

THE NEWSLETTER OF THE NATIONAL DRAGON USERS GROUP.



DRAGON  
UPDATE



#####  
ISSUE No.24. AUGUST.1986.

#####

CHAIRMAN : Paul Grade, 6,Navarino Road, Worthing, Sussex. Phone:0903-207585.

S/W.Ed.:Neil Scrimgeour, 125 Occupation Road,Corby,Northants.Phone 0536-66590

EDITOR :Tim Lomas. 211a,Amesbury Avenue,London SW2. Telephone 01-674-0327.

%%%

The Gaffer's Bit.....

Two years!. Is that REALLY all it is since I was rash enough to suggest that someone ought to form a Group?...it seems MUCH longer!. Anyway, we're still here, and there's no immediate danger of us going broke, running out of members, or otherwise fading away. Where do we go from here?....Dragon sales aren't exactly breaking any records, and with a few notable exceptions commercial interest is about zero, so presumably numbers will get less....or will they?. The Dragon is still a damned good machine, and every owner who sells his Dragon in favour of the latest all singing all dancing Tokyo/Tiwan magic box makes another Dragon available to someone else....they don't just dematerialise when sold!, so allowing for breakages and other natural disasters, the number of Dragon Users will probably remain constant for a long while yet. Certainly Group numbers aren't sinking, in fact they are still increasing steadily, if slowly, so I don't think there's any need to panic just yet!. Anyway, not much to report this month....the "Copier Fund" is growing slowly....we've around 80.00 at time of writing, so if contributions continue we'll get a replacement yet!. VERY many thanks to all of you who have contributed so far.....it's nice to know you're interested enough in Update to want to help us improve it. Nothing more about the November Show yet...Neil Scrimgeour tells me that we have been promised a stand, but I've heard nothing official about it so far. I had a letter from R.A.Davis last week, and he tells me that he is very pleased with the service provided by Compusense, and has found them most helpful. Nice work Messrs Opyrchal, that's the type of news I LIKE to hear about firms, it's a very welcome change from the complaints that turn up every week. We still need more material for publication...we always do, so please don't think that you need to be a professional writer or programmer or engineer.....if there's anything you think would be interesting to other Dragon owners, just write it down and send it in. OK?.

One last thing....Wayne Smithson is running a newsletter type magazine for Dragon owners, called Dragon Monthly. It is much more into the games side of things than we are, and for those of you who want more in that line than we can spare space for, it would be well worth the subscription (so long as you don't desert us in favour of it, of course!!!!). If you're interested phone Wayne on 0532-551631 for more details.

Well, that's all for this month...thanks for staying with us, we'll be around as long as you want us to be. Paul. *Paul*

THE EDITORIAL BIT.....

Yet again, I'm going to moan, guess what about ?? Right, lack of articles. After my recent pleas, a few people have responded and sent in some, but the majority don't seem to have remembered to post them yet !!! I'm sure you have written them, haven't you? Well, off you go, find a stamp and post it. I can't print what I'm not sent, it's your group, you write the newsletter, after all, who knows better than you what others would like to read?.

OK, that's the end of this month's moan, Thanks to those who have sent me articles, keep it up, and I might even have to find something else to gripe about next month.

*T.L.*



## BAUD WALK . . . . . GARY COXHEAD

This month, I want to tell you about one aspect of communications. This is Cellular Radio (car phones to you), next month will be about Packet Radio. First, Cellular Radio. At present there are two main networks owned by BT/Securicor and Vodaphone (Racal). In order to provide the service and maintain their licence they must expand their systems to cover 90% of the country by 1990. In January 1986 both systems covered the area around London, bounded by M25 and also the areas bounded by the A1 and M1. The Network Providers (as above) must remain at arms length from provision of equipment so that the 3 main companies (Air Call, Securicor and Pye Telecom) presently supply the end user equipment, the cellphones. So what is Cellular Radio? It is so called because service areas are divided into a series of small 'cells', each served by it's own base station. Each one has a low power transmitter and the cell sizes vary from 4 Kms in city areas to 30 Kms in the country. The advantage of this is that radio channels in one cell can be re used in others, provided that they are not adjoining cells. This allows the channels to be used time and time again across the country, and therefore only a limited number of channels are required to cover the whole country without interference. This results in the system being able to support upwards of a quarter of a million subscribers, thus reducing the individual cost per unit. The system adopted is called TACS (Total Access Communications System) and is based on the american AMPS (Advanced Mobile Phone System). However the UK system operates on a 25KHz channel spacing instead of the US 30KHz. A total of 30 MHz has been allocated in the 900MHz band. Boundaries of a cell are not fixed but indicate an area where reception from one base station is better than the next, thus while the set is switched on, it monitors and compares signals from surrounding base stations; so when a phone call is required, the set knows which station to use. This is not necessarily always the nearest one as reception in each area will depend on the local topography, proximity and height of buildings etc. To initiate a call, one simply dials the area code and phone number required as with a normal phone call. The Cellphone and base station do the rest to connect up over the PSTN (Public Switched Telephone Network). All the time the caller is online, the system continues to monitor the strength of the signal between base stations and where necessary can switch this to obtain the strongest signal. So far as other communications are concerned such as modems etc. there are problems. Radio propagation, which is subject to fading and interference has caused high data error rates in earlier systems. This should be minimised in the Cellular system because of the short range and the networks facility and capacity to adjust the field strength to suit each location. In fact, the first modems purpose built for cellular radio are already in use. They use a very complex forward error checking method to prevent corruption, and presently allow users to connect to Telex, Mainframes, Electronic Mail and information services such as Viewdata as they travel around the country. At this time, the system is still in it's infancy but judging by the trends, almost all businessman will soon be unable to manage without one. As for the general public, I think it will be some time before we see the local lad with a cellphone in his car along with the fluffy dice.

### A NOTE FROM NEIL

It has come to my attention that some companies are getting more than one letter requesting a review copy of a program from the NDUG. Now I'm not going to harp on about people keeping programs for themselves again, I don't think that's happening now anyway. The problem arises from the fact that certain companies such as Incentive get annoyed when more than one person is asking on behalf of the Group, and they understandably smell something fishy. It doesn't do the reputation of the NDUG any good either. Therefore, if anyone wants to write to a company asking for a program, will they please contact me first to check that no one else has beaten them to it. . . . . Neil Scrimgeour



After all that POKEing about in memory, I'll try to get back to normal. The first thing I want to mention on this group's second anniversary is another group! The majority of games players on the Dragon concentrate on adventures, which is why I started ASCII corner. As you may be aware, there are lots of adventure clubs springing up all over the place and 2 more have blossomed in Wigan (must be the air up there). These 2 are named Adventure Probe and Adventure Contact and are being run by the same people. Nothing original about that you may think, but they are 2 female people! So that's where all the female computer buffs hide out. Anyway, Adventure Probe is a standard mag offering reviews, solutions etc. Each issue costs 1.00 but the great thing is that you can subscribe for as long as you like, the longer the term, the less the cost. The other mag, Contact is probably the first of it's kind, as it sets out to teach you how to write scenarios & adventures and how to market them. A forum of programming ideas is encouraged and the aim is to gather adventure writers together to allow the bouncing around of ideas and programming skills to help others. It's not machine specific (it doesn't need to be) so Dragon users or any others are most welcome and encouraged to contribute! Yours truly has subscribed and so have a few NDUG members so you won't be on your own. What's the cost? well each issue cost 50p and as above you can subscribe for as long as you like although there's no drop in price, understandably. Both of these clubs are being run in the same way as the NDUG (ie non profit making) and rely solely on the contributions of others. If you are interested then write to: Pat Winstanley, 13 Hollinton Way, Wigan WN3 6LS, enclosing a large SAE if it's just an en

I heard through the grapevine that Eclipse Fenmar who produced that mega Elite game, Total Eclipse have gone bust. Now, remember that this is only a strong rumour but no-one can get hold of them and orders are not being despatched so it seems like a case of Dragon Data disease. Of course this means we got caught out with last month's review of the game but at the time of the review being prepared these rumours had not surfaced so we were just unlucky. If anyone hears that they are still around, let me know. Another problem brought to my attention by Heather Ellis concerns Input, the weekly mag. Heather had typed in a listing from the mag, issue 36 page 1137 which was a nifty animation sequence. On running the prog on her 64, a function call error was churned out on line 151, the problem being that there shouldn't have been one. She sent it to me to find out what was wrong. It worked perfectly on my 32! So for those of you with a 64 who have been going crazy over this problem, there's not much you can do, it seems to be one of those programs which should work on a 64 but won't. As most of you know, even in 32 mode, the 64 isn't EXACTLY the same as a 32. I think the problem lies with the fact that the program uses 15 pages of graphics which take up most of the memory, but don't ask me why that should cause a problem. If anyone out there manages to get that program working then PLEASE tell me.

A last plea is from David Swift, in Mystery of the Java Star, he's found the wreck etc. etc. but he can't find the ruby. As this is the point of the game, it would be useful, can anyone help him? If so, please contact me ASAP. Thanks.

### DANGER!, MORON AT LARGE!.

As you all know, the Group isn't here to make a profit for anyone, and in fact things are costed VERY tightly. In order to avoid raising subscription fees, we have to "do a few deals", which on average make us about a pound per item....hardly a fortune, I'm sure you'll agree. Now some members, Bob Hall, John Payne, John Cox, and a few others, have been generous enough to allow the Group to market work that they have done, and thus give members (YOU) the benefit of that work, and the Group a little cash help. Just what you'd expect from people who are interested in the Dragon and in keeping the Group going, isn't it?..... but it seems that a couple of you don't agree. During the past few weeks I have been informed that at least two Members have been offering copies of John Payne's FORTH, and John Cox's Disc Utility to various friends. Very clever of you to manage to copy an unprotected disc, however did someone of such limited intelligence manage it?!. I'm sure we're all impressed with your technical expertise. It takes a real genius to pay money to join a Group and then try to foul up its income. Well, I have news for you. If I hear of even ONE more "copy" I'll print your names and addresses in the following Update....I'm sure other members will be keen to contact you, especially those who wrote the material concerned. OK?. Play dirty with me and you'd better take lessons.....I'm not having this Group or the rest of it's members messed around by selfish idiots like you. As we've stated before, ALL material published in Update may be copied by any Group or individual who has a use for it, but this obviously does not apply to software bought or sold through Group advertisements. Paul Grade.



Up the Drive.....Paul G.

Those of you who know all there is to know about drive systems can talk amongst yourselves for a while, because this is being written in response to all those people who have asked for a SIMPLE description of what a disc system actually is, and what it does, etc.

What IS a disc system?...well, you could think of it as a super-fast tape recorder, which loads and saves in fractions of a second rather than fractions of an hour, but really it's a lot more than that because in the case of the Dragon systems (all of them) it also gives you the ability to call in a file AT ONCE, rather than spending half the evening running through a C64 trying to locate the data file you want to load in. A drive merely looks at its directory for the location of the file, goes there and reads it straight in. Additionally, a disc system gives you a lot of new BASIC commands that you can use, things like WAIT, which saves a lot of FOR-NEXT loops, AUTO, which puts up new line numbers automatically, COPY, to copy a file or program, BACKUP, to copy a complete disc, CHAIN, MERGE, and a lot more, all of which make life much easier when programming!.

So what does a system consist of?...well, to start at the Dragon end, a DOS cartridge. Now some inferior computers, such as IBM, BBC, etc, have their DOS actually on a disc, which is a pretty feeble way of doing things!. The Dragons use a cartridge, which naturally enough plugs into the cartridge port (where else?!), and which contains a very expensive controller chip, which is the one that actually switches the drives from one mode to another, and a cheap and nasty EPROM, (either a 2764 or 27128), which contains all the actual command instructions and tells the controller chip what to do. There is a handful of additional circuitry in the cartridge, of course, but that isn't really relevant. The cartridge is connected by a length of 34 way ribbon cable to the drive unit or units, and these are the next point of interest. A Dragon DOS cartridge can handle up to FOUR drives, and these can be ANY mixture of makes and sizes.....3", 3.5", 5.25", (or even 8" if they are "floppies"), 40 or 80 track, single or double sided. What's all that mean?...well, the sizes are self-explanatory, they're the diameter of the discs, and most people use 5.25" as these are both the "standard" for commercial software and also the cheapest!. Tracks?...it's a bit like the difference between an LP and an EP record...more tracks per inch means that you can get more data onto the disc, but as most software is in 40 track format, and 40 track drives are much cheaper than 80 track, these are the most common. Single or double sided?...simply means that a single sided drive has only one "head", and so can only use one side of a disc, while a double sided has two and can use both sides, although a double sided drive defaults to single, so can still read discs written on a single sided unit, but a single can't read discs written in double sided format.

The drive units do NOT draw any power from the Dragon, they use their own supply from the mains which is taken via a transformer/rectifier PSU down to 12-0-5 volts. Dragon Data drive units came in a case with a TWIN power supply already fitted, so using two drives was simply a matter of connecting the second one up to the "spare" plugs provided, but most drives are either supplied with a single power supply, or as with "uncased" drives, no power supply at all. Not that this is really a difficult problem, as a PSU is simple to construct or reasonably cheap to buy.

One other point that is worth mentioning is that with the exception of early DELTA DOS cartridges, ALL Dragon DOS units are DOUBLE DENSITY format, and require a double density drive, although these are virtually standard now. What DOS should you get?...I don't really know. Personally I use a Dragon Data V1.0 on my main machine, and a Peter Williams modified V1.0 on my number two machine, and I think these are the most reliable and least temperamental of the lot. There are several others, of course, the rather rough Eurohard V4.0 which is all in Spanish and suffers from the odd bug or two (or should that be Spanish Flea?!), or Peter Williams' translated and improved version of the

5  
Eurohard 4.1, which is MUCH better. Then there are the Cumana versions, which are similar to Dragon Data versions BUT NOT 100% compatible, and although having the occasional bug in their file handling routines, have the advantage of a "tape to disc" and "disc to tape" routine written in, although before you rush out to order one I have to warn you that this does NOT cope with most of the commercial games programs very well!. There's a new arrival from PNP, which is 30.00 cheaper than the others, and is claimed to be 100% compatible with Dragon Data DOS, although I haven't actually met one of these yet so I can't write from experience. If the claims are correct, then it is certainly a "best buy"!. Other than that, there are the DELTA versions, and these consist of the "early" type, which are single density ONLY, and the later ones which are double density, but they are NOT compatible with any of the others, and are different in every respect....you either love 'em or hate 'em, and I have to admit that I'm NOT an admirer!. There is also the problem that since Premier went missing there has been NO software produced in DELTA format, which is rather limiting.

One point that ought to be cleared up, as it seems to cause a lot of confusion, is that DELTA IS NOT CUMANA!! Cumana manufactured the DELTA unit for Premier Microsystems, but never marketed it themselves, and their OWN system, CUMANADOS, is different in every way.

Well, I hope this has answered some of your questions. I KNOW it's probably bored the knickers off all you "Experts", but don't forget that even YOU didn't always know everything!, and a lot of people spend a lot of time writing in to ask the questions this covers. Anyway, I'll write something on the more exotic aspects of disc systems later, so you'll all be able to write in and tell me that I've got it all wrong then....be patient!! Paul.

#### ASCI CORNER . . . . . PAULINE HAMPSON

Vortex Factor from Microdeal has been holding my attention this month. It is a graphic adventure similar in style to Trekboer. The plot predictably consists of storing treasures but don't let that put you off. As in Trekboer, some of the locations occur twice, at different times such as 1967 and 2063. Your mode of travel between time zones is a time machine which must be properly equipped with a full battery. Different coloured cartridges take you to different places. You start in a museum with displays which hold more than they seem to - examine the waxworks. I was soon in trouble with the game, and getting nowhere until I tried closing a few doors and pressing some buttons. The safe is also a problem, you dial three numbers, (why don't they tell you that?), after reading a valuable document. the game was of the high standard you expect from Microdeal, full of problems and very interesting. Once I had finished Vortex Factor, I got hooked on Madness & the Minotaur again. I have finally got the map sorted out and can get my first spell, thanks to Simon, Barry and a few others. I have also discovered that the save and load method I described ages ago is no use, you loose objects or the game crashes. Now I or my Dragon will have to stay up all night, I wonder if I can afford the electricity? or if my faithful machine will blow it's chips? Is it worth it?

#### Printer Prompt II . . . . . Neil Markwick .

This is a very useful program if you are continually typing out short letters and lists. The program is written in BASIC, but has a machine code "autorun" sequence. Once the program has been loaded it begins by asking if the machine takes the "speed-up" poke, and after this has been answered it then asks if you need instructions....A wise answer would be "YES!". The instructions contain five or six spelling errors, which can make things a little confusing, but it is menu driven, and gives you the choice of the following options: Normal width type; Double width type; Change characters per line, and Clear text screen. The program is fairly well written, but it has a rather "larty" character set which I personally think is a dreadful waste of memory!. The program is written by Andrew Hill, and artwork is by Ian Harvard. Price?...5.50, or 4.50 to Group Members. All instructions are contained within the program, and personally I think the price is a bit steep....possibly 3.50 would be more appropriate. One point that I forgot to mention is that once you have typed in a sentence it is immediately dumped to printer, so be sure that you haven't made any mistakes as there is NO edit facility....once you've keyed ENTER there's no going back!. The program is suitable for any 32 or 64 and printer, and I rate this program 5 out of 10 due to the awful character set and the spelling errors which ought to have been sorted out before the program was offered for sale, but other than that it is quite a good program. Congratulations Dragonfire Software!.

# CROSSWORD No. 14

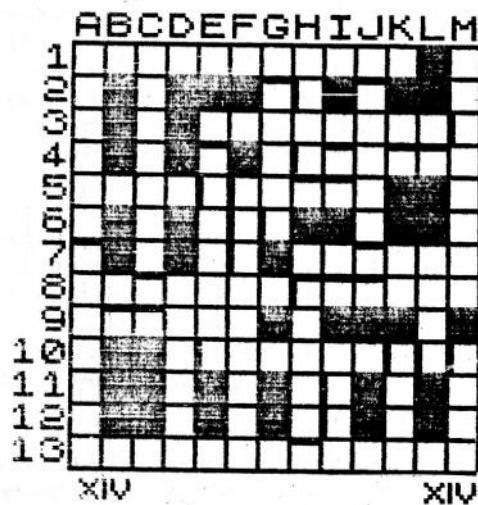
6.

Across:-

1A)Graphics pad 3E)Mix aroma and get a famous ball player 4H & 8H)Dragon game written by M1 5A)Dry parched or barren 5F)Wizard of ... 7H)Salad fruit 8A)Highly contagious disease 8H)see 4H 9A)Sunday after Good Friday 10E)A short sleep 13A)This statement may not be true but Update readers should agree (ADEGKLNORRSU anag)

Down:-

A1)Wooden horse or light pen A7 & K10)Level 9 adventure (sounds Irish to me) C1)A useful program D8)Thick thread E4)Unless grasped firmly these may sting F5)A certain part of the day G2)Restrain motion H1)Injure with a dagger H8 & L7)Adams adventure I10)A member of the S.African Bantu tribe J2)Muppet character K10)see A7 L7)see H8 M1)Producer of new Dragon newsletter M10)Slang for judge or magistrate



## BUILD YOUR OWN KEYPAD .. R.J.ROLPH

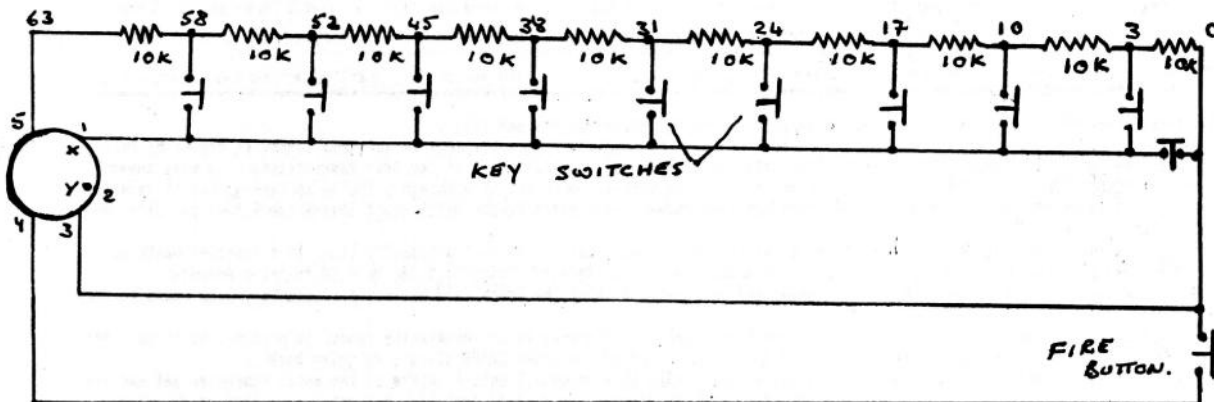
When our local computer club was asked to help the handicapped in anyway it could, one became aware of the problems they face. They can suffer from the lack of or erratic movement in arms or hands. The idea was to duplicate some of the keys ie the arrows so that they could be moved closer together and made a lot larger, without using the bus! By using a chain of resistors instead of a potentiometer on the joystick port and a jumper wire or switches, set values are returned.

10 x 10K Values :- 0,3,10,17,24,31,38,45,52,58,63

12 x 8.2K Values :- 0,2,8,13,19,25,31,37,42,48,54,60,63

I have used a small conductive rubber keypad in the prototype as this has a resistance of <500 ohms, it can give problems (ie 7 instead of 8, 14 instead of 13). This can be overcome by good programming or different keys. The other problem is to return to the default value of 63 quickly enough to be used as a hexadecimal keyboard. This idea only cost just over 5.00 (1.00 without the keyboard using jumper wire). What about the Y channel you ask? Well, that's up to you to experiment.

VALUES RETURNED BY EACH KEY.



M/C GRAPHICS FOR BEGINNERS . JOHN MARTIN

As promised last time, here is my program to produce a 4 by 3 byte colour spaceship.

```

LDA #$E0          CMPX #1614
STA $FF22         BNE LOOP1
STA $FFC3         RTS
STA $FFC5         STORE FCB 0,%00001010,%00001010,0
LDX #1358         FCB 0,%00001010,%00001010,0
LDY #STORE        FCB %00001010,%10101010,%10101010,%10100000
LOOP1 LDA #4       FCB %00001010,%10101010,%10101010,%10100000
LOOP2 LDB ,Y+      FCB %10101010,%10101010,%10101010,%10101010
        STB ,X+      FCB %10101000,%00101001,%01101011,%11101010
        DECA        FCB %10101000,%00101001,%01101011,%11101010
        BNE LOOP2    FCB %10101010,%10101010,%10101010,%10101010
        LEAX 28,X

```

Unfortunately, this is going to be the last article in this series for a while. The truth is that I need a break from computers before my head explodes. However the last year or so should be enough for you to start writing your own simple games. You should now understand sound, keyboard response and be able to use all PMODEs using graphics.

Some tips about writing your own games:-

- 1- Start with simple problems which are not beyond you and let your knowledge grow with experience.
- 2- Always use flowcharts, you should always be certain of the order problems should be tackled before tackling them.
- 3- It may be easier for people with a good knowledge of Basic to write your routines in Basic and convert to M/C
- 4- When writing a long program, use different subroutines for each problem. (ie move ship, print ship, move aliens etc) and write each subroutine in turn. Have a go, if there is a particular problem on which you are completely stuck then contact me and I'll be happy to help. If there is a show in November, come and say hello at the Incentive stand.

DUMPER (MACGOWAN) . . . . BARRY CARUTH

Dumper is a utility which has been on the market since late 1985. The whole purpose of the program is to give complete (almost) flexibility in the format of hi res graphic screen dumps. The program is loaded by a Basic program and can be saved to tape or disc. It works in 32 and 64 modes on a 64 and is completely relocatable. Once you have created and saved your customised copy, you are free to use it from Basic or M/C, a typical program to use Dumper would be:-

```

10 CLEAR 200,&H7AFE:DEFUSR0=&H7B00:PMODE4,1:SCREEN1,1
20 CLOADM"DUMPER":CLOADM"SCREEN"
30 X$="LM30RM0SC1EC32SL1EL24SDDI-C1LF0H":X=USR00(X$)

```

Line 10 reserves space for Dumper and 2 spare bytes which it uses (the actual program starts at \$7B00), sets up the entry address and the screen. Then the code and screen are loaded in 20 and the features of Dumper are set up in 30. These require some explanation. LM and RM set the printer margins, left & right, SC and EC set the start and end columns on the screen (the hi res screen is divided into a 32 x 23 grid which means that parts of the screen can be dumped, a very useful feature). The same applies to SL and EL for lines on the screen. S stands for size (1,2,4 or 8). These sizes range from 5.5 x 6.5 cms to massive dumps bigger than a full page. Sizes 1 and 2 are the most useful, 2 being double the size of 1. I- means invert off, I+ would be invert on. DD is double density and DN is normal. C1 means print one copy only (254 max). LF0 means no line feed after each copy and has a max value of 254 lines,





it can be replaced with F which is form feed. H makes the print horizontal, as on the screen, V turns it on it's side. To save time typing this in, you can just put X\$="X" which stands for "LM4RM4SC1EC32SL1EL24S1DNI-C1LF0H". The final bit starts the printout (64 users miss out one of the zeros). If you have any errors in the string it reports TM error. Various reasons for the errors are listed in the instructions and notes are given for use in Machine Code. In summary, the program is the best I have seen for this purpose and allows you to manipulate the printout to nearly any standard you wish. At 5.50 inc postage it may seem expensive but it is well worth it. Macgowan have just released a similar program which does shading for each colour in PMODE3, although this is more expensive. Note that the price may vary for different printers, there are 83 versions available at last count, phone them if you want to check that there's a version for your printer.

## MEMORY TO DATA . . . . . PHIL GOODSHIP

The following program will transfer the contents of specified memory blocks into DATA statements within the program. You must ensure that sufficient data statements are available, each consisting of 2 '#' characters.

```

10 DATA ##,##,##,##,##,##,##,##,##,##,##,##,##,##,##
20 DATA ##,##,##,##,##,##,##,##,##,##,##,##,##,##,##
1000 REM
1010 DATA ###:REM * DATA CHECK STOP *
1020 REM PROGRAM ONE
5000 REM ** PUT ANY CLEAR OR PCLEAR STATEMENTS HERE **
5010 REM
6000 Y=PEEK(25)*256+PEEK(26)+6:L=0
6010 IF PEEK(Y-2)<>134 THEN CLS8:PRINT"error ! PROGRAM MUST START WITH DATA STA
TEMENTS!!":PRINTSTRING$(32,140):SOUND 1,5:LIST -10:END
6020 REM
6030 X=0:B$=CHR$(128):CLS0:PRINT@41,"MEMORY TO DATA":PRINT@202,"PLEASE";B$;"WAI
T";
6040 READA$:IF A$<>"###" THEN X=X+1:GOTO6040
6050 PRINT@102,"MAXIMUM BYTES";X;
6060 SOUND 253,1:PRINT@198,:INPUT "START ADDRESS";A$:PRINT@202,STRING$(6,B$);S
=INT(VAL(A$))
6070 SOUND253,1:PRINT@198,:INPUT "END ADDRESS";A$:PRINT@218,STRING$(7,B$);E=IN
T(VAL(A$)):IF E-S>X-1 OR E<S THEN PRINT@423,USING"ERROR>+#### BYTES";1+(2*(E<S))
+E-S-X-(E<S)*X:PRINT@441,STRING$(7,B$);FOR D=1 TO 15:PLAY"T80;01;DDDDDD;P1":NEXT
:GOTO6060
6080 PRINT@423,STRING$(3,B$);"please";B$;"wait";STRING$(5,B$);
6090 REM
6100 FORX=S TO E:A$=HEX$(PEEK(X)):IF LEN(A$)=1 THEN A$="0"+A$
6110 'A$="//"
6120 IF PEEK(Y-1)=134 AND PEEK(Y-1)<>32 THEN CLS4:PRINT@192,"error! NO SPACE AFT
ER 'DATA' IN LINE ";L:END
6130 IF PEEK(Y+2)<>44 AND PEEK(Y+2)<>0 THEN CLS4:ZPRINT@192,"error! DATA ERROR I
N LINE ";L:END
6140 FORP=0 TO 1:A(P)=ASC(MID$(A$,P+1,1)):POKEY+P,A(P):NEXT
6150 Y=Y+3:IF PEEK(Y-1)=0 AND X<E THEN Y=Y+6:L=L+10:IF PEEK(Y-2)<>134 THEN CLS4
:PRINT@192"error! LINE ";L;" IS NOT A DATA LINE":END6160 NEXT
6170 CLS0:PRINT1+E-S;" BYTES FROM ";S;" TO ";E:PRINT@64,"STORED AS HEX DATA FRO
M LINE 10":IF L>10 THEN PRINT" TO LINE ";L
6180 SOUND 250,1:PRINTSTRING$(32,140):LIST10:END

```





## GRAPHICS (2) . . . . . R.A.DAVIS

When you have entered lines 100-480 (see part one), the making of a mirror image is not difficult. First you can make another copy of your graphic person with:-

```
490 PUT(100,100)-(111,132),A,PSET
```

placing him more or less at centre screen. Then copy the one at top left, but make it a back to back copy.

```
500 F=0
```

```
510 FOR Y=0 TO 32: FOR X=24 TO 13 STEP -1
```

```
520 IF F=12 THEN F=0
```

```
530 P=PPOINT(X,Y)
```

```
540 PSET(F,Y,P)
```

```
550 F=F+1
```

```
560 NEXT X,Y
```

you can then GET the image drawing at the same co ordinates as the original:-

```
570 GET(0,0)-(11,32),R,G
```

but of course you need a DIM of 9 for this as well, so edit line 450 to 450 DIM A(9),R(9) first. then:-

```
580 PCLS and PUT the image.
```

```
590 PUT(100,100)-(111,132),R,PSET
```

```
600 FOR D=1 TO 200:N
```

EXT and

```
610 PUT(100,100)-(111,132),A,PSET
```

Line 600 is a short delay. To keep the screen type in line 1000 GOTO 1000.

Using these 2 pictures, it is easy to make a front and back view. We use the left half of the A graphic and the right half of the R graphic, with a few PSETs to put in the odd details such as eyes, legs and hair. You need to prepare for these with more DIMs, so edit line 450 again to 450

DIM(A(9),R(9),F(9),B(9)) as the coordinates for all drawings are the same. Part three will show you how to do this and use all four for a little animation.

## A REPLY FROM DRAGON USER

It costs Dragon Update nothing to criticize Dragon User's subs dept. or reviewers, you see very little of this kind of abuse in Pro.mags as we have to deal in hard information, not conjecture. You have every right to deal with legitimate complaints, but I don't think it does your your image as a serious info exchange any good to resort to fanzine type mudslinging.....

Dragon User has recently taken its subs list out of the hands of an agency and brought it in house. During the change, a number of readers didn't receive the June issue, some got June early and no May, these we are dealing with as they contact us.

.... The best way for anyone with a query to do is WRITE to us, not phone, a letter is easier to pass around and process than a note made from a phone call.

Neil Scrimgeour said that 'Sunshine have never been keen on the Dragon', no personal reflection on Neil but he obviously doesn't know very much about magazine publishing & distribution. If Sunshine had some personal grudge against the Dragon, there would be no Dragon User, they have gone to contortionist lengths to keep DU viable in the face of declining commercial markets...

I think that you should be encouraging Dragon User, not tempting people to turn their backs without another thought. We haven't gone mail order for fun. It makes more work for our staff.... but it does enable us to cost the production very closely.

I'm sorry about the ex readers who can't afford to subscribe, we are going to take steps to ensure that people can obtain back issues...

If you know of any instances where one of our reviewers has been unwontedly favourable to a software company, please let me know and I will look into it.

Helen Armstrong, Editor, Dragon User, 12/13 Little Newport St. London WC2.

IMPROVED DIR & MORE ... MARTIN VERMEER

In response to the program in Update Nov 85 to improve the directory listing, the following program does the same job and more in a more satisfactory way. The program has the following facilities:-  
 Anything that writes to the screen (ie DIR, LIST etc) pauses at the lower edge of the screen until a keypress.  
 The edit command is enhanced with 2 additional commands: Tab acts as 8<space> and is obtained by pressing <right arrow>: Linefeed acts as 32<space> and is obtained by pressing <down arrow>. This allows rapid cursor positioning.  
 The 'bug' in the keyboard scan routine has been fixed to improve response.  
 The <break> key functions as a control key, pressing it freezes the cursor after which you may enter the key to be converted to a control code.  
 <break><shift>^ exits the program. <break><break> acts as ^C (esc), <break>L like <clear> etc. The operating system intercepts most codes, the intention was at a later date to add a translation routine to give a keyword system.  
 This program is position independant and is compatible with disc drives, after exiting the program you should perform a cold boot.

```
10 CLEAR500,32000
20 P=32001:P1=P:' POSITION OF CODE
30 READ A$:IF A$<>"*" THEN POKE P, VAL("&H"+A$):P=P+1:GOTO30
40 EXECPI:STOP
1000 DATA 30,8D,00,2F,BF,01,6B,86,7E,B7,01,6A,BE,01,68
1010 DATA AF,8D,00,9B,B6,01,67,A7,8D,00,93,30,8D,00,78
1020 DATA BF,01,68,86,7E,B7,01,67,39,86,39,B7,01,6A,B7
1030 DATA 01,67,4F,16,00,4D,7D,00,6F,26,4C,34,36,86,7F
1040 DATA B7,01,51,6D,8D,00,52,26,03,BD,80,09,35,02,1C
1050 DATA FE,BD,80,06,4D,27,0E,C6,60,E7,9F,00,88,81,0A
1060 DATA 27,12,81,09,27,16,6D,8D,00,31,27,16,6A,8D,00
1070 DATA 2B,86,20,20,12,C6,20,E7,8D,00,21,20,0A,C6,08
1080 DATA E7,8D,00,19,81,03,27,05,35,34,32,62,39,BD,80
1090 DATA 06,4D,27,FA,81,5F,10,27,FF,96,84,1F,20,EB,00
1100 DATA 34,16,BE,00,88,8C,05,E0,2D,0B,BD,80,09,BD,80
1110 DATA 06,27,F8,BD,BA,77,35,16,7E,D9,17,FF,*
```

CASSETTE TO DISC GAMES TRANSFERS

To transfer Microdeal's Devil Assault to disc.  
 Switch off the power, plug in the DOS and switch the power back on. Place the cassette in the recorder and CLOADM",2000. This will prevent it from auto running. POKE 16201,224, this gives PMODE3 graphics. POKE 9853,127: POKE 9854,255: POKE 9855,72.  
 SAVE"D1.BIN",9853,18680,78530  
 LOAD"D1.BIN",7853: SAVE"DEVIL.BIN",7853,16680,7853.  
 You will now be able to RUN"DEVIL.BIN" from disc. The POKEs now combined at the beginning of the program will stop the disc from running on.

To convert Danger Ranger (Microdeal) to disc.  
 Switch off power, plug in DOS and switch the power back on. Place the cassette in the recorder and CLOADM",2000, this prevents it auto running.  
 POKE 12539,224, this give PMODE3 graphics. POKE9197,127: POKE9198,255: POKE9199,72. SAVE"R1.BIN",9197,18692,7197  
 LOAD"R1.BIN",7197: SAVE"RANGER.BIN",7197,16692,7197  
 You will now be able to RUN"RANGER.BIN" from disc, the pokes will stop the drive running on.

# 11.

## REDUNDANT INFORMATION DEPARTMENT

Exec 34091 is the well know 'Wait for keypress', but did you know that the key pressed is apparently loaded into the A register and can be read? ie. 10  
EXEC34091: I\$=INKEY\$:PRINT I\$, you can't do this with EXEC41194

To alter the disc drive number from within a program, POKE the drive default location (\$60) with the drive number.

The reason it is necessary to do this is that the DRIVE command cannot be used withing a Basic program.

Now, this is true for most Dragons but my 64 accepts the DRIVE command in a Basic program, no one else I know is able to do this so try 10 DRIVE2, if this causes an error then you will have to POKE&H60,2, if it works, you are one of the lucky few.

## A SIMPLE PIXEL EDITOR .....R.A.DAVIS

I needed a simple method of generating the data to use with Sprite Magic's brilliant routines, the result is this listing, which while not as versatile as Pixel Editor, is simple and quick. It gives a printout of the data needed to make the sprites.

It allows you to make a sprite of 8 pixels width (one byte), in PMODE 3 or 4, as deep as you choose. It will then GET the sprite and show it at screen centre, you press '0' to print the data to screen (and printer if you chose to do so). The DIM needed is calculated and shown, also the parameters to GET, PUT, SGET and SPUT and the routine you will need in your own program to POKE the data in. Should you need to have a wider sprite, design it on graph paper and do each column of 8 pixels in turn. This could have been added to the listing but it would then have been very lengthy. In PMODE3, each colour takes 2 pixels, you will see when you try it out.

```
10 CLS:F=0:N=1:I$=""Q=1
20 INPUT "PRINTER (Y/N) "ICH$
30 IF CH$(ICH$)="N" AND CH$(ICH$)!="Y" THEN 20
40 IF CH$(ICH$)!="Y" THEN 20
50 CLS:PRINT:INPUT"PMODE 3 OR 4 "JN
60 IF N<3 AND N<4 THEN 50
70 INPUT" PCLS=(NUMBER) "JPC
80 INPUT" SCREEN 1,0 OR 1,1 (0/1) "JSC
90 IF SC<0 AND SC<1 THEN 80
100 IF N=3 THEN Q=2
110 PHODEN:PCLSPC:SCREEN1,SC
120 X=0:X1=7
130 INPUT" HOW MANY PIXELS (Y AXIS) "JY:Y1=Y-1
140 FF=1536+(Y1*32):DI=X1*Y1/40
150 IF INT(DI<>)DI THEN DI=INT(DI)+1 ELSE DI=INT(DI)
160 DIM R(DI):FOR Y=0 TO Y1:FORX=0 TO X1 STEP 8
170 PRINT"ROW"JY"PIXEL"JX
180 INPUT "COLOUR"JC
190 PSET(X,Y,C)
200 SCREEN1,SC
210 FORD=1 TO 1000:NEXTD:I$=""
220 IF N=3 THEN 270
230 IF X<7 THEN 300
240 PRINT"IS THIS LINE OK? (Y/N)"
250 I$=INKEY$:IF I$<>"Y" AND I$<>"N" THEN 250
260 IF I$="N" THEN X=0:GOTO170 ELSE 300
270 IF X<6 THEN 300 ELSE PRINT" IS THIS LINE OK? (Y/N)"
280 I$=INKEY$:IF I$<>"Y" AND I$<>"N" THEN 280
290 IF I$="N" THEN X=0:GOTO170
300 NEXT X,Y
```

```
310 SCREEN1,SC
320 GET(0,0)-(X1,Y1),R,0
330 PUT (100,100)-(100+X1,100+Y1),R,PSET
340 I$=INKEY$:IF I$<>"0" THEN 340
350 CLS:F=0:PRINT"DATA"
360 S=1536:GOSUB370:GOTO430
370 P=PEEK(S)
380 IF F=Y-1 THEN PRINTP:GOTO400
390 PRINTP;" "
400 IF Z=1 THEN PRINTN-2,P;" "
410 F=F+1:IF F=Y THEN 450
420 RETURN
430 S=S+32:GOSUB370
440 GOTO430
450 IF Z=1 THEN PRINTN-2," "
460 PRINT224," TO USE THIS DATA:-"
470 PRINT" PUT IN YOUR DATA AS A LINE OF"
480 PRINTY;"NUMBERS, WITH COMMAS THEN"
490 PRINT" FOR L=1536 TO JFF:STEP 32:"
500 PRINT" READD:POKE L,D:NEXT"
510 PRINT" PRESS A KEY"
520 I$=INKEY$:IF I$="" THEN 520
530 PRINT224," YOU NEED A 'DIM' OF (JDI)"
540 PRINT" FOR THIS SIZE AND YOU"
550 PRINT" 'GET' (0,0)-(JX1,JY1)"
560 PRINT" TO PUT IT ELSEWHERE."
570 PRINT" TO SEE THE INSTRUCTIONS AGAIN"
580 PRINT" PRESS A KEY"
590 IF INKEY$="" THEN 590
600 GOTO460
```

## Classified and Special Offers Page.

DragonDOS to OS9 copy utility (DCOPY): Includes Teletype and BASIC conversion filters. 8.00 (usual price 9.95).

OS9 comms. program (COM9): Dual buffers, Xmodem, prompted and unprompted message upload and more!. All direct to/from disc with no missing characters!. Includes source files. Suitable for any OS9 system. 5.00.

J. Shouler, 70, Victoria Road, Parkstone, Poole. BH12-3AE. (#202-722599).

DISC DRIVES: Canon s/s 40 track with case and power supply. Two only available 60.00 each including postage. Dragon lead also available. BROTHER HRS: printer with power supply and cable for Dragon. 50.00 including postage.

H. McDonald, 9, Loxwood Close, Little Common, Bexhill on Sea, Sussex. (#4243-4500).

Dragon 32: boxed & complete with manuals and leads. 35.00 + postage. Also software (tape) for sale or swap including Dream/Dreambug, Petite Pascal, Filmastr, Teleforth, Ring of Darkness, Countdown, Cricklewood, and many others. Richard Hibbler, (#603-619768) or send s.a.e to 9, Beaumont Place, Norwich NR2-2HH.

Dragon 64: complete and in perfect condition. 75.00 inclusive. Paul Grade, Worthing 207585.

Quickshot2's: two available at 8.00 each. Also software including many top titles and cartridges.

Wanted: Swap my Edit+ cartridge for Alldream cartridge.

Write to Ian Rockett, 2, Knowle Road, Burley, Leeds, Yorks. LS4-2PJ.

Edit+ cartridge for sale 6.50. Also Advanced Sound & Graphics book 3.00.

Wanted: DragonDOS version of Sprite Magic. John Davies, #61-485-3478.

EPSON P40 thermal dot matrix printer. New, never used. 60.00 inclusive.

Paul Grade, Worthing 207585.

Answer to AMSAT query: Last known address 94, Herongate Road, Wanstead Park, London E12-5EB.

Tandy TP10 thermal dot matrix printer. 40.00. This is serial input, but a Centronics converter is available for 5.00 extra. Alan Johnson, 23, Ashmole Road, Abingdon, Oxon. (#235-23661).

Touchmaster Touchpad: complete with PSU and interface etc. 30.00 plus postage.

Barry Caruth, 132, Donaghadee Road, Bangor, County Down, N. Ireland.

WANTED: Dragon User Magazine July 1983. Also any issues prior to October 1983. Please state dates and price. Eddie Freeman, 80B, Main Road, Old Buxton, Northampton NN5-6RA.

Triumph Adler daisywheel printers. Up to 100 column. Takes normal A4, fanfold, and roll feed paper. Normal retail price 300.00, for sale at 150.00.

Wayne Smithson, #532-551631. (Print samples arranged).

Shugart 5.25" 40 track S/S disc drives. Full Height uncased. 30.00 plus 3.00 postage.

Same 5.25" 40 track D/S disc drives. Full height uncased. 45.00 plus 3.00 postage.

MPI 5.25" 40/80 track D/S. Cased. 70.00 plus 3.00 postage.

All the above drives are used but working. Some manuals available. Dual 8" disc drives plus PSU. Cased. Untested, condition unknown but probably good hence 25.00 BUYER COLLECTS.

Alan Butler, 16, Barnston Green, Barnston, Great Dunmow, Essex. (#376-4234, evenings after 6. only.).

Dragon 32 Board Sets: Still a few uncased D32's available, but these are likely to be the last at this price. Complete less case tops and believed good working order. 22.50 inclusive. ONLY 40 left, so don't dither too long!

Cheques/orders to the Group, 6, Navarino Road, Worthing Sussex.

OS9 Programs: One only of each. CASH/VAT and STOCK CONTROL. complete with manuals. 20.00 each.

Cheques/orders to the Group, 6, Navarino Road, Worthing Sussex.

FORTH OPERATING SYSTEM: Simply the best there is. Written by John Payne, and available for DragonDOS or Double density DeltaDOS. Available ONLY through the Group. 8.50 inclusive. Orders/cheques to the Group, 6, Navarino Road, Worthing, Sussex.

STICK IT!!!..New Dragon User Group self-adhesive stickers available in two sizes, 2.25"x1.5" or 3.25"x2". Price 10p and 18p each. Include a stamp with your order please.

Orders to Paul Grade, 6, Navarino Road, Worthing, Sussex.

Circuit Sheets: Available for D32 (most variants), D64, Dragon DOS controller, and Cusana DOS controller. All the same price 1.00 each. Cheque/orders to the Group, 6, Navarino Road, Worthing, Sussex.

Dragon Upgrade manual: 32/64 conversion method fully explained so that you can update your 32 yourself without difficulty. Written by Bob Hall and available only through the Group. Price 2.00. Cheque/order to the Group, 6, Navarino Road, Worthing, Sussex.

Delta DOS utility: A m/c utility to copy all BASIC and m/c files from disc to tape in one operation. BASIC listing of loader and Hex dump 1.00 or on cassette for 2.50.

J.C. Russell, 33, Tennyson Avenue, Clevedon, Avon BS21-7UJ. (#272-875528).

OS9 MODEM PROGRAM: Up and downloading of files. Any Baud rate from 50/50 to 9600/9600 (but not multiple rates). Up/Download buffer from 4k to 32k or program will adapt to largest capacity available. All other 6551 options supported. Price 8.00. Please phone Barry Knapp, #932-242800 evenings only.

DRAGONDOS DISC EDITOR: Easy to use. Two operational modes, examine and edit. Will read and edit ANY disc including those written on other systems. Reclaims KILLED files. Accesses and changes files directly on disc. Includes DISCMENU which can be used with any of your own discs. Written by John Cox. Price 6.50 inclusive. Cheque/order to the Group, 6, Navarino Road, Worthing, Sussex.

WANTED AGAIN!!!: Yet another Dragon Data or Cusana DOS cartridge. In condition but must be cheap!. Can you help, please?. Phone Paul on Worthing 207585.

5.25" 40 track SS/DD discs available at 14.50 per box, plus 15% VAT. DS/DD 15.50 plus VAT. 80 track also available. Not the cheapest...we CAN get cheaper ones if you want them...but these ARE good quality, reliable discs. Post free.

Orders/cheques to the Group, 6, Navarino Road, Worthing, Sussex.

Self Adhesive Labels: The ones we use on these envelopes. Single column tractor feed. 3.25 per 500 or 6.00 per 1000. Please add 50p towards postage and packing. Orders/cheque to the Group, 6, Navarino Road, Worthing, Sussex.

Printer Prompt II! Write your letters quickly and easily with this new program. Please send your printer control codes for double and normal width print with your order. Price 4.50 to Group Members. Andrew Hill, 13, Parry Jones Close, Blaina, Gwent NP23-3NH.

DRAGON CLAW INTERFACE: Lucidata are still keeping open their offer to Members. ONLY 20.00 COMPLETE. Lucidata Ltd. PO Box 120, Cambridge CB1-1DG.

DRAGONDOS EPRONS: Your DOS 2764 reborn to 'patched' V1.0 specification, or to Eurohard V4.0 or V4.1, or to PETER WILLIAMS TRANSLATED & DEBUGGED ENGLISH VERSION OF V4.1. Price for any version just 3.50. Computil, 22, Grove Park, Burbage, Hinckley, Leics. LE10-2BJ.

BACKDATE UPDATES: Copies of all earlier Updates available from either John Cox, 3, St. Peters Road, Portslade, Sussex. (#273-422492) or Chris Channing, 63, Churchfield Way, Whittlesey, Peterborough. (#733-208009).