Vol.8 Nº1.   **September 1994.**

FORMAT

THE *HOME* OF Z80 COMPUTING
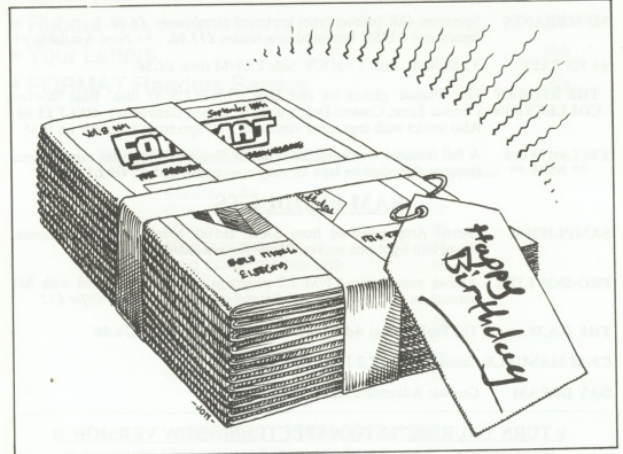
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Vol.8 Nº1.   **September 1994.**

THIS MONTHS ADVERTISERS:-

NEWS ON 4

DOUBLE GUARANTEE

West Coast have announced that they are now offering a TWO YEAR guarantee on SAMs. And, what is more, they are back-dating this new guarantee to include all SAM Elites sold since their launch in April.

The new guarantee is a standard 'return to base' warranty that covers parts and labour on the whole machine for 12 months but with an extended guarantee on the main circuit board for a further 12 months.

West Coast Computers say that the proven reliability of the SAM gives them the confidence to offer this extended period of guarantee and that it shows the faith they have in the machine.

At a time of escalating costs it is nice to see a company that is giving its customers even more for their money.

MANAGEMENT BUYOUT

Commodore's UK management team have put in an offer to buy the European rights to Amiga technology. The offer, the amount of which will not be disclosed until a meeting with the creditors next week, will lead to the formation of a new company which will work with existing distributors to sell the Amiga range throughout Europe.

In the months since Commodore International went into liquidation there have been several false starts in the rescue bid but finally representatives of the UK management flew to New York in mid August to make their bid.

Samsung, another bidder, is said to only be interested in parts of the Amiga technology and therefore there could be a split of Commodore Internationals assets

that will see the Amiga range of computers and the CD32s continue in production.

It now looks certain that the Amiga's future will be settled, one way or the other, before the end of September.

THIRD GLOUCESTER SHOW

The 3rd FORMAT show will be held in Gloucester on Saturday 22nd October at its usual venue in Quedgeley on the outskirts of Gloucester.

Following the successful format of the first two shows the October show will have a variety of trade stands as well as demos, PD and lots more. The show opens as usual at 10:30 am and runs through to 4:30 pm. For ticket prices and details of advanced tickets see this month's editorial.

WATERWORKS II

By the time you read this the new *WaterWorks II* will be out. Following on from the popular *WaterWorks*, author Martin Bell has spent two years coming up with another 19 fiendish levels.

In addition to the features of the original game there have been many extras included - most notably the implementation of a jeep to control as well as the submarine and helicopter.

The new game is available now from Fred Publishing priced at £9.99 (INDUG members quote your number and pay only £9.)

Although *WWII* is a stand-alone game, experience in WaterWorking is a highly recommended advantage. For those unfortunate enough to have missed the original, *WW* and *WWII* are available together for a one-off price of £15.

BUDGET SAM PACK

West Coast Computers are now selling a budget SAM Coupé package aimed at those Spectrum users with DISCiPLE or PLUS D. The new package contains a 256K with external disc/printer interface which allows for the standard 3½" drive to be swapped between the user's Spectrum set-up and the SAM.

The new package came about because WCC recovered a batch of tape based machines from an overseas distributor. As the machines were bulk packed for export there may be the odd scratch on the case tops or the metal base plate. However, the machines have been repacked with English manuals, software and power supplies. They also come complete with West Coast's new TWO year guarantee.

The price, oh yes! Nearly forget. Just £109.95 including UK postage and packing - what a bargain. Stocks are limited so get your order in quick.

AMSTRAD MD JOINS SEGA

Malcolm Miller, managing director of Amstrad Consumer Electronics, has quite to become MD at Sega Europe. The move follows a mass exodus of Sega's management team a few months ago.

Miller had been at Amstrad almost from the beginning an was considered Sugar's right hand man in the boom days of the CPC and Spectrum and when Amstrad totally dominated the home office market with their PCW and PC1512/1640 ranges.

DISC UPGRADE KITS

SAM Coupé owners who feel able to wield a soldering iron can now buy disc upgrade kits from West Coast Computers. Priced at £29.95 (£64.95 with a drive) the kits come with almost everything you need. You have to supply your own soldering iron, solder sucking tool (because you need to remove a connector from the main board), solder,

and a few short lengths of hook-up wire. Drive connection leads are supplied fully made up and all the chips are supplied with sockets to make assembly easier.

Full instructions are included which cover everything from removing the case top from your SAM to fully testing the completed job. Details are given on how to fit 1meg (DS/DD) or 2meg (DS/HD) drives, the 2meg still only format discs to 800K in the normal way but they are often easier to get hold of these days.

West Coast warn that you do need to be really competent with a soldering iron before trying to fit one of these upgrade kits. However, for those of you who are into electronics this could be a very cheap way of fitting a second drive to your SAM Coupé.

Please note that this upgrade is not suitable for the SAM Elite.

SAM PD ADDITIONS

Lancashire based PD library *SAM PD* have taken over sales of two non-PD products. The SAMCO NewsDisc and *FORMAT*'s own Demo Disc #1 are now available exclusively from *SAM PD*.

Revelation wanted to see the NewsDisc set continue to be available (after we dropped them and our own Demo Disc from our lists earlier this year) to SAM users as it contains such a wealth of useful information and programs. However, Revelation did not want to see their copyright relaxed by allowing full PD status. *SAM PD*'s offer to keep them available to SAM users while respecting the legal copyright was an offer Revelation and ourselves were very pleased to accept.

SAM PD can be contacted by writing to 18, Mill Lane, Glenburn Road, Old Skelmersdale, Lancs, WN8 8RH.

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The Editor Speaks

Volume 8, Number 1. Another milestone in FORMAT history and a slight change to the front cover. Yes, we now call ourselves 'The *HOME* Of Z80 Computing' which is truly what we want to become. We started with the Spectrum and then logically expanded to cover SAM when that was launched. But they are not the only Z80 based computers on the market. There are the Amstrad machines (CPC, PCW and Notebook), Einstines, Memotechs, MSX machines, Z88 and lots more. We have found that our readers often have more than one Z80 based machine - in fact computer collecting seems to be quite popular. With this in mind we now look to run the odd article or feature on other Z80 computers, especially where they look at converting from one machine to the other. If any reader feels they could write a little bit on one of these other machines then please get in touch.

Now to some really good news. Some major changes in the way we handle the software we sell through the *FORMAT Readers Service Page* (inside back cover each month) means that we have been able to review prices - DOWN. So for some real bargains take a look at the new prices on page 39.

Next - even better news - the 3rd Gloucester show. Saturday 22nd October, Quedgeley Village Hall, 10:30am to 4:30pm. DON'T MISS IT.

The last show, in April, was well attended and blessed with a fine sunny day (the opposite weather from the first show last November). People came from far and wide - as far as Germany, Holland and Cheltenham I believe - and a good time was had by everyone I spoke

to. There were several new items there, including the new SAM Elite and Lemmings, and you can bet there will be even more new items this time as it is closer to Christmas.

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

Anyone who would like to demonstrate hardware or software at the show please get in touch so we can make sure space is available.

Now to the season of goodwill, you know, Christmas. Yes it is just round the corner - well it is in publishing terms anyway. So, what I want this year is lots of Chrissy pressies.... No, no, not boxes of chocs, I'm fat enough already (although Jenny would never say no), what I am after is lots of seasonal items for *FORMAT*, so get searching and send them in as quickly as you can.

And finally. I'm going to be away for a week from the 9th September so there will be no technical hotline service. Jenny will still be here, slaving over a very hot photocopier by the sound of it, so if you have any non-technical queries then give her a ring between 11am and 2:30 pm.

Until next month.

Bob Brenchley, Editor.

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SHORT·SPOT
YOUR HINTS, TIPS AND PROGRAMMING IDEAS

Edited By:- John Wase.

This is Short Spot calling. This is Short Spot calling.... August edition coming up, and at the moment, it's unbelievably hot. The computer upstairs is melting. I'm melting... Guess by the time you read this it'll be raining and seasonably cold, but at the moment... Strewth!!!

Well that was the introduction to the August Short Spot, but the post office didn't get it to Gloucester in time. So, it is now September, it has been raining, it is cooler, so we better get on with things.

You remember Ern Warwick's 'Polar' program in July's *FORMAT*? Panic on Ern's part, all because of line 10.

```
10 SPECCYFONT
```

Ern's never liked the SAMfont, and so read the Spectrum one in instead. If you haven't got it, don't worry. For now, just omit line 10!

Next boob: line 69:-

```
69 DUMP 4
```

This will work only with MasterBasic. If you haven't got MasterBasic, enter line 69 as follows:-

```
69 DUMP
```

There, that wasn't too much of a problem, was it...

I then had a further letter from Ern in which he had done some digging around. 'Speccyfont' came from Robin Alway's column in 'Crash' October 19?? (they never dated the pages), who wrote...

With Speccy in 48k mode:-

```
SAVE "Specfont" CODE 15616,768
```

Load into SAM with:-

```
LOAD "Specfont" CODE UDG CHR$ 32
```

Then SAVE it carefully to a SAM disc

with:-

```
SAVE "Specfont" CODE UDG CHR$ 32
,768
```

And, like the burgers, You've got it!

An interesting sideline is that the readback Ern gets from his original is CODE 20880,768. Is this merely how SAM interprets UDG CHR$ 32, asks Ern? Well, I'm not sure either. But no doubt our readers, a much cleverer lot than me, will soon put me straight. Won't you...

Finally, Ern mentions Kevin Millington's ROM program. SAVE your Speccy ROM with:-

```
SAVE "ROM" CODE 0,16384
```

Enter the following on SAM:-

```
10 REM Kevin Millington's ROM
   program
20 CLEAR 49999: Load ""CODE 6
   5536
30 FOR a=50000 TO 50008
40 READ n: POKE a,n
50 NEXT a
60 CALL 50000
70 DATA 62,163,211,250,62,4,2
   11,252 ,199
```

RUN it. LOAD the ROM.

[*Editor's Note:* I would like to point out that this routine was originally written by Ken Elston and published in FORMAT Vol.3 Nº5 January 1990. Although it was placed into the public domain (kind lad that Ken) it should not have been reproduced under another persons name.]

Next, I have a letter from Harold R. Lack of Raubling, Germany. He sends a great long listing of a Speccy program to convert a Basic program in memory into

a decimal dump to the monitor or printer. And that's not all: once you've got the code as a decimal, you can POKE it anywhere, but anywhere, in memory and it'll run; you can put several of these in as subroutines, you can SAVE it, you can do all sorts of things with it. All very interesting.

Except for one problem. Harold has a Viscount disc system, which, in Harold's words, "used to be very strange". I can vouch for that, too, and anyone who has back copies of *Your Spectrum*, can look up the original article about the Viscount drive in *Your Spectrum* number 4, June 1984, page 33 (not 26, like it tells you in the front). This persuaded me not to buy a Viscount (or, for that matter, a Technology Research Drive, either), because they were clumsy in use, and, more importantly, pinched a slice of memory from just below RAMTOP: in the case of the Viscount, some 8k. NOW you can see why a program which relocated others is so useful to a Viscount owner!

Frankly, the program is too long for me to contemplate typing in: it would end up with all sorts of errors. But, all is not lost. I bet someone could read a Viscount disc, sector by sector. Couldn't you. If you send me a disc, Harold, either 5.25 or 3.5", I'll surely be able to find someone... Famous last words; volunteers, please...

Many thanks, Harold.

And now to John Redfern, of Forest Hill, London. John has sent me a whole raft of little SAM progs. The first one is useful for inclusion in a larger program. It checks if the printer is on line. Here it is:-

```
10 REM     ONLINE?
20 REM :determine the printer
   status ON or OFF line.
25 REM NB: PAUSE 1 is require
   d
30 DEF PROC online
40 PAUSE 1: PRINT "Off Line"
   AND IN 233=255;"On Line" A
   ND IN 233=254
50 END PROC
```

The next three are useful in a larger program which is manipulating screens, and perhaps animating stuff. The first, called 'cols', sets all Palette positions to black, to avoid strange effects when loading SCREEN$s in programs:-

```
10 REM :  COLOURSET
20 REM : Sets all palette pos
   itions to black to avoid s
   trange effects whilst load
   ing SCREEN$
30 DEF PROC cols
40 FOR n=0 TO 15: PALETTE n,0
   : NEXT n
50 END PROC
```

'Anipal' gives simple but effective animation by rotating colours:-

```
5  REM     ANIPAL
10 REM Rotate palette for
   animation effects
15 LET a=8
16 LET b=9
17 LET c=10
18 REM a,b & c are palette
   positions of colours to
   be rotated
19 DO
20 LET pal1=PEEK (&55d8+a)
30 LET pal2=PEEK (&55d8+b)
40 LET pal3=PEEK (&55d8+c)
50 PALETTE a,pal3
60 PALETTE b,pal1
70 PALETTE c,pal2
80 PAUSE 10
90 LOOP UNTIL INKEY$<>""
```

And 'recall' recalls and overlays screens:-

```
10 REM       RECALL
20 REM recalls a SCREEN$,over
   -laying what is already on
   the screen
30 LOAD "picture"SCREEN$
40 POKE 114688,MEM$(507904 TO
   507904+24627)
50 recall
60 REM :Rest of program.....
70 DEF PROC recall
80 FOR n=0 TO 24627 STEP 256
90 POKE 507904+n,MEM$(114688+
   n TO 114688+n+255)
```

```
100 NEXT n
110 END PROC
```

These look very simple, but John has sent me a disc with a demo in which they are used with stunning effect. It's all a little Christmas story (perhaps unseasonable, but I guess we've all got to prepare some time) about Santa Claus and Reindeers and things. It starts with a nice fireplace, complete with stockings either side, and a flickering fire. The flickering works with 'anipal', which animates by rotating the palette colours, red and yellow. Very neat. Then an enormous scroll with crabbed pseudomediaeval writing appears, and the writing slides off smoothly to be replaced by more text, and so on, all very simple with 'recall'. Great stuff.

Finally, you may remember that Alan Cox's Lissajous program was featured a couple of months ago. I thought that would give me trouble. Sure enough, John Redfern's also sent one: this one with an interesting 'autodraw' feature.

Here it is:-

```
10 REM LISSAJOUS FIGURES
20 REM
      A IS RELATIVE FREQUENCY Y
21 REM
      B IS RELATIVE FREQUENCY X
22 REM
      C IS Y PHASE OF PI
30 POKE 23658,8
40 INPUT "Manual or Automatic
   ";M$
50 IF M$=CHR$ 77 THEN GOTO 70
60 IF M$=CHR$ 65 THEN GOTO 80
70 manual: GOTO 90
80 automatic
90 CLS
100 PRINT "A=";A;" B=";B;" C="
   ;C;" D=";D;" E=";E
110 FOR F=0 TO 500 STEP .5
120 LET Y=120+120*SIN (C+A*PI*
   F/100)
130 LET X=80+80*SIN (B*PI*F/E)
140 PLOT Y,X
150 IF M$=CHR$ 65 AND INKEY$="
   " THEN GOTO 80
160 NEXT F
170 IF M$=CHR$ 65 THEN PRINT #
```

```
0;"PRESS A KEY...": PAUSE
   80
180 IF M$=CHR$ 77 THEN GOTO 70
190 DEF PROC manual
200 INPUT "INPUT A (INTEGER 1-
   5)";A
210 INPUT "INPUT B (INTEGER 1-
   5)";B
220 INPUT "INPUT C (ANY NO. 0
   - 3)";C
230 INPUT "INPUT D 1 OR 0";D
240 LET E=100+D
250 END PROC
260 DEF PROC automatic
270 LET a= INT RND(9)+1
280 LET b= INT RND(9)+1
290 LET c= RND(30)/10
300 LET d= INT (RND(19)/10)
310 LET E=100+D
320 IF A=B THEN GOTO 270
330 END PROC
340 DEF PROC SA: CLEAR : SAVE
   "LISSAJOUS": VERIFY "LISSA
   JOUS"
```

Many thanks, John.

Now a bit from Rusty. Rusty Atkins (we've heard of him before) from Sonning, Reading. Rusty writes first, with reference to BASICally Speaking; the one in July's *FORMAT*. "Who says that you can't call a GOSUB within a GOSUB?" says Rusty. "It can be done many times providing you get the RETURNs right. I am tempted to send you a few progs doing it, but I expect you are deluged with 'em now."

Many thanks for spotting that, Rusty.

Next we go on to the vexed question of ribbon re-inking. Rusty says this can be done without any dismantling at all. All you need is a Black and Decker power driver. Make up a pad by sticking a small piece of foam rubber to a piece of wood. You can improvise to hold the ribbon against the pad: you might need a couple of sides, for instance. Rusty says you now put about five drops of endorsing ink on the pad and drive the ribbon with the power driver, with the pad on the open bit of ribbon. All you need to take care of is that the power driver turns the right way, or you're in

big trouble! The only bit where I would take umbrage with Rusty is in his choice of ink: I would much prefer to use that dense, dark black that I got with the Maxiprint ribbon re-inker.

Many thanks, Rusty.

And talking of Maxiprint, I have unearthed a letter from my box of odds and ends that I'm not sure how they arrived or what to do about them, from Mr Ross of Bridge of Weir, Renfrewshire, Scotland. My apologies for losing this behind the piles of paper in my diminutive little room, Mr Ross. He, too, uses the Maxiprint Ribbon re-inker, and regrets the demise of AC Enterprises, who used to supply him with the nice dense ink that I also so liked. Has anyone any idea where we can get Maxiprint ink from: it's so much better than endorsing ink!

Incidentally, has anyone any experience of laser printer ink powders? My own guess is that I'm much better off using a reputable supplier at the moment. My own laser printer is a Brother HL4Ve, and it's always been very reliable, but the HPIIIP replacement toner cartridges are very expensive. My printer at work is a Star LS5TT postscript printer, and it goes on a microfine toner, with very crisp output - very much crisper than the HL4Ve. Newer and more expensive machine, mind. But again, I've always been a bit cautious about using anything other than manufacturers replacement cartridges; laser works, like the drum, are pricey to replace if abraded, and this makes them useless. Has anyone any experience of this?

I've also unearthed a letter from Richard McLardie of Oswestry. He mentions that He's got a program that he picked up from somewhere, and it's intended to plot random colours at random points. So he typed it in. Here it is:-

```
10 REM STRIPES
20 REM BY RICHARD MCLARDIE
30 FOR Z=1 TO 10000
40 LET A=RND(100), B=RND(100)
50 PEN RND(15): PLOT A,B
60 NEXT Z
```

Well, the 'stripes' gives it away. Interesting, isn't it. But why does it do it?

Many thanks, Richard.

A little note from Ettrick Thomson, who mentions that Gilbert Jackson, whose name has appeared on and off in Short Spot recently, died recently, and I'm sure that everyone joins me in sending commiserations. Incidentally, Ettrick also mentions that the Lowest Common Multiple algorithm is:-

$$LCM(p,q)=p*q/GCF(p,q)$$

where GCF(p,q) is the Greatest Common Factor of p and q. Euclid devised an algorithm for calculating the GCF, which Ettrick learned at school, using a paper and pencil method. A Spectrum program which does this is:-

```
10 REM Greatest Common Factor
   of p>0,q>0
20 INPUT "p:";p,"q:"q
30 PRINT "GCF(";p;",";q;")=";
40 LET z=p-q*INT(p/q)
50 IF z=0 THEN PRINT q: GOTO 20
60 LET p=q: LET q=z: GOTO 40
```

There are many variations, including those using recursive PROCS, for the algorithm is essentially recursive.

Many thanks, Ettrick.

You know, life can be very frustrating. This is the first issue of Short Spot I've written using my new notebook computer, but my little garret is so hot as to be unusable, and I've therefore been forced into it. This has all sorts of implications. Normally, for this job, I use Tasword PC, which produces ASCII code; now I'm using the latest technology - Word for Windows 6. That little bit from Harold Lack (look after your Viscount, Harold - I suspect you have one of the very few that is still in existence - perhaps the only one) well, I tried to write five and a quarter and three and a half inch discs in fractions. Couldn't find them. Enter Robert Brady of Leicester...

This little snippet for SAM finds the fraction of any decimal number you type in - that is if it is a reasonable fraction! It even boils 'em down, as Robert puts it.

```
  10 INPUT "DECIMAL FRACTION ";
     a
  12 CLS
  15 frac a
  20 PRINT top'"-----"'bot''top
     /bot'a
  30 GOTO 10
6000 DEF PROC frac a
6010 LOCAL b,c,n
6020 LET b=1/a,b=VAL STR$ b
6030 LET c=1
6040 LET b=b*c,b=VAL STR$ b
6050 IF ABS (b-INT b)<0.0005 TH
     EN LET top=INT c,bot=INT b
     : GOTO 6080
6060 LET c=c+1: PRINT AT 0,0;c
6065 LET b=1/a,b=VAL STR$ b
6070 GOTO 6040
6080 FOR n=2 TO (top AND top>bo
     t)+(bot AND top<=bot)
6085 IF top=1 THEN EXIT FOR
6090 IF (NOT top MOD n) AND (NO
     T bot MOD n) THEN LET top=
     top DIV n,bot=bot DIV n
6100 NEXT n
6999 END PROC
```

All this technology. Bah. I know there's a nice clock in 'Windows'. How about this one for a SAM with a SAMbus!

```
 10 PALETTE 2,2: PALETTE 10,32
 20 FOR y=0 TO 7: FOR x=0 TO 7
 30 READ a: PLOT PEN a;x,y
 40 NEXT x: NEXT y
 50 GRAB a$,0,7,8,8
 60 PUT 0,15,a$: PUT 8,15,a$
 70 PUT 8,7,a$
 80 GRAB a$,0,15,16,16
 90 CLS
100 CSIZE 8,8
110 CIRCLE PEN 2;128,80,70
120 CIRCLE PEN 2;128,80,90
130 FILL PEN 2,128,160
140 FILL PEN 15,128,80
150 PLOT PEN 2,128-90,80: DRAW
    PEN 2,0,-90: DRAW PEN 2;1
    80,0: DRAW PEN 2;0,90
160 FILL PEN 2,128-70,0
170 FILL PEN 2,128+70,0
180 FILL USING a$,128+80,0
190 PEN 0
200 PLOT 116,20: DRAW 2,0: DRA
    W -2,0: DRAW 2,0: DRAW 2,
    0: DRAW -2,0: DRAW 0,-2
210 PLOT 120,20: DRAW 2,0: DRA
    W 0,-4: DRAW -2,0: DRAW 0,
    4
220 PLOT 124,20: DRAW 2,0: DRA
    W 0,-2: DRAW -2,0: DRAW 0,
    2: DRAW 2,0: DRAW 0,2: DR
    AW 2,-2
230 PLOT 128,20: DRAW 0,-4: DR
    AW 0,4: DRAW 2,0: DRAW 0,-
    4: DRAW 0,4: DRAW 2,0: DRA
    W 0,-4
240 PLOT 134,20: DRAW 0,-4: DR
    AW 0,4: DRAW 2,0: DRAW 0,-
    4: DRAW 0,2: DRAW -2,0
250 PLOT 138,20: DRAW 2,0: DRA
    W -1,0: DRAW 0,-4
260 FOR n=1 TO 60
270 PLOT PEN 7;128+SIN (PI/30*
    n)*47,80+COS (PI/30*n)*47
280 IF n/5=n DIV 5 THEN PRINT
    PAPER 15; PEN 0; AT 11-(CO
    S (PI/30*n)*7),15+(SIN (PI
    /30*n)*7);n/5: PLOT PEN 0;
    128+SIN (PI/30*n)*47,80+CO
    S (PI/30*n)*47
290 NEXT n
300 LET hr=VAL TIME$(1 TO 2)
310 IF hr>12 THEN LET hr=hr-12
320 LET mn=VAL TIME$(4 TO 5)
330 LET sc=VAL TIME$(7 TO 8)
340 PEN 0:drawhand: BEEP 0.009
    ,0
350 LET t=TICS: DO : LOOP UNTI
    L t<>TICS
360 PEN 15:drawhand
370 GOTO 300
380 DEF PROC drawhand
390 PLOT 128,80: DRAW 25*(SIN
    (PI/6*hr)),25*(COS (PI/6*h
    r))
400 PLOT 128,80: DRAW 35*(SIN
    (PI/30*mn)),40*(COS (PI/30
    *mn))
410 PLOT 128,80: DRAW 45*(SIN
    (PI/30*sc)),45*(COS (PI/30
    *sc))
420 END PROC
430 DATA 2,10,10,2,2,10,10,2
440 DATA 2,2,10,10,2,2,10,10
```

```
450 DATA 10,2,2,10,10,2,2,10
460 DATA 10,10,2,2,10,10,2,2
470 DATA 2,10,10,2,2,10,10,2
480 DATA 10,10,2,2,10,10,2,2
490 DATA 10,2,2,10,10,2,2,10
500 DATA 2,2,10,10,2,2,10,10
```

Here's a little snip that you could easily incorporate into your programs. Imagine; a line of gibberish appears on your screen; a pause, and then it gradually changes to the message. This is an easy way to achieve such effects. Type in "letters". Run it. Watch and wait. See the large "J"? OK; now type in:-

```
        BLITZ c$(10,1)
```

The 'J' dissolves into a capital 'I'. Why 'I'? Well; '10' is the letter number, where A=1, B=2 etc.; 1 is 'go one back' and 2 is 'forward'. Pretty good: now go and incorporate this into your programs. Let's see some nice short examples (10-liners; no more) for next Short Spot.

Many thanks, Robert.

Last but not least, we've a few more SAMprogs to finish up the column. They should have been in last month's column, but Bob ran out of space... So, let's go over to Chris Dodd of Thornbury, Bristol, who sent in a disc some time ago, and bits of which I've used. Well, here are some more, particularly aimed at those who are not super-programmers, but who still want to have a go; nice, light fun items to end with.

Finally, a program that originated from *Let's Compute*. Merely enter a simple number as explained in the REMs. This will allow you to encode or decode messages: other code numbers will give different results.

```
10 CLS : MODE 3
20 DIM P(6)
30 CSIZE 8,16: PRINT "
          THE MI5 SECRET
      CODER": CSIZE 8,8
40 PRINT : PRINT : PRINT
50 GOSUB 190
60 PRINT : PRINT
70 PRINT " CODE OR DECODE (C/
```
```
   D)": GOSUB 670
80 IF A$="C" OR A$="c" THEN G
   OSUB 420: GOTO 110
90 IF A$="D" OR A$="d" THEN G
   OSUB 490: GOTO 110
100 GOTO 70
110 PRINT : PRINT "DO YOU WANT
    TO USE THE PROGRAM AGAIN
    ? ": GET A$
120 IF A$="N" OR A$="n" THEN C
    LS : STOP
130 IF A$="Y" OR A$="y" THEN G
    OTO 150
140 IF A$<>"n" OR A$<>"N" OR A
    $<>"Y" OR A$<>"y" THEN GOT
    O 110
150 CLS : PRINT "DO YOU WANT T
    O USE THE SAME CODENUMBER
    ? ": GET A$
160 IF A$="Y" OR A$="y" THEN G
    OTO 60
170 IF A$="N" OR A$="n" THEN G
    OTO 50
180 IF A$<>"N" OR A$<>"n" OR A
    $<>"Y" OR A$<>"y" THEN GOT
    O 150
190 REM SPECIAL NUMBER
200 INPUT "WHAT IS YOUR CODE N
    UMBER ";N$
210 IF LEN (N$)<>6 THEN LET FL
    AG=1: GOTO 280
220 LET FLAG=0: LET M$=N$( TO
    5)
230 FOR I=49 TO 53
240 LET FOUND=0: FOR J=1 TO 5:
    IF M$(J)=CHR$ (I) THEN LE
    T FOUND=1
250 NEXT J: IF FOUND=0 THEN LE
    T FLAG=1
260 NEXT I
270 IF N$(6)<"0" OR N$(6)>"4"
    THEN LET FLAG=1
280 IF FLAG=1 THEN GOSUB 310:
    GOTO 200
290 RETURN
300 REM WRONG NUMBER
310 CLS : PRINT "WRONG CODE NU
    MBER": PRINT
320 RETURN
330 REM MESSAGE
340 LET x=0,y=8
350 CLS : PRINT AT 2,0;"TYPE I
    N YOUR MESSAGE"
360 LET M$="": LET L=0
370 GOSUB 670: IF A$=CHR$ (13)
    THEN GOTO 400
380 LET M$=M$+A$: LET L=L+1: I
    F A$=CHR$ (12) AND L>1 THE
    N LET L=L-2: LET M$=M$( TO
```

```
    L)
390 LET X=0: LET Y=4: GOSUB 71
    0: PRINT M$;" ": GOTO 370
400 IF M$="" THEN GOTO 350
410 RETURN
420 REM CODE
430 FOR I=1 TO 6: LET P(I)=VAL
    (N$(I)): NEXT I
440 GOSUB 330: LET M$=M$( TO L
    )
450 LET S$=M$: GOSUB 570: LET
    C$=R$
460 CLS : PRINT "YOUR MESSAGE:
    ": PRINT : PRINT M$
470 PRINT : PRINT "HAS BEEN CO
    DED TO:": PRINT : PRINT C$
480 RETURN
490 REM DECODE
500 FOR I=1 TO 5: LET P(VAL (N
    $(I)))=I: NEXT I: LET P(6)
    =-VAL (N$(6))
510 GOSUB 330: LET C$=M$( TO L
    )
520 CLS : PRINT "YOUR MESSAGE
    IS BEING DECODED."
530 LET S$=C$: GOSUB 570: LET
    M$=R$
540 CLS : PRINT "YOUR CODED ME
    SSAGE:": PRINT : PRINT C$
550 PRINT : PRINT "HAS BEEN DE
    CODED TO:": PRINT : PRINT
    M$
560 RETURN
570 REM DO CODE/DECODE
580 LET R$="": IF L<5 THEN GOT
    O 640
590 FOR I=0 TO INT ((L-5)./5)
600 FOR J=1 TO 5
610 LET R$=R$+CHR$ (CODE (S$(I
    *5+P(J)))+P(6))
620 NEXT J
630 NEXT I
640 LET I=5*INT (L/5)
650 IF I<L THEN LET I=I+1: LET
    R$=R$+CHR$ (CODE (S$(I)+
    P(6)): GOTO 650
660 RETURN
670 REM GET
680 IF INKEY$<>"" THEN GOTO 68
    0
690 LET A$=INKEY$: IF A$="" TH
    EN GOTO 690
700 RETURN
710 REM TAB(X,Y)
720 PRINT AT y,x;: PAUSE 1: RE
    TURN
```

Simple as that. Many thanks, Chris. And that's all for now. Please do keep the bits coming, or I shan't be able to write next months column). Please send them on a disc to:-

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

I'll just shift this ice off my head, let the steam out and say, 'till next month; cheerio, folks, see you in four weeks or so.
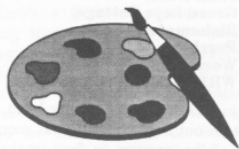

"We've got an acupuncture"

BASICally Speaking...

By:- David Finch.

As I write this I have just got back from an Inter-Railing holiday around Europe. One of the many memories was chatting to a Dane on a train from Copenhagen to Vejle. This particular Dane looked just like Rolf Harris. If it had been Rolf then I could have taken some art tips. However, this particular Dane talked about nothing but Carlsberg and Lego (no kidding), hence the pathetic attempts at drawing which are to follow...

Next we are exploring the wonderful world of DRAW, PLOT and CIRCLE. The graphics which we talked about over the last couple of months can be referred to low resolution graphics, since we only use the character blocks. Although the screen is still made of the same number of pixels, when we manipulated the individual pixels instead, it is 'high resolution graphics'. We came across most of the commands for this when we did the pie chart program. That's good because it shouldn't take me long to finish it properly.

As I recall, I only mentioned plot and draw. Your screen is made of 256 pixels across and 192 pixels down. However, we don't call the most bottom left pixel 0,0 because that would be too easy. Instead the origin (the point we call 0,0) is slightly above the most bottom left pixel. It is actually eighteen pixels up but as far left as you can go. We then refer to any pixel below that with a negative y co-ordinate. For example, the most

bottom left pixel is labeled as 0,-18 (zero across, negative eighteen 'upwards'). This makes your x range from 0 to 255 and your y range from -18 to 173.

If your computer has SAM written on the case then you can redefine where this origin point is. For example, you may like to have it in the very centre of the screen or at the bottom left pixel (making every other co-ordinate positive). To do this you LET the variable XOS or YOS equal the x or y co-ordinate of your origin. These values are the co-ordinates of the origin as defined by the default origin (ie, the origin which lies just above the bottom left. So to set the origin to the most bottomly lefty pixel you should type:-

```
10 LET YOS=-18
```

Or to set the origin to the centre of the screen you should type

```
10 LET YOS=69: LET XOS=128
```

NB. a shortcut to line 10 would be:-

```
10 LET YOS=60,XOS=128
```

since you can LET any number of variables in one line so long as you separate them with commas. I would suggest that for setting the origin to the bottom left you should also set XOS equal to zero to avoid bugs (especially if you have changed XOS elsewhere in your program).

Now that we have sorted out the grid that we are to draw on, we can get on with the drawing. First of all we need to state where on the screen our pen is to

start from. You use the PLOT x,y where x is the x coordinate (relative to the origin, right is positive) and y is the y coordinate (relative to the origin, up is positive). Doing this actually sets that pixel to the current ink colour. However, if you are using a Spectrum (or a SAM in Mode 1, we will cover modes later), you should be wary of colour clash. The Spectrum graphics can only cope with one paper and one ink colour per character square. If you try to change the colour of any pixel in any character square you will set the colour of every other ink pixel in the character square.

The command DRAW will draw a straight line from the point last PLOTted or DRAWn to, in any distance in both the x or the y direction. For example, your pen is at 128,60. You can draw a line going ten pixels up and five pixels to the left by using the command DRAW -5,10. The five is negative because you are drawing to the left and right is positive. Similarly, if you wanted to draw downwards you would need a negative number for the second value. To show the example, type the following.

```
10 PLOT 128,60
20 DRAW -5,10
```

The third drawing command is CIRCLE. This, quite amazingly, draws a circle. You must define three parameters for this command: The x and y co-ordinates of the centre of the circle, and the radius (distance from the centre to the edge) of the circle. So you type CIRCLE x,y,r where x is the x co-ordinate of the centre, y is the y co-ordinate and r is the length of the radius measured as number of pixels.

To try out all these commands, type this program.

```
10 PLOT 128,100
```

```
20 DRAW 0,-50
30 DRAW -10,-25
40 DRAW 0,-25
50 PLOT 128,50
60 DRAW 10,-25
70 DRAW 0,-25
80 PLOT 128,90
90 DRAW -20,20
100 DRAW -10,20
110 PLOT 128,90
120 DRAW 10,-30
130 DRAW 0,-25
140 CIRCLE 128,110,10
```

Hmm, not very good is it? Do you want to know something about Lego? Remember I said that you can draw just dots with the PLOT command, so lets give him some eyes.

```
150 PLOT 124,113
160 PLOT 132,113
```

You can draw curved lines using the DRAW command. You can add another parameter to define the amount of curviness. It works like the normal DRAW in that it starts from the point most recently PLOTted or DRAWn to and ends up a specified number of pixels away. The third number sets how much the line curves out. If it is PI then it will draw a semi circle (where the normal line would have been a diameter). If it is less than 3.1415926535... then it will curve out less than a semi circle. If it is more than PI then the curve will bow out. I think our chap (who is called Bob incidentally), should have a nice cheesy smile from cheek to cheek.

```
170 PLOT 121,110
180 DRAW 14,0,PI
```

And some ears...

```
190 PLOT 118,112
200 DRAW 0,-4,3
210 PLOT 138,112
220 DRAW 0,-4,-3
```

You will notice that the DRAW in line 220 has a negative number for the curviness (-3). If you imagine that you are on the point being drawn from, looking along the line being drawn, then a positive curve number will emerge from your right. A negative curve number will cause it to emerge from your left.

There may be occasions when you don't want to DRAW by a specified displacement, but to DRAW TO a specified point. For SAM users it is easy since you simply use the command DRAW TO followed by the x and y co-ordinates of the point being drawn to. This command is not available on the Spectrum so instead you have two options; 1) Buy a SAM, because the BASIC is much better anyhow. 2) Use the following command.

```
DRAW x-PEEK 23677,y-PEEK 23678
```

The variables x and y can be replaced by the numbers representing the x and y co-ordinates of the point being drawn to. Bob could do with some feet...

SAM dudes, type on...

```
230 PLOT 110,0
240 DRAW TO 118,0
250 PLOT 146,0
260 DRAW TO 138,0
```

Speccy folk, try this...

```
230 PLOT 110,0
240 DRAW 118-PEEK 23677,0-PEEK
    23678
250 PLOT 146,0
260 DRAW 138-PEEK 23677,0-PEEK
    23678
```

Admittedly, that would have been just as easy with the normal DRAW command.

Just to finish the drawing theme, I am going to briefly mention the BLITZ facility which is only available to my SAM owning friends.

Simply add these lines:-

```
5 RECORD TO a$
270 RECORD STOP
```

Run the program and Bob will appear as normal. Now type BLITZ a$ as a direct command (ie without a line number to execute it immediately), and Bob will appear much faster. This method allows you to store drawing commands in a string (and save them just like strings), with the advantage of speed also. The disadvantage is that you don't have the versatility of the drawing commands. This is more easily demonstrated than explained:-

```
10 RECORD TO a$
20 PLOT 128,69
30 DRAW x,y
40 RECORD STOP
```

If you type:-

```
LET x=50,y=20: GOTO 10
```

The single line is drawn 50 across and 20 up. When you BLITZ a$ the same line is drawn. You may attempt to LET x=100 before you BLITZ again, but the line will always be 50 across and 20 up, no matter what.

PEN (but not PALETTE, PAPER or BORDER) commands are recorded and will execute when BLITZed. Also, you can place CLS and PAUSE commands in your recording to produce an animation. You cannot place PRINT commands or non graphics commands in your recording and expect then to execute when you BLITZ the string. They will only execute when they are between the RECORD commands, running normally. You may have drawing commands within a procedure and call the procedure from within the RECORD commands and they will record as you expect. As the program runs after a RECORD TO command, it picks out any drawing commands executed until RECORD STOP is reached.

That's all that I have planned for the graphics theme. Next month you can look forward to a quick look at sound.

PD ZONE

Part 3.
By:- Bob Brenchley.

On computers like IBM PCs, software has always been *VERY* expensive. In fact over recent years you could often find yourself paying as much for a single item of software as you did for the computer to run it on. This was one of the main reasons for the growth in Public Domain software.

OK, in just the last few years software prices have dropped quite substantially. But, in comparison to the Spectrum and Sam world, they are still high.

During the early life of the Spectrum hundreds of small companies were launched by programmers trying to sell their own product. It was a good way of selling, the programmer got feed-back from his customers with no middle man to blur the issue. He was also able to sell the software at a reasonable price because there was no distributor or dealer discounts to give (distributors were demanding 70-75% discounts when I pulled out of the Spectrum games market in 1985 and, even then, would only stock your product if you were spending thousands on advertising).

But, as the market changed and people wanted to buy from local dealers, and therefore direct selling via quarter page ads in Sinclair User and the like became unprofitable, small time programmers began to look for other outlets.

Many joined larger companies; either selling their software out-right, taking a royalty, or in a few cases going to work on a full time basis for a software house.

All these options were alright, but the programmer lost the advantage of feed-back. He also lost the chance to chose what software was launched - that decision rested with the publisher. And, so, PD reared its head. It gave an author a chance to get his work out to people, without real expense, but of course gave him little return for his efforts - except the glory of public recognition.

It was this glory that started the rot. Not so much on the IBM PD scene, but with the Amiga. Everyone wanted their name up in lights and so 'the demo writer' was born. Now the programming abilities of many demo writers are not in question - some are very talented indeed. But most seem to lack the dedication to work on a commercial project. If just one tenth of the skills that have been wasted on scrolling demos over the last few years had been used to produce commercial software, then SAM owners in particular would have a great deal more software to buy.

Still, there is plenty of good PD software, if you can wade through the demos to get at it. As soon as we can, *FORMAT* will start listing new PD releases, so you will know what is available. PD writers, please send copies of your new works and we will include them as soon as we can. Tell us which libruaries you have released the program to and what restrictions if any there are on the software.

Continued when we have room.

22

BJ10-DUMPing

By:- Anthony Henn.

At the request of the Editor I've put together this small article to cover a screen dump routine for SAM that works with the Cannon BJ10e Bubble Jet printer.

In my own defence the routine was originally just a 16 shade grey scale dump for a mode 4 screen. It worked fine if the picture on the screen used colours in a grey scale where palette zero was black and fifteen white. However as you know not every screen uses this scheme and you can get very garbled printouts from colour screens with the above method.

When you printed my letter I thought it would be a good idea to sort out this problem before sending in a copy. It took some time. I first of all did some research into the relative intensities of colours more specifically red, green and blue. This lead me to a program which could calculate the relative intensities of all the colours used on the SAM with black as 0 and full white as 127.

Not surprisingly some colours have similar intensities, so a bright blue is close to a duller green.

Working with 360 dpi a screen can fit neatly across the page onto A4 if an 8x8 pattern per pixel is used. A compromise with this was to only have 64 different shades with the number of dots in each pattern going from 0 to 64 (with a gap in the middle!).

I therefore wrote an addition to my original dump program which could check the palette when it started and choose the appropriate pattern for each of the 16 colours. In practice some tweaking had to be done to get the intensity on paper right, the first program gave to dark a printout, the next did not have enough contrast in the mid grey section, but I eventually got the mix about right. I think you will agree that the effect is pretty good, refer to enclosed screen dumps.

I have been considering a version for 24-pin printers which I think can manage 360x180 dpi, am I correct? If these printers can manage a 1/360th inch line feed then the patterns could be interlaced to give the same effect as on the BJ-10ex. Unfortunately a 180x180 dpi dump in landscape format would not quite fit on A4 paper as 192x8/180 = 8.53 inches.

Anyway I decided to send in my efforts so far.

First type in listing 1, it is quite long because it generates 1024 bytes of code file. Save it to disc before running it - just to be on the safe side. Once run, it saves the code block to disc.

Listing 1.

```
10 CLEAR 65535
20 LET addr=65536
30 FOR i=0 TO 127
50 LET ch=0
60 FOR j=0 TO 7
65 READ a
70 POKE addr,a: LET addr=addr
   +1
71 PRINT AT 0,0;addr-1,a,,
80 LET ch=ch+a
```

23

```
90 NEXT j
95 READ c
100 IF c<>ch THEN PRINT ''"Err
    or in line ";3000+10*i
110 NEXT i
120 PRINT ''"OK Now save code
    as:"'"BJDump# code 65536,1
    024"
3000 DATA 243,6,16,33,216,85,17
     ,0,616
3010 DATA 132,126,229,213,95,22
     ,0,33,850
3020 DATA 128,129,25,126,95,203
     ,35,203,944
3030 DATA 18,203,35,203,18,203,
     35,203,918
3040 DATA 18,33,0,130,25,209,19
     7,1,613
3050 DATA 8,0,237,176,193,225,3
     5,16,890
3060 DATA 216,33,120,90,94,219,
     251,230,1253
3070 DATA 31,50,48,129,61,50,65
     ,128,562
3080 DATA 62,2,237,115,64,129,2
     11,250,1070
3090 DATA 195,75,64,49,255,127,
     123,230,1118
3100 DATA 31,211,251,205,151,64
     ,33,0,946
3110 DATA 128,6,32,197,205,231,
     64,229,1092
3120 DATA 6,128,197,229,6,6,205
     ,164,941
3130 DATA 64,33,0,68,17,66,65,2
     05,518
3140 DATA 199,64,33,0,68,17,72,
     65,518
3150 DATA 205,199,64,225,193,35
     ,16,226,1163
3160 DATA 6,4,33,43,65,126,35,2
     05,517
3170 DATA 244,64,16,249,225,193
     ,17,0,1008
3180 DATA 3,25,16,199,195,47,65
     ,33,583
3190 DATA 23,65,6,13,126,205,24
     4,64,746
3200 DATA 35,16,249,201,17,66,6
     5,62,711
3210 DATA 6,144,131,95,126,203,
     63,203,971
3220 DATA 63,203,63,203,63,18,6
     2,6,681
3230 DATA 144,198,72,95,126,230
     ,15,18,898
3240 DATA 17,128,0,25,16,222,20
     1,6,615
3250 DATA 8,197,213,229,6,6,26,
     203,888
3260 DATA 39,203,39,203,39,133,
     111,126,893
3270 DATA 205,244,64,225,19,229
     ,16,238,1240
3280 DATA 225,209,35,193,16,227
     ,201,6,1112
3290 DATA 7,17,36,65,26,205,244
     ,64,664
3300 DATA 19,16,249,201,197,245
     ,1,233,1161
3310 DATA 1,205,13,65,237,120,1
     5,56,712
3320 DATA 248,13,241,237,121,12
     ,237,65,1174
3330 DATA 5,237,65,193,201,62,2
     47,219,1229
3340 DATA 249,230,32,192,195,47
     ,65,27,1037
3350 DATA 91,92,4,0,0,0,180,0,3
     67
3360 DATA 27,68,11,0,9,27,91,10
     3,336
3370 DATA 1,48,16,27,74,24,13,6
     2,265
3380 DATA 3,211,251,195,54,129,
     62,31,936
3390 DATA 211,250,237,123,64,12
     9,251,201,1466
3400 DATA 0,0,0,0,0,0,0,0,0
3410 DATA 0,0,0,0,0,0,0,0,0
3420 DATA 0,0,0,0,0,0,0,0,0
3430 DATA 0,0,0,0,0,0,0,0,0
3440 DATA 0,0,0,0,0,0,0,0,0
3450 DATA 0,0,0,0,0,0,0,0,0
3460 DATA 0,0,0,0,0,0,0,0,0
3470 DATA 0,0,0,0,0,0,0,0,0
3480 DATA 0,1,3,4,6,8,12,14,48
3490 DATA 5,7,10,12,15,17,22,25
     ,113
3500 DATA 2,3,5,7,10,13,16,19,7
     5
3510 DATA 9,11,14,16,20,22,28,3
     0,150
3520 DATA 6,8,13,14,17,20,25,28
     ,131
3530 DATA 15,18,22,25,29,31,37,
     40,217
3540 DATA 10,13,16,19,23,26,30,
     33,170
3550 DATA 21,23,28,30,34,37,42,
     45,260
3560 DATA 18,21,24,27,31,34,39,
     41,235
3570 DATA 29,32,36,39,43,46,50,
     52,327
3580 DATA 23,26,29,32,37,40,43,
     46,276
3590 DATA 35,38,41,43,49,51,54,
```

```
     55,366
3600 DATA 32,35,39,41,45,48,52,
     54,346
3610 DATA 44,47,50,53,55,57,59,
     61,426
3620 DATA 38,40,44,47,50,53,56,
     57,385
3630 DATA 49,51,54,56,58,60,62,
     63,453
3640 DATA 255,255,255,255,255,2
     55,255,255,2040
3650 DATA 255,255,253,255,255,2
     55,223,255,2006
3660 DATA 255,255,221,255,255,2
     55,221,255,1972
3670 DATA 247,255,221,255,127,2
     55,221,255,1836
3680 DATA 119,255,221,255,119,2
     55,221,255,1700
3690 DATA 119,255,213,255,119,2
     55,93,255,1564
3700 DATA 119,255,85,255,119,25
     5,85,255,1428
3710 DATA 117,255,85,255,87,255
     ,85,255,1394
3720 DATA 85,255,85,255,85,255,
     85,255,1360
3730 DATA 85,251,85,255,85,191,
     85,255,1292
3740 DATA 85,187,85,255,85,187,
     85,255,1224
3750 DATA 85,187,85,254,85,187,
     85,239,1207
3760 DATA 85,187,85,238,85,187,
     85,238,1190
3770 DATA 85,186,85,238,85,171,
     85,238,1173
3780 DATA 85,170,85,238,85,170,
     85,238,1156
3790 DATA 69,170,85,238,85,170,
     85,238,1140
3800 DATA 69,170,85,238,84,170,
     85,238,1139
3810 DATA 69,170,85,238,68,170,
     85,238,1123
3820 DATA 68,170,85,238,68,170,
     85,238,1122
3830 DATA 68,170,85,174,84,170,
     85,238,1074
3840 DATA 85,170,85,174,85,170,
     85,204,1058
3850 DATA 85,170,85,202,85,170,
     85,172,1054
3860 DATA 85,170,85,202,85,170,
     85,170,1052
3870 DATA 85,170,85,170,85,170,
     85,170,1020
3880 DATA 85,170,85,168,85,170,
     85,170,1018
```

```
3890 DATA 85,170,85,168,85,170,
     85,138,986
3900 DATA 85,170,85,138,85,170,
     85,136,954
3910 DATA 85,170,85,136,85,170,
     85,136,952
3920 DATA 85,162,85,136,85,170,
     85,136,944
3930 DATA 85,162,85,136,85,42,8
     5,136,816
3940 DATA 85,42,85,136,85,34,85
     ,136,688
3950 DATA 85,34,85,136,85,34,85
     ,136,680
3960 DATA 85,34,85,128,85,34,85
     ,136,672
3970 DATA 85,34,85,128,85,34,85
     ,136,672
3980 DATA 85,34,85,128,85,34,85
     ,8,544
3990 DATA 85,34,85,8,85,34,85,0
     ,416
4000 DATA 85,34,85,0,85,34,85,0
     ,408
4010 DATA 85,32,85,0,85,34,85,0
     ,406
4020 DATA 85,32,85,0,85,2,85,0,
     374
4030 DATA 85,2,85,0,85,0,85,0,3
     42
4040 DATA 85,0,85,0,85,0,85,0,3
     40
4050 DATA 81,0,85,0,85,0,85,0,3
     36
4060 DATA 81,0,85,0,21,0,85,0,2
     72
4070 DATA 21,0,85,0,17,0,85,0,2
     08
4080 DATA 17,0,85,0,17,0,85,0,2
     04
4090 DATA 17,0,84,0,17,0,85,0,2
     03
4100 DATA 17,0,84,0,17,0,69,0,1
     87
4110 DATA 17,0,69,0,17,0,68,0,1
     71
4120 DATA 17,0,68,0,17,0,68,0,1
     70
4130 DATA 16,0,100,0,17,0,68,0,
     201
4140 DATA 16,0,68,0,17,0,68,0,1
     69
4150 DATA 0,0,100,0,17,0,68,0,1
     85
4160 DATA 16,0,68,0,1,0,68,0,15
     3
4170 DATA 0,0,100,0,1,0,68,0,16
     9
4180 DATA 1,0,68,0,0,0,68,0,137
```

```
4190 DATA 0,0,100,0,0,0,68,0,16
     8
4200 DATA 0,0,68,0,0,0,68,0,136
4210 DATA 0,0,96,0,0,0,68,0,164
4220 DATA 0,0,64,0,0,0,68,0,132
4230 DATA 0,0,96,0,0,0,4,0,100
4240 DATA 0,0,64,0,0,0,4,0,68
4250 DATA 0,0,96,0,0,0,0,0,96
4260 DATA 0,0,4,0,0,0,0,0,4
4270 DATA 0,0,0,0,0,0,0,0,0
```

OK, if everything went alright you now have the code file on disc.

The code can be loaded to any 16k page boundary. To dump the current screen just call the base address. NB. Do not load to 49152, SAM paging does not move this page to 32768 when called from Basic, all other pages do!

Now to a little program that can be used to explore the intensities of colours in SAM's palette.

Listing 2.

```
 10 PRINT "This program needs
    Masterbasic  to run becaus
    e the SORT command is used
    ."
 20 ZAP : PAUSE 100
 30 MODE 1: BORDER 7
 40 SCROLL CLEAR
 50 DIM p(128),q$(128,2)
 60 FOR i=1 TO 64
 70 FOR h=0 TO 1: FOR b=0 TO 3
    : FOR r=0 TO 3: FOR g=0 TO
    3
 80 LET lum=0.3*r+0.59*g+0.11*
    b
 90 LET lum=((lum+(0.5*h))/3.5
    *127)
100 LET b0=b BAND 1,b1=b BAND
    2
110 LET r0=r BAND 1,r1=r BAND
    2
120 LET g0=g BAND 1,g1=g BAND
    2
130 LET pal=b0+r0*2+g0*4+b1*8+
    r1*16+g1*32+h*8
140 LET p(pal+1)=lum
150 PRINT "Palette ";pal;" Lum
    inance ";lum
160 NEXT g: NEXT r: NEXT b: NE
    XT h
170 FOR i=1 TO 128: LET q$(i,1
    )=CHR$ (INT (p(i))),q$(i,2
```
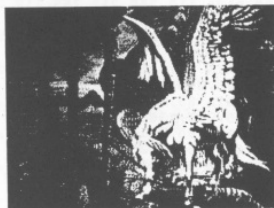
```
    )=CHR$ (i-1): NEXT i
180 SORT ABS q$()
190 FOR i=1 TO 128: PRINT CODE
    q$(i,1),CODE q$(i,2): NEX
    T i
200 PAUSE 25: CLS #
210 PALETTE : FOR i=2 TO 128:
    PALETTE 0,CODE q$(I,2) LIN
    E 173-i: NEXT i
220 PRINT AT 18,0;"Try looking
     at this in Black andWhite
    !"
230 PAUSE
```

Right, to finish off, here are a couple of sample prints (smaller that actual size of course) produced using my dump routine.

LIFE WITH MY SAM

By:- Brian Lofkin.

One thing I had always wanted when I used to work at Rolls-Royce was a computer and printer set-up of my own to give me the same performance. I used an IBM PS/2 50, either an Epson FQ1000 or HP DeskJet Colour printer and 'Framework III' word processor. Now, with my SAM Coupé 512K, one disc drive, Star LC 200-24 colour printer and *The Secretary* word processor, I believe I almost do 'have it'.

As Paint Laboratory manager, I typed a lot of my own reports and specifications because of reduced secretarial facilities. Once I had some speed in typing and became accustomed to the word processor, it was a lot quicker and easier to type on the computer than to do it long hand. In a constantly changing environment, use of a word processor is a delight. An added bonus was that the spelling was better! (particularly of little used scientific words).

After being made redundant in I began to feel some withdrawal symptoms from the computer. I would sit there some days for 7 out of 8 hours at work. Lotus 1-2-3, project management using 'Hornet', mainframe computer records and MRP II were all different and 'variety is the spice of life'. All I had at home was a measly 8 bit machine that supported Spectrum games.

Apart from **FORMAT**, I had no other contact with the SAM world until I took up the *Fred* disc magazine, what a revelation. To see and hear the potential of the Sam was a real joy. Now, where was the software to utilise its capabilities?

I then tried a few copies of other magazines, *Enceladus* and *Outlet* (both noe defunct). Although they were useful, particularly the information in *Outlet* articles and letters, *Fred* and **FORMAT** seemed to cover those aspects.

Just where was the 'professional' software? I tried several public domain discs, but was still searching.

The first chink of light was Hilton Computer's *Personal Banking System*. Initially I had a few problems with 'not understood' errors and it was rather slow. However, after talking to Jack Gibson, I bought *MasterDOS* and *MasterBasic*. What a difference! The chink became a radiant beam. The banking system has worked without one single problem since and the Dr. Wright software was superb.

Best of all with the *Master*-ful software were the manuals. It was the first time I had a good, understandable explanation of what commands could do. Previously I had tried to learn to program the Speccy, with almost unlimited failure. Now I began to get things to work. Perhaps it is thanks to Rolls-Royce and the Tory recession that I had the spare time to spend teaching myself, but they will never get any gratitude from me.

As I am a bit of a quiz freak, I did some programs to help me learn facts. I had not used Random Access Files before,

and certainly could not handle strings and arrays. With the search and sort facilities within the MasterDOS/Basic software, I could really take information, write a program and shape it to provide questions and answers in many different ways.

My search for software continued and I bought *GamesMaster*. This has the potential to provide some good games, but as I have no artistic 'bent' and few inovative ideas for games, I failed with this.

After 6 months on the dole and with no sign of a job, I decided that I would get a printer and a word processor before my money ran out. Additionally, should I buy an IBM PC or compatible? They can be bought for around £600 and the software is of good quality and variety.

I decided to stick with my SAM. Programming this is fun and I can now use it to handle data in any way I want. (Let's just ignore the money factor). I made two other outstanding decisions when I bought *The Secretary* and my Star printer.

The Secretary provides the vast majority of facilities of a 'professional' word processor, with ease of use and a menu of controls. It lacks a spell check facility and thesaurus usual with PC software, neither can it check grammar. For me, its best facility is the control it gives with printer control codes. It has the ability to store 32 codes which can be changed on a simple menu screen to those of your printer. When required, they do not need to be remembered, just accessed from the menu system. I now us the Spell Master dictionary for checking spelling, even if some are American.

I chose the Star LC 24-200 colour printer as it was the most money I could

reasonably afford and it would apparently provide most of my requirements. It is a 24-pin dot matrix printer and comes with 5 different fonts, others are avilable at extra cost. The ribbon has four colours and prints seven, orange violet and green by double passing with two colours. It has an easily understood manual and provides all the control codes for use in both Epson LQ-860 & IBM Proprinter X24E modes. (It emulates both).

Before I ordered the printer I looked through all my copies of *FORMAT* and Outlet discs. Previously, as I had not got a printer, I had tended to ignore these sorts of articles. All I had picked up was that there were plenty of hazards and pitfalls. After reading all I could find, I came down to a choice of the Star LC 24-200 colour or a Citizen Swift 24E colour printer. I invested in several PC computer magazines and did a thorough search for the two printers in the adverts, and ordered the lead and interface from *FORMAT*.

The fact that Carol Brooksbank had a Star printer, although a 9-pin, and the price was £10 cheaper, swung me to paying £245 including VAT & delivery for the LC 24-200. Ordered by phone and payment by credit card, it was delivered in 2 days. I had expected to spend about a week learning how to be in full control of my printer. With the help of *The Secretary*, the good printer manual and the *COLDUMP* utility on Enceladus utilities disc, I believe I had that control within two days.

When the printer arrived, I am embarassed to admit, I panicked as there was no lead with it. I had the lead and parallel interface from Format connected, but how did I connect them to the computer? Then the penny dropped, that the interface plugs straight into the back of SAM!

Few of the control codes needed to be changed in *The Secretary* and in under 2 hours I was printing 'professional' quality letters, in colour, at least equal to those I did at Rolls-Royce. I like the effects the changes in fonts can give and the absolute ease with which they are changed. With the *Coldump* utility, screens are transferred to paper and can be put on the wall to good effect.

When printing from my own programs, I initially had spurious characters appearing on the paper. This was because I was only using a comma as a delimiter of the printer control codes. As soon as I used a semi-colon proper results were obtained. How simple to print out an array and get on paper all that would be seen on several screens! I was in trepidation when I bought my printer, but thanks to the Star manual, *FORMAT*, Outlet and *Enceladus*, I found all I needed.

Other quality software is beginning to appear, mainly thanks to Fred Publishing and Revelation Software. Impatience was good, Triltex - The Later Levels has me beat at level 20. Screens are becoming better and so is the use of music. The future currently looks brighter on the SAM front, especially with its rebirth under West Coast Computers. No job on the horizon and I am happy. All thanks to my SAM.

One other item I bought recently was an ergonomically designed chair for computer users. I had been using a standard chair at my computer desk and, with all the time spent with SAM, I suffered from both back ache and an itchy anus. Since buying the chair I have suffered neither, just my bank manager moaning as it was £80 from Inmac.

RUBOUT

By:- John Littler.

Even if you are perfect, and unlike me, have all your useful routines saved to disc separately, and are able to merge them at will, there are still times when it can be time saving to be able to erase a block of Basic lines.

I work for a Bus company and have several programs on my Spectrum to calculate and tabulate such things as daily and weekly times on duty. All of these use data lines, in one case, up to fifty of them for a rota which repeats after fifty weeks, that is to say that the duties are different for each of those weeks. When we recently started a new route this program needed to be duplicated for the new rota, which repeats after six weeks - so, not only six data lines to change, but forty four lines to erase.

This program of sixty five bytes will load to anywhere, either high memory, or into the printer buffer at 23296, is error trapped for line numbers over 9999, and will rub out lines between two parameters. I make no claim to it being original, it was developed from a piece read in 'Sinclair User' back in 1986, and has proved to be very useful.

I have included Listing 1, a Basic loader to use if you don't have an assembler, but must say that you'll never learn about machine code without one. To use the loader, type it in and save it by a GOTO 120.

To create the code at a different address to that used by me, alter lines 20, 30 and 140; also line 180 if you want to try the demo. The value in 20 and 30 must be one less than the one in 140 and 180.

If you plan to use the printer buffer at 23296, assuming no ZX or Alphacom printer and that you are working in 48K mode (like all good programmers do), delete line 20, edit line 30 to use the value 23295, and edit lines 140 and 180 to use 23296.

Now RUN the loader, and assuming an 'OK' report, save the code generated with GOTO 140.

If you now enter a GOTO 180 the lines forming the demo program will themselves be rubbed out!

To actually rub out, say lines 250 to 380 inclusive from a program that is already in the memory, do a CLEAR, one less than the address at which you will load the code, and then load the code. If the program is not in memory, get the code in place, and load the Basic as you would normally, unless it is a self-run program which might load code over the Rub out code, in which case, MERGE it.

I usually CLEAR 64999, and load the code to 65000, so any 'NEW' doesn't lose it, and the 'line renumber' utility I have sits below at 60000.

Now the program is in memory type PRINT USR 65000,250,380 and the screen will report in the input area - '0 OK, 0:1'.

On the next available main screen line will be printed either a '0' or a '1'. A zero

indicates that the lines were rubbed out OK, a figure one that they were not as there was an error, such as the first line number being greater than the last, or one of them was too big, ie over 9999.

To rub out one line only, make the second number the same as the first, eg PRINT USR 65000,10,10; It's not worth it, but it shows that the code works!

The routine demonstrates one way of passing parameters to machine code, it expects a comma and two numbers separated by a comma, after the PRINT USR and then finds the address of these two line numbers using the ROM routine 'Line-Addr', and then the ROM routine 'Reclaim-1' to close up and thereby rub out the memory between them.

You must use 'PRINT USR', this gets the two following numbers evaluated; RAND USR just returns with the report 'Nonsense in Basic'!

Listing 1.

```
 10 REM Rubout
 20 CLEAR 64999
 30 RESTORE : LET a=64999: LET
    t=0
 40  FOR n=1 TO 13: FOR c=1 TO
    5
 50 READ b: LET a=a+1: POKE a,
    b
 60 PRINT AT 0,0;a: LET t=t+b
 70 NEXT c
 80 READ tot
 90 IF t<>tot THEN PRINT AT 10
    ,0;"Error in Line ";490+n*1
    0: STOP
100 NEXT n
110 PRINT AT 10,0;"Data OK.":
    STOP
120 SAVE d*"Rubout" LINE 10
130 STOP
140 SAVE d*"Rubout c"CODE 6500
    0,65
150 REM Code will save to anywh
    ere,like the printer buffe
    r at 23296.
160 STOP
170 REM Demonstration
180 PRINT USR 65000,170,180
```

```
190 LIST 150: STOP
500 DATA 205,121,28,205,162,72
    1
510 DATA 45,33,15,39,167,1020
520 DATA 237,66,48,5,205,1581
530 DATA 162,45,24,13,197,2022
540 DATA 205,162,45,167,33,263
    4
550 DATA 15,39,237,66,48,3039
560 DATA 5,225,1,1,0,3271
570 DATA 201,225,229,167,237,4
    330
580 DATA 66,56,244,225,197,511
    8
590 DATA 35,205,110,25,193,568
    6
600 DATA 229,96,105,205,110,64
    31
610 DATA 25,235,225,205,229,73
    50
```
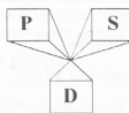
Listing 2.

Created using Hisoft GENS4 Assembler/Editor.

```
 10 ;Rubout
 20 ;Can be assembled to any ad
    dress
 30     ORG Any
 40     CALL 7289
 41 ; Evaluate next two values
    after comma.
 50 ; Put on calculator stack i
    n order of 1st then 2nd.
 60     CALL 11682
 61 ; Get 2nd No from calc stac
    k into BC reg.
 70     LD HL,9999
 71 ; Highest permissible line
    No.
 80     AND A
 81 ; Clear the carry flag for
    a true subtraction.
 90     SBC HL,BC
 91 ;Take 2nd No from 9999. Put
    result in HL reg.
100     JR NC,CH1
101 ;Carry is set if No greater
    than 9999,ie error.
110     CALL 11682
111 ;Unstack 1st No to leave ca
    lc stack as it was before r
    eturn.
120     JR ERR
130 CH1    PUSH BC
131 ; Save 1st No on push/pop s
    tack as ROM call in next li
    ne uses BC reg.
```

```
140     CALL 11682
141 ;Get 1st No from calc stack
    into BC reg.
150     AND A
160     LD HL,9999
161 ;Check that 1st No is less
    than 10000.
170     SBC HL,BC
180     JR NC,PROC
181 ;No carry so OK.
190 EONE  POP HL ;Clear stack
200 ERR   LD BC,1 ;Show error.
210     RET
220 PROC  POP HL ;2nd line No.
230     PUSH HL
231 ;Resave it as SBC in line 2
    50 puts the result into HL
    reg.
240     AND A
250     SBC HL,BC
251 ;Take 1st No from 2nd.
260     JR C,EONE
261 ;Carry set if 1st bigger th
    an 2nd.
270     POP HL
271 ;Retrieve high No.
280     PUSH BC
281 ;Save low No as ROM call in
    300 uses BC reg.
```

```
290     INC HL
291 ;HL reg needs to be No of f
    irst line NOT to go.
300     CALL 6510
301 ;Get addr of high line into
    HL reg.
310     POP BC
311 ;Retrieve low line No.
320     PUSH HL
321 ;Save high addr as ROM call
    in 350 uses HL reg.
330     LD H,B
340     LD L,C
341 ;HL reg is now low line No.
350     CALL 6510
351 ;Get addr of low line into
    HL reg.
360     EX DE,HL
361 ;Addr of low line now in DE
    reg.
370     POP HL
371 ;Retrieve high addr.
380     CALL 6629
381 ;ROM routine Make Room. Clo
    ses up the prog area from a
    ddr in DE reg to one below
    HL reg.
390     LD BC,0; Show Rub out done.
400     RET
```

YOUR LETTERS

Dear Editor,

We are subscribers to the magazine thanks to a friend we have in the UK.

The Spectrum is the most popular 8 bit computer here, with more than 20,000 computers sold.

So, let's go to the point. We want this advertisement published in your Small Ads Section:-

Attention: Spectrum Uruguayan Users Group (48 & 128K) wants contact world-wide. Write to:-

Alejandro Balparda,
Acevedo Diaz 1213 Apto.1,
C.P. 11200, Montevideo,
URUGUAY. (South America).

Article about Speccy in Uruguay promised, but printer is broken now!
PS. Great Mag! Thanks.

Yours Sincerely, Alej Balparda.

Nice to know you are planning to write for us Alejandro, we look forward to seeing something soon. *Ed.*

Dear Editor,

When are you planning to have the next SAM/Spectrum gathering? I would have liked to have gone to the last one, but unfortunately I was in the middle of my GCSE's - not good timing!

I couldn't see anything wrong with your reply to Carol Burdge either - maybe we're all male chauvinists!

An address for G. Hallewell (see July Letters Page):- The Net, c/o BBC Continuing Education, White City, 201 Wood Lane, London, W12 7TS.

Also, I would be interested in the MC booklet if it contained extras - this is the order for the sections I've missed!

That's all for now - hope that business goes well!

Yours Sincerely, Paul Walker.

Interest in a machine code book seems to be quite strong. However, I would like to hear from readers who have any suggestions as to what needs to be added or elaborated on. *Ed.*

Dear Editor,

Please find the list of the Machine Code Without Tears Program, by Carol Brooksbank, listed as contents of FORMAT for anyone needing to refer to any one part of that set of instructions. I have just sorted out all the copies with parts in them, wished someone else had already done this, but as they hadn't, I did it.

Hope it can be useful to others. Keep up the goodies.

Vol	No	Page	M/C Code 'no' Tears
4	12	19	1
5	1	19	2
5	2	13	3
5	3	13	4
5	4	35	5
5	6	21	6
5	7	19	7
5	8	27	8
5	9	27	9
5	10	13	10
5	11	31	11
5	12	27	12
6	2	25	13
6	3	29	14
6	6	21	15
6	7	15	16
6	8	15	17
6	9	23	18
6	11	29	19
7	1	19	20
7	2	15	21
7	3	25	22
7	4	23	23
7	7	15	24
7	8	13	25 Finish

Yours Sincerely, D.F.Pillmore.

Well thanks, I'm sure that little list will encourage a few back-issue sales. *Ed.*

Dear Editor,

I would like to know if the SPI SAM Printer Interface is still bidirectional as stated in your description some time ago, or if it has been changed so that it's not anymore bidirectional.

It's very important for me to know this because I would buy it only because of this feature.

Thanks for the information.

Yours Sincerely, Arne D.Russo.

No, since SAMCO closed we have been using the same design as West Coast to save on build-costs. *Ed.*

Dear Editor,

So sorry, but I shall not be renewing my subscription. It is really sad for *FORMAT* has given me enormous pleasure and information for many years, and for all this service I am truly grateful to you.

Regrettably, my Spectrum - one of the originals back in '82 - has at last quit this world and I have followed the course of so many others by purchasing a PC. Don't believe the new toy has a system anywhere as good as the Sinclair, but do fear the days of Spectrum and Sam are numbered.

Some time ago you mentioned you might bring out a *FORMAT* for PC. If you ever make such a wise decision please canvass your old members. Here's one who would subscribe immediately.

Once again, my thanks to you for your aid to computing and my best wishes to your future.

Yours Sincerely, Jack Bettridge.

Well Jack, sorry to lose you after all these years. However, like so many before you, we hope to see you return to the fold when the initial enthusiasm for your new IBM wears off.

Now I'm not knocking IBM PCs, any computer is better than no computer. But it is a case of horses for courses. The Spectrum, and even more so the SAM, are programmers' machines. They are so adaptable and controllable and at a price that everyone can afford.

IBM type machines are, of course, more powerful. I could not edit and produce *FORMAT* on a SAM without a lot more effort. But to have this power costs money. A reasonable entry level machine is at least £700. Add £199-£399 for a decent word processor, the same again for a Spreadsheet and anything from £100 to £700 for a graphics package, and the price just goes up and up. OK, I know there are cheaper programs available, even a fair few that are well under the £100. But the price difference will always be there.

And speaking as someone who has had to write programs in GW Basic, give me Sinclair/SAM Basic any day. *Ed.*

Dear Editor,

Once again, congratulations on an excellent issue. I thought the introduction of photographs was a big improvement and breaks down the text very well indeed.

I was interested in your PD article and hope it will offer some guide-lines to another PD library I am sure you are familiar with, who claim that "anything that is free must be PD". One programmer is considering taking legal action concerning some stolen software and I am also considering this option.

Anyway, the point of this communication is the letter from Lin Rhodes, who has lost the colour code to 'Jet Set Willy'. I have prepared a letter for Ms Rhodes which is in the enclosed envelope (unsealed should you wish to inspect it). I have not enclosed a copy of the codes should the tape be an unoriginal version, but if she can confirm it is an original, I'd be happy to help in the way I have expressed.

Keep up the good work!

Yours Sincerely, Andy Davis.

Your letter on JSW has been forwarded, thanks for your help.

Turning now to your comments on PD. I am aware of the situation you mention and feel that your own personal involvement has, to say the least, been totally reprehensible and I will not have FORMAT used to spread further publicity for you or your organization. *Ed.*

Dear Editor,

Please find enclosed my subs for another year of INDUG membership. I hope it is as good as last year's was.

The reason I am writing is that I wish to know where I could purchase a copy of the SAM Adventure System. I know it was fairly widely advertised a while ago, but recently I haven't seen any information - or for that matter, any adventure games written on it. I would appreciate it if you could let me know who - if anyone - is distributing it.

Yours Sincerely, Colin Borland.

Try Fred Publishing, Colin used to stock SAS and I'm sure he can get one for you. *Ed.*

Dear Editor,

I am making enquiries for purchasing the SAM Coupe's Prince of Persia game and for purchasing a guide book on the Sam Coupe's Basic, Master Basic, DOS, Master DOS and hopefully later on, with

a guide on using Games Master by Andy Wright.

Can you furnish me with details about the above? I would be extremely grateful, as I am a relative beginner on learning how to get the best out of SAM Basic. Also the Games Master has some excellent add-on Basic Commands which are in themselves very useful.

Is there available a video digitiser for the SAM Coupe, because I am in the process of video-copying my Commodore, 16/Commodore Plus 4 (16K) Tom Thumb Game, for transferring screens to the SAM Coupé (178 Screens 320*200 Pixels in size). This is even better than the Commodore 64 version, both being made by Anirog Software/(Kingsoft), I'm betting that it will be a smash hit with SAM users, even though it only occupies 10K of RAM Memory.

Yours Sincerely, Charles Roads.

Prince Of Persia is now available again from Revelation Software (see their advert in this issue).

There are no plans at the moment for extended guides for MasterDOS/Master Basic but there is a new SAM User Manual on the drawing board which may appear next year.

Surely it would be easier to write a routine to port screens direct from the C16 (via tape/disc or by the serial interface) than to try pointing a video camera at the screen? Anyway, sad to say there is no digitiser available at the moment. *Ed.*

Dear Editor,

I believe that some time ago your company took over what remained of SAM and Sinclair Computing. They had advertised a manual that I am trying to trace and purchase called 'The Plus 3 Technical Source', do you sell this or could you point me in the right direction for a supplier.

S&SC, as they were known also had an extensive P.D. Library, did this go down

with the ship or were you able to salvage any? Reading the list they appeared to have several very interesting programs.

Yours Sincerely, Graham Yeardley.

The takeover of S&SC cost us quite a bit of money and, at the end of the day, we got little for it. OK, we rescued quite a few Spectrum and SAM users who would otherwise have lost their money - and the goodwill that we created from that has done us no harm. But most of the items Daniel Garner was contracted to turn over to us never arrived. After months and months of excuses we stopped wasting our time.

We legally own the rights to everything related to S&SC. This includes all the +3 material the S&SC inherited from the defunct +3 User Group that Daniel ran before. However, gathering together all this material, especially the +3 PD discs, is beyond our resources at the moment.

There is an urgent need for a +3 PD library at the moment and if I could find a trustworthy person to set one up I would give what help I can. *Ed.*

Dear Editor,

I would like to issue a stern warning! When mailing 3.5 inch computer discs, insert them in the envelope so that the 'business' or slide end is not under the stamp to avoid the machinations, literally, of the GPO. As SAM Supplement, Fred Publishing and Phil Glover of the SAM Adventure can testify I have pointed out the devastation effected by the GPO's postmarking machinery to discs. The update of my *The Secretary* suffered this fate when you returned it to me. Fortunately the damage was not terminal for once and the programme appears to have survived intact. This letter is written with it.

What a joy the upgrade is after the original which does however have its merits. The key bounce is much better although it is slow when changing lines

in 'Auto-Insert' mode. The cursor now reverses from the left margin to the end of the previous line which is a most irritating deficiency in the original. The options on 'Store' which now include erase, copy and directory are much improved and the sub-directory option will be most useful I feel.

Revelation are to be congratulated on a great job. I hope they will consider another update to allow cutting and pasting in the fashion of Microsoft WORD! I'm delighted.

Yours Sincerely, G.S.Hathorn.

There have been the odd problems with discs coming in as well as those going out. One disc recently required nearly half an hour of very careful work to extract it from the drive without wrecking the drive mechanism.

The problem, as you point out, is the Royal Mail's modern franking machines. They are set for standard thickness letters and only tend to detect extra thickness if it is right on the leading edge. Use a normal DL type envelope and there can be real problems if the disc slips to the far end. That said, I believe that if we mollycoddle them to much they will just get away with it and things will just get worse.

On the subject of *Secretary* discs returned, we have had several where there was clear damage to the disc surface, scratches caused by dirty or damaged heads. Be warned readers, cleaning your drives heads once in a while could save you pounds in the long run. *Ed.*

Dear Editor,

Excuse me, I'm a bit late, you will soon receive my cheque (by Post Office).

I send you two cards of my town. It's name Montrichard coming from 'Mont Richard', Richard was 'Richard, Coeur de Lion' (Richard The Lion Heart) who lived in the castle in 1194. His name was given to the castle...

If you go to France, you must pass in my country, called 'Touraine' (There is good wine!) and see Montrichard, very quiet small town (4,000 inhabitants).

Now back to the Spectrum, I've now a 128k Spectrum. Where can I get a pad to put in the 'key pad'?

If it does not exist, will *FORMAT* tell one day how to make a pad?

Another question, I'm Short Wave Listener and like to know if you can publish a Morse decoder (soft or hard) for Spectrum, that will be written in Basic or machine code?

Thanks for my answers, long life for you and for the Spectrum!!

Also, good holidays. Bye, bye....

Yours Sincerely, Dominique Charbonnier.

Thanks for the post cards, now added to my daughter's collection. The wine sounds most interesting, must make a point of visiting the area one day.

The 128K keypad question comes up in *FORMAT* every few years. For people who don't know, the Spectrum 128K was launched in Spain before it came out in the UK. In Spain there was a numeric keypad available that plugged into the main machine. However, this was never available outside of Spain as far as I know and I have never seen one or met anybody with one. Even if we could get hold of one I doubt that we could produce a copy as I believe there was a custom chip inside. Does anyone know any more details?

A Morse decoder/encoder would be a nice idea. If anyone would like to write an article I'm sure there would be lots of people interested in seeing it.

Dear Editor,

I recently made contact, via the pages of MicroMart, with a SAM owner who had bought the PCG DTP suite of programs from you and who was having trouble getting things to work.

It turns out that the only

documentation he got with the disc were the three original manuals, dated 1987, which deal with the Spectrum/tape/microdrive version and, in particular, relate to the Spectrum keyboard.

When I bought my copy of DTP, from MGT, I received these three manuals plus two sheets explaining the changes in the SAM version - in case you have not seen these I enclose (poor) photocopies. I would suggest that you should include copies with your package.

The other thing that my colleague found useful was the PCG 'Wordmaster ABC' booklet which I lent him, which contains some extra information in addition to what is in the manual but, importantly, puts things over in what seems to me to be a more logical manner. Assuming you have the rights in this as well you might consider selling it as an extra.

All best wishes.

Yours Sincerely, Alan D.Cox.

All copies of the SAM version of DTP go out with just such a set of leaflets as you sent us Alan. However I have never seen the ABC booklet you mention. In their final days PCG were hiding from creditors and it was difficult to get hold of them, hence my later appeal for the +3 version which they had not sent a master for (thanks to the three people who helped me out on that one).

Someone, who's name I'm sorry to say I can't find at the moment, wrote to us last year with a draft for a series of articles (or a small book) on using the PCG system. If that person would like to give me a ring I am still interested. *Ed.*

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

This is **YOUR** letters page so it is up to you to fill it with interesting things. Come on, get writing, any subject even remotely related to computers. Just keep things as short as you can so we can fit in as many as possible each month. Please write clearly or type your letters. Send them to the address on page 3 or fax them to us on 0452 380890.