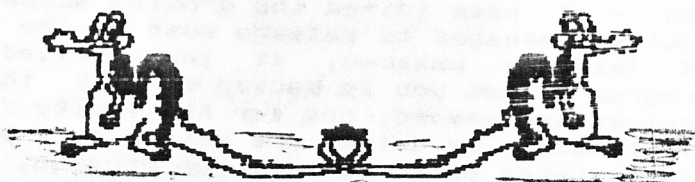


DRAGON



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THE GAFFER'S BIT

Are you sitting comfortably? ... don't worry, the Government will soon change all that!. In order to comply with the agreement reached in Rio, under which all governments will try even harder to rob the poor to pay the rich, all Ministers will continue to ride around in five and a bit litre armoured Daimlers at your expense, while ensuring that petrol costs too much for you to be able to use your Escort 1100, and will continue to enjoy free heating in their free homes while making you pay even more for yours. Obviously the next development will be an Air Tax in order to reduce the volume of carbon dioxide produced by all that breathing you do. In future anyone wishing to breathe will be fitted with a meter, and charges will be set at a level compatible with current market values (VAT will be added at 17.5% of course). What's all this got to do with computers? ... nothing really, except that I'm absolutely CERTAIN that the current batch of politicians don't really exist outside of a very badly written VR program ... don't believe me?, then watch 'em more closely!. The animation is exceptionally bad when compared to characters such as Road Runner, Bugs Bunny, etc, their speech synthesizers seem to be based on an early Donald Duck pattern, and the vocabularies are so limited that even early Spectrum adventures could cope with more words. I blame it all on the Japanese Nintendo are probably producing MUCH better versions for their home market, and we've just been lumbered with the failed prototype ones!. Anyway, more than enough of this waffle The Ossett Show will take place on the 24th of April, and unless you want this to be the final Dragon Show, be there if you possibly can. Dragon Detour is now available ... just send money (well, a fiver can't be bad when you've a chance of winning a tenner, can it?). Other than that the only news is that there IS no news, so I'll leave you to mutter curses about Chairmen who monopolise front page space for their grotty opinions, while I go find a drink ... I need one after putting fourteen pages together!. Paul G.

The Editor's Bit . . .

Start as we mean to go on. Please, please, please try to find the time to put pen to paper and write an article for Update. In terms of available material, things are now getting VERY tight indeed, and unless I receive some new material sharpish, I simply won't be able to guarantee a full size issue in the future. Yes, it really IS this serious, and I have no real desire to try and edit an empty Update.

Doubtless, this issue will be splattered with news about Dragon Detour, but editorial time-delay being the bitch that it is, I have yet to see a copy, but Our Lord And Master assures me that it is word Go from this issue, so a speculative mention will probably mutate into a very topical notice once the timelines have sorted themselves out (one for the Red Dwarf fans, there).

What better to consume with intense food than intense articles? Eat a Pot Noodle, read this.

Stay Hungry.

Stephen.

PEEKING THE DRAGON (44) BY MIKE STOTT

19th February 1993 - I have joined the growing numbers who have experienced drive problems. Luckily I managed to salvage most of the stuff that I had lost thanks to DISKFIX (history unknown, it just arrived on a disk one day many years ago). This program allows you to backup a disk that normally gives CC errors etc. Two drives are needed, one for the faulty disk and one for a blank formatted disk. Unfortunately my drives are set up as 1 and 3 as I have to have my 3 1/2" as 2. This forced me to rewrite the program, tidying it up, in order that I could get it to work. Why do problems always occur late at night? Anyway once I had the backup (showing nine errors) I was able to try and recover it. Firstly I always write the backup directory track over the main one and in this case I was successful, only losing this article which I had virtually finished and part of a review. Then I copied all the files back onto the other disk which I had reformatted. If anybody wants a copy of DISKFIX I am prepared to send them a copy if they send me a formatted disk (single-sided as I have got problems with my double-sided drives) together with return envelope and postage together with a small contribution to group funds. I will also put on a copy of DIRFIX which replaces the directory with the backup version for anybody who wants that. Alternatively come and see me at Ossett. If you buy a lot of group material I might even give you these programs free. Right, now to think what I had already written in my article before my problems.

Chris Jolly has sent me a copy of TYENKO which is similar to KYE for the PC (review to follow shortly). It is to be sold as shareware with proceeds going to Action Aid.

H. Hulme of Market Drayton needs the location which tells you the pitch of a note played through the cassette recorder. Can anybody help?

Stephen Ross from Tomintoul, Banffshire has written to me asking about the 128k expansion board I mentioned in PEEKING 42. I have heard nothing about it for a while so I do not know whether this is a successful venture or not. Contact Keiran Anscombe at Dragonfire Services who should be able to give you more information about the aforementioned.

The other day I was looking at some Sega control pads in one of our local shops when I noticed the name DRAGON on them. Then I saw the famous Dragon Data logo on the box. Could these be from Joe Pilz's "Australian connection" or is someone else also using it for their products? It just shows that the Dragon will drag on and on and on and

Raymond Roach, who has been a tremendous help to me with reviews for many years now, has asked me if I know the answer to a problem that he has encountered. He has connected two Dragons together and is able to send data from one to the other and work on it on the second Dragon. However, when he sends the data back to the first Dragon there is always two entries less than he had originally sent over. This happens whether he sends the information back in one, two or three parts. Somebody else out there must have had the same problem in the past and, probably, have discovered the answer to this annoyance. Please help him as he has done so much for all of you over the years. He can be contacted on 0326 231477 or else let me know and I will pass the information on to him.

As I did last year at Ossett there will be a HELP CORNER where people can write down any problems they have got concerning the Dragon. If someone there has the answer your problems could be solved on the day. If not I will list them in a future issue of UPDATE and, hopefully, you will get your answers eventually. If you want a quicker response please leave me a stamped self addressed envelope and I will post you the answer as soon as I know it. Otherwise I will include the responses in the earliest possible article that I can, but remember I am writing this two months before you read it. This goes for written enquiries to me as well. Many people just write and ask me questions and I am afraid that I could not afford the stamps and envelopes to reply to everybody.

I hope to see as many as possible of you at Ossett. Please come over and say hello, even if you do not want to buy anything off the group. I will be surprised if anybody can resist my brutal hard-selling tactics anyway. For sale we will have all the old stuff, all the new stuff that has come out over the last few months (I am not sure about the new adventure as I have not even seen a copy of it yet), and also all the back issues of UP2DATE for you to look at and buy!.

OSSETT ... OSSETT ... OSSETT ... OSSETT

Double Dragon...Chris Jolly.

This article describes a method of having two BASIC programs loaded simultaneously on a Dragon 64, with a simple way of switching between them. The idea came from Dave Riley, who suggested that this might be a useful way of using the extra memory on a 64 rather than using it all for one BASIC program in 64K mode and losing DragonDOS in the process. The first idea was to use the P1 bit in the SAM, which selects which range of physical addresses (\$0000 to \$7FFF or \$8000 to \$FFFF) is used when the machine is in 32K mode. Unfortunately, this doesn't work because this bit only applies to memory as accessed by the CPU and doesn't affect the VDG, so that the CPU can lose control of the display (although this implies an interesting way of using the upper 32K for graphics memory while in 32K mode, releasing more RAM in the lower 32K for program storage). Eventually, I used the more pedestrian but quite reliable method of keeping one program in the lower 32K and the other in the upper 32K and swapping between them as required. This only takes a moment to happen and the only wrinkle is that the top 256 bytes of each half cannot be swapped because the SAM uses the corresponding addresses for I/O. This means that neither program should access addresses \$7F00 to \$7FFF - this is easily achieved by the use of an appropriate CLEAR command, for example CLEAR 200,&H7EFF. Two short assembler routines are required: the first one "forks" by copying the whole of the lower 32K into the upper 32K (except the top 256 bytes). The second one performs the swap. After the initial fork, new program can be loaded into either partition when they are made current by a swap.

The fork routine switches to 64K mode and copies from the lower half of memory to the upper half. Note that the initial stack for the upper half is stored during this routine so that on executing the first swap, the machine appears to return from the fork routine for a second time. Before returning, the machine is returned to 32K mode.

```

FORK PSHS CC,D,X,Y,U
    STS STACK,PC
    ORCC #$50
    LDX #0
    LDY#$8000
    CLR $FFDF
FK1 LDD ,X++
    STD ,Y++
    CMPX #$7F00
    BNE FK1
    CLR $FFDE
    PULS CC,D,X,Y,U,PC
STACK RMB 2

```

The swap routine simply places the machine in 64K mode, swaps the two halves of memory, loads the new stack pointer, switches back to 32K mode and returns. Note that both fork and swap routines are executed with interrupts disabled to prevent problems with interrupts occurring while the stacks are being swapped.

```

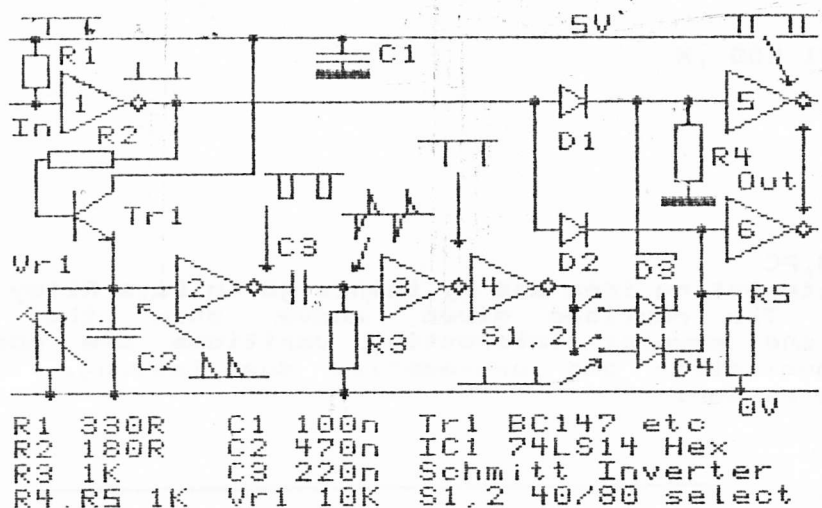
SWAP PSHS CC,D,X,Y,U
    STS STACK,PC
    ORCC #$50
    CLR $FFDF
    LDX #$0
    LDY #$8000 @ SW1 LDD ,X
    LDU ,Y
    STD ,Y++
    STU ,X++
    CMPX #$7F00
    BNE SW1
    LDS STACK,PC
    CLR $FFDE
    PULS CC,D,X,Y,U,PC

```

This is an interesting idea and my thanks go to Dave Riley for drawing it to my attention. The routines given above show the simplest possible implementation and several interesting variations are possible, including inter-task communication and pre-emptive dual-tasking. These are left as an exercise for the reader.

Some Mitsubishi drives are switchable, but unfortunately not mine. Mitsubishi in Watford were unable to help with any technical info because, as the nice man explained, they were too old, and in any case he could not recall any straightforward way of modifying the disc drive from what he could remember of the circuit diagram. The only answer was DIY and so, armed with a drive controller diagram and a list of TTL chips, I set about it. During the next couple of weeks of sporadic tinkering, I learnt that you need a better scope than mine to see the stepping pulses without extreme difficulty, that drives can be very touchy about pulse widths, and that LS TTL has a number of disadvantages. After much fine tuning I arrived at the circuit below, which produces a successful double step.

VR1 is set to give a delay of approximately 3 msecs for smoothest stepping. The circuit operation is borderline at delays much more than 3ms in any case, due to the aforementioned disadvantages with LS TTL. I have not tried it at faster stepping rates than the DOS 4 default rate but it should work. The whole thing can be slung onto a piece of veroboard and stuck to the drive power supply with double sided sticky pads or something. Power can be taken off the nearest disc drive and subminiature toggle switches can be fitted to the drive level.



Fractal Gaskit Program...Stan Garvey.

This program draws an impossible shape in an impossible way. It draws the Serpinski Gasket, a triangular shape that has had its centre cut out in the shape of a triangle half its size. This leaves a hole surrounded by 3 triangles the same size as the hole. If you remove the centres of these triangles and so on, you will have a Gasket with an infinite surface area and zero volume!

The program draws this Gasket by applying some simple rules to a random situation. For the Gasket, 3 special variables are set up. These are the strange attractors, which map out a triangle on the screen. The program then selects one of the attractors at random and moves a point halfway between the last position of the point and then randomly chosen attractor. This point is then set or reset, and the whole process is repeated over and over.

When you run the program, you will be asked for the number of boundary points (attractors). Enter 3, and the program will calculate the position of the attractors automatically. You will then be asked for the division factor; enter 2. This determines the length a point will move away from where it is towards the attractor, in this case divided by two, or half the distance. You will then be prompted for the scale factor, or how big the picture will be; enter 95.

To turn the Gasket inside out, try 3 attractors, a division factor or 0.66666667, and a scale of 35. Or, try 6 attractors, 1.5 division, and 95 scale to give a six-pointed snowflake. The longer the program runs, the more detailed the images will be.

```
10 PMODE4,1:PCLS(1):CLS
20 GOSUB100
30 NX=0:NY=0
40 'DRAW GASKIT
50 SCREEN1,1:LINE(0,0)-(255,191),PRESET,B
60 V=(RND(NP)):LX=(X(V)-NX):NX=NX+(LX/DF)
70 LY=(Y(V)-NY):NY=NY+(LY/DF)
80 PRESET(INT(NX),INT(NY))
90 GOTO 60
100 'GET POINTS
110 CLS:PRINT"GASKIT CREATOR"
120 INPUT"NO. OF POINTS";NP
130 DIMX(NP):DIMY(NP)
140 INPUT"DIVISION FACTOR";DF
150 INPUT"SCALE FACTOR";SF
160 'CALCULATE BOUNDARY POINTS
170 RAD=(3.14159265*2):BS=(RAD/NP):XOF=255/2:YOF=192/2
180 FOR I=1 TO NP:X(I)=(SIN(BS*I)*SF)+XOF:Y(I)=(COS(BS*I)*SF)+YOF:NEXT I
190 RETURN
```

ALTAI JOYSTICKS TESTED BY MIKE STOTT

At Stafford I was given a box containing an ALTAI four button joystick to try out on my Dragon. In the past I have mainly used VOLTMACE three button self-centering joysticks which are nearly twice as long as the ALTAI and about the same thickness. DRAGON DATA were the perfect shape to hold in the hand, but oh so unreliable and easily broken.

The ALTAI has two buttons on the top nearest to you and one each on the side away from you and to the left. It is not self-centering which can be a drawback for some uses but a boon in others. I first tested it on BLOCK OUT from DRAGON POWER. Absolutely useless, I had no control over anything. I then got out TETRIS from PSE which I had found to be a less responsive version. Success, I now had much better control than I had obtained using my VOLTMACE.

Getting out many of my older games I found I was able to compete favourably with all my old high scores without too much effort. If you are looking for a joystick that is really responsive then this is the answer. If you are looking for a sturdy joystick that will not break easily then this is the answer. It is reasonably compact enough to be handheld - but not quite if you are going to hold it for a long time. Overall good value for money and I am certainly glad that I got the chance to try one out.

VOLTAI FOUR BUTTON JOYSTICK FOR THE DRAGON is available from Graeme on 0831 513996 for 5.00 or keep your eyes open for him as he attends many of the Computer Shows in the North and Midlands.

The Network Thing... Jonathan Bird.

There is a great move these days towards computer networks, particularly PCs. Even the local college has just had a fully fledged Novell system plumbed in, so not to be left behind in the rush, I set about seeing if I could somehow connect my 3 Dragons together on a small network. Actually, I started work on it in mid-1991, and the first functional version was completed late last year. The end result: DNOS, Dragon Network Operating System.

The system requires each Dragon to be equipped with a network card. This simply plugs into the cartridge port, much like a DOS cartridge, and comprises the software on an 8K EPROM and the serial hardware. The network cable is standard 2-core twisted pair. One machine is designated the file server and is connected to the disk drives and optional printer (the network card on the file server does not have an EPROM since the software is loaded from disk). Once installed, simply boot up the file server from disk, and switch on the network stations. The software enables all the Dragons on the network to access the disk drives on the file server via the normal DOS type commands - LOAD, SAVE, DIR etc. In addition, there is the ability to route to a printer connected to the file server such that PRINT#-2 and LLIST are directed through the network to the shared printer. A machine code jump table is provided at \$C004 enabling most programs which use machine code to access the disks across the network, and routines are available to enable users to access the network directly. In addition, an optional CHAT program is provided to allow users to talk to one another across the network.

It is not all sunshine, though, and there are number of problems. First, I cannot build network cards to order, since I don't have the time or the resources (I can supply circuit diagrams, though). Whilst building the cards for network stations isn't too bad, it is a bit tricky connecting up the file server with the DOS cartridge still connected. The software is still very new and is almost bound to have bugs in it. I've tested the system with only 2 stations. and don't really know how many can be run successfully. In addition, the software is not totally 100% DOS compatible, and not all DOS commands are implemented (noticeably FREAD and FWRITE, although sequential access files can be used via OPEN and PRINT#).

Anyone who is interested can get in contact with my at 49, Havelock Road, Bexhill-On-Sea, East Sussex. TN40 2BY. And, if your average Dragon User owns 9 machines, then maybe I'm just in time???

DISC UTILITIES 2 REVIEWED BY MIKE STOTT

This disk contains nearly 40 very useful disk utilities which have been gathered together from numerous sources. It would take up too much space to mention every program. If you have not got many disk utilities then you will certainly find this offer to be a must. If, like me, you have amassed a load of them over the years then you will still find useful items on it that you have not seen before. I thought I had nearly everything until I saw this collection. One of the most interesting is a routine to tidy up those fragmented disks (which really cause problems with EVERY variation of Dos available for the Dragon). When using a BBC I always found this option very useful so I am glad that I have now found a version for the Dragon. This can also be done under Basic 42 with another program on the disk.

There are several disk explorers and copier programs. With this set you will be able to make your disks BOOT up, LIST and DIR one screen at a time, and even discover whether you drives are running at the correct speed.

All in all a very useful set of utilities. Some of them may be old but that does not mean that they are not good. Available from the group for only 3.00 which has got to be a bargain even if you only want it for Pam Darcy's DISK DETECTIVE which is only one of the goodies you will find on this disk. One word of warning some of these utilities are very powerful indeed, and do not include any documentation apart from within the programs. Always use them on a backup copy of a disk if you are not sure what you are doing. Otherwise you will find that you have written complete garbage onto that part of the disk which contained the only copy of your favourite program.

OSSETT ... OSSETT ... OSSETT ... OSSETT

How Microsoft is our BASIC? - A.N. Martin.

Below is a simple example program. Does it run, or does it say ?SN ERROR ?

Lines 20 and 30. Defined function have been named with two letters, FNAR as opposed to just FNA. The Dragon manual says I got it wrong here, but the program works. The use of 2 letters is as per standard Microsoft - you can have up to 676 defined functions, FNAA to FNZZ, not just 26.

Line 50. More than two statements appear before ELSE. Surely the ':' will terminate the IF-THEN statement? But no, many statements may be used before and after ELSE. The manual leads us to believe that only one statement may be used, and that ':' is equivalent to a new line. However, ':' has subtle differences from the new line, as per Microsoft standard.

Line 90. No, this doesn't work, I'm afraid. But no ?SN ERROR results.

I've been unaware of these bits of BASIC for years. Have you, like me, been automatically working around them? I suggest that our Dragon BASIC is more like standard Microsoft than the manual implies. This brings us to the old adage: "if you think it won't work, TRY IT."

```
10 B=0:C=0
20 DEF FNAR(X)=X*X
30 DEF FNAS(X)=X*X*X
40 INPUT A
50 IF A=1 THEN B=1:PLAY"O3T4C":PRINT"A IS 1" ELSE PRINT"A ISN'T 1":PLAY"O1T10CBC
BCB":C=2
60 PRINT"B IS":B
70 PRINT"C IS":C
80 IF A=1 THEN B=0
90 ELSE C=0
100 PRINT"B,C ARE";B;C
110 PRINT FNAR(A),FNAS(A)
120 IF A<>-1 THEN 10
130 END
```

AMATEUR RADIO UTILITIES BY DAVID LINSLEY

Although I am not a radio amateur Mike sent these disks for me to review as I have been an avid shortwave listener for a couple of years now and because I am taking the R.A. exam in May.

Disk 1 contains fewer programs than the second but the same amount of quality is there. Included are programs for designing helical, coax and Quad aerials, a Maidenhead to long/latitude convertor and a list of available bands in the USA for their various degrees of amateur licences. The other programs are of a more useful nature :- RAECalc lets you do all the calculations required for the RAE, the DX/MUF.LUF predictors do what they say and OSCOPE is a reasonable oscilloscope. My picks for disk 1 are PREFIXES which tells you which country an amateur is from by entering in their callsign and the RTTY tone generators and decoder circuits (though no software is included).

Disk 2 starts off with an anti-climax with a weather-fax decoder, but this does not run! (So buy Chris Rouse's version if you want this feature). The PACKET and SLOWSCAN programs are a letdown also as they are for contact between fellow Dragoners only. From there though it only gets better, with CW senders, readers and tutors, E12 resistor series, AC and OHMS law calculators and designs for coils, booms, filters and an ATU for 2 metres. UHFALLOC is a list of the entire 25.6 to 1710 MHz frequency allocations; handy for all scanner owners. CONTEST is a points calculator for contests using locator identifiers, and there is also a distance calculator using 2 locator squares. Finally, the pick of this disk are a frequency counter for up to 6KHz and SPECANAL which is a spectrum analyser for frequencies between 31 and 8KHz; watch it on music - it is great!

In all both disks represent great value at only 4.00 the pair from the group, and are useful and interesting for both the amateur and shortwave listener. Buy this now!

Sorry, but I really MUST make a correction to the above review even the best of reviewers make the occasional mistake!.

The "Weather fax decoder" DOES run, both on D32 and D64 machines, and even checks for DOS presence!. However, it can NOT run unless an input is present via the tape socket, and a "temporary REM" needs to be removed all of which is fairly obvious if you take a look at the listing first never a bad idea with ANY utility program!.. Paul Grade.

Looking At DASM, parts 5 & 6...RAD

The REM and the apostrophe are used only in the true parts of the listings, usually below the END of the assembly. The directive used in the assembly is RMB e.g. 200 RMB 50, which would reserve fifty bytes at that point. REM statements themselves are merely typed in after the data on the same line, e.g. LDA #5 LOAD THE A REG WITH 5, or they can be added as LINES, e.g. 199 * THIS IS A COMMENT, using the asterisk. The END directive mentioned above is most important, and easily omitted by the beginner. This stops the assembler from continuing merrily along after the end of the assembly, trying to assemble the remainder of RAM whatever it contains, sometimes with dire results, although pressing RESET will usually restore the routine. To avoid that sort of problem, I find it practical to make up a short start program which contains the BASIC to start things off as far as the @BEGIN label at LINE 50 or 60, and the END EQU * followed by END at LINE 500, then a small BASIC routine which prints out the Labels used and their addresses. With the assembled program starting at \$4000 and the CLEAR of 400 at \$3999 it would be:-

```
600 PRINT "SYMBOL TABLE":FOR I=&H4000-400 TO &H4000 STEP 10
610 IF PEEK(I+4)<>0 THEN PRINT "@";:ELSE 650
620 FOR J=I+4 TO I+9:PRINT CHR$(PEEK(J));:NEXT J
630 PRINT,HEX$(PEEK(I)*256+PEEK(I+1))
640 NEXT I
650 IF PEEK(&H600)<>0 THEN PRINT "ERRORS":END
660 STOP
```

FCB is the directive for providing single byte constants, e.g. FCB 10,\$100,-20,2+\$F. This could have a Label so that the X,Y, or U register could point to the data. The \$ denotes a Hex number, the others are decimal. FDB provides for double byte constants, e.g. FDB \$6000,\$FE08. These are methods of accessing data to be used and re-used within the program. FCC is for strings of characters to be defined as constants, but it can also handle single byte constants, as in FCB, in the strings e.g. FCC "DRAGON","SAY HELLO TO HIM",4. The addition of a number is a useful way of limiting the string when it is found and recognised. Notice that inverted commas are required with the character strings, and to produce one inverted comma on its own in the data it must be enclosed within two of them.

For simple purposes the data concerned would normally be pointed to by one of the registers and taken byte by byte. For instance, LDU #@Label, assuming that the label to be accessed is called @Label. This would get the address of the data into the U register. Then LDA ,U+ would load the first byte of data into the A register with indexed addressing, and increment the U register to point to the next byte of data. There are many more involved methods not within the scope of this series, but explained in books on the use of assembly languages generally. Here, the # sign before the @Label indicates the location of the data is to be taken, not the data at @DATA address. LDU @Label would instead load the register with the data at the @Label address. In the same way, LDA #1000 would place the number 1000 in the A register, while LDA 1000 would load the A register with the data at address 1000.

Apathy Unlimited...John Rogers.

Dear Reader, this is aimed at YOU, yes YOU!

No, it's not Paul having his usual rave/tantrum, nor yet our present erstwhile editor cracking under the strain of yet more non-correspondence or input to Update. What then?

Well, please answer this conundrum: How come there must be more than 50 Dragon owners running disc systems, and yet to date there are only 50 subscribers to the Up-2-Date disc magazine? All you non-subscribers are not only letting down an endangered species ie the Dragon, but you are really missing out as well!

"What about cost in these days of recession?" I hear you ask. Well, if I, on my medical pension, can afford 2.00 per bi-monthly issue, so can all you trainee scrooges out there!

Happy future reading.

OSSETT ... OSSETT ... OSSETT ... OSSETT

NDUG Upgrade Manual... Ian Jones

This manual, featuring instructions for upgrading a 32K Dragon to 64K, was originally published in 1985, and apart from the prices for 64K chips it remains up to date. The best prices for chips should be obtained by shopping around, and PSE Computers could be a supplier worth checking.

I found on first reading that my manual was rather disjointed, but after a few further readings I came to appreciate that it did follow a logical sequence. I have very little experience in electronics so several readings were a necessity for me anyway. I would recommend anyone else contemplating an upgrade to do the same, whatever the source of instructions may be.

Well, reference to this manual enable me to upgrade a 32K Dragon? Yes, it did - and more. I upgraded one of my 32K Dragons and as a result learnt something about the internal workings - sufficient to find out that another Dragon I had which was supposed to have been upgraded had not had the address decoding modification done, which in fact is quite easy. I hadn't realised why some programs wouldn't work because I had assumed that since I could run Flex that I had 64K. However, this was not so, what I had got was a 48K Dragon and that is enough for Flex. So now, I have two 64K Dragons, and the experience of upgrading the two most common types of circuit board fitted to Dragons - the series 2 board is quite easy, but the Mk. II boards are more tricky, although following the instructions carefully is all that is required.

I found that the key to it all was to identify which version of the main PCB is fitted and then establish from the manual step by step what work was necessary to complete the job. I found that the manual fulfilled its purpose and at the price is excellent value.

Available from Paul as usual, price 2.00

Just thought I ought to mention that the manual was written entirely by Bob Hall. Oh yes, and try checking Greenweld Electronics for chip prices, you could be pleasantly surprised. Paul.

This Is Rumour Control...

...Here are the facts.

Dearie, dearie me. So Sega are going to be investigated by the consumers' champion for allegedly overcharging on games carts. As if they would! After all, think of all the development costs of games these days. I mean, thinking up concepts like Sonic 2 and Street Fighter II takes brainpower, and how do you put a price on that? Besides, the prices need to be expensive - they had to offset the huge cost of Sega's advertising bill; you know, keeping in clover all those ad. executives who's brainstorming efforts came up with the stunning discovery that Sega spelt backwards is in fact Ages. Hey, now that's a catchy ad. line, no?

I seem to recall something along these lines with regard to compact discs, you know...CDs could be landed in this country for only a couple of quid, but shops were charging a tenner minimum. But for all this moaning about consumer rights, one thing seems to me to have been horribly overlooked. Sega, Nintendo et al charge large prices BECAUSE THEY CAN. Brats driving their parents up the wall for the latest version of Prince of Persia dictate that forty smackers is the going rate, as the parents pay it just to shut the blighters up. And frankly, that seems like a waste of money. Paul would come round and shut them up for a mere 29.95 excluding VAT. Permanently.

And there we were, saying that Quickbeam were excessively pricey. Tut, the good old days.

So, BUY DRAGON DETOUR. It's cheap, it's new, and it's guaranteed GameBoy-incompatible!

End of transmission.

Visitext Deluxe... Stephen Ross.

After quite a while using the cassette version of Visitext, I recently upgraded to a disk drive and purchased a copy of the disk version, Visitext Deluxe, from PSE. I have been very pleased with the results I have achieved in word processing with this package, but strangely enough that is not why I am writing this article.

In an effort to find something which would help me with my household accounts, I designed a small program to do the job, but it had severe limitations. One day, while browsing through the Deluxe manual, I came across the sub-menu (accessed via the configure option) which performs mathematical functions.

I designed a form using the word processor, enlisting the help of the columns facility to give vertical column markers, and stored it on disk. Now, when I need to do my accounts, I simply complete the form, define a column "window" of additions or subtractions required, and then use the sub-menu's "tot" option which does the sum for you and puts the answer in the line below the last window entry. You then have the option of printing the result or storing the information on disk. By calling the files names like DEC92, JAN93, or FEB93, an easily accessible record can be kept.

This is just one simple use of a very versatile piece of software. There are many improvements made on the cassette version, although that had served me well for a number of years.

DRAGON DETOUR... (Reviewed by Ken Grade.)

This is the long-awaited adventure program you've all been threatened with, and it's been well worth the wait.

It takes the form of a treasure hunt, in which you travel from place to place, guided by clues, and in the process you find, or are shown letters which make up a conundrum which has to be solved at the end of the trail. The locations (over 100) are all real places in London, of which there are some very detailed descriptions. The Group could probably sell the program as a tourist's guide to the sights of London!

The program recognises a good range of vocabulary, (i.e. has an extensive parser), and will accept complete sentences and phrases. Single letter movement words are allowed as well, for speed and simplicity.

In contrast to the "maze" type of adventure, there is only one route to follow.

There are alternatives, but these take you back to the point where you left the correct route. Some of these alternatives have to be tried to be successful. Certain objects have to be acquired, because they are useful in certain places, after which they are removed - you don't have to worry about "dropping" things.

Rainbow Writer has been used to give an improved screen display because there is a lot of text to read. The text not only describes locations, it tells you what is happening and, occasionally, what someone is telling you. It pays to be observant - and to switch your brain on! There are questions to be answered at certain points before you can move onto the next part.

It is a lengthy adventure - 15 parts - so is unlikely to be solved at one sitting - and is for disc (DragonDos V1.0;E5/6) only. The SAVE game routine starts from the beginning of the sequence you are doing, rather than the exact point at which you have arrived. This gives you another chance at the sequence, in case you missed something.

The concept of "Detour" is quite unique, at least in Dragon circles. It is refreshingly different to the ones full of mythical beasts or comic book monsters. There are 2 genuine prizes too, for the first two correct entries, so get your cheque books out and get your order in. PRICE: 5 pounds from N.D.U.G, 6, Navarino Road, Worthing, Sussex.

OSSETT 1993

Owing to the usual uncertainties surrounding the copying of Update, I don't really know if this will reach you before the Ossett Show or not I hope so, but Sod's Law being fully operational I can't guarantee it!. However, in the event that you are reading this before the relevant date, PLEASE try to get there if you possibly can ... if there aren't enough punters through the doors to cover the cost involved this will CERTAINLY be the Last of the Dragon Shows ANYWHERE!. If this has arrived too late well, I hope enough of you made the effort (and Ossett shows are well worth it), but if you didn't and this was really the last show, you'll only have yourselves to blame.

THE LATE, LATE BIT

All got your cheque books ready?, I hope so, because the long awaited Dragon Detour disc is now on sale at the absolute bargain price of a fiver, and if you manage to complete it correctly before anyone else you can even DOUBLE YOUR MONEY!!. Against all sane advice I have decided to offer a tenner to the punter who sends me the first correct solution, and I'll even send a couple of free discs from our list to the second one, so the sooner you get your copy and make a start the better your chance of winning!. Now stop moaning about the price! that fiver gets you a disc FULL of program PLUS a free, ready formatted SAVE disc, PLUS postage etc. and anyway, how much did you pay for that grotty cartridge for the Sega? (or was it the Nintendo?). Now it's no use at all trying to get me (or anyone else!) to tell you the solution to Detour, for the simple reason that I do NOT know it!. I tested the program in sections and made a point of NOT making a note of the relevant clues, so even I won't know if you get the right answer until I check it with the authors!. Security has been tight, tighter than Lamont's rear elevation (and that's really waterproof!), and the entire program is designed so that it would take far longer to cheat your way to the right ending than it would to play it through correctly, so you'd better start writing that cheque and get on with it while you've got a chance of winning!.

I suppose the next item ought really to be Ossett, but the snag is that this issue is running a bit later than I'd hoped, so I don't know if you will be reading this before or after the event, which makes it difficult to know what to say, so on the premise that "when in doubt say nowt", I'll shut up about it for now and moan at you for the poor turnout in the next issue instead. OK?.

I see that Ray Smith has been revealing State Secrets about The Gaffer in Up-2-Date!. Still, as he managed to knock a year off my age I suppose I shouldn't complain too much wonder who will be next on his list?!. (More to the point, I wonder when he will be publishing a profile of the Graphics Library Librarian?!).

How did you like Norman (Access) Lamont's little Budget? you have to admit that he knows his job never a hint of taxation for those on Cabinet Ministers salary or above, and the usual hammering for anyone trying to exist on next to nothing!. I wonder if the prices of Commons subsidised fags, booze, and meals will be increased now?, or whether the inmates will be asked to contribute towards the petrol bill for those armoured D.10s they all keep swanning around to the off-licence in? ... somehow I doubt it!. I don't suppose there's any truth in the rumour that the heating in the Palace of Westminster is being turned off permanently to help reduce the use of fuel either although with the amount of hot air produced there they shouldn't really need any heating system at all. Actually I had another complaint t'other week about my comments on things political but I'm damned if I see any reason why political parasites should be above criticism, they're directly responsible for putting several thousand firms out of business and several million people out of work, they don't give a damn about anyone or anything except their own well being and what they laughably imagine to be their "image" as World Leaders, so why should I refrain from mentioning that so far as I'm concerned they're several stages lower down the evolutionary scale than the average amoeba? (and certainly a lot less useful). Sure, I waffle on far too much about just about everything it's hard on the old typing finger too ... but we have to fill the pages up with something, and if you won't write the stuff that leaves the job to me. There's a simple solution available to anyone who doesn't like the garbage I write, WRITE THE BLOODY STUFF YOURSELF AND SAVE ME THE WORK!. (and I'm sure that Mike and Steve would give you the same answer). Finally, in answer to a couple of enquiries: (a) no, so far I haven't had anything at all in response to my request for redundant PC type cards and boards ... they must still be ending up in the rubbish skips, I suppose. (b) yes, the Group account with NatWest is now closed and a new account with Girobank established and working well, which ought to save us well over a hundred and twenty quid a year!. Have fun, and don't do anyone I wouldn't!.

CROSSWORD NUMBER 67 ANSWERS.

ACROSS: 1.Strap 5.Occur 8.Gum 9.Raise 10.Tug 11.Precursor
12.Palate 13.Dancer 16.Thornless 18.Rub 19.Image 20.Rip
21.Sweet 22.Tenor.

DOWN: 1.Sugar 2.Ram 3.Perfectionist 4.Animus 5.Overstatement
6.Cataracts 7.Right 11.Palatable 14.Unfair 15.Parts 17.Paper
20.Run.

CROSSWORD NUMBER 68 ?

You're probably wondering where we've hidden the crossword this month, and I'm afraid you're in for a shock ... there isn't one!. Reason?, we've run out!. Solution?, well, YOU could compile a few for us, couldn't you?. It would be simplest if you could fit the answers to the standard grid that we've been using for the last half dozen issues (mainly because I have that one on disc and can print it out in the appropriate size as required), but anyway, instead of DOING the crosswords this month, why not try making one up for us?. Paul.

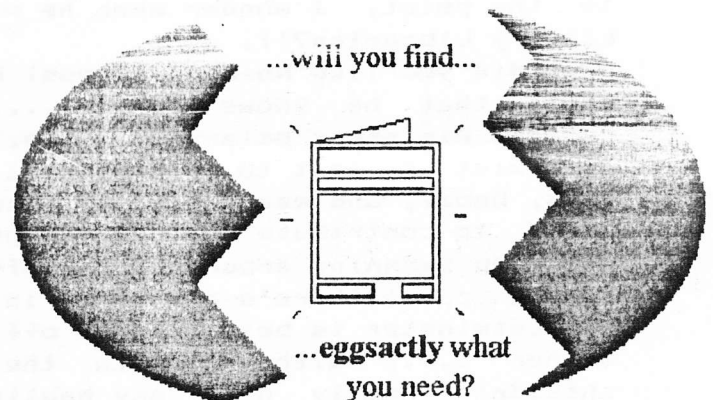
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