

# Dragon's Teeth



THE MONTHLY NEWSLETTER OF  
THE DRAGON CLUB AT THE DUNGEON

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## VIEW FROM THE DUNGEON

Many of you will have heard the rumours of Dragon Data's financial problems and it might be politic to consider how this affects us all.

Firstly, we at the Dungeon think that an awful load of rubbish is printed or broadcast by the media. Many of those so-called "financial experts" are staffers allocated to broad business areas and the complexity of the computer market is such that attempts to simplify data into a coherent story often leads to unwarranted conclusions. The current wave of stories of the "home computer bubble bursting" reflects a U.S. situation, which has little relation to the U.K. market and, even here, the U.S. data has often been misinterpreted. Some of the price-war problems in the U.S. have related to the very success of home micros, the financial analysts appearing to confuse the problems of dedicated games consoles with the microcomputer. Equally, quietly successful businesses rate little space in the media (they make poor stories) and all the exposure tends towards the firms in trouble. The Commodore plays with the Vic-20 and "64" (which do not vary too greatly in bulk manufacturing cost) are often seen as panic price-cutting rather than a planned strategy of securement of market share. Equally, Tandy doesn't seem to be doing too badly, with the flood of new models and the continuing success of the CoCo.

In the U.K., the current wave of price-cutting is hardly unexpected, although the papers will insist on viewing it as "desperate attempts to stimulate sales in a dull home computer market." Rubbish! The seasonal nature of the market (how much time did you spend at the keyboard during the hot summer weather?) and the jockeying for position prior to the October-December pre-Christmas sales surge are more likely explanations!



### VIEW FROM THE DUNGEON (contd.)

Newbrain's troubles are seen by some writers as symptomatic of home computer problems to come. Again, we have to disagree. Frankly, we were sceptical as to whether the Newbrain could make it when they launched it last year. No colour, no sound system, no "proper" keyboard and a price over £200! They launched it two years too late.

So, back to Dragon Data. It seems to us that D.D.'s current cash-flow problems are only short-term, although they do seem to have underestimated the annual Summer downturn in sales. Sinclair and Commodore haven't helped, by the recent price cuts, which Dragon were bound to follow and the U.S. launch must be locking up capital as the distribution pipelines are filled. However, the nature of D.D.'s main shareholders, Prutech and The Welsh Development Agency, should not be underestimated and, with the Christmas "boom" not far ahead, it is inconceivable to us that the current short-term problems will not be covered by extra loan capital.

However, it is clear that we are going to have to be patient where the 64K Dragon Disc Drives and dedicated Cassette Recorder are concerned! If we were in D.D.'s shoes, we would certainly give the "new customer" sales of the standard 32K Dragon priority over the next month or two. Our guess is that Premier or Windrush (with a little help from Compusense?) will step in with a FLEX-based disc system - but only if sufficient Dragons are upgraded to 64K to make such ventures worthwhile.

We hope to be saying "I told you so" in a month or two. Watch the "Top Twenty" sales charts - as long as Dragon stays in the top two or three the underlying position remains sound and you can count on the D32 being around in 1984!

### VALUE OFFER

B. & H. Software have now discontinued Games Tape 1, which contained 'Lunar Lander & Rescue', 'A Week at the Races', 'Blackjack' and 'Jackpot.' All are now sold as separate tapes, the first two at £6.95 each and the latter two at £5.95 each.

We still have three or four copies of Games Tape 1 in stock, so if anyone wants to grab £25.80 worth of tapes for the price of £9.95, they'd better move fast. You may recall that we consider 'Lunar Lander & Rescue' as the best version for the D32 so far.

### GENERAL CLUB OFFER

As members of the Dragon Users Club at the Dungeon, you are entitled to buy two cassettes (up to a retail price of £15.00 each) at 10% off. You are also entitled to buy all hardware at 10% off (and for something like the Seikosha GP100A that could save you £22!) We regret that we cannot extend the Club offer to books.

Club badges available at 30p. each (sew-on or remove backing, when self-adhesive.)

The cassette discount offer is a monthly entitlement, but we regret that "unused" entitlements cannot be carried forward to the next month.

# REVIEW

## EDUCATIONAL SOFTWARE

Reviewed by Pauline Hampson

### a) 'DRAGON FUNMATHS' (Gem Software)

'Funmaths' is written by Peter Chase and sells at £9.95. The package consists of five games, all with a Maths base. Unfortunately, the names of the individual games were not included on the cassette inlay.

"Number Race" is for one player against the computer or two players. The instructions are clear and simple. A series of numbers are displayed on the screen and you move your coloured cursor to pick them up, using keys to move up, down, left, right and to stop. The total score so far is displayed at the base of the screen and you must score exactly 100 or you have to start again. A tune plays when one player finally manages it. I found control with the keys terribly difficult and would have preferred joystick control. The cursor moved alarmingly quickly and I soon took the lazy way of reading my score to reach 100 and seeing what I needed to finish off.

I would not recommend this game for a child under 10 because of its speed. Nevertheless, older children who tried it really liked it. They had no trouble in manoeuvring the cursor but usually took the lazy method. It provided a great deal of fun and enjoyment.

"Mathmaze" is also a race game but for one player and the object is to negotiate the maze, answering maths questions as you go. The player selects one of five levels of play. The maze layouts vary, which adds variety. Score and time are displayed. The arrow keys move the cursor around the maze but care is needed - too many presses and you fall off and must return to the start. Each blue block encountered means a question to be answered correctly or the player returns to the start. Questions vary from  $59 + 31$  or  $54 \div 6$  on level one to  $51 \times 6$  or  $277 + 259$  in level five. The program makes good use of sound and graphics.

The game would provide good practice in mental arithmetic and is fun to play. I adapted the program slightly for my daughter Emily, who is 8, with easier questions and she loved it. I am not a skilled programmer I might add, but I found the job fairly easy. In its original form I think it would suit children from 9 upwards, but it is a shame that younger children could not also have played if there had been more skill options.

"Chemist" was my personal favourite with lovely graphics. The object is to tell the mad chemist how many parts you need to add to avoid an explosion when 2 chemicals are added together. You must answer to the nearest whole number and gain points according to the speed of your answer. The wrong answer loses points. Here is an example; 22 is 6 parts, what must I add for 5 parts, the answer being 18. You wait and watch while mixing occurs. A wrong answer gives a flashing screen and an explosion. You are then given the correct answer.

This is a really good way of practising multiplying fractions and converting them to the nearest whole number. It gives children a purpose and reality different from paper exercises in text books. The game is not easy and would suit a child from 12 to 100. My only reservation is that giving the wrong answer is more fun than giving the correct one!

"Dragon" is an excellent way of teaching coordinates. It has simple instructions and a clear, well-presented screen. The dragon is hidden in a grid, the object being to find him. You type in your guess, naming the square with conventional X,Y coordinates, an arrow appears in the square pointing to the right square. Slowly you find your way to him, when you are rewarded by a jolly tune. I found that eight year olds soon understood coordinates but didn't necessarily seem to get the right clues from the arrows. This, however, did not deter them in the least - they loved it.

Learning coordinates is a valuable lesson and what an excellent way to do it. If you get X and Y reversed then the square you chose is indicated by an arrow and you see your error and can correct it. This game could be tried by a 7 year old and still be of value to a child of 12.

The final game, "Simon", is Peter Chase's four level version of the electronic game with a memory test of number - each number having its own note, colour and position. The player has to type the number given and the sequence is increased by 1 each time. The game is entertaining and encourages concentration and memory.

It could be played from any age from 7 onwards perhaps with a little help to start with. Sharon, who is 8, said "I really like this."

I consider this tape to be good fun and educational. Some games could be played from 7 years old and the package would still interest the child in the same way at 13. It provides mental arithmetic practice in the four rules of arithmetic and includes fractions and coordinates and aids memory and concentration. It would be a good buy for a family with children and would also provide a change from the paper and pencil routine in school. Age - 7-13 years.

Presentation.....	7½
Entry Complexity.....	
Play Complexity.....	
Play Balance.....	
Interest Level.....	7½
Overall Rating.....	7½
Educational Rating.....	8

b) 'MATHS-TREK' (Dungeon Software)

This program, published by the Dragon Dungeon, is priced at £5.95. It is an educational space game written by a young programmer Mark Jones, who is only 13. The one player aims to be promoted by stages from second officer to governor by steering the Enterprise through the universe, answering Maths questions on the way, returning to starbase for each promotion. Basically, it tests the four rules of arithmetic on different skill levels.

The game begins by asking for your name, which I always like - children love the personal touch. You are also addressed as "Sir" - another good point. The instructions are clear, the game being user friendly, with an option to reread the instructions until you are sure of them. I particularly liked the challenging bits with comments like "Think it sounds easy?"

There is a choice of skill levels from 1 - 50 and options on addition, division, multiplication, subtraction, square numbers and area. Questions range from  $8 + 7$  in level 1 to  $263 + 471$  in level 50. In multiplication, level 1 gives problems like  $2 \times 8$  and on level 50 you get  $56 \times 480$ !!

The bridge display on the graphics screen shows your control panel with fuel, warp and damage shown by increasing or decreasing lines. In the centre is the view of the stars shown on a blue background. Under this is the display showing Asteroids, Black Holes and Klingons in the vicinity and the relevant light comes on. When these hazards are encountered an emergency question

must be answered, this being of any skill level on any of the four rules, not necessarily the one chosen. There is also a display to indicate low fuel levels.

Having the bridge display in front of me for the first time I was a little unsure of what to do so I pressed "any key" for a status report.

The status report on the text screen tells you your rank and speed with the distance from base and amount of damage. It then displays a question to be answered. You are told whether or not you are correct and your warp speed alters accordingly. An incorrect answer also increases your damage.

You then return to the bridge display and then back to the status report for another question. Gradually you accelerate nearer to the star base. It is on the bridge display where the hazards suddenly flash on the screen and the emergency question has to be answered. These are followed by a spectacular graphics display - the asteroid being my own favourite. As starbase is reached, it is displayed on the blue screen and the victorious tune "Dixie" plays. You feel a great sense of achievement. Naturally, too many wrong answers and you don't make it, as you run out of fuel or damage the ship to the extent that it blows up. Hopefully, though, you win through and become promoted, your ship is refuelled and you can leave for your next mission. The ultimate goal of governor is rewarded by the most spectacular display.

The program certainly provided more fun than the usual drill type programs which seem to be produced under the name of education. It was a refreshing change to have some reason for answering the questions and to have an incentive to try harder.

The lower skill levels would be suitable for a child of 7 who understands what "Startrek" is about. The highest levels could challenge an adult. My husband kept having a turn when my back was turned. The harder questions would, of course, need to be worked out on paper - well, can you do 56 x 480 in your head? I do feel that the harder levels where pen and paper are needed make the game rather too long, it being important to hold the child's interest. Nevertheless, it will make an excellent educational aid at home or in school.

The children who tried it enjoyed it a great deal and Alex, an Atari games fanatic, thought the graphics were "really good"! One or two pointed out that a perfect score did not guarantee your safe return to starbase because you could run out of fuel. We did not think this a good idea - it offended our sense of fair play!

Another point to mention is that when playing do not be in too much of a hurry to press a key from the bridge display to status report. If you do this you miss the hazards, which really enhance the game.

This game is good value for money. The sound and graphics are most professional, enhancing its educational value. All in all, an excellent effort from such a young author. Congratulations!

Age 7 - Adult.

Presentation.....	8 $\frac{1}{2}$
Entry Complexity.....	
Play Complexity.....	
Play Balance.....	
Interest Level.....	7
Overall Rating.....	7 $\frac{1}{2}$
Educational Rating.....	7 $\frac{1}{2}$

# REVIEW

## THE DRAGON IN THE OFFICE

by Clive Gifford

### A REVIEW OF PSS DATAPLAN AND TEXTSTAR, WORDPROCESSING AND FILE HANDLING.

Personal Software Services were among the earlier producers of software for the Dragon, among their range being 2 serious cassettes suitable for use in an office situation (or at home for letter writing and file storage.) Both of their cassettes feature excellent presentation, quick delivery and reliable loading.

TEXTSTAR is a word processing system which enables the user to write files which can be recorded on cassette, reloaded, edited, printed and examined. It can also be used to edit programs which are loaded into the machine. An edited program cannot be RUN while within TEXTSTAR but it is simple to CSAVE the program to RUN it later.

This program has been kept quite short, as it has the capability to handle up to 6 pages of A4 text or a 20K program. When you consider that there is less than 32K in the first place and when you see all the available commands you have at your disposal, you start to appreciate the quality programming that has been put into this program. The operations and functions at your disposal total a large number and to the first time user it is a bewildering choice. I have used word processors before and I found it quite difficult to use. Perhaps it would have been possible for PSS to have added a form of demonstration program showing how all the various functions work and how they are operated. Admittedly, PSS do supply a detailed sheet but it's not the same as seeing all the operations working before you. To describe all the features giving details would take at least one, probably more, complete issue of D.T., so I will just give an overall impression.

Creating a new file, such as writing a business letter, for the first time is a lengthy business, even for the experienced word processor user. My father, a self-confessed genius, who uses a 10,000 + Wang word processor at work, found this hard to get used to but, with much perseverance, one can get used to it.

Your writing is entered after option 2 is chosen from the extensive menu. While entering the writing, the Dragon's keyboard is a real plus in this aspect. There are many commands which can be used to manipulate the writing to make it tidier. To obtain any of these edit commands the SHIFT key and the DOWN ARROW must be pressed together. The cursor changes colour whenever a different mode is entered into and this is a handy little guide when using TEXTSTAR. The cursor can be moved round the screen and lines can be inserted, deleted, repositioned and amended. A useful command accessed by pressing S while in edit mode sorts the lines into alphabetical order. This could be used as a small mailing list function with this program able to handle 322 lines of up to 64 characters.

Once you have entered the data you can easily save it onto cassette using the ASCII format which is rather slow. Similarly, you can load a totally new file in on its own or merge it with another already present file. The file contained within the Dragon's memory can be viewed and edited and line printed at any time. Before writing any data it is advisable to set the format of your writing using input 6. This asks whether right justification is wanted and how long you wish each line to be (at maximum.) If you get to within a couple of characters of the maximum figure, you will hear several warning bleeps.

Headings can be easily centralised and certain words can be found by the computer and replaced by other words not necessarily of the same length.

If you make an error and in anger press the BREAK key, you have not lost your data. To continue with the program just type in GOTO 1 and you can carry on merrily. If you have no need for that file, then choose option 8 which quits the file and automatically sets itself ready for a new file.

PSS's program has to compete, whether it likes it or not, with Telewriter by Microdeal, the Rolls Royce of Dragon word processors at present. For serious word-processing, the Telewriter cannot be beaten, but at £50 is a lot of money if you are a beginner to the word processing scene. It is annoying how, as soon as a program is categorised as a serious business program, its price suddenly doubles. O.K., I know that many business programs require more work than games and there may not be as large a market for them, but surely charging figures usually upwards of 15 quid is not the way to interest the beginner and to lure him away from playing games and onto more serious activities. In all fairness, how many businesses are going to use a Dragon as their central computer? I doubt if there are that many, so why do many software houses charge prices only businesses (or very rich people) can afford?

I've come down off my soapbox to give my conclusions of TEXTSTAR. This program, commendably, is being offered at £12.95 which is, as far as I know, the cheapest full-feature word processor available for the Dragon. It is difficult to use at first and may not be up to the standard of the Telewriter, but as an introduction into word processing, it should be considered.

Presentation.....	9½
Entry Complexity.....	6
Features.....	8½
Ease of Use.....	7
Value for Money.....	8½
Overall Rating.....	8

DATAPLAN was not as good in my opinion as its companion program. On paper, its features look very good and when using it at first, it is very user-friendly and indeed much easier to operate than TEXTSTAR. However, there appears to be only 400 bytes of memory left in the machine after loading the program, so you have only to type in 7 or 8 records of 5 or 6 columns each and the Dragon comes up with an OM (Out of Memory) error. This happened time and time again and I had to give up any further attempts. I checked my computer and tried everything that I could think of but to no avail, the dreaded OM error kept appearing. The only solution to this was to type in 4 or 5 records and then save them onto cassette. The operation became slower than using a pencil and paper and writing them neatly down for future reference.

Has anybody else had this sort of problem with DATAPLAN? It's a great shame, because I was looking forward to a good quality file handling system such as this one promised to be. I have to mark it as I have used it, so any DATAPLAN owners who have had no problems with their program, do not write protesting to D.T. that I am talking rubbish. I repeat, it is a great shame, Oh!, of what might have been.....

Presentation.....	9½
Entry Complexity.....	8
Features.....	3
Ease of Use.....	5
Value for Money.....	4
Overall Rating.....	4½

# REVIEW

## CASHFLOW (Dungeon Software)

I wonder if the reason for so many misleadingly complimentary reviews is the rather guilty feeling that, having got a copy of the program for nothing, one feels that there's no choice but to be complimentary, regardless of actual quality?

Having said that, I can honestly add that in the case of this particular program at least, I can afford to be complimentary without stretching the truth at all!

There seems little point in listing all the functions of a cashflow program; they are useful for keeping a check on spending, projecting theoretical or actual expenditure to find out whether you are going to be a millionaire or a bankrupt by the end of the year, keeping running balances on several accounts, and generally frightening yourself to death by showing the liabilities you'd rather forget about.

This version is no exception and it's remarkable for just that reason! It is simply a very neat and efficient program which does exactly what you would expect a good Cashflow program to do; it loads first time, every time; it is accurate - doesn't give silly totals (unless you give it silly data!); it has all the functions anyone could reasonably expect from a program of this type and quite a few that some of the "Big Name" software houses don't include in theirs; it runs at a respectable speed for a Basic program and is one of the most "User friendly" I've had the pleasure to use.

One feature that I'm not too sure that I like is that all entries need to be entered as Data lines, although that's not really a valid objection, just something I'm not used to. I certainly have to admit that it makes for greater flexibility and, as it means that the entire program has to be Saved every time rather than the more usual File Save, it avoids what is sometimes a Dragon weak point - one or two of the Dragons I have used have been less than consistent when it comes to Saving and Loading files.

The point that impressed me most is the printer format, one of the neatest I've seen so far and one which is clear and easy to 'check at a glance'.... unlike some I could mention!

As I said, it's impressive for NOT trying to impress!....simply a very neat and reliable 'no frills' program that does everything anyone could reasonably expect of it, works every time without fuss, is simple to use and comes with the most comprehensive set of instructions I've ever seen with a program of this kind. I like it and for me to say that about ANY program after two weeks of hard use (not to mention abuse) is almost unheard of. (I'm the one who commits heresy - I criticise Telewriter!!!) - Paul Grade, Hove.

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## CORRECTION

An error crept into the Tip on page 5 of July's "Dragon's Teeth". In paragraph 4 (commencing "It is highly unlikely...") an up-arrow was missed between the quotes on line one. Why do so few printers have this arrow?

# SOFTWARE

## CROWTHER WORD PROCESSOR

by K.N. Grade

The S.M.A.U.G. word processor, as it is called by Mr. Crowther, is a collection of machine code routines loaded by a Basic program. It is supplied with a manual which is tediously detailed in parts and extremely vague in others. It is not difficult to use, despite that; the various routines are easy to recognise, as are the means to implement them.

The program does not use the standard Dragon keyboard scan, as it is slow for certain keys and the response is not quick enough for really fast typing, so Mr. Crowther explains. He has developed his own scan routine which is certainly very responsive. Much lighter touch can be used and still maintain accuracy. The snag with that is that the Basic routine is not totally disabled. Cursor movement is still governed by standard scan with the improved scan from the program as an extra. Result is that a backlog of commands can build up and prevent cursor movement and use of the keyboard altogether. I would say that the response is generally faster than in, say, the "Textstar" or "Telewriter" processors, but the improvement is lost due to the inconsistent control of the cursor.

Functions available are as follows:-

- 1) Copy, delete or move a block of text.
- 2) Set up line width, lines per page, tab setting (up to five), margins.

These are accessed by "Special Function" keys, obtainable by first pressing CLEAR, which changes the cursor colour and stops it flashing, then one of the number keys. From 1 to 0 respectively, the following functions can be selected:-

- Insert character
- Insert line
- Delete character
- Delete line
- Access to files (Save, Load, Verify)
- Block move, copy, delete and reconfiguration of c.p.l. and other formatting features.
- Place marker for Block functions
- Find word
- Shuffle - "wordwrap", in other words
- Print

There is a 20K text buffer and the number of free bytes can be seen when needed on the Reconfiguration menu. (But can you calculate how many bytes any given word takes up? I can't!) All keys have an "auto-repeat" function. If held down for more than a second, any character will be repeated. This is fine, but as I have already remarked, it leads to problems with cursor movement.

That is what the program promises to do. In fact, it is not very consistent in operation. The "Shuffle" facility, for instance, whilst it works, must be used at the end of each paragraph, AFTER any inserting/deleting. You must never have second thoughts when dealing with this function, or gaps will be left where none were before, sometimes in the middle of a line, sometimes leaving an inexplicable gap several word-lengths before the end of a line. Another serious hazard is changing c.p.l. after text has been typed in. "Shuffle" will not help there either. The entire text must be re-typed.

If you are a fairly careful typist with good presence of mind, you will probably cope with this program - but then you probably wouldn't need a word processor in the first place.

I think there is a serious omission in the program regarding File names. No limit is given in the menu or in the manual regarding length of the file name, but it appears to only recognise the first eight characters. There are three versions of this letter on tape and when requested to load the third, which has a slightly different title to the others, the first was loaded instead. There is no append facility either. The cassette motor can be switched on or off within the program, but without "Audio on", that is no help for finding the right place on tape.

The program has one redeeming feature which makes it, I believe, unique to Dragon word processing. One can set printer c.p.l. from 32 to 120, but that also sets the text line ON SCREEN to the same parameter. The ordinary Text Screen is used for entering text - no lower case on screen and only 16 x 32 resolution - but as you type "past the end of the screen" so to speak, the video display scrolls to the right and continues until the end of the line limit you have set. Thus, the format as output to printer can be seen on screen - by moving the cursor about (problematically!), so that the display "pans" over the text you have written. In this respect, the routine is superior to any of the processors I have used.

An improved version is due on the market incorporating Caps. Lock, Start/Stop print, Print Block, Non-A.S.C.I.I. control codes in text and possibly proportional spacing, but that will not be for some time. I hope by then Mr. Crowther will have ironed out the more annoying bugs in the present version. It has some very useful ideas, but I think it was put on the market before it was thoroughly tested out. Perhaps he ought to employ someone to do that? It isn't really possible to test your own work...

Mr. Crowther's other projects also sound interesting. A Basic compiler for the Dragon and a 24 megabyte Winchester disc drive and D.O.S.

One further problem has shown up with the Shinwa CO 80 which I used. It begins printing every time with a line of squiggles, which turned out to be CHR\$&H7E and also responds in like manner every time the Clear key is pressed, to obtain one of the function keys. The printer is best left off line until it is needed for printing - the more sophisticated Epsoms may behave in the same way. I have informed Mr. Crowther but he has not used the Shinwa, so couldn't offer any solution.

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#### BACK ISSUES

Back issues of "Dragon's Teeth" are available at 50p. post free (except for issue 1, for which the charge is 30p.) Alternatively, members may opt to backdate their subscription to an earlier issue.

# LETTERS

## 'TELEWRITER'

May I scrounge a little space to (a) add a couple of comments to your remarks on The Great 65495 Mystery and (b) clarify my earlier complaints re "Telewriter."

Having owned or had access to a total of nine Dragons, ranging in age from one of the first 300 to my present machine which is less than one month old, I can confirm that there is no particular point after which D32's refuse to accept the notorious Poke, both this machine and my original one accepting it without protest, while two others crashed every time! However, D32's do vary greatly, particularly in speed of keyboard scan and even more in sensitivity to fluctuation in the mains supply voltage.

I'm not at all sure, however, that the 6809E is entirely to blame for these variations; most of the symptoms show up in the SAM area, although these vary from one machine to the next. One thing I can be sure of is that on some Dragons a mains voltage fluctuation of + or - 3 volts is sufficient to cause a 'fisheye' type screen distortion after about an hour's use and quite severe amnesia, resulting in the keyboard scan scrambling...with such results as "RUN" displaying as "??BUN\*\*" and "LIST" (spelled "LB\$G") resulting in a line of "O/D" and lines, or often whole routines, vanishing or changing. One other point which, prior to your last issue, seemed to be totally ignored, is that some m/c sequences, although perfectly legal and valid according to 6809 manuals, can and do give SOME Dragons severe indigestion!! The entries, taken singly, appear harmless, but in certain combinations can produce disastrous results on particular machines. Equally, some Software house's "protection routines" can have very similar results. On one Dragon, the protection routines in two otherwise good, commercially produced programs, resulted in the "melted film" effect you mention, plus, in one case, stray pixels turning up at random, the same programs running perfectly after being broken down, "deprotected" and retyped.

I don't know the answer to the problem, 'tho I'm working on it and if I ever get a useful result I'll certainly let you know.

All of which brings me to the "Telewriter" dispute. Of course, the program I returned ran alright on D.D. and Microdeal equipment!! It worked well enough on my machine (apart from the disgustingly slow keyboard response even in 'S' mode) for a couple of days. After that things deteriorated rapidly, until every time the program (and NO other) was loaded my Dragon produced a signal (h.f. oscillation) so strong that it blanked all televisions (not to mention CB equipment) within almost 100 yards! After a few days of this the Dragon so deteriorated that it lost use of its keyboard and had to be returned.

The replacement Dragon withstood two loadings of Telewriter then refused to read in files previously saved, simply refusing to acknowledge their existence, although it gave no trouble with any other program, Basic or Machine, and after a few more days of persisting with Telewriter, suffered TOTAL amnesia and both it and Telewriter were returned.

Since that time, I have used several Dragons on which Telewriter ran quite reasonably, although only one of them scanned fast enough to permit a normal typing speed. Point being that the Dragons do NOT all accept Microdeal's overrated conversion of a not particularly good Yank program and as a qualified mech/electronics engineer with around 25 years experience, I'm not at all impressed with Microdeal's attitude, particularly the stupid "slow tape speed when starting on cheap machines" excuse; that is something any

mentally retarded monkey with a ZX81 knows and which had, obviously, been checked. I'm sick of seeing people ripped off by Software firms which involve people (usually those who can't afford it) in unnecessary expense by blaming the failure of their software to Load or to Run, on "equipment faults", rather than on lousy programming or even worse duplication.

"Copyright protection"??? Who kiddeth whom??? Nine tenths of the programs on the market aren't worth the price of a tape to copy them on to. It's time some 'Programmers' stopped their paranoid whining and learned to produce a product good enough to stand up to competition.

Keep up the good work, the Dungeon is doing a very useful job and a lot of Dragon owners would be in a bad way without it.

Paul Grade,  
Lorna Rd.,  
Hove,  
Sussex.

#### PI-SENSITIVITY

I would like to contribute my observations on two articles in "Dragon's Teeth" Issue 5.

Like Mr.London, I had problems loading PIMANIA and in the end returned the cassette to Automata, asking for my money back. By return of post I received two replacement cassettes - both of which I had problems loading. I rang Automata and they stated that the two replacement cassettes worked perfectly on their machine. I continued to try to load the game and after about 10 further attempts finally succeeded. It appears from my investigations that the volume control setting on tape recorders is critical when trying to read in a PIMANIA cassette - more so than on any other program that I have purchased so far. Apparently, a lot of 'new' tape recorders need servicing before use - the heads are out of alignment. This could be the reason why so many cassettes are returned as faulty.

Can Clive Gifford recommend a reasonable Adventure Game - I have also found 'Madness & The Minotaur' frustrating and have not ventured far into it. The same variability seems to be present as PIMANIA, having gained a telescope on one turn, it was promptly 'stolen back' about two turns later.

Following the discussions on the high speed-poke, my machine also takes the 'super fast' poke. By poking 65497,0, the Dragon will work at twice its normal speed, but whilst working at this speed, the screen and keyboard are inoperative. This is very useful for any programs involving long calculations, but before displaying the result, remember to POKE 65496,0 to return to normal speed.

Finally, a routine to save machine-code programs. CLOADM the program, but do not run it.

```
PRINT PEEK(487)*256+PEEK(488)           (A)
PRINT PEEK(126)*256+PEEK(127)-1        (B)
PRINT PEEK(157)*256+PEEK(158)          (C)
```

Then CSAVEM "program name", A,B,C

Hope these tips are of use.

Robert Clark,  
72 Melrose Road,  
Southfields,  
London SW18 1PG.

PI-SUPPORTER

Hails and hails of abuse as self-admittedly deserved towards 'T. London', Dragon's Teeth issue 5, July '83. Of all the software companies I have dealt with, Automata have been the best (Sorry 'ZAP'!) After placing my order for 'Pimania', along with a non-bank card cheque into the post on Monday morning, I received the afore-mentioned artical on Wednesday of the same week. Hails and hails of praise upon Automata. What's more, it ran and is continuing to do so perfectly! And, by the way, if 'Mel' or 'Christian' should read this - I know the time, date and location. I know I recently missed it but I had to go to work. If I tell you, can I have the 'Sundial' seriously!

D. Wilk,  
136 Chestnut Ave. South,  
U. Walthamstow,  
London E17.

P.S. Have you considered obtaining 'Lance Leventhal's' "6809 Assembly Language Programming" or 'Rodney Zaks' "Programming the 6809" whilst waiting on 'Mike James' book?

(We have our own copies of both Leventhal and Zaks, but feel that they are written for those who have an understanding of machine code already. What we need is beginners' m/c books! - D.M.)

DRAGON RELIABILITY

As a recent and trial-run subscriber may I congratulate you on your newsletter et al. It's comforting for a relative ingenué like myself to have someone to turn to or something to learn from when caught in the talons of this wonderful machine. Mind you, I continue to be bewildered by the complexities of Hexadecimal, machine code and really don't have the time (or perhaps tenacity) to delve deeply into their workings, but perhaps I'll pick something up from reading "Dragon's Teeth."

Perhaps you could set my mind at rest. I read in a recent article in Dragon User (Aug.) that some Dragons have "half-good 64K ROM chips" on the circuit-board and would not accept the double speed poke (Poke &HFPDF7?) Does this mean I have a second-class Dragon, since it would appear from the article that I do have one of this type. Incidentally, it is my third Dragon since Christmas, the previous two having developed faults - also I have had one cassette lead replaced. What is the Dragon record on reliability?

Finally, referring to Zap's Bit and his query re Phantom Slayer. We in our family have scored 480+, 500+ in this game, so does that make us champions?

S. Bennett,  
40 Duncoole Park,  
Ballysillan Rd.,  
Belfast 14.

(What with Mr. Grade's multiplicity of Dragons and other stories, we wonder what the general view of D32 reliability is? What seems certain is that Dragon Data always seem ready to exchange for a new machine - which is more than can be said for Sinclair, Acorn, etc!)

The Bennetts appear to hold the World Record for Phantom Slayer - unless you know better? - D.M.)

## MORRISON COMPLAINT

I don't wish to sound critical of Clive Gifford and I'm sure his criticisms of Morrisons's Arcade games are sincere, but obviously my own standards are different - perhaps unreasonable.

With reference to Games Tape 4, I have called this in an earlier letter - 'crassly commercial' - without going into detail. Pterodactyl, first, is not very original in concept, very repetitive, although the sounds are nice. I am no arcade expert - would rate myself as average to incompetent - but it took me less than a dozen tries to score over 2,000 and from then on it just became dull, since the same thing happens again and again with no variation.

Considerably worse is Torpedo Run. It took a few minutes' experiment one morning, before the rest of the family was up, to work out how to hit the furthestmost ship every time, and so to score the maximum, if one could go through the tedium of pressing the fire button at regular intervals - 99 times. This is because the program has no random elements built into it - and has obviously been rushed out as a 'filler' with no attempt to make it anything other than 'crassly commercial.' It would have been a simple matter to make it more interesting - it hardly uses a great deal of memory! - but that would have involved some work.

Hornets is - as you suggest - too fast; no real attempt has been made to make it decently playable. However, I did once again quickly find the 'right place to stand' to score over 1,000 points simply by shutting ones eyes and keeping the firing button pressed. I'm afraid I rate the programs boring - boring - boring. They're not worth £3 let alone £7.

By all accounts Morrison's chess program shows the same signs of having been rushed out without much thought. Incidentally, as an average club player (B.C.F. rating around 170, 5 years ago), I have yet to find a microcomputer game which can give me a half-way interesting game unless I deliberately make a few stupid moves to liven things up. I wish their programmers would find out just how masters and grandmasters do play before writing their ridiculously exaggerated advertisements.

A Sinclair program on one of its highest levels - it would have lost time in any tournament of course - lost a piece against a standard opening after only 6 moves. On lower levels it did rather better, being completely lost after as many as 10 or 12 moves only! I gather Dragon Data's Cyrus is rather better, but it's getting on now, and I'm not going to pay that price when a better program should come out soon - I hope.

I repeat what I said in an earlier letter - the quality of software is very low. Certain companies begin to stand out, if reviewers are to be believed - Peaksoft among them and I will soon try one of their offerings. Active Software I already know to be exceptional - they were even able to tell me that having the joysticks plugged in changed all the keyboard scan values and thus solved months of puzzlement which no-one else had been able to do!

I am nearing the end of my first game - well, the children like it. In view of what I've said here, it had better be good!

Ian Murray-Watson,  
Slade Farm,  
Peterchurch,  
Herefordshire.

(To be honest, we feel that you are being somewhat unfair to Morrisons, who brought Games Tape 4 out at a time when nobody else in the U.K. had yet

produced a single machine-code program for the Dragon. O.K., standards have moved on over the last six months and for the "state-of-the-art" in m/c programming in the U.K., try "Cuthbert" from Microdeal or Morrison's own "Crusader." It is perhaps significant to note that, as far as we know, only five programmers in the U.K. have published m/c programs for the Dragon - that's a measure of how difficult it is! - D.M.)

#### RECORDER PROBLEM SOLVED

As Max Bygraves would say 'I want to tell you a story' and offer fellow Dragon users a Tip.

Being an absolute beginner of only two months since becoming a Dragon basher, I have avidly read the two copies received to date of "Dragon's Teeth" and also Dragon User and I have noted considerable advice concerning compatibility and I/O errors.

This advice has varied from use brand X tape recorder not brand Y, to 'I've never had any trouble with my recorder' to 'throw away the Dragon leads, they're no good' to clever Mr. K Allen, Issue 4 of D.T., talking about 'phase shift', whatever that is!

I've spent hours fiddling about with the volume control of various tape recorders either begged, borrowed or otherwise obtained, including trying new leads, all to no avail, until I had the brilliant idea (for me that is) of pulling out all the cassette player leads and listening to the tape through the loudspeaker. This revealed besides the normal tape signal, interference similar to the noise cars used to make on television sets before the use of suppressors.

I moved the tape recorder whilst playing away from the television set, the interference noise disappeared and, upon reconnecting up the various leads, so did all the loading problems.

My tip is, therefore, keep the cassette player well away from the television set and since doing this my Dragon loads every time (wonderful little Dragon.)

Incidentally, if fellow Dragon Users are looking for a good and, I think, reasonably priced work station and a piece of furniture that the good lady will approve of, look into the Setcraft Sussex Ltd., 32 Walpole Avenue, Worthing, Sussex, range of mobile computer workstations. I have got one of their multi-level units which is great to work at and the wife likes the way it tidies everything up.

One last request, please DM, could I have a copy of the Brains' real English translation of the GP100A manual?

A now very happy Dragon Basher....

Trevor Kayes,  
Sycamore Road,  
Park Hill,  
Awsorth,  
Notts.

#### COMPATABILITY

As a newly-enrolled member of the Dragon Club with six months' experience of home computing, I have found the newsletters very interesting.

With reference to recorder compatibility, my Tandy CCR-81 saves and loads without fail and has the advantage that the fast wind controls work even

when the Dragon motor control plus is in place.

Printers: the Tandy CGP-115 works well with my Dragon, though it took me a little time to work out the Centronics pin connections, which are not given in the instruction manual. Keith and Steven Brain's article on printers was interesting, but I disagree with their dismissal of the CGP-115. Yes, it is slow, but this does not matter to an amateur. It prints faster than I can type and you can always have a cup of tea while a long program is listed. The 4" paper is a real disadvantage, but what do you expect from a machine costing two-thirds of the price of a Seikosha GP100A? What you do get is many different sizes of print, superb print quality with descenders and graphics capability.

Bryan Hayton,  
36 Laurel Drive,  
Willaston,  
South Wirral,  
L64 1TW.

#### BOOK REVIEW

With reference to your request for a Book Review. I hope that the following short item would be useful.

Computer Programming in Basic for Everyone by Thomas A. Dwyer & Michael S. Kaufman.

This excellent book is just the thing for anyone making their first attempts at programming.

It is not written for any particular computer nor does it cover graphics or colour. But surely these are the icing on the cake only of any use after a good working knowledge of Basic is attained.

The book is in four sections:-

i) A very short section discussing types of computer and a simple explanation of what Basic is.

ii) & iii) These two sections introduce the reader to the use of the comma and semicolon. Twenty key words (GOTO, DATA, INPUT, etc.) Four functions (SQR, INT, ABS, RND.) Examples of simple programs. Self-test exercises, and invitations throughout the text from the authors asking for a program from the reader.

iv) Covers applications such as Data Analysis, Games and Simulations.

Once the reader realises that the Dragon has an ENTER and not a RETURN key, uses NEW instead of SCR and that the use of the comma will produce two screen columns and not five, he will be on his way to learning the foundations of BASIC in a very short time.

In my humble opinion, it is an ideal First Book. It is a Radio Shack publication, measures 8 x 11 ins., contains 156 pages and must be a bargain at £2.49!

(I see from Dragon's Teeth, Issue 3, that you don't fancy the CoCo printer. Some of us think it's FANTASTIC.)

J.D. Bateman,  
Orchard House, Cleator Moor,  
Cumbria.CA25 5LN.

(O.K. we take back our criticism of the CoCo printer! - D.M.)

### PROGRAM ASSISTANCE REQUIRED

Being a Member of the Dragon Dungeon I was wondering if you or any member could supply me with two programs which I have listed below.

The first is a type of Hangman, except it has one or two additions:

- 1) no graphics
- 2) more than one word may be selected from a data bank
- 3) number of tries per game to be displayed
- 4) unlimited number of word or words may be entered into data bank

This game is required for education, I need to be able to enter book titles, famous names, etc. That is why I need to display more than one word.

The second program is a simple, straight-forward quiz:

- 1) question to be displayed in centre of screen only
- 2) answer to follow as above by pressing a key
- 3) unlimited number of questions and answers from a data bank.

On both the above programs I wish the data to be fed at random.

Any information you can give me would be most helpful.

Mr.C.R. Fells,  
21 Garthorne Avenue,  
Mowden Park,  
Darlington,  
Co. Durham.

(Any suggestions out there? - D.M.)

### PROBLEMS ANSWERED

Perhaps I can shed some light on problems raised in (and by) Issue 5 of "Dragon's Teeth" (July, '83.)

1. Dr. Bidwell's letter - page 11 - The problem is identified by the fact that the second program develops a fault which is cured by inserting a RUN between programs. Like the majority ? of program writers, Dr. Bidwell has (unknowingly?) relied on the fact that the Dragon's Basic sets all variables to a default value when created, and RUN deletes all variables. A "correct" program will always assign a value to a variable before using it in a calculation and not rely on default values. This change of approach would probably cure Dr. Bidwell's bugs.

As an aside, if variables are assigned values at the start of a program in descending order of frquency of use, then the program will run at its fastest by minimising variable table search time when looking for the variable.

2. Your response to P.C. Ashbury Smith (page 14) on (c) will undoubtedly cause frustration at the ?FC Error, unless the last sentence of page 43 of the manual is remembered - "RENUM cannot be used to alter the line sequences." While I have not tried the following, it does appear a logical solution:-

- (i) load first program and delete all lines which are to follow the insertion. RENUM if required.
- (ii) Change pointers (DT June p.17) and load insert program. RENUM if required.
- (iii) Change pointers and load first program again, delete all lines retained in (i). RENUM if required.

(iv) Change start pointer back to original value - the programs should now be merged.

Note: if ?UL Error appears, it may be necessary to RENUM before deleting lines.

3. Page 20-22: to be totally unhelpful, I recently opened my Dragon (horrors - the warranty!) to discover that the speed-up POKE's work because it contains 68Bxx components (i.e. 2MHz parts.) However, while experimenting at the maximum clock rate with cassette I/O, the program area was corrupted (? by loss of refresh.)

Philip G. Scott,  
Badgerwood Drive,  
Frimley,  
Camberley,  
Surrey GU16 5UF.

(Hmm! See what we mean about playing about with the clock speed! - D.M.)

#### AUTO-RUN?

I would just like to tell you of my son's achievements so far. We are quite new to computing (last April) but already he has had a program published in 'Popular Computing Weekly' called 'Marshy Maze'. You can imagine his delight, and mine, at this achievement. We both find your magazine excellent and always look forward to it and to the hints and tips we get from it. One thing I would like to see, however, is a revised software catalogue.

Could I also ask through the pages of "our" magazine if anyone has come up with an "auto-run" routine for use with basic. If this can be achieved with machine code programs, then why not in basic - perhaps using data? - I would be extremely interested to know how this is done - if it can be and I'm sure a lot of other people will too.

Keep up the good work.

Mr.C.D.R.Whitley,  
10 Cheviot Close,  
Gwersyllt,  
Wrexham,  
Clwyd LL11 4UN.

(Congrats to your son! We promise a new catalogue in September - D.M.)

#### CALIXTO ISLAND

Can any other member who has completed 'Calixto Island' tell us whether there are any further treasures other than 'The Crown'?

Mrs.L. Hunt,  
26 Howard Avenue,  
Bedgrove Estate,  
Aylesbury, Bucks.

(Can't help you at the Dungeon. We've got to the Idol, but haven't even found the Crown! - D.M.)

# Ventures

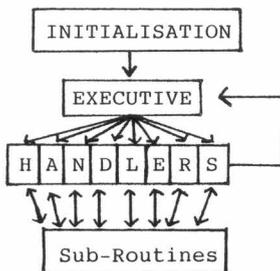
by Clive Gifford

It seems that this month the news for Dragon adventurers concerns the release of Dragon Data's 'Dragon Mountain.' Priced at £4.95, it has rocketed to the top of the software charts in several magazines. So what is it like? Well, it could be classed as a fairly simple adventure game, an ideal introductory adventure for the novice. It provides some challenge, naturally, but is not up to the same standard of difficulty as, say, Dragon Data's 'El Diablero.' John Scriven, reviewing 'Dragon Mountain' in Dragon User, boasted that he completed the game in just over an hour. I think it would take most people a little longer than that.

Let's concern ourselves with writing adventures for a moment. The most important factor that you must take into consideration is structured programming. Before you turn the page in horror, it must be said that structuring your programs is not that difficult. Everyone, to an extent, already structures their programs and it only takes a little extra thought and planning beforehand to give your programs enough structure to increase their performance and save you, in the long run, time. Why bother structuring programs at all? There are many good reasons to do so. BASIC is quite an unstructured language when compared to something like FORTH and so the programmer must add his own framework. Structuring a program sensibly speeds the program up without it having to look through masses of irrelevant code every cycle. Structuring a program allows room for expanding the program at a later date and saves memory space. For adventure programmers, structuring is essential. If you have written a program without structure, returning to it after a gap of several weeks will be difficult. Looking at the program listing, it will be hard to tell where the room display routine was or where the score increment is situated. For budding adventure writers, knowing where each routine, every piece of code is situated, is vital, often simply because adventure programs are larger and more complex than other pieces of software. Without structuring, a large adventure will be a mess and future attempts at modification futile.

I have laboured this point a little, but I think if there is a secret to writing quality adventures of any length for any machine, then it must be the use of structured programming.

Adventure programs need to be split into areas so that the programmer can concentrate on one area at a time. The diagram below shows one possible way.



In next month's piece I will explain the various sections of the diagram and how they relate to each other.

I was disappointed with the response for adventure games. I am looking for adventures written by you for the Dragon for inclusion in a future book. There are very few restrictions on the size or style of the adventure. Any memory size from about 6 - 8K upwards. Programs, if sent to me, must come on cassette, with documentation. I will pay a lot more than you could get by sending it into a magazine, a top figure for the best games being approx. £200. However, I am looking for smaller games by first-time or fairly new adventure programmers. Do not be put off - these programs do not have to be brilliant; so, if you have written an adventure game and don't know what to do with it, send it along to me. I will send all unused tapes back and if I cannot use it, I will endeavour to pass it along to someone who can. Go on! Take a chance - you have nothing to lose. Send your tapes to the Dungeon and I will contact you quickly.

# BASICS

## WHY WON'T MY DRAGON RUN CoCo PROGRAMS? (Conclusion)

The rest of the token sets for conversion run:

<u>Dragon</u>	-	<u>CoCo</u>	<u>Dragon</u>	-	<u>CoCo</u>
NEW		CLOAD	STRING\$		PPOINT
OPEN		LLIST	STR\$		LEFT\$
PAINT		>	SQR		SIN
PCLEAR		↑	TAN		ASC
PCLS		+	TIMER		INSTR
PCOPY		EDIT	TROFF		STEP
PEEK		EDF	TRON		NOT
PLAY		TROFF	USR		STRING\$
PMODE		TRON	VAL		RIGHT\$
POINT		LOG	VARTR		HEX\$
POKE		CONT	>		DLOAD
POS		USR	<		FN
PPOINT		TIMER	=		RENUM
PRESET		*	↑		PCOPY
PSET		-			
PUT		<			

Last month we also forgot to mention that the comma is the same on both machines.

Happy converting!



# BOOKSHELF

## ANATOMY OF THE DRAGON

by Mike James (Sigma Technical Press) £6.95

Ye Gods - a Mike James book from Sigma at last! The 'Advanced BASIC' one has arrived (only 3 months late) and we got the "retitle" wrong. This one is 'Anatomy of the Dragon' and the '6809 Assembler' will be 'Language of the Dragon.' Hopefully, the latter will arrive shortly.

So was the wait worthwhile? In our view, the answer is an emphatic "Yes"! 'Anatomy of the Dragon' is essential for the bookshelf of any D32 owner with the least interest in programming and is equally essential for anyone who wants to know how his/her Dragon works.

The book is well structured, commencing with a review of what you should know before you dive into it and a review of what is to be covered. Chapter 2 is a revelation if you lack hardware knowledge. It clearly (but concisely) explains the way the machine ticks and, for the first time in any Dragon book we have read, explains how the dynamic RAM chips used differ from the more common static RAM chips. The TV display is analysed and the relationship between the 6809, 6883 (SAM) and 6847 chips is well explained. The 6821 PIA chips are covered in some detail (again a first, to the best of our knowledge), giving a better understanding of input and output. Finally, a complete block diagram of the full Dragon system and a memory map outline should provide you with a much deeper understanding of how your BASIC programs operate.

The following two chapters, covering Text and Low Res Graphics and High Res Graphics respectively, cover familiar ground, but in detail, which not only provides deeper insight than usual, but which points you towards "experimental" programming (e.g. the various semi-graphics modes, not available from BASIC, but which can be set by subroutines.) Throughout these two chapters, Mike's understanding of the chips and low level code shines through the explanations and your understanding of graphics programming should leap forward 100%. Anyone who doesn't know how to have nine colours on the screen at once will benefit from these chapters.

Mike then reviews Dragon sound and answers many of the questions, which we asked when we first heard the utterly fantastic music produced by machine code in Microdeal's 'Jukebox' sequence of their 'Composer' tape (we were totally unaware that the Dragon could produce sounds like that.) Again, Mike's deep understanding of the 4529 chip provides in-depth programming advice.

Chapter 6 takes you into advanced graphics, with the best and most detailed explanation of GET and PUT usage we have read.

Chapter 7, 'Interfacing', contains enough detail to be worth expansion into a book per se. The Dragon PIA's are examined in depth and (via some introductory machine code coaching) most significant interfacing with external hardware (keyboard, printer, recorder, etc.) is explained in a way which gives insight into the relevant programming.

Chapter 8 takes you inside BASIC and points you on the road to altering (via software) the way that BASIC works, adding new commands or saving memory or time. Here Mike enters the "grey area" where BASIC overlaps code and the final section of the book takes you painlessly into the world of assembler.

Chapter 9 ('Introduction to 6809 Assembler and Machine Code') is the best introduction to Dragon assembler that we have seen and we can't wait for the second of the Sigma issues to appear to continue the lesson!

The book closes with Appendices covering 6847, 6821 and 6883 pin connections and a complete list of SAM address pairs. A final Appendix lists the 15 graphics modes with SAM and PIA data and, if you feel that you know it all, check that you understand all the following graphics modes:

ALPHANUM	1F
ALPHA INV	1T
SEMI-G4	2F
SEMI-G6	Pmode 0
8 SEMI-G8	Pmode 1
2 SEMI-G12	Pmode 2
SEMI-G24	Pmode 3
	Pmode 4

When we first saw 'Anatomy of the Dragon' we felt that it looked a bit slim for £6.95. We now know that the 138 pages of text contain nothing but hard "gen", no waffle or padding and more information than books four times the size! We also feel that it's worth every last penny.

Here at the Dungeon, we think that this is the most important Dragon book published to date and consider it an absolute must for any serious Dragon owner.

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### SOFTWARE NEWS

Morrison Micros continue their machine-code publications with their best yet, 'Crusader' (£6.95.) With a vaguely 'Hunchback' parentage, this game has graphics which approach Tom Mix standards and eight screens. The arcade play shows a Crusader ascending the castle steps and follows his journey along the walls. Hazards include a marching band of scorpions, moats to be crossed by "Bosun's Chair" and sea inlets filled with what we take to be pirhanas! Great fun and very hard. We are told that nobody except Mr. Morrison knows what screen eight is - nobody has survived that long yet.

Peaksoft have announced 'S.A.S.', which starts where Quicksilva's 'Mined Out' finishes. Minefields, searching helicopter gunships, "frag" grenades, wire-guided missiles and some quite eerie night-fighting sequences, all add up to a game which makes Virgin's 'Yomp' look quite amateur. Priced at £6.95, 'S.A.S.' will be launched around 20th September.

Tiger Software have just launched an educational game "Tiger Grand Prix", which has an enormous databank of general knowledge questions. Correct answers move your car around a racecourse. We hope to publish a detailed review as soon as possible.



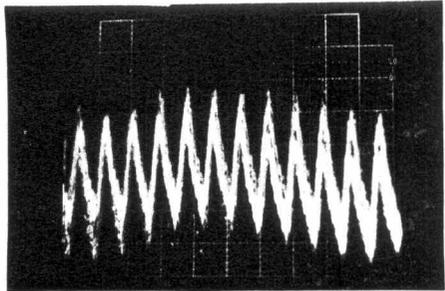
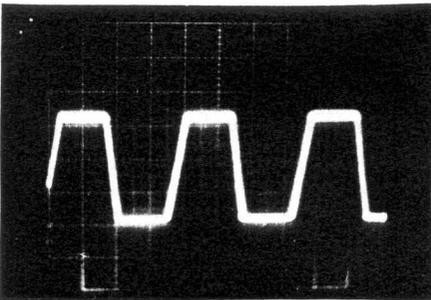
# COUSINS

## THE U.S. 6809 SCENE

- Rumours abound in the U.S. of a new CoCo chip, which is under development to provide 700 x 500 pixel hi-res and a 64 character screen display. Nothing amazing there, but the story that the chip provides a 4,000 colour capability sets you back a bit! Pie in the sky?

- Adventure International have converted 'Sea Dragon' for the CoCo and we may yet see a Dragon version. For those of you who haven't seen the Apple or Atari versions, this is a sort of undersea 'Skramble', with the "roof" the surface of the sea part of the time and undersea caves providing a true 'Skramble' scenario.

- The following photos published in 'Hot CoCo' support our view that many of the loading problems reported to us relate to poor cleaning schedules of the read/write head on recorders. Both are taken from the same tape source, but the one on the left is a clean head. This should make you think "when did I last clean the head?"



- Would you believe that there is a Chattanooga Choo Choo Software house?

- Instant Software have just published 'Mountain Pilot', which sounds to be an interesting flight simulation. In this one your single-seater has a ceiling of several hundred feet below the height of the mountain range involved!

- Britt Monk has just issued 'Strip Tease', described as a CoCo "diversion for mature gentlemen": They advertise that the cassette will be sent in a Plain Brown Wrapper!

- An interesting new CoCo joystick has emerged from Micro Solutions Inc. This features dual-axis trim controls (which permit you to fine-tune the cursor positioning) and a recessed toggle switch, which selects either "free-floating" or "self-centering" modes. Not bad for \$60.

- For those of you who have enquired who supplies FLEX in the U.S.A., we should point out that there are no less than four FLEX systems available for

the Color Computer, viz:

- a) Atomic City Electronics (closest to the original FLEX09)
- b) Data Comp (F-MATE, with some unusual utilities)
- c) Spectral Associates (FLEX +, a system that differs considerably from the others)
- d) Frank Hogg Laboratory (COLOR FLEX)

The last named is the best-known, widest-used and, by all reports, best supported. It is also reported as the easiest to use.

- Computerware have brought out a piece of software, the 'Synther-7', which turns the CoCo into a musical instrument (the keyboard plays like an electronic organ.)

- Prickly-Pear Software's 'Shaft' seems to be creating a stir. In this arcade game, the screen consists of eight lift shafts, with the lifts rising and falling. The object is to get your man across the screen without getting trapped under a descending lift and getting messily squashed. Make it to the other side and a lift comes down to take you up a flight to the next floor (where the lifts move faster.)

## REVIEW

DRAGON DOODLES & DEMOS (Automata U.K. Ltd.) Price £5.00 - by Gareth Hurfurt

This program comes complete with a four-page instruction sheet. The tape is in two parts, the first being a demonstration sequence.

The Demo program shows off the excellent graphical capability of the Dragon. Altogether there are seven demos, including one using the Text Screen.

- DEMO 1 - Kaleidascope. This uses the Text Screen and makes good use of the limited graphics on the text screen, using the CHR\$ command. Even though it uses only these graphics, it produced a nice kaleidascope effect.
- 2 - Ringo. This uses the Hi-Res screen, as do all the rest of the demos. It draws various sized circles and paints in and around them. This is not spectacular, but shows the Paint and Basic Circle commands.
  - 3 - Random Ellipses. This shows off the Circle Command to a greater extent, producing ellipses and creating global effects.
  - 4 - 3D Boxes. This produces a sequence of square spirals and creates a 3D tunnel effect (similar to the 3D maze games.) It also paints the surrounding areas in various colours.
  - 5 - Spiders Web. The Spiders Web Demo draws a square and rotates it clockwise, as it slowly shrinks. There are quite a few variations of this effect and to me this Demo was the best of them all.
  - 6 - Hyperbolic Parabolas. This generates hyperbolic parabolas as envelopes of straight lines.
  - 7 - Twist. This twists lines around one point, producing various patterns, including curves.

This is a very good demonstration program, but these effects are not available on the Doodles program, so don't be misled when you see the Demos running.

Now to the Doodles program. This can be loaded via the Demos program or CLOADED direct.

When the program starts you are asked whether you want to use the keys or joystick but, contrary to the instructions, the right joystick is used and not the left-hand one as stated. Using the keys, you gain more control than with the joystick.

The program starts in PMODE4 and at the middle of the screen there is a flashing cursor. To move the dot use the arrow keys or joystick, but at first it doesn't leave a trace. To draw on the screen press 'D', then you can draw in any direction using 1, 2, 9, 0 to draw NE, SE, SW, NW respectively. You can speed up your movement by pressing 'F' and to jump across the screen press 'M'. 'V' puts the machine into continuous drawing mode and you return to normal one-step drawing by pressing 'N'. An interesting feature is the ability to draw dotted lines. When this is selected (by pressing 'W') you are asked what length you want the dash and what length you want the gap. To return to normal drawing mode press 'R'.

To draw lines at angles or rectangles, press 'L'. You are asked if you want a line or a rectangle and if the latter is chosen you are asked whether you want to paint the rectangle. To draw the line or rectangle, position the point in one corner and press 'A' and then in the opposite corner and press 'B' and the line/rectangle will be drawn.

By pressing 'C' you can draw circles and this uses all of the Circle Commands available; ellipses, colour, start and finish points. When the circle is drawn it can be repeated by pressing <ENTER> and the circle will be repeated using the cursor as centre. The start and finish points determine how much of the circle is drawn, e.g. Start = 0 Finish = 5 - half the circle would be drawn.

Other facilities available include Change Mode, Paint, Clear Screen, Change Page and Save Screen Areas in memory.

The Save Screen on tape facility is called up by 'S'. The information is saved as Data, which takes several minutes to save. A much shorter method is to save memory locations on the screen. To do this, press <BREAK>, position your tape and type: CSAVEM"SCREEN",1536,7679,6144. Then press PLAY & RECORD on your tape recorder and press ENTER. This takes approximately 50 seconds to save. To load the screen back into the machine, load the 'Doodles' program then type: CLOADM"SCREEN" <ENTER>. When it has loaded, run the 'Doodles' program, but do not clear the screen when you are asked to at the start.

This method is much quicker and could easily have been used, instead of the lengthy method recommended.

This cassette is more of an entertainment program than a utility program, since characters designed cannot be saved and used again in a different area on the screen. They have to be drawn again.

£5 is a reasonable price for this tape, as it includes a Demo program, but it is not much use to programmers wanting to use it as a utility and extract characters that they have drawn.

# COMPETITION

## A YEAR'S FREE SOFTWARE - RESULTS

Only two of you managed to come up with the correct answer to this three-part competition, so we have decided to give two prizes.

Our answers ran: May - 4,147  
June - 32,547,891 (see below)  
July - 121

Actually, we boomed on the June competition, which had no less than 87 possible answers! About one-third of these produced the correct July result, but the rest produced non-palindromic numbers between 112 and 130.

First prize must go to Steve Randall of Hornchurch, who sent a full printout of the 87 possible results to June and who was a clear week ahead of the second solution to arrive. One free tape per month to Mr. Randall over the next year!

Second prize (six months' free tapes) goes to Mr. B. Beesley of Eastleigh, who came up with one of the alternatives to June (in his case 21578943.)

Incidentally, Mr. Randall reckoned that he took approximately 90 minutes to program each of his solutions!

## "QUICKIE" RESULTS

The longest QWERTIES (unless you know different) are WETTISH and CHAPPIE.

## AUGUST COMPETITION

Clive Gifford was playing five-card poker, when he was dealt a very poor hand. All four suits were represented, but he hadn't a single face-card. No three cards were in sequence and the lowest card was a heart. The spades totalled 14 and all the red cards totalled 10. Interestingly, the sums of the odd-numbered and even-numbered cards were equal.

What was Clive's hand?

(One free cassette up to £15 in value to the winner.)

\*\*\*\*\*

## ZAP'S BIT & M/C CORNER

Run out of space again! Zap and M/C will be back next month, we promise!

To those of you who suggest enlarging "Dragon's Teeth", we confirm that we'd like to, but just about break even on 28 pages.

# TIPS

(From Peter Whittacker, 96 Upper Holly Walk, Leamington Spa, Warwicks.)

I am writing with a tip concerning the loading of programs on the Dragon 32. However, this is NOT another method of obtaining failsafe loadings, but of avoiding the dreaded "Green Screen Eye Strain" that is caused by the uninteresting way in which the Dragon loads programs.

Many people must be familiar with the way it is possible for machine code programs to load a fancy title screen whilst loading the main program (and to display it on the text screen.) It is not possible to do this with a Basic program. However, it is possible to "fool" the computer into "thinking" that it is loading a machine code program and only afterwards tell it that it has loaded a Basic program.

The start and end addresses of Basic programs in memory are stored at addresses (25 & 26) and (27 & 28). The program is stored between these two addresses as a long lot of numbers between 0 and 255. (Just like machine code.)

If we save the values stored between those two addresses as a machine code program and record the addresses of the program pointers (25-28) we can achieve some fancy program loading:-

- 1) Write a program to draw a pretty picture or fancy title page on the text screen; and to then save it to tape. The last line of your program should be:

```
9999 CSAVEM "---", 1023, 1535, (1535-1023).
```

RUN this program.

- 2) Unless you have graphics screens that you have reserved and also want to save to tape, enter POKE 25,6 : NEW to achieve a PCLEAR 0.  
This sets the program space to start immediately after the text screen.

- 3) CLOAD "BASIC PROGRAM" - load in your main program.

- 4) Enter ? A=VAL("&H" + HEX\$(peek(27)) + HEX\$(PEEK(28)))

and record the value of A.

- 5) Rewind tape to the start of your saved title screen.

- 6) Enter CLOADM : SOUND 100,3 :  
EXEC 41194 :  
CSAVEM " ", 1023, A, (A - 1023):  
CSAVEM " ", 25, 28, (28-25)

substitute the value recorded for A.

- 7) On the SOUND set the tape to RECORD and press any key.

- 8) Once CSAVEM'd, rewind the tape to the start of this CSAVEMing and enter

```
CLOADM : CLOADM : RUN
```

to test.

Happy loading and no more Green Screen Eye Strain.

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