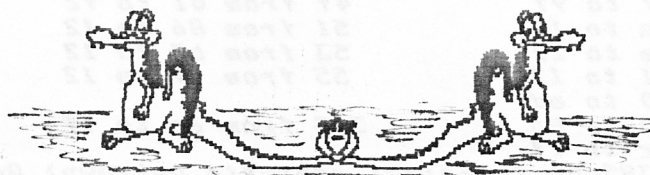


The Newsletter of the National Dragon Users Group

DRAGON



UPDATE

* ISSUE 58. 'Did YOU go to the show?' JUNE 1989. *

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The Gaffer's Bit

This issue is going to be rather a rush job, as by the time I got the Show stuff cleared away we were running five days late and losing ground fast. Anyway, to bring you up to date on Show matters, Yes, it WAS a reasonable success, with just over 400 attending ... could have been better, but judging by the calls I've had most of the stands made enough to at keep them happy, if not actually delirious. Contrary to rumours I will NOT be running another Show this year, but if the scene is still holding together by June 1990 I'll run another at the same time and place next year. OK?. Reason being that there have already been three shows this year, and Andrew Hill intends holding another one before Christmas, and I don't think the user base is big enough to support FIVE shows in any one yearto cover the cost of attending five shows the retailers need to make more sales than can reasonably be expected, and it IS possible to have too much of a good thing!.

Other news?. Bob Harris has now ceased trading altogether, Graham Smith has quit the Dragon scene completely, Pulser have taken over Orange, the Group are marketing the Malcolm Cowen programs as well as the Pancomms range, Simon Jones turned chicken and refused to model his latest range of Dragon underwear at the Show, I'm running out of time, vodka, and patience, and I think I've just run out of space as well!. More later.

Paul G.

The Editor's Bit

How can it be "Did YOU go to the show?" if the show hasn't even happened yet??? Among the debris on my desk (and on the Dragon, on the drives, on the TV etc), my diary still says May. As I said two months ago, when you work a month ahead, it gets difficult to find stuff to write about. I suppose I could always make predictions, like inflation for June will stay at 8%, or Paul will drink at least 20 bottles of vodka during June, but the trouble with predictions is that it's so difficult to get them right (though the second one is probably true). So I will just have to stick to waffling as per usual.

Did you know that by the time you read this, you will be in the 25/26th (depending on how quick Paul is) week of 1989? Neither did I. It's not very interesting, is it, but seeing as I am quite bored at the moment and have nothing else to write about, I thought I'd just throw it in free.

Have you noticed that many of the great questions in life begin with "Why?"? For example: Why are people born, why do they die, Kylie Minogue, why did I take this editorship, Neighbours, why is Paul so (fill in as applicable), and so on. I think that the fourth one is hardest to answer (although number three runs a close second), and any solutions (together with a large measure of straight vodka) will be greatly appreciated.
Stephen.

The Dragon & Tandy Show June 1990

OS912 on a 128K Dragon(7)...Bob Hall.

B)DDISK (from Level I V2.0)

0) Change 03 from 85 to 8d

1)	4c from 01 to 03	4d from 25 to 34
	4e from bf to 9f	4f from 01 to 7c
	50 from 0a to 12	51 from 86 to 12
	52 from 7e to 12	53 from b7 to 12
	54 from 01 to 12	55 from 09 to 12
	37c from f0 to ed	
	382 from 60 to 23	383 from 6e to ff
	384 from 7c to 1f	

then continue at 385 on (original contents unknown) 8b;16,fd,ea;12

The Keyboard and Video driver KBVDIO (as loaded INITIALLY by Level I V2.0)

The changes here are required to link in the keyboard scan to the IRQ interrupt via 00B2, and to extend the routine which sets the video page to also set the video bank - the basis of this routine is stolen from the Tandy VDSINT module. It's also necessary to change some code because the address of the device descriptor and of the sleeping flag within it are different from Level 1.

0) Change 03 from 00 to 40

1)	94 from 7c to bf	95 from 32 to b2
	97 from fd to 8e	99 from 6b to 00
	9b from 00 to 10	9c from 32 to 17
	ef from 6b to e0	
	f2 from 32 to b2	
2)	318 from 44 to 17	319 from c6 to 05
	31a from 07 to e2	
	8fd from 6a to 1f	8fe from 0f to 89
	8ff from 9f to c4	

then continue at 900 on (original contents uncertain)

1f; 34, 04; 84, e0; 44; 44; 44; 44; 12; 9e, 4c; 30, 86; 01; b7, ff, e0; 85, 08; 27, 03; b7, ff, 80; 48; 48; 48; 48; 48; 12; aa, e0; 44; 8e, ff, c6, 07; 39; 39

3) 104 from 4b to 50

107 from 36 to 19

The ACIA51 module ('acia.new' from Level I V2.0)

This requires the same mod as KBVDIO to pick up the sleeping flag.

change 2d from 4b to 50

f7 from 4b to 50 fa from 36 to 19

103 from 0d to 0c

(I do this using MODPATCH from the startup file).

THE CLOCK MODULE ('clock.50Hz' from Tandy Level II, in 'modules' directory on disk two).

This is a pig. The Level 2 CLOCK module handles all the IRQ interrupts and hence drives the disk time out, the keyboard scan, and any other interrupts. Unfortunately the interrupts on the CoCo 3 are handled slightly differently to the CoCo2 & Dragon. It's possible to tell by reading FF92 directly what source the interrupt is from and the result is saved in 00af for future use - I've stuffed the contents of ff03 in there instead and changed some tests - it works. (Do remember to use the 50Hz not the 60Hz module).

change 2c from 92 to 03	2d from 9a to 12
2e from af to 12	31 from 85 to 12
32 from 08 to 12	33 from 26 to 2b
93 from 85 to 12	94 from 37 to 12
95 from 27 to 2b	
1b0 from b7 to 12	1b1 from ff to 12
1b2 from 98 to 12	
1e4 from 3c to 3d	1ef from b7 to 12
1f0 from ff to 12	1f1 from 92 to 12

A clot error appeared in the figure for part 4 (issue 55) - the +5v pin for IC102 is of course 14 not 4.

Rick Applegate tells me someone in his 68 Micro Group might be prepared to design a PCB around this or similar design. I'll keep you informed.

Apology

Sorry if this issue reaches you rather later than usual, but what with the Hove Show and trying to catch up with the mail backlog we are currently running six days late with Update production. Hopefully we should be back on schedule next month.

Fishy Business(3)...

Incredible! I don't believe it! No time for introductions, because let's face it, the quicker I write this article the quicker I can get back to playing the most amazing piece of Dragon software I have ever seen. Yes, 'Revenge of the Alien Bongo Beast in the Crissy Crossy Lines dimension' is here, and believe me, it's brilliant. I don't think you'll find a review in this month's Update, so you'll just have to trust my judgement (as you always do!). So what's so good about ROTABBITCCLD? Well, first off there's the in-game presentation; story line, lush start-up sequence, saveable 20-page high score table, classy front end at the beginning of each level (with an amazing rotating globe), and 15 different levels, each with a name. These level names are something else. The first one is "No. Not the Rhubarb!", and it goes on from there, with gems like "Lurking Lettuce" and "this is where you get yours Julie Andrews." Hmm...

"But what of the game?", you cry helplessly. Well, it's certainly no let down. Once you've got over the presentation, you will discover a pretty good game. Did I say "pretty good"? I meant (lost for superlatives, suggestions on a postcard please). It oozes with playability, the graphics are detailed and flickerless, but best of all, there are end of level "biggies" which have no qualms about running you down if you don't get out of the way fast. A few (!) quick hits with your missiles will finish these off. I shan't tell you more because you can read it in the review (XXWhat review?...SWXX), or will have seen it for yourselves at Brighton, in which case I have no doubt you are already in possession of a copy! For those of you interested, I can get as far as "eh eh? hoo hoo! snik snik!" (or something like that), and I'm determined to get further!

Next, "Utopia". I'm sure many of you will remember 2 reviews in Dragon User (ah, memories), which gave it 5 and 4 Dragons. Well, I reckon I've got a different copy to the one the reviewers had, because it's pretty average to me.

The game concept isn't bad, a bit like 2D Zaxxon. Sadly, the big problem is it's so boring. The gameplay is slow, and the graphics are good but not varied enough. The 'highly advanced fighter ship' permanently flickers, and even when you complete the considerable feat of reaching the end of a level (every time you die you get sent back to the beginning of the level), all you are rewarded with is a beep and a quick flash. I suppose part of the problem is that I had very high expectations of this game, having played it immediately after ROTABB.

However, look out for Impossiball. Rumour has it that it's a great improvement, though by now I expect you've read a review of it (XXAh, THAT review!...It was last month, everyone...SWXX).

Finally, how about some letters? I haven't had one yet, but it would be nice if I could print a couple of pokes etc next month!

Dudley the Incredible Games-Playing Goldfish (XYes, I don't believe it eitherX)

Crossword 42 Answers.

Across:-

- 1A). Blackcurrants
- 2A). Bath towel
- 3B). Prawn
- 3I). Spear
- 4B). Ian
- 4E). Eternal
- 5D). Trowel
- 6K). Cob
- 7A). Croon
- 8E). Spatula
- 9A). Glue
- 10B). Colorado
- 11A). Nine
- 11B). Whittle
- 12A). Quavers
- 12H). Chairs
- 13A). Marble Chips.

Down:-

- A3). Dodecagon.
- B1). Lapidary.
- C3). Ramrod.
- D2). Hand towel.
- E8). Shovel.
- F1). Control.
- F10). Rare.
- G9). Paws.
- H1). Reorder.
- I4). Null.
- J3). Patella.
- J11). Tap.
- K6). Cramp.
- L3). Allow.
- M1). Strawberries.

Sorry, I haven't a clue who this month's winners are yet ... tell you later!.

COPY!!.

Thanks to the efforts of Helen Armstrong we have now received some of the promised unpublished Dragon User material!. You should be seeing some of it in future issues.

Computer Viruses...Sotos Mandalos.

Andrew Hill of Dragonfire has mentioned a lot about computer viruses and so I decided to write a few words about what they are and what they do. However, I do not really believe that someone has put in a lot of time and effort to write a virus for the Dragon, but just in case there is something out there, here are the facts that you need to know about them. First of all, let's go through the common questions asked by computer users. In doing so I hope that I will be able to provide a clear and precise indication of the answers.

"WHAT IS A VIRUS?". It is a piece of software. In very simple words, it is a computer program, just like the games we play on the Dragon. I doubt that it is in pure BASIC (although it may well be), so mostly it will be in machine code. A virus, while in operation, would gradually or even immediately, gain control of your computer in order to do something destructive. You should remember that a 'virus' is written specifically for a particular machine. This means that a virus for the Dragon is written specifically for it and can do no harm to another computer (ie Spectrum etc).

"WHAT HARM CAN THEY DO?". First of all viruses may or may not be dangerous. The dangerous ones will destroy the data on your disks (not tape of course!) completely. Others will make your own program behave a bit strangely. Just to make myself a bit clearer, consider playing "Crazy Painter" on your Dragon and suddenly the music turns from a happy tune to a different, unhappy one, or the screen may go blank, or funny things may happen etc etc. What must have happened is that someone has written a cute routine which would be used by the original program. Consider someone writing a BASIC program and at the beginning of his code he introduces the appropriate pokes for no printer listing. What in fact he does is introduce a protective method for his program, AS WELL AS introducing a virus, since the Dragon would not be able to LIST while this program was running. If you didn't know that there was a protection routine in the program, you may think that your Dragon has developed a fault. Other, more dangerous viruses, will in fact format your disk or manipulate your data, or introduce bugs in your programs.

"HOW CAN I CATCH A VIRUS?". We all know this one. Pirated software. This must be the commonest source, on the Dragon at least. However, from bulletin boards downloaded free software may also include viruses. Beware also of public domain software. By the way, people offering a service should check if the software they receive from contributors is okay before they make it publically available.

"WHAT SHOULD I DO IF MY DRAGON IS INFECTED?". First of all, you must isolate the virus. Identify which piece of software it is in and then get rid of it. If you have acquired a program from a friend and it is infected, then either he doesn't know, or he's playing a tasteless joke on you. Don't forget if the virus is destructive it will destroy itself. If you are in the middle of your program (eg a database) and you realise that your Dragon has been infected, you must switch off immediately. I haven't come across a virus which actually destroys (ie burns out) the computer, and if you HAVE heard this, then it is likely to be a lie!

"HOW CAN I AVOID CATCHING A VIRUS?". Let's face it, there are no viruses for the Dragon. But you never know. Someone may want to prove me wrong! First, it is better to prevent a virus rather than cure it. People with a disk system are at greater risk, so be very careful. The only advice I could give is to buy original tapes and disks from the well known Dragon suppliers. Reputable companies provide virus-free software, so there is no need to panic.

I hope that this has eased your minds about computer viruses. If there are any further queries about them, or something you haven't understood, write to me through the magazine. In the mean time, I will try to keep you informed of any further news on the viruses.

PEEKING THE DRAGON (15). BY MIKE STOTT

This month I have only received two new items of software for review - hopefully everybody is saving new releases for Hove. The first is JSW+ which is a screen designer for Jet Set Willy and is available from 10th Dimension Software. "Who are they?", I hear you ask. Well, once it was Giantsoft but probably most of you have heard of the owner, Paul Burgin, who still has cheat sheets available as well as Dragon software. The other new item is a text adventure from Dragonfire called Don't Squeal which I have given a quick spin to (disk version, you see) and it appears to be quite challenging although regular saves are needed to bypass the frequent deaths.

Here, I'm afraid, I must warn people about another text adventure from the aforementioned Dragonfire. It is Time Machine Search and was originally sent out for review quite a long time ago. Howard and Stephen Knight discovered that there is no limit to the number of objects that can be picked up, including the same item more than once if you desire. I gave it a more thorough testing after they had returned it and discovered more problems like YOU CAN'T GO EAST when I had input OPEN BOX and YOU CAN'T GO NORTH or YOU ARE CARRYING --- when I had input PAY FIVER. The basic part of the program also has bad language in it which could easily be listed even by my youngest and I really object to this. Andrew Hill considers it to be still playable but I, personally, have not touched it since I found these problems. Maybe it gets better. I do not know. You have been warned and it is up to you. In the past, and I hope in the future, software has been held back until problems like these are cured and Andrew, I must stress is usually one of the best in getting hiccups sorted. It would appear that Bob Preston is experiencing duplicating problems with cassettes as I have had trouble with review software and also stuff I bought off him at Ossett.

Through this article I would like to ask the companies still left in the Dragon scene to be more careful in checking their products before selling them to the public. The ordinary punter is certainly not blameless, however. This week, having written to Bob Harris, I received a letter stating that he was no longer stocking any items for the Dragon as there is no longer any demand for them. We have only ourselves to blame for not buying more in the past. No mention was made in the letter as to where his material can be obtained although, no doubt, someone will have taken over the rights to it and will inform me. On a similar theme Impossiball was voted number 1 in a poll of Dragon Magazine readers and the author of Impossiball, Jonathan Cartwright, told me over the phone that judging by the number of copies that have been sold it must have been voted for by quite a lot of people owning pirate copies. If you must keep on pirating software and forcing writers away from the Dragon scene then do not come whingeing to me in a few months time saying that there is no decent software for the Dragon. By the time you read this Hove will be over and I hope that the companies sell enough to be able to say that they will produce more software and attend more shows.

One other thing that you the reader can do is to put pen to paper and write an article for Update. It does not have to be terribly technical or cover a lot of paper. Everybody out there must be able to contribute something of interest for the rest of the Group and I urge you to help take the strain of the regular contributors. If you feel that you can do a review then please feel free to write to me and while there is still software available I will certainly give you your chance.

P.S. A new arcade game, Revenge of the Alien Bongo Beast in the Crissy-Crossy Lines Dimension has just arrived in the post from Kouga. Have not even had time to load it yet, but judging from it's preview at Ossett this is going to be another winner by the author of Balldozer. Other late news is that Pulser have taken over Orange Software as from 22nd May and hope to be able to reduce prices of this software as well as their own.

I don't usually like to comment on the content of Update articles, but I think this time I HAVE to. Isn't time we ALL stopped this paranoia about "Pirates"? A magazine poll usually amounts to about half a dozen replies, as I know from experience, and any conclusions based on these "polls" are totally worthless. If programs don't sell it is down to one of three things, either they are over priced, under advertised, or simply not good enough, and it's about time this fact was accepted. If Jon's program sold 20 copies, by current standards it was a best seller. There is a VERY small user base, and around 75% of it has no interest at all in games software, so to expect more is simply ridiculous. As to Bob Harris' material, as Bob didn't advertise anywhere after the demise of D.User, "lack of demand" is hardly surprising!. Can't we grow up and stop using these childish excuses?. Paul.

JINGLES - REVIEWED BY MIKE STOTT

I am reviewing this program myself because all proceeds are going to Westgarth, which is a home in Elland, Yorkshire for children with mental and physical handicaps but who still enjoy their Dragon computer. Stuart Beardwood, who wrote this program, is a social worker there and some of you met him on our stand at Ossett with stereo music on the Dragon. The program itself contains 56 "jingles" or short pieces of music which can first be played through and then loaded in one at a time for saving out for use in your own programs or processed using a NOTESWAP option. All the tunes were created using Microdeal's COMPOSER and the different waveforms come from COMPOSER-X from Orange (sorry, Pulser now). The variety of tunes is enormous from nursery rhymes through to Quartermaster's Stores. The instruction set gives full details of how to use the jingles within your own programs and also how to use NOTESWAP. In the instructions Stuart says that he hopes people will be able to use these tunes to make their programs more marketable and help keep the Dragon alive. Stuart is charging 1.99 and they can be ordered from him at 38, Salisbury Place, Boothtown, Halifax, West Yorkshire, HX3 6ND. As he will be giving all money sent to the fund for a mini-bus, not even deducting the cost of a disk or postage, I would ask you to enclose a disk if possible and SAE together with at least 1.99 for the software as it is for such a good cause and Stuart put himself out for the Group at Ossett so let us do something to help him. Although only on disk I am sure he could do something cassette-wise if you asked him, either by writing (with SAE) or ringing him on 0422-348631. Please support this good cause of children less fortunate than ourselves. Hopefully I will be able to get one of our music reviewers to do a more in depth review of this item in a future Update.

Henceforth (18) . . . Bob Smith.

I had hoped to continue the text saga, but this was not to be. A few snags have cropped up in the use of a couple of FORTH dictionary words. While this is being sorted out, I'll be digressing onto a few other topics. The first is making backups. The second is Dragon FORTH on tape as I promised way back when this series began. A third interesting topic is debugging techniques.

BACKUPS: Everyone makes regular backups - don't you? This is no problem except that it ties up an extra disk, plus a third scratch disk. My method is to use the DOS BACKUP command (`bf BACKUP paras.1`) to copy the FORTH disk onto the scratch disk which is then verified independently in FORTH with XLIST (see below). When this is OK, a new backup is made onto the normal backup disk, and this is then verified. This is quite a rigmarole, but means that you always have two complete copies of FORTH.

It may well be that the INDEX command can be used, but I'm not sure that this reads every byte on each of the 720 sectors on the disk. I have therefore made a new word XLIST that lists out the screens from the first number on the stack to the second. To verify a complete disk screens 0 to 720 are listed while I go and make a cup of coffee - it takes about five minutes.

To run XLIST type:-

0 719 XLIST

Here is XLIST:-

```
SCR #715
0 ( SCREENS LISTING #715 )
1 : XLIST ( n1 n2-- )
2 1 + SWAP DO 1 ." SCR#" . I
3 SLIST LOOP ;
4 ;S
5
6
7
```

Under New Ownership

Orange Software is now owned by Neil O'Connor (Pulser Software), and Graham Smith no longer has any connection with the firm at all. In fact Graham has asked me to mention that he no longer has a Dragon and will NOT be able to answer ANY queries in future. As yet I don't know what Pulser will be doing with the former Orange material, but I assume the programs will be offered for sale in the same formats and at the same prices. I would suggest that you contact Pulser for further details. Paul.

The FOR...NEXT Loop...J.R.Winchurch.

The following short series of articles, which discuss the use of the FOR...NEXT loop, are aimed at those, like myself, who have difficulty understanding the logic of programming in BASIC. They do not pretend to be original, or have any new light to shed upon the mysteries of the FOR...NEXT loop. They were written in response to the request for more basic material that appeared in the January issue of Update. I hope that they will be of use to some of you, and not offend too much the more capable.

In its most basic guise the FOR...NEXT loop is a form of counting. But, before developing our ideas, let us look at a simpler way of counting, its uses, and its drawbacks. Try the following:-

```
10 CLS          40 C=C+1
20 C=1          50 GOTO 30
30 PRINT C
```

What is happening here? In line 20 the counter C is set to 1. In line 30 this number is printed on the screen. Line 40 adds 1 to the counter, making it 2, then line 50 returns the program to line 30, printing the new number beneath the first. This will continue ad infinitum, and thus this program doesn't achieve very much apart from printing a list of numbers down the screen. How can some form of control be introduced?

```
10 CLS          40 C=C+1
20 C=1          45 IF C=10 THEN END
30 PRINT C      50 GOTO 30
```

By adding a limit in line 45 the printing can be stopped when the count reaches 9 (not 10!). A neater method would be to combine lines 45 and 50 to read IF C<10 THEN GOTO 30 ELSE END

It is also possible to use this form of counting to cause the computer to pause before taking further action.

```
10 CLS          40 D=D+1
20 PRINT "A TEST" 50 IF D<100 THEN GOTO 40 ELSE CLS
30 D=1
```

The machine is forced to count up to 100 before clearing the screen. Let us now combine the printing and delay in the same program. Also, let us use PRINT@ to locate the number at a fixed point on the screen.

```
10 CLS          40 C=C+1
20 C=1          50 IF C<10 THEN GOTO 30 ELSE END
30 PRINT@128,C
```

Too fast for you? Slow it down with a delay in lines 40-60.

```
10 CLS          50 D=D+1
20 C=1          60 IF D<100 THEN GOTO 50
30 PRINT@128,C  70 C=C+1
40 D=1          80 IF C<10 THEN GOTO 30 ELSE END
```

Now it should be possible to read these numbers as they change. But have you noticed one thing about these short programs? The preponderance of GOTOs. One thing that all books on BASIC programming stress is the problem caused by over-use of GOTO. There are better and more elegant methods of solving the same problems.

One of these is the FOR...NEXT loop. In the last program it could be seen that the delay D cause the program to pause for a count of 100 before proceeding to print the next number. Without comment, here is a better method of achieving the same ends:

```
10 CLS          40 FOR D=1 TO 100
20 FOR C=1 TO 10 50 NEXT D
30 PRINT@128,C  60 NEXT C
```

Next month we will look at this improvement in more detail.

INTELLIGENT DISK COPIER. FRANK FISHER

After typing RUN"MENU" you are then presented with a menu giving you the choice of the main program or the free extra depending upon which Dos you use.

INTELLIGENT DISK COPIER: This is for SINGLE or DOUBLE-SIDED disk drive users. On selection the screen clears and then you are prompted to insert your source disk. The screen will display number of tracks, side number, and will then show a sector count, this program counts and copies all the used sectors KILLED or ACTIVE. You will then be prompted to change to a new formatted disk. The number of disk changes will depend on the number of sectors to be copied. I tried a disk that was 9 tenths full and it needed a total of 4 disk swaps, which compared with BACKUP is an improvement.

This can be a useful utility, if like me, you do the occasional tidying of all your disks and copy them to clean disks. The saving of the wear and tear to your fingers is a boon.

HI-TEXT: One of the utilities supplied with the disk. Not much can be said about this one. The screen will clear to PMODE4 screen 1,1 and you will then have a 64 x 24 text screen on which you can write your basic listings, an improvement over the normal 32 x 16 text screen. Note: to clear this screen you must direct type PRINT CHR\$(12). On my monitor screen the text is easily read and not a strain on the eyes. I think it is a little better than using Rainbow Writer. Try incorporating this with a text program, it lays above 32256 dec.

BOOT-STRAP: This one will put a Bootstrap routine onto a new disk, and by supplying a program name, will then autoloading and run a program by only typing BOOT. Note only one program per disk can be treated by a BOOT routine. All the above will require a D64. A nice little suite of programs at a small price.

Intelligent Disk Copier (disk only, 5.00 + 50p p&p) available from Dragonfire Services, Unit 3, Rising Sun Enterprise Centre, Blaina, Gwent, NP3 3JW.

SMALL BUSINESS PACKAGE. BILL STEVENSON

Dragonfire try to disarm criticism by stressing that these are programs for "Small Business" use, though I imagine most small businesses need programs which are more professional than these, alas, are. The WORD PROCESSOR suffers from the deficiency, to me fatal, of being restricted to the Dragon text-screen, without lower-case or word-wrap and lines fixed at either 40 or 80 characters when sent to the printer, which is not under precise control. Text editing is clumsy - you have to leave the text screen, call up each line by number, and retype it (perhaps making new errors on the way). What WP does it does well enough, but it's only a beginning, not a complete WP program.

DATABASE, in my copy, suffered from a corruption which put its EDIT section - a major part of the program - out of action. However, as the program is in Basic, this was recoverable, and I found the program usable, if unexciting. You are asked to specify "Fields" or Headings, up to 10, and may then enter data under them. The Fields and the data can be sought, added to, deleted, sorted, and the whole lot saved and loaded.

The **TELEPHONE DIRECTORY** seemed the most effective of the three, within its limits. It works like a simple database, with three fixed headings, "NAME", "ADDRESS", and "NUMBER", and has much the same features as DATABASE. Bubble sorting is used in both, which is a pity, since (as the author admits) it can be very slow. The programs work well enough, but are hardly slick. In some places you enter "000" to return to the menu, in others "000". Too often you must look at the manual for instruction, when it would have been better put on screen. And the manuals!!! They are adequate enough, but so full of elementary spelling errors that any would-be purchaser is likely to be put off before ever putting disc to slot. I found 16 errors on one page of the DATABASE manual - others emerge on to the screen. What about "if your using it"??? I am afraid I have to say, "Shows promise - but not ready for the public yet".

Small Business Pack available for Dragon/Tandy on disk or cassette for 10.00 + 1.50 p&p (Tandy disk 50p extra) or singly at 4.00 plus p&p from Dragonfire Services, Unit 3, Rising Sun Enterprise Centre, Blaina, Gwent, NP3 3JW.

New Programs.

FOUR new programs from the Group this month. Two tape programs, the Malcolm Cowen Adventure Writer and Colossal Cave, which are available on TAPE ONLY from Stephen Wood (NDUGSOFT), and "Animated Tunes" and "The Best of Input", compiled by R.A.Davis, available on DISC ONLY from Paul Grade. For prices and further details see the ads page.

CoCo Matters(3) ... Chris Rouse.

Can anybody explain to me what Tandy UK's policy regarding computers is? I must admit that their decision to scrap the CoCo came as a bit of a blow and the speed that the stock vanished lends credibility to rumour that it was recalled, then burnt to reclaim VAT. If the day of the home computer was dead then why start selling the Spectrum (or did the CoCo go to make room for that machine?). At about the same time the CoCo3 was launched in the states, so why not sell that in the UK? Eventually the Spectrum stock sold and Tandy fell out with Alan Sugar, but still no CoCo3. Now they have really rubbed salt into an open wound and started to sell the Commodore 64. If the CoCo3 were to be sold in this country, allowing for a doubling in price, it should cost no more than the C64, if not less. The question must be, is it just too good??

Enough of the soap box and back to TRSDOS. This month we start to look at the commands and begin with DIR. Called from BASIC this lists the contents of the directory. Like the other DOSs it is a little crude and if there are a large number of files on the disk it becomes difficult to read, as the list vanishes off the top of the screen. However, it is possible to modify this command as will be shown later.

```
DIR      located from $CCA9 to $CD34
calls:   $D24F  get drive number to DCDRV
         $C79D  read FAT to $600
         $CD1E  calculate number of granules in use
```

To call from BASIC or machine code simply EXEC &HCCA9, although this is of little use since it takes longer to type than DIR! However, it has been written in position independent code and so can be moved into RAM where it can be modified. Each line printed on the screen is built up as follows: print name, print a space, print extension, sprint a space, then print file type, format and size, each with a space after it. Finally, a return is sent, ready to print the next entry. We can interrupt this sequence at any point, simply printing the information needed. For example, the program below copies the DIR routine into RAM and inserts a jump around the code that prints the file data. The result is that the program names and extensions are printed in two columns, allowing upto thirty entries to be printed on one screen before they are scrolled upwards.

Enter the program then run it (set the variable BASE to whatever address suits you, adjusting the CLEAR command to match). EXEC BASE will then print the directory. To print on the printer use POKE &H6F, &HFE : EXEC BASE, giving five columns on a standard 80-column printer.

```
10 CLEAR 200, &H3FFF      90 FOR F=1 TO 8
20 BASE=&H4000             100 READ P$:P=VAL("&H"+P$)
30 D=BASE                 110 POKE D,P:D=D+1
40 FOR F=&HCCA9 TO &HCD34  120 NEXT
50 POKE D,PEEK(F)         130 DATA 8D,36,8D,34,8D,32,20,1B
60 D=D+1
70 NEXT
80 D=BASE+&H3A
```

Other simple modifications could search the directory for a particular extension, or save a program list to a file. The best way is to disassemble between the addresses shown and decide at which point to interrupt the routine.

As well as removing information, DIR could also be patched to add information. In this way it would be possible to print the date alongside the name. So it can be seen that even with a simple command like DIR the possibilities are endless.

Next month, more commands - and the start of upgrading to 64K.

DRAGONDOS ERROR CODES.

Some people have now got discs but no manual, and have queried the meaning of the error codes given by the "PRINTERR" command. This is the list as given in the DragonDOS manual.

0 = NF - NEXT without FOR	30 = ST - String too complex	130 = RT - Record Type (doesn't match)
2 = SH - Syntax Error	32 = CA - Can't Continue	136 = RF - Record not Found
4 = RG - Return without GOSUB	34 = UF - Undefined Function	138 = CC - Cyclic Redundancy
6 = OD - Out of Data in Read	36 = FD - Faulty Data	140 = LD - Lost Data
8 = FC - Illegal Function Call	38 = AO - File Already Open	142 = BT - Boot error
10 = OV - Overflow	40 = DN - Drive Number	144 = IV - Invalid Directory
12 = OH - Out of Memory	42 = IO - Input/Output error	146 = FB - Faulty Directory
14 = UL - Undefined Line	44 = FM - Wrong File Mode	148 = BF - Disk Full
16 = BS - Bad Subscript	46 = NO - File Not Open	150 = FS - File Specification incorrect
18 = RD - Redimension Array	48 = IE - Input past End of File	152 = PT - Protection
20 = DZ - Division by zero	50 = DS - Direct Statement	154 = PE - Read Past End of File
22 = IL - Illegal statement	52 = NE - Non-existent	156 = FF - File not found
24 = TM - Type mismatch	54 = MR - Not Ready	158 = FE - File Exists
26 = OS - Out of String Space	56 = SK - Seek error	160 = DE - Non-existent
	132 = WP - Disc or file is Write Protected	162 = TF - Too many open
		164 = PR - Parameter

Next month, a piece on using file writing commands.
Ken Grade.

The Show Scene Paul Grade.

I suppose I ought to attempt to explain my somewhat cryptic remarks in the "Gaffer's Bit" about there being too many Dragon shows. I know that a lot of you will claim that there aren't enough of them, or that we ought to hold one in your particular town, but there are two very important factors involved, one is the number of people likely to attend, and the second is the number of traders who will be willing to take stands there.

Let's take these one at a time: there are probably around 2500 actual Dragon/Tandy users around ... there are several thousand more who must still OWN Dragons, but these either don't use them or have no contact at all with the scene, and therefore do not read any relevant publications or attend shows. With the exception of the "big" shows, such as the Hove one or the former London ones, the average turnout is a maximum of around 250 ... call it 10% of the active user base, this being roughly doubled for the "big" events.

It seems reasonable to assume that each of these people have a fairly fixed cash limit when it comes to spending at shows, and I would say that for most 100.00 would be the absolute maximum they are prepared to spend in any one year. This being so, you shouldn't need a computer to work out that this adds up to a total possible expenditure of $250 \times 100 = 25,000.00$. A lot of money, isn't it? But now divide that by the number of stands present at the shows, (call it 25), and you're down to 1000.00 maximum per firm per year, right? Still looks good, does it?, then divide THAT figure by the number of shows ... four this year, and you're down to a maximum take of 250.00 per stand per show, and don't forget that's gross takings, NOT profit!

Now take a look at things from the point of view of someone running a stand. First there's the cost of the actual stand and power supply, which can easily be up to 100.00, seventy five pounds or so for the stand and around another twenty-five for the power supply. Then there's the cost of transport to and from the show, which can be another hundred, and is often considerably more. Then you need to add the cost of accommodation for at least a couple of people for one or two nights, depending on distance travelled a minimum of fifty quid, no? That adds up to a minimum of about 250.00 basic outlay, doesn't it?, and if you deduct that outlay from the possible takings you end up with a loss!.

Beginning to see what I mean? The market can support at most two or three relatively cheap "small" shows and one "big" one per year, but any more than that and anyone trying to take stands at all of them makes a loss. If a trader makes a loss, he doesn't trade for long!, and that means fewer stands, which makes for less interesting shows, which means fewer people bothering to attend it's a self destructive spiral effect.

An "small" show at Ossett and Weston, or similar venues, say around March and November, and a "big" event like the Hove or London shows mid-year should be about optimum really. I'm afraid the days are long gone when success could be measured by the number of shows held. There's no real money in running a show, or even taking a stand at one now certainly everyone concerned does their best to show a profit, and usually manages to do so, but really it is the USER who gets the best of the deal. We need the shows to keep the scene alive, but we also have to avoid killing it off by having too many!. A few really good shows each year will do far more to keep things going than a flood of poorly attended flogs.

Well, that's my reasoning, and that's why I will not be attempting another show THIS year ... but don't forget to be at the 1990 Summer Show!.

EASY MACHINE CODE (1) R.A.DAVIS

Perhaps you haven't had the time or the inclination, or like some of my friends you imagine that unless you are a mathematical genius, machine code is beyond you. In that case, this article, and those which follow is for you. Just to give you the bare bones of what you need to know to make some attempt of your own. We all know by now that:-

- 1) The Dragon uses numbers in binary format to operate, and
 - 2) Binary is easier to handle as hexadecimal numbers, and
 - 3) That a BYTE of binary consists of 8 bits. Half a byte is a nibble, 4 bits.
- If we didn't know that, we do now! So, lets have a look at 4 bit binary. In decimal numbers we might have 4 columns, one for thousands, one for hundreds, one for tens and one for units. In 4 bit binary, we would have 4 columns, one for 8's, one for 4's, one for 2's and the last for 1's. Like this:

Decimal				Binary			
1000's	100's	10's	1's	8's	4's	2's	1's
0	0	0	1	0	0	0	1 (the BIT in 1's column)
0	0	0	2	0	0	1	0 (the BIT in 2's column)

The whole of the 4 bit binary table looks like this:-

8.4.2.1.	8.4.2.1.	8.4.2.1.
0 0 0 1 = 1	0 1 1 0 = 6 (4+2)	1 0 1 1 = 11 (8+2+1)
0 0 1 0 = 2	0 1 1 1 = 7 (4+2+1)	1 1 0 0 = 12 (8+4)
0 0 1 1 = 3 (1+2)	1 0 0 0 = 8 (bit in col.8)	1 1 0 1 = 13 (8+4+1)
0 1 0 0 = 4 (bit in col.4)	1 0 0 1 = 9 (8+1)	1 1 1 0 = 14 (8+4+2)
0 1 0 1 = 5 (4+1)	1 0 1 0 = 10 (8+2)	1 1 1 1 = 15 (8+4+2+1)

And the nibble is full at a count of 15. If a further bit is added, then it goes into the higher half of the byte, which has columns of 16, 32, 64 and 128, and the lower nibble would change to zero. The next part will explain how the upper nibble is treated in exactly the same way as the lower nibble, for hexadecimal numbers.

We are re-running this series, first published in Update 27, because of the exceptional number of requests we have received for it.

The Editor's Late Bit...

Does anyone out there have a video? Do you rent films? Do you even see films at the cinema? To date, I have had NO entries for my film quiz, and taking a chance that no-one at the show will bother either, the answer was 'THE FLY' (1986 remake), recently voted (by me) as my second favourite film of all time. Maybe you don't want to win a copy of Formula One? OK; then, for the COMPLETE range of software from NDUGSoft (including Colossal Cave Adventure and Adventure Writer), all you have to is answer this month's question: What is my favourite film of all time? (No telling anyone, Paul!). Any replies which insult my taste in films will be burnt.

Leaving the competition mood aside for another month, we still need articles, surprise, surprise. And I have thought of another of "life's great questions" (see front page). It is: Will we ever get an article from Dudley the Fish where he actually tells us what a game is about?

This is a 'later' Late Bit again this month, as cricket quarter-finals and finishing the master disc don't mix well (cricket takes precedence). Fortunately, Essex won their quarter-final, so I can say "Yaa Boo Sucks" to all Lancashire supporters, and sleep peacefully in the knowledge that Essex are through to the semis.

Paul got it wrong in his Late Bit last month. I was not Assistant Stage Managing, I was DEPUTY Stage Managing. Yes, there IS a difference! 'DSM' sounds better than 'ASM', and I can go around saying "I'm the DSM and you have to do what I tell you." I've tried to insult Paul as much as possible this month, for two reasons: (A) to catch up on the missed months, and (B) because he made loads of snide comments about my being an 'assistant' Stage Manager and being involved in a school production, which were LESS than flattering and which I didn't like much either!. @ Late Extra!. The film competition prize was actually won and claimed at the Hove Show!. Congratulations!. Stephen.

Flattery he wants now!. The things I'm supposed to do to keep Editors happy!. You realise, O Editorial One, that if I get 100 complimentary about your activities someone out there is going to start wondering about us ... or about you anyway, they automatically think the worst about ME!. Anyway, I thought a "Deputy" was one of those blokes in John Wayne films who keeps getting told to round up a pussy, or something.

GROUP SERVICES.

P.D.UTILITY LIBRARY. Contains a very good collection of utility programs and routines available at a nominal charge. new routines always wanted for Dragon, Tandy and other machines. for details send S.A.S. to:-
Lee Coske, 117, Limbrick Lane, Goring, Worthing, Sussex.

DRAGONART GRAPHICS LIBRARY. Contains THE biggest and best collection of graphics screens for the Dragon, all available at nominal charges. The library also wants YOUR original graphics efforts. Full details and list available from:-
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ANYONE in the Bisley area interested in forming a local Dragon Group?
P. Marsh, 37, Corbetta Walk, Bisley, Surrey. GU24-9BU.

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The NEWSDISK No.19 was released and delivered to all our subscribers at the end of May.

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Now R.J.Telkmann has done it all for you, so you can profit from his efforts. As a special offer, the source codes of all the utilities are also included on the disc, so that you can make any further changes you wish. The best way not to miss the next issues ... coming out very soon ... is to take out a subscription with the European OS-9 Users Group!. Contact the Editor:-

Bughard Kinzel, Leipziger Ring 22a, D-5042 Erftstadt, West Germany.

CROSSWORD NUMBER 43.

ACROSS: 1A, Word processor recently mentioned in Update. 3A, Soup server. 3J, Young man. 4E, Fat alcoholic drink perhaps. 5B, Long legged birds beak is the name of true geranium (not a pelargonium). 6A, see 11. 6L, Element having A.W. 207.19. 7P, Golfing accessory. 8C, Most people would prefer that this was in the black. 10A, Famous River. 11A, Pair of poles with footrests for walking raised from the ground. 12A, Used for measuring atmospheric pressure. 13B, Used for restraining violent persons.

DOWN: 1E, Name of motor car. 3S & 6A, Common name for sodium hydride. 4C, Acrobat, drinking utensil, or type of pigeon. 11, Lazy. 17, Scottish hillsides. 4F, Utensil used by gold prospectors. 4I, Word processor recently mentioned in Update. 6Z, Another name for a male chicken. 8P, Crossbow missile. 11 & 6A, Simon & Garfunkle had a bridge over this. 3T, Type of babies bed. 13, Lubricant. 11B, Head support. 1Z, Name of motor car. 19, Hindled by a laurel wreath. 11, This could appear at the back of Update.

Usual prizes, first all correct entry out of the box gets a program from the Dragonfire Services list, second gets a tape from our "prize collection". Entries to Paul Grade only.



(((((ADVERTISMENTS CONTINUED.)))

FOR SALE: Dragon 32, manual, books & games etc. 60.00. Dragon disc drive, FDS, cable, manual & six blank discs 80.00. Dragon Users 7/84 to end 10.00. Backup set Input 10.00. or 150.00 the lot. Slightly injured R32 26.00. All + postage. Phone N.Fisher on 0274-490027. evenings only please.

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FOR SALE. Dragon software, hardware, books, etc. Send SAE for list. \.Warren, 8, Brooklyn Road, South Norwood, London SE25-4NH.

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Helpline 1989

If you have queries on any of the subjects mentioned here, write to the appropriate volunteer, enclosing a stamped envelope for reply. If you need help with a subject that isn't included in the list yet, or you aren't satisfied with the reply that you get, then contact Paul Grade as usual.

FORTH: John Payne, 3, Sibland Close, Thornbury, Bristol.

DOS PROBLEMS: Phil Scott, 4, Badgerwood Drive, Frimley, Camberley, Surrey. GU16-5UF.

PROGRAMMING LANGUAGES AND STRUCTURED PROGRAMMING METHODOLOGY: Stan Davies, 153, Allestree Lane, Derby DE3-2PG.

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WORD PROCESSING & GENERAL BASIC PROGRAMMING: F.J. Fisher, 29, Thornham Road, Gillingham, Kent.

BASIC PROGRAMMING: Ian Rockett, 46, Spalding Towers, Lincoln Green, Leeds, Yorks. LS9-7PE.

SPREADSHEETS: E. Freeman, 80B, Main Road, Old Duston, Northampton. NN5-6RA.

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DELTA PROGRAMMING: Stuart Mills, 49, Templegate Crescent, Leeds, West Yorkshire LS15-0EZ.

DRAGON HARDWARE PROBLEMS AND REPAIRS: Alan Butler, 16, Barnston Green, Barnston, Great Dunmow, Essex.

COMPOSER PROBLEMS:- Dave Cadman, 32, Breedon Hill Road, Derby DE3-6TG.

DRAGON/DELTA DOS PROBLEMS; OS9, BASIC 09, AND GENERAL BUSINESS SOFTWARE APPLICATIONS: M.A.A. Abba, 127, Ankerdine Crescent, Shooters Hill, London SE18-3LE.

DMP 110 PRINTER PROBLEMS/SCREEN DUMPS ETC.: Dr. J. Hatton, 48, Wern, Llanfairpwll, Anglesey, N. Wales.

EPSON COMPAT. PRINTER SETTING UP & GENERAL PRINTER PROBLEMS. Gareth J. Sims, 24, Logwell Court, Standens Barn, Northampton. NN3-3TN.

RADIO AMATEUR PROBLEMS, INFORMATION & ADVICE. Fred Hopewell, 48, Gladstone Street, Loughborough, Leicestershire. LE11-1NS.

GENERAL PROBLEMS AND MOST REPAIRS. Steve Tate, 22, Fairfield Drive, Wormley, Braxbourne, Herts. EN10-6DY.

CO-CO HARDWARE & SOFTWARE PROBLEMS: Chris Rouse, 18, Gregson Close, Bridgemary, Gosport, Hants.

BASIC PROBLEMS, ESPECIALLY USE OF GRAPHICS FROM BASIC, EPSON COMPAT. PRINTER (SOFTWARE) PROBLEMS, SIMPLE PASCAL: Steve Knight, 76, Etwall Road, Hall Green, Birmingham.

The Late, Late Bit.

Before I forget yet again, it seems that reports of the death of Dragon Logic were rather premature ... Logic is alive and well and still operating from the same address as before. What else is new? ... I'm still in the market for a couple of old Shinwa CP80 Mk.I's at reasonable prices, we could still do with some nice interesting articles for publication, other than that here isn't a lot to write about. This job gets depressing. People ask for more programs for the Dragon, so we get them, and sell a dozen copies. Spend six months setting up a major show and only 30% of our "enthusiastic members" bother to turn up. If this was a business I'd quit, but as it isn't, and a lot of people rely on the Group for advertising, repairs, information, etc, I can't. It's tempting though. The idea of a Group was that EVERYONE should participate, but it hasn't happened ... the majority are still just passengers. Well, if that's the way you want it, then so be it, but don't blame me if the results are distinctly sub-standard.

Paul G.

This is our new Virus Protection Suit for Computer Operators.

