately many users have always ignored the stupidity of the legally stubborn and they have always had their own way of dealing with it (while those who are no longer contributing to the scene, that do not relinquish their copyright, have to see a filtration in greater numbers of their progs going for free somewhere), (and bravo for it, in my opinion.) because as

tapes and discs deteriorate, progs get lost.

Yes I do respect those who continue to contribute! Kobrahsoft etc., but who else from those days, is contributing in this scene. The demise of popularity of the speccy scene, seemed to me, to be caused by the necessary drift of users, to other computers, because of the stupid, and clever, (clever in the way that, a demise seemed an overall plan) way of making progs difficult to load, and having to wait an inordinate amount of time, then having to pick one item in a menu, then re-wind or turn over the tape for another 100k to be loaded into the 48k machine, then if you look at some of these hyped games, they were atrocious. I still think that most of load 'n' play progs were by far superior. Anyway, because of all that, the future for the speccy scene is in the PC, with instant loading, from a menu of thousands of titles, for 48K and 128K, and if you are used to PLUS D, DISCiPLE, (opus? possible) or microdrives, multiface, or tapes, its all catered for, (bar a few bugs) but updates will happen, only if users inspire it, all that is left to do, is to preserve and make available all the speccy heritage, progs and info for the new user, so there are some users. These things have got to be saved. organised, categorised, listed and made available for the speccy scene to continue. The problems are non standard loaders, the multi-loads, and the multi-level progs that have to be converted (in the long run) to be compatible to PLUS D or Z80, SNA, files for PC. or eventually, lost. I would welcome such conversions or any info related to it. Has anyone worked in this direction? A whole new interest could be opened to new users, if (with the emulators) speccy manuals were available, which should and could be instantized under headings, and keywords and called from a program for these PC emulators, "not done yet" (and

without it a new user can only use the emulator as a games consol) there is a lot of work to be done; obscure progs to be found etc, new emulations for the PC, (I once had 1028K speccy using XT basic, before it went for repair, anyone remember?) Look up old ads. I see it this way (I may be wrong), continuation! or demise! (with a spattering of PD) legal and loss go hand in hand, unless illegal is made legal by lobby, and as long as the results of lobbying is published and available, only then can there be progress. As all computers now, can do (as said before), what is done now (by the speccy), but better!. If the speccy is to continue, what better work than solve the problem of its past (and possibly gain new users with new ideas for further continuation). Somehow there needs to arise, a co-operating and collaboration of contacts for this all to be possible. Are there any others out there interested at all, in saving and organising the speccy heritage. What I have in mind are lists emanating from databases that show what speccy progs there were that existed, what progs there are that are already converted for the emulators, what progs are missing, or not added to a database, so owners of these progs (if they exist), could perhaps (while the progs still loads) fill these gaps and could (hopefully!) send in taped copies or PLUS D snaps as well as missing info for the database. The same could be done for info, from old mags, and books. What good to the speccy scene, are those that command, "this part of the speccy scene was owned by us, you are not allowed to copy it, and we are making it unavailable", no one who does this is favour of the speccy scene, so why should such a thing be respected. For anyone interested in getting a PC with this purpose (heritage) in mind, I have heard (though not experienced) that there are certain incompatibilities with the Cyrix chip, the Triton chipset, and Pentiums, I

have a amDX2+100 (dx4 100) and it is compatible with all emulators I've tried. You used to have a column on the PC and emulators, **FORMAT?** may I be permitted to request that a step by step account of how to make a tape files for the Z80 emulator, is written. I may be dense, but I can't seem to get my head round the instructions. How about publishing reviews on these speccy CD ROMS?

Sorry its a long one, had to get it off my chest!... Illegal or loss. What a choice! or, (to answer any complaints about my attitude) what kind of integrity is it, that is not integral to the purpose, and integrated?

Yours sincerely, N.J.Shelley.

First, I've run this letter without too much alteration, even though some bits I must admit don't make sense to me, because it raised some points that I felt needed dealing with.

The Spectrum scene is alive and well, it may not be expanding like it was in the old days but then neither is the computer industry in general. However, the very last nail we want in the Spectrum's coffin is the illegal copying of software. If there was simply the choice that the Spectrum has to die, or continue only on the back of illegal software, then I'm sorry to say the Spectrum will have to die. Few, if any, of the CD's available for the PC contain legal software. A few programmers and companies have released their old titles into the public domain, but just because software is not still being commercially marketed does not mean that you can just copy the software illicitly. Would you go into a public library and borrow a book just to take it down to your local printers and have 100 copies printed off to hand round to your pals? No! Well it is exactly the same thing - it is called THEFT.

Yes we will do what we can to help people copy their legally owned software

to different media or to work on different systems under emulators. This is perfectly legal, provided you have (and keep) an original copy of the tape/disc you purchased the software on.

With the advent of the modern emulators, people can enjoy good software (and it is true that some of the old games are much more playable than the modern stuff) on their PC without having to pay the exorbitant prices asked for most PC software. Software companies and programmers should be encouraged to make compilation discs (or CDs) of their old works available to meet the market on the PC, and I think they will be pleasantly surprised at how much demand they will find for their work. However, you cannot force people to go on selling things they no longer want to, you may feel they are being stupid (and in part I would agree) but if you own something, and remember that copyright is something that is owned, then you have the right to do with it as you want - including the right to withdraw it from sale. Copyright holders have the legal and moral right on their side. At the end of the day - LET US KEEP THE SPECTRUM SCENE LEGAL. **Ed.**

Dear Editor,

I read each issue with great interest. At the moment the closest computer I have to the Spectrum is a Timex/Sinclair 2068 with Spectrum ROM which allows it to run most Spectrum software.

I am very interested in your offer on used SAM Coupé models. Could you provide some more information? Will the SAM run on US power (120 VAC 60 Hz)? What kind of monitor does the SAM require? I have been trying to purchase various Spectrum models also. I have the same questions about them. I believe an RGB interface was made by Miracle for the Spectrum. Some Spectrums had RGB connections built in? That would allow me to use the huge quantity of

used RGB/CGA monitors over here that nobody wants anymore....

As far as improving your magazine, I would like to see more hardware related articles. I want to know about the Interface 1, microdrives, DISCiPLE interface and various versions of Spectrums and SAMs. If this information is available in back issues, what set should I order?

*Yours sincerely, Don Waltermann.
(USA).*

2086, fantastic machine, why Sinclair never sold it in the UK is beyond me. At the official launch in the US several machines were actually running one of my games, the Golf game we published a couple of years ago in **FORMAT**, because as it was in Basic there was no problem in running it on the different hardware. Those were the days.

I'm not sure how much work would be needed to get a SAM working on the US system Don. You would need to build (or modify a power supply, but that would not be too difficult as you could just wire up a PSU salvaged from an old PC.

The monitor problem is more difficult. The PAL chip (a MC1377P) does have an NTSC mode according to the data sheets I have, so you may be able to get COMP-VID out with a little work. But I'm not technical enough to understand whether the RGB plus Sync outputs could be used on an American monitor. Anyone know anymore? **Ed.**

Dear Editor,

I'm amazed at the quick response I received to the question I sent in about selecting drives in a Basic programme.

Would Mr Miles Kinlock accept my thanks for his promptness in responding, it was most appreciated.

An article in **FORMAT** July '91 caught my interest, in short spot John Wase mentioned that poking @278 with the address of the start of a piece of code and @287 with the end of the piece of code,

that pressing snapshot 3 would save that code.

My question is why doesn't it work very often for the start address? When I do these pokes invariably it still saves from 16384!

I have been working on several programs to read Beta 128 discs and transfer files across to the PLUS D they are not very professional but do the job, anyone interested? If so I will send them to **FORMAT**. Maybe someone has already done this? If so I would like to hear from them as most of my programs are on Beta discs and the interface has died.

I have also adapted my 128+2 to fit inside the lo-profile keyboard, and corrected the PCB joystick signals and added a 5v line to them.

I have also taken the K7 signals from the K7 board but the levels are not satisfactory. Any help?

Please may I ask for help on the following matters from anyone willing...

Does anyone still have a routine to print on a colour printer? (mine is a NEC CP6) I am open to any ideas.

Where can I obtain a Disassembly of the PLUS D ROM /+SYS and system variables?

Does anyone own a list of all the Spectrum software made? I am compiling a list and would appreciate any help.

Does anyone have a schematic to convert the Spectrum's output signals Y.V.U. To R.G.B. TTL +Bright?

Anyone have the information to adapt my printer to the PCB designer from Kemsoft? Again to the NEC CP6.

The problem is the line spacing in the printer is 180^{ths} rather than the programs 216^{ths} and it is 24 pin which means the size of the PCB is not correct when printed. Otherwise it is compatible.

Maybe you could supply me with the address of NEC in England as they have pulled out of Belgium and no suppliers can get me the tractor feeder I need. Part

No.4202 or 4209.

Well, if you made it to here, I admire your courage, no more questions!! Just to say a very big thankyou to all those working at **FORMAT**.

*Yours sincerely, Andy Hayward,
(Belgium).*

Can anyone help Andy with his problems? **Ed.**

Dear Editor,

Overall **FORMAT** is informative. However, for a novice like myself I do find the description of some items difficult to understand what they mean, hence my reluctance to place orders.

At work I use IBM computer with Word Perfect 5.1 and Lotus 123. Do you have something similar? I have a SAM Coupé with one disc drive, I would like to upgrade to two disc drives, would the W1125 advertised in the January **FORMAT** page 6 be suitable? I do not have a monitor, up to now I have used my television, I would like to purchase a monitor could you recommend the makes I should go for? Could you forward to me a list of games available?

Yours sincerely, Mrs P.Wood.

I think Revelation still have a few copies of CAMPION left, that is without doubt the best spreadsheet produced so far for SAM. Wordprocessors, there are several, all very cheap so the best bet is to start with one and if you don't like it try another. In the end they are all good for straight-forward letter writing but each has its own strengths when it comes to more advanced jobs.

Yes the upgrade kit, together with a drive you can buy from your local computer shop, is all you need (and a screwdriver to fit it of course).

Monitors are a different area. I would still recommend a scart TV cos it gives you the best of both worlds and at a better price. **Ed.**

Dear Editor,

Very many thanks to Jenny and yourself for masterminding the hospitalization of dear old SAM.

Readers may be interested in an account of this episode; For long months the cursor keys and the control key had ceased to be operative except for some brief remissions. We soldiered on for ages by using four settings under the 'KEY posn.x' facility, but finally sent SAM to Gloucester for the operation, and he shortly came back in pristine - indeed improved - condition. After attaching all the periphs and powering up, it was, shall we say..... interesting to find that three of the cursors, and the control key, were still inoperative. On recovery from the cardiac arrest, I had an instant flash of inspiration that had been waiting to, er, flash since about May last, and disconnected the Mouse interface. You've guessed! All is well. Perhaps, if there was any fault at all, it was in the Mouse unit. After all, what is the purpose of a mouse?..... to operate the cursors more conveniently. There must be a connection somewhere.

A brief note is appreciated. Many members will know of the really excellent service **FORMAT** provides for us; I had noted the remarks of others and now can add my own. If all the firms and organizations we deal with in this country had the user-friendly technical know-how shown by your set-up, Bob, the world would be at our doors. Thanks again.

By the way, had Spectrum+ going in the interim; does anyone know if Psion's Scrabble went into SAM's repertoire - and has anyone come across the little prog of 'Golf', by one D.Turtle, likely to have been in ZX Computing a dozen or so years ago, and emulated same?

Yours sincerely, John Saunders.

Oh John! You say the nicest of things. **Ed.**

Dear Editor,

I was going to write to you this month to cancel the copy of **FORMAT**, I have enjoyed the mag over several years because I owned a SAM Coupé. Last November I upgraded to, yes, you guessed, a PC.

Here I am, cancelling my Fred Mag when I received the **FORMAT** with News you may be doing a **FORMAT PC** Mag. This has made my new year and why you ask, yes you guessed again, the change from SAM to PC, SAM has no memory wipe, but with the PC (Gosh I pressed the wrong key) What! No more memory, No CD Rom Drive, Messed up the DOS. Not once, not twice, but six times, Phone calls here and there, please I want my SAM back, which I sold.

With hair going white, games that wont load, Windows 95 that messes up Windows 3.11, Curry's store that wont help, had to phone Packard Bell for advice only to find I was phoning Holland and told to hold on not once but four times, then told part of the memory is missing. I know I replied, How do I sort it out? Anger - Don't know, will send you master disc.

I am stuck with my PC. Now so I will have to learn about autoexec and config systems and with a bit of luck by the time I am 65 I will have mastered windows 95 without making a mess of the hard drive.

That's all from a thick PC user.

Please keep up the good work because we need you (no, I need you).

Please transfer to **FORMAT PC** when available.

Yours sincerely, B.Tillotson.

Because of illness (I'll live) I'm way behind with the new mag, but rest assured we will get it out as soon as possible. **Ed.**

Dear Editor,

I've been meaning to write since about

December, but somehow never got around to it. But! here I am. Anyway 3" discs are available from:-

Squire International, 129 Parry Lane, London, N13 4HL, £3 each including p&p.

JRC Camera Repairs, 2, Forge Cottage, The Street, Ewelme, Oxon, OX10 6HQ - £32 for 10, inc. p&p.

To the best of my knowledge the following still offer a repair service:-

JRC Camera Repairs - Tel 01491 834403 - same address as above.

City Computer Services, Units 4-6, Adderly Estate, 197, Adderly Road, Sattley, Birmingham B8, tel 0121 327 3176.

HS Computer Services, Unit 2, The Orchard, Warton, Lancs, PR4 1BE, Tel 01722 632686.

WTS Electronics Ltd., Studio Master House, Chard End Lane, Luton, Beds, LU4 8EZ, Tel 01582 491949.

The prices very according to what needs doing, but one normally around the £10-£20 mark.

I don't know about you, but I think the new PCW16 is an important development in that it shows that there is still a market for a user friendly, flexible, reasonably powerful, economical 8-bit computer. Lets not forget that the SAM also has the advantage of being programmable, and has a wide range of games and PD Software available, in addition to the serious stuff. The deliliterating factor is the price - a SAM with the relevant hardware and software to make it compete with Amstrad's bog-standard £300 PCW goes way beyond the £500 mark. Perhaps now is the time for West Coast to start looking for investors...

By the way, I like Nick Xylas' idea of a rumour column. When I was editing 'Crashed', we took almost the exact opposite stance to **FORMAT**, and printed anything and everything in the News section. This looked impressive at

the time, but rather less so a few months later when very few of the things we'd trumpeted had actually happened. A rumours section sounds like a sensible compromise. Speaking of which, I've heard this one about a new, cheap, high-spec SAM in a PC case appearing around 1998.....

Yours sincerely, Mark Sturdy.

Thanks for the lists of companies Mark, I'm sure there will be readers who will find one of the addresses to be just what they were looking for.

I've yet to see much on the PCW16, although I will agree that any new 8 bit machine is well worth encouraging. Does anyone out there own one yet? If so how about a review for **FORMAT**?

As to the PC cased SAM, well Derek Morgan has done it so maybe.... *Ed.*

Dear Editor,

I am writing to you for a number of reasons, firstly to thank you for organizing the excellent SAM and Speccy show, which was a great day out as usual. Well done, you deserve a big pat on the back, and so does Jenny, for her help, and for making it so pleasant to buy something from the **FORMAT** stand.

The other thing was to find out if I can get a copy of the instruction sheet for Sophistry which was missing from the copy that I bought from you at the show.

Also, I purchased a Spectrum +3 scart lead, which fails to work with my Nokia television, just like SAM did.

The sound comes through perfectly, but there is no picture at all. I know that the TV runs using RGB, as it now works with my SAM. Do you have any suggestions?

Is a new edition of the SAM manual still on the cards, or has the idea been scrapped? I would like to help in any way possible, so that other people can get as much satisfaction out of their SAM as I do.

Once again, thanks for an excellent show.

Yours sincerely, Stewart Skardon.

Nice to know you enjoyed yourself Stewart, the shows are hard work but well worth the effort.

I've no idea at all on the scart problem I'm sorry to say. We have sold several of the +3 scart leads so there must be other +3 users out there who have got things working - can anyone help?

There is no separate instruction sheet for Sophistry, the instructions are all within the program.

The new manual for SAM is still on the back burner - usual excuses I'm afraid, not enough time and not enough contributions from other people. One day, I hope... *Ed.*

Dear Editor,

My joystick has broken down, can you supply me with a joystick for the SAM. Or if not could you please tell me where I can acquire one. I cannot get one in Holland.

Yours sincerely, R.P.Roggeveen, (The Netherlands).

Most modern joysticks (except the analog ones for the PC of course) have lots of switch options to allow them to work with most different computers, all you need to do is work out which setting to use.

That said, some joysticks are of course easier to get hold of than others. Perhaps some of you readers out there can let us know what is available on the market these days. *Ed.*

Letters may be shortened or edited to fit on these pages although we try to edit as little as possible.

This is YOUR letters page so it is up to you to fill it with interesting things. Come on, get writing, any subject even remotely related to computers. Just keep things as short as you can so we can fit in as many as possible each month. Please write clearly or type your letters. Send them to the address on page 3 or fax them to us on 01452 380890.

Writing
for **FORMAT**

We try our best to get a good mix of articles together for each issue of **FORMAT** - but we always need more. Filling these pages is not easy, we start with a pool of around thirty articles and try to pull out a reasonable mix of Spectrum, SAM, and general purpose computing articles that we believe will appeal to the wide spread tastes of our readers. To judge from your comments we normally succeed.

However, we need more article, the more the better because it makes out task of achieving a balanced issue that much easier. And this is where you come in, we need your contributions - no! not money, although that would be nice it would not help to fill these pages and that is what we really need you for. It does not matter if it is some small items for Short-Spot and the Letters Page, a proper article from a page to a long series, or even just a idea that you would like to see someone write a full article on. What ever you contribute will be gratefully accepted and will, in the end, appear in **FORMAT**. I do say in the end because, with the need to balance the mag, some articles do take quite some time to see the light of day.

Don't worry about your English, we will edit things into shape for you, just concentrate on getting what you want to say down in print. We can take any Spectrum or SAM word-processor files (on 3½" or 5¼" disc only please) as well as any PC disc (we use Ami-Pro but unformatted ASCII, or WP5.1 files will always work - others may cause us a bit of work but we have never been beaten yet. Please remember to include a printed copy so we can read it. We can convert any program files to text for you.

Remember, if you want to talk about writing for **FORMAT** then just give us a ring - we are here to help.