

DRAGON



UPDATE

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The Gaffer's Bit

It had better be apologies first this month, I think. Sorry about the late arrival of the May Update but the old photocopier seized a bearing on the developer box, and repeatedly stopping to free this cost us over a week. Apologies also for an error which somehow got into Pauline Hampson's "ASCII Corner" piece Pyradventure is in no way connected with Alan Cook, and I hope all concerned will accept that this was just one of those mistakes which shouldn't happen but somehow always do!. Right, having got that out of the way I can now revert to my normal intolerant and insulting self. It looks as though I've trodden on some sore toes by suggesting that a lot of those people rushing out to buy themselves ST's have more credit cards than sense. So sad, but that's one thing I am NOT going to apologise about!. What I say on this page is my own view on things, and if anyone doesn't like it they can write us an answer for publication (or start their own rag if they prefer!). My point was that most (no, not all) of those chasing the ST people who never even learned to use their Dragon properly, and who appear to have little or no use for anything more advanced than a ZX80. Those who have a USE for a different machine are obviously correct in buying the one which best suits their needs, but judging by the response I get a distinct impression that my earlier comments came a little too close for comfort in some cases!, and some

CERTAINLY protest too much!. Oh well, it will be interesting to see what this month's comments on the subject bring in. Well, looks like I'm out of space again for now, so to prove how kind I really am I'll close with a tip for ST owners ... don't let your machine catch the dreaded virus, always use a plastic dust cover!.

Paul G.

The Editor's Bit

Extensive use of the editorial shears this month, with several articles having to be cut down to size, so if yours is different from the original, sorry, but I had to shorten it. If you do actually get round to writing an article, it can be any length UPTO 1 SIDE. Please can you try to keep it no longer than this, otherwise it'll get hacked about. (Yes, I know there are two articles over 1 side this month, but that was because I had to space to fill due to lack of etc etc...!)

I've had 2 Ossett show reports arrive on my mat this month, but unfortunately they were too late in getting here as I had already planned this issue beforehand. For those of you wondering, Paul and I work 1 month in advance, so this is getting typed in on 31st May. Anything which you send for inclusion in Update MUST reach me by 25th-26th, or Paul by about the 20th of each month (which is when he sends me the master disc), so if it arrives after that, then it's too late. I usually plan each Update a further month in advance (I am now working on the July issue), so unless it's a 'recent' piece ie show reports etc, it will take about two issues to appear, so if you're eager to see your name in print, please be patient!

And finally this month, I must give a special mention to Chris Jolly, who during May has sent me no less than FIVE ARTICLES! Thanks very much, Chris. What about the rest of you?...Stephen.

Pascal For Beginners (10) ... Gary Coxhead

This time I am going to conclude the 'idiot proofing' part of Pascal I left over from last time by dealing with 'sets'. Although sets can be defined at the top of our programs they don't have to be and can be used in data validation by use of the 'IN' clause as seen in part 4. The best way to explain sets is to use them so I will keep the verbiage to a minimum. Anyway, the 'set' data structure consists of an unordered collection of values of the same ordinal type. This type is called the 'base type'. Sets are represented by 'set denotations' in which the elements are listed or implied, eg [0,1,2,3,4,5] or [0..5] (same set as before), or ['0'..'5'] set of characters, and so on. Depending on the implementation of Pascal you are using sets are normally limited to 128 elements or less, and sets of integers must have elements in the range 0 to 127. The set is not the most commonly used data structure, but for some purposes, such as validation of inputs, it can provide simple solutions to problems. Pascal also provides operators which manipulate sets, including the following:

'union' of 2 sets	(+)	gives all elements in either set.
'intersection' of 2 sets	(*)	gives only the elements common to both sets.
'difference' of 2 sets	(-)	gives only elements in the first set which do not occur in the second.

Most important of all is the 'IN' operator, which provides a test of whether an element is in a specified set. There are a further 3 operators which allow tests for set inclusion, equality and inequality ($=$, $=<$, $=>$). One drawback to the use of sets is that there is no predefined procedure to print out the content of a set. If this facility is required then the programmer must provide it by writing a suitable procedure. Here are 2 examples & a program:

Examples

(A) REPEAT

```
    writeln('Enter Choice in range 1 to 8 :');
    read (input-no);
```

```
    UNTIL input-no IN [1..8]
```

(B) REPEAT

```
    writeln('Enter Choice y/n : ');
    read (input-ch);
```

```
    UNTIL input-ch IN ['n', 'y'];
```

Full program

```
PROGRAM vowels (input.output);
VAR
    consonants, vowels : SET OF char;
    consonants-count, vowel-count : integer;
    ch : char;
```

BEGIN

```
    consonant-count := 0; vowel-count := 0;
```

```
    vowels := ['A','E','I','O','U'];
```

```
    consonants := ['A'..'Z'] - vowels;
```

```
    writeln ('Type in some upper case letters...press "." to stop : ');
```

```
    writeln;
```

```
    REPEAT
```

```
        READ (ch);
```

```
        IF ch IN consonants THEN
```

```
            consonant-count := consonant-count + 1;
```

```
        ELSE
```

```
            IF ch IN vowels THEN
```

```
                vowel-count := vowel-count + 1;
```

```
    UNTIL ch = '.';
```

```
    writeln;
```

```
    writeln (' Number of consonants : ', consonant-count);
```

```
    writeln (' Number of vowels : ', vowel-count);
```

END.

Finally, a few little additions for you to try. Write down some IF statements which do the following:- a) Test whether the variable ch as used in the above program is either an upper-case or lower-case letter. b) Test whether ch is a digit and c) Test whether ch is a character of some kind other than a letter or a digit. Next time I will be covering 2 dimensional arrays.

Easy Machine Code(21) .RAD.

In the screen dump we got as far as the routine @DWN6:

1050 @DWN6 LEAX 32,X	1060 LDA ,X
1070 BITA @BIT	1080 BNE @DWN7
1090 LDA @CUM	1100 ADDA #96

1110 STA @CUM These routines should now be second nature to you as they have been explained and repeated so many times! The numbers used are of course peculiar to the DMP 105 printer, to which we now go again.

1120 @DWN7 LDA @CUM	1130 ADDA #128 for the DMP 105.
1140 STA @CUM	1150 LDU #@CUM pointing the U register to the @CUM address again.

1160 JSR @PRINT and print out. 1170 LSR @BIT to see if it's zero or do the next bit of the byte.

1180 BEQ @NUWBYT if @BIT is zero we need the next byte.

1190 BRA @LOWLOW otherwise carry on with this sequence on the next bit in the byte.

1200 @NUWBYT DECB to count the bytes across the screen.

1210 CMPB #0 to detect the need for a new line.

1220 BEQ @GOGO which will move us further down the screen.

1230 LDX @SCREEN as we don't have to move yet and can carry on the row of bytes

1240 LEAX 1,X to get the next byte in the row.

1250 STX @SCREEN to get it for re-use later.

1260 CMPX @SCREND to see if we have finished.

1270 BHS @STOP Branch if higher or the same to stop.

1280 LDA #128 same as #80	1290 STA @BIT again.
---------------------------	----------------------

1300 LBRA @LOWLOW and go back to the main routine for this bit.

1310 @GOGO PULS X 1320 LEAX 224,X move the scan position down seven rows.

1330 PSHS X and save this new address to be used instead of the original one.

1340 STX @SCREEN for easy use again. 1350 LBD #32 to set the counter.

1360 LDU #@CR	1370 JSR @PRINT to get a carriage return.
---------------	---

1380 LDA #80 our old friend 10000000. 1390 STA @BIT again.

1400 LBRA @LOOK and go back to do it all again.

1450 @STOP PULS X 1460 RTS which ends the program.

1470 @PRINT LDA ,U+ the printer routine. Load the A register from the data at the address pointed to by the U register, and increment the U register.

1480 BEQ @FIN If the A register holds a zero then branch to @FIN.

1490 JSR \$800F This is the normal ROM routine for any printer.

1500 BRA @PRINT get the next character to be printed, if any.

1510 @FIN CLR @CUM set the @CUM store to zero.

1520 RTS return from subroutine to the program. 1530 END



The DragonArt Graphics Library-Ray Smith

-- 'TX' by Ian Rockett --

Programs are like cars. If you believe the salesman, even the standard model is a luxury job, or as they say 'Luxe'. Then there's the 'Grande Luxe' and the even more super duper TXE, XR2i or GT, and so on. This program is named like a car, but it is a long way removed from your standard model. This is the Vanden Plas of the low-res screen designer/editors and it includes every bell and

whistle, every little extra that the designer could think of. This program has everything!

It is a hybrid in so far as it is written in BASIC, but uses machine code calls for those parts which BASIC would perform too slowly. It is available on disk or tape, and consists of 3 parts, which contain the main BASIC program, the Machine Code routines, and some examples of saved screens. It is menu driven and comes with a comprehensive manual from which you will gather that upto 20 screens can be held in memory at any one time.

On running it you will find yourself looking at a colourful title screen which informs you that you are in the WRITE mode, which is the main editing mode. There is a 'box' or window which can be controlled separately from the rest of the screen, and TX makes full use of text and block graphics, which can be inverted, changed in colour, moved and scrolled left or right at the touch of a single key. Text and graphics can be inverted separately, for example.

The CLS mode is, as its name implies, mainly concerned with various ways of clearing or filling the screen.

The ENTER mode gives access to the 101 options available to the user. These include - auto-repeat keys, keyboard response speed, joysticks, disable BREAK, user characters, storing and recovering pages to and from memory, wiping and viewing screens, moving pages in memory, copying lines from stored pages to anywhere on the text screen, defining the 'box', a typewriting function and of course input or output to tape or disk. All these functions are error-trapped and the screen flashes to warn you when an error occurs, allowing you to save the screen in question, if necessary, before taking remedial action.

Among the other facilities is a MEDDLE mode which has some unique functions including the ability to alter the box contents separately and to move it anywhere on the screen. I did say that like all good cars it comes with a host of extras!

Ian Rockett is to be congratulated on producing a Cadillac of a program, which may not be easy to drive at first, but like all the good models, it grows on you. It will prove a very useful acquisition to all you programmers out there, as the screens it produces can be slotted into your own programs quite easily.

It is difficult to be critical of this five star program, and if there are any hidden faults it will take a body scanner to find them.

Copies can be obtained for 2.50 plus 25p postage through the DRAGONART GRAPHICS LIBRARY, 5, Glen Road, Parkstone, Poole, Dorset. BH14 0HF. Cheques and postal orders should be made payable to the group.

<<Message to Ray Smith...I'm sorry that this wasn't included before now, but no sooner had I received it than I had lost it under several tons of paper, and I had completely forgotten about it until it decided to show its face under a stack of old 'Dragon User's! Sorry!...Stephen>>

Crossword 32 Answers...

Across:- 1A).Viscometer. 2A).Encore. 2I).Font. 3D).Maze. 5D).Agile. 6H).Stalk. 7C).Peek. 7G).Pebble. 8C).Loops (sloop). 8I).Joust. 9B).Toggle. 10B).Icon. 11E).Sage. 11K).Nun. 12C).Spirograph. 13A).Metronome.

Down:- A1).Verify. A7).Oxygen. B1).Intersection. C1).Scallop. C8).Locust. D1).Comrade. E1).Orange. F9).Learn. G3).Ellipse. H1).Tripe. H8).Phlegm. I2).Faust. I8).Juror. J1).Roundabouts. K1).Snail. K7).Lupin. L4).Pokes. M1).Gauntlet. M9).Dung (N.D.U.G.)

April Winners (all arriving too late for a mention in issue 45) were Mike Stott and Richard Nash.

Peeking The Dragon Mike Stott

Saturday 30th April brought us the Ossett Show once again and for the first time the group had a stand for this show. I look forward to this show every year as it has an atmosphere all of it's own (and this was not even spoilt this year by the crowd of ex-Dragon ST owners).

At 6-30a.m. I was roused by my wife, Nora, with a welcoming cup of coffee and then it was a mad panic fitting the family and my system into my little

Fiesta. Shortly after 7-30 we left Merseyside and headed up the M62. Not far up the motorway we encountered the usual rain and then we met either low cloud or very heavy mist. Having stopped at a Little Chef for a drink we arrived at Ossett Town Hall just before 9-45. Thanks to RAD's Songbooks we soon had quite a crowd round the stand when the show opened at 10. We were kept busy all day and signed up 9 new members on the day - actually I used bribery giving away one free back issue with every signature. Most prospective members were very interested in the fact that we had a list of people with specialist knowledge of different subjects so if your queries double then blame me.

Paul had sent some recent back copies of Update and these sold very well as did the 32/64 Upgrade manuals. Everybody was fascinated by the Songbooks but why didn't you members buy more copies - at that price they're a giveaway. I won't go into the show too much as hopefully one of our members will be writing a proper review.

Computape have now purchased both Microdeal's and Quickbeam's stock so contact Harry if you want any of this. Orange Software have got the rights to put out Quickbeam's games on disk and also appeared to have a fair number of new programs for sale.

We have now had Microdeal and Quickbeam leaving us for the ST and what is even worse luring away some of our better writers. Let us hope this is the last of the rats leaving what they consider to be a sinking ship. What can we do

improve the situation? Go to as many shows as you can and buy stuff. Support the companies who are supporting us. Don't pirate everything you can get your hands on but buy something. Most of the items now available are very reasonably priced, even more so at the shows. Compusense were conspicuous by their absence at Ossett and we don't want to drive more away by the lack of interest so it's up to you. Dragon's Roar's "SCOOP" saying Dragon User is finished has proved to be false with Bob Harris stepping in - nice one Bob. Helen Armstrong even paid a late visit to the show.

Pick of the new software being demonstrated was Utopia, Lucifer's Kingdom and (finally) Rally, which seems to meet up to all it's promises.

Members and non-members alike moaned to me that what they wanted was shows even more to the North but the problem is support. At Ossett it was estimated about 350 paying customers but even then a lot depends on how much was taken at the stands. No more shows are planned at the moment but hopefully this will have been enough of a success to encourage more.

In the latest Update Lee Cooke complained that only Stephen Cotterell had written to him about the PD Library. Many members said at Ossett that there was no address given to write to enquire about it and would like more details of cost, length of hire and what is available. Similarly with the Group's Dragonart Library. Perhaps we could have some space in a future Update giving more information.

Listening to visitors to the stand I was amazed at the wealth of talent in the Dragon world. Why not put pen to paper and write an article (or two or even more) and tell the rest of the Group about the different uses you are putting your computer to and those little routines etc. that you have discovered. I was very interested and I am sure everybody else will be too.

Thanks to all those members who came to say hello (where were all my many old friends, STing I suppose), welcome to our new members. Thanks to Nora, Michael Jnr. and Jim Blackman for their help on the stand. Thanks to David Makin for the music programs for the Group and to Stephen Woolham (who joined at the show) for his routines for future publication in Update. We must not forget our thanks to the demonstrators and retailers who put so much effort into the show and especially John Penn for organising it.

KLIK review...SW

The KLIK utility is the latest in the line of add-on programs for BASIC 42 from Harris Micro Software. It features some of the ones already available, such as the SPOOL and ICON utilities. The program is loaded by the USE command after BOOTing BASIC 42, and it features a 'point and click' system, which enables you to select a function by simply positioning the cursor of the required word and pressing fire or ENTER. The cursor is controlled by either the arrow keys or a joystick, though you need a potentiometer-type for the joystick option. The screen display is in PMODE 4 as usual, and the screen colour (green or white with black) is selected from one of the menus. The screen has 4 rows of information which are always on-screen. There are 2 at the top and bottom of the screen, and contain various messages and options. On the very top row of the screen, you are told which of the five modules in KLIK you are currently using (see later), and which command you have selected. The row beneath contains the names of these modules, and it is used to load them in by the usual point-and-click method.

The five modules are separate programs in KLIK which control different functions. They are:- FILES, EDIT, SETUP, DESKTOP and KBASIC. The FILES module gives you full control over the DOS, with all the read/write commands selectable by cursor. When you select a command, eg COPY, each of the files on the disc is printed on the screen with an icon next to it containing the file type (eg .BAS etc). You then select the file you wish to COPY (or whatever you've selected) by placing the cursor onto the icon and pressing fire or enter. If you need to specify a name or position etc, it is entered separately. The EDIT module allows you to edit a BASIC program, in a different way to Dragon BASIC. Each line is called up when you press fire/enter, and you edit it by overwriting directly the old line. The module also allows commands like TRACE, DEL, and LIST, aswell as new commands for the new editing system (eg inserting a line). The SETUP module is accessed when the program is USED, and features a standard range of commands eg RUN etc, and also some BASIC 42 ones like FRAME and WINDOW. The DESKTOP module has 4 separate utilities, MEMO, JOTTER, CAMERA and SPOOL. MEMO and JOTTER allow you to keep messages or useful 'phone numbers etc in short sentences. CAMERA will save the current hi-res screen to disc, and SPOOL will print out any text file whilst leaving the computer free for other commands. Finally, the KBASIC module allows you to write your own programs using the features of KLIK. For example, you can use icons etc if you wish to select things without having to type in commands from the keyboard, and you can use the point and click system in your own software as well.

Commands like DRIVE etc, ones which you commonly use, are available in all modules. Also present in all modules is the command DIRECT. This calls up a DIALOGUE BOX which is a separate window on the righthand side of the screen. It allows direct entry of any legal BASIC, DOS or BASIC 42 command eg CLS etc.

Going back to the 'information rows', the 2 rows at the bottom of the screen are used to select further commands, or to provide information on the current status of several items. The penultimate line gives you 5 more commands to 'point and click'. CONT is used when the screen is full of information. It clears the screen and then prints the remaining information. It is used in several I/O commands, for example when you are looking at the files on a disc, if there are too many to be represented on one screen, the computer waits until you click CONT and then displays the next lot of files.

The other 4 commands will perform simple operations. CLEAR is the equivalent of CLS, ERROR will print up the last error message that occurred, QUIT will exit a function and return to the main menu for that module, and EXIT will exit the KLIK operating system (you can re-enter). The last line displays: current DRIVE number, last file loaded in, current WINDOW number, and remaining memory.

Using KLIK still leaves 23335 bytes free on startup. However, to accommodate KLIK whilst still leaving this amount free has obviously lead to sacrifices having to be made. You CANNOT use the cassette system AT ALL, nor can you



define WINDOW 9 (as this is used for the KLIK screen), although a program using WINDOW 9 will operate as normal.

Well, that about covers all the features (and believe me, there are A LOT!), so, what's it like? I'll start with the criticisms, as there are only a few.

The only real pain I came across while using KLIK is that sometimes I could not directly switch between modules, I first had to CLS or something before the cursor would respond. This aside, however, everything worked perfectly, and I don't consider the loss of the cassette I/O to be a great one, because how many disc owners can honestly say that they use their cassette player very often?

Now the plus points! KLIK is not easy to describe (it's taken me over 1 side!), and this is due to the great amount that Bob Harris has managed to pack in. The first advantage that strikes you about it is its ease of use. As the advert says, you simply 'point and click'!. All of the modules have their own advantages, FILES is a quick and easy way to tidy up your discs, DESKTOP has masses of potential for expansion (4 more accessories are already available!), and so on. If you've ever wanted to copy all the IBMs etc with their 'pull down menus' then KLIK is for you. And even if you haven't, KLIK provides so many features it is bound to have something for everyone. We said BASIC 42 was 'the best step so far', well KLIK tops even that. If you thought BASIC 42 was good (admit it, you did), then (to coin a phrase) you ain't seen nothing yet! Go and buy KLIK now! And if you haven't got BASIC 42...well! Seriously, though, KLIK is one of the best pieces of software around, and at the price it's at, it's a steal. The Dragon is rapidly becoming used for serious use as the games market shrinks, and KLIK is an invaluable utility (that sounds familiar!).

Anyway, I'd better be off now, as Paul doesn't like articles which go over 1 side! The only question now is...what can Bob Harris hit us with next?...Stephen

Toolkit for DragonDOS(1)...D.J.Gray.

For many people, Premier Microsystems' Toolkit for DeltaDOS was a very useful addition to the normal Dragon facilities. It was designed to work with a 32 and DeltaDOS controller, which was capable of holding an extra EPROM holding the Toolkit Editor. Those of you who moved onto a 64 will have found that you cannot use a parallel printer with Toolkit, and neither would it work with Dragon or SuperDOS, as you cannot install an extra EPROM. The instruction manual supplied with Toolkit states that it cannot function correctly with DragonDOS as it rather inconveniently takes the current video screen as a work area, thus defeating Toolkit. Those statements provided quite a challenge, but it has been found possible to use the 64's extra RAM to hold Toolkit, and with a DragonDOS controller attached make Toolkit operate. The problems to overcome were:

- 1) To obtain a copy of Toolkit that could be read into a 64's memory.
- 2) Summoning the extra RAM in order to store Toolkit in the correct position.
- 3) Defeating Toolkit's own built-in self-destruct, which was activated if Toolkit was held in RAM.
- 4) Changing some identical commands in DragonDOS and Toolkit to prevent confusion.
- 5) Modifying Toolkit to prevent it overwriting areas occupied by DragonDOS when using the CLS, FRAME and MOVE commands.
- 6) Modifying the system to allow a parallel printer to be used on the 64.

When used in conjunction with DeltaDOS, Toolkit resides in memory between &HE000 and &HF9DF. It can therefore be copied onto tape by CSAVEM "TOOLKIT", &HE000, &HF9DF, &HE002. This copy can be used later to place Toolkit into the 64's RAM. To gain control over the extra RAM on a 64 with DragonDOS is quite straightforward (remember, we don't need 64 MODE, only ACCESS to the extra RAM).

Next month, I will start giving you the necessary listings to overcome all the problems and store Toolkit on a 64.

ST - No Thanks...Chris Jolly

It seems that a number of Dragon owners are being tempted (as I was) to abandon their machines in favour of the ever-so-trendy Atari ST. For those of you in this position, and I hope that it is not too late, here is some friendly advice.

I have had the use of an Atari ST for nearly a year now, and I'm glad that I didn't have to pay for it. The Atari ST hardware is really not bad. It is unfortunate that the system software lets it down. I have the impression that enough hardware was cobbled together to make a decent games machine, and that the system software was thrown together as an afterthought as quickly and as cheaply as possible. The Atari ST market in general has developed into a shark-infested sea, where unwary users flounder at their peril. I honestly think that any Dragon owner contemplating moving to an Atari should save their money - or spend it on upgrading their Dragon kit. A Dragon 64 with twin drives, 80-column Plus board, monitor and OS9 really makes the ST look pretty silly as far as the serious work is concerned. (OK, Atari games LOOK better, but that's about the extent of the advantage). The Dragon market is small and friendly. The ST market is huge and hostile. It came as a big shock to me to discover exactly how greedy some suppliers in the ST market are. Here are a small selection of specific Atari ST grumbles:

- 1) The BASIC supplied is very mediocre and fails to make good use of the mouse and graphics. Documentation is appalling (MUCH worse than the Dragon manual).
- 2) Many hardware, software and consumables suppliers overcharge, fail to deliver, supply shoddy goods and I have experience of them being extremely rude.
- 3) ST magazines are firmly on the side of their advertisers. Presumably the market is so lucrative that they and their advertisers don't need to worry about their customer satisfaction. I have yet to receive a reply to any of my letters I have written with specific complaints against specific suppliers.
- 4) The shortage of good software is so desperate that the market for PD software is booming, even though 90% of it is rubbish (to be fair, some of it is very good and it can be worth sifting through the rubbish).
- 5) The operating system leaves me speechless. It is an archaic single - tasking imitation of MS-DOS (God rest its soul).
- 6) There is no command line interpreter. Very few programs have been properly adapted to run under GEM, which makes life for the developer very difficult. After a week of alternately pointing and clicking then typing at the keyboard I was obliged to spend another 20.00 on a command line interpreter just to run the programs I had already bought.
- 7) While GEM is a reasonable graphics environment, Atari chose not to fully implement it on the ST. This means that some of the useful functionality of GEM is missing, and that not all GEM software can be ported to the ST, which makes a nonsense of the idea that GEM is a portable graphics environment.
- 8) The magazines are expensive, printed on very thick paper and extremely glossy. That's the good part. They contain advertisements, games reviews, endless facile introductions to BASIC and not much else.

To summarise: if you are thinking of trading your Dragon for an ST, DON'T DO IT - you'll regret it.

<<If I can just stick my oar in here and give this a good stir. I had a letter recently from Gary Coxhead, who was slightly aggrieved about the comments which Paul and I made in issue 44 about ST owners. Gary said that the reason he moved up was so that he could use the ST's MIDI facility for an organ he owns, as he was unable to do this on the Dragon.

I can accept this as a reasonable motive for 'moving up' to an ST, and I hope that, Gary, you didn't consider being called 'a traitor' as a personal gripe against you, as it was not intended that way at all.

However, having had 'hands-on' experience of an ST, I fully agree with many of the points that Chris has made, and I consider that swapping your Dragon for an ST just because 'it's a better computer' is pointless and, dare I say it, rather traitorous, as there are no major factors which make changing

worthwhile. I can accept that, if you have a specific reason as Gary did, the ST would make a good 'upgrade', but frankly if doesn't offer anything which is vastly different or better than a Dragon. OK, so the graphics are more colourful, but the standard of games software is appalling, as are the prices. The games may look great, but from my experience they play terribly, and they are mostly conversions from other home computers. Rarely have I seen a game that is truly original, whereas the Dragon is/was always noted for its originality on the software side, with games like Time Bandit and Tanglewood starting off new generations of software. (It's interesting to note that BOTH these games have been converted to the ST).

Anyway, this Dragon Vs ST subject looks like being a raging argument, and doubtless Paul will have some insults up his sleeve, so I'll let you get on with reading this issue...Stephen>>

The R.A.E. part 2.....G4PGC.

If last month's article whetted your appetite and you are interested in becoming a Radio Amateur, then read on. There can be no possible doubt that doing so will considerably widen your horizons computer-wise. Congratulations if you have already made your choice of soldering iron and have started on a few projects. One other subject you must learn about is Propagation, which aeri^als do what, the difference between a Beam and a colinear, a Dipole and a Yagi, to name but a few. What is S.W.R (Standing Wave Ratio)? Yes!, there is much to learn.

Fortunately, there are many books readily available which will give you all the information you need to pass the R.A.E. providing you are prepared to read, mark and LEARN. The following list will give you an excellent grounding, and the prices include P&P etc. They are available from the RSGB, Lambda House, Cranborne Road, Potters Bar, Herts. EN6 3JE. : 1) A Guide To Amateur Radio (4.34). 2) Radio Amateur's Examination Manual (5.38). 3) How To Pass The R.A.E. (3.80)-includes multiple choice sample questions. 4) Amateur Radio

Software (11.25), a 328pp Hardback, dealing with the software needed for most of the Computer applications of Amateur Radio. Enough to keep you quite busy for a spell!

When you feel sufficiently confident of your knowledge and ability, you merely enrol at your nearest college for the Amateur Radio Course, which will enlighten you still further, correct any misconceptions you may have, and generally hone you to perfection so that, with a bit of luck, you will PASS! Good Luck!

Although this article does NOT purport to teach you electronics, I will pass on gratis (and for nothing) one of the first mnemonics I learnt, which was most useful. It gives you all the Resistor colours and their values in ascending order. "Black Beetles Running On Your Garden Bring Violent Grey Weather". Learn this, and you KNOW all the colours and their values, thus: 0-Black, 1-Brown, 2-Red, 3-Orange, 4-Yellow, 5-Green, 6-Blue, 7-Violet, 8-Grey, 9-White. Easy, ain't it!

For those of you who are still interested, I hope that this has been of some use, and I wish you the best of luck, but if you DO pass and would like to talk to the world, then you will have to learn Morse and be able to send and receive it at the rate of 12 words per minute, in order to obtain a first-class licence....but that is another story!

Thank You, Peter. Paul Grade.

As you'll have seen from the advert page, our longest running ad, that for Peter Williams "Computil", is no longer in. The reason is that Peter can no longer spare the time and space required for running a Dragon system while trying to make a living from other work. However, Peter has very generously sent me his EPROM blower and all his master DOS EPROMs, so as of next month we will be able to continue to supply DOS variants on very similar terms to those previously offered by Peter, and I am sure I can safely speak for all of us in saying thank you to Peter, not only for his generosity in this, but for all the work he has done to help Dragon owners in the past.

Henceforth (9) . . . Bob Smith.

This month we are going to look at the way last month's Russian multiplication program is built. Firstly, 2COL2 is defined as the place where the sum of col. 2 is to be retained. Next D?SIGN is the word we define to find out whether the final result will be + or - . We give 2 single length numbers the same sign as those being multiplied and hide these at the bottom of the stack (typical FORTH programming, this, but remember it's speed we're after).

STACK	WORD	
d1 d2	D?SIGN	The best way to follow what is happening is to make a stack diagram. I'll draw one and leave you to draw the rest.
d1 d2 3	3	
d1 d2 n1	PICK	
d1 d2 n1 2	2	
d1 d2 n1 n2	PICK	
d1 d2 n1 2 2	2	
d1 d2 n1 2 n2	SWAP	
d1 d2 n1 :2	+ / -	<<N.B..wherever : occurs it means + or - i.e. :2 means + or - 2...Stephen>>
d1 d2 :2 n1	SWAP	
d1 d2 :2 n1 1	1	
d1 d2 :2 1 n1	SWAP	
d1 d2 :2 :1	+ / -	
d1 d2 :2 :1 3	3	The third step is to build a word that finds out if the l.h. column is odd or even leaving a flag on the stack that is true if even and false if odd. To do this we make use of the fact that any odd number in binary will have a 1 as the rightmost bit and any even number will have a 0. We make use of a mask and the logical AND, thus:-
d2 :2 :1 d1	2ROLL	
d2 :2 :1 +d1	DABS	
d2 :2 :1 +d1 3	3	
:2 :1 +d1 d2	2ROLL	
:2 :1 +d1 +d2	DABS	
0101011	(43)	
AND 0000001	(1) - mask	
0000001		

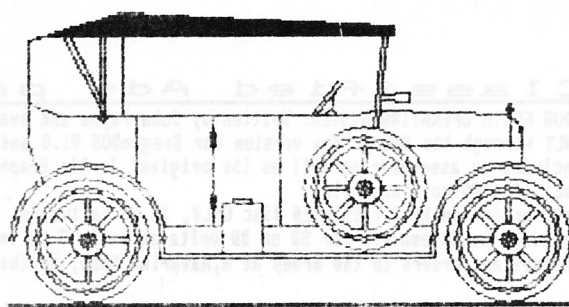
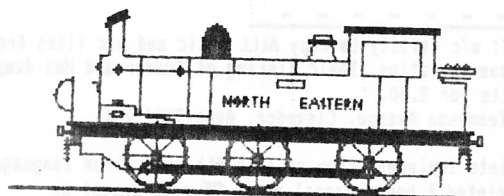
In FORTH 0=false and 1=true, thus the result of this AND operation is to leave a true/false flag on the stack. The final SWAP DROP discards the other half of the double precision number we started with.

A word is now needed to add double precision numbers to our sum 2COL2. We duplicate the number, fetch the contents of 2COL2, add them together, and put the result back into 2COL2. A word is also needed to swap two numbers below a flag at the top of the stack. 2SWAP2+3 does this.

Finally, all these are put together to make the multiplication word 2D*. We start by putting a double precision zero in 2COL2. Then we save the respective signs of the two numbers. Next, we start the loop that works its way down the columns of numbers until zero is reached in column 1. This is done with a BEGIN...WHILE...REPEAT construction. FORTH is a bit special here. For each swing through the loop the operations between BEGIN and WHILE are done. If the result is true the WHILE...REPEAT loop is done once and control returned to BEGIN, and the cycle repeated. As soon as a false value is obtained control is transferred to the operation after REPEAT. When this happens the job is finished and all that is left is to fetch the answer from 2COL2, work out the sign and leave this result at the top of the stack as a signed double precision number.

One interesting point is the logic between BEGIN and WHILE. This brings column 1 to the top of the stack, duplicates it and then adds the 2 halves of the double length number together. If the answer is zero then the original double length number is also zero-a quick and dirty method. The test for zero is 0= but this gives a true flag and we need the reverse. The usual logical word for this is NOT, but DRAGON FORTH does not have this word, so we use 0= once more. Purists can make the word thus:- : NOT 0= ; (t/f --- f/t) Next time I'll be looking at the slugger techniques for solving puzzles.

```
SCR #111
0 ( PLIST LF FOR PRINTER )      4 SPACE I SCR @ .LINE LOOP CR ;
1 : CR 13 EMIT 10 EMIT ; CR      5
2 : LIST DECIMAL CR DUP SCR !    6
3 ." SCR #. 8 0 DO CR I 2 .R    7
```

Draw!!!!!!

Like the graphics above?, pretty good, aren't they?. Much as I'd like to I can't take any credit for them, they're entirely the work of J.W.Middlemiss and his Dragon, and what impressed me about them is that they were NOT drawn using one of the many "do it the easy way" utility programs available for the purpose, but simply by using the standard BASIC drawing commands. Just shows what can be done with a bit of time and patience, doesn't it?. If you're interested in the subject, or would like to know more about it, why not drop Mr.Middlemiss a line?. His address is 10,Cleveland Gardens, High Heaton, Newcastle upon Tyne NE7-7QH.

Helpline 1988

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

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

FLEX: Jurgen Mitchell, 62,Victoria Grove, Lupset, Wakefield, Yorks.WF2-8JD.

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

GAMES SOFTWARE (MAINLY ARCADE BUT SOME ADVENTURES): Stephen Wood, 52,Downsway, Springfield, Chelmsford, Essex CM1-5TU.

M/C (EXCLUDING FLEX & OS9); DRAGON MUSIC; ARTIFICIAL INTELLIGENCE; "C" (UNDER OS9): Chris Jolly, 4,Pinehurst Walk, Orpington, Kent.

TAPE TO DISC CONVERSIONS (DRAGONDOS): Graham Smith, 3,Ashton Gate Terrace, Ashton Gate, Bristol BS3-1TA.

GENERAL HARDWARE AND UPGRADE CONVERSION PROBLEMS: Bob Hall, 22,Cumbria Close, Thornbury, Avon BS12-2YE.

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

BASIC PROGRAMMING: Ian Rockett, 2,Knowle Road, Burley, Leeds, Yorks.LS4-2PJ.

SPRITE MAGIC; UPDATE ARTICLES / LISTINGS BY R.A.DAVIS: R.A.Davis, 39,Boxley Drive, West Bridgford, Nottingham NG2-7GQ.

OS9 SYSTEM AND UTILITIES: Jason Shouler, 70,Victoria Road, Parkstone, Poole, Dorset.BH12-3AE.

MODEMS, BASIC ELECTRONICS, ADD-ONS, and FLEX: Tim Hayton, 36,Laurel Drive, Willaston, South Wirral L64-1TW.

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

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

MODEMS AND BULLETIN BOARDS / GENERAL COMMS. Gary Coxhead, 54,The Sorrels, Corringham, Stamford-le-Hope, Essex.

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

DRAGON/DELTA DOS PROBLEMS; OS9, BASIC 09, AND GENERAL BUSINESS SOFTWARE APPLICATIONS: M.A.A.Abba, 55,Longland Court, Rolls Road, London SE1-5BN.

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

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

TAPE TO DISC GAMES TRANSFER (DRAGONDOS): Richard Boston, 257,Upper Elmers End Road, Beckenham, Kent.BR3-3QR.

RADIO AMATEUR PROBLEMS AND ADVICE : Fred Hopewell, 48, Gladstone Drive, Loughborough, Leicestershire. LE11-1NS.

Classified Ads page

NDUG FORTH OPERATING SYSTEM: Written by John Payne and available ONLY through the Group. New version for DragonDOS V1.0 and SuperDOS includes an assembler as well as the original Turtle Graphics facility, 80 col. w.p., etc.

New version on V1.0 / E5 & E6 disc ONLY, 12.50 inclusive. Original version (no assembler) for SD or DD Delta as well, 8.50 inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

CIRCUIT DIAGRAMS: Available for D64, D32, Dragon DOS controller, and Cumana DOS controller. All the same price 1.00 each inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

DRAGON 32 UPGRADE MANUALS: The cheapest and easiest way to upgrade your D32 to 64K RAM. Easy to follow instructions covering all variants of 32. 2.00 inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

BRAVEZEE: One of the best graphics utilities available. Written by R.A. Davis, simple to use, outstanding results. Available on cassette for only 2.50 inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

MEWCOPY: Machine code tape utility for the production of backup copies of any m/c programs. Allows loading and resaving of both headed and headerless programs, plus many other facilities. Written by Stuart Mills. 2.50 inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

DRAGONART LIBRARY: The Group Graphics library has a vast range of screens available at a nominal cost, so why not take advantage of them? It also wants YOUR graphics screens, and there's a prize offered every month for the best original picture submitted! Details from the Librarian, Dragonart Library, 5, Glen Road, Parkstone, Poole, Dorset.

P.D. UTILITY LIBRARY: A good range of original programs and routines available and wanted! For details contact:- Lee Cooke on Worthing 41633 (evenings) or send sae to 117, Limbrick Lane, Goring, Worthing, Sussex

THE OS9 BOOK!: 'Everything you wanted to know about OS9 but didn't know who to ask'. 150 pages of hints, tips, and articles for the Level 1 OS9 CoCo and Dragon user. Includes a disc of source files. 18.95.

COMO9: Easy to use, full feature OS9 comms program, together with source, Xmodem (CRC & SUM), function keys, disc monitor. Send messages direct from disc! Suitable for ANY OS9 system. 5.00.

PD-PAK: Selection of useful PD OS9 utilities on one disc. Includes BDCOPY. Cheques and orders to Jason Shouler, 70, Victoria Road, Parkstone, Poole, Dorset. BH12-3AE.

PRINTOUT SERVICE: 1 Basic program listing (up to 5 pages) 50 pence. 2 or more programs 40 pence each. All additional pages 5 pence each. Screen dumps 30 pence each, 2 or more dumps 20 pence each. (Size app 4" x 4.5").

Text, Data, and Dream source code files please enquire for details. ALL tapes or discs (Superdos compatible ONLY) must be accompanied by a suitable stamped addresses envelope for tape/disc and printout. Zennan Green, Aberllywd, Llan, Kingussie, Inverness-shire. PH21-INT.

OS9 MODEM PROGRAM: Up and downloading of files, any Baud rate from 50/50 to 9600/9600 (NOT split rate). Up & download buffer from 4 to 32K or program will adapt to largest capacity available. All 6551 options supported. 8.00. Phone Barry Knapp on 0932-242800 (evenings only).

WANTED FOR YOUR REPAIRS!!!!: Scrap dead and/or dying Dragons and CoCo's wanted for spares to help keep the price of members repair jobs down to absolute minimum. All varieties of dead and dying printers also required for the same purpose. Computer details to Alan Butler on 0371-4234 (evenings only please), and printer details to Paul Grade on 0903-207585.

BACK ISSUE UPDATES: Back issues of Update reprinted to order from original master copies. Now only 75 pence per copy! Price includes postage etc. Orders to E. Hall, 32, Thackeray Hall, Fareham, Hants. PO16-0PG. Cheques made payable to BACK ISSUES DEPT. (NDUG).

DELTA DOS UTILITY: m/c utility to copy ALL Basic and m/c files from disc to tape in one operation. Basic listing of loader and Hex dump 1.00 or on cassette for 2.50. J.C. Bushell, 33, Tennyson Avenue, Clevedon, Avon. BS21-7UJ.

OS9 PROLOG: Complete implementation of this 5th generation language. Now 24.95 with printed & bound manual or 14.95 with manual on disc. 'C' source code included. 'Chris Jolly's Prolog is an essential acquisition'. (Update Sept. 1987). Metasoft, 4, Pinehurst Walk, Orpington, Kent. BR6-8DD.

ORIGINAL PROGRAM: Gives facts on the countries of the world. Areas, Capitals, Populations, Currencies and Languages. Includes analysis facility and map showing position of the country required. Available on DragonDOS, Deltados, or tape at 4.00 inclusive. Also available is a very comprehensive Home Accounts program with many useful features. Available ONLY on DragonDOS or Deltados disc at 4.00. Cheques and orders to Graham Strong, 78, Coleridge Crescent, Goring-by-Sea, Worthing, Sussex.

CoCo to Dragon!: Two new programs which are an absolute essential for those who own both Dragon and CoCo computers, and for most Dragon owners as well! C2DML will convert any m/c CoCo formatted disc to Dragon DOS format (V1.0) and C2DBAS will do the same for any CoCo formatted disc containing Basic programs, so now you CAN buy CoCo discs and run them on your Dragon! The programs were written for the Group by Randy Longshore and are available on disc at 3.00 each or both on one disc for 5.00 inclusive. Cheques and orders to the Group at 6, Navarino Road, Worthing, Sussex.

DRAGON MUSIC SELECTIONS: These selections of music on either disc or tape are arranged and produced by Dave Cadman. There are several selections to choose from, Marches, Classics, Rags, Standards, Miscellaneous, and Classics 2 is now ready for release. All selections are the same price and contain several full length tunes. Prices are 3.50 on tape and 4.00 on DragonDOS disc, inclusive. Cheques and orders to Dave Cadman, 32, Breedon Hill, Derby. DE3-6TG.

WANTED! EPROM programmer, Race Electronics type or similar. Phone Chris on 091-416-5415.

CONTACTS WANTED!!!!: College teacher with Tano Dragon 64 wants contacts with other Dragon owners. Interests experimental, programming, D64 comms with other computers, TRS80 conversions, etc. Please write to Roy Williams, 6710 Virgilian Street, New Orleans, LA 70126, U.S.A.

DRAGON 32, 35.00; Philips green screen monitor, 45.00; 80 col cartridge for CoCo, 40.00; Tandy speech cart., 15.00 (OS9 drivers with both items); Multipak 40.00; OS9 system (state Tandy or Dragon, 25.00; Basic09, 15.00. Jason Shouler, 70, Victoria Rd, Parkstone, Poole, Dorset. (0202-722599).

DRAGON 32 FOR SALE 35.00 inc postage, or I will upgrade it to 64K for 45.00 inclusive. 64K RAM's suitable for 32/64 upgrades 6.00 per set of eight, inclusive. 27256 EPROM's only 2.00 each! Alan Butler, 16, Barnston Green, Barnston, Great Dunmow, Essex. CM6-1PM. Phone 0371-4234.

27 issues of Dragon User, issue 1 onwards. 1.00 each or 25.00 the lot (inc). Steve Jones, 14, Montefiore Avenue, Ramsgate, Kent. CT11-8BE. (0843-586977).

WANTED: Printer routines, screen dumps etc, for OKI Microline 92 printer. If you can help please contact Bob Reid, 9, Mountside, Pontymason Lane, Risca. NP1-6JG.

DRAGON USER magazines, May 83 to June 86 inclusive. All in good condition. Sell to highest bidder. All proceeds to Group copier fund. Come on, make me an offer! Phone Neil Scrimgeour on 0536-66590.

WANTED DEAD or ALIVE! CoCo disc controller. Bob Hall, 22, Cumbria Close, Thornbury, Bristol. (416445).

Making the most of Computavoice. RAD.

Computavoice is the utility which enables you to make the Dragon talk. It is supplied on tape, but works equally well when transferred to disc. The addresses are 24416,32768,24416, start, end, and entry. A small handbook accompanies the program, and without this you are not likely to get far!. Although it has been around for some five years, no-one appears to have used it in programs, apart from one enthusiast who showed how to make it say "player one" and "player two" in a small routine at one of the London shows. Another ex-enthusiast attempted to make a routine which would speak any word typed in, but the results were not good enough. The program uses "phonemes" which are explained and listed in the handbook, and it is accompanied by a demonstration Basic listing which will speak any number from one to nine when the appropriate key is pressed.

The words are most easily understood if they appear at the same time on the screen, especially as accents vary tremendously over the UK, eg my interpretation of "BOOK" would be "BUK" whilst yours might be "BOOOOK" or even "BEWK"!. There is no doubt, allowing for these drawbacks, that the routines could be used to enhance many programs. Instructions such as .. "Hit a key" ... "Go North", etc can be defined as phoneme strings and used throughout the game, adventure, or whatever and you will very easily think of many more ways to use it.

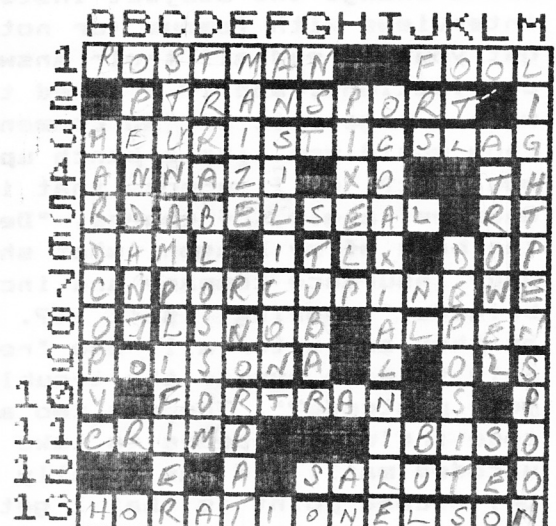
Some precautions are necessary. When you construct a phoneme string for a word, or a sentence, it may sound absolutely clear and concise to you at the time. But put it aside for twentyfour hours, and then RUN it again. It will probably sound like Kiswahili!, but once you have got it right then you have something which can be re-used time and again in many programs.

Crossword 33.. Compiled by J.D.Bateman.

ACROSS: 1A & E11, Childrens program character; 1J, This silly person was found on a hill in an old Beatles song; 2C, Move from one place to another; 3A, Leading to self knowledge by discovery (self learning); 3J, Waste from a Bessemer converter; 4C, Member of the German National Socialist Party (circa 1940); 5C, Brother of Cain; 5G, Amphibious marine animal; 6A, Dragon music program; 7C, Rodent with pointed quills; 8D, Stuck up person; 8I, Brand name of muslei type breakfast cereal; 9A, Substance harmful to living organisms; 10C, Acronym for formula translation; 11A, To wrinkle (hair for example); 11I, Stork-like bird with long curved bill; 12G, Soldddiers greeting; 13A, Famous seaman.

DOWN: A3, Printed output; B2, Worn around the neck; C1,Knock senseless; C5, Device capable of accepting a varying electrical signal that is capable of making the current of voltage bigger; D5, Mass of flowers on a tree; E1, American cereal plant; E11, see 1A; F3, A cheap and widely available semi conductor; G6, Musical instrument; H2, Small dot which makes up a computer graphics picture; I3, Type of cable associated with TV's etc; I10, Well known river; K6, Amount of money paid in advance; L4, Garden tool; M1, Device used for reading bar codes; M9,, Implement with long handle supporting a shallow bowl.

Winners of Crossword 32 were Martyn Smith and Ron Prior ... the usual games tape is on it's way to each.



Would you really prefer a lap-held computer to me ?



RAD

STILL MORE ADS!

DOS EPROMS. Your DragonDOS or SuperDOS reborn to V1.7 (as per D.U. patch with additional corrections.) 3.00, or reborn to DOSPLUS for 9.00. DOSPLUS EPROM 11.00. (Please state whether Dragon Data, DDD or SD DELTA). DELTADOS copied onto a 27128 with DOSPLUS added 11.00 (requires mod to cartridge). For mod service add 1.00 and send cartridge. 60 page DOSPLUS manual 2.50 or 2.00 with DOSPLUS. P.G.Scott, 4,Badgerwood Drive, Frimley, Camberley, Surrey.GU16-5UF.

WANTED. Dragon DOS manual.
Geoff Lewis, 73,Swanborough Drive, Brighton, Sussex.BN2-5PH.

DOS EPROMS blown to V1.0, patched V1.0, Eurohard V4.0, Eurohard V4.1, or translated V4.1. Send a clean 2764 EPROM and 3.00 to Paul Grade, 6,Navarino Road, Worthing, Sussex. Cheques payable to the Group.

The Late, Late Bit

No, this is NOT going to be yet another comment on the Dragon/ST dispute, personally I don't like ANY of the current machines, they're all over priced and over rated, but have you noticed how everyone suddenly seems to have discovered the "PC" type format? ... all those adverts frantically trying to sell the latest in XT and AT compatible clones?. It's the same story with the letters pages in most of the magazines too. Makes you wonder, doesn't it, why so many people should be daft enough to want machines which run systems that were antique when the Dragon was first invented. So what's the reason?, the software?, that would be an even bigger joke, most of it is rehashed versions of stuff which was giving people a pain in the anatomy back in the days when "solid state" meant coal fired, and from what I've seen it hasn't improved at all. Maybe people are simply getting more gullible now, they're really starting to believe all the garbage in the ads and commercials. One thing is absolutely sure, the average NEW computer owner is certainly getting thicker!. They appear to have the greatest difficulty in understanding that those funny keyboard things on the front of the machines can actually be used for writing or adapting software, and the attitude seems to be one of "you don't need to know anything about programming, just which keys to press to run a program", which would be fine if there was the slightest chance of any given commercial program doing EXACTLY what you need, and if everyone had as much money as Our Lady of Downing Street keeps telling us we have, but about as much use as a parachute in a submarine to anyone intending to actually USE a computer. Still, I suppose it sounds good down at the Pub, when you've buzzed down there in the old XR4i (complete with designer mud splashes) for a quick G&T and a Ploughmans, and draped yourself tastefully over the bar as near as possible to the people you want to impress, to drop "casual" remarks about having to junk the old XT in favour of an AT because you need the extra speed to handle your expense account ... whatever turns you on, I guess.

Still, none of YOU would be interested in changing machines, would you?!, so let's change the subject instead. I was thinking of running a series of interviews with famous (or notorious) people connected with the Dragon scene, but you've read all their answers to the stock questions in other publications, and if I asked the REALLY interesting questions I'd be stuck with a page full of "No comment", "You'll be hearing from my solicitor", and "how would you like a punch up the ...", which wouldn't be very informative, would it?, so I suppose that idea is out. There's always the old "Readers Queries" angle, of course, "Dear Auntie Paul, there's blue smoke coming out of the back of my Dragon, what should I do?" ... "Dear Doubtful of Romford, phone your insurance company and increase your cover, fill in claim form, phone fire brigade.". Boring, isn't it?. Oh well, I suppose I'd better just leave things as they are after all. One "readers query" I think I ought to answer here, if only to save myself the trouble of individual replies, is "Why don't you use your postcode?". There's two answers, one is that all mail sent here WITH the code included appears to take at least three days longer to arrive than uncoded mail, and has usually been routed via half the sorting offices in the UK. Second point is that I get quite a few discs sent in, and all coded mail seems to get those damned magnetic sorting dots plastered all over it, which has peculiar effects on some discs!. Anyway, isn't it time the Post Office started employing sorters who have learned to read English?. No connection, but before someone else writes to tell me we ought to get a new photocopier, I'd better explain the problem. The old Toshiba is a good machine, but badly overworked (by about 2000%), and a new, faster machine would be very nice, BUT, a comparable NEW machine would cost us around 5,500.00, which is roughly 4,900.00 more than we have in the copier fund!. If and when I can locate the right machine at a price we can afford, I'll buy it, but until then I have to keep on patching up old Tosh. OK?. By the way, many thanks to all of you who have added a bit to your cheques when ordering things etc, it all helps, and the more we have, the greater chance of finding a good replacement. (For the benefit of those who know about such things, the Tosh is a BD608).

Well, it looks as though I've managed to fill this page without saying anything of importance at all, as usual, but what's new about that?!. Don't do anything I wouldn't do ... it's probably physically impossible. Paul.

Paul