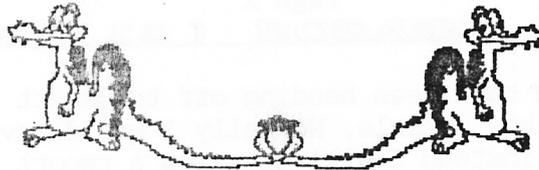


The Newsletter of the National Dragon User's Group

DRAGON



UPDATE

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The Gaffer's Bit

Is anyone awake out there?. I really do have a good reason for asking, because for some reason membership renewals drop to their lowest level between February and June every year, and this year they seem to have reached an all time low. OK, so the weather has been lousy and some of you might have been late coming out of hibernation or something, but even so, you ought to be up and awake again by this time ... you've already missed Spring (it was on a Tuesday, I think) and if you don't get yourself in gear soon you'll miss Summer as well (rumoured to be due between 0900 and 0930 on a Monday in August), but even more to the point, your Group membership will have expired, you won't have any Updates to read, and worse still you'll have no one left to complain to when you find your old Dragon won't start!. Now please don't tell me you can't afford to renew your subscription! ... at £8.00 per year inclusive this is the cheapest computer group in existence!, and you could make THAT much sitting outside your front gate with a begging bowl (unless you live next to John Major, of course ... he's probably nicked the money out of it and then nick YOU for being in possession of money in a public place!). Well, there isn't really very much happening on the computer scene at the moment, although we STILL have some new software on offer for the Dragon for a "dead" machine it still seems to get a lot more use and interest than most. OK, so it doesn't QUITE have the same graphics capability as a Nintendo console, but then Dragon programmes don't cost you £49.99 each!, and have you ever TRIED programming for one of those consoles?!. Yes, I know you need a PC to handle the software you "borrow" from work, but that doesn't mean that you don't need a Dragon as well ... and you can easily switch files from one to the other, so there's no reason for not having the best of both worlds, is there?. By all means buy the games console "for the kids", buy the 486 for the software you "borrow" from the firm, but DO NOT junk the old Dragon, because in many ways it is better than either of the others!. Oh yes, and don't forget to renew your Group subscription either ... you never know when you might need us!.
Paul Grade.

No More Update

Unless somebody somewhere writes eight full page articles for us before the next copy deadline. I have no more than about THREE articles to use for the August issue, so if you want to see in 1995 with a current copy of Update in your hands, scribble, and scribble SOON!

Amusing lookalikes, part four in a continuing series:

- A) Chairman Grade
- B) Tony Curtis in "Some Like It Hot"
- Crusader (Caped).

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Pension Fund is at risk if you do not resubscribe. S.W.*

PEEKING THE DRAGON (51) . MIKE STOTT

23rd April 1994 - I should have been heading off to Ossett on this St George's Day but instead I am writing this article. Normally I would have done a write up about the show in this issue so instead I will give you a report of the AMS at Stafford. Nora, David and myself arrived about lunchtime having stopped for a bite to eat on the motorway. As I had a voucher for the show I was able to gain admittance for 1.50 which included a show guide. I glanced through this first but the only Dragon name in it was Pulser. We soon found Brian O'Connor behind his tables selling hardware and software for Dragon, Commodore etc. Although he only had cassette software with him he was taking orders for disks which he was sending out post free. Despite the pre-show announcement that Bob Preston would be selling there was no sign of him.

The huge hall appeared to have even more stalls than the November show but, apart from a few charity stalls, it was virtually all computer related.

Einsteins were less well represented than usual but Atari eight bits were fairly well covered. About 90% was PC related and there was a lot less Mega-Drive stuff than usual. I enjoyed it as much as usual.

Graham Kinns came over to see me while I was at Brian's stand. He is working on taking OS-9 stuff from the Dragon to the PC at the moment with a little help from his friends. I believe Paul Marlow was at the show but I did not meet him.

I was hoping to see him as he had sent me a HIDOS program for the Co-Co but unfortunately I could not get it to work on my Co-Co 2.

The Dragon & Co-Co show in September now appears to be taking off alright although some of the mail was delayed in the postal dispute which we had in this area.

Parking within the school grounds is limited so please get your ticket orders in to me quickly if you want to take advantage of this, and please do not forget the SAE.

Although a couple of the companies who initially said they were going to come have not paid for their stands I can assure you that the room is going to be full of tables with Dragon and Co-Co hardware and software.

At the time of writing there is still a bit of room left for a couple of tables so please send me your 5.00 (with SAE) as quickly as possible if you want to sell some of your surplus computer bits and pieces.

If you have any Dragon related problems you should be able to get them sorted out at the show as most of the experts on the scene now have said that they will be supporting the show.

Come and see me with your questions and I will try and direct you to the person best able to help. Even if you have no problems please come up and say hello. There are quite a few of you out there that I have not met yet.

This year I intend pushing the Group software so please come up and ask to see any item that you are interested in buying. Numbers are dwindling in the group and we need all the funds we can raise.

Ian Jones is definitely coming along to demonstrate his midi interface for the Dragon and I for one look forward to see how far this project has progressed.

Keith Nash has written to me from Worcester with a long list of subjects that he would like to see discussed in Update. I do not have room in this issue to even list them but I will in a later article.

He asks my views about "orphanware" (software whose copyright holders are no longer around). Well, my personal view is that provided every effort has been made to trace the author etc then copies could be exchanged - providing there is no monetary reward. However, it is still technically piracy!

Tim Lees wants to know if he is the only one still struggling with old adventure games. He says he must have a dozen unfinished games. One of these is RAAKATU. Has anybody got the instructions? Also he would like to know if anybody has completed STONE RAIDER II, as he has managed all but four or five of the levels.

That is about all the space I have got so I will close now with a final plea - *SUPPORT THE BLACKLOW BROW DRAGON AND TANDY CO-CO SHOW or you might have no more shows to go to.*

Defining Forth Words... John Payne

Standard Forth doesn't give you much in the way of bells and whistles. Instead, it gives you tools to add whatever noises you need. The tools are <BUILDS DOES> and ;CODE. As an example of how they're used I'll look at defining a word ARRAY which is not itself an array but defines words that are arrays. For example 100 ARRAY DATA defines the word DATA to be an array of 100 integers. Once DATA is defined, 17DATA (say) returns the address of the 17th DATA item (you would use @ to fetch the contents of the address, and ! to store into it, just as you would with a normal Forth variable).

The word ARRAY needs two parts: the first specifies what happens when ARRAY is executed and creates the word DATA; the second specifies what DATA does when it is executed. These two parts follow <BUILDS and DOES> respectively. Thus ARRAY is defined by

```
: ARRAY <BUILDS DUP + ALLOT DOES> OVER + + ;
```

When the phrase 100 ARRAY DATA is executed, the name DATA is entered in the dictionary and then DUP + ALLOT is executed to allot 200 bytes in the dictionary to hold 100 integers. When 17 DATA is executed, the address of its parameter field is put on the stack and then execution proceeds to the DOES> part of ARRAY where 17 is added twice to the parameter field address to give the address of the 17th array item.

All this is only worthwhile if you need several arrays, because you can define them by just 57 ARRAY MOREDATA and 12 ARRAY OTHERDATA. If you have only one array, of 100 elements, for example, you may as well define it like this

```
HERE 100 DUP + ALLOT : DATA [ DUP LITERAL ] OVER + + ; DROP
```

and ignore ARRAY altogether.

By modifying the definition of ARRAY, you can change the behaviour of all the words defined with it. For example, you could make ARRAY save the array size when it defined an array (by altering the <BUILDS part) and check that the index is no larger than the array size when the word defined by ARRAY executes (by altering the DOES> part). Or, if you didn't have enough RAM for the large arrays you needed, you could change the definition of ARRAY to give you virtual memory, i.e. the array would be on disc.

<BUILDS and DOES> can be used in much more general ways than to define straightforward arrays. In my MIDI music program (available through the Group) volume is specified by storing a number in the variable VOLUME. This works, but is not very musical - one wants pp, mf and so on to set the volume to pianissimo, mezzoforte and so on. I could define

```
: pp 1 VOLUME ! ; : mf 70 VOLUME ! ; and so on, but it's more elegant with
```

```
: DYNAMICS <BUILDS C, DOES> C@ VOLUME ! ; and then
```

```
1 DYNAMICS pp 70 DYNAMICS mf and similarly for half a dozen other VOLUME settings.
```

And so to ;CODE. If, for example, arrays defined by ARRAY defined using <BUILDS DOES> execute too slowly for you, it is possible to speed them up by redefining ARRAY using ;CODE. ;CODE corresponds to DOES> except that Forth assembler is used to specify the action of the words defined by ARRAY, like this:

SCR 2220

```
9 LOAD ( Assembler - for ;CODE)
```

```
: ARRAY ( size -- )
```

```
CREATE SMUDGE DUP + ALLOT
```

```
;CODE ( at this point, X reg.
```

```
points to codefield) 2 X, LEAX,
```

```
U, LDD, B, ASL, A, ROL,
```

```
D, X, LEAX, U, STX,
```

```
NEXT C; UNLINK
```

SCR 2221

```
ARRAY's stack: ( arraysize -- )
```

```
Words defined by ARRAY have
```

```
stack ( array.index -- address )
```

```
Point X to parameter field
```

```
Get array index in D, double it
```

```
Add it to X, return result on
```

```
arithmetic stack
```

Dragon MOT... Stan Garvey

I've just upgraded to a Dragon 64 and drives (very worthwhile believe me) so I was a little concerned to read about our editor's disc cartridge going on the fritz (Update 93). What particularly caught my eye was that Stephen's DOS took leave of its senses after ten years. This started me thinking about the life cycle of the various components inside a Dragon, as most if not all Dragons are at least ten years old. I think Dragon Data stopped trading in 1985, so if the Radio Doctor were to give a ten year old Dragon an MOT (Microcomputer Obsolescence Test) how would it fare?

The Dragon is an exceptionally good piece of hardware, a bit like an everlasting light bulb. To say that it had been over engineered would be an understatement. Take a look at the hardware other micros were using in 1982. Anyone for a rubber keyboard? Enough said.

You won't find any of those "hard to understand" custom chips or those "impossible to replace" ULAs. Most of the ICs in the Dragon can be identified by flipping through a Maplins catalogue, which can be a rewarding pastime if you also have an NDUG circuit diagram. The only specific ICs are the video display driver, the SAM chip, and the 6809 processor. If you use a D64 and drives then you can add to the list the SYS 65xx RS232 port driver and the Western Digital drive controller chip. Most of these ICs can be found and PSE can sell you a spare main board for a tenner (the SAM chip alone would cost you more!)

Latches, gates, and other low-level logic devices don't appear to wear out, so unless you pour a cup of tea down the back of the works (**Let us remember that the much-maligned manual advised us NOT to do this...SW**) they should continue to function as they were designed for years to come. The SAM and the CPU do seem to run hot so maybe they don't last so long? Perhaps the use of some heat sinks could extend their working life? The Dragon notebook says that if you use the "speed up poke" then you can shorten the life of your SAM and CPU. Can this really be true? Can somebody tell me?

Back to the Dragon MOT. Looks like the Dragon is set to run and run! Unless some part of your OS or DOS is on an EPROM. What's an EPROM? Read on...

An EPROM is just a Read Only Memory device that you can Erase and Program, and unlike RAM its contents are not erased after the power is removed. An EPROM normally contains a program needed as soon as the computer is switched on, such as an operating system. EPROMs are only guaranteed to store a program for about ten years, and then if you are unlucky they start to go zeros up.

Looking at my circuit sheet for the DragonDOS disc controller cartridge, I noticed that the ROM is given the generic code number for an 8K EPROM. Indeed the diagram clearly showed the programming pin connected to the +5 volt supply. If you have your DOS on EPROM, it could be past its sell by date. It may be a good idea to get a spare EPROM if, like me, you intend to stick with the Dragon well into the next century. After all, it still beats the pants off a PC!

You Think I'm Joking?

I can't plan beyond page FOUR of the August issue of Update, and there's simply no way that I can write the remaining pages myself without driving away the remaining Group members, so do it NOW. Remember, August's Update will be the one before Mike's show, so if there's something you need to bring to our attention, this is the ideal time. Someone, somewhere wants to hear what YOU have to think. Politicians get airtime for free but talk crap. Update contributors get page space for free and talk about things in which we are ALL interested. Don't spend five minutes watching a Partly Political Broadcast, spend it writing your OWN material. It's useful, it's constructive, and it's your LAST CHANCE.

Databases... Clive Scott.

One of the first serious programs I bought was not the more common wordprocessor but a database. I had become the treasurer of a local trade union branch and I wanted to computerise the membership database. I knew nothing at that time about database programs and I purchased FILMASTR by Microdeal.

This cassette based program allowed databases up to 24K in size which meant my database had to split into three files. File creation and definition was by the usual screen paint method. It was driven by 2 strip menus which ran along the bottom of the screen. The file could be indexed on any field and searches were quick and easy. Printouts of the data were obtained by stating which fields to print and at which column number.

When I purchased a disc drive, I upgraded to the disc based version of the same program. However, apart from the faster load times it offered no significant advantages over the cassette version, because all editing was still done in RAM and the files were now limited to 22K in size. One major disadvantage common to both versions was that the file structure could not be changed once defined. This meant the planning of the database was critical, because you could not change the lengths of fields or add or delete fields without starting from scratch. It had a particularly slow keyboard driver which meant the loss of characters was common.

When I saw an advert from Salamander Software for DRS (Database Retrieval System) which boasted file sizes of 154K with disc based systems I purchased a copy because it would swallow my entire database in one file comfortably. It still processed all the data in RAM but you were able to link 7 segments of 22K together. You still had to edit or add each segment in turn, but searches could be done across all segments providing the file extract fitted into memory. It still used the screen paint method of file definition but it was more flexible because the structure of the database could be changed after the file had been created. However, if you were using a multi-segment file you had to ensure the structure of each segment was identical otherwise multi-segment searches produced peculiar results! The file was indexed on the first field i.e. Key field, but you could change the order of fields and thereby sort on a different field, but nevertheless it was more cumbersome than Filmastr. Printing was also more fiddly if you were using a multi-segment file because you couldn't store the definition or apply it to all segments but had to define each segment in turn. Each database is limited to 7 segments even if your disc drive has a greater capacity.

Both programs used the same method of searching whereby you filled in the search requirements on the input screen, and of course you can use = > or <. Although both programs had the same potential number of fields per record, you were limited to one standard 32 x 16 input screen which was very restrictive. Both programs only allowed two field types, numerical or alpha-numerical, more modern programs are far more flexible. Filmastr was more suited to small databases where the structure was unlikely to alter, but DRS was better for large databases and where greater flexibility was required. However, neither program utilised the disc drive to its full potential - anybody know a program that will run on a Dragon 32 which does?

And Again...

This issue's Spot The Gremlins In The Last Issue centres on John Payne's Forth piece, so here we go. In both definitions of DR1, ED should be replaced by EB (I wish I could say that it WAS egomania, John, but sadly not!) and in the definition of SETDR, 6394 should be replaced by 6E94. Humble apologies, John (plus thanks for pointing out my inaccuracies), plus a piece of good news for us all, which is that I'm going on a proof reading course organised by "The Guardian". No wait, that's not right...!. Oops!, and yet another error ... in the last issue's "Framer" piece, line 450, the word WIDTH should be inserted as the first word within both sets of brackets, and it is possible that in some copies of Update line 470 has a colon wrongly inserted before the ELSE RETURN. Apologies to all concerned.

Double Dragon... Paul Burgin.

Here is a short and simple program which enables you to run more than one program at once on your Dragon. Or, more precisely, Task Swapper turns an unexpanded Dragon 64 into two separate Dragon 32s. You can therefore develop and run two BASIC programs simultaneously. Or perhaps run BASIC on one virtual machine whilst at the same time using AllDream or playing a game of Escape on the other.

To change between the tasks just press SHIFT and SPACE. You can do this at any time; you do not need to be at the command prompt. The active and inactive tasks are then swapped and you can continue where you left off in the other task. You can also press SHIFT+O to overwrite the inactive task with the active task, thereby saving your position in an adventure game or making a back-up copy of a program which you are working on. You can also use this facility to bring a crashed task back into use.

To install the Task Swapper program simply enter, save and then RUN the BASIC loader given below. You then have two identical virtual machines, and can continue and switch between them as you please. But what architectures do you now have?. Well, both machines must share the same IO registers, use a new IRQ handler, and lose the 330 bytes of memory occupied by Task Swapper, but apart from these restrictions the illusion of two separate machines is complete.

In practise this means that if you run BASIC on both virtual machines then you should have no problems at all. However, you must not attempt to access the upper 32K of RAM, or CLEAR / POKE above address \$7EB5. It's also wise to avoid switching tasks in the middle of IO operations such as printing.

For machine code programs the issue of compatibility with Task Swapper is more complicated. In theory they should work just as well. However, the lack of a protection mechanism in the 6809 means that Task Swapper cannot prevent other programs from taking over the IRQ. And if this happens then the inactive task will become inaccessible (though sometimes pressing RESET may reinstate Task Swapper). Most commercial games will indeed monopolise the IRQ and only trial and error can reveal which programs are compatible.

Some machine code programs also use non-standard base addresses for the graphics screen and so will not be restored correctly when swapped back into main memory. For such programs simply press SHIFT++G to scroll the screen up or SHIFT+W to scroll down. You only need to do this once, as addresses \$BA:\$BB are updated accordingly. Semigraphics and obscure graphics modes are not supported at all.

To avoid conflicts with machine code programs Task Swapper may be relocated if necessary. It can happily live anywhere in RAM but must begin on an even byte boundary. I have not tested Task Swapper under DragonDOS, but it may work. I'd guess that it would be prudent to access discs from just one of the tasks, or perhaps modify Task Swapper so that the DOS workspace is not swapped. I am happy to supply the Task Swapper source code (Alldream) on IBM 3.5" disc if anyone is interested. Please send 2.00 or a disc plus SAE.

```

100 'DRAGON 64 TASK SWAPPER BY PAUL BURGIN
110 CLEAR 200,&H7EB5:L=&H7EB6
120 READ A$:FOR I=1 TO 66 STEP 2:V=VAL("&H"+MID$(A$,I,2)):T=T+V
130 POKEL,V:L=L+1:NEXT:IF L<32768 THEN 120
140 IF T=37631 THEN EXEC &H7EB6 :ELSE PRINT"ERROR IN DATA"
200 DATA 338C5E11B3010D260D390000000000001000000000BEO10DAF8D00F8FF010D33
210 DATA 8D011B9E72AF8D011EDF728680347E340210EF8CD48DOC3BEC81EDC11183FF0025
220 DATA F6391A10B7FFDF9E8ACE80008DED308CAD33898000308901008DEOB7FFDE396A8C
230 DATA AC26378EFF008605A78CA2E602867FA702A684E7028548260C10EF8C8A8DC2F6FF
240 DATA 22E78C8D855026060ABA0ABA2008854426090CBAOCBA1700892075856026711A10
250 DATA 10EF8DFF62328DFF67B7FFDF308DFF4BAF8DFF559E8A108E80008D5E30890100CC
260 DATA 8000ED8DFF428D51B7FFDEA68DFF403402F6FF22E78DFF37BDA93AA6E481B0251B
270 DATA CEFFC081C0250EA74581D0250C81E02506A7432004A743A7418D243502B7FF22AE
280 DATA 8DFF0110EE8DFEFAAF8DFEF67E0000EC84EEA4EDA1EF81AC8DFEEB25F239DCBA44
290 DATA 8EFFC64424063001A7802004A78430028CFFD425EE3912308DFF1DBF010D7E0000

```

Juxtaposition Cheat... Ian Burford

The program below is a cheat routine to enable easy alteration of some of the game parameters for JUXTAPOSITION. The program is designed to load the save game information from tape and save the alterations back to tape as Juxtaposition is only able to save attributes to tape. The program will run from disc, but input and output will still be to tape.

Type in the listing and save it as "JUXCHEAT", noting the use of the lower case "c". Load Juxtaposition and play it until suitable point is reached. Now save the game position, exit Juxtaposition, and load Juxcheat. Now put the tape with the Juxtaposition 'save game' in the cassette recorder and run Juxcheat.

Juxcheat now automatically loads the program called "c" (the save game information) into memory and then waits for input with a WHAT NOW? prompt. From here you should type in the English phrase for the alterations you require e.g. "INFLATE TYRE", "DEFLATE TYRE", or "SWIM RIVER". The command "QUIT" will close the program without saving.

More paramters are probably available from within the save game, but I leave it up to you to play with each location and identify its use. When all the alterations are complete, typing "SAVE TAPE" at the WHAT NOW? prompt will automatically save the new version of the saved game to tape using the filename "c", so save it to a different tape or overwrite the previous version. Then run Juxtaposition and load a saved game, using the new amended version.

```

5 CLOADM"c"
10 INPUT"WHAT NOW";A$
20 CLS:IF A$="INFLATE TUBE" OR A$="INFLATE TYRE" OR A$="INFLATE INNER TUBE" THEN
1000
30 IF A$="SWIM RIVER" THEN 2000
40 IF A$="END" OR A$="FINISH" OR A$="CLOSE" OR A$="SAVE" OR A$="SAVE TAPE" THEN
3000
50 IF A$="QUIT" THEN END ::ELSE 10
1000 I=&H7697:J=&H769E
1010 A=PEEK(I):B=PEEK(I+1):C=PEEK(I+2):D=PEEK(I+3):E=PEEK(I+4):
F=PEEK(I+5):G=PEEK(I+6)
1020 A1=PEEK(J):B1=PEEK(J+1):C1=PEEK(J+2):D1=PEEK(J+3):E1=PEEK(J+4):
F1=PEEK(J+5):G1=PEEK(J+6)
1030 POKEI,A1:POKEI+1,B1:POKEI+2,C1:POKEI+3,D1:POKEI+4,E1:POKEI+5,F1:POKEI+6,G1
1040 POKEJ,A:POKEJ+1,B:POKEJ+2,C:POKEJ+3,D:POKEJ+4,E:POKEJ+5,F:POKEJ+6,G
1050 GOTO 10
2000 A1=&H03:B1=&H52:C1=&H13:D1=&H03:E1=&H1F '**SOUTH OF RIVER
2010 A2=&H05:B2=&H54:C2=&H01:D2=&H03:E2=&H1D '**NORTH OF RIVER
2020 I=&H7599:J=&H7828
2030 A=PEEK(I):B=PEEK(I+1):C=PEEK(J):D=PEEK(J+4):E=PEEK(J+5):F=PEEK(J+6)
2040 IF A=A1 AND B=B1 AND C=C1 AND D=D1 AND E=E1 THEN POKE
I,A2:POKEI+1,B2:POKEJ,C2:POKEJ+4,D2:POKEJ+5,E2:GOTO 2100
2050 IF A=A2 AND B=B2 AND C=C2 AND D=D2 AND E=E2 THEN POKE
I,A1:POKEI+1,B1:POKEJ,C1:POKEJ+4,D1:POKEJ+5,E2:GOTO 2100
2060 CLS:PRINT"YOU ARE NOT AT THE RIVER"
2070 PRINT"THEFORE YOU CANNOT SWIM":GOTO 10
2100 PRINT" O.K. ":GOTO 10
3000 CLS:PRINT"PREPARE SAVE TAPE":MOTORON
3010 PRINT"PRESS ANY KEY WHEN READY"
3020 B$=INKEY$:IF B$="" THEN 3020
3030 MOTOROFF:CLS:PRINT"PRESS PLAY AND RECORD":PRINT"THEN ANY KEY"
3040 B$=INKEY$:IF B$="" THEN 3040
3050 CSAVEM"c",&H744A,&H7830,&H744A

```

Format 1 Track Of A Disc. Jon Bird

One of the problems I have encountered in the past is that when a disk gets corrupted (unrecoverably with an ?RF or ?CC error) the procedure to restore the disc to health is usually very time consuming. You can't create a backup copy of it, because it will fall over when the dead sector is encountered. The only alternative is to copy all the files using the COPY command to another disc, reformat the first one and copy all the files back again. Fortunately, I encounter these errors very infrequently now. My 5.25" discs were always getting errors on them, but since moving to 3.5" they are very few and far between. The usual cause is leaving a disc in the drive when powering up/down (normally fatal to whatever track the disc head is over - that brief flash of the drive LED usually means trash has just been written to the disc) or forgetting to turn interrupts off when using the mouse. However, when this does happen, it is a major pain in the neck (plus usually a lot of shouting and swearing at the damn thing). What I thought would be really useful would be the ability to re-format just the damaged track. Simply pull off as much as possible from the track, reformat it, and put it back on.

FORMAT1 is a relatively straightforward program to enable a track specified to be formatted. In its present state it's a bit messy - but that's just to keep the listing short. Once typed in it can be tidied up and given a front menu etc. A good idea might be to have it read in as much as possible from the damaged track, reformat it and then put it back on automatically. However, that process can be fairly easily accomplished using SREAD and SWRITE, so I have not included it here.

The source code is in DASM format, when run it assumes DASM is already loaded. The code is assembled, then you are prompted to enter the drive number, track, number to format, the number of tracks on the disc (40 or 80) and the side to format (0 or 1). 0 equates to sectors 1 to 18 and 1 equates to sectors 19 to 36.

```

5 CLEAR1000,&H5000
10 EXEC &H6C00
15 ALL
20 *FORMAT1 - AUGUST 1993 BY J.BIRD
30 *FORMAT1 TRACK OF A DISC
40 FCB $0,$12,$9,$11,$8,$10,$7,$F,$6,$E,$5,$D,$4,$C,$3,$B,$2,$A,$1
50 @BLK1 FCB $35,$4E,$4E,$8,0,0,3,$F6,$FC,$1F,$4E,$4E
60 @BLK2 FCB
0,0,0,3,$F5,$FE,1,$F7,$4E,$14,$4E,$4E,$B,0,0,3,$F5,$FB,0,$E5,$F7,$17,$4E,$4E,0,$4
E,$4E,$52
70 @START LDU $EE
80 LDX £@BLK1 330 LDB £5
90 LEAY -1,X 340 STB $EA
100 LDB £$C 350 JSR [£C004]
110 JSR $B7CC 360 BLO @ERROR
120 @LOOP LDX £@BLK2 370 RTS
130 LDB£6 380 @ERROR JMP $8344
140 JSR $B7CC 390 END @START
150 LDA £1 400 'FORMAT1 INFO
160 LDB $EC 410 'DATA TO SETUP FOR FORMATTING
170 STD ,U++ 420 '1 TRACK OF A DISC
180 LDB $F3 440 '$EC=TRACK NUMBER TO FORMAT
190 STB ,U+ 450 '$F3=SIDE (0=SIDE 1,
200 LDB ,Y 460 ' 1=SIDE 2)
210 STD ,U++ 470 INPUT "DRIVE NUMBER";DV
220 STA ,U+ 475 INPUT "TRACK TO FORMAT";TF
230 LDB £$12 480 INPUT "NO. OF TRKS";TR

```

```

240 JSR $B7CC          485 INPUT "SIDE TO FORMAT(0/1)";SD
250 TST ,-Y           490 POKE&HEE,8:POKE&HEF,0
260 BNE @LOOP         500 POKE&HEB,DV:POKE242,TR
270 LDB £3            510 POKE&HF4,SD:POKE&HF5,1
280 JSR $B7CC         520 POKE&HF3,SD:POKE&HED,1+SD*18
290 LDB £1            530 POKE&HEC,TF
300 STB $EA           540 EXEC
310 JSR [$C004]       545 'READ TO VERIFY
320 BLO @ERROR        550 SREAD DV,TF,1+SD*18,A$,B$

```

A Tory MP writes...?????

"Let me tell you my simple story, and trust you can help. I met this (well, based on my experiences to date, I can only refer to him as) this creature. Let me tell you about him.

I was, and still am, dazzled. He promised to take me away from all this, and incidentally all that, and show me a fairy land of mystery and magic. He was true to his promise. He opened up a wonderland of excitement, a whole new world, a world I never knew existed, even in my wildest dreams. Oh! We have such adventures together, detouring as the whim took us, and I have an arcadian whim! I was captivated by his charm and versatility. And his strength...heavens is he strong...(I will not go into graphic details now!). He can switch me on faster than I can switch him on. I am sure you will know to what I refer! (if not, I can recommend a few good books). He is younger than me, a mere 32, and although I am old enough to be his parent, this age gap has made no difference to our feelings for one another. On the contrary, our relationship is really nice, but we both know and accept that he is always in control. He is a delightful musician - studied I believe under a Mr. Cadman - and his voice, though low in pitch, is full of harmony. I spend hours gazing at him, and I so enjoy running my fingers over his vital parts...but enough of that. He is very fiery, and many is this time he has singed my gossamers, and ruined many dinners. But I must confess it's very useful when lighting THAT cigarette after...you know AFTER!

So we come to my, or rather his, problem. In a word, or rather two, Bad Breath! I thought that some (all?) of the legion of readers may have experienced the same problem and I hear on the thistle down (that's softer than the grape vine) there may be a product called something like Listerout which could help me overcome this problem before I too am overcome. I believe it has been advertised on television, but I am not sure of this as my TV monitors other things. If anyone can help, then rest content that you would have made an ageing idiot happy. Sincerely...Tinkerbell."

Whatever anyone says, Editing Update really DOES screw you up...SW

[Well!, that's certainly the most way out review the old D32 ever had!! . PG].

TITLING...Ken Grade

I've been playing with a routine which will display a title on screen in a more interesting way than "PRINT @".

The idea was to make the text appear one letter at a time and follow the cursor, rather like the display used at the beginning of some films or t.v. programs.

I decided it was best to use a BASIC function to give the routine something to print, as this can be easily written into a BASIC program:-

```

[10] CLEAR 200,31999:LINE INPUT "MESSAGE:-";A$
[20] FOR J=0 TO 3:POKE 32100+J,PEEK(VARPTR(A$+J)):NEXT

```

The VARPTR function gives the address of the string and its length, and these two values are placed into addresses 32100-32103 where they can be accessed by the machine code routine.

[continued on page 10]

(Hex op-code)		Assembler
		ORG 32000
BDBA77		JSR \$BA77 ;Clear screen routine
F67D64		LDB 32100 ;Loads number of char.'s in title
BE7D66		LDX 32102 ;X reg. loads address of String
108E0464		LDY £\$0464 ;Y reg. holds screen address
109F88		STY \$88 ;and stores it at cursor address (&H88)
A680	LOOP	LDA ,X+ ; A reg. loads first letter of string
BDB54A		JSR \$BD54A;Jump to screen output routine
8680		LDA £128 ;Load A reg. with graphic character
3121		LEAY +1,Y ;increment screen address
A7A4		STA ,Y+ ;Store at screen address and increment
4F		CLRA ;Clear A reg.
3420		PSHS Y ;Save y reg.
108E20000		LDY £\$2000 ;Delay factor
313F	DELAY	LEAY -1,Y
108C0000		CMPY £0
26F8		BNE DELAY
3520		PULS Y ;Retrieve Y reg.
5A		DECB ;Decrement count of number of char.'s
26E1		BNE LOOP ;If not finished, go back again
39		RTS

I'm sure there's a more concise and efficient way of doing this, but the VARPTR function does save a lot of work. To use, type EXEC 32000.

Next, I might try this on the high-res. screen using different types of characters.

THE DRAGON PENTIUM?

Well, perhaps not QUITE that, yet, but until one comes along we can now offer you a substitute, if you're one of those people who insist on doing everything on a PC. Remember a couple of issues ago Mike Stott was raving on about a Dragon Emulator for the PC?, we can now offer you that one AND another Dragon/CoCo emulator for use on your PC (the one you're forced to use at work!), all on the same disc, for just a fiver the pair!.

Technically, both are "Freeware" programs, but we DO have consent to offer them to you in this form to assist Group funds a little. Both programs require a reasonably rapid PC type machine in order to give a passable equivalent of the normal Dragon operating speed, and a minimum of EGA monitor. I can supply them in any normal PC disc format (360, 720, 1.2, or 1.4 as required), but can NOT offer any technical backup ... for that you will have to contact the authors!. So, if you're interested just send a cheque for a fiver (made out to the NDUG, of course), stating which disc format you require, and you can then spend all your time at work playing "Chuckie"!. Can't be a bad offer, can it?. *Paul Grade.*

SUGGESTION.

I received a letter t'other day suggesting that those members who for one reason another can NOT attend Mike's Liverpool Extravaganza might still care to assist by contributing an amount equivalent to the admission charge they would have paid, plus perhaps a couple of pounds extra, the total to be split up equally between the Group and exhibitors. This would (a) assist Group funds, and (b) provide a little more encouragement for those hardy masochists who still take stands at the Dragon shows. I'm passing the suggestion on for your consideration and action. All I will add is "all contributions gratefully received!".

Paul Grade.

REGARDING MIDI FORTH... Ken Grade.

As John mentioned his (excellent) Midi programme in his Forth article this month I thought I had better clarify matters. It is available from the Group, but for DragonDos V1.0 only (it hasn't been tested on other versions of DragonDos). The price: £6.50. Send the orders to the Group. If there are any questions about the Forth compiler under which it runs, or the way the Midi operates, then it is best if you write to John himself.

The Late, Late Bit

First things first a request from Ray Smith to remind you that he STILL needs the services of a volunteer to run the "Graphics Library" (and possibly Up-2-Date) stand at Mike's Liverpool Show said volunteer would need to be able to take a Dragon, screen, and a couple of disc drives, of course, but other than that all you need to run a stand is a tendency towards masochism, at least one operational brain cell, and a good enough sense of direction to find the show (see map on enclosed leaflet). So, if you think you can help please contact Ray as soon as possible.

Second thing is a general warning. You may be interested to know that there is a disgusting little creep named Barry Hitchings (from Tooting area) infesting the computer scene, mainly via adverts and BBs. His game is to try to set up "swap deals" in which YOU send him items (and if he can work it, postage as well), while HE sends you excuses for not keeping HIS side of the arrangement. I've had complaints about him from others, and tried him out myself, and I can confirm that the above is correct, so should you run into him do please make sure you're driving something heavy, or if you're more law abiding, have a word with your friendly local plods before doing any "deals" with him. OK?.

Next item ... unless you threw it away with the envelope you should now be the proud owner of a "flyer" for Mike's Show, complete with directions for finding the place preserve this valuable document and use it well, as no excuses on the lines of "I intended to go but we drove around for six hours and couldn't find the place" will be accepted!. Should these directions prove to be insufficient you can always accost a native, as contrary to rumour they DO speak English north of Watford Gap, or at least most do, so there really is no valid excuse for not doing your best to attend this show ... lack of response killed off the London and Hove shows, and eventually Ossett, so this is really your last chance ... if it isn't a success then there most certainly wont be another. The choice is all yours.

I think I ought to apologise to one or two people for any delays in replying to letters during recent weeks. Without going into a lot of very boring details there have been assorted problems here (not Group related) which have resulted in lack of opportunity to deal with incoming mail as rapidly as usual, and I apologise to all concerned for any delays. Things should be more or less back to normal w.e.f now, or at least by the time you read this.

Just in case you are wondering why the FORTH MIDI programme mentioned in John Payne's piece, and elsewhere on this page, hasn't been included in the Group adverts ... the reason is that I know nothing at all about MIDI systems, and not an awful lot about FORTH (well, I can use it, but not much more than that!), and Ken Grade has been testing/experimenting/evaluating John's programme for some time ... so long in fact that I didn't realise that he'd finished doing so and that everything was OK!. Anyway, it WILL be included from now on, and it IS a very good piece of programming ... (but then John's FORTH programming is ALWAYS good!), so it should be of great use to those of you who are into the Mysteries of MIDI.

Well, that looks to be almost all there is room for on this page, so I suppose I ought to finish this and get on with something useful. Just a thought, but have you ever noticed how perfect politicians become once they die? I wonder why everyone fails to notice their saintly dispositions while they are still alive?. Odd, isn't it?, almost as odd as the fact that someone always manages to discover a brand new Horror Disease or Potential Disaster just when there are some kind of elections in the offing ... It's all coincidence, of course, isn't it?. PAUL G.

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