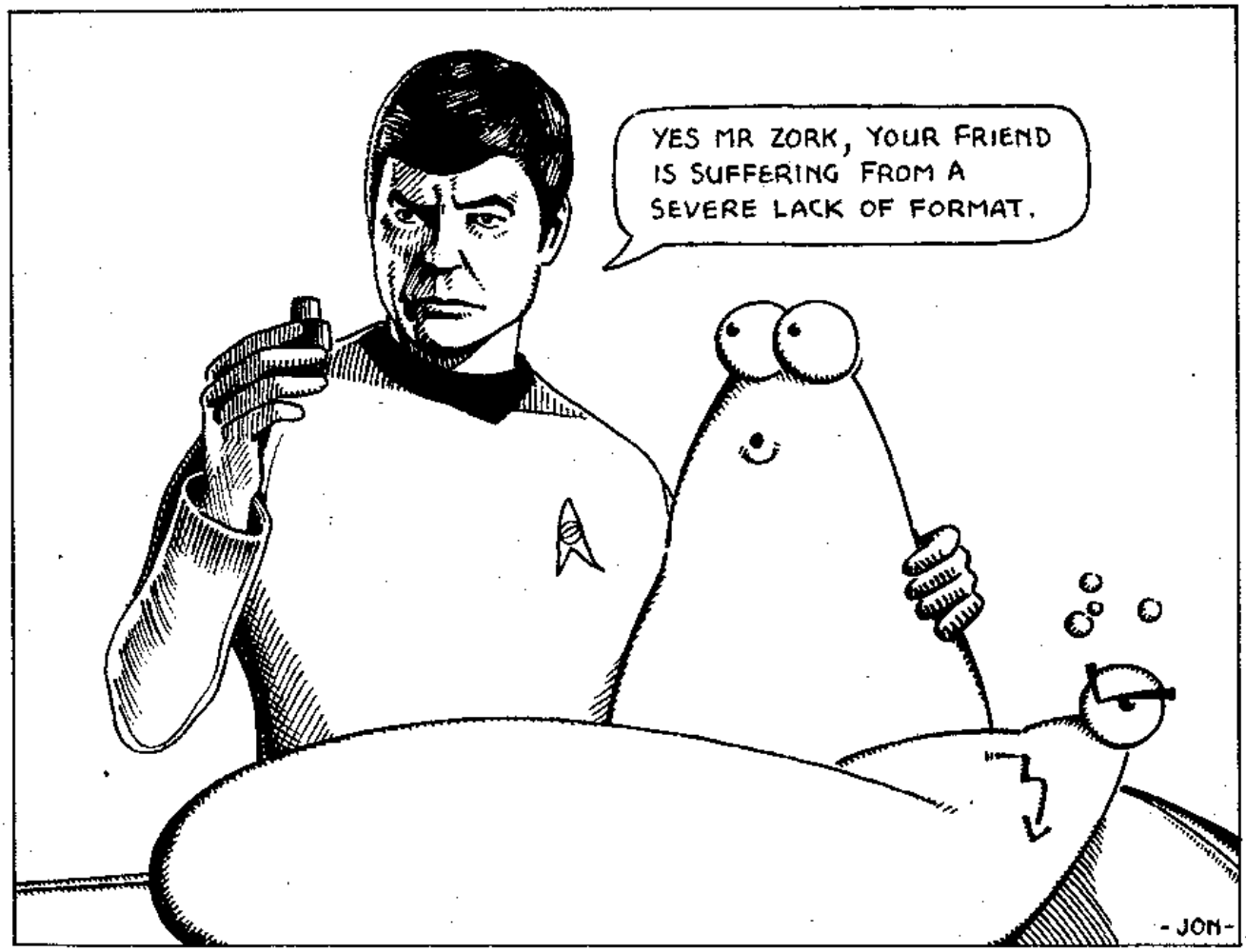
Vol 4 - No 5. January 1991.

FORMAT

FOR SPECTRUM AND SAM USERS



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FORMAT is published by **FORMAT PUBLICATIONS**. 34 Bourton Road, Gloucester, GL4 0LE, England. Telephone 0452-412572.

Printed by D.S.LITHO. Gloucester. Telephone 0452-23198.

NEWS ON 4

ALL FORMATS FOR NEW YEAR

1990 was a busy year for Bruce Everiss - mastermind of the highly succesful All Formats Shows in London. Seven shows in one year must have taken a lot of organizing.

So, just when you think he should be taking a rest, what does he announce? The first two shows for 1991 thats what.

Saturday the 2nd of February is the first date for your new 1991 diary and Saturday the 23rd of March sees the second show of the year.

All being well FORMAT will be at both shows so see you there.

MASTER DOS FOR SAM

At long last the SAM Coupé has a powerful new Disc Operating System. MasterDos has been written by Dr Andy Wright who wrote the Basic ROM for the Coupé and is available from Sam Computers for £14.95 on 3.5" disc.

The new DOS includes sub-directories, random access and serial access files, and many improvements to the old SAM DOS. If you buy the new Card Cage expansion system from SAMCO the MasterDos will allow you to date-stamp your files as you save them just like professional computers do. MasterDos is also essential if you are using the new 1Mb RAM expansion from SAMCO as you will then be able to set up RAM discs in the extra memory and use them in the same way as a real disc.

+3 MEMORY PROBLEMS

J & P Electronics of Kidderminster have found a solution to a problem that has been plagueing many +3 users trying to run Tasword+3.

If your copy of Tasword+3 fails to load it could be because Amstrad have fitted your +3 with slightly sub-standard DRAM memory chips. Most machines are fitted with 4464-12 chips, the 12 on the end is the chips speed. However J & B have found that some machines are fitted with 4464-15 chips which are slower operating. Changing the chips to the faster version cured the problem with Tasword+3.

It could be the answer to several other software problems that have been reported by users over the last few months.

J & P Electronics can be contacted on Kidderminster (0562) 753893.

AUSTRALIA WELCOMES COMPUTER EXPERTS

The Australian Department of Immigration has announced a 72% incress in the number of computer professionals entering the country since 1986. 10% of all professional level immigrants now come from a computer background and the Department of Training and Education in Sydney puts computer skills at the top of their list of desirable attributes.

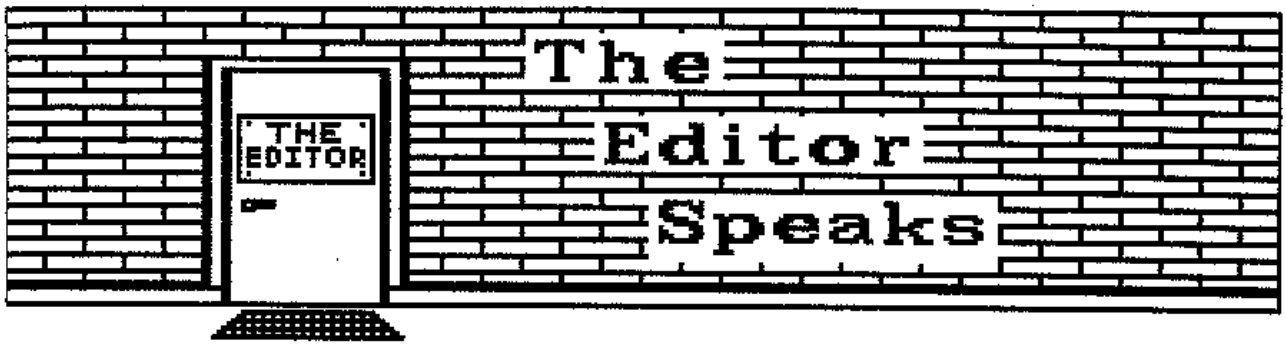
So, if you can stand they thought of all those Australian soaps, Australia extends a welcoming hand.

SINCLAIR BACK ON THE ROAD

Dispite the failure of Sinclair's C5 project Sir Clive is determined to make his mark in the car world in much the same way as he did the home computer industry.

Plans for a new four-seater car are now on the drawing board. It will have a top speed of 80 miles per hour and have a range of at least 200 miles on a single charge. Similar plans have already been made by several far-east car manufacturers but you can bet Sir Clive will produce the cheapest run-around if he has his way.

URGENT we need your news. New Releases, Club meets, Shows, anything you think other people should know about. If you have any news items you want to pass on then send them in. Please mark the envelope NEWS in the top corner.



Happy New Year to you all. I hope you all had a wonderful Christmas and are now back into the computing mood. This first issue of 1991 is a little smaller than usual because it had to be at the printers by mid December. Producing two issues of FORMAT in less than a month did, at some points, seem like an impossible goal. But here it is and I hope you will enjoy it. Meanwhile, look out next month for something very special.

Early December was a bit of a disaster in the office and as a result I'm sorry to say SAM users still have not received their demo tape. The tape was ready to go out with the December issue but due to a serious staffing problems (I didn't have any staff) there was no way they could be packed and sent out. As I write this I am also busy interviewing for two new employees to start in January so my firm hope is that the tapes will now be packed with the February issue.

The Christmas issue seems to have gone down well with everyone, even though it was missing the 'readers jokes' page I had planned. Why was it missing? Because only one person bothered to send in any jokes (thank you Mr Nev Young). Now I know FORMAT is aimed at serious users of the Spectrum and SAM but surely you all let your hair down sometimes don't you? Let's see a little more reader participation, even if you don't feel expert enough to write articles we still need Computer Art, Music Demos, Jokes and Cartoons to fill those little spaces in FORMAT.

For over two years now I have had a Z88 portable which has come in very useful from time to time. Now I must admit I know very little about the machine as I don't have the time to 'play' with it. If anyone out there thinks they could do a couple of short articles on the Z88 (especially on converting text files to Spectrum or SAM) I would like to hear from them as I am sure many of our readers will find them interesting. The same would apply to several other machines, if you have a way of making them talk to the Spectrum or SAM then get the details down and let us pass them on to other users.

Now a litle bit of news on FORMAT's promised move into book publishing. Our first book, an advanced guide to FLASH! by Carol Brooksbank, is now in the final stages of editing. Two other books for SAM users are under way but I am urgently looking for Spectrum titles to publish.

In the last few months I have had a couple of requests from overseas readers asking if they could act as agents or distributors for FORMAT in their country. After much thought we have now put together two DEALERSHIP schemes for anyone who is interested. The first involves selling FORMAT direct while the other scheme works on a commission basis with a person selling subscriptions to FORMAT. If anyone is interested please contact me in writing and I will send you full details. UK readers may also be interested in selling subscriptions in their local area.

Finally, John Wase is laid up with back trouble this month so there is no Short Spot. Hopfully John will have a speedy recovery and will be back next month.

Bob Brenchley. Editor.

EDUCATIONAL SOFTWARE

▶ What Is Needed? ◀

By:- Keith Pirie.

When the Spectrum was first introduced back in 1982 companies such as McMillans, Red Rose and Longmans produced lots of educational software.

Most Council and Regional Education Departments, however decided that the computing future of our children lay with the BBC, which at that time was an expensive option at some three times the cost of the 48k Spectrum.

Sir Clive even bent over backwards by offering discounts to Councils purchasing his Spectrum in bulk. Unfortunately few authorities took him up on his offer.

A number of teachers who had an interest in computing managed to steer their schools along the road of having fund raisers in their own right, or in conjunction with their PTA's, to buy computing equipment. It made good economical sense to spend the hard earned cash on three Spectrums, giving three children the computing experience, rather than one BBC.

Most teachers, however, were not computer literate, indeed there were even those who were most definitely "anti", and there Lords and Masters seemed reluctant to back up the issue of computers with the necessary skills to carry out the most rudimentary of skills. The philosophy seemed to be "you've got the machine now get on with it." The result was that the, already overworked, teachers were expected to learn about their new acquisition in their own time and by their own means.

Accordingly many machines were put in cupboards and only taken out as end of term treats for the children, provided the child could set it up.

For a time the software base for the Spectrum in the education field was sound but, as the games popularity of the Spectrum took off, the larger educational software companies backed out, leaving a void for the "home grown" software market to fill.

That's where we come in. What is needed in an educational program? The easy answer is that it has to teach the child something. Fine, but that's easier said than done.

Kids today are really sophisticated. The games market has heightened thier expectation from the computer. They are used to seeing fast moving accurate graphics. How do you "down grade" them to the educational program? You have to make it playable and challenging, that's how.

The programs, even if they are simple have to be fun to play and obviously the child has to learn from the experience. They don't need to be addictive. Remember a child will only have a limited time in a class to use the computer.

In the home the educational program should appeal to the younger child in particular. The latest "shoot em ups" and arcade/adventures are probably too complicated for the seven or eight year old, and winning the educational "game" gives the younger member of the family a sense of success.

When writing an educational program your first thought should be to the subject. A great deal of software is number based because that's what computers were made for. That needn't be True. Subjects could cover, for example "Collective Groups", "Hononyms", "Synonyms", "Letter Writing", "Spelling" the list is only limited by your imaginataion and ingenuity!

Once you have chosen the subject, the next part is, probably, the most difficult....the game plan. You have to come up with some game idea that will be attractive to the age group of the children at which you are aiming your program.

If the program is to be aimed at the primary 1st and 2nd age group then remember that their written literacy is limited and the use of graphics should be liberal.

Letter and colour presentation are also important. The younger child will respond better to a larger than standard character set. Be careful with your choice of colours on screen as well. Some of the possible combinations, such as magenta and cyan!!, are hard on the eyes and are difficult to read.

The older the child, the stronger should be the challenge to beat the computer. The simplest of game plans, if presented in an attractive way, can keep an 11 year old happy for hours.

Adventure games are an excellent way of keeping the older child amused whilst teaching on the chosen topic, reading and vocabulary skills and keyboard layout. They don't need to be obscure in their solution, but it helps if there are graphics to add to the interest.

Noise from the computer is a touchy subject. Music or sound effects may be advantageous to the user, but remember they can be distracting if used in a classroom where others are involved in their own activities. A happy balance must be struck in their use.

Error trapping is a very important consideration when writing an educational game. Remember that small fingers often hit wrong keys!! The last thing you want is constant interruption by your program stopping with messages such as "Variable not known" because the child has hit a letter rather than a number. The players interest will soon be lost if assistance has to be sought too often.

What about program protection? It is relatively easy to protect program listings but the simpler the method used the simpler it is to crack. Why not leave it unprotected? That way you, or who ever uses it later, can customise it for your own use and to your particular child's level. It saves looking at the program and saying that it is generally good but....

Finally the instructions. Don't make them too long, either no-one will read them or no-one will understand them. Keep them very brief and to the point. Remember if they appear on the screen the child will have to read them, so keep screen based instructions relatively simple in terminology. If your program is for use in a classroom environment it is better to print a full set of instructions for the teacher to use than to cram them into the front of the program. Once the teacher has read and understood your instructions she/he can explain what is required to the pupil.

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> "The Assembler is a delight to use... It is certainly the one for me."
> *Carol Brooksbank.*
> *FORMAT Aug. 1990*

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PRINTERS

A PERSONAL EXPERIENCE

By:- John Wase.

I had my first printer, an Epson FX 80 in, I think, 1982 or 1983. It cost nearly £400, had no NLQ (wasn't invented) and was built like a tank. At the time, I wanted a printer to print scientific articles containing equations and symbols, (which I still frequently do). Hence the need for symbols, and the FX80's capabilities of downloading its ROM character set into its enlarged RAM, permitting modification of the printed characters: unfortunately the RX80, which cost around £100 less lacked this facility, and couldn't handle cut sheet, either. Indeed, my first computer articles were on the method of getting the thing to print such letters as the Greek mu.

Much time and a second, secondhand FX80 later, I was able to set up a duplicate facility in my office at work: very convenient, provided I remembered to put the disc in my pocket... Eventually, one evening, disaster struck. I was making a "banner" heading for one of my wife's school displays, and being tired, left the FX80 to its own devices whilst I made a cup of coffee. A bad mistake this, for when I got back, I found the FX80 had sucked the continuous tractor paper back into itself, had wound it round and round the roller and had jammed itself solid. There was a hole in the ribbon, a hole in the many layers of paper below and much bleeping. "An obsolete model to repair", said the man. Simultaneously, the FX80 at work had got so tetchy that every Monday morning I had to take the ASIC out and put it back. This more or less ensured reliability for the fortnight. New Printer Time had clearly arrived.

I've explained this background in a lot of detail, because at this point I had to sit down and think just what sort of printer I wanted. And my criteria aren't yours. So look at what I've got to say, but don't consider it as engraved in stone. My requirements, like me, are unique. Yours will certainly be different. Read what I've learned, and then do your own thing.

Firstly, nine or twenty-four pin? As everyone knows, the best twenty-four pin printers will give output superior to the best nine pin printers. What is less well known is that there's quite a grey area in between. More important, there's not so much difference in the prices, either; explained to me on the basis of all the manufacturers tooling up for 24 pin and all the offices going for laser. Personally, with no NLQ on my FX80, and a daisywheel slower than a lethargic snail, I decided I needed twenty-four pin: it would handle a lot of the daisywheel stuff, too. So twenty-four pin it was.

Next, symbols. I wanted to print alpha, beta and mu, plus-or-minus and things like this. A fair selection of things in ROM would be helpful; downloading facilities mandatory.

Typefaces. I couldn't care less about fancy fonts. I merely wanted the standard facilities (like bold, super, sub and italic; the sorts of things on the FX80), and the crispest, sharpest finish available.

Paperhandling. I wanted cut sheet handling and a tractor feed. Tractor Parking (automatically disengaging the tractor feed to put in the odd cut sheet) would be an advantage.

Consumables had to be reasonably priced and readily available. The machine had to be reasonably well-known and fairly "industry-standard" and the price had to be right.

Magazine articles soon showed that there were two overlapping ranges of twenty-four pin printers. The one was a bottom-range, reasonably built type of machine, built for amateur, domestic and light office use. The other was FX80-or-more-so-ish; built like a tank and intended for almost continuous office hammer. Because of the laser-printer, there was clearly intense competition, particularly at the bottom end, with a wide variation between the box-shifters' prices and the manufacturer's recommended price.

Finally, and most important of all, you need to compare the output from the machines. I was lucky: the "Which Computer Show" was on, and I could visit all the major manufacturers' stands. Brother were pretty indifferent, and had run out of leaflets. After much messing about, I got some 24-pin output, but am still not entirely sure what model it was from. Mannesman Tally had superb machines, built like tanks for heavy office wear. Their output was duly collected, as was Fujitsu's. Seikosha's machines had very entertaining output with excellent graphics combined with text, but were again clearly aimed at heavy duty office work. I don't recall much about NEC, although I easily found Amstrads' stall. However, I didn't think much of the quality of their output: it was pretty awful in my opinion; worse than the best nine pin NLQ. Essentially, this left three main machines, the Panasonic 1124, Star LC24/10 and the Epson LQ400: the box shifters' adverts had already indicated that these were plentifully available and were the cheapest.

The Panasonic stand was reasonably helpful, and gave me information and some output from the 1124, showing the fonts and styles available. Epson's stand contained a lot of unusable space: it was divided by a big thingi in the middle and the actual display area was too small for the number of people who were there; it was difficult to get seen to. Persistence paid off and eventually, I received much good advice and help, a pile of technical information and appropriate printer output. Star were superb. It was not just their sales girl (one Wendy), who was charming. It was not just that their stand was excellently laid out so that there was ample room for punters to examine their products. It was the overall level of help and technical information which they presented and the immediacy with which one could get it.

I arrived home very undecided.

The Panasonic 1124 had rave reviews: currently adverts in "Personal Computer World" list it at £195 + VAT + carriage. However, the quality of the output was not as good as I had been led to believe: I rated it lowest of the three. This left the Star and the Epson in a fight to the finish, a fight where personal preferences loomed large.

The Epson LQ400 is essentially a cut-down LQ550, so I got information on that, too, to check on what was actually missing. There was very little difference in "the works": the LQ400 does offer "shadow" and "outline" (although earlier publicity had suggested that it did not) just the same as the 550. It comes with a single sheet feeder and a tractor. There is no advanced paper-handling and the tractor is no better than the RX80's - you waste a piece of paper every time on tear-off. The box-shifter's price (£182) is a big inducement, though. The Star LC24/10 had all these advanced paper-handling facilities. It had more fonts. It had Wendy. And at £192 (currently), it makes the Epson LQ550 at at least £251 look silly and runs the LQ400 at £182 a very hard race. At this stage, Wendy still had the edge.

However, what really decided me was when I got home, and took a really long hard look at the output. I know the Epson's got no fancy fonts, not even script, but I'm not really interested: I've got things like Orator on my daisywheel (I use this about twice a year) and Times and Helvetica in profusion on a laser. And

what it has got, I found sharper, crisper and and stylewise much preferable to the Star. In particular, I found the plain Epson Roman output excellent. I wasn't going to lose too much sleep, either, over the poorer paper handling and the £10 or so (+ VAT) was very welcome.

It's not all over, yet. The next thing is to be able to buy at the box-shifter's price. Go through the current magazines (like "Personal Computer World", "Computer Shopper" or "Micro Mart" and note the ten or so cheapest quotes for the model of your choice; if "plastic money" is acceptable and the 'phone number. Phone, starting with the cheapest. Ask them to confirm the price, quoting the advert and magazine issue, to confirm that they have the goods in stock for immediate delivery, and that they are U.K. market 240 volt machines, not "grey imports" where the manufacturer's warranty is invalid. Most important of all, get the carriage costs: my experience was of comparable carriage services ranging from £3.00 to £15.00 + VAT; an enormous range (cut the price and raise the carriage). When you've worked out the cheapest, order and confirm in writing, making it quite clear that the written document is a confirmation of the phone order accepting only the quote given for immediate delivery of a U.K. model at the price they quoted. All should then be well if you fax or post one copy and retain the other in case of queries later. These days credit card companies are much more helpful than they used to be, particularly if you have positive proof of your order and the conditions applying to it.

My LQ400 is eminently suitable for my purposes. The standard instruction book does not give full programming details, but if you want these, there is a freepost card in the book: a hefty free volume on programming for Epson dot matrix printers results. In addition, Epson have two further free and very helpful publications on programming their printers for graphics and on downloading characters. I had a little problem when I first had it on accessing a Greek mu (it's in the ROM all right) and am grateful to Richard Bourne of their technical staff who patiently put me right.

So it's fine for me. However others might find the LC24/10 or the 1124 more their cup of tea. It's a matter of personal choice. The final total cost a couple of months ago, delivered to my office was £219.65 including VAT and delivery: the other two are likely to be some £15 overall dearer than the LQ400.

So mine came from a box-shifter: GoTo Technologies of Slough, to be exact. What about buying from a box-shifter? Well, in my experience, there's little to go wrong, and it's under guarantee for a year, anyway (whatever that means). I've never had a problem with a new one: others might have a different tale. If you're that worried, you could go to a well known high-street store. Dixons of Evesham justified their high price of the LQ400 by saying that they give service - if anything goes wrong, they'll handle it. I guess you have to carry the heavy thing there, and then they send it away instead of you. Incredibly, Evesham Micros are only a few doors down and sell the LQ400 for £229.00 (inc VAT), whilst the LC24/10 is £239.00. I guess they'd send it away just as well.

Pardon? Dixons' price? Normally £299 + VAT making £343.85 in all. And I got exactly the same thing, delivered to my office door for £219.65. Makes you think, doesn't it. Hurry along, punters; Dixons' sale is on and it's just a little cheaper at the moment....

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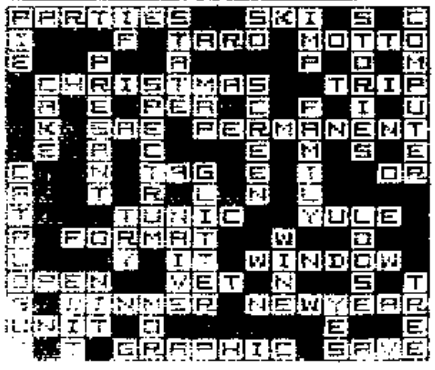

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NEV'S HELP PAGE

By:- Nev Young.

Martin Hofbauer of Birkenhard (whose English is much better than my German) has a query about DISCiPLE DOS 3d. This is that the abbreviated CAT no longer works after a SAVE D1 "name".

This is not a fault. You are right that it is a difference between the 3b and 3d versions but for most people it was an improvement. If you still want a short CAT after a SAVE in your programs then use CAT d*! after the SAVE.

Your question about the PATCH command code 71 (hex 47). It is similar to the Interface 1 hook code 50 (hex 32). It turns on the shadow ROM and leaves it in place. The command code also returns a value in the HL register pair - 0 for the PLUS D and 1 for the DISCiPLE if using DOS 3d.

To turn the shadow ROM off and return to the main ROM after calling a shadow ROM routine replace your final RET with JP 80 which will page the shadow ROM out and the first instruction it encounters in the main ROM is RET. Beware though it is up to you to make sure that the 48K ROM will be paged in. If the 128K rom is paged in then you should use JP 71. Use the wrong one and the machine will crash.

Execute files work as follows:-

1. The shadow ROM is paged in.

2. A sector of data is loaded into the shadow RAM disc buffer at 6656 (1A00hex).

3. The machine code routine is CALLed (still with the shadow ROM paged in).

4. The shadow ROM is paged out and control returns to the main ROM.

Note that the address of the disc buffer is 14848 (3A00hex) on the PLUS D.

To the best of my knowledge there is no documented disassembly for either the DISCiPLE or PLUS D. In fact I believe that I have the only existing source of Sys 3d for the DISCiPLE but it is not mine to distribute. With so many versions of the ROM and SYS files it was never a commercially viable proposition for anyone to produce a disassembly.

A quickie from a new member R Borley of Leicester, welcome to the club. You are quite right that you need the TASCON+2 program to convert your copy of Tasword +2 . It is available from the Format Reader Services order code FST-06 see their ad some where in this magazine. I am also delighted to hear that Datel referred you to Format for help. I have found the Tasword+2 word processor very versatile, in fact I am using it to write this page.

Allen Vernon of Looe wants to know how to switch disc drives so he can use either one of his dual drives as a second external drive on his Coupé.

This couldn't be simpler. you need to buy (or build) a cable to swap over the drive select lines and insert this between the interface and the drive. Watford Electronics make one called the BBC DUC cable (DUC is short for Dualing Up Cable). This is a cable with a plug that goes into the interface and two sockets. With your drive in one socket you have drives 1 and 2, in the other you have 2 and 1. As the external drive interface only uses one of the line (depending on the link inside) only one of the twin drives will work and which one will depend on the socket you plug your drive into.

A few people are trying to use the Coupé's ability to print foreign letters or block graphics and are getting confused as the manual is not too clear. So I'll try and explain and get you totally confused.

The real problem is that the manual was printed before the ROM was finished so some things never actually got done. If you look on page 178/9 of your Coupé manual you will find a table. What it should look like is this:-

NORMAL	+caps	+symbol	+cntrl
top row of keys			
ESC	ESC	ESC	ESC
1	!	▪	▙
2	@	▪	▟
3	#	▬	▬
4	$	▪	▛
5	%	▌	▌
6	&	▚	▖
7	'	▜	▗
8	(	□	▐
9	)	¦	?
0	~	~	?
-	/	/	?
+	*	*	?
DEL left	DEL right	DEL right	?
LOAD ""	KEYIN	7	?
LOAD "" CODE	LOCAL	8	?
BOOT	LOOP IF	9	?
2nd row of keys			
TAB	TAB	TAB	?
q	Q	<	?
w	W	>	?
e	E	▬	?
r	R	[	?
t	T	]	?
y	Y	BLITZ	?
u	U	▪	?
i	I	INVERSE	INC CC
o	O	SAVE	?
p	P	PRINT	PAPER CC
=	_	_	?
'	©	COPY	?
RUN	REF	4	?
CONTINUE	COPY	5	?
CLS #	-	6	?

The only foreign character that has been set up at switch on is the é. The others were missed out due to lack of space in the ROM. However they are available on your SAM Utility tape/disc, so if you need them just load them in. To get at them you need to set BLOCKS 0 as a basic which turns off the block graphics and replaces them with your loaded set of foreign characters. So to print Coupé you need to use BLOCKS 0: PRINT "Coupé" where é is obtained by pressing Symbol Shift and e.

Here are the rest of the keys:-

NORMAL	+caps	+symbol	+cntrl
3RD ROW OF KEYS			
CAPS	CAPS	CAPS	?
a	A	STOP	?
s	S	SAVE	?
d	D	LET	?
f	F	(	?
g	G	)	?
h	H	^	?
j	J	-	?
k	K	+	?
l	L	£	?
;	;	+	?
:	:	*	?
RETURN	RETURN	RETURN	?
RENUM	END PROC	1	?
PRINT	RENUM	2	?
MODE	DELETE	3	?
4th row of keys			
SHIFT	SHIFT	SHIFT	?
z	Z	?	?
x	X	?	?
c	C	CSIZE	?
v	V	VERIFY	?
b	B	BORDER	BRIGHT CC
n	N	BRIGHT	?
m	M	INVERSE	?
,	,	<	?
.	.	>	?
INV-VID	\	TRU-VID	?
SHIFT	SHIFT	SHIFT	?
LIST	END PROC	0	?
UP	UP	UP	?
.	.	>	?
Bottom row			
SYMB	SYMB	SYMB	
CNTRL	CNTRL	CNTRL	
SPACE	SPACE	SPACE	?
EDIT	EDIT	toggle	?
SYMB	SYMB	SYMB	
LEFT	LEFT	LEFT	?
DOWN	DOWN	DOWN	?
RIGHT	RIGHT	RIGHT	?

The toggle (SYMB + EDIT) changes the function keys into a numeric key pad and back again.

The INK CC has to be followed by a number 0 - 7 and sets the ink colour. PAPER CC is similar. BRIGHT CC is followed by 0 or 1 to set the brightness of the ink.

Now the fun really begins. Any of the normal keys a-z that produce a

keyword eg SYMB + p gives PRINT will give something different if used inside quotes, usually a space or a crazy graphic.

Now for a really difficult problem. This one keeps coming back. It won't go away. I have it too. I don't know what causes it. I don't know a cure.

What is it? Sector errors.

Once you get the message sector error or format data lost then you are stuck. Some sector errors can be recovered, but I've never been able to do it. The only way I have of avoiding the problem is to make sure that I have a good backup of the disc before I start to use it. Then if anything goes wrong I only lose a bit of work not the whole disc. I don't know if any of the disc doctor programs will allow you to recover programs that have been lost you should contact the company who sell the one you are thinking of trying to get their views. I have never used a disc doctor, probably because if I need any of the functions of one I can write it as a one off program.

The only action I take when a disc gets corrupted is reformat it and recover it from the backup. I also make a note on the disc that it happened. If that disc corrupts more than twice I junk it.

In closing, please remember my new address. Send help letters to:-

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OR FAX WITH YOUR CREDIT CARD NUMBER 24 HRS. A DAY.

MONEY MANAGER

By:- Carol Brooksbank.

```
10625 DEF PROC whichfund
10630   PRINT
        PRINT " 1) SAVINGS"
        PRINT " 2) FREE MONEY"
        PRINT " 3) ASSIGNED MONEY"
10635   INPUT
        PRINT #1; "ENTER NUMBER (1\2\3
)"
        GET fund
10640   IF fund <1 OR fund>3 THEN CLS
1
          PRINT PAPER 6; PEN 0;"YOU MU
ST ENTER 1, 2, or 3"
          presskey
          CLS 1
          GOTO 10630
10645 END PROC
```

This short procedure will be used whenever you wish to transfer money between funds, or to withdraw money from one of them.

```
10650 DEF PROC howmuch
10655   INPUT "How much do you wish to
 transfer\withdraw?";amount
10660 END PROC
```

An even shorter procedure, used whenever you have to be asked how much money you wish to transfer.

```
10665 DEF PROC transfunds
10670   CLS
        disptotals
10675   WINDOW 0,31,9,18
10680   PRINT "TRANSFER FROM WHICH FUN
D?"
10685   whichfund
10690   IF fund=1 THEN GOTO lesssaving
s
10695   IF fund=2 THEN GOTO lessfree
10700   IF fund=3 THEN GOTO lessassign
10705   LABEL lesssavings
10710   howmuch
10715   IF amount=0 THEN GOTO anymore
10720   IF amount>savings THEN CLS 1
          PRINT PAPER 6; PEN 0;"NOT EN
OUGH IN FUND"
          presskey
          CLS 1
          GOTO lesssavings
10725   LET savings=savings-amount
10730   GOTO whereto
10735   LABEL lessfree
10740   howmuch
10745   IF amount=0 THEN GOTO anymore
10750   IF amount>cash THEN CLS 1
          PRINT PAPER 6; PEN 0;"NOT EN
OUGH IN FUND"
          presskey
          CLS 1
          GOTO lessfree
10755   LET cash=cash-amount
10760   GOTO whereto
10765   LABEL lessassign
10770   howmuch
10775   IF amount>assign THEN CLS 1
          PRINT PAPER 6; PEN 0;"NOT EN
OUGH IN FUND"
          presskey
          CLS 1
          GOTO lessassign
10780   LET assign=assign-amount
10785   LABEL whereto
10790   CLS 1
        PRINT "TRANSFER TO WHICH FUND?
"
10795   whichfund
10800   IF fund=1 THEN LET savings=sav
ings+amount
          GOTO anymore
10805   IF fund=2 THEN LET cash=cash+a
mount
          GOTO anymore
10810   IF fund=3 THEN LET assign=assi
gn+amount
10815   LABEL anymore
10820   disptotals
10825   WINDOW 0,31,9,18
        CLS 1
10830   PRINT "DO YOU WISH TO MAKE ANY
 OTHER   TRANSFERS?"
10835   yes_no
10840   IF Y$="Y" THEN GOTO 10670
10845   WINDOW
10850 END PROC
```

This procedure handles the transferring of money between funds.

It won't let you transfer more than you have in a fund (the program is supposed to keep you out of the red!). In line 10675, because the funds are displayed in a window at the top of the screen, a new window between screen lines 9 and 18 is used for other messages, so that the funds display will not be overwritten. In line 10845, WINDOW brings the whole screen into use before returning from the procedure.

```
  380 IF I$="W" THEN GOTO 435
  385 CLS
      disptotals
  390 WINDOW 0,30,9,18
  395 PRINT "YOUR YEAR'S BILLS TOTAL #
";year
  400 PRINT
      PRINT "#";month;" WILL BE SET AS
IDE          EACH MONTH TO PAY THEM"
  405 presskey
  410 transquery
  415 yes_no
  420 IF Y$="N" THEN GOTO 480
  425 transfunds
  430 GOTO 480
  435 CLS
      disptotals
  440 WINDOW 0,30,9,18
  445 PRINT "YOUR YEAR'S BILLS TOTAL #
";year
  450 PRINT
      PRINT "#";week;" WILL BE SET ASI
DE          EACH WEEK TO PAY THEM"
  455 presskey
  460 transquery
  465 yes_no
  470 IF Y$="N" THEN GOTO 480
  475 transfunds
  480 WINDOW
      CLS
  485 LET regsave=0
      CLS
      PRINT "Do you wish to transfer a
       regular amount to the savings
 fund on each pay day?"
  490 yes_no
  495 IF Y$="N" THEN GOTO 505
  500 INPUT "AMOUNT?";regsave
```

This is the last main program routine before the personalized program is ready to save. It tells you how much your year's bills will be, and how much will be deducted from your money on pay day and set aside for them. If you discover the amount is greater than your wage, the program can't help you - you need a legacy, a pools win, or a second job!

You are given the opportunity to transfer money from another fund if the assigned fund hasn't yet built up enough to pay imminent bills. Once the program has been up and running for a year, this situation should not recur. This is the part of the program which calls transquery - the very first procedure that we wrote.

Finally, you are asked whether you want to put a regular amount into your savings fund each pay day.

```
10855 DEF PROC wrongoption
10860   CLS
        PRINT PAPER 6; PEN 0;"    YOU
HAVE NOT SELECTED AN            AVAILA
BLE OPTION        "
10865   presskey
10870 END PROC
```

This little procedure is used at every menu if you select a number not used for an option.

```
10875 DEF PROC medium
10880   CLS
        PRINT "PLEASE SELECT THE STORA
GE MEDIUM"
10885   PRINT
        PRINT
        PRINT
        PRINT "  1) DISC DRIVE 1"
10890   PRINT
        PRINT "  2) DISC DRIVE 2"
10895   PRINT
        PRINT "  3) TAPE"
10900   PRINT AT 21,0; "PLEASE ENTER 1
, 2, or 3"
        GET medium
10905   IF medium<0 OR medium>3 THEN w
rongoption
          GOTO 10880
10910   IF medium=1 THEN DEVICE D1
          CLS
          PRINT "PLEASE PLACE DISC IN
DRIVE 1"
          presskey
          GOTO 10925
10915   IF medium=2 THEN DEVICE D2
          CLS
          PRINT "PLEASE PLACE DISC IN
```

```
DRIVE 2"
          presskey
          GOTO 10925
10920     IF medium=3 THEN DEVICE t
          CLS
          PRINT "PLEASE PRESS REC\PLAY
"
          presskey
10925 END PROC
```

This procedure lets you choose your storage medium, disc drive 1 or 2 or tape. Once again we use the GET command, as at all menus, to obtain the option number because only one figure is required. wrongoption is called if you enter anything other than a number used by an available option.

DEVICE is used to set SAM to save to your chosen medium. Tape users can add a tape speed in line 10920 i.e. DEVICE T50. Use the highest speed your cassette recorder permits, because this is a very long program and anything you can do to speed up saving, loading and verifying is useful. But, at the same time, you must have a speed low enough to be reliable. The handbook suggests that T35 is the fastest speed likely to prove reliable, but on my machine I find this is only useable with very short programs. Over anything more than a few lines, it almost always generates a 'tape loading error'. You can only find out what speed suits your recorder by trial and error. Raising the T number slows down the tape speed.

```
10930 DEF PROC saveprog
10935     LOCAL x
10940     CLS
10945     medium
10950     SAVE "ACCOUNTS" LINE 605
          VERIFY "ACCOUNTS"
10960     CLS
          PRINT "DO YOU WISH TO MAKE A B
ACKUP COPY?"
10965     yes_no
10970     IF Y$="N" THEN GOTO 11025
10975     CLS
          PRINT "ARE YOU USING THE SAME
STORAGE  MEDIUM?"
10980     yes_no
10985     IF Y$="Y" THEN GOTO 11000
10990     medium
10995     GOTO 11015
11000     IF medium=1 THEN CLS
            PRINT "PLACE DISC IN DRIVE 1
"
            presskey
            GOTO 11015
11005     IF medium=2 THEN CLS
            PRINT "PLACE DISC IN DRIVE 2
"
            presskey
            GOTO 11015
11010     IF medium=3 THEN CLS
            PRINT "PRESS PLAY\REC"
            presskey
11015     SAVE "ACCOUNTS" LINE 605
          VERIFY "ACCOUNTS"
11025 END PROC
```

This is the procedure which saves the program and gives you the chance to make a backup copy. medium will not be called a second time unless you decide to make your backup to a different device. I had intended to ask whether you wished to verify, and leave it to the user to say yes or no, but we are using so many variables, and replying to that question always itself made the verification fail. I tried making the variable hold "Y" before the SAVE, so that it would only change if the answer was no, when it would not matter. The verification still failed. In fact, the only way I could get a positive verification was to verify straight after the SAVE, so it cannot be optional. If you have some personal dislike of verification, you will have to delete the command from line 10950.

```
 505 CLS
     PRINT
     PRINT
     PRINT "Your personal financial c
alendaris now set up and the program
 will be saved to your chosen    stora
ge medium"
 510 PRINT
     PRINT "You are advised to make a
 backupcopy"
 515 presskey
 520 saveprog
 525 CLS
     PRINT TAB 5; "From now on you mu
st"
 530 PRINT TAB 10; PAPER 6; PEN 0;"NE
```

```
VER USE RUN"
  535 PRINT TAB 5; "to start the progr
am"
  540 PRINT
      PRINT
      PRINT
      PRINT "If you break out into BAS
IC use"
  545 CSIZE 8,16
      PRINT AT 5,10; PAPER 7; PEN 0;"G
OTO MENU"
      CSIZE 8,8
  550 PRINT AT 14,0
       presskey
  555 CLS
      PRINT "You should run the progra
m on   pay day to enter your main wage
 and have the deductions made forbills
 and regular saving."
  560 PRINT
      PRINT "It is recommended that yo
u also run it weekly to keep track of
 bills paid and due, and to      withd
raw from the ""free money"" the amoun
ts you use for          day-to-day expe
nses."
  565 PRINT
      PRINT "Any regular weekly bills
should be paid from the ""free money""
 asthese are not entered on the    cal
endar."
  570 presskey
  575 CLS
      PRINT "You have the option of ma
king a printed record of any of your
 transactions."
  580 PRINT
      PRINT "You can alter the calenda
r at   any time, to insert new entries
 or cancel or modify existing   ones."
  585 PRINT
      PRINT "If you need to delete any
       entries because you entered as
 monthly any payments made over  less
than 12 months of the year,you should
now run the program"
  590 PRINT
      PRINT "DO YOU WISH TO RUN THE PR
OGRAM  NOW?"
  595 yes_no
  600 IF Y$="N" THEN STOP
```

This is the last piece of BASIC for this preliminary part of the program.

Line 520 saves the program, and lines 525 to 550 are a warning that you must from now on never use RUN to re-enter the program from BASIC (because the calendar and variables would be lost). This warning is repeated by the main menu EXIT option.

The rest of this section is a final set of instruction screens, explaining how the program should be used, and offering you the chance to run the program if you need to make any changes to the calendar now.

Most of the BASIC from line 10 to here is never used after the program has been set up. When the program is completed, and you have RUN it and established the calendar and variables, tape users can delete lines 10 to 595 EXCEPT lines 105, 295 and 315, and lines 10000 to 10050. In other words, you can get rid of everything except the DATA and the functions from the setup part of the program, and discard the one procedure which is not needed by the main program. This will shorten the save/load times a little. Disc users need not bother, because the time saving involved for them is infinitesimal.

Now we turn to the working program.

```
11055 DEF PROC toggle
11060   IF opt=13 AND togflag=1 THEN G
OTO goback
11065   IF opt=14 THEN GOTO wipeout
11070   GRAB W$,56,175,192,56
11075   disptotals
        LET togflag=1
        GOTO goback
11080   LABEL wipeout
11085   IF togflag=0 THEN GOTO goback
11090   PUT 56,175,W$
        LET togflag=0
11095   LABEL goback
11100   LET menu$="men"+STR$ menno
11105   POP
        GOTO VAL menu$
11110 END PROC
```

This little procedure shows you how SAM's GRAB and PUT commands can be used for other things than animation. At every menu, we shall have the option of overlaying the £funds available display, and then switching it off again. This procedure switches that display on and off.

You will see that it begins with two IF statements. opt=13 means that you have selected the 'switch display on' option. But if the display is already on, there is no need to do anything. This is why we have the flag togflag . It is 1 when the display is on and 0 when it is off. So, If switch on is selected, and the flag shows the display is already on, the procedure simply returns you to the menu. Similarly, if opt=14 shows that you have selected 'switch the display off', and the flag is 0, a return is made to the menu without doing anything.

When the display is to be switched on, line 11070 uses GRAB to save the section of the menu screen where the display window will be. Then disptotals is called to display the figures. Switching the display off again is simply a matter of using PUT to replace the stored screen patch.

This is why the flag is so important. If you called the display routine while the display was already there, GRAB would save the display window, overwriting the stored piece of menu, and you would never be able to switch it off again. So each part of the routine sets the flag appropriately.

The routine returns to the menu from which it is called, going to the 'get option' point. Every menu has a number, menno , and this point is always labelled 'men' plus the menu number - men1, men2 etc. Lines 11095 to 11105 work out which menu called toggle , and return to the correct 'get option' point.

The POP instruction in line 11105 discards the unwanted address from the GOSUB/PROCEDURE stack. We jump out of this procedure, rather than, at END PROC, go back to the line after the one which called it, so the return address is left on the stack. We do not need to fill the stack with redundant addresses so POP, in effect, throws the unwanted address away. If we had some reason to preserve it, POP X, for instance, would put it in the variable X.

```
  605 LABEL menu
  610 REM MAIN ENTRY POINT
  615 REM THE MAIN MENU
  620 LET togflag=0
      POKE SVAR 615,1
      SCROLL CLEAR
  625 CSIZE 8,16
      BORDER 1
      PAPER 1
      PEN 7
      PALETTE 6,42,110
  630 CLS
      PRINT "        MAIN MENU (1)"
  635 CSIZE 8,8
  640 PRINT
      PRINT
      PRINT INVERSE 1;"1) PAY DAY"
  645 PRINT "   Change savings/pay day
          frequency. Pay in salary.
          Assign to funds."
  650 PRINT INVERSE 1;"2) PAYMENTS DUE
"
  655 PRINT "   Display calendar payme
nts       between given dates.
          Withdraw from assigned fund
    to pay them."
  660 PRINT INVERSE 1;"3) BANKING"
  665 PRINT "   Pay in money. Statemen
ts.       Transfer between funds.
          Withdraw from free money and
    savings."
  670 PRINT INVERSE 1;"4) SAVE THE PRO
GRAM"
  675 PRINT "   Use every time program
 is       run, when changes completed."
  680 PRINT INVERSE 1;"KEYS D/E TOGGLE
 FUNDS DISPLAY"
  685 PRINT PAPER 6; PEN 0; AT 21,0; "
SELECT OPTION OR 0 FOR MENU (2)"
  690 LABEL men1
      GET opt
  695 IF opt=0 THEN GOTO menu2
  700 IF opt >9 AND opt<13 THEN wrongo
ption
        GOTO menu
  705 IF opt >14 THEN wrongoption
        GOTO menu
  710 IF opt=13 OR opt=14 THEN LET men
no=1
        toggle
  715 GOTO option
  720 LABEL menu2
      LET togflag=0
      CSIZE 8,16
  725 CLS
      PRINT "        MAIN MENU (2)"
```

```
  730 CSIZE 8,8
  735 PRINT
      PRINT
      PRINT INVERSE 1;"5) PRINT NOTES"
  740 PRINT "   Initialise printer. Pr
int       comments/notes on printouts.
"
  745 PRINT INVERSE 1;"6) CHANGE CALEN
DAR"
  750 PRINT "   Add/change/delete cale
ndar      entries. View/print calendar
."
  755 PRINT INVERSE 1;"7) UNASSIGNED"
      PRINT
      PRINT
  760 PRINT INVERSE 1;"8) UNASSIGNED"
      PRINT
      PRINT
  765 PRINT INVERSE 1;"9) EXIT TO BASI
C"
      PRINT
  770 PRINT
      PRINT
     .PRINT
      PRINT INVERSE 1;"Keys D/E toggle
 funds display"
  775 PRINT PAPER 6; PEN 0; AT 21,0;"S
ELECT OPTION OR 0 FOR MENU (1)"
  780 LABEL men2
      GET opt
  785 IF opt=0 THEN GOTO MENU
  790 IF opt =13 OR opt=14 THEN LET me
nno=2
        toggle
  795 IF opt>9 AND opt<13 THEN wrongop
tion
        GOTO menu
  800 IF opt>14 THEN wrongoption
        GOTO menu
  805 LABEL option
      GOTO 1000*opt
```

Now we come to the main entry point, the main menu. The master copy of the program, which has to be RUN to set up your calendar and details, will be SAVEd to run from line 10, but the working program is SAVEd to start running at this line on loading. Like every menu, this one starts by resetting togflag , because the funds display is off. In line 625, we have to set up the colour variables which were set in line 10. This is because, in normal working, the program will be loaded by the loader program which will have made its own changes to these. This program will never go to line 10 again once it is set up and running, so we must re-establish the variables here every time it's loaded.

The main menu has two pages, and at both of them, option 0 takes you to the other. If you switch from one half of the menu to the other with the display options in place, it will be wiped out and the flag reset.

Keys which do not point to a valid option call wrongoption and ask you to select again. You will see that keys D/E toggle the funds display. This probably seems a bit odd, because GET opt will return a number, GET opt$ would be needed to return a letter. But this is where SAM is clever. If you hit a letter key in response to a GET requiring a number, you will get a number. D is 13 and E 14. All menu options except D,E, and 0 jump to 1000* the option number.

There we leave it till next month, when we shall start writing the main menu options.?

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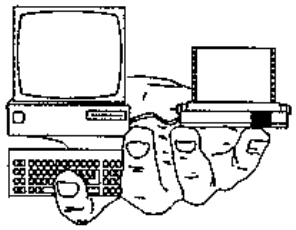

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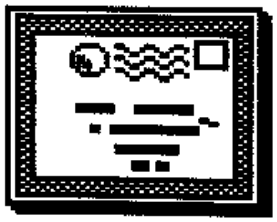

Dear Editor,

Firstly may I congratulate you on an excellent magazine and Carol Brooksbank on her great articles.

Re her article on TAS-SIGN in the September issue of Format. I have been using this program for a long time now and it is an excellent program. I use it to produce a newsletter, headed paper and posters, I am secretary and newsletter editor of the Pre-School Playgroup Association, Hartlepool Branch. Like all charities, we are short of money and I find it great for doing my own letterheads rather than pay for professionally done work. I bought the program on cassette and used to start loading the tape and then go to make a cup of tea. When I bought my PLUS D, I transferred the program to disc which is so easy to do. I own a Tandy DMP106 printer which isn't amongst the program options, there are two Tandy printers named but my printer didn't work too well with them, through trial an error I found that the Epson FX80 worked best, I used a Multi-Print interface with the tape and so set the program for that, I have found that when transferring the program to disc I didn't have to alter anything, the PLUS D works with the Multi-Print setting.

Going back to Carols article, on Fig. 1 in her article she has set the embedded commands in line one, she could set them in the options box and leave line one for the text. If you get an error report then set a larger GAP setting between the lines and you can overcome this.

Last but not least, I have just started to get sector errors, more on commercial programs than on my own formatted discs I have just received my drive back from having it checked over and it was found to be in perfect working order.

Yours sincerely, Harry Connell.

Thanks for the tips Harry. I must admit that when I first opened your letter I though it had been delivered to the wrong address, the Pre-School Playgroup Association headed paper really threw me (my kids are 19 and 15 so are a little too old for Playgroup). Still it is good to hear from anyone who is using their computer for work in the real world.

On the subject of sector errors, this could be the old stepping rate problem. I recommend 12ms for the Spectrum (DISCiPLE and PLUS D) and 24ms for SAM internal drives. If you use an external drive on SAM then go for at least 36 or better still 40ms. If, after changing the stepping rate the problem is still appears on new discs then make sure the heads are clean and check that no power cables run close to the disc drive ribbon cable. Ed.

Dear Editor,

Could I use your letters page to make an appeal to readers for help in finding a program that was published by ACS Software in 1983/4. The program allowed you to design 3D shapes and rotate or move them on the screen. I undertand the program was written in basic (unlike Psion's View 3D) so it could be customized by the user.

As ACS have long since gone out of business I would welcome news from any reader who has a copy of the program they could pass on.

Yours sincerely, J.S.Miloes.

Dear Editor,

At 73 I may well be the oldest subscriber to your excellent magazine. I have a SAM Coupé with one drive and still have my 48K spectrum and DISCiPLE.

With my Spectrum I have successfully used listings from publications such as "DK Screen Shots - Step By Step

Programming" and the six part publication "The Complete Spectrum". Such listings often employ machine code routines which can be fed in and accessed by Basic and which allow Learners like me to achieve very effective animation effects.

My question is:- Would it be possible to use a Spectrum 48k Disassembler to produce a listing of the machine code so I can feed them into an assembler on SAM and then use them from SAM Basic?

Yours sincerely, V.H.Taylor.

At 73 you may be one of our older followers but I don't think you are the oldest. Many readers are past retirement age and have often come to computing through their grand-children.

I'm sorry to say there is no simple answer to your question. SAM's screen and memory layout are totally different to that of the Spectrum, unless you run under one of the Speccy ROM type systems Like SPECMAKER or SAMTAPE 3 - when of course you are running on a Spectrum. Yes you could disassemble the machine code but, unless you know what you are doing, you may not be able to translate things to work on SAM.

My advice would be to work on SAM in basic, in most cases a basic routine on SAM will run almost as fast as a machine code routine would on the Spectrum and is much easier to write and de-bug. Don't be deluded by people who say "If it ain't machine code it can't be much good". SAM's basic is so powerful and fast that many programs of professional quality could be written without resorting to machine code. **Ed.**

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Letters may be shortened or edited to fit on these pages.

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ADDRESS MANAGER

For The SAM Coupé

Reviewed By:- Carol Brooksbank.

ADDRESS MANAGER is a straightforward data base program for the SAM Coupé, for storing names and addresses and for printing them to screen or printer as lists, or for printing address labels. I understand the program was created by LERM for keeping their own customer lists, but it could be used by any small business or club.

The program comes on tape, with a version for Sam ROM1 on one side and ROM2 on the other. The handbook contains clear instructions for customizing it for one disc drive - it comes set up for two drives - and transferring it to disc. As supplied, the program underlines the name in printouts, but if you don't like that there is a simple modification.

The illustration shows the screen layout for each file entry. When the program is loaded, you are prompted for today's date and this is automatically added to each entry created that day. A business user keeping a customer list could see at a glance whether an entry refers to a new customer or a long standing one. The date can be altered if, for instance, you wished to change it to the date on which a subscription falls due.

The file has two modes - telephone on or off. If telephone on is selected, the last thirteen characters of the address are reserved for telephone numbers which are not printed on labels. In telephone off mode all the characters in the address panel are printed as part of the address. It can be useful to switch between modes, because the program can print lists of names, and in telephone on mode it adds the telephone numbers. In telephone off mode it prints names along with the data in the CASH, DATE and CODE boxes.

The CASH field can be used to enter the amount spent by a customer, the subscription due, etc., but allows no larger sums than £99.99 to be entered. The CODE field can be used for things like product codes, note of discount allowed, or any other information that you wish to include and can represent by a four digit code.

When you have entered data into the screen, you have the option of saving to memory, printing out the name and address on a label as well as saving it to memory, or printing multiple copies and saving to memory. Until you choose one of these options the data has not been entered permanently into the file.

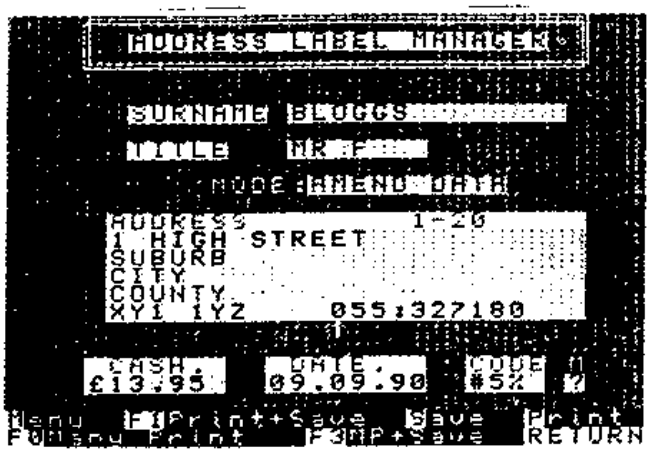
Up to 200 names and addresses may be kept in one file, but you may keep several files on one disc and the program will treat them as one gigantic file. There is a search option which can search for one name, or for all the names beginning with one letter or group of letters, and all the files on the disc will be searched. Files are always saved with the name "ad-data", and the program adds a numerical suffix to earlier files if there are more than 200 names. If you needed to keep two different files, one of customers and one of suppliers perhaps, they would have to be kept on different discs and you could only give them a distinctive name by renaming the BASIC program - "Autocust" instead of "autoadd" perhaps. Because of this, the whole program really needs to be on the disc with each file. It is not practical to save files on their own because they all have the same name and you would never know which was which.

The names and addresses can be roughly sorted into alphabetical order - the program sorts by only the first

letter. The file is re-saved to disc after a sort, so it cannot be reversed. There is an "AMEND" mode, for altering existing records, and a "NEW DATA" mode for adding to the file. There seems to be no way of deleting file entries. I think the most practical way to do this would be to overwrite an unwanted one with a new name. Or, you could try changing the name to "Z", do a sort which should put it at the end, and then in BASIC, POKE the variable which holds the number of file entries with one less and re-enter the program to re-save the file.

No-one could call this a sophisticated data base, but if all you need to file are names, addresses, telephone numbers and a very limited amount of other information, this program is ideal. For many people, an "address book" file is the only data base they need. A complicated filing program is often too fiddly to use and too expensive for such a simple operation. This program is just right. It is inexpensive and easy to use. It can accommodate lots of names - up to 5000 on a disc in blocks of 200. The search option is very fast on a small file, though of course it would take longer to search 5000 names. And it can print out standard size labels, a phone directory or a list of names with dates, cash amounts and codes. It is ideal for a small business or club, or even for a computerized version of your own "little black book".

ADDRESS MANAGER is available for £7.99 from LERM Software (Dept. FORM), 11 Beaconsfield Close, Whitley Bay, Tyne & Wear, NE25 9UW.



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