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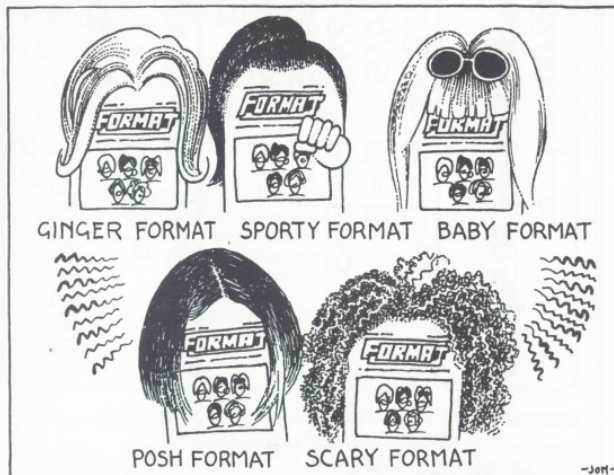


Vol.10 Nº9.

May 1997.

FORMAT

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ISSN 0963-8598.

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++ SPECIAL SUPPLEMENT ++

To mark the 10th Anniversary of the launch of INDUG in May 1987 - we bring you a special reprint of the *FIRST EVER* Introductory issue of *FORMAT*.

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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

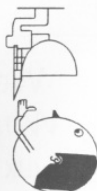
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NEWS ON 4

AMSTRAD'S LEGAL WIN

After nearly eight years of legal arguments Alan Sugar's lawyers finally won through this month in his claim against hard disc manufacturer Seagate Technology. The battle, started by a claim for damages resulting from Seagate's alleged supply of faulty hard drives, resulted in a High Court award of £57.5m in favour of Amstrad.

It is the biggest award under the sale of goods act so far made by a British court. With costs and interest the total award could be over £80m.

A similar claim for damages, this time against Western Digital, is due to be heard in the Las Angeles courts in America later this year.

Both Seagate and Western Digital had supplied Amstrad with hard drives for its early 286 and 386 machines. Failure rate was very high and Amstrad claimed substantial loss of sales as a result of the bad publicity.

GERMAN MILLENNIUM PROBLEM

Germany has just decided it does have a problem with computers not being able to understand the change of date on January 1st 2000. But what it now worries about is not the problem with the date - but how to put it right.

A German 'think tank' has reported to the German government that: if they start right away, and use all the programmers available, they can be ready for the year 2000.

But, to work on the Y2K problem, and to cope with the conversion to the single currency the Germans are so keen on, and at the same time cope with the writing of new systems, and deal with the normal day-to-day updating of systems, they will require every single programmer, to work 26 hour days, 7 days a week until the end of 1999.

If this is, in itself, not ridiculous enough, then bear in mind that German public sector workers have, since the start of 1997, been unable to work more than 48 hours a week on average - something to do with EU law they say.

So, if you program - start learning a bit of German - it looks like a real bonanza is on the horizon for you.

CLOCKS AWAY

By the time you read this the first of the new SAM_CLOCK interfaces will be on there way out. Rather behind the original schedule I'm sorry to say - but they are here at last. It will take a few weeks to catch up with all the orders - it has proved a very popular release.

For those of you who are unsure what it is and what it will do for you - we will try and print a review as soon as we can get one done.

At the same time we are also please to say that fitting instructions are finally ready for the Sam Internal Printer Interface. This is the same board that is used in the SAM Elite but has a slightly longer lead so that the socket (plug?) you connect your printer cable to can dangle from the rear of the machine.

SIP-i costs £24.95 and comes fully assembled. You need to do a little soldering - but not much, a couple of wires at most. The only downer is you lose the ability to fit a second drive.

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.

The Editor Speaks

May 1987 was a very important month - the month in which INDUG was officially launched onto the Spectrum world. From an idea, voiced during a meeting with Alan Miles, Bruce Gordon and John Wase (sometime in March '87 if I remember correctly) INDUG had grown to the point where we were ready to go public. It almost didn't happen - the DTP software (on the BBC) arrived late, it was more difficult to use than I thought it would be (far more difficult than the software publishers reckoned) and the output quality was hard to keep constant.

But, with long hours of perseverance, the first Introductory issue of **FORMAT** was delivered to the printers just in time to be included in the mail-out Rockfort Products (who some of you may remember were the company marketing the DISCIPLE for MGT) planned to announce version 3 of the DISCIPLE's operating system. 16 pages was the limit - partly because of time, but just as importantly to keep the total weight of the posting below 60 grams. So, during May 1987 the introductory issue began to drop through peoples letter boxes.

We have come a long, long way in the last ten years. A lot of things have changed, people have come and gone, but INDUG is still here - and even, I'm pleased to say, expanding once more.

To commemorate this 10 year landmark we are reproducing this first Introductory issue of **FORMAT** as the centre 16 pages of this issue. Even readers who have been with us from the start will not have a full copy in their collection as they will have used the subscription form printed inside to start

their INDUG membership. So, for all of you with a sense of history - and just so you can see how far we have come with **FORMAT** - take a look at how it all started.

This, by the way, is the 120th issue of **FORMAT** I've edited and typeset. 117 real issues, plus three different versions of the Introductory issue.

The April show in Gloucester went off very well, despite the IRA's best efforts to stop people travelling south. Thanks to all who turned out, it was nice to see so many smiling faces - but let's hope we see even more for the October show.

Finally. My comments in the Letters Page last month, in reply to Guy Inchbold's question on the SAM Midi Sequencer software, generated a lot of email and several telephone calls so I would like to just take a little space to make the situation clear. The person who runs the company that now apparently owns the rights to the sequencer software is, as far as I know, reputable. So far I have had no complaints about his business. However, the other person who is very clearly involved in the company has, in the past, proved far from reliable, and this is the reason I am currently trying to shield **FORMAT** readers. As long as he is involved in the company I am not prepared to give them free publicity, although I have always told them that they are free to advertise if they wish - subject to the same requirements that apply to everyone else. If you really must have details of where to get the software then give me a ring.

Until next month.

Bob Brenchley, Editor.

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SHORT • SPOT

YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

May is here, and so's Short Spot. And the rain! I knew we were tempting fate over May Bank Holiday, going to Wales! On the Saturday, we were at Ronn Middleton's Wedding (he of Elonex fame), and it was sweltering! On the Sunday, it was the Victorian Extravaganza in Llandudno, and freezing!

I mentioned to Ronn that this was a dress rehearsal for our own wedding, which is the second of July. This means that any copy has to be done in June, along with the June issue: in effect, I've got two Short-Spots to do in June. I have kept one or two bits back, but they're only small - certainly not enough for a complete month! So, PLEASE keep up the effort. Or there won't be a July Short Spot! Now that we've got wet, freezing weather, you've got some chance to generate some programs. So come on, folks!

Let's start with a program for SAM, since SAM writers have been less prolific than they might have been, of late. Peter Williamson's diary, featured in the February issue. If you remember, Peter was casting round, trying to get diary entries sorted: he ended up by using the idea of 365 strings of appropriate, but variable, length (some days long entries, some short), and then had the problem of generating 365 separate strings to take these entries. So he hit upon using KEYIN. He experimented with KEYIN a while; it's slow and temperamental. Enter Geoff Bridges of Headington, Oxford; you remember him last month.

He's had a look at Peter Williamson's program and done a lot to speed things up: essentially, he's written a new program. If you look at the listing, you will find that the first thing that has changed is the 'generate' procedure. The string d000\$ is created in line 450, and initially holds a reference to the day number (1 to 365). This string is then 'found' in line 460 by the LENGTH 0 command, and the name altered to correspond with the day. The LENGTH 0 command points to the first byte of the string text, the name being held in the 'header' of the string, hence the -12 in the POKE calculation. This routine is 3 to 4 times faster than the KEYIN routine in the original program, according to Geoff, so things are already much faster than the original. Pity; KEYIN is a nice way of doing it, but it's slow.

Geoff was also able to streamline the display feature a bit. He did this by using the VAL function as follows.

```
390 PRINT VAL$ ("d"+STRING$(3-LEN STR$ dn,"0")+STR$ dn+"$")
```

This left the string clearing and the addition or editing of data. Unfortunately, VAL\$ does not work in a LET statement, so Geoff's first attempt of LET VAL\$ ("d"+STRING\$(3-LEN dn,"0")+STR\$ dn+"\$")=..... was a failure. However, by using the system variables 174 to 176, it is possible to calculate the start address of the line currently in use, and by adding an offset, directly poke data into the line. The data

poked into the line (z\$) is created in the previous line, as in lines 190 and 200, or lines 300 and 310 in the complete revised program listing below.

Check them out, then type it in.

```

10 REM format10/6 page 7
20 REM Peter Williamson
30 REM 1997 diary file
40 REM program name "DIARY"
50 DO
60 MODE 3: CSIZE 8,10: BORDER
  1: PAPER 1: PEN 15: CLS
70 PRINT "ENTER:-"
80 PRINT : PRINT "***1** for f
  ile generation"
90 PRINT : PRINT "***2** to en
  ter data"
100 PRINT : PRINT "***3** to cl
  ear a field"
110 PRINT : PRINT "***4** for s
  ingle/multifield display"
120 PRINT : PRINT "***5** to sa
  ve file and program"
130 GET a: CLS
140 ON a:generate:entries:clea
  rfield:scanfields:savit
150 LOOP
160 DEF PROC entries
170 INPUT R#2"SELECT DAY NUMBE
  R FIELD ";dn
180 INPUT R#2"ENTER NEW DATA "
  ;n$
190 LET z$= ("d"+STRING$(3-LE
  N STR$ dn,"0")+STR$ dn+"$=
  d"+STRING$(3-LEN STR$ dn,"
  0")+STR$ dn)
200 POKE (PEEK SVAR 174*16384+
  DPEEK (SVAR 175)-16384)+74
  ,z$: LET d002$=d002$+n$
210 CLS
220 PRINT VAL$ z$( TO 5)
230 PAUSE
240 END PROC
250 DEF PROC savit
260 SAVE "diary" LINE 30
270 END PROC
280 DEF PROC clearfield
290 INPUT R#2"SELECT DAY NUMBE
  R FOR CLEARANCE ",dn
300 LET z$= ("d"+STRING$(3-LEN
  STR$ dn,"0")+STR$ dn+"$")
310 POKE (PEEK SVAR 174*16384+
  DPEEK (SVAR 175)-16384)+74
  ,z$: LET d002$=""

```

```

320 END PROC
330 DEF PROC scanfields
340 INPUT R#2"SELECT START DAY
  NUMBER FOR DISPLAY ";s
350 INPUT R#2"SELECT FINISH DA
  Y NUMBER FOR DISPLAY ";f
360 CLS
370 FOR dn=s TO f
380 PRINT INVERSE 1;"DAY NUMBE
  R ";dn
390 PRINT VAL$ ("d"+STRING$(3-
  LEN STR$ dn,"0")+STR$ dn+"
  $")
400 NEXT dn
410 PAUSE
420 END PROC
430 DEF PROC generate
440 FOR x=1 TO 365
450 LET d000$=" day" +STR$ x+"
  "
460 POKE LENGTH(0,d000$)-12,ST
  RING$(3-LEN STR$ x,"0")+ST
  R$ x
470 NEXT x
480 END PROC

```

Many thanks, Geoff.

Next, a piece for the Spectrum from Miles Kinloch of Edinburgh, one of those that I've kept over for a few months, because it's troublesome to type in - well; Bob or Jenny have to do a little bit to sort it (you'll see why), and they're going to kill me...

Anyway, Miles had recently been converting several multi-loader games to run from disc (for example Gauntlet 2 and Indiana Jones), and needed a headerless tape-file reader to load all the various bits and pieces. It occurred to him that we might all like to share this information, so here we are. The actual routine is very short (only 13 bytes, in fact), as it makes use of a Spectrum ROM call.

```

10 REM HEADERLESS TAPE LOADER
20 REM PD By Miles Kinloch
30 REM
40 CLEAR 24985: GO SUB 1000
50 INPUT "Load bytes to addres
  s (16384 or 25000 - 65535)
  : ";a: IF a>65535 OR a<2500

```

```

0 AND a<>16384 THEN GO TO 5
0
60 INPUT "Discard first byte (
  Y/N)? "; LINE a$: IF a$="Y"
  OR a$="y" THEN LET a+=a-1:
  GO TO 80: REM Normally "Y"
70 IF a$<>"N" AND a$="n" THEN G
  O TO 60
80 RANDOMIZE a: RANDOMIZE USR
  24986: STOP
1000 FOR n+24986 TO 24998: READ
  d: POKE n,d: NEXT n
1010 DATA 221,42,118,92,17,255,2
  55, 55,62,255,195,86,5
1020 RETURN

```

Now the caveats and bits and pieces. The first byte of a headerless file is usually a check byte rather than part of the actual file - which is why Miles has included an option to discard it (i.e. by loading the block to an address one lower than that specified). The conversions won't work on UniDOS or the DiSCiPLE, because disc loading routines call the ROM directly, and, unfortunately, the command codes alter the system variables. Since these games overwrite the Basic area, it isn't really desirable to use them in this instance.

```

24986 DD2A765C LD IX,(23670)
  (LD IX, address - picked
  up from 23670/1)
24990 11FFFF LD DE,65535
  (max length)
24993 37 SCF
24994 3EFF LD A,255
  Two commands signify "load
  a data block"
24996 C35605 JP 1366
  Call "LD BYTES" routine in
  Spectrum ROM

```

Many thanks, Miles.

Now let's return to SAM and a note from John Saunders of Chalfont St Giles, Bucks. This one's kicked around for a couple of months because the discs's gone awol, but this month I feel impelled to type it out because it's been here a long time, and because I'm short, and trying

to stretch my stuff...

So here goes...

One of the things that has impelled John to write is a plea for greater comprehensibility in program listings. A minor example arose the other month when he wanted a 'box', and recalled a program or two in past **FORMAT**s, most recently in 'BOXing Easy' from August last, by Mark Colwall. However, John seemed to get something wrong when using this, in spite of Mark's lucid remarks, and put this down to impatience in trying to follow someone else's program, when all he really wanted to do was to get on with his own project which needed the box! So he gave up and worried out a program which did the box job without need of further stirring of the reluctant grey cells, very much a rehash of Marks, but with some simplification and some more informative prompts.

The trouble is, things never stop neatly like that! John thought that this would work best as two DEF PROCs, as shown, at a late line. But then questions started. Like, how about if your program needed two or more pre-defined boxes to be included in the execution of a program (or even one such box?), as would be possible with 'Window'. Is the program of much value if it is not going to do this? The solution seems to be to use a few numeric arrays, such as in the listing, though this will not, so far, cope with parameters at the 'DEFPROC box' line; but if, after entering some relevant box data, one types 'LET n=2 (say): box' as a direct command, all seems well.

So here we are, now; let's type it in and box clever.

```

1 REM BOXCLEVER
10 REM THIS IS A BOX IN "FIXE
  LS"; "WINDOW" USES PRINT U
  NITS
12 REM NOTE; NOT FOR MODE 3
15 DIM ac(6),up(6),w1(6),dep(
  6)

```

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If you have any doubts about which type of interface you need, or any questions about the drive fitting in general, then please give the FORMAT hotline a ring on 01452-412572 and they will be pleased to help you.

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```

20 CLS*
25 LET N=1
30 coords: REM MORE "coords"
  AS APPROPRIATE IN YOUR PRO
  GRAM
8040 DEF PROC coords
8050 INPUT ;"(Top-left corner)
  Plot Across: "; AC(n);",
  and Plot up: ";UP(n)
8060 INPUT "BOX WIDTH "; WI(n)
  IF AC(N)+WI(N)>255 THE
  N PRINT AT 10,12;"TOO WIDE
  !" : PAUSE 80: GO TO 8060
8070 INPUT "DEPTH: ";BOT: LE
  T DEF(n)+UP(N)-BOT
8080 box
8085 LET n=n+1: IF n>6 THEN PRI
  NT AT 6,4; PEN 10;"TOO MAN
  Y BOXES!"
8090 END PROC
8100 DEF PROC box
8120 PLOT AC(n),UP(N): DRAW TO
  AC(n), DEP(N): DRAW TO WI(
  N)+AC(N),DEP(N)
8130 DRAW TO WI(N)+AC(N),UP(N):
  DRAW TO AC(N),UP(N)
8170 END PROC
  
```

Many thanks John.

In shuffling through past bits of paper, (you're reduced to desperate straits, Wase, aren't you), I've found an interesting little piece by Roy Burford, of Norton, Stourbridge (Bless you, Roy). While some out there might still be relying on the rubber-keyed beer mat, most seem to have standardised on the grey Amstrad Spectrum +2. These, in common with the other 128's were blessed with rather more than a mere 'beep' and some time ago when I was inundated with Roman/Arabic converters, I tucked Roy's disc away, not fully realising that there was a little gem tucked away in the back. This one came from the Yamaha electone album, and is entitled intriguingly 'The Winner Takes it All'. Roy, with his gift for conversion, has put it on the Spectrum using the PLAY command.

Here we are, try typing this one.

```

1 REM Yamaha Electone Album.
  Book3. p44. The Winner Take
  s it All. Key C.
2 REM Programmed on ZX Spectr
  um+ 128K using PLAY command
  by B.C.R.Burford 260195.
5 PRINT AT 12,2;"The Winner T
  akes it All"
10 LET a$="13005V10N3gabC7e8e
  5&3efga5a9g5&3gfd7f8f5&3gf
  ed7f8f5&3gabC7e8e5&3efga5a9
  g5&3gfd7f8f5&3gfd7f8f3&V1
  5N3ggFFE9E6&3eeDDC9C6&3aaGG
  F9F5F&3FEDE9F5F3&ggFFE9E6&3
  eeDDC9C6&3aaGGF9F5F3&FFEDE8
  F5&7GG9G"
20 LET b$="04V5N7&9CCbDD7b8b5
  &7&9CCbDDbV8N9CDCR#CDDbbC
  DCR#CDDb7bb9c"
30 LET c$="03V7N7&5c&ccc&ccc&c
  cc&cc&ddd&dd&ggg&8&5c&ccc&
  ccc&ccc&cc&dd&dd&ggg&V11
  N5ggc&ccc&ee&aaa&aad&ddd&d
  dg&ggg&ggc&ccc&ee&aaa&aad&
  ddd&ddd&ggg&gg9c"
50 PLAY a$,b$,c$
55 PAUSE 25
60 PLAY a$,b$,c$
  
```

Now I hear this morning that Mr Blair has ordered that his administration will "hit the ground with their feet running", and suddenly realised that this was a chance to put into practice all the principles that Roy has demonstrated in his 'winner' program. One of the things that I understand Mr Blair needs is a new National Anthem! I shall be grateful for your program together with a SHORT verse - 4 or 6 lines - to be sung to the tune! Come on, you budding musicians, you ought to write something brilliant!

Many thanks for the program, Roy.

And finally, a plea to Bjorn Nyberg, of Bude in Cornwall. Bjorn managed to unearth a gem from his files, a superb cheat on the Spectrum for the much lauded game ELITE. Alas Bjorn, after quite a lot of effort, I've had to admit defeat with the disc you sent - the program file just refuses to load

properly. Strangely, very strangely in fact, the program file will load into SAM, and what is more it actually gives a listing - a rubbish listing full of LABEL commands and other strange beasties, but a listing nevertheless - this is a first for both myself and Bob. Anyway Bjorn, could you please be very kind and send me another disc. Many thanks.

Don't forget - next month I have to try and put together TWO Short Spots! A tall order. I have done my best to keep some stuff back, but in doing so I've very much scraped the barrel. So come on; dig out those mouldy old discs from the attic, dust them down, convert and revamp them and please send them to:-

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

See you next month.

FORMAT

SAM REPAIR SERVICE

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

PRICING Because every fault is different we can't guarantee a fixed rate. When we receive your machine it will be tested and, if it is going to cost more than £35 for the repair then we will contact you for authority to continue.

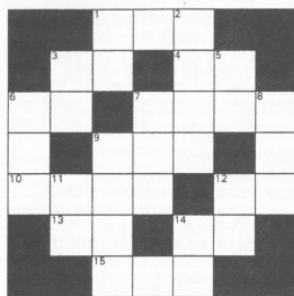
Pack your machine well (we will use your packing for its return). Please phone us on 01452-412572 for advice on dispatch (we can even arrange UK Mainland collection and overnight delivery for an extra £12.95). In many cases we can also give an estimate over the phone. All repairs returned by overnight carrier so tell us which days there will be someone in to sign for the parcel. Please quote your INDUG membership number and give a evening contact phone number.

Send your machine to:-

Format (SAM Repairs),
34, Bourton Rd, Gloucester, GL4 0LE.

PUZZLE ? SPOT ?

From your comments it looks like lots of you are enjoying ? Puzzle Spot ? So here is a new puzzle for this month.



Across

1. 12 down times four
3. Hours in three days
4. 14 down minus sixty-one
6. 15 across divided by five
7. 12 across times 14 across
9. Minutes in two hours
10. 9 down plus 12 across plus 326
12. 11 down plus seven
13. 6 across minus twelve
14. 11 down times two
15. Seconds in seven minutes

Down

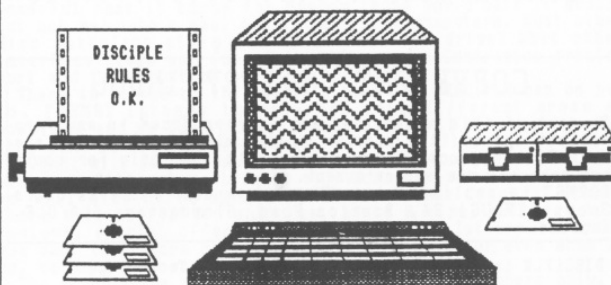
1. 5 down minus seventy-five
2. 7 across plus 10 across minus 280
3. 1 down plus fifty-two
5. 3 across plus 4 across minus four
6. 8 down plus 9 across plus seven
7. 15 across plus 104
8. 7 down plus 1 across minus forty-six
9. A square number
11. A prime number
12. 11 down plus seven
14. 13 across plus eighteen

As usual, the answer will appear next month. Sorry, no prizes, its just for fun. Answer to last month's is on page 31.

FORMAT

THE NEWSLETTER
of the
INDEPENDENT
DISCIPLE USER GROUP

FREE INTRODUCTORY ISSUE



INDUG.

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 FORMAT is published by:- The Independent DISCiPLE Users Group (INDUG) 34, Bourton Road, Gloucester, GL4 0LE, England.

DISCiPLE is a trade mark of Miles Gordon Technology.

The DISCiPLE interface is marketed by ROCKFORT PRODUCTS, 81 Church Road, London, NW4 4DP.

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A warm welcome to this the introductory issue of FORMAT the newsletter of the Independent DISCiPLE User Group (INDUG). The club has been formed to bring together all DISCiPLE owners and to help everyone get the most from their Spectrum and DISCiPLE interface.

Very kindly Rockfort Products have agreed to distribute this issue to all DISCiPLE owners on their mailing list and to include a copy with all new DISCiPLE units shipped in future. Whilst thanking them for their help and encouragement in getting things started I would like to stress that INDUG is completely independent of both Rockfort Products and Miles Gordon Technology.

The DISCiPLE has done more than any add-on before it to expand the horizons of Spectrum owners. The interface is so powerful that it turns the Speccy (some would call it humble but not me) into a real giant among home computers. What other disc interface gives you up to 888k per drive? What other interface gives you full Networking and a Centronics printer port and twin joystick ports on one board?

There is no end to the possible uses the DISCiPLE can be put to. FORMAT intends to cover as many different areas as possible and we look to our readers to tell us exactly what they want to see in these pages.

FORMAT will be published 12 times a year and is free to club members. Although each issue will concentrate on the Disciple we will also carry NEWS & REVIEWS on other Spectrum items. There will be feature articles, hints & tips, software/book reviews, special offers and of course your letters. Whether you want to inform or entertain us, praise us or even roan at us, we need your contributions so get writing.

The circulation of FORMAT is limited to club members only. I strongly advise you to send in your subscription straight away or you may not get to see the next issue. A membership form is

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Continued from page 3.

included in this issue or you can write to us at the club address on page 2. Please remember that stamped addressed envelope if you need a reply.

I hope you enjoy this issue and look forward to welcoming you as a club member.

Bob Branchley,
Editor.

DISC or DISK? That is the Question.

Which is correct DISC or DISK? Is there in fact a real answer? Do you really care?

In the early days of computing a DISC was a large solid unit that could be screwed into an even larger and more solid drive. They consumed hundreds of watts of power, took some time to 'spin-up' to the right speed and cost more than any of you earn in a year (or even more).

Then in the USA the old 'BIG BLUE' IBM invented the 8" DISKETTE or FLOPPY DISK as it came to be known. This later shrunk to 5.25" which is now the world standard, although 3.5" are catching up. In the US the correct term is DISK but they still refer to a DISC DRIVE, you see the DISC is in the DISKETTE and the DRIVE drives the DISC not the KETTE, clear now? good I'm glad you understood that bit.

In the UK our computer giant, ICL, always used DISC for all versions. The BBC, or should I say Acorn, did a cop out and allowed both the DISC and DISK command to be used but still refer to DISC in their manuals.

So what is MY answer? well as Miles Gordon Technology have put the DISC into DISCiPLE and as I was trained (through ICL) to spell it DISC and I am a true blue Brit.. I will continue to use DISC but you can make your own mind up, after all we all know DISC or DISK is still better than TAPE.

Ed.

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POKE @6, n OR - HOW TO UNLOCK YOUR PRINTER

Because a BASIC program can contain embedded colour control characters, and other unprintable rubbish, the DISCiPLE printer channel has to ignore ASCII codes less than 32 (see appendix A of the Spectrum Basic Programming Manual) when LLISTing or LPRINTing. Now that's fine in most cases but what do you do when you want to output Printer Control Codes. Well if there were only a few you could use the method given in the manual and output CHR\$(27) if front of each code. I.E. to output codes 27,45,1 (underline ON for an Epson printer) you would enter:-

```
LPRINT CHR$27;CHR$27;CHR$27;CHR$45;CHR$27;1
```

(Note that even CHR\$27 needs a CHR\$27 before it to work)

OK so far but what if you are using a wordprocessor like TASWORD TWO which only allows four numbers per printer function? or perhaps the codes are already built in to a commercial program. Well this is where the DISCiPLE command POKE @6,n come in. POKE (on the 'O' key) followed by 6 (symbol shift 2) is used to control certain DISCiPLE variables in an area of shadow RAM. Location 6 in this area tells the printer routines to ignore codes less than 32 unless preceded by a code of 27. The default value of location 6 is zero but if we change its value by doing a POKE @6,1 then all codes will be output to the printer without interference by the DISCiPLE. So to output an underlined message to an Epson printer enter the following:-

```
POKE @6,1:LPRINT CHR$27;CHR$45;CHR$1;"I LOVE MY DISCiPLE  
";CHR$27;CHR$45;CHR$8: POKE @6,0
```

Remember POKE @6,0 when you have finished printing just in case you need to do a LLIST later on.

The POKE @6 could be entered as part of a BASIC program or as a direct command prior to loading a machine code program. You could try making it part of your 'AUTOLOAD' program for any disc that needs it.

HAPPY PRINTING....

B.B.

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THE HELP PAGE

Problems with your DISCiPLE? Dont worry, write to the HELP page. Remember to quote your membership number and leave the problem to us.

On the whole the DISCiPLE has proved to be a very reliable piece of hardware but there has been a few calls from users with small problems. Most we have been able to sort out with little trouble and over 98% have turned out not to be faults with the DISCiPLE after all. On this page I will try to cover some of the areas where users seem to encounter difficulties. In future I will try to extend the HELPING HAND to other DISCiPLE and Spectrum problems so keep reading.

The most common problems relate to the INHIBIT BUTTON on the left hand side of the unit. If this is pressed in when the power is switch on the Spectrum will not know the DISCiPLE is there. Errors such as 'Nonsense in Basic' or the RUN command not BOOTing your system from disc are just two of the symptoms of the button being in the wrong position. In fact any DISCiPLE basic command will not work and your printer will not respond to LPRINT. So remember to check that the inhibit button is OUT.

The next most common fault is the dreaded "Sector Data Lost" error. This will usually appear when loading a file from disc or when using the COPY command. First make sure the disc is one that is matched to your drive, check the density and number of sides are correct. Most single sided discs will format as double sided BUT its false economy if the only copy of your program is on a cheap disc and wont load. The same comments apply to single/double density discs. If you buy Double Sided, Double Density, 96 Tracks Per Inch discs (DS/DD 96TPI) you can't go wrong. If the disc matches the drive then check the stepping rate you set up is correct. Try 12ms to start with and then 24,36 or even 48ms. Still got a problem? well if your drive is not one of the modern slim-line 5.25" units, try formatting a disc at single density and run a few tests. This is because the older the design of drive the less likely it is to work in double density mode. If the problem persists even when using a new disc try putting the drive as far away from the T.U. as you can and make sure no power cables cross over the ribbon cable connecting the drive to your DISCiPLE.

Finally, there has been a lot of calls from owners who are worried because the little light on their disc drive stays on all the time. Dont worry this is done on purpose so that, with a two drive system, you would have an indication of which

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Continued from page 6.

drive you last used (useful if you LOAD D* to get the next file or are about to SNAPSHOT a file). It will do your drive no harm whatsoever.

P.S. There are currently some cheap 3 inch drives floating around. These were produced for the Astrad CPC range and will not work with the DISCiPLE. Check before buying that any 3 inch drive is guaranteed to work with the BBC.



Contributions from FORMAT readers are always very welcome. We like to publish articles on any subject relating to the DISCiPLE, the Spectrum or indeed any aspect of computing that you feel may be of interest to other FORMAT readers.

Some points to bear in mind:-

- * Ideally submit your article as a Tasword (2 or 3) or similar text file (with a printed copy). We can accept disc, tape or microdrive.
- * Mark everything with your name, address and if possible telephone number.
- * Keep a copy, DO NOT send your only version, the post office is not that good.
- * Include a stamped addressed envelope if you want your material returned.
- * Remember to list which version of GDOS your program/article was written for, we will check other versions.
- * Feel free to contact us with your ideas before committing yourself to writing that long article.
- * DO NOT COPY ITEMS FROM OTHER MAGAZINES.

Remember we pay for all items published in FORMAT so get writing.

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PROGRAM. PAGE. . PROGRAM. PAGE. . PROGRAM. PAGE. . PAGE. . PROGRAM. PAGE. . PROGRAM. PAGE. .

The following program is a very useful disc menu utility. It works by holding up to 20 program names in an array (FS) and loading the file selected by a single key press. You can add or delete an entry without affecting what is on the disc, you can catalogue the disc and of course rebase the program either as a file called 'MENU' or as 'autoload', so all you need to do is switch on, insert your disc, RUN, and the menu will be displayed.

M E N U

```

1 REM MENU V1.3
2 REM (C)1987 INDUS.
3 REM TO RESTART USE 'GOTO 30'
10 DEF FN A(A)=A-10*(A/10);DEF FN B(B)=A/10
20 DIM F$(21,10)
30 POKE 23658,0; BORDER 1; PAPER 1; INK 7; CLS
40 PRINT TAB 5; PAPER 6; INK 1; BRIGHT 1;"DISCIPLE PROGRAM LOADER"
50 PRINT "PRESS 1 - To enter new title."
60 PRINT "2 - To delete title."
70 PRINT "9 - To Catalogue Disc."
80 PRINT "0 - To rebase loader."
90 PRINT "OR Letter to load program."
100 LET N=0; FOR I=1 TO 20; IF F$(I,1)="" THEN GOTO 120
110 PRINT AT 9+FN A(I),2+FN B(I)*16;CHR$(64+I);";";F$(I); NEXT I
120 LET N=I; PRINT #0;TAB 7; INVERSE 1;"PRESS KEY NOW"
130 GO SUB 290; IF I=0 THEN PRINT AT 5,0; INVERSE 1;I=0; GOTO 320
140 IF I=1 THEN PRINT AT 2,0; INVERSE 1;I=0; GOTO 200
150 IF I=2 THEN PRINT AT 3,0; INVERSE 1;I=0; GOTO 240
160 IF I=9 THEN CLS; CAT #1; PAUSE 0; GOTO 30
165 IF I=0 THEN INPUT "NEW DRIVE NUMBER = ";D; CLS; CAT D; PAUSE 0; GOTO 30
170 IF I=(*A OR I=)CHR$(63+N) THEN GOTO 130
180 LET I=CODE I-64; PRINT AT 9+FN A(I),2+FN B(I)*16; INVERSE 1;I=0; GOTO 190
190 LET A=VAL "CODE I-64"; POKE 23658,0; LOAD D;F$(N); REM LOAD PROGRAM
200 IF N=21 THEN PRINT #0;AT 0,0; FLASH 1;"NO MORE ROOM"; PAUSE 200; GOTO 30
210 INPUT "Program Name: ";I$; IF I$="" OR LEN I$>10 THEN GOTO 200
220 IF I$="" STOP THEN GOTO 30
230 LET F$(N)=I$; GOTO 30
240 IF N=1 THEN GOTO 30
250 INPUT "; PRINT #0;"PRESS LETTER TO DELETE"
260 GO SUB 290; IF I$="" STOP THEN GOTO 30
270 IF I$=(*A OR I=)CHR$(63+N) THEN GOTO 260
280 LET K=CODE I-64; FOR I=K TO 20; LET F$(I)=F$(I+1); NEXT I; GOTO 30
290 LET I=INKEY$; IF I$="" THEN GOTO 290
300 LET I=INKEY$; IF I$="" THEN GOTO 300
310 RETURN
320 PRINT AT 21,1; PAPER 2; BRIGHT 1;"SAVE AS 'AUTOLOAD' "; FLASH 1;"Y"; FLAG
H 0;"ES OR "; FLASH 1;"N"; FLASH 0;"O"
330 IF INKEY$="" THEN GOTO 330
340 LET R=INKEY$; IF R="" THEN GOTO 340
350 IF R="" THEN SAVE D;"autoload" LINE 30; VERIFY D;"autoload"; GOTO 30
360 IF R$("N") THEN GOTO 330
370 SAVE D;"MENU" LINE 30; VERIFY D;"MENU"; GOTO 30

```

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PROGRAM. PAGE. . PROGRAM. PAGE. . PROGRAM. PAGE. . PAGE. . PROGRAM. PAGE. . PROGRAM. PAGE. .

Playing with the DISCIPLE's screen copy snapshot, trying to print a poster for a local disco, I needed a double height print routine. The following is my answer, it works by creating new character sets in 1536 bytes starting at 63232. One set holds the top half, the other the lower half. TX holds the text to be printed, TY & TZ hold the line and column where text is to be printed. Printing is then done by using the first set to print the top half of all the characters on a line and then switching sets and printing the bottom half. Remember to reset to the ROM character set after printing double height or you will have difficulty reading anything printed at single height.

**DOUBLE
HEIGHT**

```

1 REM DOUBLE HIGHT CHARACTERS
2 (C)1987 ROM MARKS.
10 GO SUB 1000
20 CLS
30 LET T$="DISCIPLE"; LET TX=3
40 GO SUB 2000
50 STOP
1000 REM SET UP CHARACTER SETS
1010 FOR I=0 TO 767 STEP 8
1020 FOR N=0 TO 7
1030 POKE (63232+I+N),PEEK (15616+I+INT (N/2))
1040 POKE (64000+I+N),PEEK (15616+I+INT (N/2)+4)
1050 NEXT N; NEXT I; RETURN
2000 REM PRINT TEXT
2010 LET TY=INT ((32-LEN T$)/2)
2020 FOR K=0 TO 1
2030 POKE 23607,246+3*K
2040 PRINT AT TX+K,TY;T$
2050 POKE 23607,60
2060 NEXT K; RETURN

```

WHAT IS AN UNDERPRIVILEGED
SPECTRUM OWNER???

SOMEONE WITHOUT A DISCIPLE...

WHAT IS AN UNDERPRIVILEGED
DISCIPLE USER???

YOU.. IF YOU MISS THE NEXT ISSUE
OF **FORMAT**



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HINTS & TIPS



Readers Hints & Tips to help everyone get the most from their DISCIPLE.

Send your Hint or Tip for the DISCIPLE or Spectrum to the address on page 2. Try to keep them short and sweet so we can get as many as possible in.

UNHANG THAT PRINTER

A small bug in the DISCIPLE's ROM (up to version 2c) means that under certain circumstances the system will 'HANG UP' after an LLIST or LPRINT. The bug is caused by the ROM losing track of the interrupt status and leaving interrupts disabled on return to BASIC. As interrupts are used to scan the keyboard, no amount of pressing keys will return the computer to your control.

To get round this problem add the command 'RANDOMIZE USR 81' to the end of any LLIST or LPRINT statement. Location 81 contains a EI instruction followed by a RET so returning interrupts to their correct state.

Keith Moore. Bristol.

FAULTY JOYSTICKS

Early versions of the Cheetah Mach 125+ joystick are incorrectly wired with an unnecessary resistor which prevents one direction working with the DISCIPLE (or any other interface I tried for that matter), while it will work with the Spectrum+2.

Either return your joystick to Cheetah or if you fell adventurous open it up and remove the resistor, it looks like a wire as its sleeved in plastic but you can feel the bump inside.

SID MINCHIN. Gloucester.

CHANGE DENSITY

If you try to access a single density disc when you have been using double density (or vice versa) the DISCIPLE's

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Continued from page 10.

operating system takes some time to work out what is going on. However a variation of the FORMAT command will force a switch from one density mode to the other. FORMAT D forces double density, FORMAT SD forces single density mode.

Barry Colt. London.

NAME THAT DISC

As the DISCIPLE has no facility to name a disc it is sometimes difficult to know what disc you are using without removing it from the drive to read the label. The answer to this problem came when I found the ROM looks for a system file using the form 'SYSTEM#'. This means the last four characters of the system file name can be anything we like. I number my discs by FORMATING a disc then doing at

SAUI d1"SYSTEM #nn"CODE 8,6144

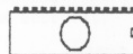
where nn is my disc number, now when ever I do a disc Catalogue I can identify the disc straight away.

Steve Martin. Cornwall.

SNAPSHOT

I was trying to snapshot JASPER to disc but found the program crashed when loaded from tape. However when the DISCIPLE's inhibit button was pressed in and an OUT 31,8 command issued (thus turning off the DISCIPLE) the game loaded first time. It was then I discovered that by releasing the inhibit button JASPER would snapshot OK. I would recommend that readers try this, it works for JASPER so it may for other awkward programs.

ANDY DUHN. Southampton.



HARDWARE SPOT



Calling all hardware buffs. Renewed interest in the Spectrum, created by the launch of the DISCIPLE means there is a growing circle of users eager for hardware compatible with their DISCIPLE interface. We would like to start a hardware spot in FORMAT but we need help to fill it. If you have designed any add-on we would like to hear from you, we will help if you dont feel able write an article yourself. Items currently in demand include an RS232 interface, ROM/RAM expansion, Music interface, Video Digitizer etc. etc. Get soldering and strike while the irons hot..

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WILL IT WORK ?

When any new computer comes onto the market it will usually succeed or fail on the strength of its software base. No software = small computer sales. The same must be true when it comes to marketing a interface like the DISCiPLE, if little software will work then few people will feel it worth investing in one. This has been true of many Spectrum disc interfaces in the past, most failed because little software would work with them.

First the good news. By making the DISCiPLE compatible with Interface One most Microdrive software will work without alteration. In fact any program that uses Interface One 'HOOK CODES' will work on the DISCiPLE without any problems. The difficulties start when a programmer decides to use a direct call to the Shadow ROM on Interface One, most professional programmers would never attempt to use a ROM routine (you can't rely on the ROM staying unaltered) but some throw caution to the wind and use 'ILLEGAL' calls. Now the Interface One ROM changed several times but still some programs exist that break the rules. Some programs like TASWORD 3 will not work because it uses calls to CAT the Microdrive.

Now the even better news. The 'WILL IT WORK' section will list programs that have been tried and tested either by us or by our readers. If you try any program and find it works why not drop us a line with details of the program and any alterations you made so we can add it to the list.

PROGRAMS TESTED AND WORKING.

TASWORD 2,	Tasman Software.
OMNICALC 2,	Microsphere.
POWERPRINT II,	Buttercraft Software.
QUALITAS,	Seven Stars Publishing.
DEUPAC,	Hisoft.
PASCAL,	Hisoft.
MASTIFFILE,	Campbell Systems.
SMALL BUSINESS ACCOUNTS,	Sinclair.
EDITOR/ASSEMBLER,	OCP/ECC.

Most games work with the DISCiPLE but a small number will not SNAPSHOT without a bit of work but its a lot easier than trying to produce a Microdrive copy. If you have problems with joysticks on a game try using the 'define keys' option (most games have one) and then move your joystick in line with the prompts.

TO BE CONTINUED.... [12]

MEMBERSHIP FORM

Membership of INDUG, the INdependent Disciple Users Group, is open to anyone, WORLD WIDE, who owns or has an interest in the Sinclair Spectrum and DISCiPLE disc interface. Members benefit from a monthly newsletter, FORMAT, special offers, Software Exchange List (Public Domain) and much more.

To join the user group simply cut out and fill in this form then send it with your subscription to:-

INDUG.
34, Bourton Road,
GLOUCESTER,
GL4 0LE, England.

Subscription rates are as follows:-

U.K. including Channel Islands Eire, Isle of Man ect.	£10.00
Europe (except East Europe)	£12.00
All other countries	£15.00

Payment by cheque (in STERLING drawn on UK bank) or by International Money Order. Please make payable to INDUG.

I apply for membership of the Independent DISCiPLE User Group. Please process my subscription and send me the next available issue of the newsletter FORMAT. I understand that my membership will last for ONE YEAR from the date my application is accepted.

Name _____
Address _____

PLEASE include your POSTCODE.

Could you please fill in the questionnaire overleaf.

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MEMBERS SURVEY

In order to provide our members with a better service we are conducting a survey into your interests and the type of equipment you use. Please fill in the form as completely as possible, remember the more we know about our members the more we do for you.

SECTION 1 - Your Equipment. (tick one box per question)

- A: What type of Spectrum do you use? 48k ☐ Plus ☐ 128k ☐
 Plus 2 ☐ TS2068 ☐
 B: What SIZE of disc drive do you use? 5.25" ☐ 3.5" ☐ 3" ☐
 C: How many tracks? 40 ☐ 80 ☐ 40/80 Switchable ☐
 D: How many sides? Single ☐ Double ☐
 E: How many drives Single ☐ Twin ☐
 F: What density do you normally use? Single ☐ Double ☐

SECTION 2 - Other Peripherals. (please write in your answers)

A: What other peripherals do you use? i.e. Joystick, Printer

B: What other add-ons do you hope to buy in the next year?

C: If you own a printer, What make and model is it?

D: Is your printer EPSON compatible? Yes ☐ No ☐

SECTION 3 - Your Interests. (list in order of preference)

A: What do you use your computer for? i.e. Programming, Games

B: What types of software do you like to buy?

C: What items would you like to see covered in future issues of our newsletter FORMAT.

SECTION 4 - Miscellaneous.

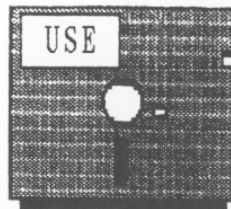
A: How did you buy your DISCiPLE? Mail Order ☐ Shop ☐ Show ☐

B: Date of purchase of your DISCiPLE _____

C: What computer mags do you read? (list in order)

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Thank you for your time.



USERS SOFTWARE EXCHANGE

Members of INDUG will receive a quarterly listing of programs on the clubs USER SOFTWARE EXCHANGE or 'USE' for short. This library contains programs and routines which for a small fee (to cover handling) will be copied onto a pre-formatted disc provided by the user. A lot of programs are Public Domain and are therefore free except for the handling charge, others require a small copyright fee to be paid. The list gives the name of the program, its author, a brief description, its size (disc space used) and how much it will cost you. Important additions to the library will be mentioned in FORMAT so you wont have to wait three months for the next 'USE' list to come out.

If you have written any programs you wish to see reach a wider audience why not submit them for evaluation. We will advise you on whether the program should be PUBLIC DOMAIN (where you retain the copyright but users are free to copy the program provided it is not done for gain) or chargeable and if chargeable for how much. If your program has real commercial potential we will even undertake to publish it for you.

Address your submissions to:-

Software Evaluation,
 INDUG,
 34, Bourton Road,
 Gloucester,
 GL4 0LE.

Include full instructions, your name and address (on all items), your telephone number if you have one, and remember a SAE if you wish your submission returned.

So whether you have written a small routine, a utility, business program, education program or that super arcade game, why not send it in today. You have nothing to loose and a lot to gain.

Ed.

15

COMING SOON

TASWORD 2.5

Upgrade an old favourite in simple steps
No Tasword 2 user should miss this.

POKE @

What the DISCiPLE's manual left out
on this powerful command.

DISCiPLE ROM

The inside story
Whats in it and how to use it.

MACHINE CODE

The DISCiPLE is very easy to use from Basic
Now we unlock the system with machine code.

CUSTOMISE YOUR DOS

How to alter the DISCiPLE's Disc Operating System
to meet your own needs.

The above articles are in an advanced state of preparation
and are just some of the items to appear in future issues
of **FORMAT** so dont miss the next issue.

16

PcW 16

The New Z80 From Amstrad

By:- Denis Parker.

During the mid-1980s, Amstrad's 'Personal Computer/Word-processors' (or PCWs for short) were amazingly popular. If all you wanted to do was write a few letters and maybe a few other simple tasks, they offered a relatively cheap alternative to the then prohibitively expensive IBM compatibles.

Some would say that the advent of cheap PCs had put an end to the PCW's market. However, the truth is very different. Retailers sell very few PCs under £795, in fact most are around the thousand pound mark - and this is still an awful lot of money for the average person who really just wants to word-process family correspondence and a few other bits and pieces.

So, despite the length of time since the last PCW was launched, Amstrad have reworked the concept into the new PcW16 (the capital 'C' has, apparently, been dropped to emphasize the machine's use as a word processor, rather than a 'personal computer').

After pulling the PcW16 from its box, perhaps the biggest surprise for PCW devotees will be the absence of a printer. Amstrad used to market the PCW as a 'complete' word processing system and to that end, it came bundled with a printer. Early PCWs had a dedicated 9 pin dot matrix printer, then a daisy-wheel version was introduced and finally the option to connect almost any printer.

Bearing in mind the abundance of cheap inkjet and laser printers that can

now be had, Amstrad's decision not to include one is probably wise. Any such printer can be connected to the PcW16 via a standard parallel port at the machine's rear, so you can choose one to suit your needs (and your pocket).

Switching the machine on will bring yet another surprise for owners of earlier PCWs. The need to load the word processing software from disc has gone, everything is now stored in ROM (Read Only Memory), making start-up near instantaneous - something the average PC user will be very envious of.

A menu screen provides access to the built-in applications, in conjunction with colour-coded keys on the keyboard (something Amstrad is very keen on).

Unfortunately, the keyboard is a decidedly cheap affair and some people will complain that its garish colours make it look like a children's toy.

The software includes a word processor, of course, and also a spreadsheet, address book, diary/calendar, file-management system and basic calculator application. As well as the appropriate coloured key on the keyboard, applications can be started by pointing and clicking using a mouse (supplied). All the applications have a graphical interface and each is presented in a style that any Windows user would be instantly at home with. If you haven't used Windows before, the system is so intuitive that even the most ardent technophobe should find it painless to

use.

Since Amstrad are marketing the machine primarily as a word processing system, the PcW16's word processing application is probably the most important. It has many of the functions found in popular Windows-based word processors, such as drop-down menus and WYSIWYG (What You See Is What You Get) formatting.

You can use varying font sizes, apply paragraph styles and see a preview of your document before printing - all big advances on the quirky LocoScript package that was shipped with the original PCWs. Talking of LocoScript, Amstrad has had the foresight to include import filters, so if you've got a large collection of LocoScript files, they can be used on the PcW16. Newly created files can be stored either on a standard 3½" floppy disc or within the PcW16's 'Cabinet'. This is a small area (around 200Kb) of the PcW16's memory which is not lost when the machine is switched off - quite a nice idea and very reminiscent of Sinclair's Z88.

Although generally not as advanced as the word processor, the other applications are easy to use and serve their purposes. However, the overriding problem with the applications and the PcW16 as a whole is the speed of operation. Although all-round the PcW16 is quite usable, the machine can at times be frustratingly slow.

Will that machine take off? Well reports are that high-street retailers like Dixons are selling the machine quite well - it does after all have a very big price advantage over the PC most of them are selling. But it will be third party software that makes the machine (or doesn't). The original PCW had a very loyal following and although they may

mourn the passing of LocoScript I think they will be very pleased with the new machine.

On the whole, I think Amstrad have got a winner.

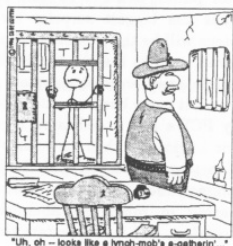
Amstrad PcW16 Details

Compact computer system with built-in word processor, spreadsheet, database and calendar applications.

- Paper-white screen with 28cm diagonal (11.1 inches).
- Word processor with built-in spell-checker.
- 256x256 cell spreadsheet.
- Flat-file database.
- Calendar/diary.
- File manager.
- Calculator.
- 1Mb of flash ROM (approximately 200Kb of user space).
- 3½" floppy disc (PC format 720Kb or 1.44Mb).
- Parallel printer port.
- Retail Price £299 (including VAT).

It's a bit slow and it has a strangely antiquated feel in use but the PcW16 serves a niche market admirably and at a price that few would complain about.

For more details contact Betacom (Amstrad's PCW distributor) on 0181 344 6000.



"Uh, oh - looks like a lynch-mob's a-gatherin'..."

Writing for **FORMAT**

The Spectrum is now 14 years old, the SAM nearly 7 and **FORMAT** will soon be celebrating its 10th birthday. In that time an incredible amount has been written and published about our two favourite machines. You may think there is nothing more to be said or done - but you would be WRONG.

This special anniversary issue contains a reprint of the first ever introductory issue of **FORMAT** so you can see how the standards have risen over the years - and we want to continue putting out a magazine each month for at least another ten years - a magazine that is interesting, informative and bloody good value for money.

But we can only do that with your help. We need your contributions. Letters, items for Short Spot, questions for the Help Page, articles - both large and small, reviews, news.....

There are so many ways in which each of you can help us to keep **FORMAT** going well into the new millennium - but we do need your help and we need it NOW!

You don't have to be a brilliant writer to contribute, you just need something to say - and every one of you out there has something to say. It is our job to edit your contribution into shape for **FORMAT** - and that is a job we love to do. So come on, get writing, even the smallest items is better than nothing.

Please, do your bit to help, you can't expect others to contribute if you don't. Honest, it doesn't hurt, and you will have the pleasure of seeing your work in print - extra copies of **FORMAT** to pass on to relatives are available at discount prices <grin>.

Ring us if you need help or ideas.

SMALL ADS

Genius Mouse for Spectrum with Art Studio 128K or 48K £20. Artist II, PLUS D version, £7. PCG's DTP PLUS D version £12. ZIP 2.6 Basic Compiler on cassette and PLUS D disc £5. Matthew Gallagher, 47, Whitebeam Drive, Coxheath, Maidstone, Kent, ME17 4QH.

STEVE DOTMAN New Spectrum game currently in production - but it needs you. Grab a copy of the Level Designer program from PD library (PLUS D users can write to me) and get designing. Matt Westcott, 14, Daisy Hill Drive, Adlington, Chorley, Lancs, PR6 9NE.

Spectrum & SAM Hardware, software and books for sale. SAE for list or ring me for specific needs. Alan Cox, Pen-y-Maes, Ostry Hill, St Clears, SA33 4AJ. Tel: 01994-231112.

WANTED SAM Comms interface, Mouse interface, and any disc mags. Write to John Adams, 17 Abbey Grdns, Belfast, BT5 7HL.

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Please note: Adverts now run in both **FORMAT** and **FORMAT PC** to give you twice the market.

? Puzzle Answer ?

Here is the answer to last month's Puzzle Spot.

8	7	6	0
2	1	2	7
9	9	5	1
9	6	1	6
5	0	8	8
4	4	0	1
5	0	2	4

SAM GAMES AVAILABLE FROM REVELATION

SOPHISTRY

Our latest & BEST licenced game. 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).

£9-95 (£8-95 to INDUG members)

TNT

Written by industry mega-star Matt Round - A game packed with humour, colour, sound and above all ACTION!

Loosely based on Bomb Jack (the game SAM owners have most requested over the years). As well as the normal one player game, TNT has gone one better by giving you TWO player action - competing against each other, in full glorious technicolour - at the same time. It even has a novel feature in a SAM game - a High Score Table, how many others have that?

Avoid the meanies, collect the bonus points, Jump, Hover, Fly - what more do you want???

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NEW ELITE NEW

The legendary game at last available on SAM disc. Using the code of the Spectrum version, long thought the best after the original BBC version, this game is a must for everyone who loves action and adventure. Full manuals, story book and packaging.

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GRUBBING FOR GOLD

GRUBBING FOR GOLD - the most advanced, the most playable, the most enjoyable quiz game since the legendary Quiz Ball. They said it could not be done - they said bringing a TV quiz show to SAM would not work. Well let them eat their hearts out because YOU GOT IT....

Hundreds of questions, on a wide variety of subjects at levels to suit most people, it includes a question editor so you can create your own sets of questions. This is the game you can never grow out of.

£9-95 (£8-95 to INDUG members)

More Games Coming Soon

Send SAE for full list of available games.

REVELATION FOR THE VERY BEST IN SERIOUS SOFTWARE

~THE SECRETARY - The most advanced word-processor for SAM, powerful, versatile and easy to use. NEW Version 1.5 Available Now - The BEST just got better £14.95 (INDUG £12.95)

~COMET Z80 ASSEMBLER - The SAM assembler many professionals use, yet easy enough for the beginner - so why settle for second best? £29.95 (INDUG members £21.95)

DRIVER

The Graphical User Interface for 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)

Now Includes FREE Copy Of DRIVER's Extras Disc 1

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).
* Payment by UK cheque (made payable to Revelation Software), PO or cash. Sorry but we can't accept orders by Euro-cheque or Giro.
* Please Quote INDUG membership number clearly on order if claiming discount.

Revelation
Software

* Send orders to:-

Revelation Software, 45, Buddle Lane, Exeter, EX4 1JS.



YOUR LETTERS

Dear Editor,

I owe you a large apology. My Two^{up} interface is now working perfectly. I suspect that the problem was associated with the hard disc drive. It certainly was dropping out if you touched the interface boxes (in best Spectrum dongle style) but seems to have stopped doing that.

I have just started using the SAM Supplement program from issue 53 for loading programs to the hard disc which saves a lot of hassle. There is also a brilliant disc indexing program in the issue. It would be very helpful if some of you geniuses out there could provide for the hard disc to accept arrays, serial files, a system for removing corrupt files and directories and for getting Masterscratch, the best of the word processors for my money, and The Secretary which is useful for printing and one or two 'clever' things. Also the obvious frontispiece for the hard disc drive is DRiVER. Can that be trimmed for the hard disc drive?

Yours sincerely, G.S.Hathorn.

The Secretary, and most other programs, should work with the hard drive because of its ability to substitute itself for any other drive. You don't give details of the 'corrupt' files so I can't recommend anything there - you should not be getting any corruptions unless there is something wrong.

I'm also not quite sure what you meant by the phrase "best Spectrum dongle style." Provided you were not constantly plugging and unplugging things, the Spectrum never seemed unduly prone to problems - but there again, I never

suffered from ZX81 RAM Pack wobble so it could just be my good luck. Ed.

Dear Editor,

Thank you for the latest issue of FORMAT - I'm pleased to see such a good response to the programs I sent in!

Regarding C.A.Walford's query on compilers: there are a few still available. However getting these to run depends on the commands and functions they accept. The majority I've seen only work with integers. In the case of the Martin Fractals program, the SQR function is not accepted on many compiles.

I think the compiler you were referring to was ZIP, which came free with Your Sinclair. Unfortunately it was rather restricted and does not accept SQR for example.

One compiler I recommend is Tobos, as it is the only one I have come across which copes with every single command in Spectrum Basic. It needs to be in memory to run a compiled program, but this shouldn't be a problem as it is public domain. It's been available from Fountain PD for a while, but very recently Fountain were taken over by Prism PD, so it should be obtainable from there. Tobos is also available from Alchemist Software, (126, Hayward Road, Redfield, Bristol, BS5 9QA) as part of their utility compilation #4, which also includes a faster but more restricted compiler called Uschi. I'm not sure how much information either place gives, but if needed I'll gladly try to help.

Additionally, Jonathan Cauldwell of Graftix Wizards, (5, Helmsley Drive, Eastwood, Notts, NG16 3RS) wrote a

fairly comprehensive compiler called Turbo, but I'm not sure whether it is now PD or if he's distributing it himself.

Anyway, I hope that this information is of use! I realise that in the past you have been reluctant to give Prism or Alchemist free publicity, but the dispute seems to have died down a bit (I hope I haven't spoken too soon!)

By the way, I notice you haven't mentioned the 'Stevie Dotman Project' I told you about at the show back in October. I'd be grateful if you could give it a mention in the next available issue. I enclose a copy of the flyer. I could still do with some publicity, as the game still needs plenty more levels!

PS. Any idea where I can get an AY-3-8912 soundchip for a Spectrum +2, other than a second hand Spectrum?

Yours sincerely, Matthew Westcott.

Thanks for the info on the Spectrum compilers Matthew. It is true that, as a result of all the stupid behaviour from Prism and Alchemist PD we were forced to stop mentioning them in **FORMAT**. However, Alchemist Software of Bristol have (so they assure us) no connection at all with Alchemist PD. They have certainly been to the last two Gloucester shows which is more than Prism or Alc.PD ever did.

Sorry we did not have room for the project info in the pre-Christmas issues, What I have done is put something in the Small Ads section for you.

Anyone help with the sound-chip? **Ed.**

Dear Editor,

I have been ill for the last few months and I haven't been able to use my SAM but I am on the mend now and have been able to read all the back issues of **FORMAT**. Following my request for the best WP. Game etc., I am now the owner of some of the software as recommended by your readers.

Over the next few months I intend to purchase all the back issues of **FORMAT**

I don't have, the new clock, printer interface and MasterBasic.

I enclose a cheque for **FORMAT** Vol 8 (94-95). I had intended to get to the Gloucester show but I can't make it now. Will there be another show in the Winter?

It's good to see that more money is being allocated to develop more SAM hardware. I think if someone would develop a memory board, there maybe some interest.

Following your news about the year 2000 I read in the Mail on Sunday (13/4/97) that City investors are refusing to buy shares in companies that are not preparing for possible computer melt-down. One company, Scottish Widows, has already sold shares in several firms that they deal with because they are not ready to fix the problem.

My local Dixons is now selling the new Amstrad P16. (give me a SAM any day).

We have just purchased a P200 so could you send my wife a subscription form to receive **FORMAT** PC.

I purchased a Scart cable from Index but I am getting shadows of the cursor still. Will your cable be any different? The TV has two Scart sockets and the Playstation gives perfect pictures. Has anyone got ideas how to overcome my problems.

PS I am going to write soon with more news about computers etc.,

Yours sincerely, John Adams.

Nice to hear from you John. It is nice to know the feed-back you got was worth having. The next Gloucester show is on the 25th October.

Some work had been done on the expanded memory front, but this was put on the back burner so-to-speak, when the hard drive came along - this being the option most people seem to be going for.

There are problems with some scart cables. Check the connections with those in the manual. **Ed.**

Dear Editor,

Thank you for Publishing my notes on IF...THEN...ELSE in Vol.10 N°8 of **FORMAT** (page 21).

I was some what taken aback by your assertion that leaving out LET in Microsoft Basic "often slows down programs" so I looked out my TIMEINSTRUCTS (listing enclosed for reference) LET on my Commodore 64 with the following results:-

Without LET, 50.6666667ms.

With LET, 51.16666667ms.

Could you be more specific about slowing down circumstances?

In connection with Vol.1 N°3 **FORMAT** PC (page 15), ANAGRAM - Version 2 by Geoffrey Langford. I converted this program, correctly I think, to Sinclair Basic on my ZX Spectrum+ 128K and Microsoft Basic on my Commodore 64 and found the anagram 'fro' was not found for the word 'for'. Could Geoffrey possibly check his program to see if it comes up with 'fro' and let me know through **FORMAT** PC?

I've used another algorithm now which does sort them all.

Yours sincerely Roy Burford.

Well, look at it this way Roy. When the interpreter sets about a Basic line, it has to first find the command - in this case LET. And then compare the command found with its internal list to validate the command and take the appropriate actions.

Standard Microsoft Basic did this by finding the first space after a word (or single character) in the statement. It then compared this to its list - if it found no match then it assumed LET, reset the pointer to the start of the statement, and called the LET handling routines. This meant that a let statement was always the slowest to execute if the LET command was left out.

Some Basics, and C64's Basic may be one of them, tokenize a line before

execution. This means that the slow-down is only at the tokenization stage not at the program run stage.

What I can't understand is why in your tests, lines with a LET were actually slower - anyone got any ideas? **Ed.**

Dear Editor,

I am writing to say thank you for the April 19th show, once again I was pleased to attend and as usual was able to find an item or two for my collection.

I do hope that the shows continue in the future, as you and the people taking stands at the last one, must be concerned at the low attendance on the day.

Is it time to consider a Sunday show? Perhaps members should write in with their own suggestions. Come on, do we want a show in future or not?

Please include O.J.Software in the resource directory, they supply leads for the Spectrum 128/+2/+2a/+3, to enable you to use these computers with some Amstrad monitors. I use these leads myself and have not experience any problem, they also advertise three inch discs though I have not yet tried these myself. Their address etc is. 273 Mossy Lea road, Wroughtington, Wigan, Lancs WN6 9RN. Tel: 01257 421915.

Yours sincerely, Ken Pascoe.

Thanks for the info Ken, and glad to hear you enjoyed the show. **Ed.**

Dear Editor,

Thanks for sending me the Philips 1099 sound chip for my SAM. As for how I got on when installing it, well, it did not turn out to be too much of a problem.

As you know, I received two components wrapped in an anti-static plastic wrapper. A quick peek revealed them to be a DIL socket and the sound chip itself, of course.

When I decided at last to have a go at installing it, I arranged it so that I was alone in the house, the girls at school and my wife busy elsewhere. I cleared

space on our dining table, put down newspaper, then I laid out the tools I anticipated using. These included the soldering iron, desolder pump, tweezers and a cutting device as well as a soldering iron stand and a mini vice to help hold things.

Cracking open SAM was, for me, relatively straight forward as I have done this before. I have twice installed new ROMs. First was SC_AUTOBOOT, the second was an original version 3.5 ROM.

I feel I should point out at this stage that, if anyone plans to do this repair and have never opened their SAM before, I recommend that they try to get hold of the installation instructions for either of the aforementioned ROM upgrade packs as these have details of the correct way to open SAM. You may have a friend who can lend the instructions to you or maybe **FORMAT** can help. The instructions for the Sound Chip repair omit this part assuming, quite rightly I suppose, that you already have this knowledge to even contemplate this course of action.

Identifying the Philips 1099 Sound chip was very easy. I drew myself a very basic diagram to indicate which way round the chip was situated but this was, in practice, unnecessary as the circuit board has a printed legend on it indicating the correct orientation of the chip. I practiced soldering and desoldering on an old washing machine PCB before donning rubber gloves, unscrewing the circuit board and commence the next stage.

The instructions recommend the sound chip be excised from the circuit board by cutting the legs off the faulty chip. I was reluctant to do this because the chip was rather close to the circuit board; there are tracks under the chip and my cutting device was a bit on the large side. Firstly, I tried to heat the pins from underneath whilst levering with a

screwdriver. This did not work. In panic I went to Homebase, obtained a cutting device which I hoped would be thin enough to cut the pins - not quite. However a combination of both methods eventually did the trick. Sort of heat, prise, snip; heat, prise snip until, at last, it was off. Whilst doing this I was sweating blood hoping I did not damage any of the very thin tracks on the PCB.

I found the next part, desoldering difficult as well. Removing the pins was easy enough, just heat the solder and pull them out with tweezers. Removing the excess solder was more difficult (for me). My desolder pump felt a little too large for this job (as did my soldering iron's tip. I should confess). I found that I was unable to get the working tip of the desolder pump close enough to the component. It was so large that it just sucked air. SAM is manufactured really well and a minimal amount of solder was used on each joint. However, once I had removed the pins I found that this solder filled the holes in the circuit board and refused to come out. The fact that my soldering iron has such a short flex so that its plug insisted on coming adrift from the electricity socket did not help matters. Not much, mind you. Just enough so that I would not notice until the iron was too cold.

Eventually I decided to use a very small screwdriver to twist in the holes in the circuit board until I had, in effect, drilled my way through. This was tricky and when I finally got through on one hole I thought I had damaged the copper track around the hole on the far side. Any carpenters will probably be aware of the problem to which I refer.

Soldering in the DIL socket was fairly straightforward. There is a notch in one end to indicate which way round to insert it. I do not know if this is absolutely critical. Perhaps someone can advise. My soldering was definitely not of the same quality as that of the factory.

The solder kept globbing. It seemed to be something to do with the green waxy substance covering the PCB. Anyway, I managed it. At this point I was worried that not enough solder would get through the holes on to the component side of the PCB.

I inserted the new sound chip and proceeded to box everything back together once more. Inserting the chip, ensuring I did not use excessive pressure, was easy and took only about a minute. I have done this part before with the various EPROMs so knew what to expect.

The big moment arrived. I was ready to plug in and go. It is difficult to describe how I felt at this point, except to say that my heart was quite literally in my mouth. Due to the problem I had encountered when clearing the pin holes I was convinced that SAM was not going to work.

I switched SAM on. Typed ZAP. ZOOM then BOOM. These worked fine. Then the acid test. I reset and booted up 'Lemmings'. To my intense relief, and amazement, I could hear music once more. Even *Sound Machine*, which I purchased at the Gloucester Show around October 1995 I think, is usable now.

It's not all good news though. Spurious signals now seem to be getting to the sound chip. 'DIR' ing a disc makes SAM sing to me. I can hear SAM think as it actively processes its instructions, such as moving the mouse around. It would appear that I have managed to leave a solder bridge somewhere. I only hope that it is not on the component side of the board as the DIL socket is closer to the PCB than before.

Anyway, I can live with this until I can get a finer tip for my soldering iron and can redo the joints. This will be easy to do now as the chip can be removed at will and I will no longer be in unknown territory so to speak.

I have learned the following from this exercise:-

*Be confident, don't be intimidated by the task (well, just a little maybe, to avoid being careless).

*Prepare first and take certain standard precautions (ie rubber gloves or anti-static wrist strap).

*Don't worry too much, SAM (and electronics in general) can be tougher than you think.

*Practice first.

Anyway, thanks again for the new chip. I actually enjoyed doing the repair. I also enjoyed writing these notes and I hope they are not too long and that they can be of use to others.

Yours sincerely, Dean Shepherd.

Well done with the write-up Dean. When it arrived I was not quite sure whether to use it as a review or put it here in the letters page. I plumped for the letters page so I could pass a few comments - constructive ones I promise.

First, I cannot over-emphasise that doing anything like this is not for the faint hearted, I would expect someone to have: a) opened up their SAM before, and b) know a fair bit about soldering.

Having read your letter I see two places where you went wrong (I think). In trying to remove the old chip you appear to have tried to cut the legs close to the board - not a good idea. The trick is to cut the legs close to the chip body - much easier as components don't get in the way - and it leaves you with nice long bits of leg to grab with pliers as you apply the soldering iron to the back of the board.

The other problem is clearing the holes. This is best done by holding the board in a small vice and putting a nice bright light behind it. Then you can use the shadow of the solder sucker seen through the board to position the sucker right over the hole you wish to clear. Now touch the soldering iron to the front

of the hole until the solder melts and suck - result: one clean hole.

Of course you could use desoldering braid instead, but personally I've never got on with that very well.

Anyway, thanks for the write-up, glad to hear your SAM is now back to its tuneless self. **Ed.**

Dear Editor,

Sometime ago I purchased a copy of DRiVER, and I have been running some of my own compositions as bootstrap files.

Is there a Technical Manual (hinted at in the **FORMAT** review of DRiVER) which will give the information to convert them into DRiVER applications.

Yours sincerely, John Avis.

If you contact FRED Publishing I think there were several bits on past FRED discs that will help - the author of DRiVER wrote regularly for FRED. **Ed.**

Dear Editor,

Many thanks for my latest and, regretfully, last copy of **FORMAT**. After much thought I have decided not to renew my subscription for the coming year.

Last year I was unable to have my daily 'fix' on my Coupé for reasons that I will not dwell on here. I also found that my copy of **FORMAT** was being glanced at and then 'filed for later attention', whereas it had previously been well read before breakfast and the various little snippets tried out before lunch!

This state of affairs continued until October when I packed everything into boxes (My Coupé, books, software and all my discs) and sent them off to my nephew in Scotland in the hope that his children would get as much enjoyment as I had since the Coupés arrival on the 20th December, 1989 (30 minutes before I was due to leave for a holiday in Germany). My elderly PC went at the same time and we had a rather bare

spare room to look at (after my Wife and I had a short holiday).

Some two or three weeks after my return my eldest daughter came to stay and presented me with her two year old HP Vectra (a 386sx), saying that I needed something (I think she needed the room for her new laptop) for correspondence, financial juggling etc. So here I sit, corresponding, goggling at my financial statements and drawing up wonderful charts for my vegetable plot. I did have a look at Q basic, and quickly looked away again! However, I do have the Z80 emulator by G.A.Lunter (supplied by Brian Gaff) and I have switched to Spectrum Basic a few times to see if that little K is blinking away, it always is and perhaps in the near future I will get round to making it do a bit more. I still have my old (1982) Spectrum in the loft, plus books and software just in case!

FORMAT has been a wonderful source of information, interest and enjoyment throughout the last six years and I am sure it will continue to flourish. If I do get back into 'messing around' in the Spectrum I might well return to the fold. Meanwhile, thanks again, and do drop me a mailshot on your PC magazine when it appears - it is bound to be better than those filling the shelves at the present time.

Yours sincerely, Tom Rooney.

Well thanks for your kind comments Tom. I'm glad to see you have now transferred to **FORMAT** PC so at least we will still hear from you from time to time. **Ed.**

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

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

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