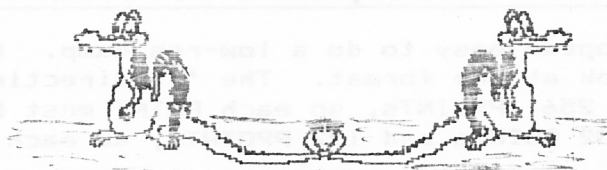


The Newsletter of the National Dragon Users Group

DRAGON



UPDATE

* ISSUE 62. 'Back To Normal.' OCTOBER 1989. *

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The Gaffer's Bit

There isn't much news this month, and most of it is bad. For all practical purposes, the Siegfried Computer Gruppe is dead, or will be by the time you read this. Cause of death, apathy. What will happen to the hardware side of things I don't yet know, but what was probably the best of the Dragon amateur magazines has now ceased publication, and the Gruppe is effectively finished. The Norwegian group also made it to the obituary column a little while ago for very similar reasons. Simon Jones has now quit the New Era/6809 User scene completely, and although it has been taken over by Roger Quaintance it's future looks very uncertain. Andrew Hill is still trying to sell off the software side of Dragonfire Services, and it appears that future issues of Dragon Magazine will be on an "as and when possible" basis. Howard Knight tells me that unless KOS sales improve by the end of the year they will have to "reconsider their position". The Group will NOT be taking a stand at the Sheffield Alternative Micro Show as only ONE person bothered to contact me to volunteer to run a stand there (and he was a Tandy owner!). Subscription renewals are down to about 60% over the past couple of months. We have received enough material during the same period to ensure that the next Update is almost two pages long. Depressing, isn't it?, but you've no-one to blame but yourselves now there's no "Pirates", no "competition from other machines", just YOU, and if I decide to follow the example of the others don't bother to complain because you won't like the answer you'll get! Think about it, and then DO something about it, but don't waste TOO much time in thought or you may find you've left it all too late.

Paul

The Editor's Bit

'Back To Normal'? Why did I write that? We will only be returning to normal when we find out what is normal anyway, and seeing as this user group is definitely NOT normal, we won't be getting there for the foreseeable future.

Surprise, surprise, nothing interesting has happened over the last few months...

Except seeing Batman a few more times. (That's "interesting"? . P.G.) @ It was the bit I liked most.

Then, of course, I had to come home and do this issue. Well, life's a bitch... I must have been totally out of my mind to take on this job. Hello there, Barry, Tim... fancy a job? Thought not. If anyone gets this job in the future, please remember that being insane is an ESSENTIAL qualification. You have GOT to be totally loopy to do it. And, as The Joker says...

"It can truly be said that I have a bat in my belfry."

Stephen.

Low-Res Screen Dumps...Mike Townsend.

It may, at first, appear easy to do a low-res dump. Only 64 by 32 POINTS...! Well, let's have a look at the format. The 'X' direction has 64 POINTS, the high-res screen has 256 PPOINTS, so each POINT must be four PPOINTS across. The 'Y' direction has 32 POINTS and 192 PPOINTS, so each POINT is six PPOINTS down.

Most printers have eight pins in the 'Y' direction so you could use the top 6 pins only and set the line feed to 6/72", but by far the easiest way is to turn the picture sideways and print 2 POINTS at a time, so this is what we are going to do here

In line 10, I've filled the screen with CHR\$(134)s, you can replace this line with a routine that draws the low-res design of your choice. I've POKEd it to the screen because you can't PRINT@511. If your Dragon won't handle double speed, remove the POKEs from lines 20 and 120.

Line 60 scans the picture from bottom left to top left.

Line 70 gathers the info for the top four pins and Line 80 for the bottom four. For simplicity, I've ignored anything that is not black, so you can't get text or different shades for the colours.

Line 90 adds the top four and bottom four pins together and prints it 6 times side by side.

the line feed command in Line 100 causes the first line to get printed and the paper to feed up by 6/72" ready for the next line.

Line 110 increments x by 2 and keeps going until we reach the righthand side of the screen.

I'm sure you can see that it would be very easy to halve the size of the dump by treating each POINT as a 2 by 3 format. Then simply change the 240 in Line 70 to read 192, the 15 in Line 80 to read 48, and then add:-

```
84 C=POINT(X+2,Y):IF C<>0 THEN C=0 ELSE C=12
86 D=POINT(X+3,Y):IF D<>0 THEN D=0 ELSE D=3
90 E=A+B+C+D:FOR T=1 TO 3:PRINT#-2,CHR$(E);:NEXT T,Y
```

In Line 110, change +2 to +4.

Double size? Change the 240 in line 70 to 255. DELEte line 80. Replace 90 with:-

```
90 FOR T=1 TO 12:PRINT#-2,CHR$(A);:NEXT T,Y
and, in line 110, X=X+1
```

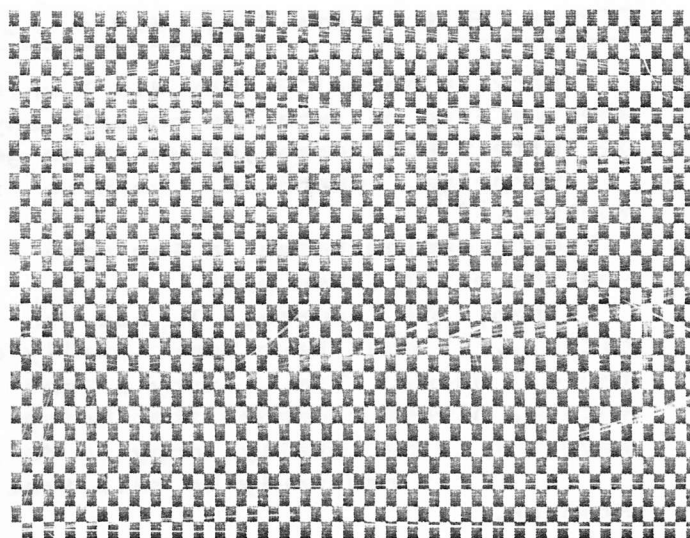
Any problems, drop me a line and I'll try and help:-

41, Hereford Street, Presteigne, Powys. LD88 2AT.

or 0544 260178 (9pm to midnight), or PRESTEL 105447385.

Mike.

```
_10 CLS:FOR T=1024 TO 1535:POKE T,134:NEXT
20 POKE 65495,0:X=0
30 PRINT#-2,CHR$(27);"e"
40 PRINT#-2,CHR$(27);"P";CHR$(0);
50 PRINT#-2,CHR$(27);"K";CHR$(0);CHR$(0);CHR$(0);
60 FOR Y=31 TO 0 STEP -1
70 A=POINT(X,Y):IF A<0 THEN A=0 ELSE A=240
80 B=POINT(X+1,Y):IF B<0 THEN B=0 ELSE B=15
90 C=A+B:FOR T=1 TO 6:PRINT#-2,CHR$(C);:NEXT T,Y
100 PRINT#-2,CHR$(27);CHR$(65);CHR$(0);PRINT#-2,CHR$(10);
110 X=X+2:IF X>63 THEN 120 ELSE 50
120 POKE 65494,0
```



Fishy Business Six...

Fraternal greetings, non-aquatic beings. Yes, it is I, D.T.I.G.G., with another round of red hot news and views from the blossoming world of Dragon games. So, what's new then? Well, naff all as far as I know. As ever, there doesn't seem to be anything new on offer. But are you downheartened? No? Well I'm afraid you'd better prepare yourself to be, because in another bowel-shattering exclusive, I can reveal that Stewart Orchard (**Winner of the film comp some months back, readers...SW**), author of ROTABB and Balldozer, had ceased work on his latest game and will no longer be writing for the Dragon. Another one bites the dust, eh?

Never mind, you can still buy all Kouga releases (ie Mandragore, Balldozer, and ROTABB, all at 6.00 I think, but then I'm not too sure as I've never seen a Kouga ad...) from John Foster at 94, The Oval, Firth Park, Sheffield, S5 6SP. While we're plugging companies, Dragonfire are: Unit 3, Rising Sun Enterprise Centre, Blaina, Gwent, NP3 3JW, and Pulser operate from 36, Foxhill, High Crompton, Shaw, Oldham, OL2 7NQ. John Penn advertise regularly so I won't trouble you with their address and make them think they've wasted their money. Of course, the point of this is that these companies need you cash, and fast. The reason Stewart got out was because the money was not worth the effort - at present only about 20 copies of ROTABB have been sold. Are you all stupid? How can you not buy this game?! It's too good to miss, and now that you have the address and the price, you've no excuse not to buy it! Or, for that matter, any of the other games presently kicking around. Believe me, despite the present slump, there's still some really classy software around at ridiculously low prices. What are you waiting for? Get that cheque book out now!!! Let's face it, if you don't do it soon, there won't be anything to buy, as the writers will quite rightly go the same way as S.O.

Then again, for all I know there may well be none of you out there. Judging from the amount of mail I've received (ie zilch) this is the case. ONE LAST APPEAL - write to me, or before long DTIGG will join the ranks of the Dodo. At present, I really want to hear from any Germans as (1) I'm doing A Level German and need the practice, and (2) I've heard that German Dragon owners are the most active in existence. So, SCHREIB BALD, BITTE! The address is: The Vicarage, Norwich Road, Watton, Thetford, Norfolk, IP25 6DB. I'm not joking, if you don't start writing, then I am regrettably finished and there'll be no dedicated fun column in D.U., and what would you do then (any mention of champagne or balloons will be treated with severe contempt).

Well, that's about it I'm afraid. Don't forget this month's two golden rules... 1: Buy lots of games, and 2: Write me lots of letters. Anyway, next month's column is a definite date, but after that, unless the games market suddenly dramatically revives, it's down to you. Got it? Very good, at ease...dismiss!

SETTER - REVIEWED BY R. SUDDER.

This program provides excellent screens to allow the setting up of either monitor or TV screens. To echo the warning in the program introduction -- this program is not for the amateur twiddler. The documentation for this program is excellent. S. Ed. - I used this program to help get a near perfect picture from what was thought to be a broken Dragon just by running Setter and adjusting the pots. P.S. If you are unsure about the pots then do not attempt to touch them. Setter is available on cassette or DragonDos/Superdos disc for 2.50 including postage.

Radio/Electronics Programs... D. Cadman.**RAE MATHS TESTER.**

This program does not pretend to teach but rather to test your knowledge of the electronic calculations required when sitting the Radio Amateur Examination. You will need the accuracy of a calculator for this one. Since you are allowed the use of a calculator during the exam, it is perhaps as well that this program is so accurate. There are 24 different types of question and an unlimited number of questions on any type, using the RND command. In addition to the obvious, the program deals with frequency, reactance, dB, ratios, dBW, resonance and impedance. A useful program to have is you are thinking of studying for the RAE, or if you wish to keep the grey matter ticking over once you have passed. I would have liked to see more use made of the HELP option in case you got stuck.

LOGIC TRAINER.

This program will introduce you to the world of logic as applied in electronics.

First run through the symbols and truth tables for AND, NAND, OR, NOR, XOR and XNOR gates; the next part of the program displays combinations of the devices and you are asked to enter the input and output logic. Having completed the screen you will then be told where you went wrong by the introduction of small arrows pointing to the error. Finally, your correct entries will be recorded in the form of a score and percentage. If you know nothing of Boolean Logic then a few hours with this program will put you in the picture. Nicely written, easy to use and understand.

RESISTOR COLOUR CODES.

A program that will be of benefit to those not conversant with the standard resistor colour code. It can be used in three ways. The first is a continuous running demo, the second will allow you to set your own colours and it will give the value and with the third, you can set the value and the colours will be displayed. The program is not tied down to the preferred values of E12 or E24, thus enabling you to test yourself with outlandish values. A well thought out program, could be of value to sort out a mixed bag of resistors bought at a rally. With practice I'm sure you'll be diving into the sam bag for a 47K and recognising Yellow, Violet, Orange on sight.

All these programs utilise Rainbow Writer, each call up RW42. The screen used is 1,0, which can be a bit trying if using a colour TV. All programs make use of graphics. Each program costs 4.99 plus 50p P&P from Sunnysoft, 20, Church St., Ilfracombe, N.Devon.EX34 8HB. All proceeds from RAE Maths Tester and any profit from the others goes to the Ilfracombe Animal Rescue Centre,

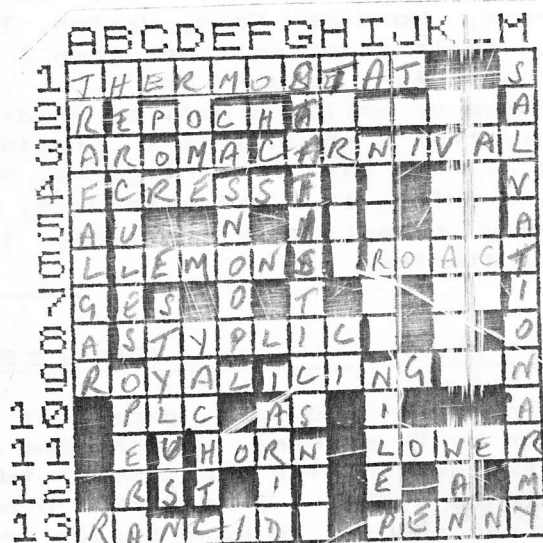
Crossword 46 by David Bateman.**ACROSS:**

1A, Device for controlling temperature. 2B, Beginning of an era. 2G, Semi-precious stone usually yellow. 3A, Sweet smelling fragrance. 3F, Colourful street procession. 4B, Leafy plant usually associated with mustard. 6B, Stir up a melon to get something bitter. 6I, Fresh water fish. 8B, Substance that checks bleeding as in pencil used by wet shavers. 9A/10B, Britannia is one. 9F, Cake covering. 11B, Vehicular warning device. 11I, To let down gradually. 13A, Smelling & tasting like stale fat. 13I, Cash ~~sum~~ paid for what you are thinking.

DOWN:

A1, Famous London Square. B1, Mythological Greek hero renowned for his strength. B9, Musical play. C7, Device for picking up audio signals from a record. D1, They say this place wasn't built in a day. D8, See 9A. E4, Pry inquisitively. F1B, Dry, parched, desert-like. G1, Figures, from which experts can prove almost anything! G11, Born in France, perhaps. H1, Twisting or rotary force. I3, Plant which injects noxious substances through hairs on its stem. I9, Famous river. K4, Small blue flower found in spectrum. K11, Pale, sickly looking. L2, Devoid of any air. M1, Famous religious order with hostels, bands, etc.

Entries to Paul Grade as usual. First two all correct entries out of the box get a program from the current Dragonfire list or a games tape from our collection.



Although it has been a two month gap between articles this time I'm afraid that I have not got much software news for you. A new writer, Alexander Lia, has sent me a copy of his program "HI-SCORE" for review. This is a database which allows you to keep a record of your outstanding achievements at all those games you play and he intends to offer it for sale to other members through the classified column for 2.50. Those of you who read the Jet Set Willy+ review in August will have read Keith Stuart's comments on having to use the original JSW graphics and he said, "This is not really a realistic request considering the limited memory." Well, Paul Burgin has come up with JSW+ GRAPHICS which will enable just this although you do need to have JSW+ as well. This will cost 3.00 or 5.00 for both editors. Seeing as Keith gave JSW+ a good looking into I am sending him this program to review as well. Paul Burgin is reducing the price of all his software (10th Dimension) which are all on cassette. He also tells me that is still providing "Hacking Sheets" and has a number of programs which are available on receipt of a blank cassette and return postage.

Pulser Software have just sent me a copy of their latest brochure which includes screen dumps from most of their programs. They have got a rather extensive number of titles now that they have "squeezed Orange". Just as long as you don't start giving me the pip, Brian! Seriously, Pulser inform me that they have a fair amount of hardware for sale and also have a number of new titles nearing completion.

Knight Computer Services have at least one new piece of software almost ready but are considering dropping work on their new game because another writer is working on the same idea. Personally I would like to see both released and let the punter decide which is worth buying, although I do realise that there is only a small market for one version never mind two.

That is about all the software news really. To those people who have written to me in the last couple of months offering help with reviewing I can only say "Be Patient" and I will get round to you eventually when I get the software in for review (That even applies to the lad who wrote and forgot to include his address - I found it out by myself.)

The reduced number of items of software has helped me in a way as I now go to College every Tuesday for Accountancy from 2PM to 9PM and do not get home until about 10PM as two of you found out last week (several weeks ago by the time you read this) and I also have quite a lot of homework to do. At one time I thought I might have to give up this well-paid job of Software Editor (Space left for comments, Paul) due to the amount of time it takes but up to now I am hoping that I will be able to cope.

@ Whilst writing this article I had a phone call from a member who is interested in buying a CO-CO3 (me too, from what I have read about it in Rainbow). He wonders whether anybody in the North West has got one so that he could have a look at it before he decides to send his money off to the States for one.

In my last article I said that nobody appeared to be stuck in adventures any more and I had a letter from R. Cleminson who runs the adventure column in 6809 USER who suggested I make some problems up myself to awaken interest. Thanks, anyway, R. for taking the trouble to write to me but the only question not from a reader that I am prepared to print is "Is anybody out there?" LATE NEWS: Just arrived from Dragonfire is news that Intelligent Database has been released. Unfortunately there is no review copy and price is TBA but I look forward to this program with great interest.

ZOTOKA - REVIEWED BY STEVEN GREEN

I did not like the idea of the instructions on tape because after a few hours of playing time you are bound to forget what means what. That aside they were well thought out and on easy on the eyes screen, black writing on white background. The game itself was also on that screen so again easy to read. Basically you are god of an island and as such rule over a period of time chosen by yourself (5-20 years) and as difficult as you wish (levels 1-3) and apart from civil uprising, hurricanes and invaders your task is dead easy. No it isn't, you keep too much food or not enough or too many in your army or not enough and so on. Though I have not used a tape for ages I do remember the dreaded I/O ERROR but, no, this tape loaded both sides straight away. One problem I had was having the Dos in but once unplugged I was off and running. Not my cup of tea but if you are into these sort of games this must be in your collection.

Zotoka available from R & A J Preston, Kings Hall Court, St. Brides Major, Mid Glamorgan, CF32 8SE but no price sent with review copy.

AUTORUN II - REVIEW BY PETER THEAKSTONE

When I was given this programme to review I thought "What a useful programming aid this could be" and I was right. When first loaded in I was a bit bemused when it would not accept TOPMEM in hex or the usual location but realising the actual amount in K was required I proceeded onwards. The menus are easy to use and I like the idea of saving the screen to tape so that a library of screens can be built up. The graphics mode takes time to get used to and so do the colours but if you persist you can create some interesting autorun screens. The programme could be improved slightly with the use of the joystick instead of the arrow keys and a little more written instruction would I think be helpful and also a sample screen. On the whole this is a useful tool for any programmer no matter what their ability.

Autorun II available from R & A J Preston, Kings Hall Court, St Brides Major, Mid Glamorgan, CF32 8SE.

OLYMPIA - REVIEWED BY PHIL CHATFIELD

On reading the instructions for this challenging game I must admit to feeling a little uneasy about playing it at all. The reason for this hesitancy was due to the requirement of pushing the necessary key(s) as rapidly as possible. As someone who has always cherished their Dragon I had a fear of bashing my poor keyboard to death in order to succeed in the events. To a large extent my fears were not realised. It is quite possible to succeed by pushing the key(s) rapidly but NOT firmly. However, the life of a keyboard seems to be quoted as X number of key pushes so perhaps even gently is a worry as every one hundred yard sprint takes a good few depressions, in more ways than one! On a positive note you very soon realise that a good deal of skill and exact timing is required to achieve the qualifying times and distances. After eventually succeeding in any given event you can then, of course, go on to better your best. Having done that you can then go on to better the performance of your arch rival, 'The Dragon'. Another quality needed to succeed is coordination. In the events where you set the angle of throw/jump this is critical. It is true to say, I think, that the graphics in most of the events are good but basic. The reason for the "I think" qualification being that you are usually so busy looking at the speed and angle indicators that the remainder of the screen goes unnoticed. All in all an entertaining game requiring a lot of skill and a 'play again' for anyone with a competitive spirit. I suppose that if you really get good enough you could even look at the graphics! I'm afraid that I don't know how much this costs but it is worth having in your collection as long as you go easy on the keyboard.

Olympia available from R & A J Preston, St. Brides Major, Mid Glamorgan, CF32 8SE but no price quoted with review copy.

Tandy Reviews... Martin Layley.

MULTIPAK UPGRADE - Radio Shack, price \$12.00

This is a 74LS10 with a decoupling capacitor and a pullup resistor, on a small PCB. (See diagram below.)

The Tandy technical bulletin says:-

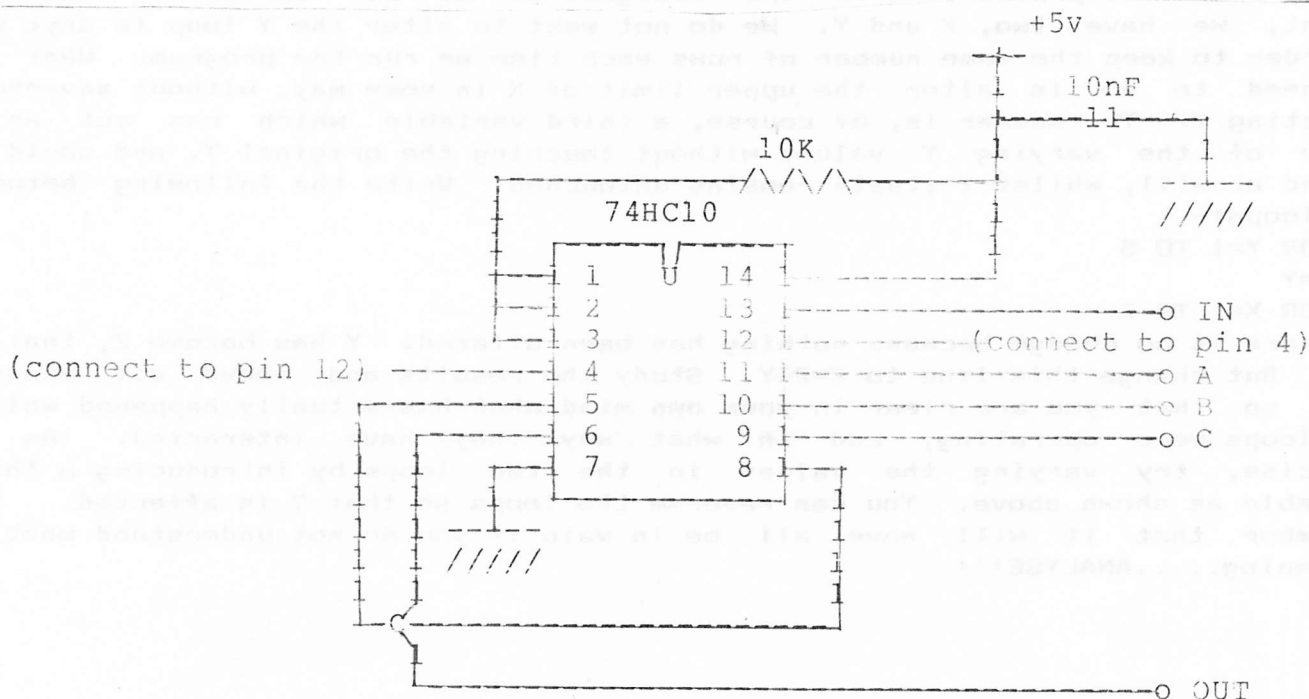
- 1) Remove the three screws holding the logic board to the bottom case. Remove all the metal clips holding the shield to the PCB. This is to avoid melting it.
- 2) Cut the trace coming from pin 52 of IC6 that connects this pin to pin 19 of IC1.
- 3) Connect A, B and C to IC4 pins 3, 9 and 11. Any order will do.
- 4) Connect IN to IC6 pin 52, being careful not to short the leads.
- 5) Connect OUT to IC1 pin 19.
- 6) Connect +5V to IC5 pin 16, connect ground to IC5 pin 7.
- 7) Replace the shield and two of the logic board screws - the one near the power switch, and the one near the selector switch.
- 8) Cut 3/8" of the end of a disposable biro. Using a screw of suitable length, use this as a standoff, to mount your circuit over IC6 so that it is not touching anything. This is the only place where there is room.
- 9) Replace the case, and test that each slot in the MPI still works.

The reason for this is because the MPI does not fully decode the CoCo's address bus, and one of the chips inside the CoCo3 overlaps slightly. This extra chip cuts the space taken up by the MPI by three quarters.

I bought my adaptor from Radio Shack (US), thinking it was a change of chip (it is for older MultiPak Interfaces). It turned out to be a 74HC10 with a resistor and a decoupling capacitor on a small scrap of PCB, with a small plastic spacer and a longer screw - but no instructions. These I had to ask for separately! Anyway, it is fitted, and I haven't had any crashes.

CONCLUSION:

I got mine because I had heard that the CoCo3/MPI combination was prone to crashing sporadically, and that this was supposed to be the cure. There have not been any problems with this circuit fitted, but I have never used the CoCo3/MPI combination for more than a few seconds without it, so I don't know whether it is necessary.



FOR...NEXT Loop (5) ... J.M. Winchurch.

To kick off with, the solution to last month's problem. The X loop had a variable upper limit, and the only other value in the program that was varying, and in direct relationship with X, was Y. So, if we were to write FOR X=1 TO Y, the upper limit of X will be different at each Y loop. Firstly, the X loop would be 1 TO 1, then it would become 1 TO 2, and so on until it reached, at the final Y loop, FOR X=1 TO 5. If we take this variable upper limit of X and do things to it before it is substituted in the FOR...NEXT loop, we are able to vary the screen display. Study the basic program again:-

```
FOR Y=1 TO 5
***** Before Y gets put into the X loop, vary it a second time.
          Be careful, though, that you do not affect the basic Y
          loop, or strange results may ensue.

FOR X=1 TO Y
PRINT "*";
NEXT X
PRINT
NEXT Y
```

For example, if you tried the following and substituted it where you see the ***** above, what would the display be like?

```
LET Y=2*Y
```

Now ask yourself, why is it like this? Of course, the Y loop has been tampered with. What if you required the display shown below:-

```
*
**
***
*****
*****
and so on...
```

The number of * is doubled in each line. The previous program did not achieve this, although we had apparently doubled the Y value. The mistake is a simple one. The problem lies in the designation of our variables. At the moment, we have two, X and Y. We do not want to alter the Y loop in any way in order to keep the same number of rows each time we run the program. What we DO need to do is alter the upper limit of X in some way, without adversely affecting Y. The answer is, of course, a third variable which can act as a store of the varying Y values without touching the original Y, and could be varied at will, whilst Y itself remains untouched. Write the following between the loops:-

```
FOR Y=1 TO 5
Z=Y
FOR X=1 TO Z
```

There is no change because nothing has been altered. Y has become Z, that is all. But change this line to Z=2*Y. Study the results and above all analyse them so that you are clear in your own mind what has actually happened whilst the loops were operating, and in what way they have interacted. As an exercise, try varying the values in the two loops by introducing a third variable as shown above. You can reverse the loops so that Y is affected. But remember that it will have all be in vain if you do not understand what is happening.....ANALYSE!!!

The Editor's Late Bit...

Right, just for once, I'd thought I'd write a whole page of "editorial comment" to make a change from my usual quarter-page.

OK, so that was a lie. This whole page of moi is a thinly veiled disguise to ask for more articles, please. We all had a bit of a holiday last month, even the regulars got some time off for good behaviour (except Paul of course, ha, ha, ha), but now we're back into the 'swing' of things with a full issue, so we need to get the articles back in. You may have noticed that there is no 'CoCo Matters' this month. I don't know why, maybe Chris has missed the post. I hope to have it back again in time for next month. Now I've finished moaning, I'll do what Paul does every month and talk about something totally irrelevant to computers. Now, what could I talk about? Television? Too dull. Music? Too dull. Films?

Films. OK, so let's talk films. Batman. This film is really damn excellent. I like it so much that I could do what Dudley The Incredible Gamesplaying Goldfish did with Revenge Of The Alien Bongo Beast In The Crissy-Crossy Lines Dimension (was that a good waste of lines or what!) and go totally ape over it. But, being of a more restrained character, I'll contain myself to saying "Go and see it, like I've done five times". I've read a review of Batman which claims that Jack Nicholson's stunning performance was "mechanical". No prizes for guessing my reaction to that. It's a hip, fab, and groovy movie, and it'll easily blow E.T. away as the biggest grossing film of all time.

It really has built up quite an empire around itself. The name "Batman" itself has generated no less than three different computer games, the latest being the "game of the film". Is anyone interested in trying to write one for the Dragon? Now that's a game I would DEFINITELY buy!

Right, Paul should be pretty annoyed by now, so let's go on and talk about something else. If anyone has been (un)fortunate enough to read "The Invader's Summer Diaries", then I officially state to them here and now that (a) I did not say the things connected with my initials in the "Dragon Update" piece, and (b) I never would say those things. Well...OK, so I WOULD say those things to Paul, but not to anyone else. Well, not to their face, at least. I suppose they were funny in (very small) places, but this Invader geek strikes me as being a total nerdy (watch the Dragon press for possible retaliation). The piece about Simon Jones' daily timetable of things to do was not amusing. Besides, I already knew his schedule from Paul. I also wonder what Dragonfire have to think about the diaries. Perhaps I should wonder first if Dragonfire have actually SEEN The Diaries. (If they have, I disassociate myself entirely, if they haven't then they're quite funny). We all know who The Invader is anyway. Quite what Jason Orbaum is still doing on The Dragon scene after he was so forcefully fired all those years ago is beyond me. Why he needs to masquerade under the name of The Invader is another mystery. He could gain just as little respect if he stuck to his original name.

Anyway, I digress. Something which I do quite often actually, seeing as how mind-numbingly tedious this job is sometimes. Just as a reminder, and totally off the subject (I digress again), members and trade advertisements go TO PAUL, not myself. This is simply for your convenience. If they are sent here, then I will have to send them on to Paul, and they may miss an issue by being in the post.

This may have filled up a page by now, but I don't know, as I'm not used to having to write complete pages of waffle (I leave that to Paul), but please feel free to save me from having to do this again next month (and save yourselves from having to read it) and write the odd article or two. The odder, the better. I'm off to get some sleep now.

"But, as my plastic surgeon always said...if you've gotta go, go with a smile!" Stephen.

Quite a literary epic, Stevikins, but a couple of minor points are deserving of comment. Firstly, the Group doesn't have many fans, so when the members are displeased they tend to throw the excrement in MY direction instead this is most unpleasant, and as your film discussions appear to be displeasing more members than most topics, I would be greatly obliged if you would CHANGE THE SUBJECT!!!. Second point being that if you'd asked I could have told you the REAL identity of the "Invader". As you didn't, I'll give you a clue he isn't a Jesuit, but the initials "S.J." are significant. Finally, don't "digress" TOO much ... I'm told it can send you blind (or was that something else?). Paul.

?IV ERROR...R.F.Roach.

I inserted the disk, typed DIR, and all I got was ?IV ERROR. "Strange," I thought, and tried again. ?IV ERROR. Never having seen this happen before, I turned out the drive handbook which said "Invalid Directory Check Flag." I thought I knew what that meant, but how could I put it right? I set about trying to find what was on the disk and where. I wrote the program below. The handbook said that track 20 was the directory, and later I learnt that the directory was also written to track 16. On my particular disk I found that track 20 had somehow or other initialised (seen as bands of vertical bars) while track 16 seemed OK. Below is the program I wrote which enabled me to write the required data to track 20, and restore the disk to full use.

```

10 CLEAR 2000
20 CLS
30 INPUT"WHICH TRACK TO START";X
40 INPUT"WHICH TRACK TO END";Y
50 INPUT"WHICH DRIVE";Z
60 FOR I=X TO Y
70 FOR B=1 TO 18
80 SREAD Z,I,B,A$,B$
90 PRINT"TRACK";I;PRINT"SECTOR";B
100 PRINT:PRINT A$
110 PRINT:PRINT
120 PRINT B$
130 I$=INKEY$:IF I$="" THEN 130 ELSE 140
140 CLS
150 NEXT B
160 NEXT I
170 INPUT"DO YOU WISH TO CONTINUE (Y/N)";Z$
180 IF Z$="Y" THEN 20 ELSE END

```

EASY MACHINE CODE (4) ... R.A.DAVIS

What you need to know about the registers is that there are 8 of them, or 9 if you count the A & B registers which together make the D register. They are known as A,B,CC,DP,X,Y,U,S and PC. But for the moment the A,B,X and Y registers will be enough for us to digest. The first thing the 6809 'looks' for is a command, known as an OPCODE, which is a number. This could tell it to transfer data to another register, to process data, to point to data at a specified address, to test or branch, for input/output, or for other controls. As well as indicating the type of operation to be performed, the OPCODE has to state the register or registers concerned. This means an awful lot of numbers to know or remember, but today almost everyone uses assembly language which makes the task much easier. You will find lists and explanations of OPCODES and the assembly language equivalents in most good books about the Dragon. If you get a good assembler such as DASM/DEMON, you will get a handy reference card with that, Compusense used to supply a card separately and may still do so. If you want to carry on, you need to get such a list - NOW.

So a machine code program uses OPCODES to instruct the 6809E to load data into selected registers, move it, alter it etc. etc. This means that an OPCODE is usually followed by the data needed, or the name of the register with which the operation is connected, known as the OPERAND. To avoid having to remember the multitude of numbers which represent the OPCODES, a system of abbreviations, known as mnemonics (an aid to memory), is used. I know of 3 such systems for the Dragon, in machine code. Topsy by Pam D'arcy, Dream by Mike Kerry and DASM/DEMON from Compusense which I use. They all have slight differences. Having installed your assembler program in the Dragon, you can use it to make up your own machine code program, using some of the RAM not used for the assembler. The companion to an assembler is a disassembler. This enables you to see a machine code program in its assembler version. There are many of these, some in Basic; I use the machine code version supplied by Pam D'arcy. A further help is a Monitor program, which shows machine code as numbers, sometimes with the ASCII equivalent and allows alterations to be made. You get this with DEMON but it's fairly easy to make your own.

A Very Special Offer!!

Do you have one of those joystick adaptors which Prestons and Greenweld sell so cheaply, the ones which allow you to use Commodore or Atari type joysticks with your Dragon or Tandy? If so I've got the ultimate bargain for you new Quickshot Mk VII joysticks ... the ones that have two fire buttons and a ball type pad instead of a stick ... special price just 5.50 each inclusive!. These are fitted with Atari type plugs, but when used with adaptors operate perfectly on the Dragon. Now for the snag ... I've ONLY SIX units, so you MUST phone me first before sending your order. OK?. You know the number, Worthing 207585, so phone this evening!. Paul.

Letter from Jeff Purcell.

I am probably preaching to the converted, however in case there are any doubting Thomases out there, let me tell you how after using my Dragon since its first release, it still earns its keep. Under DRAGDOS I run Chatview to access Prestel most nights for financial information, timetables, MBX and Telex. For entertainment recently I've been exploring the Short Wave spectrum (Sorry!) running Chris Rouse's excellent Weefax program demonstrated at Hove, and of course Word Processing using a disc version of Superwriter 2 and MacGowan's Dump routines. Otherwise running OS-9 on the D64 with Compuserve Dragonplus board, I run the local hostelry's accounts using Dynacalc to prepare and print the weekly, monthly, six-monthly and annual statements, whilst RMS keeps up to date accounts of members names, addresses and membership numbers in alpha and numerical order. Stylo and Mail-Merge use the RMS files to address individual club letters. (You know: 'Dear Mr PAUL GRADE of WORTHING you have been selected from MILLIONS to win a ...'). Then using a time shared professional terminal (Newbury) I can digest the 'monthly' OS-9 newsletters from Germany. Recent software enables me to analyse the RMS files and perform a word search. (Brilliant!). I could go on. OS-9 never seems to pall; there's always something else to learn and benefit from its UNIX-like OS. The NBUG is great but how about a few more "professional" inputs and applications? e.g. a filter for Epson output from Stylo, or 80 column Dynacalc & RMS? Also has anyone cracked the hard disc driver yet? P.S. Lest you think I'm myopically biased I have a MAC SE at work!!.

The reason we don't print more on OS-9 is simple ... no one is writing any for us!. Paul.

DOSFILES 3 Ken Grade.

Before continuing with this much-awaited series - well, at least one person wrote in to say he found it useful - some points need tidying. Line 110 in the last article should read: $P=20+NF+4$. Also, there should have been a line 11651 $P=P+5$.

Any disc file needs to be opened before writing to or reading from it, and in the case of this type of file, the necessary variables, such as number of headings, length of entries etc., need to be read in first. It's useful, therefore, to write a subroutine to do this which can be accessed by either the write routine or the read/amend records routine. e.g.:-

```
[210] INPUT "FILENAME:-";N$ [220] FREAD N$,FROM 0;R [230] FREAD N$,FROM 10;S
[240] FREAD N$,FROM 20;NF [250] L=S/NF [260] P=20+NF+4
[270] FOR X=1 TO NF:FREAD N$,FROM P;FT$(X):P=P+8:NEXT X:P=P+5
[280] FREAD N$,FROM P;NR:NP=P:PRINT "Number of records so far:-";NR [290] RETURN
```

Obviously this routine must match the create routine, as far as the points from which to read the data are concerned. The NP variable in line 280 is important. This holds the starting point for the records, and is used to calculate whereabouts in the file a record should be written to or read in. So to add records:-

```
[300] GOSUB 210 [310] INPUT "RECORD No.-";N [320] IF N>R THEN 310
[330] P=NP+5+N*S-S [340] PRINT "GIVE DATA FOR RECORD" [350] FOR X=1 TO NF
[360] PRINT FT$(X);" ";:LINE INPUT A$(X) [370] NEXT X
[380] ?"ALL O.K.?" :INPUT Z$:IF Z$<>"Y" THEN 340 [390] FOR X=1 TO NF
[400] FWRITE N$,FROM P;A$(X) [410] P=P+L:NEXT X [420] NR=NR+1
[430] FWRITE N$,FROM NP;NR
```

The arithmetic in line 330 maybe needs explaining. Unless you're going to start your records after a gap of the size of one complete record, the size (S) of one record needs to be deducted from the calculation. A further 5 bytes is added, again to allow room for the Dos' own data. The read routine is simpler:-

```
[440] GOSUB 210 [450] INPUT "RECORD No.-";N [460] P=NP+5+N*S-S
[470] FOR X=1 TO NF [480] FREAD N$,FROM P,FOR L+1;A$(X)
[490] PRINT FT$(X);" ";:A$(X) [500] P=P+L:NEXT
```

The "FOR" used in the read routine should advance the disc read pointer by the amount specified. e.g. $FREAD N$,FROM P,FOR 50;A$$ should read $A$$ then advance the pointer 50 bytes. In practice, I've found it is necessary to insert "+1", otherwise the last letter of $A$$ isn't read. If a "FOR..NEXT" loop is not being used, "FOR" can be used to write data - $FWRITE N$,FROM 20;A$$ - would work. It is best to keep track of the place in file by updating the P variable even then.

An amend option could follow from the read routine:-

```
[510] ?"Which entry do you wish to change? Enter 'A' for all.":INPUT W$
[520] IF W$="A" THEN 550 ELSE 525 [525] W=VAL(W$):?A$(W)
[530] ?"GIVE NEW DATA FOR ITEM";W:LINE INPUT C$ [540] P=NP+5-(N*S-S)+L*W-1
[545] FWRITE N$,FROM P,FOR L;C$:GOTO 560
[550] FOR X=1 TO NF:LINE INPUT "NEW DATA";A$(X):NEXT
[555] P=P-S:FOR X=1 TO NF:FWRITE N$,FROM P,FOR 1;A$(X):NEXT [560] GOTO 450
```

This is still a very crude form of record keeping. Whilst any record can be accessed individually, you need to know its number, which is a little self-defeating. Devising an alphabetical sort will be the subject of the next thrilling instalment of this series.

The Late, Late Bit

Sorry to spoil your day, but I have to report, that I HAVE survived the hazards of assorted rewiring, plumbing, gas fitting, repainting, etc with little more than a severe pain in the bank account and an even shorter temper than usual, and once again this hive of industry is more or less operational.

Further to my depressing spiel on the front page, I think I should remind you that there IS still a Dragon Show at Weston on the 10th December, and that the Group (represented by Bob "I've got an enormous Dragon" Hall!) will be there to relieve you of any spare cash, blank cheques etc. The venue is the Roze Hotel, Madeira Cove, which sounds very up market, but Andrew assures me that they'll let you in, so don't worry. In addition to the Weston event we are going ahead with the Summer Show at Hove on 2nd June next year, at the same location as this year's show. There is one big snag with all this ... the Dragon scene is getting smaller, fewer users, fewer firms, which means that running ANY Dragon show is a perfect formula for making a financial loss unless far more of you take the trouble to attend. It's entirely up to you now, either we get enough exhibitors and enough people through the doors to cover the costs (and those are a lot higher than you might imagine) or these will be the last of the Dragon shows, which will probably mean that the whole scene (including the Group) will fold rapidly. Your choice, not mine I've done all I can to keep things going, but if you don't make a bit more effort then there's nothing I can do about it.

By the way, don't think that the Dragon is the only machine that is suffering from acute loss of interest/support, it isn't. The same situation appears to apply to just about every make of computer now, with the possible exception of the ATIXT and clones. Firms and Groups are disappearing all over the place, and it is getting difficult to keep up with just who is and isn't currently in business. Of course, if I were a politician I'd be telling you that this is a mere "blip", and that the general underlying trend is towards growth, that when the figures are seasonally adjusted it will become obvious that the home computer boom is only just beginning I'd probably also tell you that I heard this from that usually reliable source, the fairies at the bottom of my garden. However, being unable to grasp the esoteric logic used to show that a loss is really a profit, I have to make do with facts, and one of them is that computers have gone out of fashion. Shame isn't it? They could have been quite useful machines if the "experts" hadn't made so many extravagant claims which the machines could never live up to, and if so many "entrepreneurs" hadn't been so damned greedy that they killed the market and put people off the product. Oh well, back to the abacus, though it's lousy for playing "invaders". Paul.

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