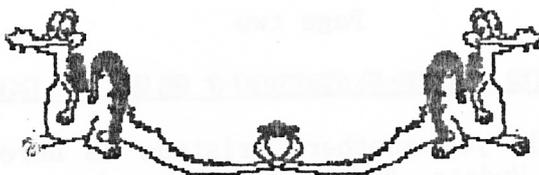


The Newsletter of the National Dragon User's Group

DRAGON



UPDATE

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ISSUE 99

"...and yet another year!"

FEBRUARY 1995

THE GAFFER'S BIT

Only one more issue and we've reached the century! it's horrible to think that I must have written a hundred of these grotty front page bits, to say nothing (and the less said the better!) of at least twice that number of other Update pages there really ought to be a law against this sort of thing!. Anyway, 'tis 1995 now, which means that the NDUG has over run its estimated life span (according to all the "experts") by about nine and a half years ... can't be bad!. By the way, many thanks for all the cards etc ... all most welcome. Now for a request ... could some of our Amateur Radio specialists PLEASE write us something on the subject?. I get more requests for that than anything else, especially regarding SSTV, and as my knowledge of the subject might just fill the back of a postage stamp, provided that it was a small stamp and I used large writing, I need YOUR help. OK?. You're supposed to be enthusiasts, remember?, so please demonstrate your enthusiasm and let us have a page or ten on the joys of running your rig via a B32 or whatever. I haven't received any cheques for a million or two yet, so either Fred's Lottery Program hasn't turned any of you into millionaires so far, or it worked and you've left the country one jump ahead of the begging letters and the taxman! of course, it COULD be that you haven't bought a copy of Fred's routine yet, in which case you don't deserve to win!. Anyway, in keeping with all other publications, let's start the year off with a bit of scandal it is rumoured that Our Beloved Editor has been seen WORKING! not that anyone who knows him would believe such a scurrilous and malicious allegation, of course, but Paul G.

Onwards, Ever Onwards...

So, we heave the well-oiled machine that is NDUG and Update into another new year, safe in the knowledge that if we want any new software or articles or anything else then all we have to do is do it ourselves. Yes, Sotos Mandalos may well be providing us with a most welcome stroll down memory lane (hey, we're only up to part two and already Dragon Data have called in the receivers) but the days when we could rely on other people/companies to cater for most of our whims are sadly long gone. I've even had to rewrite the (patented) Update "word-processor" [ahem] myself because no-one else was available/stupid enough to do it. These are, indeed, tragic days. Ah well. As a sign of the times, it has been passed my way that long-time Dragon collaborator and hard-working programmer Mike Kerry has finally waved the little white flag and has moved on to something infinitely more profitable in the PC business, so if you have any queries of a Dragon nature, there's no point in trying to ask Mike. I suggest you ask Paul instead! Stephen.

NDUG - Everything we do is written by you. (A hint)

PEEKING THE DRAGON(55) MIKE STOTT

27th December 1994 - Well, yet another Christmas is here and I am, yet again, typing in my article for Update. This year it has been rather hectic as I have been decorating the large through-lounge where my computers rest. Just managed to complete the task before Father Christmas arrived with all my goodies. What happened when I started on this article? First no picture on the telly. That was because I had forgotten to replace the aerial lead into the side of the Dragon. Then the drives would not fire up and there was no response to my tapping on the Dragon keyboard. Eventually, after fiddling around with the ZIF socket all was well and here I am - glass of Guinness in one hand, cigarette in the other, and typing away with the other. May I start by thanking all of you who sent me Christmas cards. It is nice to know that I am not the only Dragon owner left on the planet. Most of you will have realised by now that I am endeavouring to write two articles for each issue of Update - PEEKING THE DRAGON and SOFTWARE SEARCH. SOFTWARE SEARCH is going to be kept fairly short as it meant as a "filler" for Stephen so most of the answers to queries will probably appear in my main article. I received a letter from Steve Ross in Banffshire, Scotland just after I had sent in my last article. He says that he has got KRIEGSPIEL on disk which loads across and then refuses to run. The problem, he reckons, is with a USR command in line 2 and says he has tried using a Dragon 32 and a Dragon 64. Also he has tried various ways of loading including DISCUP and DOS DETACH, all to no avail. As many of you will know the USR command was for the 32 and this was changed in the 64 to USRO. Therefore KRIEGSPIEL in it's original form will only run on a 32. In order to get it to run on a 64 all the USR commands will have to be altered. I would suspect that there is more than the one in a game of this size so you will have to list it all out and make all the necessary adjustments. In my collection I have a nice little utility called DOSOFF, which works by loading it in, then loading the large BASIC program (which normally requires the space taken by the DOS) and then the machine code utility is EXECed thereby allowing the program to run in all the memory available to the computer. I have found this very useful with several BASIC programs which previously would only run from a cassette. Unfortunately I have only got this to run on a 64 but it is still a useful utility in my collection. If Steve, or anybody else for that matter, would like a copy of DOSOFF I will gladly supply them with a copy as it is not a commercially available program. Just send me a Dragon formatted disk together with an envelope with the return postage on it and I will put a copy on it for you. If Steve would like to send me a copy of KRIEGSPIEL then I will gladly take a look at it when I get some free time. I cannot promise how quickly that will be as I never seem to get much spare time nowadays.

S. Hurstbourne asked for help with transferring data from a Psion to a Dragon. Ian Swift 19 Strawberry Hill Road, Bolton, BL2 1LP (0204-27741) has done all this, in the dim and distant past, after writing software for this job and is looking for his old notes, which will help him remember how he did it. Hopefully by the time you contact Ian he will have found all the necessary items. Steve Ross, again, has a cassette copy of MAGBASE complete with manual which is surplus to requirements and also has a manual for RAINBOW WRITER if anybody can make use of it although the software went missing during a move. He can be contacted at "Deanshaugh Croft", Mulben, By Keith, Banffshire, AB55 3YJ or telephone Mulben 860240. Considering my SOFTWARE SEARCH has only been running for a short while it seems to be creating a fair amount of interest so keep sending in your letters telling me what items you are looking for. Would people like to know what software has been available for the Dragon? Has anybody got a full list or should we try and compile one? Please let me have your views on this.

Parallel I/O. by Tony Shellard.

Input/Output is always an awkward subject because it bridges the clean, unambiguous world of digital data with messy, unreliable reality. Worse still, it's not the reality that everyone understands, but the world of electrical signals. Most 'starting machine code' features explain logic functions (AND, OR) in terms of light bulbs, batteries,, and switches, so I'll assume a rudimentary understanding of electronics. I will not attempt to explain digital electronics beyond the notion that a voltage of 5 volts equates to a set bit (also referred to as high, true, or 1) and 0 volts is a cleared bit (low, false, or 0). Similarly, I'll assume that anyone interested in the PIO system at this level has a grip on the fundamentals of assembly language and machine code, i.e. binary, hexadecimal, bit, bytes, memory locations, logic functions, and bit setting/masking.

The data to and from the PIAs must be in the form of well defined voltages, so why can't we hook things directly to the microprocessor unit (MPU or CPU)? The simple answer is that we can - the cartridge port allows exactly that. There are two drawbacks, however. Firstly, the risk of damage to the MPU or SAM chips by mishandling or power overload. Secondly, the MPU would be tied exclusively to the peripheral. Some system is needed to isolate (buffer) the electrical signals, switch attention between devices and to hold data until the MPU can handle it, or signal that it needs immediate attention. The PIA and interrupt systems are purpose-designed to do this so we may as well make use of them. Information on these subjects is somewhat diffuse and often uninformative if not misleading. Articles on the PIA control registers typically list bits as 'always 1' without explaining why this is so. Another favourite is to mention the fast interrupt (FIRQ) or the 64 microsecond interrupt (not the same thing) with no clue as to where they come from or how to access them. Interrupts are usually described as the hardest part of machine code to understand. In fact they are little more than subroutines which are triggered externally to the MPU, but confusingly not (always) external to the computer! Difficulties arise because of misleading claims such as 'only the IRQ is used on the Dragon' and variable information being quoted as absolute fact. A good example of this is the SWI vector, usually given as &H0000, which is used (and therefore changed) by monitors such as Dreambug or PSS's Dragbug. So if you use a monitor to find its value the answer you get depends on which monitor you use!.

Letters To The Editor

FROM J.S.MITCHELL:

As with Ossett, so with Huyton: I was there, bought a (no.2) disc drive from PSE, and a copy of Rainbow Writer. I'm still trying to find out how to use it...help!!

My Dragon works hard mainly with a Visitext word processor, producing letters, minutes, notes, agendas etc, through a Star LC24/10 printer, but also accounts, private and official, graphs, and catalogues of an extensive collection of recorded music. However, is there anything that can be done to make the Dragon DTP program print bolder?

And also, is there a word processor program in Dragon BASIC that could be adapted (by me) to suit French, German, or cyrillic alphabets? The Iola ap Gwyn program I have mentioned before allows this but it is not a word processor.

May I recommend, if they have not already done so, that all Dragoneers should make an extra New Year resolution: that they should again support both Update and Up2Date, so that they may continue to inform and amuse and sustain that peculiar phenomenon, the most user-friendly Dragon computer.

DRAGSOFT WAS THERE (just) M. TOWNSEND

Right, I'm not getting caught out like last time, get it into boxes the day before, that way there's no mad rush at 5:00am and nothing sliding around inside the car. It's only the suction cups on Garfield's feet that hold my car together so I'll borrow a friend's. Put the alarm clock where I'll have to get out of bed to reach it, lay out the breakfast - well done lad, sleep easy. Why is it light? - Reality strikes as my watch comes into focus, 6:45am, why didn't that blasted alarm clock work - maybe it's something to do with my jacket lying on top of it - I wanted to be on the road by 6:30. Mad panic sets in, no time for breakfast, grab a coffee, put some bananas in the car, 6 journeys up and down stairs, the car's loaded, hit the road at 7:25. With Mike's map, and an Autoroute print-out of the directions from Cheltenham to Huyton on the front seat (next to the bananas), I blast off up the M5. The car's owner has never heard about wheel balancing, and the tracking's a mile out - by the time I pull off the M62 it feels like I've done a 12 hour shift on a jack hammer. Count the traffic lights, that must be the school but the gate's locked and a car's parked by it. I pull up behind the car and out gets Mike Stott, looking a bit more awake than me and a lot less frazzled. As we are chatting, a lady unlocks the gate and in we go, boxes flying in all directions. Find the power point, plug everything in, lay out the goodies - now if only I could find the cable that connects my monitor to Doris! I thought it had all gone too well, but it's a Dragon show, someone will be selling monitor cables somebody please. One hour later I give up and start hunting through a box for some rope to hang myself with; can't find any rope so I'll have to make do with this bit of wire... with black plugs on the ends... I knew I had a spare monitor cable, somewhere. I didn't count the number of people who came through the door but it must have been at least 20. I'm not going to give you earache for not coming, everyone else will do that, so perhaps I can give you a different view. I have never made a profit at a Dragon show, at one show I never sold a thing, but I still go because, as long as the tables are cheap enough, it's not much more expensive than going as a customer. £45.70 a week doesn't go far but I saved up for the petrol and, if it's not too far to go, I'll do another one. I know some stall-holders were unimpressed but Dragon shows are purely for Love now, not Profit. If you are going to the show anyway, why not stick some goodies in the car as well, you may cover the petrol costs and loose less cash than someone who goes as a Customer only. Huyton was right on my limits but there were no closer shows to go to. Church halls or school rooms are fairly cheap to hire. The only thing is, do we have one Central show or one centred in the North and another centred in the South. Not knowing the distribution of NDUG members, the Derby and Oxford areas seem viable locations - coastal shows can mean a long journey for some. Either way, it would have to be easy to find, have parking facilities, easy access to public transport and be cheap enough to, at least, break even with poor attendance. I've got several Dragons and PCs and I wouldn't part with any of them. It's like Cars and Bikes - both transport but totally different uses and entertainment values. I, for one, would like to see NDUG run for ever, we can all put a couple of extra quid on the cheque when we re-new our subs. I don't think it's flogging a dead horse, officially the Dragon died years ago but it's still running (cheaply as well), after all, how many rounds of drinks can you get for £8.00. It was great seeing a few old faces and putting new faces to voices I had only heard on the phone (or text I had read on Prestel). Maybe it was quiet but I enjoyed it, thanks Mike... see you at the next show.

**** Mike, while I applaud the IDEA of putting on more Shows, and while I would agree that small halls can sometimes be rented at a reasonable cost, the fact remains that you HAVE to be able to convince ALL potential stall-holders that they can sell enough to cover their costs in getting there, and frankly I doubt that is possible now. As to locations ... well, if you're going to organise a Show it HAS to be local to YOU, otherwise it just isn't possible!. Paul Grade.*

Getting Down To Print. C. Scott

At some point in time the serious user considers the purchase of a printer. When the Dragon first came out they were very expensive. Cheaper printers were either based on cash till mechanisms with narrow print rolls or thermal printers which required special paper which faded. These are only really suitable for program listings. Dot Matrix Printers came in 7,8, or 9 pin types, although the first 2 did not have proper descenders for certain letters, Y, P, and G. 9 pin printers produced dotted text and lacked NLQ (near letter quality) obtained by double pass printing, which was a later development. The only genuine letter quality printers were daisywheels, but they were noisy, slow and were not versatile. They use a similar mechanism to a typewriter. 24 pin printers came out which produced better quality print due to smaller pins. All DMPs have heads made up of little pins which are fired at the paper in a certain order to make up the characters. Daisywheel printers were gradually replaced by laser printers, using technology similar to a photocopier where the image was built up on a drum and printed a page at a time. Some use an LED instead of a laser to process the image. However, developments in inkjet technology have produced a printer which is about the same price as a good 24 pin and produces a quality of print similar to the laser. They use small print-heads to squirt tiny droplets of ink on to the paper, so they are more fussy to the type of paper you can use.

Dot Matrix Printers are suited to print on multi part or continuous stationery, and are therefore popular for printing invoices, accounts etc or any high volume work. Lasers are ideal for high quality work as such as correspondence, reports, DTP, or any graphics work. Inkjets are most suitable for low volume work and are ideal for home and small business work.

Most printers use the parallel port, but a few, mainly daisywheels, use a serial port, not available on the standard Dragon 32. these are notoriously difficult to set up as not all printer leads are wired up the same and you have to set the serial port protocols. When choosing a Dot matrix printer, ensure it is Epson compatible, has a decent sized buffer, and a choice of fonts. They are also available in a wider 132 column size, useful for spreadsheets or accounting work. For high volume work make sure you have the fastest printer possible. Some can use multi coloured ribbons to produce colour printouts. Inkjets can also print in colour, if they are fitted with different reservoirs for the 3 primary colours. If colour is important to you, inkjets produce a better quality of print without the banding effect common to DMPs. If you are buying secondhand, avoid obscure printers, especially if no manuals are available. Printers are generally very reliable and often outlast computers. Finally, it is important that the printer that you purchase works with your software. Software houses usually get round this problem by providing various printer drivers to suit most popular printers or enable you to configure your own. In order to do the latter you will have to delve into your printer manual to determine what the codes do. Laser printers and inkjets usually come with emulations of other printers as well as their native printer language so you can use them with any software. However, by using an emulation you are unlikely to be able to use all the printer's facilities.

SOFTWARE SEARCH (2). MIKE STOTT.

Perhaps the companies could let me know what titles are on their current sales lists as I am sure many people do not know what is still available. Come to that, what companies are still trading? Bob Preston, Dragonfire, and Knight's spring to mind in this category. I have heard nothing from any of them for a long time. Has anybody dealt with them recently or even spoken to them? Please let us know if you have had any contact with any of them so we can know whether or not they are still trading. I will write to them to see what the position is and let you know in a later article.

Is anybody having problems putting a program onto disk?. Let me know as somebody else has probably been able to transfer it successfully. I have recently acquired a few titles in this way with programs that I had been unable to transfer.

1984 & All That... Sotos Mandalos

The new year 1984 didn't start that well, partly because Dragon User went from 60p to 75p! This was the year when Pam D'Arcy started contributing to the Dragon world. In February, Salamander's Peter Ohlson came with the news that Turtle Graphics would be released, and with two new adventures (Wings Of War and The Cricklewood Incident) that company was destined to do well. Microdeal had about 50 titles under their belt, a lot of high quality product for 8.00 a game, considering that Sega and Nintendo have recently complained about a drop in profits despite having every game at 40.00 a go, it seems that Microdeal were giving the software away. At that time, Microdeal started The Cuthbert Club, and the quarterly newsletters that I received were in fact very good quality. I wonder if you remember Shards, who announced that Monster Maths had become top of their educational series. And the Dragon 64 had some success in drawing Phoenix software into producing The Emperor Must Die as a twin cassette package. Progressing into peripherals, ITL announced an interface for their Byte 500 three inch disk drive...which did not materialise. Dragon Data's Stop Press newsletter changed its name to a more appropriate Dragon World, which was mailed free to users who returned their warranty cards - a service you won't get any more. During this period, Viglen of all companies were trying to sell disk drives for the Dragon. Wintersoft were heavily advertising The Ring Of Darkness, Dragon Trek, and Operation Gremlin, and I always liked their products, as I thought they always produced and delivered extremely good service. Richard Shepard Software was quite popular too, although I thought their software was a bit too limited and basic. I was disappointed with Transylvanian Tower - good adverts, good cover on the cassette, but bad product. The Dragon answers were addressed by Brian Cadge, and what a good service he gave to us over the years. A very clever person who knew his subject inside out. I wonder what he is doing now. By March 1984 Dragon Data offered to exchange a Dragon 32 for a Dragon 64 for a 140.00 fee, but many Dragon users did not upgrade. If the 64 had a better display and sound then perhaps it would have been worth it. During the same month Andtek Data Systems produced a component card which provided the Flex operating System and also supported OS/9 and Mumps (from Thoth Data). By now Microdeal were promoting Space Shuttle, and I for one thought it was a fantastic game. OS/9 was now a reality, and business software was in demand. Brian Moore, Dragon Data's Managing Director gave a speech in Torquay in May 1984, discussing the home computer direction whilst promoting/using as reference Dragon products. Little did he know of the IBM PC, which was already thriving in the corporate market. Well, June 1984 was the month that Dragon Data announced that the receivers were called in. The difficulties in continuing to establish a profitable trade in the UK were in fact apparent. Boots stopped retailing the Dragon and the promoted software was sold off cheap. In the July issue of Dragon User there was a picture of GEC's Professional computer. A lot went into developing this system which was retailing for about £2,500.00. No home user would spend so much money on a system, so it was intended for the corporate market. The Dragon Dungeon, which produced software for the Dragon and ran a club magazine called Dragon's Teeth had gone into liquidation. Microdeal produced the first copy protected game, Buzzard Bait, which had a 'software key' without which it wouldn't load. The July issue of Dragon User was Graham Cunningham's last as an editor. Brendon Gore took over and introduced some colour into the magazine. Towards the end of the year, Eurohard SA from Spain stepped into save the Dragon Product, and they had plans to start producing the Dragon in Caceres, Spain, before the end of 1984. GEC, meanwhile, sold all of their Dragon stock by November 1984.

**** I've got a vague feeling that I ought to feel insulted not a mention of the Founding of the N.D.U.G, and we started up just after the "Dungeon" dropped dead!. Paul.*

Dragons Vs. Pentiums... Chris Jolly

Well, as you're reading this, you probably know already that Dragons are superior to Pentiums, but next time some tedious fool is boring you witless by prattling on endlessly about his multi-media multi-processor faster-than-light Pentium PC, ask him if it can do sums. He'll probably say yes, so ask him to do this one, using, for example, the Windows calculator: 4195835-(4195835/3145727)x3145727. If you look at this for more than a couple of seconds you'll realise that the correct answer is zero, and it's reassuring to know that if you type it in on your trusty Dragon that's exactly what you'll get. But your rich pal with the Pentium will almost certainly tell you that the answer is 256, so you now have an irrefutable, mathematical proof that Dragons are better than Pentium PCs. And remember, this warm, smug feeling was brought to you by Intel. Oh yes, and "Pentium" is a registered trademark of Intel.

SOFTWARE SEARCH 3. by MIKE STOTT

Steve Ross from Banffshire in Scotland has written to tell me that he is very interested in strategy games and is particularly keen to get hold of a copy of THE FALL OF ROME. As this is a new one to me I am afraid that I cannot give any more details, like which company released it. Perhaps somebody out there has got a copy for sale or knows where to obtain it. He is also interested in ZOTOKA. This is available from Bob Preston, Kings Hall Court, St. Brides Major, Mid Glamorgan, CF32 0SE.

OS9 BOOT DISCS... JON BIRD

This article is intended to prevent other Dragon OS9 users suffering the same problems I've just encountered. Essentially, if you are using 80 track double sided disks as OS9 Boot disks, then they MUST be formatted with 2 or more sectors per cluster, not the default of 1 sector/cluster. This is not an OS9 problem, but a combined DragonDOS/OS9 problem, so as far as I'm aware it doesn't matter which OS9 version you are using, or what device drivers etc you have, this still applies. I'm sure this must have been mentioned in numerous places in the past, but it's probably worth covering again due to the fact that I found out the hard way. The problem occurs due to where OS9 puts its allocation map and where DragonDOS puts the boot sector. OS9 reserves track 1 as follows:

sector 1 : Identification (name, data, etc)
sector 2 : Allocation map
3-> : Allocation map (continued if required)

Each sector on the disk is allocated 1 bit in the allocation map to determine if it is in-use. For a standard 40 track single sided disk then the following space is utilised on sector 2:

total tracks * sectors/track = total bits required
total bits / 8 = total bytes
40 * 18 / 8 = 90 bytes

In fact, all but 80 track double sided disks just use sector 2 as their allocation map. These larger capacity disks start to use sector 3 as well:

80 * 36 / 8 = 360 bytes

Unfortunately, DragonDOS utilises sector 3 as its boot sector (accessed when you type BOOT). The end result is a corrupted allocation map (the OS9 FREE command will report an odd amount of free disk space), and as the disk fills up the more likely you are to lose the boot sector. Formatting the disk with 2 sectors per cluster means that OS9 now uses 1 bit for every 2 sectors in the allocation map, therefore halving the required space.

MAGIC EYE GENERATOR. . . JON BAKER

Having spent about two weeks deciding what to write, I came up with an 'auto-stereogram' generator. For those of you who have been on a long holiday, they are those funny pictures which look like a cross between what you see when you've drunk too much and a carpet! Now, these pictures are made up of a series of repeating patterns which your brain (very cleverly I might add) converts into a 3D image - if each eye sees the same pattern, but at different positions on the page, then your brain measures the angle between your eyes and calculates how deep the pattern should be - sometimes! There are three common techniques used to see them: 1 - Going cross eyed while looking at the picture. 2 - going wide eyed, so you are trying to focus on a point behind the picture. And 3 - turn a light in the glass of your monitor, although this is really the same as 2. The experts say that people with a dominant eye, or people who are long sighted won't be able to see the pictures, but personally I think that they are talking rubbish - I have a very dominant eye and I am long sighted, and I can still see them with or without my contacts, although people with less than two working eyes will definitely not be able to see them. Anyway, the main program is very simple. Firstly, clear the screen to, say, colour 1. Then scan over it, placing a random coloured dot there if the colour is still 1. The clever bit is adding a dot of the same colour a certain distance to the right of it. The distance to the first dot, and the second is proportional to the depth that the first dot will be seen at. The hard bit is coming up with a routine to make an interesting picture, although a rectangle or circle is quite simple. Please excuse the composition of the program, but I'm used to a slightly more structured language. Line 1000 calculates the depth at a certain point, and I've found that certain depths are easier to see, as are bigger or coloured points, so I'll leave you to discover what's best for yourself. If you can't see them at first, keep trying, as it took me a while before I could see them but they are quite amazing.

```

10 PMODE1,1:PCLS:SCREEN1,0
20 FRONT=30:BACK=45
30 FOR X=0 TO 255 STEP 2
40 FOR Y=0 TO 192 STEP 2
50 IF PPOINT(X,Y)<>1 THEN GOTO 80
60 C=INT(RND(3)+1):PSET(X,Y,C)
70 GOTO 90
80 C=PPOINT(X,Y)
90 GOSUB 1000 'OR 1030 FOR CIRCLE
100 PSET(X+Z,Y,C) ' PLOT THE SECOND POINT
110 NEXT Y,X
120 IF INKEY$="" THEN 120 :ELSE END
1000 'RECTANGLE
1010 IF (X>65 AND X<165) AND (Y>60 AND Y<130) THEN Z=FRONT :ELSE Z=BACK
1020 RETURN
1030 'OR TRY A CIRCLE
1040 X^2 + Y^2=RADIUS^2
1050 IF (X-128)^2+(Y-96) < 30^2 THEN Z=FRONT :ELSE Z=BACK
1060 RETURN

```

MORE BOOKS REVISITED. . . R.A.D.

Games for your Dragon by Clive Gifford. Published by Virgin Books 1983. £3. 125 pages containing 22 listings, mainly complete games. Nearly all the programmes are old favourites dressed in other clothes, such as a moon lander renamed Mission Apollo, Invaders taking place as a brainstorm and named Beat the Blues, Nim now called Pandora's Box, and so on. The author was a 17 year old studying for A levels and was helped by several contributors, with much reference to U.S.A. publications. There is a glossary of computer terms included, I should think, to fill space, rather than assist the user of the book. Most of the listings are quite short, some of them less than a page long, and easy to enter.

Tandy Orchestra-90 CC. Chris Jolly

The Orchestra-90 CC is a cartridge that used to be sold by Tandy. It contains two digital-analog converters (DACs) and a program in a ROM. This allows it to produce stereo sound through phono connectors at the rear of the cartridge (mono sound is also available though the monitor speaker). The device was supplied with quite a decent manual. Being Tandy, the cartridge was designed for the CoCo but we all know that the CoCo is virtually the same as the Dragon, so...does it work? The answer is basically yes, with some provisos. If you plug it in and switch on, it will boot straight into the music software. You will find that it works as advertised, BUT all the keys are wrong! This is because the software in the ROM scans the keyboard hardware which is arranged differently on the CoCo and Dragon. If you can work out the corresponding keys you can make it work, but it's slow enough to be unusable. Fortunately, if you have a Dragon 64, there is a software solution to this. By copying the cartridge's ROM into RAM on the 64, it is possible to patch the keyboard routines. The only difficulty then is persuading the cartridge to use the RAM routines rather than the ROM. This is hard because when you switch the machine on it boots straight into the ROM code. The only solution is to disable the auto boot and unfortunately this requires a very minor modification to the cartridge: the line on the connector that tells the Dragon there is a cartridge in the slot has to be cut. To do this, turn the cartridge upside down with the connector away from you (and the phono sockets towards you). The track you need to cut is the forth from the left. Carefully cut the track that leads from the connector inside the case just behind the connector, using a small sharp knife. You can now replace the cartridge, switch the machine on, and check that it does not auto boot the music software - if it does, you have not cut all the way through the track. Now load the patched software from tape (CLOADM) and run it (EXEC). The system should now work exactly as described in the manual, and you should be synthesising stereo music in no time at all!. Since the software patches are quite involved, I have not attempted to explain how to do them, but if anyone wants a copy of the patched software you can send me a tape (not disk) and return postage.

New year, Old cobblers...

I think I can see a glimmer of hope for Dragon users during 1995, and it's thanks to our friends at Sega and Nintendo. We all know that these two, shortly to be accompanied by Sony with their PlayStation [trademark], are developing or releasing new consoles or add-ons to old consoles in an attempt to con the unfortunate parents of hyperactively annoying brats out of vast wadges of cash for a collection of not-very-good games, yes? Well, if we take a look at the actual NAMES of these consoles, we see some interesting parallells with our own beloved machine. But How Do We Do That?. Well, Sega's have attempted to give their now-aging Mega Drive a shot in the arm by releasing a 32-bit processor add on so that it can play faster/better/more expensive games. What is this add-on called? It's called the 32X., or put together with the Mega Drive it's known as the Mega 32. And Nintendo, trying to keep up with Sega in the new machine department, are promising a 1995 release for their replacement for the SNES. And it's name? That's right, it's called the Ultra 64. So, thanks to the two console giants, we Dragon users can proclaim own ownership with pride. How Do We Do That? Well, it's very simple. If you're unfortunate enough to be surrounded by the aforementioned brats, who seem intent on gossiping about the latest games for their system, you can join in with the proud boast that you own a "32" or a "64", whichever is applicable. This works best if you own a Dragon 64, as you can say that you've had a "64" for ages, despite the protests of your young audience that Nintendo haven't even released it in the UK yet. Clever, eh? thanks to Nintendo, you now own a 64-bit super computer, much to the chagrin of the spotty know-all kids who ought to be at school anyway. Who said the Dragon was dead?.
Stephen.

SOFTWARE SEARCH (4) . MIKE STOTT.

S.C.Farnell, 3,Bradley Avenue, Benfleet, Essex.SS7-3AG, has written to me as he wants to find a copy of Basic42 for DragonDOS V1.0 (64K). He also requires the ICON, DOS, and possibly the SPOOL utility if it is available. In his letter he stresses that he needs the instructions for the above as well as the programs. Can anyone help with this?. I have seen a few of the above items at Shows, but they are no longer on sale new. If this article doesn't get you a response within a few weeks please phone me sometimes as I MAY be able to give you some help with your search for some if not all of the items.

**** Sutcliffe Electronics can almost certainly assist re the actual Basic42 and manuals, but I don't know about the utilities. Paul Grade.*

Old Paul's Predictions (1995)

This being the first Update of 1995, I thought I ought to blow the dust off Ye Olde Crystal VDU and come up with a prediction or two for this year ... after all, everyone else does it, so why shouldn't I?.

1995 will be a unique year, being the only one ever to fall between 1994 and 1996, and this will almost certainly lead to some equally unique developments in the field of High Technology (that's the one full of organic silage). Intel will release the successor to the Pentium (the one that seasonally adjusts all your calculations); this will be the Decium 801086 FTL, which will be twice as bugged as the Pentium, of course, and have a faster than light processor speed which means that it will be able to run your software before it is written and then disappear up its own ZIF socket in a cloud of green smoke. Traffic cones will be discovered all along the Information Superhighway, reducing all data to single bytes, and Fax jams will tail back for miles in all directions. There will be an exciting new breakthrough in Virtually Reality systems, a new one being devised that needs NO computer at all the user will simply walk outside and look around!. Reviewers who have already tried the prototype of this version tell me that the graphics are excellent, but that the effect is spoiled by the rather boring background settings. Yamahondabishi (UK) will develop the ultimate in Environmentally Friendly Vehicles ... a car with no engine, square wheels, and the windscreen replaced by a picture of a lorry tailgate, which will mean that M25 users can still go nowhere, but without having to leave the comfort of their own driveway. California will finally have the big earth-quake that they've been expecting for years, causing the entire State to break away from the mainland of America. It will then be intercepted to units of the Japanese Navy and towed to Osaka Bay where it will be used as a Fun Park ("Silicone Valley" should be good for a laugh if nothing else!). Disney Corporation will sue. Medical science will make astounding progress as well, with the successful transplanting of chicken brains into the heads of politicians, thus more than doubling their intelligence levels. There will be mass protests by the Animal Liberation Front who will demand that politicians should be only be kept under free range conditions. British Rail Plc will release details of their new High Speed Train ... this will have a revolutionary new power unit consisting of a long, cranked shaft which will run the entire length of the train, and will be connected to the drive wheels by means of simple belt and pulley arrangement, and passengers will be able to control the speed of the train by turning the crank faster or slower as desired. This system will have many advantages, providing healthy exercise for commuters, a total saving on fuel costs, less pollution, and of course enable substantial cuts in staffing, only one overseer (with whip) being required per train. Socially, there will be the usual crop of scandals, of course; it will be revealed that John Major is really Maggie Thatcher in drag (you didn't REALLY think she'd quit that easily, did you?), The Sun will reveal The Inside Story about Prince Andrew and Andrew Lloyd Webber, several members of the Cabinet will be caught on video propositioning rent boys in the Westminster area, and claim that they were only trying to improve the employment figures by offering "rewarding positions in the City". In other words no change. More next year.

Paul G.

MIDI - ANOTHER STEP... Ken Grade.

Ian Jones' advertisement in the last issue of Update announcing the release of his own Midi interface has prompted me to write a little more on the subject. I think most people have a loose and woolly idea of what "Midi" is and what it can do.

I'm not going to write a definitive guide to what it is - there are several of those around already - but there are a couple of misconceptions which ought to be dealt with. I was very skeptical about the need or benefits of sending music as bits of data to and from a computer, then having the instrument connected to said computer "play" the music. After I had used Alfred Knotig's interface with John Payne's Midi program I began to change my view a little.

The use of Midi software or hardware can NOT turn you into a musician, (but it can help you to sound like one.) It can NOT take rubbish in and, with a little doctoring by software, send out beautifully phrased melodious sounds. The story that all pop groups and bands in the last ten years have existed by virtue of their Midi programmers isn't quite true. It is true that crap music will still sound crap, regardless of how it is produced. What MIDI can do is make an electronic keyboard do things which are not possible by using it manually - by playing the keys with one's fingers. For instance my keyboard (a Yamaha PSS 680) is not touch sensitive, has a range of five octaves and only one instrument voice can be used at once in manual operation mode. Using the most recent version of John Payne's Midi software, up to six different instruments can be used at once over a range of seven octaves (the equivalent range to a piano) and with dynamics (the loud and soft bits). This means you can write (or transcribe) a piece for several instruments and have the parts played together or individually. This isn't JUST a gimmick. It is a very useful device for someone learning to write music, or for anyone writing for several instruments and who needs to know how they will sound when played together. (Yes, I'm aware that one should be able to hear these instruments "in your head" when writing for them, but that takes a bit of practice.) The sound of the various instrument voices produced by the average electronic keyboard in the Yamaha/Casio class is not very authentic, to put it mildly.

There is a crude synthesiser facility by which one can alter the sound of an instrument to something approaching the real thing. There is greater scope with the use of a Midi program. The altered voice can then be stored in the keyboard's memory or in software. (This facility hasn't been included in the Forth midi program.) The Midi interface produced by Alfred Knotig was a very basic device - it was driven by two transistors which drew current from one of the Dragon's PIA's. There was no isolation between the keyboard and the computer, which meant it wasn't advisable to leave it connected up when not in use. I found that transfer from Dragon to keyboard could do unpredictable things to the keyboard - sometimes! The keyboard lost some of its rhythm and percussion facilities on one occasion. I know that John Payne modified his interface considerably so that it connected to the printer port, and included an opto-isolator(?) so there wouldn't be feedback between computer and keyboard.

Ian Jones' interface also connects to the printer port, I am told. I haven't got one, but it sounds like it is an improvement over Alfred's. John has already said that his Midi software could be easily adapted to work with Ian's interface. If you are interested in music, computers and keyboards, then there is everything you need to get started. Ian Jones includes some Basic software with his interface, and if you were interested, then perhaps John Payne would modify his Midi package to work with it. As the Midi software includes Forth, the wordprocessor and the Turtle graphics as well, I think it's a giveaway at 6.50. Anyone interested please write to either myself (same address as Paul) or John. Anyone wanting to order the Forth midi send the order to the Group.

The Late, Late Bit

I'm writing this at the end of January February is roughly four hours away ... and so far if there is anything new happening on the computer scene in general, let alone the remains of the Dragon one, then it must be the best kept secret of the century, which leaves me with YOUR usual complaint of "I don't know what to write about"!. The news media is no help either, unless you count IBM's efforts to produce and market an even slower operating system than Microsoft Windows (from all I hear they've succeeded, too!). Other than that there's the news that most of Europe is sinking slowly into the mud, which seems appropriate somehow and should solve a lot of problems for everyone else, but hardly seems to be computer related, and of course the amusing pronouncement by the UN that brats need more rights, protection, etc, etc, which should shortly result in Wayne Scroggs (age eleven and a half) of Chorlton-cum-Hardy demanding that UN send a multi-national peace keeping force to 49 Thatcher Terrace in order to enforce a parental "no-go" area in his bedroom and to ensure his safe passage between there and the fridge the idiots are daft enough to do it too, if they could only work out how to get three Scorpions and an APC through the kitchen door!. What else is there?. Oh yes, there IS one small piece of computer type news owing to earthquake damage in Japan the price of SIMMs (that's RAM chips to anyone other than a PC owner) is "likely to double during the next few weeks" of course, it IS funny how it's always memory chips that get these price increases, there was one a year or so ago when there was supposed to have been a fire at a resin factory "somewhere in Japan" (the prices never came down again, either!), and even funnier when you consider that almost all SIMM chips have "Made in Taiwan" printed all over them I suppose it couldn't possibly have anything to do with the hardware manufacturers trying to take advantage of the fact that the sole aim of software producers appears to be writing programs and systems that need more and more RAM to produce less and less results?. No, of course not!, it must be my nasty, cynical mind playing tricks again. I'm reliably informed by "The Experts" that any machine with less than 16 Meg of RAM and 1.5 Gig of hard drive, and anything slower than a Pentium 80 CPU, is "of no use at all for anything other than simple letter writing" damned if I know how the poor old Dragon 32 manages to cope (or my grossly sub-standard PC, for that matter!). What no-one seems to want to explain, though, is how all those slow, useless machines of a few years (or in some cases months!) ago managed to do exactly the same work that the current over-priced heaps are doing after all, even on the PC scene it isn't all that long since the 286/12 was THE super-fast wonder box that could do everything you could ever need from a business system, and only a few months before that when the 8086 and 8088's were doing precisely the same work, some of them with a mere 256K to play with and an enormous 10 Meg hard drive I've still got an old Apple 2+ around somewhere, all 32K of it, that was the last word in business machines about twelve years ago, as was its CP/M operating system!. OK, I know there has to be progress, although I'm not at all sure that the word "progress" sometimes doesn't have the same meaning as "advance" in the old military phrase "strategic advance to the rear", but if the work remains the same why does a machine that could cope with it quite happily a few months ago suddenly become "useless" just because someone has produced a new magic box that can do the same thing but slower (when loaded down with current OS/software)?. Could it be because the manufacturers know that "there's one born every minute" and they're determined not to miss him?.

Anyway, enough of this cynicism, one should be cheerful, optimistic, full of that legendary "feel-good-factor" stuff that Our Glorious Leaders are peddling (they called it LSD in my day) ... after all, the Economy is Recovering (THEY said so, so it must be true), inflation is down, every Summer is sunny and all Christmases are white (except ethnic ones), your Standard of Living has Never Been Higher, and all is Right with The World so why are you looking so bloody miserable?, Believe! ... you must, because politicians are like fairies, if you don't believe in them they'll just fade away, and you wouldn't want THAT, would you?. Paul.

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