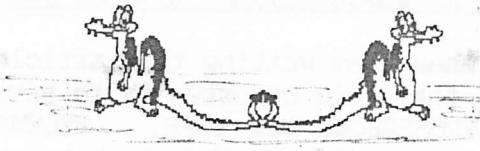
The Newsletter of the National Dragon User's Group

DRAGON UPDATE



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The Gaffer's Bit . . . . . .

The Christmas advertising started back in June, the Christmas sales started in August, I've done my best not to mention it since this time last year, but now it's here! ... Christmas!, the time when your "flexible friend" starts getting over-heated, the time when you try to ignore all the ads on TV, the time when you have to face the thought of being nice to all those members of the family who make you wish you'd been born an orphan .... Don't you just LOVE it?!. Actually, it's probably illegal now anyway, or at least "not politically correct"; think about it ... the Animal Liberation Front, the RSPCA, etc are almost certainly campaigning about the use of reindeer for pulling sleighs, the Race Relations mob are certainly going to be obtaining an injunction restraining Santa from using Elves for menial work (and when did he pay them last?!), it's definitely illegal to fly a sleigh at less than two hundred feet over a built up area. and does his nibs hold a current pilots licence?, there's probably a conservation order on all Christmas trees, all the traditional food is sure to be bad for your health, probably even carcinogenic, and even having a drink means you'll probably get a ticket if anyone sees you playing with the kid's Scalextrix set ... so there ARE plenty of valid reasons for ignoring the whole thing this year!.
It wont work, of course, I've been trying to ignore the entire thing for years, but no-one ever lets me get away with it, and if I can't why should you?!. Anyway, don't forget to buy your old Dragon (no, the computer, you idiot!) a nice expensive Christmas present ... preferably something from the Group, of course ... other than that, all I can say is that I hope you recover from the indigestion before long, that the hangover doesn't last more than a day or two, and may all your bills be little ones. See you next year. Paul G.

The Usual Toffee...

Well, that's just typical. Paul foolishly says that we've got enough material to use for the following issue, and suddenly all the submissions dry up, as if by magic. What a surprise! Well, maybe that will teach him, maybe it won't. The fact remains, though, that at the end of the day, if you don't write anything for me to edit and for Paul to publish, then you either end up with nothing at all, or worse, pagefuls of dirge from yours truly and the Emperor Ming The Merciless (aka Paul Grade of Worthing). I though about "Sunny Worthing", but I know this to be factually incorrect, and we'd probably get laid into by Worthing Tourist Office or some similar self-preservating waste of space. Still, if that's the way you want it, that's how it will be, and I disclaim ANY responsibility for lack of user satisfaction - this is caused solely by lack of user input. 's up to you. Sadly, no-one has yet come forward to offer me a 12K Easy Life job, as requested by Paul last month. Come on, the recession (What recession?) is Over! It made me wonder, though. Has anyone else noticed the eerie similarity between our beloved Chairman Mao Grade and one American Secretary Of State James Baker?!!. I Think We Should Be Told!! SW.

PRINTED AND PUBLISHED IN SOGGY WORTHING BY PAUL GRADE ON ANTIQUE DRAGON 64 & IBM XT COMPUTERS, A HORRIBLY EXPENSIVE LQ570+, AN EQUALLY EXPENSIVE MINOLTA EP310 COPIER & THE WORLD'S GROTTIEST SOFTWARE.

PEEKING THE DRAGON (48). MIKE STOTT

Although it is only October when I am writing this article it will be December by the time it reaches you so can I take this opportunity to wish all Update readers A MERRY CHRISTMAS AND A HAPPY AND PROSPEROUS NEW YEAR. TELEWRITER problems seem to have aroused quite a bit of interest. Dave Cadman has written to say that he was exchanging files over the air with Tony Davis when, by chance, they discovered that their programs were of different lengths. The shorter version only works with DOS 1.0 whereas the longer one also works with SuperDos E6. The lengths of the programs they have are listed below:

TELEWRIT.BIN - (1.0) 7246 (E6) 8099
TELEDISK.BAS - (1.0) 2925 (E6) 3017

If you are having problems with this program using SuperDos it could be that you are using the DOS 1.0 version so check it out. Who knows there could be even more versions out there. David Bateman has kindly provided me with the OFFICIAL SCOTT ADAMS' ADVENTURE HINT BOOK and hints for EL DIABLERO, FISHY BUSINESS, FRANKLIN'S TOMB, CRICKLEWOOD INCIDENT and MADNESS AND THE MINOTAUR so if anybody is stuck in any of these a SAE will get you a copy of the one you require. For the Scott Adams' adventures the book only lists them by number and NOT by the name so please let me know both if you can as I do not know the numbers of them all. David has several adventures on disk which he has put onto disk himself (without disk-save facility) so if anybody wants one or more please send blank formatted disk (single sided 40 track, I think) and something for p.&p. The titles are TREKBOER, COLOSSAL CAVE, CURSE OF CAMARC (for Flex) and COLOSSAL CAVE - all disk based originally. There are also PULSAR 7, TEN LITTLE INDIANS, WAXWORKS, PERSEUS ADVENTURE, STALAG, ENO, ULTIMATE ADVENTURE, MANSION ADVENTURE, JERUSALEM, WILLIAMSBURG, COUNTDOWN, SEA QUEST, SHENANIGANS, MADNESS AND THE MINOTAUR, CIRCUS ADVENTURE, TIME MACHINE, FRANKLYN'S TOMB, FRANKLYN IN SPACE, FRANKLYN IN WONDERLAND, WHITE CLIFFS, QUEST and DRAGON MOUNTAIN. He has also got CYRUS (chess) and UGH. Anybody wishing to take advantage of the above offer should write to ***David Bateman, Fieldside, 12 Row Brow Park, Dearham, Maryport, Cumbria, CA15 7JU*** but do not forget to cover the return postage costs. Many thanks to David for the hints and also the above offer. I hope you received the two versions of EL DIABLERO on disk that I sent you. DRAGONFIRE have updated their DRAGON CAROUSEL so that it now includes a menu screen so that you can choose to play one number, several or the whole collection. A review of the new version will appear in a later issue of Update. DRAGON (THE BRUCE LEE STORY) looks like being the blockbuster cinema hit over the holidays. With the current trend of making a number of films in a series with just a number changed will we eventually get DRAGON 32? If so it should have a full title of DRAGON 32 (THE PAUL GRADE STORY). That would surely be the horror film of the century. I wonder who they would cast in the title role. Has anybody got any suggestions? Arnold Schwarzenneger? John Travolta? Sylvester Stallone? Maybe even Ronnie Corbett. *[The idea has been shelved owing to the death of Christopher Lee ... P.G.].* As new software for the Dragon becomes rarer and rarer it becomes harder and harder to put this article together. For a Software Editor to be successful he really needs software to tell you about. Is there any old software that readers want to know about? Is anybody looking for software that will do a particular job for them? If so, please write to me and I will be able to pass your queries on to every member of NDUG. Hopefully you will get your answers and I will be able to fill my page with something. Please remember, though, that there will be a time lag between your writing to me and your answer appearing as I always write my articles at least two months in advance. Send an SAE if you require more immediate response although even this may take a while if I do not know the answer myself - which is more than likely. If anybody has any suggestions about what they would like to read about please let me know and I will try to oblige.

ALL THE BEST FOR CHRISTMAS

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T.V. DISCO LIGHTS by Mike Townsend.

Many, many moons ago I saw this program in a magazine. I don't think it was a dedicated Dragon magazine, probably one of the other glossy's that were around at the time. The general idea is that, when you next have a party, you connect Dorris up to the Colour T.V. and play taped music through it. Your T.V. will now flash all eight colours, in the form of nine coloured blocks (this includes a black one), in time to the music and with different colours for different frequencies. If you turn the main room lights off, it's quite effective. Now you may not get brilliant music reproduction from your Dragon cassette recorder, when played through your T.V. but the more technically minded of you may be able to rig one of your stereo outputs to the Tape Input socket of Dorris (suitably adjusted so as not to do any damage to your trusty beast). If, like me, you don't understand these things, there is another way - providing you have the right sort of cassette recorder (the thick plottens !). Connect Dorris up to your T.V., or a monitor with a speaker, and connect your cassette recorder to Dorris. Type AUDIO ON <enter> and CLOAD <enter> and load a Tape program; you should now be able to hear the program loading. All cassettes allow this but.... if you now type AUDIO ON and CSAVE you may or may not be able to hear the program being saved, depending on how the inside of your cassette recorder is wired. If you can hear a CSAVE then your problems are over because you simply connect an output from your stereo to the MICrophone input of the cassette, insert a blank tape and press the RECORD key (there is no need to press PLAY). While recording, some recorders send a signal back up the EAR socket so any music played into the cassette will now be heard by your dragon and activate the colour display on the T.V. screen (there is now no need to have the volume turned up on the T.V.). This method allows you to play CD and Disc music, as well as Taped music, at the party. The following program was obtained using Dragsoft's "Data and Loader Printer" (Plug, plug, plug.... sorry Ed !) so do not RENUMber it before running it. If you have mis-typed any data, it will tell you the line that the error is in. The only fault it won't detect is mis-placed data (eg. FF,16, instead of 16,FF, - the checksum is the same for both). If you don't fancy typing it all in (and who does ?), just send a tape or formatted 5.25 disc and return postage to me at :-
48 Hewlett Road, Cheltenham, GL52 6AE.

```
10 'T.V. DISCO LIGHTS.
20 CLEAR200,24575:CLS:PRINT@33,"loading data line"
30 ST=24576:EN=24852:
EX=24579:A=ST:CS=0:L=80
40 PRINT@50,L:FORT=1TO20:READP$:V=VAL("&H"+P$):POKEA,V
50 CS=CS+V:A=A+1:IFA>EN THEN60:ELSENEXT
60 READC$:IFVAL("&H"+C$)<>CS THENPRINT" error IN LINE ";L:END
70 L=L+10:CS=0:IFA<=EN THEN40
80 DATA 4E,00,00,BD,80,15,BD,BA,EC,C6,80,BD,BA,79,BD,80,24,B7,60,00,9B1
90 DATA 86,1F,B7,60,01,86,08,B7,60,02,F6,60,00,4F,58,49,B1,60,01,25,6E1
100 DATA 04,B0,60,01,5C,7A,60,02,26,F0,81,01,27,22,81,02,27,33,81,03,58F
110 DATA 27,44,81,04,27,55,81,05,27,66,81,06,27,77,81,07,10,27,00,86,4E9
120 DATA 81,08,10,27,00,95,20,B6,B6,04,00,81,8F,27,04,C6,8F,20,02,C6,65D
130 DATA 80,8E,04,00,17,00,95,20,A1,B6,04,0B,81,9F,27,04,C6,9F,20,02,616
140 DATA C6,80,8E,04,0B,17,00,80,20,8C,B6,04,16,81,AF,27,04,C6,AF,20,6E6
150 DATA 02,C6,80,8E,04,16,8D,6C,16,FF,77,B6,04,A0,81,BF,27,04,C6,BF,8BF
160 DATA 20,02,C6,80,8E,04,A0,8D,57,16,FF,62,B6,04,B6,81,CF,27,04,C6,8A6
170 DATA CF,20,02,C6,80,8E,04,B6,8D,42,16,FF,4D,B6,05,40,81,DF,27,04,836
180 DATA C6,DF,20,02,C6,80,8E,05,40,8D,2D,16,FF,38,B6,05,4B,81,EF,27,884
190 DATA 04,C6,EF,20,02,C6,80,8E,05,4B,8D,18,16,FF,23,B6,05,56,81,FF,86D
200 DATA 27,04,C6,FF,20,02,C6,80,8E,05,56,8D,03,16,FF,0E,1F,98,C6,05,776
210 DATA 10,8E,00,0A,A7,80,31,3F,26,FA,30,88,16,5A,26,F0,39,5D6
```

4

Guide To ROM Disassembly.P.Marlow

I know what you're thinking, WHY would anybody want to disassemble the Dragon or CoCo ROMs? Well, the answer is out of curiosity, and sometimes necessity. At the moment, I am in the process of disassembling Disk Extended BASIC 1.1 (RSDOS) on my CoCo. The reason I'm doing this is because I never seem to have enough memory to use my converted cassette software with my disks attached, so I need a CoCo version of the Dragon 64 program Diskup. As there isn't a version on the market, I'm having to write my own. Once completed, I hope to make the program available through NDUG. However, back to the article. The tools needed for the job are as follows: A basic understanding of 6809 machine code; A disassembler; A printer (easier with one than without); An assembler; The Firmware series published in Dragon User; Any other magazine you can get your hands on; Plenty Of Time. Taking this list in order. Point 1 is the most important. If you don't know what at least most of the assembly commands means you have no chance of producing a decent disassembly. The disassembler is also compulsory, I use Pam D'Arcy's program from Dragon User. It's very good and is also position independent, so can be placed anywhere in memory. It also gives the bytes next to their corresponding opcode, which comes in very useful if you're trying to find a data table. For example, in the RSDOS ROM the addresses between $C109 and $C139 contain the BASIC RAM vector table. The values in this table also correspond to some legitimate looking code, however when you follow the code preceding it you notice it is nonsense. The same can be said for text within the ROM, i.e. the copyright message, most of this will be meaningless to the disassembler but with careful looking will make itself obvious. The printer is optional, but comes in very useful for copying the code from disassembler. It is very easy to copy the wrong thing from the screen, but a printout is a perfect copy every time. An assembler is also a good idea, in that you can check your code assembles properly and have a neat formatted printout for later reference. I find the Firmware series in Dragon User invaluable for finding out what a piece of code does or how a variable is used. For example, it comes in handy to know that the address $72 holds the warm start address called every time the reset button is pressed. Another source of information for the CoCo owner are back issues of Rainbow. Other people's programs are also useful for information on the purpose of ROM routines.This can be deduced from the way they are used. The last point is also very importqant to remember, you are going to need a great deal of time to produce a good disassembly, I have been at it for two months and only managed about 20%, because I find it best to check my code for accuracy every couple of hours or so. As I have RSDOS this is easy because I can just read a byte of disc and check it with the ROM in my disc controller. The program to do this is printed below. If you are using a Dragon I'm afraid you will have to either write your own or check each line against the disasembly. Finally a few hints: 1-take your time, only disassemble about 100 lines at a time, it's easier to check this way. 2-Instead of trying to work out labels, use the address plus an "L". eg, if the command is BNE $C0F0 change it to BNE LC0F0, making the listing easier to read. 3-Use a highlighter pen to locate references to addresses inside the ROM, eg, in RSDOS address $C445 holds the instruction to LBNE LC360. Now you have to remember to go back to the line coding $C360 and add the label LC306.

```
10 POKE 150,1:CLS:INPUT"HARDCOPY(Y/N)";H$
20 LINEINPUT"STOP AT &H";ST$:IF ST$="" THEN ST=&HDFFF
30 IF VAL("&H"+ST$)<&HC000 OR VAL("&H"+ST$)>&HDFFF THEN CLS:GOTO 20
40 IF H$="Y" THEN P=-2:GOTO 60
50 IF H$<>"N" THEN 20 :ELSE P=0
60 OPEN"D",£1,"RSDOS.BIN",1
70 FIELD£1,1 AS A$
80 C=&HC000:ER=0:FOR A=6 TO LOF(1):GET £1,A
90 IF A$<>B$ THEN PRINT £P,"ADDR=&H";HEX$(C);" IS &H";HEX$(ASC(A$));" SHOULD BE
&H";HEX$(ASC(B$)):ER=ER+1
100 C=C+1:IF C=VAL("&H"+ST$) THEN 120
110 NEXT A
120 PRINT:PRINT"TOTAL ERRORS";ER
```

5

Shaper Revisited...Keith Nash.

The Dragon has excellent facilities for sound. Its sound hardware is a six bit digital-to-analogue converter, and so the sounds that can be produced are limited only by the programmer's ingenuity. Dragon BASIC provides SOUND and PLAY, and while these can produce a wide variety of sounds, they do not always offer an easy route to the arcade game noises that we all know and love. Shaper is an excellent utility that gives the programmer access to a huge variety of complex sounds, and was being sold at Ossett by Prestons. It comes on cassette, but is easily transferred to disc, and is a long and well-written BASIC program together with two blocks of machine code (the graphics screen and the machine code sound generator itself). The BASIC program is menu driven and very user friendly, and allows you to hear, modify, and store a library of 100 sound effects. The library, and the generator itself, form a machine code program that occupies &H79C0 to &H7FFF (1600 bytes). When the sound library has been adapted to the user's needs, the BASIC program is deleted, leaving the machine code as a stand alone subroutine that can be called from the user's own BASIC program. A sound effect can be played with POKE &H7FF4, m : EXEC &H7AA8 where m is the number 0-99 of the sound effect. This command, and an alternative form that plays a sequence of sounds, are clearly described in the Shaper manual. Each sound effect is specified by 10 control parameters (squeeze, expand, chain, frequency, volume, length, fade, rise, decay, and attack). These can be set and altered very easily from the menu, and the function of each parameter is explained in the built-in help routines and in the manual. However, the best way to understand how to create the effects is undoubtedly to experiment with the 100 sound library that comes with the program. The parameters for each sound can be displayed and modified, and the result of each modification can be heard. This facility is a very entertaining toy in its own right, and it is fascinating to see how a change in one of the control parameters alters the sound. The library contains effects such as gunshots, machine guns, musical sounds, spaceships, alien weapons, falling objects, collisions, etc.

Transfer of the program from tape to disc is simple (apart from the graphics screens which I have not succeeding in transferring). CLEAR 400, &H79BF reserves space for the machine code program, then CLOAD "SHAPER" and stop the tape when the program has loaded. Next, type in the lines below to create the DragonDOS version, which should be SAVEd as "SHAPER". Then CLOADM "ACTION", and the Dragon will skip "GRAPHICS" (the next program) and load "ACTION". Type SAVE "ACTION", &H79C0, &H8000, &H79C0 to save the machine code to disc. If you have been using AUDIO ON while loading from cassette, press the reset button, and Shaper is ready for use. The machine code ACTION is automatically installed from disc whenever Shaper is run. In summary, I found Shaper to be an extremely valuable utility, easy to use, and allowing the programmer to generate high-quality sound effects in any BASIC or machine code program. If you have ever wanted an easy and enjoyable way of generating a large selection of sound effects, Shaper is for you.

```
10 '"SHAPPROG":TITLE FOR USER PROGRAM-SEE 50070
26 CLS0
27 '
28 '
29 LOAD"ACTION.BIN":POKE327,1
7030 '
7039 '
7040 '
7085                    IFPEEK(338)=191THENPRINT@480,"SAVING                    SOUNDS
NOW";:SCREEN0,1:GOSUB1500:SAVE"CODE",&H79C0,&H8000,&H79C0:GOTO7200
-15466 SAVE"SHAPPROG":'TITLE
-15463 '
-15456 '
-15446 '
-15436 '
-15426 '
-15423 '
-15416 PRINT"SAVING ACTION CODE NOW"
-15406 SAVE"ACTION",&H79C0,&H8000,&H79C0:'MACHINE CODE ADDRESS
-15396 '
-15386 '
```

6

Conversion Experience..W.Stevenson

Now why did I go and spend over 100 quid on a disc drive when my Dragon 32 with cassettes gave me no trouble for eight years? Has the switch been worth while? There must be quite a few cassette driven Dragons around, so perhaps my experience will be of some use. In September 1983, it seemed time to get a word processor. A review put me on to TeleWriter, which ran on a Dragon, so I got both. Not cheap; the Dragon was 175, TeleWriter 48 (!) in those days. Hindsight tells me I hit it right both times, I learnt a good deal about computers along the way, and over the years accumulated cassettes. In 1986, I added a printer and it, too, is still going strong. Meanwhile, the PC appeared, shoved out its rivals, and was almost smothered under its own clones. Then there was the Amstrad PCW. That lot only cost four to ten times more than my Dragon, which all the time went plugging on. After a mere eight years, I got a problem. The CLEAR key - constantly used in TeleWriter - packed up, and I had to get a replacement keyboard from PSE. This, my sole repair expenditure on the Dragon in ten years, which had worn out two cassette recorders, two monitors, and a cheap printer, was just 7.50. I have never bought a gadget until I feel hampered without it, so why did I go and spend around 110 on a disc drive (also from PSE)? Because I found myself doing half of one big job on a PC system at work, and the rest at home on the Dragon. Collating the printed matter from the pair of them was, shall we say, difficult. I had read about Duplidisk, to put my cassette data onto Dragon (but not PC) disc. Then I discovered PC-Convert, a program produced (and apparently abandoned in its cradle) by Compusense before they set off in their voyage on the Flying Dutchman. This turns Dragon (And TeleWriter) material into ASCII text, readable on a PC. I still preferred to take my office work home rather than vice versa; then an item put me on to READ-PC which does the opposite job. But both required a disc drive. So, I got a single 5.25 drive, plugged it in, and found out how to work it. Then I tried Duplidisk 2. It works! Then I pop down to the Department and have a go with READ-PC. It works too! So does TELECONV, turning TeleWriter material into ASCII, and all I have to do is replace the TeleWriter codes with MS-WORD ones, and I'm away. But, now that job is finished, am I glad of the disc drive? It's big, heavy, and takes up space. I have all those tapes to transfer, which will take forever, so maybe I'll keep the cassette attached. But I'm beginning to find that most operations are so much quicker than they used to be, and it's a great help to have a proper file directory instead of scribbles on the cassette cards. I've found myself using the cassettes less and less - I don't have to go through endless fiddling to find a place on the tape to save data, or the irritation of finding that the space on the tape isn't long enough. Saving is much quicker, and it's an enormous help to have the machine do the dirty work for you - that's what it's for, after all. But, the disc version of TeleWriter is patched by the BASIC program TeleDisk into the machine code of the original. Fine. Except for the many times when the wretched thing refuses to Read In a disc file. I have found that I can get round this by going in a circle from the disc menu: via Edit Menu Disc and Read-In again. It USUALLY works. But this is not exactly what you bought the disc drive for, and why it happens I don't know, but it does. I could go over to Electronic Author, which has many supporters, but I'm used to TeleWriter; it does everything I need, and often, I feel, more neatly than EA. In particular I prefer its Insert mode to EA's Overtype, which is a great nuisance when you want to insert something. Mind you, the rot has set in. I find I have somehow got copies of things I never had before, such as Beanpatched, which lets my grandson think he can beat me. But did I really need the discs? In the special circumstances, yes, but otherwise I could have gone on forever using the cassettes. The recorder ALWAYS saved and loaded without problems, though some fiddling, and TeleDisk reduces TW's file length substantially. One the other hand, apart from that Read-In problem, the discs are certainly quicker. You pays your money and takes your choice.

CUBE - REVIEWED BY MIKE STOTT

CUBE is loaded by typing BOOT and pressing ENTER. You can then choose whether to use left or right stick, or keyboard. Press "S" when you have highlighted your choice and this starts the game. On screen there is a cube shown at the bottom with a number of dots on it and from above drops a line of cubes with a number of dots on them. Press FIRE or SPACE to increase the number of dots on the bottom cube, move it to the side with your joystick or use left and right arrow keys, line it up with a matching cube and push joystick forward to fire it or use up arrow. If you have made a match the dropping cube will disappear, if not more appear. Sometimes more than one cube disappears but I have not discovered why yet. At first the numbers on the cubes are only between one and six but this increases to nine as you progress through the levels. More lines of cubes drop and the speed at which they drop increases as you reach a higher level. If you like TETRIS you should like this one. It took me a long time to work out what to do but once I discovered this I found I enjoyed playing the game. Joystick control is very difficult and I find it very hard to line up the cubes. CUBE is available from Dragon Power Software, Wilh.-Engelhardt-Str.40, Postfach 1623, DW-6430, Bad Hersfeld, Germany priced at 5.00 inclusive of postage.

Adventure with Adventure. R. Warren.

Surely this was an offer too good to miss? Buy an adventure game on disc and get ten quid! OK, it is not quite that simple. There still remains the task -surely a simple task- of completing the adventure, finding the code, and sending it in. And lo! Ten lovely quid notes could be winging their way to your humble abode. Did I say simple? Let's face it, how many times, or indeed when, have we been offered such an easy way to make a few bob? So, with no more ado, I bunged off some of my hard earned loot (five oners to be precise) and waited for that old familiar thud on the front door mat. Do you suffer the same thing? The thuds, I mean. My mail never seems to fall gently to the floor, it thuds down like a thunderbolt from heaven. Maybe some of you reading this are executives employed by Royal Mail, and you may protest loudly at the thudding bit, but I am convinced that part of the training package is the requirement to thump mail through the letter box. And joy must be unconfined when the letter is just slightly too big for the letterbox - what delights for Pat the Post. But, and I repeat, but, nothing like that reserved for packages marked "Handle With Care" or "Magnetic Media - Do Not Bend". And for heaven's sake, put down a thick soft rubber pad for those items marked "This Comes From Paul Grade" (must get to meet him sometime) *[**I would advise against this...SW**]* Where was I? Oh yeah, I had dispatched in haste my lolly for a whatsit. Thud. It had arrived. Trembling fingers opened the envelope. What a lovely way to double your money. TWO discs! Both marked (nicely labelled by someone) "Dragon Detour", one proclaimed "Sector Save Disc" (must look that up in the Dragonary), the other "Boot From A Cold Start". I wasted no time. I had a quick cold shower, put on a pair of freezing wellies (you can't be too careful) and shoved THE disc into the slot of the machine by the side of the keyboard. You'll never bel-e-e-e-ve it! Four hours and forty quid later (game money, not the real stuff, thank the stars) I had succeeded in opening the curtains. You've said it - expensive curtains! Days later, and looking back, I now know that those first four hours were the most productive of the many I have so far spent on this adventure. Thrilling stuff. I'm fast reaching the stage where the challenge of the game far exceeds that ten lousy smackers. Buy Dragon Detour and find out for yourself.

P.S. This is an entirely unsolicited testimony for a really excellent adventure. And most of the above is true!

*[**Please send all donations to the Detour Rehabilitation Fund, c/o Broadmoor.**]*

PC-DRAGON — REVIEWED BY MIKE STOTT

Those of you who own PCs will have seen the many Spectrum emulators available for that computer. Well now we have got a Dragon emulator for the PC. Version 1.01 was sent to me by it's author, Paul Burgin. It arrived on a 720k 3.5 inch disk and all I had to do was insert the 3.5" disk into the drive on my PC and type INSTALL. After typing DRAGON in the right directory I was greeted with the familiar DRAGON screen and I then proceeded to load some of the programs which came with the emulator. TETRAS is included along with SHANGHAI, both written by Paul for the Dragon. Paul had only had a PC for a short time when he wrote this so do not expect wonders. At present a fairly fast PC with VGA and extended keyboard is needed to obtain even moderate results. I have a 386SX running at 33mhz. and it still runs at only about 1/4 the speed of the Dragon. Eventually Paul hopes to reach par with the Dragon, or even faster. Games at this speed are virtually impossible but text adventures are not too bad, except that you are waiting for the prompt. Having wanted a Dragon emulator for many months now I am over the moon with this program. I now tell everybody that the best upgrade I have made to my PC is this piece of software. Paul ran his system from a cassette so programs load as if from cassette, albeit at a much faster rate.
PC-DRAGON EMULATOR was written by Paul for the fun and challenge. The latest version is available as freeware on IBM 3.5 inch disk from *Paul Burgin, 18 Moorcroft Road, Fulwood, Sheffield, S10 4GS* by sending your name and address together with a cheque for two pounds (UK), five pounds (Europe, US), and ten pounds (anywhere else). To receive the file DRAGROM.DGN which contains the Dragon ROM send a photocopy of your Dragon manual, say how many levels JET SET WILLY has got, who John Symes was, who 'Batman' is or some similar proof that you are a Dragon owner. It comes complete with instructions within the program which can be printed out.

Cultural Page — J.F.B. Payne.

I recently came across a program listing (below) with the words "Sonata For Unaccompanied Dragon" inscribed on the top. Perhaps our more musical members might like to try it out, and compare their judgement with the following (music) program notes which were with the listing.
Note that the music is played through the TV speaker, so don't forget to turn the volume up! Note also that this piece uses full range frequency synthesis, NOT the rather basic BASIC tune playing facilities.
Multiplicative Congruence Modulo 65536
This piece is not easily circumscribed in a few words. On the one hand it has a driving monotonous beat (which is enhanced by the relentless accuracy of the soloist's performance). On the other, one is continually surprised as the unexpected becomes inevitable in retrospect, and the tension builds to the apparently impossible resolution. Although one can recognise ideas borrowed from Abramowitz & Stegun, the piece is distinctively the author's own.

```
10 DATA 10,8E,E0,00,CC,00,00
20 DATA BB,40,06,C3,00,19
30 DATA FD,40,05,B7,FF,20,31,21
40 DATA 26,ED,39
50 FOR I=&H4000 TO &H4017
60 READ V$:V=VAL("&H"+V$)
70 POKE I,V
75 PRINT HEX$(I),HEX$(V)
80 NEXT
90 SOUND 255,1
100 POKE &HFF23,&H3F
110 FOR I=1 TO 100:POKE &HFF20,0:POKE &HFF20,255:NEXT
115 POKE &H4006,1
120 FOR I=1 TO 255:PRINTI,:POKE &H400C,1:EXEC&H4000:NEXT
125 FOR I=1 TO 9:EXEC&H4000:NEXT
150 END
```

9

Sort Routines 2...Roy Cashmore.

There are many ways of sorting lists into order (alphabetical or numerical). Especially with strings (for alphabetical order) the danger is of running out of memory, particularly on the 32, when the list is long and particularly if the program is too. Some sort routines produce a duplicate (the second in alphabetical order) which can soon gobble up memory. This routine is not the fastest (but still faster than I can do on paper!) but is economical on memory. First of all, DIM and load the array to hold the list:

```
10 DIM I$(49): REM WILL HOLD A LIST OF 50 WORDS
20 FOR A=0 TO 49
30 INPUT I$(A)
40 NEXT A
```

Next DIM a 'counter' or 'pointer' array of the same length. Being numeric, it uses less memory. Then initial it to 0.

```
15 DIM C(49)
16 FOR A=0 TO 49:C(A)=0:NEXT A
```

A pair of nested FOR...NEXT loops is used to compare each word in the list with each other. If the word being compared is 'higher' (i.e. further down in the alphabetical order), 1 is added to the equivalent slot in the counter array. When the comparison process is complete, the VALUES in the counter array are the numeric order of the words in the list in alphabetical order. The output is shown to screen with a simple PRINT statement, but it could be to printer (PRINT£-2) or a file (PRINT£-1).

```
99 'SORT
100 FOR X=0 TO 49
110 FOR Y=0 TO 49
120 IF I$(Y) > I$(X) THEN C(Y)=C(Y)+1
130 NEXT Y,X
199 'PRINT LIST IN ORDER
200 FOR R=0 TO 49
210 FOR S=0 TO 49
220 IF C(S)=R AND I$(S) <> 0 THEN PRINT I$(S): REM
230 NEXT S,R
```

NOTES: To work with different length lists, change the value of 49 THROUGHOUT.
The same basic routine can be used to get a list of numbers in numerical order - use I instead of I$. To get a list in reverse alphabetical order, change line 200 to FOR R=49 TO 0 STEP -1. If an alphabetical list is required in memory, either change line 220 to IF C(S)=R THEN J$(R)=I$(S): REM Don't forget to DIM J$(49) or write the list to file on tape or disc then clear I$( ) and then read the file into I$( ).
Next time, I will deal with files.

Bat Chat...

Look! You lot have been saved from my presence this issue! How did this miracle occur? Well, simply because I had enough material to use this time. BUT NO LONGER. You want to avoid reading my rubbish in February, better get writing me some stuff pretty damn sharpish! Please.
"...say who 'Batman' is..."?? You lot are a bunch of treacherous backstabbers!
Batman.

Now it's perfectly OK for people to speculate on such questions as what Batty wears under his tights (or why he's so into tights anyway for that matter!), or does he really have pointed ears under that pointed hood, or even just what he sees in that Robin type ... but to reveal his Secret Identity???!!!. Surely that's going too far even for us!. P.G.

CAN YOU HELP THE GROUP?

Hands up those of you who noticed the difference in this newsletter!. No, NOT the date, or the issue number, something a touch more subtle than that. No?, well, take another look and you'll find that you could read almost ALL of this one without having to visit your optician. This miracle is NOT accidental, it took place because I've finally had to admit defeat with the old Toshiba copier owing to lack of spares, and purchase a new one. Well, not new exactly, but a reconditioned machine anyway, which means that this issue and future ones should be 99.9% legible once more.

Unfortunately, this has cost money, around three hundred quid if you want the gory details, and with the Group account at an all time low this kind of expenditure is potentially ruinous, so I've no alternative but to ask for your help. IF ALL OF OUR REMAINING MEMBERS WERE TO SEND A POUND EACH WE WOULD BE ABLE TO ALMOST COVER THE COST OF THE REPLACEMENT COPIER WITHOUT SHORTENING THE LIFE EXPECTANCY OF THE GROUP!. Now I know only too well that cash is tight for everyone just now, and that Christmas is not a good time to ask anyone to part with their hard earned loot, but surely a pound is not too much to ask?. You get the benefit, in that Update becomes readable once more, and the old Group keeps going a while longer, so how about it?

Before someone comes up with the idea, I would like to point out that this is NOT a fiddle to get myself a free copier! ... I paid for the last one out of my own cash, ten years ago, back in the days when the Group didn't have enough members to buy it a pencil, and it has been used exclusively for Group work ever since ... well, the Group is low on funds and members once again, and this time I simply don't have the cash myself either, so I'm asking for YOUR help. If you're so broke you can't spare a quid, then you have my sympathy and I hope things improve soon, but if you CAN then you will be doing a lot to keep the Group operational, and your help will be greatly appreciated. Paul Grade.

PREDICTIONS .... 1994.

It is traditional at this time of year to review the outstanding events of the past twelve months ... unfortunately, there doesn't seem to have been any to review, which would make this an exceptionally brief piece, and more to the point leave me with half a page of nothing to print, so rather than make this a "write it yourself" article I thought I'd have a few guesses at the possible highlights of 1994.

On the computer scene the obvious high point will be the introduction of the Super Pentium machine ... a 586/600 (with clock doubler, of course), minimum 4 Gig of RAM, and twin 680 Gig hard drives. Unfortunately this will have the new Windows release (V99.9) built in, giving it the same effective speed as a Commodore Pet and leaving almost six Bytes of RAM free. This latest Windows version will have been condensed and will leave almost 1K of drive space for user files when installed!. The Economy will finally recover, as MPs will accept a 50% pay cut, thus giving the Treasury a vast cash surplus, which will be given to the public, of course. British Rail will finally be privatised, and run by Hornby Trains PLC. The last remaining employed person will be auctioned at Sothebys and purchased by the Natural History Museum, and HMG will release details of their new plan to restore dignity to the unemployed ... this will require all persons signing on to make dole payments to the Department of Employment instead of the current degrading situation of claimants having to grovel for money every week. The NHS funding problems will be solved at a stroke by making illness a criminal offence, which means that patients can be fined rather than treated, thus providing sufficient funds to support NHS executives in the style to which they wish to become accustomed. Serious crime will be dramatically reduced by the resignation of the Government, and environmental problems will be solved completely by the eradication of people. The main point of interest for the media will be the publication of secretly taken photographs of Mirror Group directors by the Royal Family, and the subsequent Court action by Mirror claiming invasion of privacy. Other than that, the BBC will maintain the current High Standard of Broadcasting by running 100% repeats, including news reports and weather (thus improving the accuracy of the latter), and VAT will be imposed on breathing, following the privatisation of air. Have a Nice Year!. Paul G.

MORE BOOKS REVISITED. R.A.D.

Language of the Dragon. By Mike James. Published by Sigma. £7. 233 pages.
It is noticeable that many other authors give credit to the author of this book, for the help which he gave them when they were writing for the Dragon. So he can be regarded as one of the real experts on the subject. His book is intended to introduce you to Assembly Language, if you have already gained a knowledge of Basic. It contains listings of its own assembler, written in Basic, which enables a completed Assembler to be built up stage by stage. Unfortunately, the type setter omitted necessary spaces in the listings, getting worse as the book proceeds, and a warning is given about the need to take care. Commencing with an explanation of what an Assembler is, it covers a wealth of information including Registers, Operations, Memory, Addresses, Data, Hexadecimal and Addressing modes, from Jumps via Arithmetic to Branches, Stack pointers, and SWI. There is a list of the instruction codes, some notes on Dasm, (used in the book), and Dream.

CLASSIC QUIZ by Dave Cadman.

How good are you at recognising pieces of music and their composers? If you fancy your ability and memory then buy this disc and have the chance of winning your money back.
On the disc are excerpts from various pieces of music compiled by Dave using Composer, which can be called and then played by answering a screen prompt. All you have to do is identify the pieces of music and the composers, write them down and send your list in to Paul. One point is awarded for each correct title and one for each correct composer - provided it matches the right piece of music of course!
There are twenty bits of expertly compiled music, described as "light popular classics", which you can listen to as many times as you like, as the program will repeat the piece as often as you feel necessary. Most of the excerpts are not the main theme which makes it a little interesting, or frustrating, if you can't remember which bit it was...However, most of the music has been taken from Dave Cadman's Composer compilations which have been on sale from the Group since the "dark ages", in Dragon terms.
The offer is that the person who sends in the list with the highest score by 31st March 1994 will get their purchase price back. After that date a full printout of the correct answers will be available on request.
Price: Five pounds inclusive from Paul Grade.
Ken G.

MORE BOOKS REVISITED. R.A.D.

Dragon 32 Programmer's Reference Guide by J.Vander Reyden. Published by Melbourne House.
A reference source of 143 pages for programmers who want to make the most of the Dragon for business or games applications. Costing £7, it is not designed to teach Basic programming, which is a change from most books, but as a fairly comprehensive guide. In fact the author himself recommends that should you wish to learn Basic, you must consult some book other than this one. A complete Basic dictionary, with all the commands, statements and functions with a detailed description of each, plus examples on how best to use them and the average time they take, is the major part. There is also an introduction to machine code programming and how to use it from Basic, with a complete listing of the 6809 instruction set. The Dragon ports, and how to use them, are explained in a peripherals chapter. There is also a list of routines and memory locations which can be accessed from Basic or machine code. Several useful listings are provided to assist you in your own programming efforts. Some of these seem familiar, and they probably had their origins in this book. The Hints and Tips chapter is good, with some demonstration listings, and is followed by no less than ten very sound Appendices. The copy on my shelf seems to have been picked up at Ossett for just £1. What a bargain!

THE LATE, LATE BIT .....

Fun, isn't it?, a whole new game called "Read Update Without Glasses"!. Unfortunately it cost us a lot of money we can't afford, so I hope that you will all take note of my begging letter elsewhere in this issue, otherwise the fun is likely to be short lived owing to lack of funds in the Group account!.

Yes, I KNOW this isn't a very Festive Note (*that's the one above B flat, I think*), but most of you have known me quite long enough to appreciate that Christmas usually produces a mood of general Gloom and Doom around here, and guess what ... this year is no exception!. However, I am prepared to make some concession to convention .... Group Editorial Staff may take an extra ten minutes off work in addition to their 15 minute lunch break on December 25th, although payment for this will be deducted from their next expenses cheque, of course.

Anyway, moving on to more practical matters, Dave Cadman has devised a Music Quiz disc for us, which is on sale as of now price 5.00. The general idea is to identify titles and composers of various tunes, and each correct answer earns one point ... the highest score notified to me by March 31st 1994 gets the lucky winner a fiver refund!. Not an enormous prize, I agree, but times is hard, and all that sort of thing, and for all I know our Great and Glorious Leaders may have even tried to impose VAT on Group Newsletters by that time (in which case they will be ignored), so stop complaining that Readers Digest offer bigger prizes ... (when did you ever MEET one of their winners?) ... and send off for your Quiz disc NOW. OK?. A full list of correct answers will be available on request as from 1st.April next year. On the subject of competitions, it is just possible that we may have the first winner in the "Detour" mystery! .... a solution has been submitted and is being verified with the authors ... watch this space in the next issue!.

Once again I have to say "Thank you" to those few dedicated masochists who still try to do the impossible and stay in business AND support the Dragon, particularly Bob Preston, who has kept the Dragon Shows going for far longer than anyone else thought possible, and without whom Ossett would just be a village "somewhere in Yorkshire"!. I've had several letters in recent months all praising Brian O'Connor for the fast and efficient service he is providing for his customers, which is always good to know, but there have been a few complaints about a couple of firms too ... both KCS and Dragonfire seem to have been slow off the mark responding to customers, although hopefully all will be back to normal again by the time you read this. In any event, I hope we all manage to survive another year on the Dragon Scene. 1993 has been a bad time for almost everyone except politicians, and if there's any justice in the World this situation will be reversed in 1994 .... the politicians are overdue for a taste of the Dole queue, and the rest of us are overdue for a pay rise ... you never know your luck!.

Now I think it's about time that one of our members got a mention; he'll probably be highly embarrassed by it, but it really is time he got some credit for his efforts. Tony Davis, probably better known in the Group as *"R.A.D"*, has done more than anyone else I know to keep the Group viable. He is responsible for almost 80% of Group software, he has written more material for Update than even I have, and put in more hours than I care to calculate helping other Group members with problems etc. It is fair to say that without his efforts the Group would have sunk a long time ago, and although he has always refused any kind of payment for his work, I think it is high time that he got a mention here ... whether he approves of it or not!. I most certainly appreciate all that he has done to keep the Group going, and I trust that the rest of you do as well.

OK, that's almost the lot from me for this year, so as the Barmy Baroness once said, "Rejoice!!". If the new copier didn't blow up during the rest of the print run, you will notice that this issue of Update has suffered a few changes of layout and typefaces. Personally I think they ought to be an improvement, but if you don't agree or have any other/better suggestions please let me know. Other than that, feel free to enjoy yourself, or whatever you get up to at time of year .... but remember all the Government Health Warnings .... Don't drink, Don't smoke, Don't eat, Don't drive, Don't indulge in any form of sexual activity, Don't go out ... it's too dangerous, Don't stay in ... that's too dangerous as well, and if there's anything else you were thinking of doing ... DON'T!. Happy Christmas!. Paul.

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