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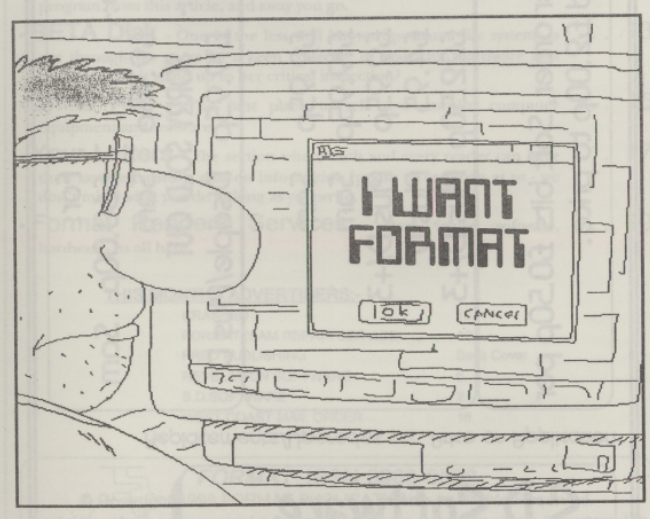

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FORMAT ISSN 0963-8598

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FORMAT is published by FORMAT PUBLICATIONS.
34, Bourton Road, Gloucester, GL4 0LE, England.
Telephone: 01452-412572 Email: Formatpub@aol.com

NEWS ON 4

NSSS DATE CHANGE

The date of the next Wetherby show, which had been announced as the 21st February, has been changed to the 28th Feb. The venue has also been changed from the Methodist Hall to the St. James Church Halls, in near by Church Street.

For the latest information contact George Boyle, the show organizer, on 01937 583827 (after 6pm).

NEW ADVENTURE

Adventure enthusiast on the SAM will remember the name Robyn Campbell from New Zealand. Her first adventure, *Wonderland*, was launched a couple of years ago by F9 Software, the non-PD software label run by Derek Morgan of SAM PD fame.

Well, now there is a new text and graphic adventure from Robyn. Called *Murder Most Foul* it features graphics by Ken Gager (a fellow kiwi) and Phil Glover from Britain. Music is by Bob Brunsden.

Murder Most Foul is not a fantasy adventure like so many, no pointless mazes to solve or magic spell to think up here. Instead *Murder Most Foul* is a whodunnit in a style not a thousand miles removed from Agatha Christie, with you as the private detective out to solve the murder (Now I wonder if the butler did it?? I must say I always think a butler called Alfred just has to be the prime suspect).

Like any good gumshoe, you need to talk to people, explore the house, examine objects and generally poke your nose into everything until you solve the crime. I think most people will find this a refreshing change from the more typical adventures.

Murder Most Foul is available now, and it only costs £5. For further details send a SAE to F9 Software, 18 Mill Lane, Skelmersdale, Lancashire, WN8 8RH.

THE SOUND JUST GOES ON GETTING BETTER FOR SAM

Quazar have announced another upgrade to their ADPCM play-back software for the *Surround Sound* expansion system for SAM.

The new software includes a feature called 'oversampling' which is a technique mainly used in CD players to improve sound quality. What it does is to calculate what values *should* be in between the sample values and thereby produce a smoother waveform. All these calculations take place in real-time during play-back so there is no increase in the storage needed for a sample.

Colin Piggot, owner of Quazar, has also sent a copy of his latest catalogue which is full of screen-shots and details of his ever growing range of products. To get your copy send a 9x6½" (C5) stamped address envelope to the address below.

Quazar can be contacted at 204, Lamond Drive, St. Andrews, Fife, KY16 8RR. Tel: 01334 475546.

YOUR NEWS HERE...

Come on readers, we need your news. Anything related to computers which you think will interest other SAM and Spectrum owners. Just jot it down on a piece of paper, add your name and membership number, and send it off to us at the usual address. Please mark the envelope 'News' so that we can give it the priority it deserves.

Remember, you get three months extra subscription for every news item we print, so don't rely on others to send in an item you have seen - send it off yourself and earn our thanks as well.

This months credits:-

The Editor Speaks

It seems that every time I'm on route to catch up with issues, something goes and puts me back. A laser printer that will not fuse the toner to the paper is no good for producing ***FORMAT***, or so I've found out. Weeks of waiting for Mr Fixer to do his job has put me right back where I was at the start of the year - *weeks behind*. So, working with a borrowed ink-jet (thanks Trev, a life saver yet again) I'm just glad that January's issue is always a small one because the changes I've had to make to some pre-prepared articles take a lot of time.

By the way, the printer, an Epson Color Stylus 600, very nice, I have not tried it fully yet on the Spectrum or SAM, but I will report back as soon as I have time to play.

Right, now the good news. Thanks to the very valiant efforts, and considerable amount of time, head scratching and cursing of chip designers, put in by Nev Young over the past six weeks, the first SAM_Clocks are now undergoing soak-testing and should ship in a few weeks. Hopefully by the time of the April show we will be completely up to date on orders. Any delay now is going to be purely down to time, as I've been lumbered with building the first batches myself.

The story of what went wrong would fill several pages so I will not bore you with the details here. Suffice it to say that if we actually costed these interfaces out on the basis of time spent - you would need to win the lottery to buy one!

Next, the news most of you will be waiting for, the dates for the 1998 Gloucester shows. The Spring show will be held, at the usual venue, on Saturday the 4th April, earlier this year to avoid the Easter holiday period. The Autumn show is set for Saturday 17th October.

We have had several people ringing up already asking for the dates, and a couple have asked why we don't hold them on Sundays instead of Saturdays. Well, when we first started the shows we wanted to make them 'days out' for all the family - but realized that few wives/girlfriends would want to spend much time at a computer show for enthusiasts (yes, I know that is a sexist thing to say, I'm sorry, but it is true). So, we thought Saturday was best as Gloucester's fine range of shops, museums and places of interest would be open. However, that was before the powers-that-be decided to make poor shop-workers slave an extra day each week by making Sunday a normal trading day.

That then poses the question - what would you, the people who we put on the shows for, prefer? Saturday or Sunday? The Spring show may be fixed, but it is not too late to change days for the Autumn one - if that is what people want. Write and let us know your feelings.

And finally, due to the date change of the Wetherby show (see News) I will not be able to make it North this time.

Until next month.

Bob Brenchley, Editor.

SAM GAMES AVAILABLE FROM REVELATION

SOPHISTRY

One of the BEST licenced games on SAM. Originally produced for the Spectrum by CRL, and now brilliantly converted for SAM, Sophistry is a game that is big, perplexing, colourful, frustrating, musical, bouncy, and above all DIFFERENT (and it even has the Spectrum version built in so you can take a trip down memory lane).

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DRiVER's Extras Disc still available for existing users at £5.95 (INDUG members £4.95)

SCADs PD Yes, at last, we are pleased to re-release SCADs - the arcade game development system for SAM. Previously sold by Glenco at £24.95 we have now placed the software into the Public Domain so the disc costs you ***Only £2.50***. The full manual (over 200 pages) is also available for £12.95 (overseas please add an extra £1 to postage rates below because of weight)

- All prices include UK postage and packing (Europe please add £1, other overseas please add £2).
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SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

A New Year, a new start, a new resolution. Send John Wase some more stuff: a little has gone AWOL; the rest has been used. Quick, or we won't have any Short Spot next month.

Let's start with Ettrick Thomson, well known to many of us and a constant contributor (bless you, Ettrick). I've a letter with a SAM program; 'biomorph'. This program is based on 'biomorfos' by J. Murciano. The Concise Oxford dictionary defines biomorph as a "decorative form representing a living object". Decorative forms are certainly produced, but it will need some imagination to see living objects. The precise form depends on the expressions for the variables i and r in lines 150 and 160. In the listing here, these lines show the expressions for Biomorph 2, but the program also allows three other expressions: those for biomorphs 3, 4 and 5, and these can be substituted. And other expressions could be thought of.

The 'maximum range', one of the parameters to be input, can be anything up to 10, but the following ranges are recommended: Biomorph 2: 1.6; 3: 2.25; 4: 1.8; 5: 1.7. Recommendations for the other parameter, 'constant', are Biomorph 2: 0.6; 3: 0.7; 4: 0.8; 5: 0.8. But try other values for constant; they can make quite a difference. Running time is about 25 minutes.

Biomorph *n* has *n* lobes and each of these lobes is a miniature version of the whole display, with *n* sublobes; and each of these sublobes is.....well; it would be if SAM's resolution were better. Biomorph 2, with constant = 1 shows this fairly well.

Here's Biomorph: try it!

```
 10 REM biomorph Ettrick Thoms
    on
 20 PRINT "To select biomorph
    "''2 or 3 or 4 or 5''"ente
    r the appropriate number"
 30 INPUT #2;"biomorph number:
     ";n'"maximum range: ";max
    ,"constant: ";cr
 40 PAUSE 20
 50 ON n-1: KEYIN "150 let i=2
    *r*i": KEYIN "150 let i=i*
    (3*r2-i2)": KEYIN "150 let
     i=4*r*i*(r2-i2)": KEYIN "
    150 let i=i*(5*r2*r2-10*r2
    *i2+i2*i2)"
 60 ON n-1: KEYIN "160 let r=r
    2-i2+cr": KEYIN "160 let r
    =r*(r2-3*i2)+cr": KEYIN "1
    60 let r=r2*r2-6*r2*i2+i2*
    i2+cr": KEYIN "160 let r=r
    *(r2*r2-10*r2*i2+5*i2*i2)+
    cr"
 70 CLS : POKE SVAR 50,1: PALE
    TTE 8,38
 80 LET d=max/87,r0=-max
 90 FOR x=1 TO 173
100 LET r0=r0+d,i0=-max
110 FOR y=1 TO 87
120 LET r=r0,r2=r*r
130 LET i0=i0+d,i=i0,i2=i*i
140 FOR n=1 TO 10
150 LET i=2*r*i
160 LET r=r2-i2+cr
170 LET r2=r*r,i2=i*i,c=n+2
180 IF r2+i2>100 THEN LET n=10
190 NEXT n
200 IF ABS r<10 OR ABS i<10 TH
    EN PLOT PEN c;x,y: PLOT PE
    N c;x,174-y
210 NEXT y
220 NEXT x
230 PRINT #1;"press a key to f
```

```
    inish"
240 PAUSE
250 POKE SVAR 50,0: CLS #
```

Ettrick also mentions that intruding R has managed to appear again; `INPUT R#2...` The R, remarks Ettrick, should be deleted. We had this trouble recently, starting off with Simon Turk's 'Wordsearch' program, (August 1996), but we didn't find an explanation. Somewhere or other there was a suggestion that the R crept in during the editing process. Has Bob any ideas? Well, Ettrick, it doesn't, in fact, appear in the editing process, but in the translation process as programs are transferred first from the Spectrum to SAM, and then, in turn, from the SAM to the IBM compatible PC. And, dammitt, it's an intermittent fault, so when you're trying to find it, nothing happens, but when you're not, it creeps in. We're still looking, but we hope any that crept into this issue have been, as it were, Jennied out! Many thanks, Ettrick.

It has been pointed out to me (by, I think, Roy Burford) that a major omission in my list of contributors has been Miles Kinloch of Edinburgh. I *knew* I'd get into trouble if I put in a list. However, to put the record straight, here's to Miles, and yet another piece of information from him. Miles writes that he's sorry that it's been so long, getting in touch, but his spare time has been limited, as he's been in college. However, here are a couple of snippets that might interest our readers.

When experimenting recently with the Betados facility to create extended directory formats, Miles discovered that things go wrong when the file capacity specified exceeds 255, affecting the catalogue display, and the file position referencing. Miles has traced the cause to the fact that the DOS uses a single-byte system variable (at location 15874) for the directory slot number, which although adequate for the 80 file format, for which it was designed, can only cope with a maximum possible value of 255. Since to substitute a two-byte system variable would involve extensive reprogramming of the DOS, and since a practical limit of 240 files (the nearest value corresponding to a complete set of directory tracks) still offers a generous capacity, the easiest way may be just to accept these constraints and POKE the DOS to restrict the range of the FORMAT parameter.

To recap, the maximum number of directory tracks is currently 39, representing 780 files. A disc would be formatted in this way using `FORMAT d1,n` where n is the number of directory tracks in the format, in this case 39. With any higher number, an 'Integer out of range' error would occur. To set a maximum size of 240 files, then, we would want to reduce the highest permitted value for n to 12, and this can be achieved by altering the DOS as follows:-

```
10 CLEAR 4e4
20 LOAD d1"+sys Beta" CODE 409
    60
30 POKE 46415,9
40 SAVE d1"+sys Beta "CODE 409
    60, 6850
```

(From the point of view of BETAFIX, it makes no difference whether this modification is carried out before or after applying the latter).

To test afterwards, boot the amended DOS and try `FORMAT d1,12` and this time, the command should be accepted, giving a disc of 240 file capacity if you proceed with the format.

Miles has also sent me a couple of interesting illustrations of this bug. If you print out the 'long' catalogue, for, say, 300 files, slot numbering goes wrong after the 255th file: the next one is not

numbered as file 256, but the sequence starts again and it's therefore numbered as file 0. The next is numbered file 1, a problem, for we've already had one of these a long way back, the next one 2, and so on up to 44. The short CAT fouls it up even better, since only the first 44 files are shown, the same as the number of out of sequence files at the end! So if you must have more than the standard number of files (and I would prefer not, personally), then Miles' POKEs are a must!

The second snippet Miles would like to bring to your attention also concerns formatting. This is a trick which should work with any DOS, provided that a DS/DD drive is being used. Although the maximum number of tracks is officially 160 (i.e. 0-79 and 128-207), in practice, an extra track can usually be squeezed into each side, opening up some intriguing possibilities. To create these extra tracks, enter `POKE @1,210` (or `POKE @2,210` for drive 2) and format the disc in the usual way. (Don't forget to `POKE @1/2,208` again afterwards, or reboot).

The new tracks have interesting properties that could usefully be exploited by anyone wishing to expand on this idea: being isolated from and independent of normal DOS operations, they are unaffected by (normal) reformatting, etc. and to all intents and purposes are completely hidden from the DOS. Any data stored there therefore remains intact and can only be changed through SAVE @ (or erased by reformatting under a 210-track POKE). Disc copying programs, including sector copiers, also ignore the extra tracks, making it possible, for example, to distinguish an original disc from a 'clone'.

However, if you do wish to copy the new tracks from one disc to another, use (for BetaDOS) the following program (remembering to format the destination disc appropriately beforehand).

```
10 CLEAR 29999
20 LOAD @1,80,1,30000,10: REM
    Load track 80, disc 1
30 LOAD @1,208,1,40000,10: REM
    Load track 208, disc 1
40 SAVE @2,80,1,30000,10: REM
    Save track 80, disc 2
50 SAVE @2,208,1,40000,10: REM
    Save track 208, disc 2
```

Or, for G+DOS:-

```
10 CLEAR 29999
20 REM Load track 80, drive 1
30 LET a=30000: FOR s=1 TO 10
40 LOAD @1,80,s,a
50 LET a=a+512: REM New addres
    s for next sector
60 NEXT a
70 REM Load track 208, drive 1
80 LET a=40000: FOR s=1 TO 10
90 LOAD @1,208,s,a
100 LET a=a+512: REM New addres
    s for next sector
110 NEXT s
120 REM Save track 80, drive 2
130 LET a=30000: FOR s=1 TO 10
140 SAVE @2,80,s,a
150 LET a=a+512: REM New addres
    s for next sector
160 NEXT s
170 REM Save track 208, drive 2
180 LET a=40000: FO/r s=1 to 10
190 SAVE @2,208,s,a
200 LET a=a+512: REM New addres
    s for next sector
210 NEXT s
```

The new tracks are numbered 80 and 208, and can be read/written accordingly, using the LOAD @ and SAVE @ commands. With BetaDOS, the multi-sector versions of these commands have the advantage of conveniently allowing the entire track to be loaded or saved in one operation, whereas with G+DOS, each sector has to be accessed individually.

Miles writes that he has tried this technique on dozens of discs and has yet to see it fail, though one extra track per

side does seem to be a hard and fast limit. This is a pity, as with four tracks instead of two, a means would then have existed to produce a duplicate copy of the directory, - the ideal precaution against a sector error there. Miles also sent me a Betados 300 file format disc with cat printouts to show the effect of the BDOS bug. He's also put an extra two tracks on the disc, where he's saved a screen. And this is where we come to a real Kinloch - a proper short spot!

To see the screen on the extra two tracks, boot the BetaDOS system file on the disc, and enter:-

```
10 LOAD @1,80,1,16384,10
20 LOAD @1,208,1,21504,4
```

Now, the interesting part. Reformat the disc, and run the above again, and the program will still be there! Do take care to do this in 48K mode, as a screen represents 13.5 sectors, and 14 sectors therefore need to be loaded, overwriting the printer buffer....

Many thanks, Miles.

Now over to Dean Shepherd of Bristol, who has already featured in last month's **Short Spot**. This month's bits, fortunately, are much shorter. The first one is called 'repairer', and it loads a faulty sector from disc, then resaves it immediately. This, so Dean writes, cures certain sector errors on Spectrum and SAM discs. Dean's favourite sector fault is, he says, DATA CRC, and he seems to get a lot of these. This program is very effective at restoring his discs. The bad news is that it cannot restore sector errors such as 'sector not found'. This is a real shame, and a nuisance, as he seems to be getting a lot of these lately, especially in tracks 0 and 2. Dean also, therefore, ends with the plea that he needs to know exactly what the mechanics of SAM/Spectrum disc data recovery are. In particular, Dean is concerned with the exact nuts and bolts of the system; storing the contents of disc sectors. Well, Dean, all you do is load the sector into memory somewhere, then save that memory as a piece of code - `SAVE "my25thsctr" CODE start, length`. Then load another one - into the same location if you like - and save it. But I'm not sure how the defective byte is made good. Can anyone explain?

Here we are; here's 'repairer' - get typing!

```
  5 BORDER 0: PAPER 0: PEN 0: C
    LS
 10 PRINT PEN 6;"DISCIPLE - SAV
    E A SECTOR PROGRAM"
 20 INPUT "Track Number : ";t
 30 INPUT "Sector Number : ";s
120 FOR f=62000 TO 62012: READ
    g: POKE f,g: NEXT f
130 DATA 22,t,30,s,213,207,63,1
    67,209,207,62,167,201
150 RANDOMIZE USR 62000
160 PRINT PEN 6;''''''''''   Sec
    tor ";s;" from track ";t''"
       loaded and saved again"
170 POKE 23658,8: PRINT PAPER 1
    ; PEN 7; AT 20,0;"DO YOU WI
    SH TO USE AGAIN? Y or N"
180 IF INKEY$="Y" THEN RUN
190 IF INKEY$="N" THEN NEW
200 IF INKEY$<>"Y" OR INKEY$<>"
    N" THEN GOTO 170
9999 SAVE d""Repairer" LINE 5: V
    ERIFY d""Repairer"
```

Many thanks, Dean - and do please send some more.

And that is all for this month, I hope you have all found something to interest you.

Please keep all your snippets coming to me; remember, 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.

SNA LOADER For SAM

By:- James Gasson.

The Spectrum is alive and well on the internet. There are numerous Spectrum web pages, containing information and views, a few discussion groups, and several FTP sites, offering lots of programs legally, and plenty illegally too.

But many of the people who use these services don't actually have Spectrums! They may have Spectrum emulators for machines like the Acorn Archimedies, Apple Macintosh, or IBM PC. One such emulator, 'Z80' for the IBM PC, was reviewed in Format Vol.7 Nº2, October 1993, in the article 'PC=Z80'.

Most of these emulators don't read Spectrum PLUS D discs directly, so they support a variety of alternative snapshot formats, '.SNA' being one of the more common.

There is already a program for the Spectrum that reads SNA format snapshots, it even reads them directly from IBM PC disc! (I found this on the internet - somewhere.) But I haven't yet seen a comparable program for SAM. (Actually, I have been talking on the internet to someone who has written such a program, but as I said, I haven't seen it yet. Anyway, it's more fun if you write it yourself!)

My program doesn't read IBM discs, so you'll have to copy the snapshots onto SAM disc first, with a utility like PC-Suite. The SNA loader also requires a copy of "snapt.bin" file - the NMI routine from the SAM DOS Spectrum emulator, and a copy of the Spectrum's ROM, which should be called "rom.bin". You should find "snapt.bin" on your SAMDOS utility disc, and anyone who has used a commercial Spectrum emulator for SAM should know how to get a copy of the Spectrum ROM.

SNA format snapshots are code files that are 27 bytes longer than 48Kb. The first 27 bytes contain the registers, and the rest is the 48Kb memory dump. My program loads a SNA into memory beginning at 27 bytes below the start of the virtual Spectrum's RAM, so that the 48Kb dump ends up in the right place. That means the last 27 bytes of the Spectrum ROM are overwritten, but that doesn't seem to cause any problems.

Next, the registers are copied into the DOS page, so they can be used to restart the snapshot. In G+DOS on the Spectrum, the registers occupied the last 27 bytes of DOS RAM (I think), but different versions of SAMDOS and MasterDOS put them in different places (drat!).

I own SAMDOS 2.0 and MasterDOS 2.1, and have allowed for both, so I hope you all have one of those. It may work with other versions too, although I obviously can't check that! With the snapshot now properly loaded into memory, my program uses the SAM command 'CALL MODE 1' to start it.

Here is the program:-

```
10 REM  SNA Loader
20 REM by James Gasson
30 REM ver 2  Sun 20/04/1997
```

```
40
50 RUN 160
60
70 REM Load ROM & NMI Routine
80 OPEN TO 7: CLEAR 32767
90 PRINT "Initializing SNA Lo
   ader"''
100 LET dospage=PEEK SVAR 450,
   dosaddr=16384*(dospage+1),
   specaddr=65536: IF dospage
   =0 THEN PRINT "DOS not loa
   ded"
110 LOAD "rom.bin"CODE specadd
   r,16384
120 LOAD "snapt.bin"CODE 32768
   ,16384: CALL 32768
130 POKE specaddr+14584,dospag
   e-1
140 POKE dosaddr+262,dospage-1
150
160 REM Find Snap Registers
170 LET dospage=PEEK SVAR 450,
   dosaddr=16384*(dospage+1),
   specaddr=65536: IF dospage
   =0 THEN PRINT "DOS not loa
   ded"
180 IF PEEK (dosaddr+518)=195
   THEN LET snapoffset=DPEEK
   (dosaddr+518+1)-16384: ELS
   E PRINT "Error in DOS snap
   shot vector": STOP
190 IF DPEEK (dosaddr+snapoffs
   et)=29677 THEN LET regoffs
   et=DPEEK (dosaddr+snapoffs
   et+2)-16384-20: ELSE PRINT
    "Error in DOS snapshot ro
   utine": STOP
200 LET regaddr=dosaddr+regoff
   set,snaaddr=specaddr+16384
   -27
210
220 REM Load SNA Code
230 INPUT "Insert disc & press
    Enter> ";a$
240 CAT 1
250 INPUT "Filename> ";file$
260 LOAD file$ CODE snaaddr,49
   152+27
270
280 REM Convert registers
290 RESTORE 330
300 FOR a=0 TO 21
310 READ b: POKE regaddr+a,PEE
   K (snaaddr+b)
320 NEXT a
330 DATA 15,16,17,18,3,4,5,6,1
   ,2,7,8,11,12,13,14,9,10,25
   ,0,23,24
340 LET specstack=DPEEK (regad
   dr+20)-4: DPOKE regaddr+20
   ,specstack
350 RESTORE 390
360 FOR a=0 TO 3
370 READ b: POKE specstack+spe
   caddr+a,PEEK (snaaddr+b)
380 NEXT a
390 DATA 19,20,21,22
400 LET regim=PEEK (snaaddr+25
   ),regi=PEEK (regaddr+19)
410 IF (regim<>1 AND regim<>2)
    OR (regim=1 AND (regi<>0
   AND regi<>63)) OR (regim=2
    AND (regi=0 OR regi=63))
   THEN PRINT "Error in inter
   upt register": STOP
420
430 REM Start snapshot
440 CALL MODE 1
```

Once you've typed in the program, you should save it with:-

```
SAVE "SNArun.bas" LINE 70
```

Good luck!

FORMAT

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BETA-DISK

THE FORGOTTEN SYSTEM. By:- Bernadette Dowsland.

OK. hands up all you who remember Beta Disk? I see, not many. Quite a few of you know about Opus and virtually everyone knows the PLUS D and the +3 but now I'm going to tell you what little I know of Beta Disk. Are you sitting comfortably? Then I'll begin.

I acquired mine by chance when I was buying a second-hand PLUS D last year, it got thrown in as an extra. There was no system disc, or manuals, BUT then I recalled another contact offering one for a fiver (suggesting it was outdated). I rang him up and asked if he had the manual, he said yes and also a few discs, so I bought it.

I tried it initially and managed to load a few games but was rather unimpressed, this month I gave it another whirl set up on a more permanent basis with a 48k+ so here's my verdict.

It is housed in a plastic case (rough dimensions 4" x 6" by 1 inch high). The 6 inch measurement is along the back of the Spectrum obscuring the power socket, you see the power socket goes into Beta Disk and the Spectrum is powered backwards through the edge connector.

I'm looking at a review from Crash Nov 85 so some of my facts and figures come from there. It can power up to 4 disc drives 3½" or 5¼", 80 or 40 track, single or double sided so no problems there.

It has a reset button, ideal if your computer is a rubber keyboard Spectrum. In many ways it is like the PLUS D, a few advantages a few drawbacks.

1. Drawback - Only suits 48K machines (16K as well maybe)

2. Like the PLUS D it has a snapshot button for full 48K game saving but no SAVE SCREEN$ facility.

3. Formatting is slow(ish), 35 seconds. The formatting is peculiar with sectors only being 256 bytes long, 16 sectors per track so an 80 track, double sided disc gives 640K of usable space. On the plus side a one line program would only use one sector (256 bytes) whereas the PLUS D would use one 512 byte sector and the +3 insists on using two 512 byte sectors for even the smallest program.

4. Overall speed of access is quite good, definitely a lot faster than +3 and not that far behind the PLUS D to really matter, the review of 1985 gave 2 seconds as the catalogue time.

5. It even supports Opentype files (yes I have used them extensively albeit in the past on the PLUS D)

6. Plus side - it doesn't have a printer interface but it does have a through port so you can fit the printer interface of your choice. At the moment I'm using the Tasman interface which is automatically supported by Tasword II.

Can I just put in a plug here, I have Tascopy for using the Tasman interface for screen copying but not having got the interface new the cassette driver is missing i.e. the software needed to LPRINT/LLIST from Basic, someone send me a copy PLEASE.

Apart from a printer interface the through port is useful for many other units, the AMX mouse worked OK (haven't tested Kempston). Interface 2 doesn't work and also the PLUS D won't although the Beta still functions, so that rules out copying between the systems direct (unless anyone knows of a Beta/PLUS D and PLUS D/Beta disc reader type program.

Now both my Beta Roms are version 4 but one is 4.11 and without booting it up I can't remember the other one but I seem to recall snapshots made by one ROM not loading on the other.

The manual I would imagine to anyone never having had a PLUS D would probably seem clear as mud. But, I've just about got the hang of it. The system came supplied as a version 3 manual, with a version 4 supplement (guaranteed to confuse). Version 3 implemented a password system for each disc (very wisely dropped on version 4). It would seem the snapshot button was only added with version 4.

To be quite honest Version 4 DOS seem far from finished off and it begs the question was there ever a version 5 to put right the gremlins in version 4.

OK. The DOS - Version 4 has Format "name" (name the disc), Erase, etc built into ROM although it's also supplied as a utility program. Catalogue gives a simple two column screen cat with 'C', 'B' showing file type and a number giving the sectors used. A full PLUS D style cat can be obtained from the utility disc. The Utility disc also offers 4 types of Formatting 40 or 80 track single or double sided, the ROM version does a check on the disc drive and formats accordingly which is quite clever.

Obviously having the DOS in ROM with no system file to 'boot' although handy, makes for a system that can't be debugged like the PLUS D system file was many times in it's early years (and still being worked on no doubt)

The DOS BUGS - The manual tells you to use a single sided format disc for this, what I found was that the game etc was saved with no name, even after renaming the next snapshot overwrote it and again had no name. Well at least that's DOS 4.11 for you, I can't believe such a howler of an oversight on the programmers part. You get round it by saving each and every snapshot onto another disc with a filename then re-using the first disc for a new snapshot.

The catalogue shows the number of existing and deleted files, take no notice, that info has proved to be wrong time after time, e.g. delete two files then find only one file is shown as deleted although both file names have correctly gone.

There is a command called 'Move' which moves files around on the disc to retrieve wasted space caused by deleted files, I can't grumble here, it seems to work.

The DOS allows auto-run lines for basic, and auto run addresses for machine code, also similar to the PLUS D's 'autoload' file, any file named 'boot' will automatically load when the system is reset.

It takes a bit of getting used to the fact that the DOS is 'case' sensitive as well as file type sensitive so for example you could have "Tasword" (basic), "Tasword" (code) as well as all permutations of spelling of tasword using lower and upper case.

Another nail in it's coffin is the syntax, it doesn't use PLUS D, Opus, microdrive type syntax. Instead you call up DOS with Randomize USR 15360 and then use normal tape type syntax load save etc

plus erase format and cat. Loads and saves within a basic program take the form:-

```
RANDOMIZE USR 15363: REM : LOAD
    "NAME"
```

This means software that had a microdrive file option in machine code will never fully convert.

Finally the utility disc offers a tape to disc utility, by God you're going to need this since no one to my knowledge (at least in this country) supported it.

To Sum Up - I've used, but wasn't too keen on, Opus (and that got some support). Inspite of the gremlins I think I could get fond of Beta if I didn't already have PLUS D and +3. Offers of, or requests for, HELP usual address:-

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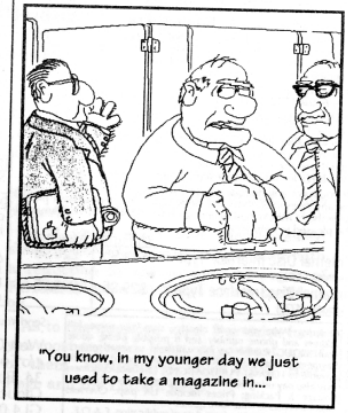

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YOUR LETTERS

Dear Editor,

Following the letter from Lance St. Cyr in December's Format, I would like to add the following points:-

DS/DD 3½" discs are becoming increasingly rare - it cannot be too much longer before they go the way of the old 3" discs and disappear altogether. For the most part DS/HD will do as a substitute; If a piece of matt black insulation tape is placed over the bottom right hand window, it will ensure the disc is read by both mechanical and infra red detectors as a DS/DD disc.

The only problem I foresee is that the magnetic strength recorded may not be as strong, especially if the disc is for long term storage; making a second copy would help overcome this.

My best wishes to yourself and Jenny.

Yours sincerely, M.R.Prichard.

It is true that many shops are now only stocking High Density (HD) discs as these are the ones used by most PC users. However, I would be very surprised if Double Density (DD) discs became as rare as 3" have.

I agree that, at a pinch, you can get away with using HD discs, but I would recommend DD discs for all long-term storage.

What are other readers finding? Do we need to start offering DD discs through ***FORMAT*** as a service? Write in and let us know. ***Ed.***

Dear Editor,

I am appealing to the top in the hope that you will be able to give the current position in respect of the supply of the SAM clock. Apart from a note in ***FORMAT*** some months ago that there had been problems with the board the clock seems to be in limbo. Yet it is advertised in ***FORMAT*** each month!

Having had my grouse please accept my sympathy in respect of the recent personal problems suffered by several members of your team.

Yours sincerely, J.E.Flatman.

News of the SAM_Clock should be in this months Editorial Mr Flatman, I doubt if anyone will believe the problems that there have been getting this into production, but it is going well now.

And thanks for your kind comments. ***Ed.***

Dear Editor,

I wish to renew my subscription to ***FORMAT*** for a further twelve months. From the renewal notice am I correct in assuming I can claim a 30% reduction (£6.00) leaving £14 to pay.

I don't understand the example cited in the renewal notice, which quotes £24.50 for a two year subscription which is almost 39%.

I have enclosed a cheque for £14 assuming I have interpreted this correctly.

It is unfortunate that the increased subscription charges have coincided with a reduction in the number of pages of ***FORMAT*** from 40 pages down to 24 or 28.

As to the question what 3 articles have you most enjoyed. I can only repeat, most of them. Particularly Short Spot, Help Page and the Letters page.

Instead of asking members what 3 articles they least enjoyed, why not pose the question 'What do you use your SAM for?

I'm sure that amongst the thousands of members who own SAM's, a good proportion must have a serious application for them. I just cannot believe that they are all doing spirographs, games and catalogue programs etc.

It might even produce ideas for future issues.

Keep up the good work, and congratulations to Jenny on her Millennium Files contribution.

Yours sincerely, Ken Powley.

Right Ken, there is a rate for one year (£20) and a lower rate for two years (£36). Members using the first renewal notice are offered a 30% discount on either of these figures, giving £14 for one year (only £2 on the old rate) or £25.20 for two years, yes - I got it wrong when I type set the renewal notice. Still, not to worry, I'm not going to fall out with people over a few pence.

What pays for a lot of ***FORMAT*** is advertising. The original plan (way back in 1987) was for a 16 page issue with any extra being paid for by adverts. Sadly a lot of people seem to be pulling in their horns and cutting back on the advertising, which as any expert will tell you is the wrong way to go. We buffered the drop in advertising for a couple of years but in the end the page count had to drop a little - still, we do pack more in than anyone else could.

In the latest FORMAT PC we are advertising for someone to sell advertising space in both magazines for us, and we are hoping this will allow us to inflate again in the near future. ***Ed.***

Dear Editor,

Can you please send me a sound chip (Philips SAA 1099) for which I enclose a cheque to the value of £10.95.

Could you also pass on some info for your readers who have the PCG DTP pack and can't get the number 2 drive to work. In the AUTOWORD loader, change line 15 to 18. Add new line 15 (to read) `LET dk=PEEK 96115: IF dk>0 THEN DEVICE d0+dk: GOTO 18.`

Add new line 16 (to read) `DEVICE T`

Change line 50 (to read) `DIR dk: PRINT: GOTO 10.`

Yours sincerely, Roy Burford.

Thanks for the tip Roy, hope you got on ok with fitting the sound chip. ***Ed.***

Dear Editor,

In answer to the questionnaire that comes with the renewal notice. I enjoy all Spectrum articles and letters and of course the editorial, although SAM articles are of minor interest to me. All my copies of ***FORMAT*** are filed and what was not relevant one year may be vital another. So I value everything you publish. Keep up the good work.

In future, can anyone shed light on getting the best from the DTP package especially using TAS 2 files in it to get hi-res fonts.

Yours sincerely, Ralph Moore.

I seem to remember something in the past on converting Tasword 2 files to Wordmaster format, but it is another of those things that I cannot put my hands on just at the moment.

Tasword 2 stores text as 64 character lines, without any 'End Of Line' marker. Wordmaster, if I remember correctly, uses a carriage return (CHR$13) to mark the end of a paragraph. It handles ends of lines at print/display time. Anyone care to give more help to Ralph? ***Ed.***

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

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