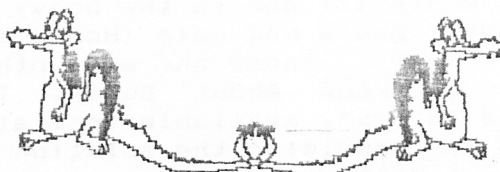


The Newsletter of the National Dragon Users Group

DRAGON



UPDATE

* ISSUE 68. 'Hove countdown - don't forget!' APRIL 1990. *

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The Gaffer's Bit

When you opened the envelope that this arrived in, did you notice a rather peculiar coloured piece of paper inside? No?, then go down to the dustbin, scrabble through the empty gin bottles, discarded caviare containers, etc, and look for it!. Found it now?. Good!. Holding the paper firmly in one hand, look carefully at it (the paper, you idiot, not the hand!), and you will discover it has words printed on it. If not, you're holding it wrong side up, in which case rectify this by turning it over. Regardless of the colour, it is NOT an election leaflet for the Green Morons Party, so do NOT return it to the dustbin, READ IT!, IT APPLIES TO YOU!! If you've managed to complete this traumatic task, you'll have discovered that it gives details of the Summer Show at Hove, which YOU should be attending, either as an Enthusiastic Dragon or Tandy Owner or as an Exhibitor (No, that isn't the same as an exhibitionist tho' on second thoughts). Read, learn, and act upon the information so generously imparted, and in order that other, less fortunate beings can also benefit from this unrepeatable chance to spend money, take the leaflet to your local Library, Newsagent, place of employment / education, etc, and ask them to stick it up somewhere. Be careful how you word that request though, as it needs to be displayed where it can easily be seen. (Of course, you know your own Librarian, Newsagent, Employer, Teacher, etc best.).

Why am I boring you with all this when you've already spent months working out excuses for not attending?, simply because I won't accept ANY excuse this time, not even having to attend your own funeral!. This is the final Show that the Group will be arranging, and it should be the best, and for that we need YOUR full cooperation (and money!). We won't make a profit out of running the Show, but YOUR efforts could make all the difference between covering the costs and making a loss, and remember, it's YOUR money we stand to lose!. Protect your own investment and BE THERE!.

I'm typing this page on Monday 16th. April, so as yet I haven't a clue how many of you will turn up at Ossett, but I'm sure that I'll be getting a phone call from Mike Stott next weekend telling me that he and Bob Preston were the only ones there! ... or are you going to prove me wrong this time?. It will be nice if you do, but if not, don't blame the suppliers OR the Group when Dragon support drops to zero ... if YOU can't be bothered, why should we?. Anyway, don't forget to phone your bank and extend your overdraft, and give your cheque book a day at the sea side on Saturday June 2nd. OK?.

The Editor's Bit . . .

Yo!

No, it's no good, I just can't think of anything interesting to write about. I'm so busy at the moment, and there are at least 200 other things I would rather be doing on this beautifully warm day than typing the Update master. Still, makes a change from the storms of the last two months, eh?

I could talk about the Mid-Staffs by-election, but it will be old news by the time you read this, and besides, there's nothing worse than a load of Socialist lefties going ape over a mid-term victory.
Stephen.

HOVE TOWN HALL, SATURDAY 2nd. JUNE.

Paul G.
BE THERE!

Fishy Business Twelve...

Only a quickie this month (!) due to the heavy burden of A level coursework (XXTell me about it!...SWXX) and a bad cold (How does a fish do A levels? How does a fish catch a cold? These and many other questions are answered in 'Everything You Wanted To Know About Dudley The Incredible Gamesplaying Goldfish But Never Dared To Ask', available from all good bookshops). Firstly, thanks to Alan Greenwood for providing the solution to Mike Lee's "3D Space Wars" problem a couple of months ago. Here, for Mike and all those others who are stuck on this, is Alan's advice...

- 1) Do NOT panic just because the space fighters attack very quickly. A bug in the program means that if a fighter is shown in front of you on the scope (thingy) it will only attack when in view on the main screen. If you should lose it off the side of the screen for a mere second the fighter will have to start its attack run all over again, thus giving you a second/ third/ fourth attempt at shooting it down.
- 2) As the levels progress the fighters become faster and change their appearance but despite this they behave in the same way.
- 3) Tip: DO NOT shoot down your refuelling station. It will stop you proceeding to the next level.

Alan says he found the game "really dull", but I'm sure the above will be of help to some people.

The second letter I've had (yes, two in one month! Somebody get our postman a spinal surgeon) was from Joe Brincat of 73, Annunciation Street, Hamrun, Malta. Some of you may remember him as the mapper of Universe One in "Total Eclipse". His letter offers help on this game to anyone who sends him an SAE, so don't waste the opportunity, and send that letter now (believe me, if this guy can't help you, nobody can...). Speaking of which Paul has asked me to put in my address again, so for the uninitiated here it is: DTIGG, The Vicarage, Norwich Road, Watton, Thetford, Norfolk, IP25 6DB.

Finally, onto the reviews...

	G	S	P	D	Overall	
SHOCKTROOPER	8	9	8	8	9	***P.P.P.***
DRACONIAN	8	8	6	7	7	
UTOPIA	6	5	4	4	4	
SPEED RACER	8	5	7	6	7	
FURY	4	4	3	1	2	

That just about rounds it off for this month. Just out of interest, I'm considering knocking together a Dragon 'Games Directory' during the summer which could hopefully contain details and opinions on as many games as possible. However, it can't be done without your help, so if you're interested in lending a hand drop me a line (with SAE of course) along with any ideas, and it might just get off the ground. See you next month if you're lucky.

Dudley The Incredible Gamesplaying Goldfish.

Glub, glub...

Before Paul drops in any jokes about education and "coarse" work (yes, he WOULD stoop that low), I sympathise entirely with Dudley...but it serves you right for taking German!!!!

However, viewers, you needn't feel worried about burdening our poor fish with too much work by writing him the odd letter or five, so drop him a line (possible joke opportunity there) and pass on any tips, POKEs etc you may have, or anything games related. After all, we don't want him to get lonely, do we? Stephen.

TAKE IT AND STICK AT IT!!!!

With this issue you will find an A4 size poster advertising the Hove Show PLEASE do your best to make sure that it is seen by as many people as possible!. Not ALL Dragon owners are Group members, so they have to rely on YOU to let them know about the Show.

PEEKING THE DRAGON (24) BY MIKE STOTT

As this is my 24th article for Update it must mean that I have been doing this job for nearly two years as I wrote a couple of items before I became Software Editor of this illustrious organisation. I must admit that it does not seem that long - it feels more like twenty years.

Anyway, enough of my moans, first subject this month is the Group's own PD library. Stuart Beardwood, 38 Salisbury Place, Boothtown, Halifax, West Yorkshire, HX3 6ND is now running it. Due to some problem or other he has not received the original items yet from Lee Cooke and at present has only got his own items of software for the library. Did I say ONLY GOT? Some he has sent me include demonstrations of paged graphics and music, an HERBS database (bet you did not know Mint Sauce was an aphrodisiac), a disc management system for multiple drives and many other useful programs and utilities. He intends charging a nominal sum (providing you send a blank disk) for a full disk of stuff. His main worry at the moment is a scarcity of items to be included so why not send him those little pieces you have written yourself - nobody need know who has written it if you so desire. Who knows, other Dragon owners could soon be crying out for you to write bigger and better pieces of software as your program gets praises from all over the Dragon world.

Raymond Roach has just sent me a review of "Slow But Sure" and in his letter he tells me that Mike Townsend has helped him with a long-running problem. He can now feed information from a D64 to an upgraded 32 via a cassette recorder and a multi-contact two-way switch (having doctored the cassette recorder slightly). On Saturday 17th March I went along with my family to the Computer Show at GMEX in Manchester and the only Dragon items to be seen anywhere were yet again on Bob Preston's stand. At 4.50 to get in (or 10.00 for a family ticket for 2 adults and two children) it was rather pricey to get in and there was not that much there although I did manage to pass about four hours away. Why did they squeeze all the stands into one small corner of the hall? Where were the Dragon owners? I was amazed how many people manning the stands looked at my Dragon T-shirt and said "I've got a 32 up in my loft". Adventuresoft were there but did not have Dragon items with them. I managed to get a drive cleaner for 1.95 and quite a few people were buying "Thingis" for 1.00. Managed to find David Barrow's 6809 Machine Code Programming for 1.00 and another book on microcomputer puzzles for the same price so the day was not exactly wasted. Some of the demonstrations of scanners and video digitisers were rather impressive and each time I mislaid my wife (about forty times) I found her gazing in wonder at an Archimedes Music System which we could just afford to buy if we sold our house, car and some of the Dragons. Don't mind getting rid of the first two but I'm keeping the Dragons.

Yet another computer has been added to our family collection. It is a secondhand 640K Tandy 1000SX with twin floppies and twin external 20meg hard drives. I will be the main user but I will certainly not be giving up my Dragons yet. The system came complete with quite a selection of software. The music items caught my attention as I have got quite a number of the items on the Dragon as well. So, how do they compare? No comparison!! Despite 32K versus 640K, the music of David Makin, Dave Cadman, Stuart Beardwood, George Cartwright etc certainly surpasses anything I have yet heard on a PC despite the fact that the critics say the Dragon has very poor sound capabilities.

No new software has been received this month apart from an upgraded version of Desktop from Stave Knight.

There are no adventure pleas this month so maybe we have been able to solve all the problems in the last few months???

MORE SHOW STUFF.....

The essential details on the Hove show are as follows: Doors open to the public from 10a.m. until 3.30p.m. Refreshments available all day, and licensed bar open from 1p.m. onwards. Admission 1.00 for adults, 50p for under 12's. Venue is The Great Hall, Hove Town Hall, Norton Road, Hove, Sussex. Nearest Rail stations HOVE or BRIGHTON. Main roads A23/M23, A27, A259. Don't get lost!.

Disc Error Trapping(1)-Gareth Sims

When writing a program under any DOS you are presented with the commands ERROR GOTO, ERR and ERL. With some systems, you aren't given a list of error codes and their values as used by ERR, making the entire set of commands next to useless. However, even if you do have such a list, looking up the error every time something goes wrong can be very tedious. But as you are using a disc system it is possible to set up a 3K file consisting of an error look-up table. Then you can extend your error trap so that it automatically displays the error in question. To start you require a program to place such a file on disc, a list of the error codes and descriptions, and lastly the program lines to enact the look-up in event of an error. This month, the error descriptions, and some brief notes on errors under DOS.

Error codes between 0 and 52 are BASIC error codes, and I shall only briefly describe them below. From 128 to 166 are the additional DOS errors. If you have DragonDOS or SuperDOS then it is quite easy to alter the reported error code value for accessing the look-up file. DOSplus introduces three new errors, complicating matters slightly. CumanaDOS and DeltaDOS(plus) should be able to use this system, for CoCoDOS you will have to most likely construct your own look-up file and alter the adjustments to the reported error code, otherwise the principle is identical.

The codes (in decimal) and their meanings are as follows:

00 NF error	02 SN error	04 RG error	06 OD error	08 FC error
10 OV error	12 OM error	14 UL error	16 BS error	18 DD error
20 /O error	22 ID error	24 TM error	26 OS error	28 LS error
30 ST error	32 CN error	34 UF error	36 FD error	38 AO error
40 DN error	42 IO error	44 FM error	46 NO error	48 IE error
50 DS error	52 NE error			

As these are BASIC errors and should be familiar, I have left it up to you to add your own descriptions. 52 NE and 36FD are listed again as DOS errors, but have slightly different meanings. Onto the DOS errors:

128 NR Drive not ready	148 DF Disc full-but not directory
130 SK Track/Sector seek error	150 FS Filename has illegal characters
132 WP Disc is write protected	152 PT File write/delete protected
134 RT Record type incorrect	154 PE Attempt to read past end of file
136 RF Record not found-no such sector	156 FF File not found, but in DIRectory
138 CC Cyclic Redundancy Check error	158 FE File already exists-use new name
140 LD Lost Data enroute to/from disc	160 NE File does not exist
142 BT BOOT failure	162 TF Trying to OPEN too many files
144 IV Invalid/corrupted directory track	164 PR Parameter error-too big etc
146 FD Directory Full, but not disc	166 ?? Unkown error

The extra DOSplus errors are: 135 TR Track Not available,

141 DB No tr.16 directory 159 EN Entry number ? directory limit

Hi-ho, Hi-ho, It's off to Hove we go..

Sun, sea, sand...you get all of these in Hove. Well...in a dream, maybe. But nevertheless, this cultural hot-spot is once again the host for the Dragon world's summer show. Following on from last year's success, the NDUG is staging the 1990 Hove Dragon & Tandy Summer Show at the Hove Town Hall, the same venue as last time. The all-important date (diaries out!) is:

SATURDAY, 2ND JUNE, 1990.

I don't have any precise details like time, tickets, etc, but I'm sure Paul will fill you in elsewhere in this issue.

This is most likely going to be the last big Dragon show EVER, so it is vitally important to make the effort to attend. The major Dragon companies should be there, and you should have no excuse for not buying anything. IT IS IN YOUR OWN INTEREST TO ATTEND, as you may never have the opportunity again. I'd better see you there!

Stephen.

Errors... Roy Cashmore.

I/O ERROR. Do you get plagued with error messages? Probably none is worse than the dreaded legend on the screen "?I/O ERROR". Articles, with listing, have been written on how to recover from these errors, but it is best to try to avoid them. Here are a few reminders:

- 1) Clean AND demagnetise the heads of cassette recorders regularly - at least when an I/O ERROR is reported. The tapes with fluid are satisfactory for mechanical cleaning; Tandy sell a good Electronic Demagnetiser.
- 2) Clean the tape before use. Put a blank jack plug in the MIC socket and RECORD (nothing) from one end to other before trying to record. I find new tapes benefit from this.
- 3) If there is an adjustment facility for the head, insert a small screwdriver and, with the EAR plug out, play a tape and adjust to get the shrillest sound. For further details, see pp122-3 of the 'Boots Guide To The Dragon 32' - if you haven't got a copy and see one, it's worth having.
- 4) For ASCII files of either programs or data, use POKE 144,n (n=2 will usually work; if not try 3 or 4) to increase the size of the header. Remove the REM plug, press RECORD/PLAY then press ENTER - the file will take up more space on tape but will be more reliable.
- 5) Do NOT drop tapes. Do NOT put them on top of the TV or monitor, nor on the speaker grill of a cassette player. Do NOT put tapes in hot or cold places.

If you obey all these things, I cannot guarantee that you will not get I/O errors, but you WILL reduce the risk.

OM or OS ERRORS. I guess everyone knows that if you get ?OS ERROR, it means that you haven't cleared enough string space with CLEAR x. Sometimes, if you increase the value of x, you are rewarded with ?OM ERROR. One answer is to forget the program, another is to go for a memory upgrade, but before doing either, try using PCLEAR 1 (unless you want to use two or more graphics pages).

Normally FOUR graphics pages are (PCLEAR 0 gives an ?FC ERROR). Using PCLEAR 1 releases about 4K of memory. This can be very important in a database type of memory-hungry program.

PRINT. Perhaps not everyone realises that the PRINT#-x statement will work using a variable for x, providing that x is 0,1 or 2. PRINT#-1 sends data to tape, #-2 to a printer, and #-0 (default value) sends it to the screen. Using this can save memory in a database type of program as the segments for the SAVE, LIST and PRINT options can be overlapped, e.g.:

```
-1
1510 IF C=1 THEN POKE14,2:"HAVE TAPE POSITIONED, PRESS
RECORD/PLAY":INPUT"PRESS ENTER WHEN READY";NL:OPEN"O",#-C,"DATA" 1520 FOR X=0
TO M:7#-2,D#(X) ...ETC...
```

@ 1550 IF C=1 THEN CLOSE #-1 Note the use of POKE144,2 in line 1510 to increase the header size. Many database type programs have 3 separate subroutines. Think how much more memory space the program would take up, and databases are always memory-hungry.

DIM. DIMensioning normal string or numeric arrays is well described in the manual and other texts, but not GRAPHIC arrays. Keith and Steven Brain in "Advanced Sound & Graphics For The Dragon Computer" (pp112-4) give a formula:

```
(X pixels x Y pixels)/divisor = array size
PMODE divisor
0 160
1 or 2 80
3 or 4 40
```

Not only does this save valuable memory, but it also enables the whole screen to be DIMensioned (255x191 = 48,705! Possible on a D64, I suppose). Using the above in PMODE4, we get the more realistic 1217.625. The recommendation is to round up and add 5%, which gives 1278.9 or 1280. This works, but NOT if you try to compile the program using SPRINT, which demands a 2D array. The "Boots Guide To The Dragon 32" (pp99-100) gives a formula which gives similar values, but tells you to use DIM(0,a), where a is the calculated array size. The Guide does not suggest the 5% addition. This should work with a compiler.

Don't forget that if an array of 50 elements is required, DIM A\$(49) is sufficient and use A\$(0). This also saves wasting memory.

This program by Dragsoft is just what its title suggests. It is a Basic Screen Dump which, written for the Memotech DMX80 and Panasonic, is easily adaptable for most 8-bit, Epson compatible, dot matrix printers. (Not suitable for Tandy printers)

As with all programs, it becomes easier every time you use it. It is available on tape and disc and I experimented with the disc version. Text dumps were very easy even if a little slow to complete. I loaded up with a variety of PMODEL and 3 screens, and they dumped perfectly. The program allows you to vary the size of the finished print and to print across or at 90 degrees. It also allows you to invert the image if you wish. The literature that comes with the disc/tape is easy to follow.

The dump is, however, very time consuming after it has been set in motion, so, when you first try it, do not think you have made a mistake if the printer does not rattle away immediately you tell it to print. Give it time. To dump a whole screen will take several minutes, so read some more of UPDATE while you are waiting.

SLOW BUT SURE is available from Dragsoft, 41 Hereford Street, Presteigne, Powys, LD8 2AT (Tel 0544 260178 or Prestel 105447385) 5.00 incl P&P - cheques payable to Mike Townsend.

LETTER WRITER - BY FRANK FISHER

On receiving your disk, you must first 'BOOT' your BASIC42 disk, then 'RUN' "LI2D". You are then presented with the usual menu running under BASIC 42's 42 X 24 screen. If you now press 'ENTER' you will be presented with another menu. This will allow you to set 'drive 2' as your data drive, (drive 1 remains as the program drive), also instead of inputting printer codes you can set your main print type. After each selection you will be taken back to the main menu. On pressing 'Input', then inputting NOTES1, and waiting for the menu to reappear, you can then go to 'Print', input "10" and "N", (for page of 10 inches/current page), then pressing any key puts you into 'VIEW' MODE, where you can see the text before printing or press 'P' to print. The viewing and printing can be "aborted" at any time, this is a nice touch and does save waiting to the end.

You will notice that each function has it's own module and is loaded in as required, this does save a lot of memory, also there is a lot of 'are you sure/please wait messages', if you make a mistake it will not be the fault of the program.

The other options are 'Edit', this is in itself a powerful section, as it includes 'Insert lines/blank lines, 'Delete lines, 'Get lines, 'Put lines, and last but not least a fast global SEARCH/REPLACE option, this I like!!

Also control codes can be edited in to change TAB, LINE LENGTH, PRINT TYPE etc. Condensed/Doubled Width and Normal can be mixed, (remember to change the line lengths!!!). Files can be added in from disk, or 'CHAINED' in to the printer, up to a maximum of 10 files.

As supplied the program sets the screen for a TAB of 10 and line length of 55. The program will accept TAB0 and length of 70. This will give an 80 column line allowing for 'wraparound'. You must set your line length minus 10 characters to allow for when the Right Justification mode is selected.

There is also a reformatting mode to reset the text before printing. Also a RIGHT JUSTIFY which is fascinating to watch. A nice addition is a 'Browse mode which will enable you to load in and view other files without interfering with the current rendition.

The program itself does not pretend to be a wordprocessor, but does have the same features and more. It is also very user friendly with plenty of messages to stop you making a mistake, though the sparse manual can do with expanding to cover the edit mode more clearly, but like all programs you cannot beat 'hands on'. As a straightforward document writer this is a great program, for me the search/replace (which is missing from my VisiText) makes this a better bet, but if you are expecting a WYSIWYG forget it, the only way to see it is to print it out. Conclusions?, for letter writing and special writing where WYSIWYG is important then I will stick to VisiText, but for writing quick documents where layout is not important then this program will be close at hand.

Letter Writer available from Sutcliffe Electronics, 15 West Street, Hothfield, Ashford, Kent, TN26 1ET price 5.00 including P&P.



EASY MACHINE CODE (11) R.A.DAVIS

Perhaps your interest in machine code has been awakened now and you should be able to get to grips with some of the books on the subject with confidence. Programming the 6809 by Zaks & Labiak gives explanations of all the opcodes. Dragon Machine Code by Robin Jones & Eric Cowsill is very helpful. I got my copy from Shiva Publishing, 4 Church Lane, Nantwich, Cheshire, CW5 5RQ (Tel 0270 629440). Also Hilton Computer Services, Dragon Division, 10 Jerome Rd., Larkfield, Kent, do a good memory map from which you can find some good ROM locations and 'Hooks'. To end this part, here is a small routine you can use in most programs, especially when giving pages of instructions. It introduces PSHS which means push these registers onto the stack to save information saved in them. a precaution sometimes needed so that when you return to the main program, the registers have not been corrupted by the routine. The reverse is PULS which pulls the information from the stack back into the registers. The stack works on a last in first out sequence, but the Dragon ensures that the correct information goes into the correct register, however the instruction is sequenced. The FCC command with DASM enables you to load a string as Data, see line 70 below:-

```

10 CLEAR 400,&H7000
20 EXEC&H0FFA
30 ALL
40 @START EQU *
50 BRA @BEGIN
60 @DATA EQU *
70 FCC "HIT", $60,"A",$60,"KEY",00
80 @LEN EQU *
90 @BEGIN PSHS A,X,Y
100 LDX #$0SEA      110 LDY @DATA
120 @PRINT LDA ,Y+
130 CMPA #00
140 BEQ @END
150 STA ,X+
160 BRA @PRINT
170 @END PULS Y,X,A
180 RTS
190 END
2000 CLS:EXEC&H7000
2010 GOTO2010

```

Without lines 2000- nothing will appear on screen. Here is the Basic listing:-

```

10 CLS
20 DATA 48,20,0A,48,49,54,60,41
30 DATA 60,4B,45,59,00,34,32,8E
40 DATA 05,EA,10,8E,70,03,A6,A0
50 DATA 81,00,27,04,A7,80,20,F6
60 DATA 35,32,39
70 I=&H7000
80 FOR J=1 TO 35
90 READ A$:A=VAL("&H"+A$)
100 POKE I,A
110 I=I+1:NEXT
120 GOSUB2000
130 CLS8:SOUND 220,1
1999 GOTO 1999
2000 EXEC &H7000:EXEC 34091
2010 RETURN

```

Don't object because this is as easy to do in Basic. Most thing are! Machine code is faster, if you want speed, and necessary if you want to Bit-set the SAM chip, so it is worth some understanding. On the subject of the latter chip, get the Motorola information ADI 595. Page 18 gives the Dragon system. If you want more of this sort of article let the editor know. Otherwise best of luck with your explorations.

<<You'll all be glad to know that there IS a continuation of these articles so this is not the last of the series. Next, reading the keyboard....SW>>

#####

Don't forget that the Tutorial disc to go with this series is still available (see ads page for details), and that you can now get the continuation disc to take you through to more advanced use of m/c as well!.

REVENGE OF THE ALIEN BONGO BEAST IN THE CRISSY-CROSSY LINES DIMENSION - I wonder if this game could win a record for the longest title for a Dragon arcade game. I certainly haven't come across a longer one! Custom seems to have shortened it to ROTABP, and a good thing too. On loading one is presented with a short story scrolling up the screen which seeks to explain the background or plot on which the game's scenario is based. Apart from the first occasion, and a quick look while writing this review, I must confess that I try to avoid re-reading the story by scrolling through it at maximum speed. Suffice it to say that the hero is Dirk Bronzetorso who is transported to the Crissy-Crossy Lines Dimension by the ABB for failing to pay his gas bill! My 10 year old son, and his younger sister, do however enjoy the story a great deal.

Storyline apart, however, this has got to be one of the best ever games written for the Dragon. The play and graphics are superb, and Stewart Orchard is to be congratulated on yet another masterpiece. (His earlier game - BALL-DOZER - is also excellent both graphically and in play.) ROTABB can be played either with the keyboard or a joystick; though I personally prefer the latter. The object is to negotiate what I choose to think of as a small space-ship through a series of levels (a total of 15 in all) while avoiding or shooting various types of alien craft and destroying a series of "generators" with your "homing missiles". When all of these have been eliminated, an "end of level" monster swoops down and tries to destroy your craft by homing in on you. All of these monsters are differently designed, and need skillful and careful manoeuvring to keep out of their path while lining up your own missiles on them. Success in destroying the monster leads to a temporary respite while you are told your bonus score and the title and bonus points available on the next level. This intervening screen is magnificent, with a revolving globe or planet in one corner, and a strangely comic name for each level! (eg "Lurking Lettuce", This is where you get yours, Julie Andrews, etc) Play is helped by a small radar screen on the right of the playing area which indicates the whereabouts of the line of generators and the two flights of alien spacecraft which travel in straight lines across the universe. If they, or anything else, collides with your craft, you lose one of your 5 lives; but you gain a bonus life for each level completed. Among the most difficult of your enemies are the asteroids, which also home in on your craft but which cannot be destroyed by missiles or shooting. Your only escape is to avoid collision by skilful handling, and when three of them are after you this is no mean feat. Your craft always occupies the centre of the screen, which "wraps round" so that objects leaving it on one side reappear on the other, giving the feeling of a small ball-shaped arena. @ One of the really excellent facilities of this programme is the ability to save the Hall of Fame on to a separate tape and reload it the next time you play it. This is an idea which could well be adopted by any other new cassette based game for the Dragon, as it adds considerably to the long term enjoyment.

In conclusion, then, this is an excellent game and a really fine piece of programming, with good, smoothly flowing graphics. It is one of those addictive games which keeps you coming back for more and staying up ever later at night for "just one more go before bedtime".

ROTABB available on cassette for 6.00 incl P&P from Kouga Software, 94 The Oval, Firth Park, Sheffield, S5 6SP.

Here we go again

I've just been informed by Stephen that he wants to resign from the post of Editor later this year, "probably around September". All truly dedicated masochists with time to spare are invited to volunteer as replacement you'll get no thanks, no pay, and no sympathy from me either, but if you're between nine and ninety, fairly literate, and have a DragonDOS Dragon, you'll do!. Paul.

SSZ Mouse Interface...Chris Rouse.

The German group, Seigfrieds, demonstrated a mouse interface at the Hove show last June, and at twenty pounds it was difficult to resist. They did warn me at the start that it might take a little while to arrive, but I feel that seven months is perhaps a little too long to wait. The circuit is based on a 6521 PIA as used by the Dragon for keyboard interface and control. The PCB is about three inches square and is fitted with one 5 pin header and one 20 pin header for connection to the computer. A nine pin D type connector is provided to plug an Atari joystick into. A five page manual and two disks complete the package.

Unfortunately, the manual leaves a lot to be desired (although I only wish I could speak German as well as they speak English). A table of connections is provided, but this has a mistake (pin 16 should be connected to pin 34 on IC8 or the interface will not work. I would like to have seen a circuit diagram included, as well as a little more on the programming of the port. It took me a couple of hours to wire up the interface and I would suggest that you do not attempt this unless your soldering is up to a reasonable standard, as the 23 connections are made to chips on the Dragon's PCB.

The next problem lay in the software, as this needed some modification to get it to work as it should. However, the result was well worth the effort, for once you have used a mouse in a drawing program you will never want to touch a joystick again! One point to remember is that a mouse has no 'end stop' and the cursor will wrap-around the screen. This can be a little disconcerting until you get the hang of it.

You will also need an Atari mouse, which can be obtained from a number of suppliers at about 25.00, bringing the total cost to around 45.00. Now for the big question...is it worth it? I think it is, the whole package from SSZ is excellent value for money, even with the few bugs. I would suggest that you contact SSZ before sending any money as the group folded last year, but the December issue of Update carried a short piece from Bernd Neuner stating that they would still supply the interface. The address is: Siegfrieds Schraubenzieher Gbr. Bernd Neuner, Dina-Ernstberger Str 23, D-8524 Neunkirchen-am-Brand 1, Federal Republic of Germany.

The software patches the mouse read routine into the 50Hz interrupt routine, placing the X and Y values into the JOYSTK locations at \$15A and \$15B, so making the conversion of BASIC programs fairly easy. The 'fire button' must be read from a location within the mouse program and this can cause problems. If anyone has already purchased the mouse interface and has no suitable software, I can supply a converted version of the DragonArt library's DRAGDRAW. Finally, OS9 drivers are provided for those interested in using the mouse in OS9 programs.

Afterthoughts 68...

Well, here we are again, just hours after starting the master disc. Doesn't time fly when you're having fun. Yes, it does. Unfortunately, the Update master is nowhere near fun, and it seems like it's been a lifetime since I typed up the first page.

I want some articles, please. See, I even asked nicely. And don't give me all this "using too many reviews" and "don't know what to write" rubbish. There must be something which you can put pen to paper about, and it will definitely be considered for publication. No guarantees of course, but everything has a fair chance of being used. So jump to it!

You may notice in this issue that there are one or two references to a forthcoming show somewhere in Sussex. These are just a few hints to remind you to MAKE THE EFFORT. You all know why you should be there, and if you don't show up, the consequences for the Dragon scene will be your own fault.

And why didn't you go to Ossett? If you can't make it to Hove, you should have gone to Ossett. But most of you are so apathetic that I can write this at the end of March and safely predict that the vast majority of you won't show up. Am I right, or am I right?

You've only got yourselves to blame if you send orders/articles to the wrong place. It doesn't take much intelligence to work out where to send something, or who to make the cheque payable to, and the details have been reiterated so many times that all you need do is look back a few issues. So there's no point moaning if you don't get what you want.

See you next month, and remember: next month's Update is the LAST ONE BEFORE HOVE.

Stephen.

ACCESSING ROM FROM D64 MODE 1. D. Riley

When I wished to access the Dragon's ROM from a machine code program running in map mode 1 on my D64 I asked several people how to do it. Most didn't know the answer, only one said "It's easy, all you do is CLR \$FFDE, JSR SUBROUTINE and CLR \$FFDF to return to map mode 1 and don't bother to enable the interrupts". He was right, it WAS easy, but it took me an awfully long time to get there, so the following source listing is offered just in case anyone else has a mental blockage similar to mine!. The demonstration program runs in map mode 1, accesses the Clear Screen subroutine and then waits in the "Wait with Cursor" routine. The subroutine vectors would normally be elsewhere in mode 0 RAM but have been put where they are only so the demonstrator can run in Dreambug.

*DEMONSTRATION OF ROM ACCESS

*FROM MAP MODE 1

```
WAIT EQU $A0EA
CURSAD EQU $B8
CLS EQU $BA77
```

*SUBROUTINE VECTORS IN MODE0

```
CLEAR CLR $FFDE
      JSR CLS
      CLR $FFDF
      RTS
WAITC CLR $FFDE
      JSR WAIT
      CLR $FFDF
      RTS
```

*RELOCATABLE PROGRAM INDIRECTLY

*CALLING ROM ROUTINES TO BE

*COPIED INTO MODE1 MEMORY

```
L1 JSR CLEAR
   LDX #$510
   STX CURSAD
   JSR WAITC
   RTS
```

*ROUTINE TO COPY PROGRAM INTO

*MODE1 AND EXECUTE IT THERE

```
@ LDX #L1
  LDY #$8000
L2 LDA ,X+
  CLR $FFDF
  STA ,Y+
  CLR $FFDE
  CMPX #0
  BNE L2
  ORCC #$10
  CLR $FFDF
  JSR $8000
  CLR $FFDE
  ANDCC #$EF
  RTS
```

CROSSWORD NUMBER 52. by J.D. Bateman.

ACROSS: 1A. Book of words; 2I. Bedtime drink; 3C. New program which pops up; 4A. Effigy burnt on a bonfire; 4J. Any plant whose growth interferes with other cultivated plants; 5F. Very small fresh water fish; 7A & 7J. Perry Como tried to catch this heavenly body many years ago; 9G. Gardening implement; 10B. Chemists weighing machine; 11G. Portable music device favoured by joggers; 12B. Childs plaything; 13A. To buy; 13I & 12. Person who is propelled from a large gun.

DOWN: 1I. Dragon supplier under new management; B6. Large flat fish; C1. To make an exact replica of; C6. Apparatus in tail of a plane used for gaining altitude; D3. Substance produced by bees to feed the queen; E9. Used for repairing an inner-tube; F1. Soothing or healing cream; G1. Zoro; H3. Shelf above a fireplace; H9. Type of pipe smoked by hatchet burying indians; I2. See 13I; J7. Captain Kirk's funny eared friend; K6. Small river; L4. Mix up a green traffic light with a bream to obtain an order preventing ships leaving or entering port; M1. Shrove Tuesday or the carnival that takes place on that day; M10. Word usually found at the end of a poem written by an unknown person.

As usual the first correct entry out of the box will get a choice of programs from the current Dragonfire Services list, thanks to Robir Hemmings very generous offer, and the second correct entry gets a tape from our collection. ALL entries to Paul Grade, please.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	D	I	C	T	I	O	N	A	R	I			
2	R		O			I	O		C	O	C	O	A
3	A		P	O	I	N	T	M	A	S	T	E	R
4	G	U	Y			T	H	A	N	W	E	E	D
5	O					M	I	N	N	O	W	N	
6	N		E			E	N	T	O		S	B	
7	F	A	L	L	I	N	G	L	N	S	T	A	R
8	I		E			T	E	A	P	R	R		
9	R		V		P		S	P	A	O	E	G	
10	E		A		A		E	L	E	A	O	H	
11			T		T		W	A	L	K	M	A	N
12			T	O	Y	C		C					O
13	P		U	R	C	H	A	S	E		H	U	M

0 R
G
B

SATELLITE FINDER.

The listing below was written to calculate the position of T.V. satellites relative to your receiving dish (if you're rich and daft enough to own one!). More importantly, it calculates the aiming details - heading and azimuth - for pointing your dish to receive signals from a given satellite. I thought that it may also be useful for radio amateurs who want to tune into the radio satellites, and need to know where to point their aerial.

As it stands, the program deals with satellites in the due South "window" - hence the inclusion of Clarke Belt in the first DATA line - but need not be restricted to that field. You'll need to know your latitude and longitude, (see an atlas!), and whether you live East of Greenwich meridian (0 degrees). If you do, enter the longitude as a minus value, e.g. -2.30. @ To adapt this for radio use, the position information of the radio satellites needs to be substituted for the present information in the DATA statements. Also, delete line 130, as this is only applicable for the Clarke Belt "window".
Ken Grade.

```

0 * SATELLITE FINDER (Gareth Jones)
20 K=6.61:P1=3.14159267
30 DEFFNR(X)=X*P1/180
40 DEFFND(X)=X*180/P1
50 DEFFNA(X)=-ATN(X/SQR(-X*X+1))+P1/2
60 GOSUB 430
70 CLS:PRINT" SATELLITE";
75 PRINT" COORDINATES LISTING"
80 PRINT"FOR:-";SA$:PRINT
90 PRINT"AT LONG.";LO;"LAT.";LA:PRINT
100 DI=8:T1=20
110 FOR I=1 TO 20: SAT/DATA COUNT LOOP
120 READ SN$,SL,EW$
130 IF I=1 THEN SL=LO
140 W=FNR(SL):H=FNR(LO):A=FNR(LA)
150 L=H-W
160 D=FNA(COS(A)*COS(L))
170 C=FNA(-TAN(A)/TAN(D))
180 IF L<0 THEN C=2*P1-C
190 X=(COS(D)-(1/K))/SQR(1-COS(D)*COS(D))
200 AN=ATN(X)
210 Y=FND(AN):CD=FND(C)
220 IF Y<0 THEN GOTO 410
230 SL=INT(SL*100+.5)/100
240 IF DI<95 THEN GOTO 260
250 PRINT:PRINT:PRINT:DI=0
260 IF I=1 THEN SL=180
261 IF DV#<>" " THEN 270 ELSE 262
262 PRINT"PRINT TO SCREEN OR PRINTER";
263 INPUT DV$
264 IF DV$="P" THEN DV=-2 ELSE DV=-1
270 PRINTSN$;" ";ABS(SL);" DEG. ";EW$
280 CD=180-CD
290 CD=INT(CD*100+.5)/100
300 IF CD<0 THEN PO$="WEST"
310 IF CD>0 THEN PO$="EAST"
320 IF CD=0 THEN PO$="DUE SOUTH"
330 IF I>1 THEN PRINT"AZIMUTH:";
335 PRINT ABS(CD);" ";PO$
340 Y=INT(Y*100)/100:Y=Y+.01
350 PRINT"ELEVATION: ",Y
360 DI=DI+5
370 IF DI=16 THEN GOTO 410
380 PRINT"PRESS spacebar TO CONTINUE"
390 IK$=INKEY$:IF IK#<>CHR$(32) THEN390
400 DI=0:CLS
410 NEXT I
420 PRINT:PRINT"THAT'S YOUR LOT!":END
430 CLS:'INPUT INFORMATION
450 PRINT" SATELLITE FINDER":PRINT
460 INPUT" ENTER LOCATION: ";SA$
470 IF LEN(SA$)=0 THEN 590
480 REM QTH LATITUDE
490 INPUT" ENTER HOME LAT. ";HQ$
500 IF LEN(HQ$)=0 THEN 590
510 LA=VAL(HQ$)
520 IF LA<-180 OR LA>180 THEN 480
530 REM QTH LONGITUDE
540 INPUT"ENTER HOME LONG. ";HQ$
550 IF LEN(HQ$)=0 THEN 590
560 LO=VAL(HQ$)
570 IF LO<-180 OR LO>180 THEN 530
580 RETURN
590 END
600 REM SATELLITE DATA
610 DATA CLARKE BELT,180,SOUTH
620 DATA BRAZILSAT F1,65,WEST
630 DATA PANAMSAT,45,WEST
640 DATA TDRS 1,41,WEST
650 DATA INTELSAT V F4,34.5,WEST
660 DATA ATLANTIC,31,WEST
670 DATA BSB 1,31,WEST
680 DATA BSB 2,31,WEST
690 DATA INTELSAT VA F11,27.5,WEST
700 DATA INTELSAT VA F10,24.5,WEST
710 DATA INTELSAT IVA F4,21.5,WEST
720 DATA OLYMPUS,19,WEST
730 DATA TV SAT 2,19,WEST
740 DATA TDF 1,19,WEST
750 DATA TDF 2,19,WEST
760 DATA INTELSAT V F6,18.5,WEST
770 DATA GORIZONT 15,14,WEST
780 DATA GORIZONT 12,11,WEST
790 DATA TELECOM 1A,8,WEST
800 DATA TELECOM 1C,5,WEST

```

GROUP SERVICES.

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:-
The Librarian, 5, Glen Road, Parkstone, Poole, Dorset.

TX Lo-res screen editor and manipulator. Written by Ian Rockett. Price 2.75 inclusive.
The Librarian, 5, Glen Road, Parkstone, Poole, Dorset.

BACK ISSUE UPDATES. Reprints of all issues of Update (from original master sheets) available at ONLY 95 pence per copy inclusive of postage. 14 page index of Update articles only 2.50. Single articles 50p each. (See for details). @ Send to Eric Hall, 32, Thackeray Mall, Fareham, Hants. PO16-0PB. Cheques made payable to "Back Issues Dept. (NDUG)".

THE PD LIBRARY: Stuart Beardwood is attempting to restart the Group P.D. Software Library, formerly operated by Lee Cooke. However, Lee is being rather obstructive about handing over the material, so Stuart is having to build up a new stock virtually from scratch. If YOU have any genuine P.D. material you could spare, or programs / routines of your own you would be willing to donate (Dragon, CoCo, OS9, Flex, etc) PLEASE CONTACT STUART AS SOON AS POSSIBLE so that we can get the service running again.
Stuart Beardwood, 38, Salisbury Place, Boothtown, Halifax. HX3-6ND.

GROUP SPECIALS!

UPGRADE MANUAL. Full DIY instructions for upgrading your D32 to 64K. Written by Bob Hall. Price 2.00.

CIRCUIT DIAGRAMS. Available for D32, D64, Dragon DOS controller, Cumana DOS controller, and CoCo DOS. All the same price 1.00 each.

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EZEE ADVENTURE WRITER! New disc from R.A.D. Perfect for those of you who found the Malcolm Cowen "AW" program a bit too heavy to manage! Learn to write your own Adventure programs the EZEE way! Price only 3.50 inclusive.

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GROUP & MEMBERS PROGRAMS etc.

NDUG DESKTOP! The Group's DTP package. Based on a FALSOFT program (produced under licence) this package is available on either Dragon DOS disc (with Epson type screen dump) or CoCo DOS (with DMP105 dump). Produce your own small posters, advertisements, magazines, program title screens, video title screens, etc. 19 font version 12.50. Orders to:-
Ray Smith, 5, Glen Road, Parkstone, Poole, Dorset. Cheques made payable to NDUG.

OS9 MODEM PROGRAM. Up & downloading of files, any Baud rate from 50/50 to 9600/9600 (NOT split rates). Up/download buffer from 4 to 32K. All 6551 options supported. Price 8.00.
Phone Barry Knapp on 0932-242800 evenings only.

DELTA DOS UTILITY. w/c utility to copy ALL Basic and w/c files from disc to tape in one operation. Basic listing of loader and Hex dump price 1.00, or on tape 2.50 inclusive.
J. Russell, 33, Tennyson Avenue, Clevedon, Avon. BS21-7UJ.

NDUGSOFT! The former Pancomms programs are now available from the Group.
Formula One ... 7.95; Disk-Kit ... 8.50; Sourcemaker ... 8.50; Lightpen (disc only) ... 2.50. @ We can also offer the Malcolm Cowen programs, Colossal Cave Adventure and Adventure Writer. Available on cassette only Colossal cave is 5.00 and Adventure Writer 7.50. (Disc version of A.W. now available at the same price).
NDUGSOFT (NW). 52, Downsway, Springfield, Chelmsford, Essex. CM1-STU.

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Setter. Set up your Dragon for better colour & sound. Also assists qualified persons in setting up TV's & monitors. 2.50. Prices include p&p and 10% donation to Group funds! Please state DragonDOS, SuperDOS, tape, or ASCII tape for Tandy.
Cheques / POs to Mike Townsend (Dragsoft, Dept. D.U.). 41, Hereford Street, Presteigne, Powys. LD8-2AT.

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Any particular requests?, the above were written to order. Also available, Home Accounts program 3.50, and Facts of the Worlds Countries (also on tape) 3.50. Please specify format when

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PRINTER CONTROL / DESKTOP fonts. 20 add on fonts for McGowan's word-processors. DISC or TAPE 4.99.
S.Knight (KCS. Dept NDUG), 76, Etwell Road, Hall Green, Birmingham B28-0LE. (021-777-2477). P&P (UK) 50p, Europe 1.00.

WANTED!! Single 40 track drive unit and DragonDOS cartridge. Maximum price circa. 80.00.
Phone Mike Lewis on 0327-842404.

WANTED!! Circuit diagram for Comuserse "Plus" board.
Phone Dave Riley on 0458-230586.

FOR SALE: Dragon 32 (+32), Peaksoft PSU, Sanyo DR101 tape, plus games. 40.00. New Era comms interface 30.00. Peaksoft Dragoniser (for Atari joysticks) & Peaksoft Touch joystick 10.00. Complete set D>User (buyer collects!) offers. 4 machine code books 10.00. Inside the Dragon 5.00. Trojan Lightpen 5.00. Maplin I/O port (for D32) 10.00. All buyer collects or pays postage.
Phone John Gilbertson on 0524-412848.

SALE or EXCHANGE: 80 col. Stag serial printer (suit CoCo), various fonts, graphics, etc. Some original Dragon games tapes. WANTED printer probs suitable for DMP2100 .. WIMP, DTP, Text screen printer, DOS 'Upgrade' EPROM for D/D, Mem upgrade for D64. Contact Tony Perry, 95, Glascote Heath, Tamworth, Staffs.

Dragon 64 spares for disposal: including cases, keys, keytops, ROM's, transformer, power/modulator board. Also a couple of 64 main boards, untested but complete. S.A.F to:
J.Brown, 45, Marlborough Avenue, Falmouth, Cornwall.

Crossword 51 answers.

ACROSS: 1A. Pauline; 1J. Ibis; 2B. Cromwell; 3D. Welding; 4D. Eclipse; 5A. Oak; 5J. Zero; 6D. Washer; 8A. Quote; 8H. Bit; 9I. Crave; 10D. Ravine; 11A. Sherbert; 11H. Nebula; 13A. Dehydrate; 13J. Deer.
DOWN: A1. Phil; A7. Squash; B1. Acid; C2. Rack; C7. Mouse; D1. Loweswater; F4. Listen; F10. Veer; G3. Dish; H8. Bonnet; I4. Service; J9. Rabid; K1. Brace; L1. Interval; L9. Valve; M1. Sellotape.

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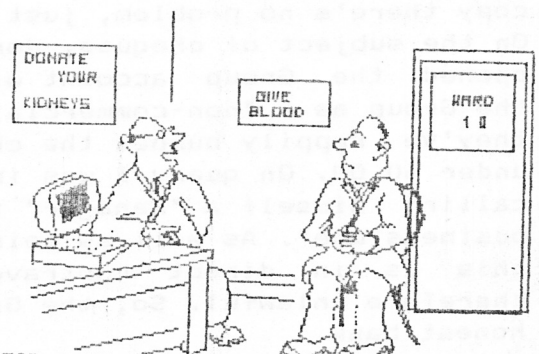
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See you at the Hove Show



The Late, Late Bit

There are times (all too many of them!) when I wonder why I'm bothering with the Group at all when I could be using the time to do something interesting or at least profitable. What's wrong with running the Group?, well, a full list would take up several pages so I'll settle for a couple of examples. The primary one is lack of response I'm trying to make up a package of assorted software requested by one of our members outside the UK, so I ordered (by phone) a copy of "Dumper" that he asked for ... two month's and a reminder letter later I'm still waiting for it!. A couple of weeks ago I sent out the booking forms for the Hove Show, pointing out that I need to know details by 1st.May at latest ... so far (21st.April) I've had TWO forms returned!. Around the same time one of our members phoned asking if I could get him some information about some hardware he wanted, and said he would be phoning back for the answer two days later ... it took several hours and about a tenner on the phone bill to get the information, and I'm still waiting for him to phone back!. With that kind of response it hardly seems worth the effort, does it?. The last time I had an evening away from this machine was almost five years ago, and getting mucked about like this does nothing at all for my temper!. While we're on the subject of "lack of response", I may as well clear up a point which several of you have queried ... what happened to the money you sent to Lee Cooke when he was supposed to be running the "PD Library". So far as I know Lee has it, unless he's spent it!. Lee took quite a few orders and sent very little out in return whenever I received a complaint I contacted Lee and was invariably told that "I've just sent those out" or "I'm dealing with that one right now". However, it seems that most of the time he was doing nothing at all, and I discontinued the Library completely. Since then Stuart Beardwood has been attempting to get Lee to pass on the Library material so that HE can run it, properly, but to date he has received none of it, and so has to depend on YOUR help to build up more stock so that he can start again from scratch. Lee has now left the Group, and was last heard of advertising in a local paper as a "Computer Consultant". You now know as much about the matter as I do.

On Group matters generally, situation unchanged except that as numbers decrease so does our bank balance!. Last month we had 31 members who failed to renew subscription, and four new members, making a total loss of 27. According to most of those who took the trouble to write and explain why they were dropping out, the main reason is a move to PC clones, although "giving up computers altogether" runs it a close second.

In answer to questions about why I have stopped advertising "Hitch Hiker", it appears that it will run well on ALL D64's, SOME upgraded 32's and SOME standard 32's, in all cases only under DOS V1.0 of course. As I have no way of knowing WHICH machines will accept it I decided to drop the advert until the mystery is resolved. Of course, if anyone with a V1.0 DOS and a D64 wants a copy there's no problem, just send a cheque!.

On the subject of cheques, don't bank with NatWest!. Six years ago when we opened the Group account with them it was agreed that the mandate would treat the Group as a "non-commercial" organization and charge accordingly. This month they've happily bumped the charges up from an average 31.00 per quarter to just under 60.00. On query I was informed by a smug and self-important little insect calling himself a "Manager" that "any account that isn't a private account is a business one". As well as being an example of gross ignorance and incompetence, this is in direct contravention of the terms of the original mandate, and is therefore unlawful. So, the Group will shortly be moving its account to a more honest bank.

Well, that's about all for now I wonder just how many of you were at Ossett today?. Paul.G.