

The Newsletter of the National Dragon Users Group

DRAGON



UPDATE

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The Gaffer's Bit

Sorry about the chaotic layout of this issue, I dislike having to start articles almost at the end of a page and carry them over to the next one, but the Editorial Scissors must have been a bit blunt this time around, and it was the only way that I could make things fit either that or I would have had to drop a couple of items altogether.

Just out of curiosity I DID once try making up a dummy Update using a genuine "PC" and "DTP", but apart from the fact that it was taking around five hours to set up a page layout, and the snag that my old Shinwa doesn't really like the average "PC" printer drivers, the end result was something I would rather forget!. Sure, DTP is a great idea, so long as you can afford a scanner and a couple of thousand pounds worth of laser printer, and have unlimited time to spare, but without those you are far better off using the traditional "cut and paste" methods!. So, to those people who at various times have asked me "why don't you use a DTP" the answer is "OK, provided you don't mind Update becoming a quarterly publication, and you're prepared to authorise me to spend ALL remaining Group funds on the necessary equipment"!. I WOULD like to tell you all the latest news on the Dragon scene, but this month there doesn't appear to have been any!. Ray Smith made an exceptionally good job of the first issue of Up-2-Date ... it was well worth the price ... and anyone who fails to order their copy of issue 2 will be missing out on a VERY good bargain!. I still haven't heard anything more about future Dragon Shows (That IS a hint, Mr. Preston, Sir!), and so far as I know the Dragon will NOT be represented at Stafford, so it seems that news this month is virtually a non-event. Anyway, I'll leave you in peace to get on with the more interesting things in life watching the grass grow, etc!. Paul Grade.

The Editor's Bit

Well the big Dragon news at the moment is Ray Smith's "Dragon Up-2-Date" disk magazine (title sounds familiar). A nice idea, let's hope it gets the support it needs to survive. In his info sheet he mentions "at least five programs" in each issue, of various origins; Dream sourcecode - now that is a VERY good idea!; four-part harmony music; and of course various articles. Subscribe to "Up-2-Date" as well as Update, and you've got articles and programs every month instead of every other!

The other news (There's more?) is the AMS Show which creeps upon us; there's a letter from one of the organisers within, and hopefully Paul will be able to tell you more.

So now read on, if your feverish fingers can turn the pages in your excitement...

Buying Disk Drives: A Cautionary Tale

B. Yeoman-Walker.

Though I have had a Dragon 32 since they were first offered in 1982, I had never considered that I could justify the original cost of a Disk Drive system. So I descended on the Stafford Show last year to see if I could find one that would not require a mortgage. I first spoke to Mike Stott on the NDUG stand, and after discussing the matter for some minutes we moved to the Pulser stand. Brian O'Connor had a complete system with only one drive, but agreed to fit a second drive within an hour or so. After doing the rounds of the Show, I left with the complete system which Brian said he had done a quick check on, and Mike's words in my ears: "If you have any trouble - and everybody does at first - give me a ring." Two days later was the first opportunity to try the new treasure and it did NOT work, instead giving NR or SK errors. A most helpful phone discussion with Mike yielded a number of points about jumpers and the Beckman chip etc, but they were found to be quite in order. After another two days of frustration I rang Brian, who was mystified but kindly agreed that I could take the stuff up to Oldham. Instead of wasting time examining what I had returned, he showed me another system he had been testing for over an hour which was working properly. I had quite an enjoyable morning. On my return home I connected the system up at once and it worked beautifully. A couple of hours later Mike rang up out of the blue to ask if I had managed to cure the problem, and was happy to learn that I was now "airborne". Almost as a throwaway remark he mentioned that he had found in very cold weather he had to switch the system on for a couple of hours before it would work properly. Many hours later I tried to demonstrate my new toy to my son and - you've guessed - it would not work. Only an SK or an NE error in response. Then, the penny dropped and I realised that whilst Brian was using the system in a nicely centrally heated room, I was having to use it in a very cold spare room. The first ploy was to leave the system overnight in a warm downstairs room, then take it up to the Dragon and try it immediately. Eureka! It worked beautifully. But it failed again after several hours in the cold room. By leaving the cartridge and drive separately in the warm room overnight I found that the DOS cartridge was not affected by the change in temperature, but that the drives unit most definitely was. My son (an electronic engineer) and I (retired industrial chemist) at first suspected that the voltage regulators in the power supply may be faulty, but careful measurement under load and no-load conditions in the warm and cold states showed them to be fine. Both disk drives (made by the Alps Co.) when set up separately evinced the same problem: on standing several hours in a room at 20-22 C they function well, but after several hours at 8-10 C they won't work, returning an error signal. The next step - don't laugh - was to fit a batten lampholder horizontally in a metal biscuit-tin 8" x 8" x 4" high, and stand the drives on top of the open tin. The effect of different wattage lamps acting as a heater in the biscuit-tin indicated that a 25-Watt lamp usually persuaded the drives to function after 20-40 minutes depending on how cold the room was. But that's not all! The problem may be connected with humidity, for it was noted by using a simple greenhouse dial hydrometer that the humidity at 20-22 C was about 55%, but at 8-10 C it was 85-90%. It was also found that when a dehumidifier was run all night in the closed cold room it had reduced the humidity to 70-75%, and though the temperature was only 8-10 C the drives still worked. Now the warmer weather has arrived I have no problem, and am hoping to neaten the biscuit-tin somewhat before next winter. When I rang Brian to tell him the news he sounded unconvinced and a little hurt that he had found nothing wrong with the system I had returned to Oldham - obviously! So thank you Mike Stott for the clue: I would not have guessed; and thank you Brian O'Connor for being so helpful - I am glad we were not dealing by post because I might have thought I was being twisted, which I was not. Conversely Brian could have thought me stupid and I am immodest enough to doubt that! My only real interest is to keep the drives working, but if any Dragoner knows which component/s in the Alps drives is/are responsible I would be pleased to find out. There is a lot of friendly rivalry between engineers and chemists! By the way, does anyone know how they manage these Dragon Data systems in Scandinavia or even north-east Scotland during the winter?

Letter from Graham Bettany.....

I read your June newsletter and a couple of points come to mind ... The piece on "Don't Buy A PC" must apply to most "home" users, unfortunately it kills off the now minority micros. If only the Einstein had been designed with memory expansion and hard-disk interface then I am sure most original users would have expanded their system instead of changing it. This is of course a vicious circle in that a smaller hardware base leads to less software and round we go. In the commercial world it looks like UNIX is going to take over as the

"Standard OS" and talking to people in the trade this does not appear to be such a good thing. Although the users will be used to operating a UNIX terminal and we will have more UNIX administrators, software and hardware development outside UNIX will decline thus reducing significantly the chances of technical breakthroughs...

Of course we users demand more from our computers as time passes and if you want large, fast databases or spreadsheets, DTP etc. you are going to be forced to changed machines, which usually involves a great deal of cost and heartache.

One of the saddest things is that most people would keep their 8-bit micro alongside the 16/32-bit machine if only they had space; most average houses are not designed with multiple computer users in mind. But the moral is as it always was: if your machine will do what you want don't change it; if your needs can't be met find the software first and then the hardware.

Now onto the show business... We are holding another show at Stafford and I am looking for kindly User Groups to give it a mention. I have included a couple of ads. if you are feeling generous for your next Update. You may say, "Why mention AMS make the organisers rich?" Well last year we invited local charities to take free stand-space as a fund raising exercise and we had many and varied including Girl Guides, Animal Welfare, Asthma Society, Royal British Legion and many other worthy causes. Most were very grateful and had a successful day. This year we are doing the same and hope to improve on last year and show that a computer fair can do more than just promote hardware. Just imagine the help that could be given by the Computer Shopper Show if the same attitude was taken.

I wish we did get rich from these exercises but the truth is that the AMS fairs were and always will be prices so as to allow the small trader or user group to exhibit alongside some of the larger commercial organisations. This does mean that large companies such as TEKDATA benefit greatly from what to them is a very small stand fee but it does benefit the visitor as there are some very good bargains to be had.

...There will be a larger varied display of good that make the event worth travelling to. If you have a Dragon or an Einstein there will always be add-ons from other machines such as trackerballs, MODEMS, disk drives etc. that will be of use.

Anyway I shall conclude my sermon with the hope that some Dragon suppliers will make the day along with some of your readers. Last year's event received a good review in Dragon Update, let's hope this year's follows in the same tradition.

All the best, Graham Bettany ("All Micro News")

Introduction to OS9...Malcolm Cowen..

My last few articles detailed how the OS9 system works, and what can be done with the commands. This one is a bit different. It talks about what is available on the OS9 system, and what is not available; and what you can do towards making it better.

The basic OS9 system is written by a company called Microware in the USA. It is intended mainly for industrial applications, and sells very well in those areas. What we have on the Dragon is the original 6809 version of OS9, but with a smaller set of utilities. The kernel, the guts of the system, is untouched (good news!), but the Word Processor, the Spreadsheet, and the other software have all been doctored to make them work only on the Dragon, and not on any other OS9 systems. I can see why, after all Microware and the other OS9 suppliers wanted to keep on flogging the expensive software to commercial users, and didn't want to undercut themselves by allowing commercial users to buy cheap versions of the software at Boots. But equally I dislike paying vast amounts of money for software, and I don't want to use anything stolen (which is what pirated software is).

Fortunately for us, OS9 is its own best friend. It is very easy to enhance an OS9 system, and a whole gang of OS9 users set about doing just that. Amongst the programs which have been written are: 80-Track, Double-Sided Disk Drive drivers; 80-column screen handlers; 80 column mods for the Word Processor (Stylograph), for the Spreadsheet (Dynacalc), and for the database (RMS). A RAMDisk and a modified shell allowed people to use the RAM on the Compusense board as an extra execution directory, and the latest news is that a nice gentleman in Germany modified Stylograph to use a more rational set of cursor keys, instead of that funny diamond of JL,I. (Actually a nice man in Derby called David Rothery did this some years ago. -Ed.) A whole load of really useful utilities were written, and they are still available. The OS9 User Group publishes a newdisk, and back copies are still available, from Butz Kinzel of Erftstadt near Koln. He speaks excellent English (wish my German was as good). His address is Leipziger Ring 22A, D-5042 Erftstadt, Germany. He's a great bloke, the kind of person it makes you feel better for meeting, the same goes for his wife. (She's a great bloke too??-Ed.) Write to him and introduce yourself, it is worthwhile.

If you want to simply use a good modern OS, and enjoy what is really a kind of introduction to UNIX, then use OS9. Compared with DragonDOS the word processing and graphics facilities are nothing like as good, but the other utilities and the file security are much better. (Actually Stylo is my fave WP. - Ed again.) If you get hold of the back copies of the user disks and ask advice from some of the OS9 old-hands, then you should be away.

If you want to go a bit further and try programming, then OS9 is a dream. It

has an excellent implementation of C, also PASCAL and Assembler are available. The modular way the system works makes it easy to write new utilities, or replace whole modules of the system. Others have done it, why not give it a try yourself? For example, the keyboard action is not as good as it could be. Other people have solved the problem for other Dragon software, perhaps you can solve it for OS9 by rewriting the keyboard scanning routines!

An Apology from Chris Jolly.....

I'd like to apologise to those who have sent me queries and not received answers. I now have a new address and phone number and am back on-line. If you are waiting for an answer, please call me on 0689-861054. My new address is 9 Goldfinch Close, Chelsfield, Kent BR6 6NF.

The Rainbow September Issue..P.R.Marlow

The programs this month are MATHGEN3, AMERICAN, EATING and ADDITION. The first is a maths test type program that lets you create worksheets and coded answer sheets for simple addition problems. It prints problems of two to five numbers in columns on tractor-feed paper. AMERICAN is a program that tests knowledge of famous black Americans although it can be modified for different subjects. EATING is a machine code program that simulates single-cell animals and their life spans. A few changes are needed for it to run on the Dragon but these only amount to changing the addresses of a few ROM routines. However you do need 64K to run this program. Finally, ADDITION is another program which tests maths skills. It tests addition and multiplication. That's it for this month; if you need any help remember I am only an SAR away.

DATA LOADER & PRINTER.Jon Cartwright..

I don't normally write reviews but Mike asked me to do this one as I'm the kind of person that might use DATA LOADER AND PRINTER from Dragsoft. The program quite simply allows you to produce machine code loaders from code that you have loaded into your Dragon. I'm quite sure you all know what data loaders are, but here's a quick recap anyway. If you want someone else to be able to type in your machine code you can either give them an assembly listing or produce a data loader for them. The former method is not always satisfactory as different assemblers lie in different places in memory and so problems quite often arise. If you produce a data loader what you will need to do is work out a BASIC program that will READ and POKE in your machine code from DATA statements. Writing the program to actually READ and POKE the data is fine. Creating the lines and lines of data statements however, is a thankless task. This is where Data Loader & Printer comes in. It will produce a suitable program, on your printer, from your code in memory! There are many options within the program as to how many items of DATA you want on each line etc. The whole program is easy to use and does exactly what you ask it to. Data loaders usually contain checksums and the programs generated by Data Loader & Printer are no different, with checksums at the end of each line of DATA. When you use the loader created by the program it will even tell you what lines of DATA are erroneous.

It must be pointed out that this program DOES NOT write programs directly into memory for you. What it does is produce listings of programs which could be sent to magazines etc. The listings produced would still have to be typed in by somebody else, but then that's the whole idea of data loaders. There's not really much else I can say about it because you're either going to be interested in this kind of program or you're not. If you have any need to print out data from memory, for magazines, personal backups, or whatever, then buy this program as it will do everything you want it to. Data Loader and Printer available on cassette or Dragodos disk for 2.00 incl. postage from Dragsoft, 41 Hereford Street, Presteigne, Powys, LD8 2AT.

A.M.S.5.

As you know from the last issue, the AMS5 Show at Stafford will be held on Saturday 9th.November. However, it seems that the Dragon will NOT be getting much representation this year!. Mainly for reasons of cost the Group will not be taking a stand this time around, although Mike Stott tells me that he will be there "unofficially", disguised as a member of the public, so if you see him don't forget to buy him a drink before you ask him questions!. It is possible that Rob Preston will be there as he covers several makes of computer, but if any other firms are going they haven't told me about it!. Why isn't the Group going? last year we didn't even manage to cover our costs, and there seems even less chance of doing so THIS year, and when the cash runs out the Group disappears, so I'm reluctant to shorten its life without good reason!. Paul G.

PEEKING THE DRAGON (35) BY MIKE STOTT

SEPTEMBER 3rd 1991 - Again my article will have to be written at one sitting as I have been on two holidays and am rather behind with everything. I must apologise to Richard Sutcliffe for not having cast an accountant's eye view over his ACCOUNTS program yet and also to those people who waited a long time for me to respond to their letters.

Thanks to Robert Cleminson for sending me the solution to PERSEUS AND ANDROMEDA which Tim Lees and myself have been struggling with for ages. Subscribers to 6809 USER should write to Robert if they have any adventure problem as he is much better at them than me. Peter Smith of Southampton would like to see a compilation service for adventure cheat sheets but has no photocopy facilities. I am prepared to run one if there is enough interest but I will need as many people as possible to send me copies of the ones they have. Just send me an SAE with a list of what you want together with copies of those you have and let us see what happens.

Thanks to Keiran Anscomb of Torquay for sending me the answer to Richard Sutcliffe's PCLEARO Problem. Keiran would like to know of any cheats to MANDRAGORE. The cheat for the cassette version only - POKE 13186 with the number of lives and then EXEC 13000. For disk - POKE 9090 with the number of lives (0 = infinite).

Ray Smith has sent me a preview copy of UP 2 DATE, a new disk based magazine and Sotos Mandalos has sent the latest copy of 6809 USER, both of which I am reviewing separately. PSE have sent me one of their binders for Dragon Users for appraisal and I have also written a report on these. Brian also sent me a preview of Ola Eldoy's TETRIS (whatever happened to Paul Burgin's version?) which has now been completed so I am told and I am awaiting the review copy.

Alfred Knoetig informs me that all his items are now priced in Deutschmarks not sterling and has apologised for the poor English in his programs. Tim Lees has offered to help tidy up STONE OF THE MAGICIAN, a new 170K graphics, 120K 6 bit sound and speech adventure using icons on three disks for D64s, while he reviews this program.

I have just acquired 2 Apricot machines (XEN and XI) not fully working which includes a paper white monitor so if anybody needs any spares please let me know. I am not sure what parts are working, apart from the monitor which definitely is, so really you will have to be fairly local to me to try them out. @ Went to the All Formats Show in Leeds and found it to be very poor although we came home with some cheap PC software and also some very cheap disk boxes. Normally I spend quite a few hours at a show but I was there for less than an hour.

At the present time it does not look as though I will be running a stand at Stafford this year due to the lack of response last year although I do intend to visit the show and hope to see many of my old friends there. I'll have my Dragon T-shirt on so please come up and say hello.

Although most of the companies have been very quiet during the Summer months I am heartened by the news I have been hearing from the other companies as there appears to be a fair amount of new material coming out for our beloved computer. Also I have been kept fairly busy with requests for help etc. from our members so there is still a good deal of interest being shown on a wide range of subjects. Also quite a few people have mentioned to me that they feel that the Dragon scene appears to be on a bit of an upsurge at the moment. Who knows perhaps we can increase our membership again which would mean more programs would be written and this would increase interest in the Dragon. On this more cheerful note I will leave you until my next article and let us hope I have got loads of new items to mention.

UP 2 DATE - REVIEWED BY MIKE STOTT

Many people have said to me that they preferred when Update came out every month. Well now is your chance to purchase UP2DATE, a new disk based magazine, in those blank months. Produced by Ray Smith it is compatible with most normal Doses. I have tried it with V1.0, V1.5, V1.7, V4.0, V4.0E, HIGHDOS V1.0, SUPERDOS VE6.2, and DOSPLUS V4.8 and it works with all of these apart from the latter. It is only 2.00 for the disk including postage so it is worth a try even if your Dos is not included above.

What do you get for your money? BOOT the disk and then make your choice from the menu of goodies which appear upon the screen. Most of these can be output to screen or printer so you can either have a quick glance or a long slow read. There is an editorial (with no Paul Grade moans - but I bet it is not long before Ray has to moan at you to write something), advertisements, and a gallery of graphics of the standard expected from Ray. Graphics for beginners are included as are machine code routines and a letters page. Also on the disk are useful little Basic programs and Music which have to be run separately but instructions are included within the magazine. What will be included in the future depends upon the input of material from the readers as Ray cannot be expected to fill it every month with his own contributions.

The pilot version that I was sent for appraisal has so impressed me that I have ordered the first copy (14th September) and will be getting it on the 15th of every month that there is no Update.

P.S. I have just this minute had a telephone call telling me that Ray has contacted Phil Scott and thinks that it will be an easy matter to convert the disk to run on Dosplus as well.

UP2DATE is available from Ray Smith, 5 Glen Road, Poole, BH14 0HF priced at 2.00 for disk and postage (cheques payable to NDUG) and please state which version of Dos you run.

Let Your Dragon Roar! (1) . Bernd Neuner

Yesterday for the first time in my life a Macintosh computer was standing at my table. A nice little machine, far too expensive for me though, so I'll keep my Dragon.

One thing I liked with the MAC was the "trash can" sound, which is produced as an error message. Why do so few Dragon programs use sound? I searched old magazines and books, and found some interesting (and short) routines with impressive sound effects. Here they are, free for inclusion in your own programs.

I found no "trash can" sound, and I have not enough knowledge to write one myself. So if anybody knows of one, don't hesitate to contact me!

If you want to use the routines under DragonDOS don't forget to call JSR \$BAC5 to switch the sound on (ie, before calling the routine), and then JSR \$BAC3 to turn the sound off after executing your chosen routine. For all routines include the following line:

PIA1PAD EQU \$FF20

1. Just a "ping".

```

PING0 PSHS CC,D
      ORCC #$50 (SWITCH INTERRUPTS OFF)
      LDA #230
PING1 BSR PING5
      TFR A,B
      ANDB #%11111100 CLEARS STROBE
      STB PIA1PAD
      BSR PING5
      CLR PIA1PAD
      DECA
      DECA
      CMPA #18
      BHS PING1
      PULS CC,D,PC
PING5 LDB #180
PING6 DECB
      BNE PING6
      RTS

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2. Poor "click" sound.

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CLICK1 LDB PIA1PAD
      EORB #$F0
      STB PIA1PAD
      INCA
      CMPA #76
      BLO CLICK1
      CLRA
      CLRB
      RTS

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ROLABALL 2 - REVIEWED BY MARTIN WALLER

Rolaball 2 is a three dimensional arcade-adventure style game, bearing a slight resemblance to Ed Scio's AIRBALL and incorporating a hint of MARBLE MADNESS. The story goes that you are in control of the last three rolaballs, a peculiar race resident on a planet far, far away, as they seem to have been devoured by the deadly cubes. Anyway, the aim of the game is to rid the planet of these fiends, and to do this, you must collect the 49 pieces of a magic jigsaw that are littered about the planet.

On loading you are greeted with some pleasant music and given a number of useful options. These include options to redefine keys and also choose the resolution (I preferred PMODE4) along with speeds ranging from slow to breakneck speed! On starting I was confronted with neat 3D platforms of varying configurations on each screen. After eventually getting used to the keys, the game seemed to be relatively easy during the first few screens, but do not be deceived, because as time progresses, it becomes extremely difficult to build up the jigsaw. I found myself wandering around aimlessly at times trying to get to certain levels and gave away many a careless life. Indeed much patience is required in order to progress in this game, but at the same time, it is highly playable and quite addictive. @ In summary then, this is a good game being a test of hand co-ordination and memory as well as reflex and patience. Although it can be frustrating at times it is quite enjoyable, and well worth having in the collection.

ROLABALL 2 is available from R & A J Preston, St Brides Major, Mid Glamorgan, CF32 0SE for 2.99 (plus the usual 50P P&P).

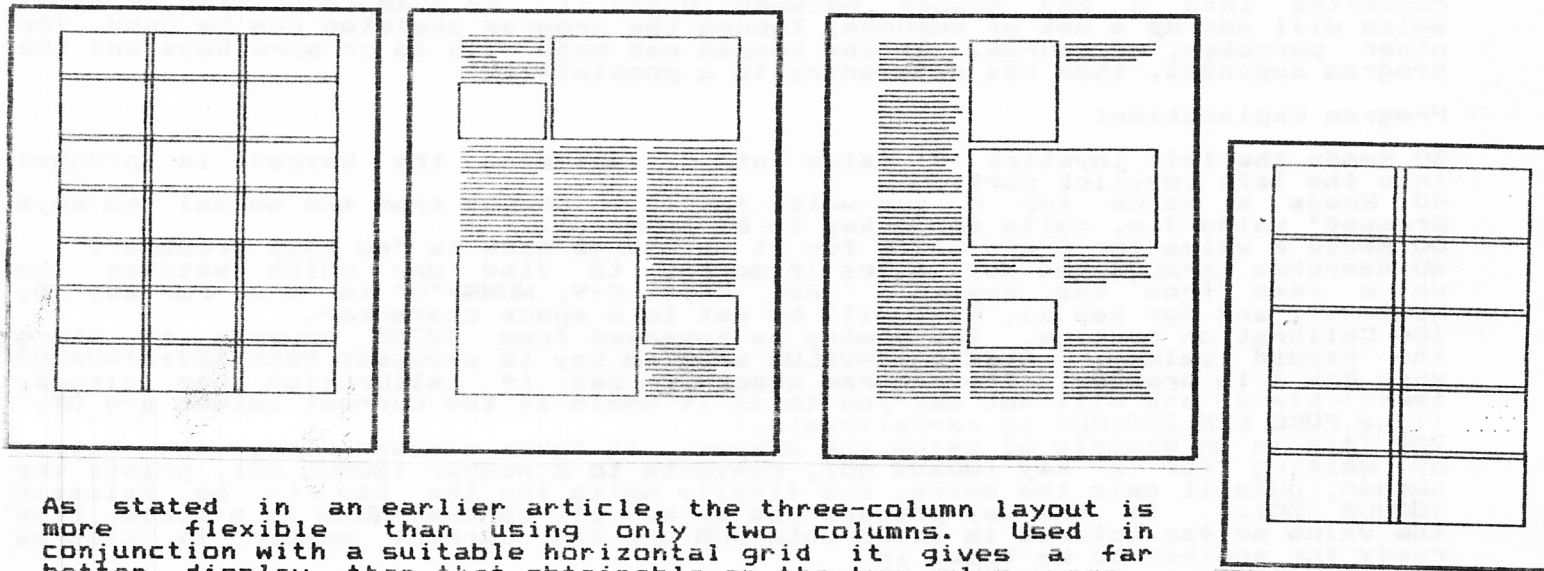
UP2DATE NOTICE.

Ray Smith has asked me to mention that a "bug" appears to have got into his disc copying routine, with the result that SOME copies of UP2DATE were sent out with corrupt files. Unfortunately the bug wasn't discovered until after the discs had been posted, so if your copy fails to run properly please return it to Ray (with a note stating which DOS you use, please) and he will correct the fault. Paul.

PAGE LAYOUT

At the end of the last article I mentioned the importance of the horizontal grid. Let us now look in more detail at this aspect of page layout. Discipline is required in order that a page may be layed out well, and the full grid will help create some sort of order, if used wisely. But, discipline or not, you must not regard the grid as some form of straight-jacket into which all text and illustrations must be fitted. You will find that most illustrations, imported or created at the keyboard, rarely fit exactly into your predetermined grid. In fact you may find that in order to fit them into your grid, you will have to cut them down, thus loosing important detail or distorting the picture to the detriment of your design. So the rule is to use grids, but only as a rough guide and not as a fixed law which must be strictly adhered to.

Two column pages are more flexible if the vertical height is divided into three or more layers. If the illustrations can be fitted into the grid without overlapping then they will look better, and can be interchanged if necessary, to improve your design. It is also good practice to make your horizontal grid fit a set number of lines of text, plus a blank line between them. The diagram below will, I hope, make this clearer:



As stated in an earlier article, the three-column layout is more flexible than using only two columns. Used in conjunction with a suitable horizontal grid it gives a far better display than that obtainable on the two column page. Remember, the grid is there to help you, not hinder, so don't break your back trying to squeeze your text and illustrations into the format that you have chosen. The illustration below shows you an example of a three-column page with 7 horizontal divisions:

TO CENTRE OR NOT TO CENTRE

Often, whether you centre your design or set it to one side of the page is a matter of personal preference. But both have their place in page layout. The basic difference between the two is that centrally placed text is static and restful, whilst text which is off-centre tends to be more dynamic. As an exercise, study magazine and document covers to see whether you can get examples of both types of design. Note, however, that they are never mixed on the same page. Off-centre layouts are particularly useful for front covers and title pages. Next time we shall look at the effect of off-centring text. Meanwhile spend your spare moments by trying various layouts and actively studying published documents.

SCRABBLE - REVIEWED BY PHIL CHATFIELD.

I like this a lot!!!! The brief glimpse I had of it in colour mere confirmed that this is well worth adding to your collection. WARNING: The remainder of this review is in monochrome. Anyone who enjoys tactile Scrabble or who can spell, or better still both, will not be disappointed by this program. The key handling is precise and well thought out, you know when you have pressed one and you know if it is the wrong one. The instructions which greet you at the start of the program clearly explain the game itself and the operation of the program. A final screen display should banish any doubts from the beginner's mind as to how the 'game' is played. I had no difficulty being familiar with Scrabble, with playing the game in mono. In a competitive game I think that colour would be advantageous.

The screen display is well laid out and effectively conveys all the information needed to play. I particularly like the opportunity that is given on the completion of each word for opposing players to challenge the entry, a nice touch. I also found the one player game, a necessity in the increasingly lonely 'Dragon' world, quite playable. You cannot cheat on letter selection and if you cheat on the words you put on the board there is no hope for you. Very useful for practice or entertainment. The score handling is also well done. Finally, my one criticism is that in the case of several players you are able to see every player's letters. This is not quite as it should be. The answer would perhaps be to cover your bit of the screen with one of those 'post-it' things and write your current letters down elsewhere. This small point in no way detracts from my liking of this program and my criticism would only affect purists. Five Dragons without a doubt. SCRABBLE is available together with ACOLYTE (tape only) for 4.00 from Dragonfire Services, 8 Ingleby Road, Wigston, Leicester, LE8 1DQ.

Keypad II by Stephen Knight

This program will allow you to use a 12-key keypad with your Dragon. The keypad design in the December 1990 edition of Update can be adapted for 12 keys. The values are read from the keypad each time the program is loaded and converted into a key number between 0 and 11. An example routine is shown which will add up a set of numbers, though the program skeleton can be used for other purposes, of course. If the keypad was made with 16 or more keys and the program expanded, then hex data entry is a possibility!

Program Explanation:

30 Reads the left joystick 'X' value into C (assuming the keypad is plugged into the left joystick port).
 40 Reads a value for C and waits for it to change from the normal "no keys pressed" value (ie, waits for a key to be pressed).
 50 Reads a value for C and waits for it to change back to "no keys pressed".
 60 Searches through the key values in memory to find one which matches the value read from the keypad. For keys 0-9, NUM\$="0" to "9". For key 10, NUM\$=".", and for key 11, NUM\$ will be set to a space character.
 100 Calibration routine. The memory is reserved from 32755 onwards to store the keypad values. PEEK(CEN)=VALUE when no key is pressed; PEEK(KEY+A)=VALUE when key A is pressed. The program checks to see if calibration has already taken place and will not ask you to do it again if the current values are OK. (Type POKE CEN,255:RUN to re-calibrate.)
 200 This is an example of using the keypad. It takes numbers from the keypad by waiting for a key (GOSUB 40), converts to a number (GOSUB 60), prints the number, puts it onto the entry, and finally waits for the key to be released (GOSUB 50). If the key pressed was #, key 11, so that NUM\$ is a space, then the value so far entered is added onto SUM and the current number is cleared ready for another to be typed in. The routine may also be suitable for other keypads such as the Tandy Electronic Book, though I haven't tried it myself.

```
10 ' JOYSTICK KEYPAD READING PROGRAM
20 GOTO 100
30 C=JOYSTK(0):C=JOYSTK(2):RETURN
40 GOSUB 30:IF C=PEEK(CEN) THEN 40 ELSE RETURN
50 GOSUB 30:IF C<>PEEK(CEN) THEN 50 ELSE RETURN
60 A=0
70 IF (C=PEEK(KEY+A))OR(A>10)THEN 80 ELSE A=A+1:GOTO 70
80 IF A<10 THEN NUM$=HEX$(A) ELSE IF A=10 THEN NUM$="." ELSE NUM$=" "
90 RETURN
100 CLEAR 200,32755:KEY=32756:CEN=KEY-1:GOSUB 30:IF PEEK(CEN)=C THEN 200 ELSE CLS:PRINT"CALIBRATING ....":POKE CEN,C
110 FOR A=0 TO 11
120 PRINT@64,"PRESS KEY";:IF A<10 THEN PRINT A ELSE IF A=10 THEN PRINT " ." ELSE IF A=11 THEN PRINT " #"
130 GOSUB 40:POKE KEY+A,C:GOSUB 50:NEXT
200 CLS:PRINT"TYPE NUMBER, *.=.#=ADD ON":SUM=0:N$=""
210 GOSUB 40:GOSUB 60:PRINT NUM$;:N$=N$+NUM$:GOSUB 50:IF NUM$=" " THEN SUM=SUM+VAL(N$):N$="":PRINT ,SUM
220 GOTO 210
```

The Editor's Late Bit.....

Right, I'd like to say Thank-You to all those who've written articles of late and don't worry if yours hasn't appeared yet. The chances are that it WILL do within the next couple of issues. I had a couple of articles arrive quite late for this issue and I'd already filled all the pages up, although they were technically in time. The message is, if your article doesn't appear straight away that doesn't mean it's been lost or ignored, so have patience - apart from the space available in each issue I try to provide a balanced subject matter. So if yours is one of four articles on OS9 then something's got to be delayed!

OK?

On the same subject, I don't really like splitting too many articles into 2-parters, so if you can, try to keep them down to one page in length. If I liked, I could have printed most of this issue with the message "More Next Time" at the bottom of each page, which would have annoyed you!! I can cut some down to one page, but try to help me out there if you can.

Apart from these messages, the articles are coming in a steady trickle at the moment. Not terribly heartening, but not worrying - yet.

What else? Almost a year from my taking over this post, I'm still having some help from Stephen, specifically over NDUGSoft, so thanks Steve. The Editor with the copper-coloured top, no other Editor lasts like him or looks like him. As to last month's Great DOS Debate, Paul may be tired with the subject but it still has to be broached. After a brief ceasefire this month there'll be more next issue, so prepare for sparks to fly once more. Never mind Paul, see if you can afford another Blake's Seven video yet. Oh, if you're reading this Daniel Hodson, could you send me the proggy to go with your "Boing" article?

In the next controversial, fun-packed and Christmassy issue we have more sound routines, a beginner's point of view, a consumer report, proggy, the Stylograph story ... and it's only half-full so far. What fun, and I get to read it before you do. Nyah! Nyah! Nyah! Oh, and don't forget to subscribe to "Up-2-Date". Ray's putting himself in for a lot of work, at least make it worth his while by giving him someone to send the disk to.

OK, off you toddle to look for the classifieds... See you next issue, I can't wait...

NOTE:- Sorry, Robin, but you're WRONG!, the "Great DOS Debate" will NOT continue. All that needs to be said on the subject has been said all too many times before, and the topic is CLOSED. I refuse to print any further rubbish about whose DOS is best, and if anyone doesn't like that decision, too bad. Paul Grade.

Do You Make Anything?-J. Brown.....

I try to make everything I possibly can, and there arose the need for a smooth action joystick-type piece of hardware. I needed it for programs such as "Wefax" or "Dragon Graphics Studio" where precise control is of a high priority. I have housed the unit in a little plastic box commonly known as an ABS box. These are black and white, complete with a cover which is removable. I drilled holes of 3/8" to take the mounting spindles of the pots, and a suitable hole for the "fire button".

If you wire your version of the device as shown in Figure 2, there should be no problems. However if you have troubles, try switching wires on the pots. I suggest you use different coloured wires. It makes connections much easier, and a bit of care is needed when wiring up. The connections to the 5-pin 240 degree DIN plug are given, but are not numbered, as they change from circuit to circuit.

VR1 alters the UP and DOWN position, whilst VR2 alters the RIGHT and LEFT positions. In my own case using it with transmitters and other sources of RF about, I wired the outgoing cable in a screen cable system. The screening of the cable was connected to pin A; this when in the Dragon is EARTH, and stops any RF entering the unit or computer.

When built and wired, you can spray the case using an aerosol, letter it using Letraset or some other dry print transfer and laquer it. This is best done with the unit stripped down, or provision can be made during the box preparation. I have found my home-made joystick to be first-class, outdoing any other I have seen.

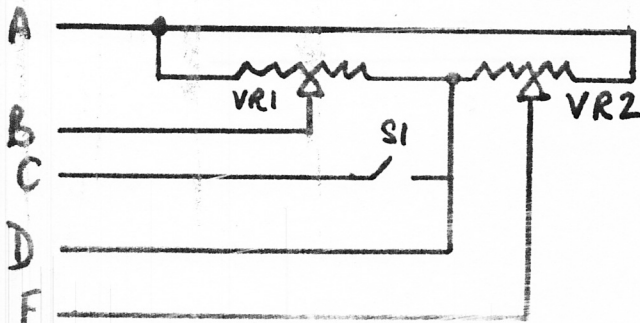
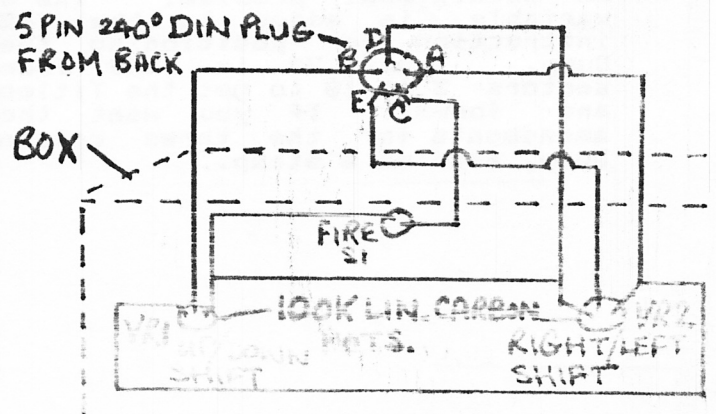


Fig. 1. Theoretical Circuit.



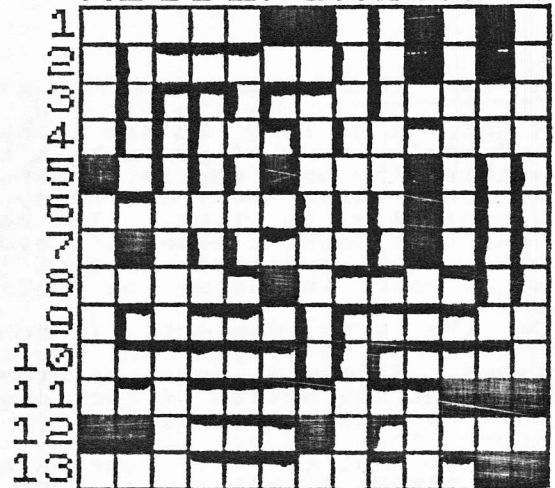
Crossword 59.

ACROSS: 1A. TYPE OF RADIATION; 2B. TO HANG AROUND PERHAPS WITH ITEM; 3F. DRIED AND SALTED PIGS THIGH; 3I. COUNTRY WHERE MANDALAY CAN BE FOUND; 4D. MIMIC A MONKEY PERHAPS; 4H. POLISHED SURFACE WHICH REFLECTS IMAGES; 5G. WASTE DISPOSAL RECEPTACLE; 6A. & 1I. USED FOR STORING DOCUMENTS ETC; 7E. SAILORS DRINK (MIX OF RUM & WATER); 8A. A RUNNING LOOP IN A KOPE; 8G. TEA SWEETENER; 9B. SMALL FAST FLYING BIRD; 9H. ROAD FEATURE REDUCING TRAFFIC HOLDUPS IN SMALL TOWNS ETC; 10A. THIS TYPE OF MESSAGE USUALLY TAKEN AT THE RUN; 10I. SUBSTANCE RUBBED BETWEEN JOINTS IN WALL TILES; 11A. ROAD FEATURE HELPING FLOW OF MERGING TRAFFIC; 12C. SMALL WARM ROOM IN PUB PERHAPS; 12I. HOME ON THE ----- WHERE THE DEER AND ANTELOPE PLAY; 13A. MODERN VERSION OF THE RADIOGRAM.

DOWN: A1. SWIMMING COMPETITION; A6. A DIGIT; B1. TYPE OF RADIATION; C3. SMALL FAST FLYING BIRD; C10. COMEDIAN MR. ABBOT; D3. MORNING PRAYERS; E2. ONE OF A SECRETARIES SKILLS; G3. FOOD OF THE GODS; H1. SINGING WITH CLOSED LIPS; H9. A COLOUR; I1. SEE 6A; I11. SAILOR USED FOR ROAD COVERING; K1. TYPE OF PIGEON; L3. PROPOSALS PUT FORWARD AT A MEETING; M1. PERSON WHO DISPENSES DRUGS AT CHEMIST ETC.

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ABCDEFGHIJKLM



DOUBLE COLUMN DIR DUMP. RAD.

Now that most Discs are supplied with a plain white sleeve envelope, I prefer to print the Disc Directory on the front of the sleeve. The usual POKE 111,254, produces a long list of one column, often exceeding the space on the sleeve. Research through the back numbers of Dragon User enabled the construction of this short program, which does a double column dump, allowing the printing of the longer directories. A few further amendments to this will produce a three column version, handy when the disc has many short programs, and still within the width of the sleeve. It is better than the usual Dump even if not made to the sleeve itself. As a further option, the program allows the dump to be made either on the left hand side of an A4 sheet of paper, if the printer can take this size, or on the right hand side, saving paper if you want to make lists of your programs. You must, of course, rewind the paper to the top edge after completing the left hand side. The program does not use any Escape Codes particular to any one printer, and should therefore work with any printer. However, with some Discs and some Printers, there may be some ASCII codes on the Disc which the printer could recognise as an Escape Code, and print a 'barred' x or two at the end of the list, but this is only an occasional problem. The Q variable is added to the TAB instruction for positioning the Dump. Track 20 is read from sectors 3 to 18 to get the Titles and format. If you want the amendments for the three column Dump, send me a stamp.

```

10 CLEAR 1000
20 CLS:PRINT#3,"DISC DIRECTORY TO PRINTER"
30 PRINT:PRINT:INPUT"LEFT OR RIGHT";L$
40 IF L$="R" THEN Q=34 ELSE Q=0
50 PRINT#464,"PRESS ANY"
60 IS=INKEY$:IF IS="" THEN 60
70 CLS:INPUT"DISC TITLE";T$:PRINT#-2,TAB(Q)"DISC.#";T$
80 N=0:FOR W=3 TO 18
90 SREAD 1,20,W,N$,N$
100 IF LEN(N$)<25 AND N$(">") THEN N$=N$+N$:N$="":ELSE IF LEN(N$)<25 THEN 200
110 R$=LEFT$(N$,12)
120 N$=RIGHT$(N$,LEN(N$)-25)
130 IF LEFT$(R$,1)=CHR$(137) THEN 210
140 IF LEFT$(R$,1)=CHR$(129) THEN 100
150 C$=RIGHT$(R$,3):R$=MID$(R$,2,8)
160 IF N=1 THEN 180
170 IF N=0 THEN PRINT#-2,TAB(Q)R$:TAB(Q+9)". ";C$:N=1:GOTO 190
180 IF N=1 THEN PRINT#-2,TAB(Q+16)R$:TAB(Q+26)". ";C$:N=0
190 GOTO 100
200 NEXT W
210 PRINT#-2,TAB(Q)"FREE BYTES";FREE
220 CLS:PRINT:PRINT:PRINT"PRESS ENTER FOR MORE"
230 IF INKEY$(">")CHR$(13) THEN 240
240 IF INKEY$(">")CHR$(13) THEN 240
250 GOTO 20

```

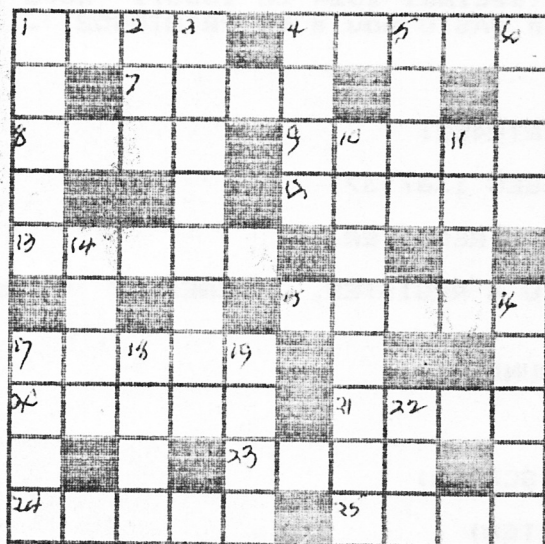

Letter from D.R.

Dear sirs, The concept of Virtual Reality opens up enormous possibilities for real-time coputer applications, but it is not difficult to appreciate how such technology would be abused. Imagine a Virtual Reality package called "In Bed With Madonna"! We can only hope that mechanical engineering is not up to the transducers required!.

I wouldn't worry too much about it most of the types who would be interested in buying such a package wouldn't know how to use it without a 200 page instruction manual anyway and think of the problems involved if the program got stuck in a loop at the wrong point!! (Mike Stott has offered to review the first example available himself, so don't all rush to volunteer as reviewers). Paul.

PRIZE COMPETITION!!!

Why am I so generous? ... No, don't bother to answer that one. Knowing how frustrated all you Crossword addicts have become, I have decided to give you an excuse to overdose this month ... you can have TWO crosswords!, and as you're all following my example and pleading poverty I thought I would give you an additional incentive as well the first TWO all correct entries of THIS one out of the box will win a free subscription renewal!. Now that can't be a bad offer, can it?, a saving of 8.00 just for getting a crossword correct!. However, this offer ONLY applies to THIS crossword the usual one (on page 10) wins a program from the current Dragonfire Services list, or one from our collection. All crossword entries must be sent to me, and arrive before November 14th. Paul Grade.



ACROSS.

1. Ship-City.
4. Carried in 1 across.
7. Exclamation!
8. A moor gives plenty.
9. Consent.
12. Tendency.
13. 23 across this.
15. Look happy.
17. Unpleasant.
20. Pretty near.
21. Money to some.
23. Shows 13 across.
24. Wait for it.
25. Nicer animal.

DOWN.

1. Hears animals.
2. Posh W.C.
3. Glowing.
4. Gossip.
5. Not many.
6. In the red.
10. Made a face.
11. Peer.
14. Monk's hood.
16. Come in
17. Not a nice party.
18. He attends 17
19. Tax.
22. Animal.

RADJ

The Late, Late Bit

Yes, Well, this looks like being an easy Bit to write all three lines of it, in fact it's TOO easy, so I don't think I'll bother. Waht do you mean "look on it as a challenge"? .. OK, I will, my seconds will be calling on you in the morning!. Paua Grade.

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PLEASE HELP!!!! I HAVE LOST MY MANUAL FOR
 SMITHSON'S ELECTRONIC AUTHOR!

I would be eternally grateful (well, for ten
 minutes!) if someone could send me either an
 original or photocopy. If the original I
 promise to send it back by return post, plus
 postage etc. Jim Patterson 0232-657776
 168, Upper Newtownards Road, Belfast. BT4-3ES.

DANGER, GAFFER ON THE SCROUNGE!!
 MUCH AS I LIKE AND USE MY OLD D64, I AM ALSO
 TRYING TO RUN AN EQUALLY ANCIENT IBM XT ...
 ALL ON LOW/NO BUDGET!. SO, DOES ANYONE HAVE
 A CHEAP, ROUGH, SMALL, DISREPUTABLE
 EGA OR EVEN VGA COLOUR MONITOR THEY WOULDN'T
 ASK A FORTUNE FOR? (SOFTWARE OBJECTS TO CGA)
 IF YOU CAN HELP PHONE PAUL ON 0903-207585.

XX

Easy machine Code Extra...RAD

A convenient method to get the equivalent of PRINT @ n, in machine language is by using the locations which track the cursor position. These are addresses 136-hibyte, and 137-lowbyte. They can be peeked to find the cursor position on the text screen, or poked to set the cursor position. the text screen hex addresses are from \$0400 to \$05ff (decimal 1024 to 1535). here is the routine I have used to give a prompt which in BASIC would be PRINT@452, ...

@PRESS FCC "PRESS C TO CONTINUE",0

@PAUSE LDX #1476 (ADDRESS FOR PRINT@452)

STX 136 (PUTS 1476 ONTO ADDRESSES 136/137)

LDU #@PRESS (GET DATA ADDRESS INTO U REGISTER)

@LOOP5 LDA, U+ (GET CHARACTER INTO A REGISTER, INCREMENT U REGISTER READY FOR NEXT CHARACTER)

CMPA #0 (HAS END OF TEXT BEEN FOUND?)

BEQ @KEY (IF SO, MOVE ALONG)

JSR \$800C (PRINT THE CHARACTER ON SCREEN)

BRA @LOOP5 (GO BACK FOR NEXT CHARACTER)

@KEY LDA #255 (AS THIS IS NOT A KEYPRESS CHARACTER)

@TEST JSR \$8006 (SCAN THE KEYBOARD)

CMPA #67 (67 IS ASCII FOR C...KEY PRESSED?)

BNE @TEST (C NOT PRESSED SO SCAN AGAIN)

RTS (IT WAS PRESSED SO RETURN FROM ROUTINE)

This ends the Easy Machine Language Tutorial series, but don't forget that the Tutorial Discs based on the series are still available from the Group ... so those of you who were "late starters" don't REALLY have to be stuck with using Basic!.

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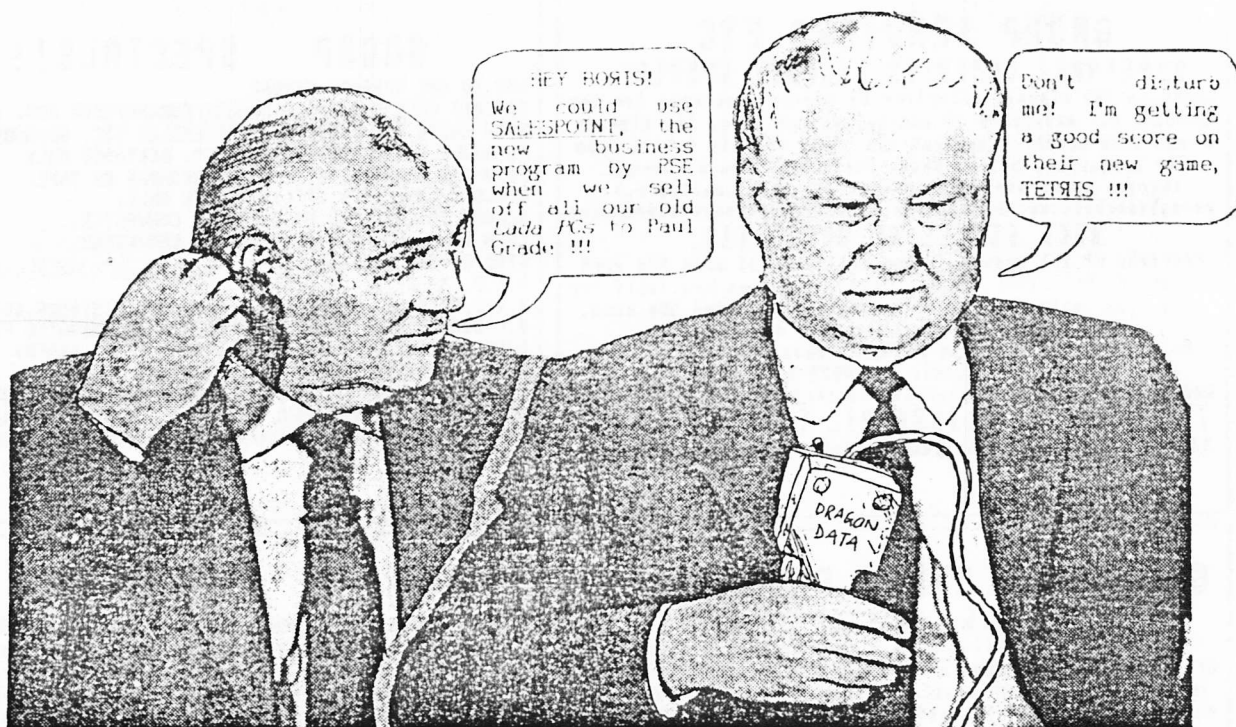
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