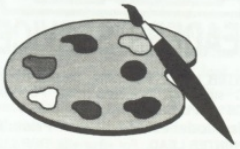
SAMPaint



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Vol.8 Nº2. October 1994.

FORMAT

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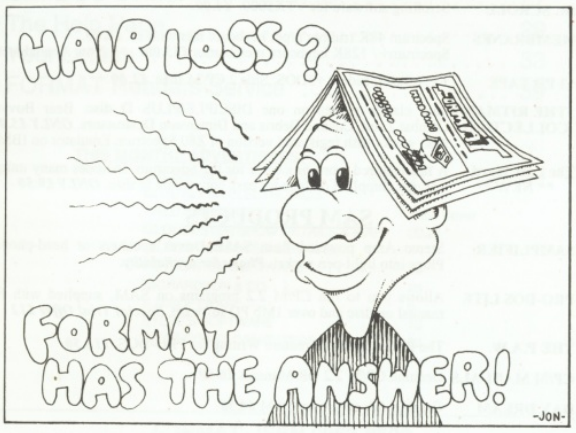

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FORMAT **ISSN 0963-8598**

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FORMAT is published by **FORMAT PUBLICATIONS.**
34, Bourton Road, Gloucester, GL4 0LE, England.
Telephone 01452-412572. Fax 01452-380890.

Printed by D.S.Litho. Gloucester. Telephone 01452-523198.

NEWS ON 4

SLIGHT DELAY

Last month we told you about the new disc expansion kits available for the SAM Coupé from West Coast. Well I'm sorry to report a slight delay in shipping.

It is all my fault (well nearly). You see I've been lumbered with producing the nicely printed instructions and, what with ***FORMAT*** and holidays, I'm way behind schedule. But as soon as this issue is out I'm giving the project my full attention so it should not be long before you all receive your kits - so get practicing with the soldering iron.

NEW OWNERS FOR QL WORLD?

The last Sinclair glossy, 'Sinclair QL World' has ceased publication. The last issue appeared in May and efforts continue to find a new publisher for the title.

Arcwind, the publishers, acquired QL World in order to use spare capacity on their presses - their main interest being in a surfing mag. Now that sales of the surfing magazine have grown there is no room in their operation for QL World.

NEW SAM DISC MAG

SAM2SAM is the latest in a long line of disc based mags for the SAM. So far they have managed four issues, which is three more than many have managed.

While not as packed as the long standing disczines like FRED and SAM Supplement, it is worth a look. Issue 4 contained several games programs, mostly written with SCADS, together with some reasonable text material.

For more details send an SAE to Robert Clayton, 65a Norman Crescent, Sunnyfield, Doncaster, DN5 8RX.

FRED'S NEW RELEASES

Last month FRED Publishing announced the release of *WaterWorks II* and this month they are back with two more new releases for SAM. The first is a new soccer management game called Football League Manager which is launched in mid October at a price of £14.99 (£12.99). The program includes the usual English league games (with Cup matches) or, as FRED are a Dundee company, you can play the Scottish league, an option which shortens the number of games you have to play in a season.

The second game is at the moment highly secret. All FRED will tell us is that it is their second major licence deal and that they will be selling it at the Gloucester show on the 22nd.

Colin McDonald reckons that with one very successful licensed conversion under FRED's belt it made sense to push ahead with another in order to grab the Christmas market.

LIFE BEGINS AT 50

Well it does for FRED anyway as it becomes the first SAM disc mag to reach its fiftieth issue. Back under the editorship of its founder Colin McDonald just for this one record setting issue, FRED 50 contains the usual mix of articles and programs including 'DERF' a full feature management game where you are invited to run your own disczine.

Credits:- Bob Bates.

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

Thank you for all the nice letters you sent wishing us a happy birthday. The goodwill went to my head so much that I just had to take a holiday to recover. Well, to be honest, if I had not agreed to a holiday I would be facing divorce proceedings by now. A week in France and Andorra, with a trip to Barcelona, cannot be described as a rest - but it was time away from a hot keyboard. By the way, Trivial Pursuit question number 1056 - What is the staple crop of Andorra? Answers on the back of £20 notes to the usual address.

Now back to work. The 3rd Gloucester show will, as I told you last month, be held at Quedgeley Village Hall on Saturday 22nd October from 10:30am to 4:30pm. For anyone who has missed the first two shows I would like to point out that you wont find a wider range of Spectrum and SAM related items under one roof anywhere in the world. Last time we had people from all over Britain and several visitors from the continent. If you want to meet people who share your hobby then Gloucester is the place to be on the 22nd. And, through nice planning, because the clocks change you can have an extra hour in bed the following morning.

Entry will cost you £2 but any under 14s will get in free if accompanied by a ticket holding adult. As we did last time we are offering advanced tickets at £1.25 each, just send your payment with an SAE and we will get the tickets out to you about 14 days before the show. We will publish maps and travel details in the next issue, although as they are the same as last time most of you will already know them.

Some of you may already know that there have been a few problems at Blue Alpha this year. First there was the protracted move and then without much warning Adrian Parker left the company in April. Mark Hall then had a major car accident in early May that caused a big hassle. But then, just as things were almost back to normal, the worst news came. Mark was diagnosed with a tumour near his brain.

Although at the moment Mark is fairly fit and well, he is now undergoing chemotherapy which is keeping him out of the office most Mondays and Fridays. However, he is doing his best to keep things running and alternative arrangements are being made for repairs during the period he will almost certainly have to spend in hospital (possibly early next year). Both ourselves and West Coast will be doing everything we can to ensure service is maintained for SAM owners.

I'm sure all of you will join me in wishing Mark a speedy recovery and I hope everyone will continue to support him and Blue Alpha during this difficult period.

And now to finish on a brighter note. We are agreeing republishing rights on several Spectrum books that have long been out of print. We know many readers would love to expand their Speccy library. Each book will be announced in ***FORMAT*** as soon as we are ready to proceed. Readers will then be able to order the book at a reduced rate prior to the publication date. First news next month if everything goes to plan.

Until next month.

Bob Brenchley, Editor.

SD Software

Quality Serious Software For Spectrum & Sam Coupé

THE FRACTAL COLLECTION

A fast fractal generator for the ZX Spectum. Now you can explore the fascinating world of fractals with this machine code program. Up to 200 shades on screen gives clear, crisp fractal pictures which can then be zoomed and expanded. Not just the Mandelbrot set but 18 different types can be made. Generates fractal music, you can hear the computer generate the fractal. Ready to use on disc for DISCiPLE/Plus D complete with ready-converted file for use with our SPECMAKER emulator on SAM.

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PC-SUITE From the same author as SPECMAKER. Now you can transfer your IBM data files by reading and writing IBM discs (720K format) on your SAM Coupé. PC-SUITE will even let you format IBM discs on your SAM. Write and edit SAM Basic programs on your PC. Use PC-SUITE to copy SAM data files to PC so you can print them on that high quality laser printer at work... nb. This is not a PC emulator.

As used by Format Publications to transfer articles/programs for this mag.

PRICES:	Non Members	INDUG Members
The Fractal Collection	£5.95	£4.95
Specfile+	£12.95	£9.95
UNIDOS	£25.95	£19.95
Createfile Manual	£6.50	£5.50
SpecMaker	£12.95	£9.95
PC Suite	£25.95	£19.95
IBU* / SAM IBU	£4.90	£3.50
File Convertor*	£5.30	£4.00
Hacker's Workbench*	£9.90	£8.50

* GDOS programs still available

Please add £0.50 postage (£1.20 outside UK)

Spectrum Owners
Don't forget to say if ordering for PLUS D or DISCiPLE and state disc size - 3½" or 5¼" (80 track only).

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Don't forget your membership number if claiming discount.

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Barnoldswick,
Lancashire,
England, BB8 6AB.

SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

Short Spot this October starts with our friend from Cowies Hill, South Africa. Mr Baumann has answered my July comments that there was a dearth of Spectrum stuff by sending me some. He has a 48k Spectrum, and we all know that that can be a bit slow when it comes to running the cursor along a lengthy line to make a correction. So here's some real Short Spots. Put these lines right at the start of the program, and they'll sort it out for you. Here they are...

```
3  POKE  23609,60: REM normal
   is  0  sets a louder click
4  POKE 23561,10: REM normal
   is  35  sets delay on first
   key-press.
5 POKE 23562,1: REM normal is
   5 - sets delay on repeat k
   ey-presses.
6  POKE  @5,80: REM for  prin
   ter  line length on the PLU
   S D.
```

Mr Baumann writes that he has been using these settings for a number of years, now, and finds them admirable: he cannot use an unmodified Spectrum, now. The parameters can, of course, be changed to suit your individual tastes.

The next program is also from Mr Baumann. It is, as he says, "a bit of a gimmick, but interesting", and first appeared in an April issue of 'Your Spectrum', probably 1984.

Anyone here got young children? Or a wife/husband who disturbs your beloved Spectrum. Or a father/mother/brother/sister who does the same. You know the problem; you nip round the corner to the toilet, and when you come back, someone's been messing, the keyboard's locked or there's a blank screen... Here's the solution. Type in the following little jobbie and run it.

```
10 REM Security Alert
20 CLEAR 65345: FOR n=65346 TO
    65367: READ a: POKE n,a: NE
   XT N
30 PRINT #0: "©1982 Sinclair Re
    search Ltd"
40 PAUSE 0: CLS: PRINT AT 10,9;
    FLASH 1; "SECURITY ALERT"
50 RANDOMIZE USR 65346
60 DATA 58,72,92,15,15,15,30,0,
    243,211 ,254
70 DATA 238,16,67,16,254,29,32,
    246,251 ,24,234
```

When you run it, nothing happens, really - the Spectrum just gives a little hiccup and the Spectrum logo reappears in its usual place. I don't know what will happen with a Plus Two, as I'm writing this about a hundred and fifty miles from home. Clearly you'll have to change the copyright message, but as for the rest of it, it might or might not work. You'll have to experiment and let me know. Anyway, there's the logo, and your pet fiddler fiddles in your absence, and....

Do let me know how you get on!

Many thanks, Mr Baumann.

Let's stick both with the Spectrum and with Africa for a while. Ian Kennedy of Bamalete Lutheran Hospital, Ramotswa, Botswana, writes that he was just about to write to the Help Page to ask how to convert Speccy/DISCiPLE files into a PC when ***FORMAT*** arrived with Carol's 'Ascidel' program for SAM/PC. Ian has lost track of the relationship of Spectrum Basic to SAM Basic, and doesn't know how to convert from one to the other. Is

it possible, he asks, and how should he do it? Well, Spectrum Basic is essentially a subset of SAM Basic, so it will work on SAM, all except (i) disc commands (which are not standard Spectrum Basic anyway, but which are peculiar to Microdrive, PLUS D, Discovery or other interface you've hooked on) and (ii) System variables, those mysterious numbers that one sometimes POKEs into new locations. So going that way's easy: the other way can be tricky. I've passed your letter on to Carol, and asked her advice.

Still we can stay with the Spectrum, but this time with 128K models and Tasword 128. Miles Kinloch (you remember him; from Edinburgh) has been at it again. No; it's not more DOS bugs (and I've still, somewhere, a definitive program to remove them all) but this time it's about the 128k version of Tasword. Miles remembers some years ago in ***FORMAT***, there was a program called 'Tascon bughunter', but when he tried it himself, he couldn't get it to work. It was supposed to be for fixing the 'Print with Data Merge' option which had been inadvertently disrupted by the TASCON converter program.

So Miles, being Miles, decided to investigate the problem himself, and came up with a short program of his own called 'Tasfix' which not only fully restores the Data Merge and Conditional Printing routines, but also cures another irritating bug in the error-handling routine after a 'Fatal Disc Error'. The problem happens only when you have not previously used the 'Into Basic' option after loading Tasword. It causes the text file to be lost because the program starts the initialisation routine all over again (the border turns green and the text memory is cleared). And this leads to another problem that I bet you've come across, but this one only happens AFTER you've used the 'Exit to Basic' routine! There's a further rather irritating little bug in that if you try saving to a write-protected disc, you don't just get a 'Fatal Disc Error' message any more. Oh no. Instead, the Spectrum just locks up, totally. Would you believe it; the cure for this is merely to add the new line as follows:-

```
5 GO TO 10
```

Now, on the face of it, this line seems absolutely pointless. However, the real purpose of that line lies in the way in which the statements in line 10 are jumped to directly from machine-code (that's why the Tascon program warns you not to alter it), and the new line 5 results in the correct values being in the system variables at the time, thereby allowing it all to work as intended. That's all of Miles' program.

However, can I warn readers of a bug in early Tasword3, Tasword128, and Tasword+2 programs, where merely touching extended mode while the Main Menu is displaying locks the machine solid. I seem to remember there was a POKE for this anyone remember it?

Meanwhile, these other, more important bugs are easily fixed. Just use 'Tasfix'.

```
10 REM TASFIX By Miles Kinloch
20 REM FIXES DATA MERGE, ALSO
   IMPROVES ERROR HANDLING IN
   PLUS D CONVERTED TW128.
60 CLEAR 25299: LOAD d1"tascod
   e"CODE
70 FOR a=30738 TO 30747: READ
   d: POKE a,d: NEXT a
80 DATA 205,243,120,56,5,202,2
   07,119,24,54
90 FOR a=30790 TO 30797: POKE
   a,0: NEXT a
100 POKE 30763,0: POKE 30764,0:
    POKE 30765,0: POKE 27667,2
   7: POKE 27668,45
110 FOR a=52382 TO 52390: READ
   d: POKE a,d: NEXT a
120 DATA 33,155,204,34,123,204,
   205,212,98
130 PRINT ''"Any key to resave
   Tasword code.": PAUSE 0
140 SAVE d1"tascode"CODE 25300,
   40236
150 CLS : PRINT "Finally, add t
   he line:-"'' TAB 11;"5 GO T
   O 10"''"to the Tasword BASI
   C. This will cure the probl
   em of the program locking u
   p if you try to save toa wr
   ite-protected disc."
160 STOP
```


Many thanks, Miles, and please keep them coming. That's all the Spectrum stuff for a minute, because I want to return to the vexed subject of printers. So let's go back to Carol, and there's a couple of letters from Carol Brooksbank of Coventry, and Bob Bates of Burton Joyce, Nottinghamshir,. that I ought to mention. Carol writes (as Carol would) on a piece of notepaper beautifully headed in plum-red with a neat border on the right hand side round her address and telephone number (complete with a little picture of a telephone), and a corresponding matching border round her initials on the left. Clearly, Carol has a need for inks of more than one colour. She gives two addresses of Maxiprint Ink suppliers.

First is: Quill Marketing 11 Hemmings Close, NORWICH NR5 9EH. Tel: 0603 748002; Fax: 0603 748003.

An alternative is: Mechanical Services, 11 Elizabeth Rd, Sutton Coldfield, West Midlands B73 5AR. Tel: 021 354 3299.

Carol writes that as far as she knows, both still supply Maxiprint Ink and accessories. Their prices are similar, though Quill will accept a credit card, whereas she thinks Mechanical Services will need a cheque. She bought ink from Quill about a month ago. Quill also supplied Carol with a different tip, when she found that neither of the ones supplied with the Maxiprint would turn a Citizen colour ribbon. Carol supplied a rough drawing of the colour ribbon fitting, and the right tip came by return of post: a bit expensive at £10.00, but worth it because it did the job.

Bob refers to my previous plea for information, and points out that "I mentioned 'endorsing ink'; is this water-based, and didn't I give a warning about rusting pins in the print-head in an earlier issue of ***FORMAT***"? He, too, mentions Mechanical Services, and tells us that they have "one of those awful answering machines" (sorry, Bob; I have to have one, too), but they did return his call at 6.30 pm when he rang to check if they still supply the ink. They do it in packs of six cartridges at £5.95 including VAT, and approximately £13.00 for a 90ml bottle. Many thanks to both of you.

Now over to SAM. Although an article in 'Computer Shopper' triggered off the idea for this program, Ettrick Thomson of Aldeburgh writes that it was written from scratch, and owes nothing whatsoever to the article that accompanied the 'Computer Shopper' article. Ettrick also mentions that the 'Kilkenny' mode is his own discovery, though he would be very surprised if the US investigators had not found it.

The Ant is a 'cellular automaton' (like John Conway's 'Life', but with very much simpler rules); it has been discussed in 'Scientific American', 'Mathematical Intelligencer' and, more recently, in 'Computer Shopper'. The Ant's Universe consists of an assembly of square cells (pixels in the computer program) that are either black or coloured; the ant moves to an adjacent square at each generation, but never diagonally; if it lands on a coloured cell, it makes the cell black, and changes its direction of travel by turning left; if on a black cell, it changes it to the ant's own colour, and turns the Ant right. You can have as many Ants as you please in the same

SC_WORD pro

£29.99

NEW VERSION 1.01. Available at the Gloucester 22 October show.

You may think this advert was produced on an expensive PC Computer, think again this whole 2 page advert was produced using *SC_WORD pro* the only advanced top of the range word-processor for the Sam Coupe.

SC_WORD pro uses it's own fonts, 8 are provided, others can be added with future font packs, available soon.

There are 11 sizes for each font, which are crisp, sharp and non jagged, with proportional spaced out letters and words, various justifications, the same quality you would expect from more expensive word-processors for the Amiga and PC Computers.

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PROFESSIONAL SOFTWARE

SC_WORD pro can be used as a normal word-processor, outputing in standard 64 or definable column text using the printers built in fonts with Lprint.

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SYSTEM REQUIREMENTS :-
512K SAM, with a copy of MASTERDOS. (Extra £12 for a copy)
24 Pin Dot Matrix Printer or 360 dpi Bubble Jet Printer.
1MB Ram and Mouse recommended, but will work without.

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Novelle Shadow STEEL PLATE Outline
Centurian *Centurian Italic* Souvenir ***Souvenir Bold***
FUNDIES Pen Style GOLDMINE Intaglio

Universe, each with its own colour.

The program handles two Ants, one white, one blue, but it will be more illuminating to run it first with only the White Ant, by omitting Line 70. At first, the Ant moves chaotically, leaving a trail of white squares, covering an increasing area; then, at about generation 10200 (taking 7.5 minutes), there is a complete change into what might be termed the 'staircase mode'. If the screen were infinite, the staircase would persist indefinitely, but the MODs of Line 230 ensure that if anything disappears off one edge of the screen, it will reappear on the opposite edge. So the staircase will eventually hit the previous trail, or the displayed generation number; more chaos, and eventually, more staircases.

Now bring the Blue Ant into action by restoring Line 70. The initial conditions of Lines 30, 40, initial direction and position, (an initial blank screen is tacitly assumed) now become very important; with one Ant, variations make no essential difference. If the Ants are initially far enough apart, there is no great change; chaos and staircase from one or both Ants; x1=112, x2=144, (values of other variables as shown) gives such behaviour. But the initial conditions of the program as given (and other conditions) introduce a startling change, which might be called the 'Kilkenny' mode. The Ants invade each other's territory and eventually eat each other up, so that, after about 7500 generations, we are back to a blank screen; then it all starts again, but the second cycle is different from the first. For one thing, it takes only about 4700 generations to return to the blank screen. Another set of conditions giving the 'Kilkenny' mode is x1=114, x2=142 (values of other variables as shown), which reaches a generation number of about 30900 before the return to the blank screen, and has much more interesting variations on the way. Oh, and while you're at it, do try x1=113, x2=143, in which a staircase is eaten up!

Ettrick says that since there is an enormous possibility of variation in the initial conditions, perhaps there are other examples of extraordinary behaviour to be found by *Short Spot* readers. It's only a short program to type in, and you can leave it to run while the kettle boils, just keeping a general eye on it, can't you! (it's more difficult to keep an eye on things while you go out and buy a bottle or two of beer, though less arduous to open them; maybe the wife, husband, girlfriend, boyfriend, brother, sister, could be coerced to do the shopping). Come on, now; I'm sure you can find some curious happenings on the screen - do write in and tell us.

```
  5 REM Two-Ants:Ettrick Thoms
    on:
 10 LET yos=-18,g=0
 20 POKE SVAR 50,1
 30 LET d1=0,x1=121,y1=96
 40 LET d2=1,x2=135,y2=96
 50 DO
 60 gen d1,x1,y1,7
 70 gen d2,x2,y2,5
 80 LET g=g+1: PRINT AT 0,0;g
 90 LOOP UNTIL INKEY$="s"
100 POKE SVAR 50,0
110 STOP :
200 DEF PROC gen REF d, REF x,
     REF y,c
210 LET q=NOT POINT(x,y),d=(d+
    1-2*q) MOD 4
220 PLOT PEN (c AND q);x,y
230 ON d+1: LET y=(y+1) MOD 19
    2: LET x=(x+1) MOD 256: LE
    T y=(y-1) MOD 192: LET x=(
    x-1) MOD 256
240 END PROC
```

This marvellous Basic that SAM's got has one or two disadvantages, too. Unless you're quite careful in how you name things and what you are doing, it's quite possible not to realise that you are, for instance, calling a procedure. And those variables; some global, some local,

all aid confusion. So enter Robert Brady once again to the rescue. 'FINDIT' is a residential program, so it likes being hidden. To use it type: **FINDIT s**

The stream it's going to use is determined by s, so 2=screen, 3=printer, etc.; it defaults to 2. When you call it, it prints out a list of all the DEF PROCs, DEF FNs and LOCALs, along with the line number and the rest of the command. Nice one.

```
50000 DEF PROC findit stream: DE
      FAULT stream=2: LET xxx=FN
       tpeek (&5a9f)
50010 DO WHILE PEEK xxx<>&ff
50020 IF PEEK (xxx+4)=202 THEN G
      OTO proc
50030 IF PEEK (xxx+4)=234 THEN G
      OTO lable
50040 IF PEEK (xxx+4)=200 THEN G
      OTO func
50050 LET xxx=xxx+DPEEK (xxx+2)+
      4
50055 PRINT #0; AT 0,0;FN dpk2(x
      xx)
50060 LOOP
50070 GOTO ended
50080 LABEL proc
50090 LET xx=5,xx$=""
50100 LET xx$=xx$+CHR$ (PEEK (xx
      x+xx))
50110 LET xx=xx+1: IF PEEK (xxx+
      xx)<>CODE ":" AND PEEK (xx
      x+xx)<>13 THEN GOTO 50100:
       ELSE PRINT #stream;FN dpk
      2(xxx);" DEFPROC ";xx$: GO
      TO 50050
50120 LABEL func
50130 LET xx=5,xx$=""
50135 IF CHR$ (PEEK (xxx+xx))=CH
      R$ 14 THEN LET xx=xx+6
50140 LET xx$=xx$+CHR$ (PEEK (xx
      x+xx))
50150 LET xx=xx+1: IF PEEK (xxx+
      xx)<>CODE "=" THEN GOTO 50
      135: ELSE PRINT #stream;FN
       dpk2(xxx);" DEF FN ";xx$:
       GOTO 50050
50160 LABEL lable
50170 LET xx=5,xx$=""
50180 LET xx$=xx$+CHR$ (PEEK (xx
      x+xx))
50190 LET xx=xx+1: IF PEEK (xxx+
      xx)<>13 AND PEEK (xxx+xx)<
      >CODE ":" THEN GOTO 50180:
       ELSE PRINT #stream;FN dpk
      2(xxx);" LABEL ";xx$: GOTO
       50050
50200 LABEL ended: END PROC
59998 DEF FN dpk2(a)=256*PEEK a+
      PEEK (a+1)
59999 DEF FN tpeek(a)=PEEK a*163
      84+(DPEEK (a+1)-16384)
```

And a nice little fun bit; numexpand, which does exactly what its name suggests. Like it turns 261827 into two hundred and sixty one thousand, eight hundred and twenty seven. Just type it in, and check the demo out.

```
    1 CLS : MODE 3: CSIZE 6,8
51000 DEF PROC fnd n
51001 IF n=0 THEN LET z$="zero":
       GOTO 51009
51002 LET z$=""
51003 IF LEN STR$ n>9 AND LEN ST
      R$ n<13 THEN fne n DIV 100
      0000000: LET z$=z$+q$+" th
      ousand million ",n=n MOD 1
      000000000
51004 IF LEN STR$ n>6 AND LEN ST
      R$ n<10 THEN fne n DIV 100
      0000: LET z$=z$+q$+" milli
      on ",n=n MOD 1000000
51005 IF LEN STR$ n>3 AND LEN ST
      R$ n<7 THEN fne n DIV 1000
      : LET z$=z$+q$+" thousand
      ",n=n MOD 1000
51006 IF LEN STR$ n=3 THEN fna n
       DIV 100: LET z$=z$+a$+" h
      undred ",n=n-n DIV 100*100
51007 IF LEN STR$ n=1 AND n>0 TH
      EN fna n: LET z$=z$+("and
      " AND z$<>"")+a$
51008 IF LEN STR$ n=2 AND (STR$
      n)(1)<>"1" THEN fnb n DIV
      10: LET z$=z$+("and " AND
      z$<>"")+a$+"": IF n MOD 10
       THEN fna n MOD 10: LET z$
      =z$+"-"+a$: ELSE : ELSE IF
       LEN STR$ n=2 THEN fnc n-1
      0: LET z$=z$+("and " AND z
      $<>"")+a$
51009 END PROC
51010 DEF PROC fne n
51011 IF n=0 THEN LET z$="zero":
       GOTO 51017
51012 LET q$=""
51013 IF LEN STR$ n=3 THEN fna n
       DIV 100: LET q$=q$+a$+" h
      undred ",n=n-n DIV 100*100
51014 IF LEN STR$ n=1 AND n>0 TH
      EN fna n: LET q$=q$+("and
      " AND q$<>"")+a$
51015 IF LEN STR$ n=2 AND (STR$
      n)(1)<>"1" THEN fnb n DIV
      10: LET q$=q$+("and " AND
      q$<>"")+a$+"": IF n MOD 10
       THEN fna n MOD 10: LET q$
      =q$+"-"+a$: ELSE : ELSE IF
       LEN STR$ n=2 THEN fnc n-1
      0: LET q$=q$+("and " AND q
      $<>"")+a$
51016 IF LEN q$ THEN LET q$=TRUN
      C$ q$
51017 END PROC
51018 DEF PROC fna n
51019 ON n: LET a$="one": LET a$
      ="two": LET a$="three": LE
      T a$="four": LET a$="five"
      : LET a$="six": LET a$="se
      ven": LET a$="eight": LET
      a$="nine"
51020 END PROC
51021 DEF PROC fnb n
51022 ON n: LET a$="onty (eh?) "
      : LET a$="twenty": LET a$=
      "thirty": LET a$="fourty":
       LET a$="fifty": LET a$="s
      ixty": LET a$="seventy": L
      ET a$="eighty": LET a$="ni
      nety"
51023 END PROC
51024 DEF PROC fnc n
51025 ON n+1: LET a$="ten": LET
      a$="eleven": LET a$="twelv
      e": LET a$="thirteen": LET
       a$="fourteen": LET a$="fi
      fteen": LET a$="sixteen":
      LET a$="seventeen": LET a$
      ="eighteen": LET a$="ninet
      een"
51026 END PROC
51027 FOR n=1 TO 1000
51028 LET m=RND(99999):fnd m
51029 PRINT m;"=";z$
51030 NEXT n
```

Many thanks, Robert.

And that's all for this month. Please do send some snippets, or I shan't be able to put a column together for next month, and that would be bad news.Please send them to:-

John Wase,
Green Leys Cottage,
Bishampton,
Pershore,
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See you next month.

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SOMETHING SHADY

By:- Carol Brooksbank.

For some time I wished I had a good shaded Spectrum screen dump which recognised and showed not only the different colours, but also the BRIGHT status.

Those of you who own a +3 will know that the COPY EXP dump distinguishes between BRIGHT 0 and BRIGHT 1, but the printout is small and distorted - squares appear rectangular and circles egg-shaped - and the shading is not sufficiently different to show colour changes clearly, especially if you are using a new ribbon. With the PLUS D, SAVE SCREEN$ 2 and snapshot button/key2 give a large, well-proportioned dump with distinct shading, but it does not recognise the BRIGHT status. (Fig.1 is a standard SAVE SCREEN$ 2 dump).

Very often, if I want to show the difference between BRIGHT 0 and BRIGHT 1 colours in a printout, I actually have to make a special copy of a screen for printing, with things like bits of red sky or yellow grass with green shadows to simulate the shades of colour in the dump shading.

So, I decided to write my own dump. I make no apology for the fact that it is the PLUS D's SAVE SCREEN$ 2 dump, with modifications. (Why write a whole new program when Bruce Gordon has done most of the work already?) In the listing, I have only made notes about my modifications. Those who wish to disassemble the PLUS D routine to compare it will find the shaded screen dump routine at 4926 in the PLUS D's ROM (G+DOS only, not UNI-DOS).

The shading patterns are in the PLUS D's RAM, and are held in the table of nine bytes starting at 8282 (POKE @ 90). The bytes are 43,31,1,7,111,7,1,31,43. If you arrange the binary form of these numbers, one above the other, you get

Fig.1

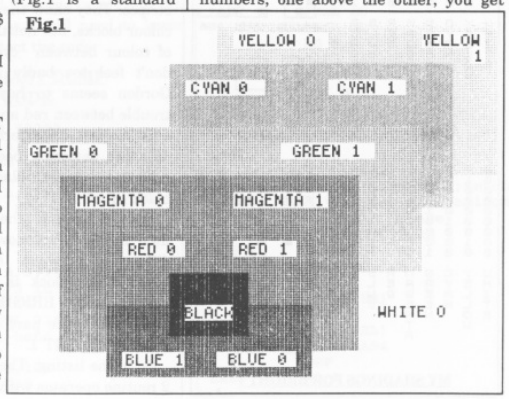
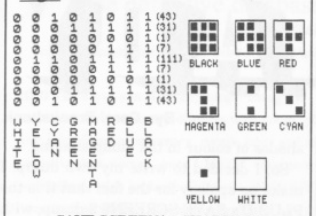


Fig.2



SAVE SCREEN$ 2 SHADINGS

the table on the left of Fig.2. All the bits 7 hold the pattern for white, bits 6 for yellow, and so on to bits 0 for black. In the dump, each screen pixel is represented by a block of 3 x 3 dots on the paper. So, for each colour, the top three bits are the top line of the print block, the middle three the middle line and the last three the bottom line. The cyan shading, for instance, has the first bit of the first line, the middle bit of the middle line and the last bit of the last line set. Translated into a dots pattern this gives a diagonal line across the 3 x 3 block. I have shown all the shading blocks enlarged in Fig.2.

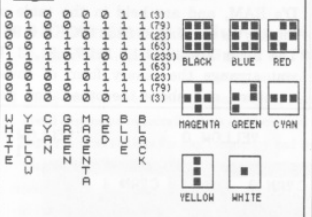
So, if we want to show the difference between BRIGHT 0 and BRIGHT 1, there will have to be two tables of shading patterns - one for the BRIGHT colours and the other for normal. Fig.3 shows you the shading patterns I chose. This time, I worked back from the patterns to the numbers. I decided what the 3 x 3 blocks were to look like, arranged their bit patterns in the table and then read off the numbers I needed to store.

I had hoped to maintain the gradual progression from dark to light colours, but there is a limit to the number of patterns you can get from 9 dots, and by the time I got to cyan and yellow, I was reduced to using horizontal and vertical stripes. They show the boundaries of the colour blocks, but not the relative depths of colour between cyan and yellow. (I don't feel too badly about it - Bruce Gordon seems to have had the same trouble between red and magenta and he only needed 8 patterns!). I needed 15 different patterns, because there is no difference between black BRIGHT 0 and black BRIGHT 1.

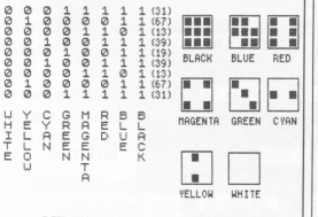
Fig.4 is exactly the same screen as used in Fig.1, but now you can see the difference between all the coloured areas. Each block is marked with its colour and BRIGHT status. The unmarked white part of the background is white BRIGHT 1.

So to the listing. The SAVE SCREEN$ 2 routine operates with the PLUS D DOS

Fig.3



MY SHADINGS FOR BRIGHT 0



MY SHADINGS FOR BRIGHT 1

paged in, so the printing is done using the DOS printing routine at 5577. I wanted to make this a universal program, which can be used on any version of the Spectrum with any printer interface, so I have used printing to stream 3. The other major changes to the PLUS D routine come at the end, in the subroutine which finds the attribute byte for the screen byte being printed. After the attribute byte is fetched, it is tested for its BRIGHT status, and the appropriate table address poked into a new variable, TABLEADD. In the main routine, just below LAB2, DE is pointed to the address held in this variable. In the PLUS D DOS routine at this point DE is pointed straight to the table address.

You can use any ORG address you like, but the code is not relocatable unless you re-assemble it to run from another address. I have used ORG 50000. The USR address called to run it is the ORG address so RANDOMIZE USR 50000 runs it as written. Remember that you will have to load the code before you can use it and that you will need to lower RAMTOP to protect the code.

SPECTRUM SHADY DUMP
THE SOURCE CODE

```
          ORG 50000
START     LD A,3
          CALL 5633;print to pri
            nter
          LD A,27; send codes fo
            r ESC
          RST 16
          LD A,65;"A"
          RST 16
          LD A,6;line feeds of 6
            /72 in
          RST 16
          LD HL,22496;bottom lef
            t-hand byte of scree
            n
          LD B,128
          LD C,8
LAB15     PUSH BC
          PUSH HL
          LD A,27;send codes for
             ESC
          RST 16
          LD A,42;"*"
          RST 16
          LD A,4;graphics ESC "*
            " 4(can be 5 if your
             printer can support
             ESC "*" 5)
          RST 16
          LD A,64;bit image data
             for
          RST 16
          LD A,2;dots per line
          RST 16
          LD B,24;counter for nu
            mber of characters i
            n a screen column
LAB11     PUSH BC ;start of SAVE
             SCREEN$ 2 routine w
            hich prints 1 line o
            f shaded bytes
          PUSH HL
          LD B,8
LAB9      PUSH BC
          PUSH HL
          LD DE,NUMSTORE
          LD B,3
LAB1      XOR A
          LD (DE),A
          INC DE
          DJNZ LAB1
          LD B,2
LAB7      PUSH BC
          PUSH HL
          LD B,C
          CALL GETATTR
          AND 7
          INC A
          LD B,A
          LD C,0
          SCF
LAB2      RL C
          DJNZ LAB2
          LD DE,(TABLEADD);fetch
             address of shadings
             table to use
          LD HL,NUMSTORE
          LD B,3
LAB6      PUSH BC
          LD B,3
LAB5      LD A,(DE)
          AND C
          LD A,(HL)
          JR Z,LAB4
          SCF
LAB4      RL A
```

```
        LD (HL),A
        INC DE
        DJNZ LAB5
        INC HL
        POP BC
        DJNZ LAB6
        POP HL
        POP BC
        DEC C
        DJNZ LAB7
        LD B,3
        LD HL,NUMSTORE
LAB8    LD A,(HL)
        RST 16
        INC HL
        DJNZ LAB8
        POP HL
        DEC H
        POP BC
        DJNZ LAB9
        POP HL
        LD A,L
        SUB 32
        LD L,A
        JR NC,LAB10
        LD A,H
        SUB 8
        LD H,A
LAB10   POP BC
        DJNZ LAB11
        LD A,13;send carriage
          return
        RST 16
        LD A,10;send line feed
        RST 16
        POP HL
        POP BC
        DEC C
        DEC C
        JR NZ,LAB12
        LD C,8
        INC HL
LAB12   DEC B
        JP NZ,LAB15
        LD B,4
LAB13   LD A,13;send carriage
          return and
        RST 16;line feeds 4 ti
          mes at
        LD A,10;end of printng
        RST 16
        DJNZ LAB13
        LD A,27;restore normal
           12/72in
        RST 16;line feeds at e
          nd of program
        LD A,65
        RST 16
        LD A,12
        RST 16
        RET ;end of main progr
          am
;
;
GETATTR PUSH HL;standard ROM r
          outine for finding a
          ttribute byte for sc
          reen byte held in HL
        PUSH BC
        XOR A
        SCF
LAB14   RLA
        DJNZ LAB14
        AND (HL)
        PUSH AF
        LD A,H
        RRCA
        RRCA
        RRCA
        AND 3
        OR 88
        LD H,A
        POP AF
        LD A,(HL);A now holds
          value of attribute b
          yte
        POP BC
        POP HL
        JR NZ,SETTAB;jump forw
          ard for INK pixel
        RRCA ;if PAPER move pa
          per colour bits to p
          ositions 0-2
        RRCA
        RRCA
        PUSH HL
        BIT 3,A;test for BRIGH
          T status (bit 6 has
          rotated to bit 3 pos
          ition)
        JR Z,NOTBRI;jump forwa
          rd for BRIGHT 0
        LD HL,BRIGHT1;store ad
          dress of BRIGHT 1 ta
          ble
        LD (TABLEADD),HL
        POP HL
        RET
SETTAB  PUSH HL;INK pixel BRIG
          HT test
        BIT 6,A;test for BRIGH
          T status
        JR Z,NOTBRI
        LD HL,BRIGHT1;store ad
          dress of BRIGHT 1 ta
          ble
        LD (TABLEADD),HL
        POP HL
        RET
NOTBRI  LD HL,BRIGHT0;store ad
          dress of BRIGHT 0 ta
          ble
        LD (TABLEADD),HL
        POP HL
        RET
TABLEADD DEFS 2
BRIGHT0 DEFB 3,79,23,63,233,63
          ,23,79,3
BRIGHT1 DEFB 31,67,13,39,19,39
          ,13,67,31
NUMSTORE DEFS 3
END     EQU $
LENGTH  EQU END-START
```

If you get a 'Venetian blind' effect in the printout, it will be because your printer is set up to send an automatic line feed with every carriage return, and you will need to modify the code.

Change the following commands:-

```
        LD A,10
        RST 16
```

to

```
        NOP
        NOP
        NOP
```

They appear twice in the source code, just below LAB10 and just below LAB13.

If you have already assembled the code at the ORG address I gave then POKE 50140, 50141, 50142, 50161, 50162, and 50163, with 0. If you used a different address then POKE your start address plus these displacements:- 140, 141, 142, 161, 162, 163).

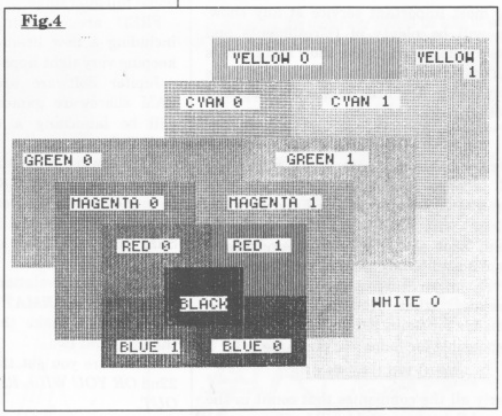
The program brings the +3 dump range of shadings and the PLUS D dump proportions and clarity together for everyone, whatever hardware you are using, giving you an A4 sized dump printed sideways.

These are the commands to set up some of the more popular printer interfaces to use this program:-

Disciple/PLUS D	POKE @ 6,1
Spectrum +3	FORMAT LPRINT "U"
Kempston E	COPY : REM CHR$ 0
Interface 1	FORMAT "b";baud rate
	OPEN #3,"b"

Right, that is all for this month. However, now that I have a colour printer I found myself needing a colour dump. So, next month, by inserting commands into the source code for SHADY and reassembling it, I will give you a Spectrum colour dump which will work with colour printers like the Citizen Swift 9 and the Star LC200. So save the monochrome dump source code - you will need it again next month.

Fig.4



SHOW NEWS

For those of you who have not been reading the editorials in ***FORMAT***, the 3rd Gloucester Spectrum & Sam Show will be held on Saturday 22nd October 1994. The show is at Quedgeley Village Hall, Bristol Road, Quedgeley, Gloucester. See the map and directions printed opposite.

The show starts at 10:30am and will run until 4:30pm. Entry is just £2 per person, under 14s free if accompanied by an adult.

PARKING

Please use the free parking provided, just round the corner, in front of the Tesco Super-store. Remember to lock any valuables safely away out of sight - being a busy car-park your car should be quite safe, but it is better not to take chances by putting temptation in front of thieves.

FOOD & DRINK

The most important service at any show. There will be plenty of refreshments and snacks available inside the show and there is also a good pub right next door that sells midday meals. The area is also well supplied with other restaurants.

BRING AND BUY

There will be, as usual, a bring and buy stand. Please remember to make sure anything you bring to sell is fully working, complete, and has its instructions or manual. Each show sees many hundreds of items changed hands and I'm sure there will be even more this time, but you will understand that Format cannot be responsible for items left for sale, nor can we be responsible for items you purchase

WHO WILL BE THERE

Nearly all the companies that count in the SAM and Spectrum world will be there and I am sorry there is not room to mention everyone in this write-up.

DEMOS

Carol Brooksbank will be there with both Spectrum and SAM set up and ready to give help and advice to any who feel a need for it. Anyone wishing to demonstrate something to other people will be very welcome - there will be lots of machines running in the hall, we will try to get you time on one of them if at all possible.

PRODUCT NEWS

There will also be bargains galore and lots of new things to tempt even the tightest of wallets open.

Woodpecker Discs will be on hand with quality blank discs. They scored a real success at the last show with their disc storage boxes. This time they will have some degaussed and preformatted 3" discs for you +3 owners, these come with Woodpecker's usual full guarantee.

FRED are releasing two new games including a new licensed product they are keeping very tight lipped about.

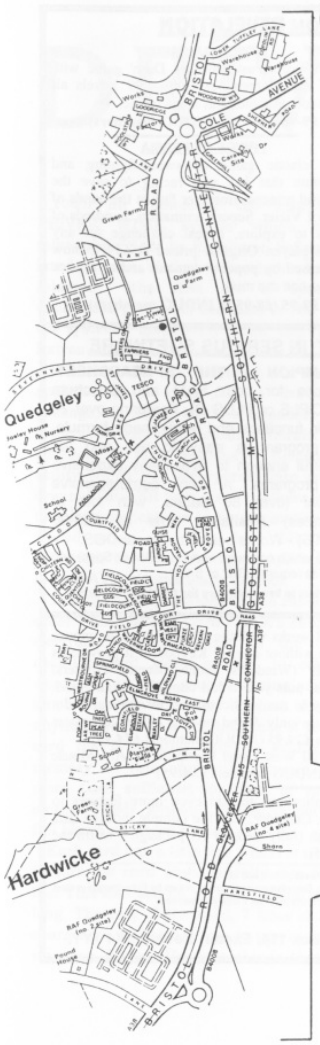
Jupiter Software are promising a new SAM shareware games pack while Zodiac will be launching a new budget label - Zedd-Soft.

SD Software hope to be showing a new Spectrum MIDI package while Flexibase will be launching the full version of 'A Computer Guide To Safe Travel' in connection to the Suzy Lamplugh Trust and previewed at the April show.

Of course Revelation, Steve's Software, West Coast ***FORMAT*** and others will be there to help make this show even larger than the first two.

Make sure you get there on Saturday the 22nd *OR YOU WILL REALLY BE MISSING OUT.*

See You All There



GLOUCESTER SHOW

Venue:- **Quedgeley Village Hall, Bristol Road, (B4008) Quedgeley, Gloucester.**

How To Get There

If you are travelling north on the M5 then take exit 12 and follow signs for Gloucester. A short distance after leaving the motorway you come to a roundabout - this is the roundabout marked at the bottom of the enlarged map. You are then on the A38 for a short distance before turning left onto the B4008 which is sign-posted Quedgeley and Severn Vale Shopping Centre. Go straight over at the next roundabout. The hall is then on the left, just past School Lane and before you reach another roundabout. There is limited parking at the rear of the hall, but if you turn left at the next roundabout there is a large free carpark as part of the Severn Vale (Tesco) shopping complex.

For those of you coming south there are two choices. Junction 12 is not available southbound so it is easier to continue to exit 13 and then turn north onto the A38 - this only adds about 5 miles to the journey and avoids the traffic around Gloucester. The alternative is to exit at junction 11 (the A40 exit) and follow signs for Gloucester, follow the ring-road around - you eventually get signs for M5 South - until you reach the roundabout marked at the top of the enlarged map. This has the local British Telecom offices on the left, follow signs for Severn Vale Shopping Centre (see above for more details).

Anyone not using the motorway should be able to work things out from their own road atlas given the map below.

SAM GAMES AVAILABLE FROM REVELATION

LEGEND OF ESHAN

A game like none seen before on SAM.

This graphic game of strategy and adventure takes you into a vast world of demons and war-lords. As Eshan you must raise an army to save the beautiful land of Avinell from the terror of Barquin the Witchking and his hordes. With your friends and followers you must rescue Avorell the Noble and restore him to his palace. This is *not* an arcade game, this is *not* an adventure, this is something *very special*.

Legend Of Eshan works with keyboard or joy-stick and is also fully Mouse compatible. Comes complete with comprehensive instructions and a map of the lands of Avinell.

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Prices in brackets() are for INDUG members.

DRiVER
The Graphical User Interface for SAM

DRiVER works with the SAM Mouse (no mouse should be without one) or Keyboard. It provides a full WIMP (Windows, Icons, Menus, Pointers) system that puts you in full control of your SAM. Comes complete with many built-in utilities and ready to run applications. Full manual and a disc-based tutorial. DRiVER gives you the ease of use only found on big office computers before. So easy to use yet so powerful. ***Fantastic Value £29.95*** (INDUG members ***£24.95***)

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DRiVER EXTRAS

Reviewed By:- Ken Elston.

You'll all remember the excellent DRiVER WIMP system which was released for SAM by Revelation Software late last year. Well now Revelation have released the first set of special application programs designed to run on the system - inventively titled 'DRiVER Extras Disc #1'.

The supplied disc contains six main applications: a card file, a drawing package, an alarm clock, a calender, an art grabber and a game called Mosaic. In addition, it also contains a Kickstart utility which you incorporate into your original DRiVER boot disc - it allows you to select applications to be automatically loaded when you first load DRiVER (although the File Manager application is ALWAYS automatically loaded).

Taking the applications in the random order I used before, Card File is a simple electronic implementation of the old desk-top card index system. In other words it's an easy way of storing small amounts of information on just about anything you want. The total size of your card file is limited only by available memory so this application should be more than sufficient for most of your storage needs without having to get a full blown database set up.

Each card has a title line which is used to sort the card alphabetically into the file. This line can be up to 32 characters long. The rest of the card, 7 lines of 32 characters, is free for you to use in any way you desire. The two things that I feel are missing from this program are the ability to sort into a different order, and a search facility. However, for small applications like storing friend's telephone numbers etc, I'm sure you will not miss these more advanced features.

Probably the most impressive application is PaintBrush - a drawing package. OK, it's not up to the standards of SAMPaint but you'll find it very useful for a lot of small artwork jobs and it is remarkably similar to the Paintbrush application in Windows 3.1 on those nasty expensive machines that take up all my time in the office.

Some of the features include: variable brush sizes, solid and hollow fills, text, different MODE capabilities and the ability to change the palette. I found the cursor response when using a mouse was very positive and it was fairly easy to draw quite complex shapes freehand - you even have the ability to zoom in and out to make fine work that little bit easier. In fact, I believe if PaintBrush had been released a year ago, it would have commanded a far higher price in its own right.

The alarm clock application simply reads the current time from the SAMBus (or lets you enter it), and, erm, displays a clock. The time can then be constantly displayed on the DRiVER title-bar and of course can be used for date-stamping files saved. You can also program the alarm to go off and interrupt your beauty sleep to tell you it is time to go to bed.

To complement the Clock, Calender can also read in the date from the SAMBus. There isn't really much you can do with a calendar but you do get to use the scroll bars to scroll through dates month by month or year by year.

The last utility on the disc, Art Grabber, does not have a great deal of use at the moment - it simply lets you cut and paste screens. However, I'm sure someone will find a use for it.

The only game on the disc, Mosaic, originally appeared on an issue of FRED magazine. Obviously that version only ran under BASIC and was not able to make use of a multi-program environment like DRiVER, so Revelation got it converted. Mosaic is a two-player game where each player can be either human, or the computer on one of four skill levels. At the start of the game, you are given an almost blank board divided into squares. You must place coloured tiles so that, if they are touching another tile, the colours must match on that side. The more sides that each new tile is touching on, the more points awarded. Basically, this is a very good and addictive game although advanced features like being able to adjust the number of squares and colours used would have been the cherry on top.

All the applications are explained, either in a main README file that loads into Notepad, or in special help files for particular programs. Card File for instance had a cardfile that explains most of its features.

OK. Bottom line. Is DRiVER Extras worth buying. Well at £5.95 (£4.95 to INDUG members) the answer is a most definite yes. PaintBrush on its own is worth that much.

Keep up the good work Revelation, it looks like DRiVER is here to stay.

SMALL ADS

WANTED Spectrum +2 or +2a for spares. Anything considered. Ring Bart on Grimsby (0472) 812773.

WANTED SAMBUS in good working order. Please phone Stuart Burton on 0202-715774 (office hours) 0202-761537 (evenings/weekends) or 0860-590573 (Mobile).

WANTED Spectrum+ 128K, black case and grill on end of unit. Electronically must be in perfect working order but doesn't matter if a key or two isn't same as it was. Please telephone Chris Walford on 081-889-4878 most evenings.

SAM USERS New Zealand. Looking for SAM users Down Under. Disc mag issue 24 now available. Contact Ken Gager, 66 Playfair Street, Dunedin, NEW ZEALAND.

FOR SALE SAM Coupé 512K, Single drive, MasterDOS/Basic, Printer interface, Citizen 180D printer with stand + loads of software. All original manuals and boxes. Single purchaser gets FREE 128K Spectrum + over 50 games tapes. £250. Tel Boston (0205) 750704.

FOR SALE HiSoft PASCAL and C - original packaging, manuals and DISCiPLE discs. For the Spectrum or will run on SAM under SpecMaker. £15 for both packages or £8 each. Alan Cox, Pen-y-Maes, Ostrey Hill, St Clears, Dyfed, SA33 4AJ. Phone 0994 231112.

WANTED TAS-SIGN for Spectrum, with instructions. Phone Des on 061 793 4215 (answer machine if not in).

SPECTRUM SOFTWARE Cassettes include Doomdarks Revenge, North & South, Waterloo, Art Studio. +3 disc software includes Supercars, Lotus Turbo. Send SAE for huge list to Alan Cresswell, 18 West St, Geddingham, Northants, NN14 1BD.

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An Easy Way To Date

By:- Bob Brenchley.

Question: What has the 25th December 1994 got in common with the number 34692? No idea! Give up?

Well they both refer to the same day. The first is the date according to the calender we use every day, while 34692 is the date in ICL format.

Way back, in my dim and distant youth, I worked on big ICL main-frame computers. The sort that had special air conditioned computer rooms built for them. Rooms filled with monster tape decks, noisy card readers, and massive exchangeable disc stores.

Well, ICL had a neat answer to the storage of dates for internal use by the computer, and that is what this short article is all about.

To our clever human brains, the calender of 12 months - each made up of between 28 and 31 days - seems quite OK to us. Like the old Pounds, Shillings, and Pence, if you grew up with them they were easy. Yards, feet and inches are dead simple - if you use them every day. Our brains just cope with them without difficulty.

However, computers are simple things. They only add up in zeros and ones. If you think about it a little, you will come to understand the enormity of the operation, for the sake of argument, in subtracting the 17th March 1954 from the 5th September 1994 in order to find the number of days that have elapsed.

ICL dates, on the other hand, are just numbers. 17/03/54 becomes 19799, while 05/09/94 becomes 34581. So, if you subtract the first number from the second you get 14782, the number of days between the two dates. Therefore, as I write this, I am 14782 days old - makes me feel old enough for a part in Highlander.

Anyway, the serious part. What is an ICL date? Well, it is a count of days starting with the 1st January 1900. They started with the last year of the old century, not with the 1st Jan 1901, because most dates were entered into the computer as DDMMYY so any year from 00 to 99 would decode as a positive number.

Now there is one big problem with our calendar - *LEAP YEARS*. The rules are:-

1. IF the year is divisible by 4 then it is a Leap Year
2. Unless the year is also divisible by 100 when it is NOT a Leap Year.
3. Except where the year is also divisible by 400 in which case *it is* a Leap Year.

So 1992 was a leap year, while 1994 is not. It is also true that both 1900 and the year 2000 are leap years. But, if we ignore 1900, from then on the simpler rule of divisability by 4 applies until the 28th February 2100 - a very long time into the future.

Converting to and from ICL dates therefore takes into account the first 59 days of 1900. This then leaves a simpler conversion - it was even simpler on old ICL main-frames as they always worked

in integer (whole number) arithmetic and stored remainders for you - something we have to do ourselves in the more advanced basics on Spectrum and SAM.

So, here are the two routines. In each case I have opted to do things slightly long-winded so that each step of the conversion is on a separate line. With multi-statement lines and a little logic manipulation the routines would be a lot smaller.

Routine 1. ICL to DDMMYY.

```
1000 REM ICL to DDMMYY.
1010 REM Enter with date in ICLD
     ATE
1020 LET D=ICLDATE
1030 LET D=D-59
1040 LET D=D*4
1050 LET D=D-1
1060 LET YY=INT (D/1461)
1070 LET D=D-YY*1461
1080 LET D=D+4
1090 LET D=INT (D/4)
1100 LET D=D*5
1110 LET D=D-3
1120 LET MM=INT (D/153)
1130 LET D=D-MM*153
1140 LET D=D+5
1150 LET D=INT (D/5)
1160 IF MM<10 THEN LET MM=MM+3:
     GOTO 1190
1170 LET MM=MM-9
1180 LET YY=YY+1
1190 LET DD=D
1200 RETURN
```

Routine 2. DDMMYY to ICL.

```
2000 REM DDMMYY to ICL DATE.
2010 REM Enter with date in D$
2020 LET DD=VAL D$( TO 2)
2030 LET MM=VAL D$(3 TO 4)
2040 LET YY=VAL D$(5 TO )
2050 IF MM>2 THEN LET MM=MM-3: G
     OTO 2080
2060 LET MM=MM+9
2070 LET YY=YY-1
2080 LET YY=YY*1461
2090 LET YY=INT (YY/4)
2100 LET MM=MM*153
2110 LET MM=MM+2
2120 LET MM=INT (MM/5)
2130 LET ICLDATE=YY+MM+DD+59
2140 RETURN
```

OK, now add the following lines to test the routines, I have not included much in the way of error checking but you can add that if you want.

Testing Program.

```
  10 REM Testing Routine.
  20 CLS
  30 PRINT '"ICL DATE CONVERTER"
  40 PRINT '' PAPER 2;"PRESS"
  50 PRINT '' INVERSE 1;"1"; INV
     ERSE 0;" To convert ICL to
     DDMMYY"
  60 PRINT ' INVERSE 1;"2"; INVE
     RSE 0;" To convert DDMMYY t
     o ICL"
  70 LET I$=INKEY$: IF I$="" THE
     N GOTO 70
  80 CLS
  85 IF I$="1" THEN GOSUB 500: R
     UN
  90 IF I$="2" THEN GOSUB 600: R
     UN
 100 BEEP 1,1: RUN : REM not pre
     ssed 1 or 2
 500 REM Input ICL DATE
 510 INPUT "ICL Date = ";ICLDATE
 520 IF ICLDATE<0 THEN GOTO 510
 530 GOSUB 1000
 540 CLS : PRINT '''"The ICL Dat
     e of ";ICLDATE'''Converts t
     o ";DD;"/";MM;"/19";YY
 550 PRINT ''' PAPER 2;"Press a
     key to continue"
 560 PAUSE 1: PAUSE 0: RETURN
 600 REM Input DDMMYY
 610 INPUT "Enter date as DDMMYY
      ";D$: IF LEN D$<>6 THEN GO
     TO 610
 620 GOSUB 2000
 630 CLS : PRINT '''"The date ";
     D$;" converts to"'ICLDATE;"
      in ICL date format."
 640 GOTO 550
```

And there it is. Storing dates in their ICL form takes up less space and allows you to do more calculations with them. It is also worth noting that if you know what day of the week the 1st January 1900 was - you can work out the day of the week for any day just by dividing the ICL date by 7 and taking the remainder, but I will leave that one for you to code.

Uni-Dos Corner

By:- Henk van Leeuwen. Edited by:- Adrian Russell.

OK you UNI-DOS buffs, here we are with another routine to add to your ever growing collection of CREATE files. This time we bring you one that makes it possible to MOVE any code block from address <X> with a length of <Z> to address <Y>.

```
; copy @ X,Z TO Y
;
        ORG 60000
START   DEFB 1 ;only one syntax
        DEFB 255 ;COPY token
        DEFW AT_LEN
L_AT    CP "@" ;code 64
        RET NZ ;reject if wrong
        RST 40 ;point to next pa
                rameter
        RST 16
        DEFW 7298 ;ask for start
                   address
        CP "," ;seperated by a
                comma
        RET NZ ;reject if wrong
        RST 40 ;point to next pa
                rameter
        RST 16
        DEFW 7298 ;ask for lengt
                   h of block
        CP 204 ;character value
                for 'TO'
        RET NZ ;reject if wrong
        RST 40 ;point to next pa
                rameter
        RST 16
        DEFW 7298 ;ask for new
                   address
        RST 24 ;the end of the
                syntax block
        DEFB 13 ;SYN.END
        RST 16  ;get new address
                 from calculator
        DEFW 7833 ;stack and rem
                   ove to DE
        LD D,B
        LD E,C
        PUSH DE ;also stack
        RST 16 ;get lenght from
                calculator stack
        DEFW 7833 ;and SAVE
        PUSH BC
        RST 16 ;get start addr
                from calculator
        DEFW 7833 ;stack
        LD H,B ;and move to
        LD L,C ;the HL register
        POP BC ;unstack BC
        POP DE ;and DE
        LDIR ;replace block
        RST 24
        DEFB 14 ;COM.END
AT_LEN  EQU $-L_AT
```

And again the DATA Basic lines for you who still have not purchased an assembler program.

```
100 DATA 1,255,44,0,254,64,192,
    239
101 DATA 215,130,28,254,44,192,
    239,215
102 DATA 130,28,254,204,192,239
    ,215,130
103 DATA 28,223,13,215,153,30,8
    0,89
104 DATA 213,215,153,30,197,215
    ,153,30
105 DATA 96,105,193,209,237,176
    ,223,14
```

When finished typing this program save it as :-

```
SAVE d* "COPY_code"USR 60000,48
```

And now a little bonus for you. Another CREATE file that allows you to erase CREATES that are already in memory. It is necessary to load this CREATE first because it will is erase backwards. The syntax is ERASE @.

```
        ORG 60000
;ERASE @
```

```
start    DEFB 1 ;only one syntax
         DEFB #D2 ;ERASE token
         DEFW er_len
l_erase  CP "@" ;code 64
         RET NZ ;reject if wrong
         RST 40
         RST 24
         DEFB 13 ;SYN.END
         LD HL,(23635) ;Basic
         PUSH HL ;save this value
         DEC HL ;this is the char
                 acter value
         DEC HL ;see below
         DEC HL ;length byte from
                 the CREATE
         LD A,(HL) ;low byte in C
                   from length
         LD C,A
         INC HL
         LD A,(HL)
         LD B,A ;high byte in B
                from length
         INC BC ; = total length
         INC BC
         INC BC
         POP HL ;HL=start Basic
         SBC HL,BC ;find new star
                   t address
         RST 16
         DEFW #19E8 ;clear
         RST 24
         DEFB 14 ;COM.END
er_len   EQU $-l_erase
```

And again the DATA Basic lines for when you don't have your own assembler program - but it is about time you got one we think.

```
350 DATA 1,210,29,0,254,64,192,
    239
351 DATA 223,13,42,83,92,229,43
    ,43
352 DATA 43,126,79,35,126,71,3,
    3
353 DATA 3,225,237,66,215,232,2
    5,223
354 DATA 14
```

When finished typing save it as:-

```
SAVE d* "USR _code"USR 60000,33
```

And with that little extra helping we come to the end of another UNI-DOS Corner. Hope you liked this months offerings.

See you soon.

sinclair

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The HELP PAGE

Edited By:- Ray Bray.

The more alert reader might have noticed that we did not have a Help Page in the last issue of ***FORMAT***. This was due to the fact no queries were sent to us and I regret to say that there are still no queries again this month. All the fine weather we have been enjoying must have kept you away from your keyboards. In spite of this I do have one item to interest Spectrum/+D users this month and some tips sent in by readers.

The question of writing machine code to load and save to disc on the Spectrum using the PLUS D was raised by David Russell some months ago but sufficient space has not been available previously to give a full answer. As we have not received any queries this month I thought it might also help others if we spent some time on this subject. The first requirement for saving or loading is to set up an area to hold the vital information about the file, which is called the User File Information Area (UFIA). A routine will be required to write the necessary data to the UFIA which has the following layout:-

No. of Bytes	Description
1	Drive number (1 or 2)
1	Program number. (not used, enter 0)
1	Stream number. (not used, enter 0)
1	Device type. (enter "d")
1	Directory description. (1 - 11 see below)
10	File name. (fill spare characters with 32)
1	File type. (0 - 3 see below)
2	Length of file. (two byte form)
2	Start address of file. (two byte form)
2	Variables length. (BASIC programs only)
2	Autostart line or address. (two byte form)

Two of these items require further definition. The Directory Description codes for the various file types is shown in the following table:-

Code	Type
1	Basic Program
2	Data Array
3	String Array
4	Code file
5	48K Snapshot
6	Microdrive file
7	Screen$ File
8	Special File
9	128K Snapshot
10	OPEN type file
11	Execute file

The File Type byte is however limited to four different codes which in fact will cover all the Directory Description types above except OPEN type and perhaps the special type files. The codes are:-

Code	Type
0	BASIC
1	Data Array
2	String Array
3	Code file

The full UFIA description is required for saving a file but when loading a file the only information required is the drive number, device type, file name and the directory description, however the UFIA must still be the same size and layout as shown above because the Plus D reads the data supplied and, on loading, writes the missing information to the UFIA.

All the routines for saving and loading files are held in the PLUS D and these are called by various Command Codes using the RST 8 instruction. The Codes

used to access the PLUS D routines are:-

Code	Description
53	Open a file.
55	Save a block of data to disc
56	Close file.
59	Get file information from disc
60	Load a byte.
61	Load a block of data.

Having covered the various parameters used in disc operations we can now get down to the code required to SAVE and LOAD. In the following programs we are saving and loading a block of data 500 bytes long starting at address 60000. The code to achieve this has been placed immediately before the UFIA which is set up at address 35000. The information shown in the UFIA is either POKE'd or loaded in by a suitable M/code routine.

To save the code, first open the file and set up header information:-

```
LD IX,35000   ;Point to UFIA
RST 8         ;Call DOS
DEFB 53       ;Command code OPEN
                FILE
```

Next save the block of code:-

```
LD DE,60000   ;Start address of
    file
LD BC,500     ;Length of file
RST 8         ;Call DOS
DEFB 55       ;Command code SAVE
                FILE
```

Now close the file:-

```
RST 8         ;Call DOS
DEFB 56       ;Command code CLOSE
                FILE
RET           ;Return to main M/C
    program
```

The UFIA starting at address 35000:-

```
35000 DEFB 1    ;Disc Drive 1
35001 DEFB 0    ;Not used
35002 DEFB 0    ;Not used
35003 DEFB 100 ;Device type "d"
35004 DEFB 4    ;Directory descri
    ption for code file
35005 DEFB 84,69,83,84,70,73,76,
    69,32,32 ;Filename "TESTFIL
    E  "
35015 DEFB 3    ;File type code
35016 DEFW 500    ;File length
35018 DEFW 60000 ;Start address
35020 DEFB 0,0    ;Not used
35022 DEFB 0,0    ;Not used
```

Loading a file requires an additional stage to read the header information stored in the first nine bytes of the disc directory for the file, into the last nine bytes of the UFIA. The drive number, device type, directory description and filename has to be entered into the UFIA before calling the LOAD routine. The sub-routine to load a code file is:-

```
LD IX,35000   ;Address of UFIA
RST 8         ;Call DOS
DEFB 59       ;Command code GET
                FILE HEADER
```

Read in 9 bytes of header:-

```
LD DE,35015   ;Start of 9 byte
                area in UFIA
LD BC, 9      ;Byte count
LOOP:RST 8    ;Call DOS
DEFB 60       ;Command code READ
                A BYTE
LD (DE), A    ;Read in byte
INC DE        ;Next address
DJNZ LOOP     ;Next byte
```

Now load the block of code:-

```
LD DE,(35018);Fetch start addr
                from UFIA
LD BC,(35016);Fetch length from
                UFIA
RST 8         ;Call DOS
DEFB 61       ;Command code LOAD
                FILE
RET     ;Return from sub-routine
```

The UFIA starting at 35000:-

```
35000 DEFB 1    ;Drive number
35001 DEFB 0    ;Not used
35002 DEFB 0    ;Not used
35003 DEFB 100 ;Device "d"
35004 DEFB 4    ;Directory
                Description =
                CODE FILE
35005 DEFB 84,69,83,84,70,73,76,
    69,32,32 ;Filename "TESTFIL
    E  "
35015 DEFB 0
35016 DEFB 0,0
35018 DEFB 0,0
35020 DEFB 0,0
35022 DEFB 0,0
```

As you see, it is quite simple to save and load files using machine code as the PLUS D routines do all the hard work.

As a follow-up to the piece in the August issue about suitable monitors for SAM, Carol Brooksbank has kindly written to say that she purchased a Philips CM8833-11 monitor about a year ago and Blue Alpha made up a lead to connect it to her SAM and grey Spectrum +2. She also says that she bought it through Kays mail order catalogue and it still appears in their Autumn 94/Spring 95 catalogue. Buying from their catalogue allows you to return the monitor if the specification is changed and it no longer works with your SAM or Spectrum. The monitor is a full stereo sound colour monitor, is switchable between TTL and analogue input (SAM and Spectrum use TTL) and has a 9 pin D socket for video and a phono socket for audio rather than the SCART socket normally used for SAM. Thank you for that Carol.

Still on the subject of monitors, J Stewart has come back on the problem he had with getting his Mitsubishi TV to work with SAM. Our suggestion didn't cure the problem but it led him to try an alternative fix which was to connect the Composite Video Out on SAM (pin 19), to Video In on the TV (pin 20), with pin 16 and 20 on the TV still connected in the normal way. He says there is a very slight shadow on some background colours but on the whole he is very pleased with the result. We also had a letter from Guy Inchbald on the same topic. He says that a tip he picked up in the days of PBT was to replace the link from pin 16 to 20 with a 1K resisistor, which as far as he recalls reduces the load at pin 16, so boosting the brightness, whilst allowing adequate signal through to pin 20 to steady the picture. Be sure that the SAM connects to pin 16 not pin 20. This has worked well for him over a number of years on a range of Philips, Sony and other nameless TV's. He goes on to say that another idea would be to link pins 14 and 18 together to ensure that both Video and Blanking are properly earthed. Thank you for those useful tips Guy.

The final tip comes from Dean Shepherd, who obtained the new upgrade for SECRETARY but found that the date function would not work and the program refused access to any Sub-Directories even though MasterDOS was installed. He found the answer in line 2020 of the "Sec_Load" Basic file which he amended to read:- 2020 IF PEEK DVAR 7 >=30 THEN POKE pra+30,1

This replaced the DVAR 7 >30 which the line originally contained. Subsequently the date appeared on the Intro Menu (along with the day), and it was possible to access the Sub-Directories. Thank you Dean.

That is all for this month. Please keep sending in 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 OLL.

Anything +3, CP/M:-

Mike Atkins (Format Help Page),
7O, Rudgwick Drive,
Bury,
Lancashire.
BL8 1YE.

Please remember that if you want any discs/printouts etc returned then you must include a stamped addressed envelope.

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YOUR LETTERS

Dear Editor,

I have just received my September edition of ***FORMAT*** and read a letter from Dominique Charbonnier of France enquiring about a Morse decode for the Spectrum.

He may not be aware that a Spectrum program which decodes Morse (at all speeds), RTTY, AMTOR, and slow scan television is available from a UK company on a commercial basis. The program also includes a Morse tutor.

The program is called RAMS 1V and is produced by J & P Electronics Ltd., Unit 45, Meadowmill Estate, Dixon Street, Kdderminster, DY10 1HH, Tel 0562 753893. The current price of the program is £25 plus P&P. A large SAE (35p Stamp) brings their catalogue and they accept Access & Visa. The company deals with UK and overseas orders and payment details are shown in the catalogue.

They produce quite a range of Spectrum software designed for the amateur radio market and I think that they also still do repairs to Spectrum computers. initially a large number of radio amateurs still use Spectrum computers for Packet radio, Morse decoding etc.

Other products include, Fax (for receiving weather maps etc.) audio filters, eprom loader, cassette port for the +2 & +2A for inputting audio signals or connecting an external cassette recorder, video digitiser and pocket radio. Many of these program are suitable for transmission as well as reception.

I do not have any connection with this company but have purchased and used some of their porducts. Although they mainly advertise in Shortwave Magazine you may be able to persuade them to run an advert in ***FORMAT*** some time.

Yours Sincerely, Robert A.Connonlly.

Many thanks for sparing the time to share the information. J&P have had several good mentions in the past. **Ed.**

Dear Editor,

This letter is in response to your challenge to nominate the Top Ten People in Home Computer History.

I must have missed the original challenge - these days I am spending most of my time with PCs (and you know I really mean IBM-compatibles!) and ***FORMAT*** tends only to get a cursory glance when it arrives (my fault, not yours). However, even if I had seen the original I would probably not have responded, since I do not feel qualified to comment on such a broad-brush topic (and in addition, ten is a large number). However, what I will do is to nominate a few people who have been 'top' in my personal home computing saga.

The first one obviously has to be Uncle Clive. His efforts to bring computers to home users at reasonable prices, first with the ZX80/ZX81 (and on the technical front I understand that producing the ZX81 using such a small number of ICs was an important breakthrough). And secondly, the SPECTRUM certainly hooked me on home computing (I was, of course, using computers in my work until I retired,

starting with a Ferranti Mk 1*).

However, I would put at equal first a name that may not be familiar to many of your readers (and may not in fact be correct, although you will know who I should name if I am wrong) - Steven Vickers.

I nominate Steven as, I believe, the author of both ZX81 and Spectrum Basic. Having, comparatively recently, played with Atari ST Basic, GW Basic and other languages I realise that the simplicity, user-friendliness and excellent string handling capabilities of these two Basics played a major part in hooking me on the hobby. If I had started with Atari ST Basic I might well have given up very early on - it is diabolical!

Moving on, obviously Bruce Gordon (ably assisted by Alan Miles, but I highlight Bruce because as I understand it he was the technical half of MGT) must come next. Ideally I would have gone from the Spectrum to SAM direct, since (although Bruce will twitch if he sees this) SAM is what a Mark II Spectrum should have been.

Others who have contributed to my enjoyment of my hobby include Andy Wright, John Wase, Chezron Software with their OUTLET disc-based magazine (which compliments ***FORMAT***) and, although you seem untypically modest on this point, you and ***FORMAT***.

I will leave you to allocate points for this personal view of things. If by any chance I were to win a prize in the draw then please donate the value of my winnings to your favourite charity.

Yours Sincerely Alan D.Cox.

Well thanks Alan, that is a nice list in letter form. However, sadly, it is one of only four we have received. Yes, thats right, *FOUR*. I thought the idea was a good one but readers obviously think different. Would someone like to write in and tell me why they did not like the idea? **Ed.**

Dear Editor,

Having just become a full member of your magazine, having inherited the +3 from my grandson for whom I purchased it in the first place, purely as a games machine (soon replaced by the Gameboy-Sega and now a 486.) I have spent a few hours trying to master it with not a lot of success, its more trial and error.

With the TASWORD 3 it is useful as a word processor, an improvement on my hand writing, this together with a Brother HR5 is quite good but, and its a Big but, I am sure that wonders could be achieved if I could make any sense of the CODES that would improve the quality and size of the letters.

I have also got the Artist from Datel together with the mouse which when printing out pictures???? does wonders on the printer. The +3 manual seems quite useless in this respect.

One other thing that I notice in the ***FORMAT*** is a lack of utilities for the 3" disc as I do not have the PLUS D or DISCiPLE only Chris Box's 3.5 drive. I seem to have jumped the wrong way on every purchase so far. YES???

PS. Does anyone have a spare drive for a dead Spectrum +3?

Yours Sincerely, Alan Sharvell.

As I've often said in the past Alan, I can only print what is sent in, and +3 owners do not seem to write a lot. It is true to say that most serious users have gone for DISCiPLE/PLUS D because they are more advanced. However, that is no excuse for us to leave +3 owners out - so if we get anything good for the +3 we will print it. And that is a promise. **Ed.**

Dear Editor,

After I had written on my Renewal Notice for ***FORMAT*** some suggestions about future articles in our magazine I realised that you probably would not be able to read the writing so in answer to your enquiry about articles, I am writing this letter.

The part of the magazine, which I always read is Ray Bray's Help Page. Also I seldom miss reading the adverts looking for anything which will reveal some of Sam's hidden talents.

It seems to me that there is a very large gap between the information in the User's Guide and the Technical Manual which is very difficult to fill because the Part-time SAM user does not know what questions to ask and the expert has the problem of wanting not to over explain himself.

Certainly there could be some very useful information built into the Glossary and Index of the User's Guide and perhaps until the Guide has been updated, would it not be possible to obtain suggestions from readers giving useful tips.

Would a 'Have you heard this?' page be of interest?

To quote two small points (and there are many others).

How many users know that when a program is saved, the data in the arrays is also saved and when the program is reloaded the data is not cleared until the instructions to RUN, CLEAR or DIM are given? If all the DIMs are kept at the start of the program, and the SAVE instruction states a start line after the DIMENSIONS, then all the arrays will have data intact. You can even record the last filing date of program.

If they do know, they did not get it from the Guide and it would appear appropriate for it to be explained in the Glossary under either RUN or SAVE.

Secondly, I suggest that there could be explicit instructions, say in the Glossary under RAM or RAMTOP of how to have full advantage from the SAMs capacity for use in a Basic Program.

There are so many hidden talents in SAM that we part-time users mostly just stumble across them - quite often some months after we wanted to use them.

Thank you for your interest if you have read so far.

Yours Sincerely, Tony Mugford.

Hints and tips on how to get more from your computer are what ***FORMAT*** is all about. Reading articles, typing in programs and Short Spot items, all help to widen understanding of your machine.

It is true that a new SAM guide is high on the list of projects, but I have to say that when we appealed for lots of little routines (that would help explain SAM Basic) I was totally underwhelmed with replies. That lack of support from people is the main reason for the delay in getting something new out, but I wont give up. **Ed.**

Dear Editor,

This is just a line to say thank you for the advice you gave me when my SAM Coupé went haywire. You may recall that I rang you when I couldn't get through by telephone to Blue Alpha Electronics. Acting on your assurance that repairs were still being carried out, despite the ill health of the owner, I trusted poor old SAM to the Post Office and off he went to Dyfed.

And now my thanks to Blue Alpha. Despite their difficulties and only three weeks after dispatch SAM is back and working. The poor thing had apparently suffered damage to half the on board memory, CPU, ASIC, a number of resistors and the power supply required returning (thanks again to Bob for suggesting that I return the power supply). Thanks to Blue Alpha and all within their modest charge SAM is now working again. Twelve out of ten for fast, efficient service.

They even reported that my disc drive is worn out. Luckily my second drive which I unshipped to save weight has not had anywhere near as much use as the primary drive and should keep me going for a while.

Whilst I have an old PC and access to my son's Atari ST, I have to say that I really missed old SAM whilst he was away and it's really great to be tapping away on the Secretary again.

Yours Sincerely, John Powell.

Glad your SAM is well again. While Mark is ill there will be some disruption to Blue Alpha's service from time to time but I hope readers will be supportive in his hour of need. **Ed.**

Dear Editor,

Re 'Memo for Driver' by R. Biesbroek (Vol 7 No 12 August 1994)

I have found a way to have 51 or 63 Memo Entries (Yes - 51 or 63 Entries) and Driver does not mind.

AMENDMENTS

1. Setup for 51 memo entries (each entry has 4 files - ADDR1,ADDR2, ZIP, TEL)

```
120 FORMAT "D1:"+A$,13
160 CLS: FOR F=1 TO 51: PRINT A
    T 5,0;51-F;" SUB-DIRECTORIE
    S 7 FILE(S) LEFT "
190 SAVE "ADDR1"CODE 0,1
195 SAVE "ADDR2 "CODE 0,1
200 SAVE "ZIP NO."CODE 0,1
210 SAVE "TEL NO. "CODE 0,1
```

STATISTICS:-
3 main files - MEMO.BAS, MEMO.SET, ENTRIES.
51 Directories - 4 Files (as above)
257 Total files on disc.

2. Setup for 63 memo entries (each entry with 3 files - ADDR1, ZIP, TEL)

```
120 FORMAT "D1:"+A$,13
160 CLS: FOR F=1 TO 63: PRINT A
    T 5,0;63-F;" SUB-DIRECTORIE
    S & FILE(S) LEFT"
190 SAVE "ADDR " CODE 0,1
200 SAVE "ZIP NO."CODE 0,1
210 SAVE "TEL NO." CODE 0,1
```

STATISTICS:-
3 main files - MEMO.BAS, MEMO.SET, ENTRIES
63 directories - 3 files (as above)
255 total files on disc (+3 FREE FILES)

Yours Sincerely, P.Southwell.

Anyone beat that?

Oh, and by the way, thanks to all who spotted the deliberate error. CAT instead of DIR in the origianl listing. This is because my SAM uses CAT, which I believe to be more correct than DIR, and I just forgot to change the listing - sorry. **Ed.**

Dear Editor,

Please find enclosed my subscription renewal for another year's ***FORMAT***. While the PC has its attractions, I hope to go on writing for the Spectrum, and eventually the SAM, for many years to come.

There has been much correspondence recently about damaged discs in the post. However, it was only when I received this month's issue that I realised that you were using ordinary envelopes. When mailing floppies, I always use the smallest size of jiffy bag, which costs about 20p, into which a 3.5" disc fits neatly.

I look forward to another years 'INDUGing'.

Yours Sincerely, D.J.Sheridan.

From time to time, and I must say it is very rare, we do get damage in the post. However from past experience it seems to matter very little what form of packing is used. Provided the envelope is strong enough that the item can't punch its way out, the post office should be able to deliver it without damage. We do send discs in normal envelopes if it is at the same time as a copy of ***FORMAT*** or if the disc has a manual, in both cases the disc is placed inside the paperwork to protect it. As I say, very few get damaged that way. The most frequent problem we have is lost post not damaged post. **Ed.**

Dear Editor,

I read in the current issue of ***FORMAT*** that fellow reader Colin Borland is trying to find out where to get a copy of the SAM ADVENTURE SYSTEM. I hope I can give him some helpful pointers, and I'd be very grateful if you could pass on the enclosed letter to him. I've left the envelope open, as you're welcome to read it if you wish. Also note I've stuck a stamp on it so as not to incur an expense on behalf of ***FORMAT***. [*nice man, I like him. Ed.*]

I've just re-started my efforts at using SAS. This doesn't mean that SAS is difficult to use, more that I'm dense when it comes to using utilities. From even my humble dabblings with SAS, I can see that it's quite a powerful program, and it's very versatile. The arrival of SAMPaint may make the possibility of text and graphics SAS games more likely. I'd certainly like to write two or three good adventures, but it may take a while for my poor old brain to learn how to do it.

I'm a keen adventure player, and was one of the founders of the SAM Adventure Club. I'm always willing to try and help anyone else interested in adventure gaming on SAM. Unfortunately, my interest in adventures will prevent me coming to the next SAM Fair in Gloucester. The date clashes with the next Adventurers' Convention, which is to be held in Birmingham once again. I'll be doing a bit of flag-waving for SAM, as I'll be taking my SAM and monitor along, and maybe some of my SAM adventurer friends will also turn up. It's a shame that the dates coincide, but both fairs will provide a chance for SAM owners to meet, and maybe show others how well SAM is doing.

Thanks for your help, and I'll look forward to many more excellent issues of ***FORMAT***. My enthusiasm for SAM is as strong as ever, if not more so. I'm currently in the process of buying a second SAM as a spare/back-up, and refuse to join the ranks of Amiga owners. SAM suits me perfectly, and SAM owners always seem a helpful and friendly crowd. With that up-beat note, I'll sign off.

Yours Sincerely, Phil Glover.

Sorry you wont be coming to Gloucester but it is good to see you will be using your time to flag wave for SAM. Let us know if you want some of West Coast's publicity material. **Ed.**

Dear Editor,

I thought I ought to pass on a useful hint to all you Spectrum fans out there.

As you may have realised from my previous letters I own a wide variety of models and more than one of certain ones. Now because I own a lot of add-ons certain problems arise.

Everyone knows you must not plug in or out of the I/O edge connector but what if you knock something off (easily done the PLUS D in particular) or heaven forbid perhaps due to tiredness try to change a peripheral and overlook the power being on.

The DISCiPLE has the ability to screw on to the Spectrum (although you need to carefully make some screw holes in the Spectrum case), well why not make provision for all your other add-ons to be firmly attached.

One method ideal for a PLUS D is to take a suitable square of chip board, screw your computer down first then the PLUS D using shop bought or home made angle brackets secured via the 4 screws securing the PLUS D casing, this method would also jam a multiface 128 in-between if required.

On the +3 I have secured my multiface 3 directly to the +3 case and then a datel mouse on to the multiface. Again on another +3 using chipboard I secured Ram music machine.

The possibilities are endless but I

learn't my lesson when I pulled the mouse off my +3 (the mouse survived the +3 didn't)

A few months ago I lost another +3 when a power supply went suddenly faulty (the machine had been on about half an hour) not fully realising that the power supply was at fault I tried the unit on my only +2a and promptly lost that, needless to say the power supply is now disposed of. unfortunately one has to put this down as an act of God unless any one knows different.

Your Sincerely, Bernadette Dowsland.

Good tips there Bernadette, I hope they will save other readers from the the heart-ache of a blown computer. **Ed.**

Dear Editor,

Re Letters in Vol 8 Nº 1 September 94. The letter from Dominique Charbonnier regarding the ZX Spectrum 128K Keypad.

I also wanted one of these once and the only information I found was in the official 'Spectrum 128 Service Manual'. The manual has a full circuit diagram and in-depth technical details about it.

Page 1.19 to 1.22, fig 1.7 and page 5.9 table 5.3 are where to find the details. A special integrated circuit is required.

General Instruments PIC1652, this device should be obtainable from RS or Maplin BUT the catch is that it is programmable! So someone would have to speak to Amstrad, to see if they still have the code and whether they would be willing to part with it.

The rest of the components are readily available and looking at the diagram, anyone who's built an electronic circuit before should not have the problem.

To get a copy of the 128K manual please contact: T.I.S. 76, Church Street, Larkhall, Lanarkshire, ML9 1HE.

At one time they had a special offer on Spectrum Service Manuals, you could get the full set plus their own service repair notes for a reasonable sum.

Now to the letter from Jack Bettridge regarding defecting to an IBM!

Would you please let him know that an emulator, the Z80 is available from BG Services. I have a registered copy and its better than a real Spectrum! It has various Spectrum ROMs and even Interface 1 ROMs. You can load all your programs onto hard disc etc., In fact why don't you do an article on it? [*we have reviewed it. Ed.*]

Also, I have the address of a chap called Daniel Thomas who has 20 Meg of ZX Spectrum software already saved to discs. All my bought programs were on the discs. So I sent him a small fee and signed to state that I would only keep programs that I had a legal right to use ie, I have an original tape of the program.

Hope the above is of use.

Yours Sincerely, Phil Bartle.

Articles on using the Z80 emulator will appear if we can get some written - time will tell.

As to the software - DON'T. What he is doing is illegal. You can copy tape software to disc for your own use provided you keep the original tape but it is illegal for anyone to do it for you, let alone distributing software on the basis that someone signs to say they will delete programs they don't already own. I'm afraid there are a lot of people about at the moment who seem to treat Spectrum software in reather a cavalier way. My advice would be to stay on the right side of the law and steer well clear. **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 0452 380890.

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