

## NEWSLETTER OF THE DRAGON USERS GROUP

Issue 5

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First off a Happy New Year to all our members. Now down to the nitty-gritty, elsewhere in this edition Paul has a plea for more articles from our members, I can only back him up. You will notice that this edition is a little thinner than the last, this is because I have less to put in it, and if you think that either Paul or myself is going to sit down and write a complete issue every month then you are sadly mistaken.

I know that there are some of you out there with Pascal and C compilers, let's hear about them, I for one am very interested in how they perform as I want to put a high level language on my machine in the near future. Is there anyone out there experimenting with robotics, or who's written a database system, has a set of interesting M/C routines, then we want to hear from you. Thanks to your support in the past this club has got off the ground, now is no time to let it die away through apathy. The same is true of membership, in the new year we need to vastly increase our numbers so go out spread the word, we need more members, at the moment the books are healthy, but they could be better if you do your part.

That's enough exhortations from me, as I said you'll get more later on from Paul. As we enter the new year there are a few hopeful signs, games (specially the Scott Adams adventures and the Mountains of Kett series) are being translated for the Dragon, more serious software is arriving by the month and Eurohard haven't folded yet -while there's life there's hope. As everyone is aware the market for Dragon products is now almost exclusively mail order, but this is not necessarily a bad thing -at least what you get is more or less up to the minute software and not something that's been lying around on a shelf until they saw you coming. All in all the signs are good, there is even talk of another 6809 show in the spring and an 80 column card -long awaited, so lets all hope that it is going to be a bountifull new year for us all.

Fairly early on in the life of the club we were contacted by Maarten Van Wamalen of the Dutch users group. Since then he has been in touch with Paul fairly regularly and one of things that has materialised from this is a set of notes on various conversions one can do to the Dragon. The Dragon Upgrading Manual is by D. De Wilde and it came in the original Dutch I have had it translated but you will have to excuse any slight inconsistencies. Another point is that the information is relatively sparse for anyone who is not an expert and you should not attempt any of these modifications unless you feel sure you are competent, what I hope is that someone will try out these mods, get them working and then write a more comprehensive article for those of us who are not quite so skilled. So here is the first conversion.

### INVERTED VIDEO

By inverted video we mean working on a screen with a black background and green characters. The adaption constitutes an improvement for the eyes which are no longer burdened by the bright green screen. Colours are not affected. The adaption takes about half an hour and you need some wires and a single pole switch.

Method.

OS-02

open up the computer.

drill a hole for the switch.

interrupt PIN 32 of IC12 (MC 6847) by interrupting the link or cutting it and lifting it up.

tie PIN 2 and PIN 3 of IC 31 (SN 7402) together.

connect the middle contact of the switch with a wire to PIN 32 of IC12.

Solder onto the fixed contact of the switch a wire which goes to PIN 1 of IC 31.

Solder onto the other fixed contact of the switch two wires: one to PIN 2 of IC12, the other to PINS 2&3 of IC31.

That's it. Close up the Dragon and away you go. Next month I'll publish a 64k upgrade for any (I hope) 32.

### A MODEM PACKAGE

The modem package provided by Cotswold Computers consists of a Buzzbox modem, an RS232 interface, the driver software and all the various cables needed to link the lot together and get it running. If you have a 64 you have the option of buying a terminal simulator cartridge, giving you the 51 character OS-9 screen instead of the bog-standard 31 character Dragon version, but more of that later.

The modem itself is a commercial box that operates at 300 baud using CCITT tones, this combination is pretty standard in the UK, although there are some bulletin boards that operate on the 1200/75 combination and others that use Bell tones (Prestel can be got on 300 baud in London but I believe that most of the local numbers operate 1200/75). The unit is battery powered, although it can have a mains adaptor plugged in, and this seemed to work very well with no loss of power during the time I used it. The modem is simple to operate; just plug in a line to the RS232 socket at the back (this takes a DIN plug); plug the phone line into a two way adaptor; make a call; switch the unit on and drop the handset. You tend to get some garbage on the screen at first due to the noise of you replacing the handset, but this doesn't last more than four or five characters.

Cotswolds RS232 is a neat cartridge which slots straight into the expansion port, to use it with the modem it is simply a matter of checking that the DIP switches on the top are set to 300 baud and plugging in the cable, the driver software does all the rest. The unit is capable of transmission over the range 50 -19200 baud.

The software that came with the package I tested was Driver 300, Cotswold have brought out an updated version of this called Driver II - the main difference seems to be in the display, a forty column screen and upper and lower case letters. Driver 300 uses the normal Dragon text screen, this is fine for some boards where you can pretend you're a CoCo, but others want a forty column screen and things can end up fairly messy, if readable. The software is menu driven and has three modes: Modem, Memory and Tape. Modem loads the rest of the software in and sets up the machine for sending and receiving text, memory allows you to examine what you've got after the event and tape allows the loading and saving of text on cassette. The software works well, with no loading problems and is easy to use.

The other option, for 64 owners, is to use the inbuilt RS232 and the terminal simulator cartridge. This gives a nice display on the OS-9 screen but doesn't allow any saving of data, either to printer memory or tape. Its biggest drawback however is its price £69.00 -for that you could buy the RS232 interface and Driver software, and still have a tenner left over for the phone bill.

In conclusion setting up a modem is going to be quite expensive, but it is for any machine. The buzzbox is a well made device that does its job without any fuss, and this is to some extent reflected in the price of £79.95, this may be brought down by the arrival of the Unicom modem at £49.95, but this is still awaiting release. The RS232 is a nice unit and, at £49.00, reasonably priced as is the Driver software at £8.50 or £5.00 depending on which you get. What we could also do with though, is some reasonably priced software to drive the 64s RS232 port and give a means of saving the data transmitted.  
Jeremy Hoyland

#### CLUBNET

For M/C addicts try the  
6809 Users Group,  
c/o Paul Hills  
28 Woburn Road,  
Launceston,  
Cornwall  
PL15 7HH.

W.S. Files' Sussex group can be found:  
c/o Multisoft Systems  
St. Martins  
Orchard Road  
Bexhill-on-Sea  
Sussex.

The H. Down Microcomputer Users Group, ring Eddie Doak on 0247 450902

Sheffield Dragon Users Group,  
c/o R. Crampton,  
131 Herringthorpe Valley Road,  
Sheffield,  
Yorks,  
S15 3RU.

In Peterborough and district try:  
Mr. A. Fairchild,  
53 Myrtle Avenue,  
Peterborough,  
PE1 4LR.

In addition Chris Fry expressed an interest in a contact column, so I assume that he won't object to having his address printed, Chris is at 183, Queensway, West Wickham, Kent, BR4 9DU.

George Miller of 121 Hill Road, Folkestone, Ct19 6LZ, would like to get in touch with anyone in his area (Kent) who is interested in Machine Code and business software.

#### DRAGON SCULPTOR. by Chris Fry.

Dragon Sculptor is a program that is designed to demonstrate some of the graphics capabilities of the Dragon, and also the techniques used in drawing figures on the screen.

The figures chosen are a series of pots, and the definition obtained is pretty reasonable. The listings and screen dumps (which I'm afraid we can't reproduce for reasons of space) were made on a Star DP515 (superb in my opinion), I have written M/C screendumps for this printer to give both single and double size output which I would be happy to share with anyone with the same printer. I am not sure whether the codes are the same for the Star DP510, perhaps someone could tell me?

```

10 CLS:PRINT@105,"DRAGON SCULPTOR"
20 PRINT@137,STRING$(15,131)
30 PRINT@198,"WRITTEN BY CHRIS FRY"
40 PRINT@266,"FEBRUARY 1984"
50 PRINT@449,"PLEASE WAIT WHILE INITIALISING"
60 '*** SCREEN CHANGE ROUTINE
70 CLEAR 24,32743
80 FOR A=32744 TO 32767
90 READ A$:A$="&H"+A$
100 POKE A,VAL(A$):NEXT A
110 DATA BE,1E,00,10,8E,06,00,4F,A6,80,5F,5C,C1
120 DATA 20,26,FB,A7,A0,8C,36,00,26,F0,39
130 A=RND(-TIMER)
140 PCLEARB
150 PMODE4,1:PCLS
160 PMODE4,5:PCLS
170 '
180 '*** MAIN LOOP
190 GOSUB240:GOSUB330
200 PMODE4,1:SCREEN1,1
210 EXEC32744:SOUND190,2:GOTO190
220 '
230 '*** SELECT VARIABLES
240 H=60+RND(80):GR=0
250 A=0.5*(191-H)
260 R=5+RND(50):IR=R
270 HW=0.2+RND(20)/100
280 ST=2+RND(3)
290 X1=127-R:X2=127+R
300 RETURN
310 '
320 '*** DRAW DESIGN
330 PMODE4,5:PCLS
340 CIRCLE(127,A),R,,HW
350 FORB=A+ST TO A+H STEP ST
360 R=R+RND(8)-5
370 IFR<5 THEN R=5
380 IFR>GR THEN GR=R
390 IFB>A+0.6*H AND R<0.5*GR THEN R=R+RND(4)+2
400 CIRCLE(127,B),R,,HW,0,0.5
410 CIRCLE(127,B-1),R,,HW,RND(5)*0.01,0.35+RND(5)*0.01
420 CIRCLE(127,B-2),R,,HW,0.1+RND(5)*0.01,0.2+RND(5)*0.01
430 LINE(127-R,B)-(X1,B-ST),PSET
440 LINE(127+R,B)-(X2,B-ST),PSET
450 X1=127-R:X2=127+R
460 NEXT:SOUND170,2:RETURN

```

#### PROGRAM NOTES.

LINE NO'S.	FUNCTION
10-50	Set-up the title screen
60-120	Set-up the machine code routine for changing the graphics screens smoothly
130	Initialise the random number generator
140-160	prepare the graphics pages
180-210	The main program loop
240	Select the height of the object
250	Calculate the "dead band" above the object
260	Select the initial radius

270 Select the height/width ratio to be used throughout  
 280 Select the step size between each band  
 290 set the initial line start points  
 340 Draw the 'neck' of the object  
 350 Start of the object generation loop  
 360 Choose the new radius based on the previous one  
 370 Is the new radius too small?  
 380 Ensure tha the greatest radius is kept up-to-date  
 390 Check that the object is not too "top-heavy". If it  
 is then adjust the radius to compensate  
 400-450 draw the next section of the object. Add shading.  
 Join edges together  
 460 End of loop. Announce drawing complete. Return

Pressing 'SHIFT' and '@' together whilst one object  
 is being displayed will hold that image on screen  
 until another key is pressed.

7FEB	40	PRT
7FEB	50	@START EQU *
7FEB BE1E00	60	LDX £\$1E00
7FEB 10BE0600	70	LDY £\$0600
7FEF 4F	80	CLRA
7FF0 A680	90	@LOOP LDA ,X+
7FF2 5F	100	CLRB
7FF3 5C	110	@DELAY INCB
7FF4 C128	120	CMPB £40
7FF6 26FB	130	BNE @DELAY
7FFB A7A0	140	STA ,Y+
7FFA BC3600	150	CMPX £\$3600
7FFD 26F1	160	BNE @LOOP
7FFF 39	170	RTS
8000	180	END @START

# SPECIAL OFFER FROM IMPSOFT

TO NATIONAL DRAGON USERS GROUP MEMBERS

" FOLLY FARMS CHICKEN RUN" RRP £7-95

SAVE £3-00 ---- SPECIAL OFFER PRICE £4-95



## CHICKEN RUN

Impsoft's latest offering *Chicken Run* is an energetic arcade game. Farmer Folly has a super egg-laying hen. But his battery farm is plagued by the local fox.

The hen lays eggs, which the farmer can collect only one at a

time. The eggs soon hatch into hungry chicks, which greedily gobble up the hen's supply of corn. The poor old farmer can't refill the seed trays quick enough and the unfortunate hen soon runs out of corn. And if that isn't enough to contend with, the fox will eat either the chicks or the hen without batting an eyelid.

You may get three lives and

nine skill levels are on offer. The higher the level the faster the game. At level nine the game is almost implayable and I rarely managed to get above level three.

Nice use of colour and sound, and good animation throughout. A pleasure to play.

Jim Ballard

Rating 8/10

Price £7.95 Publisher Impsoft, 01-675 5577



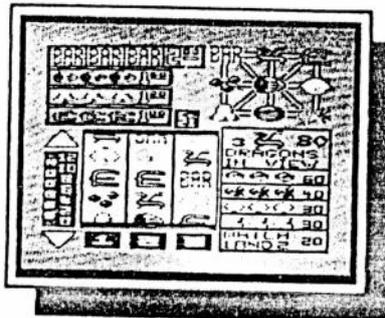
PCN SEPTEMBER 29 1984

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## NEW RELEASE:- "FRUITY" £4-95

PREVIOUSLY AVAILABLE FROM DRAGON DATA AT £7-95

**GAME:** FRUITY  
**MACHINE:** DRAGON 32  
**CONTROL:** KEYS  
**FROM:** DRAGON DATA, £7.95



GRAPHICS	9
SOUND	6
ORIGINALITY	7
LASTING INTEREST	8
OVERALL	8

The blurb describes this program as 'an imaginative, high resolution' affair which 'perfectly imitates a real fruit machine'. I was prepared to grant it the high-res graphics. I even expected it to mimic a real fruit machine. But 'imaginative' I did not expect. What's there to be imaginative about. In the real thing, you pay your money and you takes your chance. With the computer version, you don't even get the odd ten pence piece as a reward.

I was wrong. It's addictive even without the cash rewards. The nudge and gamble features on this program are where the imagination and most of the

attraction come from. The rest is supplied by the superb mimicry of the spinning symbols on the fruit machine. The wheels start off spinning at the same speed, then, as the first ring stops, the second two rings click round a little faster, and the third finally flies around.

Being a Dragon program, the Dragon logo features as one of the more unlikely

counters, but for the purists, there are the usual fruity objects spinning around.

The nudge feature is extremely forgiving. There's no time limit and you can nudge any ring up or down at your choice. I noticed that the program paid out a little more readily each time my statutory 20 credits were whittled down to five or six. But that could have been coincidence.

Fruit machine addicts who need a fix after pub hours will think it's marvellous. And people who always swore they'd never waste their money on a one-armed bandit can now have their cake and eat it.

TH

36 PCGAMES

AUGUST 1984

To: IMPSOFT, 149 Balham Hill, London SW12 9DJ.

ORDER FORM.

Please send me:

\_\_\_\_\_ copies of Chicken Run @ £4.95p.  
\_\_\_\_\_ copies of "Fruity" @ £4.95p.

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

I enclose my cheque/money order made payable to Impsoft for £ \_\_\_\_\_

## TURBO DRAGONDOS

In the November edition of Personal Computer World, Eric Bagshaw proposed a series of benchmarks for measuring disk drive performance. Jack Schofield gave further credence to these tests in his Guardian column (MicroGuardian - 22nd November).

Disk Benchmark results in seconds (by total time order)

COMPUTER	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	Total
Apricot 320k	18	6	8	19	18	28	2	21	2	7	13	183	46	7	282
DragonDOS 184k	2	17	32	13	11	66	9	86	28	8	12	142	18	25	461
FTS 616k	12	4	5	21	27	45	15	49	16	8	43	229	35	39	548
Compaq 320k	24	11	16	24	24	36	8	67	16	7	13	319	125	49	739
IBM PC 320k	21	18	21	21	28	38	8	65	17	7	15	311	145	51	742
Wren 280k	14	5	9	21	21	38	14	37	16	9	19	385	288	21	889
Rair 3/28 780k	33	9	18	94	97	31	13	39	15	19	33	1889	235	37	1682
Future FX38 880k	28	6	6	23	24	35	13	49	28	25	52	1132	311	58	1766
Sirius 680k	27	11	9	57	28	52	18	42	28	32	67	1669	466	39	2537
Epson 8X18 320k	21	8	13	34	28	49	21	62	27	35	78	1762	486	45	2653
Xerox 820k	39	14	22	83	84	183	53	156	74	55	66	1686	317	165	2917

### Comparison between Dragon and other floppy systems

I've carried out the diskmark tests on DragonDOS, and the results can only be described as astounding. From the table, which compares the Dragon (with standard Dragon Data disk drive) with some of the common business machines (hard disk systems excluded!), you can see that the Dragon holds second place. The IBM PC has been out classed yet again, and this time by our humble Dragon.

It never ceases to amaze me that Dragon Data failed so miserably to market their products. On the one hand we had Sinclair brashly exaggerating the virtues of a product not even in production, and on the other we had Dragon Data who not only failed to market their disk drive, but actually suggested to new purchasers that they were only capable of 'simulated random access'.

Brief details of the tests are given below:

#### WRITE

Test 13 Multi-kill  
Test 1 Sequential  
Test 3 Random  
Test 5 Sequential multi-open  
Test 7 Random multi-open  
Test 10 Random file at random

#### READ

Test 0 Program load  
Test 2 Sequential  
Test 4 Random  
Test 6 Sequential multi-open  
Test 8 Random multi-open  
Test 9 Random file at random

#### READ & WRITE

Test 11 Reverse file  
Test 12 Pack file (remove dead elements)

It can be seen that the Dragons weakness (by business machine standards) lies in file creation and most sequential operations. Random access on the other hand is by far the most powerful feature of DragonDOS. This is particularly apparent by the Dragons astonishing domination of test 12, which represents a moderately severe practical example of a random access task. The final irony I therefore leave to the Brains in their ill-famed review of DragonDOS (Dragon User - Nov83), with their comment - "The file handling capabilities of DragonDOS are relatively simple, and effectively restricted to the serial type".

If any one has a Cumana or Statacom drive (running under DragonDOS or DELTA) which they would be willing to test, they should contact Paul or myself for test details.

JASON SHOULER

## Shinwa CP80(1) Printer.

Since this Group was formed some five months ago, I've had over a dozen enquiries from Members wanting to know what printer I use, and where they can get one, and at least eight of those enquirers have since bought CP80's for themselves.

Personally I reckon that the distributors owe me some commission for all these sales, or at the very least a CP80 for review purposes!... (If anyone from Microperipherals is reading this, please take the hint!!!). Anyway, to save my typing finger and the Shinwa even more work in future, I've decided that it's time I did a write up on the subject.

Taking the bad point first, the CP80 has the most difficult to locate DIP switches ever!... There are twelve of them, one bank of eight and one of four, but to reach them is a whole Adventure game on its own. First you need to open the casing, which involves removing four recessed screws and removing the platen knob, which, according to the Manual, you do by "pulling straight out with firm steady pressure". They don't SAY that the pressure needs to be applied by a six ton hydraulic ram! However, having opened the casing and recovered from the effort, you then search for the switch blocks, and with luck eventually locate one hidden under a plastic shield on the main board, and the other hidden craftily underneath a secondary board. However, it IS worth all the effort, as they allow you a choice of default settings unequalled on any other printer that I've used.

Having set the default mode that suits you best, you then have one of the most versatile printers on the market... one that can do anything an Epson can do, and more, better, and at nearly half the cost!

For those of you who haven't seen one, the CP80 has roller feed for single sheet work, and an adjustable tractor feed (4" to 10") for fanfold etc, and can take up to three carbon copies or cut stencils as well.

Typefaces include double width, emphasised, compressed, subscript, superscript, double strike, normal (Pica), and italic, and all and any of these can be mixed to suit your particular requirements. So far I've managed to find 32 different combinations, and of course, if your m/c programming is up to it, you can define your own using "Bit image mode".

Using a suitable "dump" routine, the CP80 can produce really top class graphics, and unlike some, it doesn't take hours to do so... for example, it can produce a copy of the title screen from "Pedro" in nine seconds, although much depends, of course, on the routine used.

Technical details as follows:-

Dot matrix (8 x 9). Bit mode 8 dots vertical x 640 horizontal per line.

Uni or Bi-directional. 80 column in normal mode, 142 in compressed mode, app 286 in compressed subscript.

Line spacing adjustable in units of 1/216 inch. Auto line feed and c/r.

Continuous loop carbon ribbon cartridge.

Reliability is exceptionally good, my machine has been in continuous use for the past two years, which amounts to around a hundred or so letters per week, plus normal business stuff such as statements, invoices, etc, plus program listing, and of course all the paperwork for the Group, and apart from occasionally cleaning the print head with a brushfull of carbon tetrachloride, all the maintenance it gets is having the ribbon changed!

Print quality is well up to "letter standard", and compares favourably with most electronic typewriters.

My only serious complaint is that since I bought mine the price has reduced by over a hundred pounds, and you can now find CP80's at around 180.00, but even at the original price, I think it was well worth the money.  
The Shinwa's all have a Centronics interface as standard, but for those of you wanting to use one from a 64's 232 port a Serial version is available at a slightly higher price. In standard form they simply connect straight to the Dragon's printer port via the usual ribbon cable.....no extras necessary!.  
Manufacturer: Creative Technology International.  
Distributor: Microperipherals Intec. Unit 3, Hassocks Wood, Wade Road, Basingstoke, Hants.

I'm writing this on New Years Eve, and I reckon that even the most dedicated Chairman is entitled to a bit of time off, so I'm going to keep this VERY short!

First point I want to mention is that I don't think that we're producing the best possible Newsletter. I admit that the layout isn't all it might be, but we're working on that problem and we ought to have it sorted out before long, but that isn't what I mean: What we print each month depends entirely on YOU...if you don't send us material then we have to rely on the same three or four contributors every time, and this reduces the range of subjects that we can cover.

You were all interested enough in the Group to think it worth paying money to join, but do you really just want to read other Members material?...Wouldn't you like to see your own article or review in print?.....don't you think that you might be able to help some of our less experienced Members with the hints and tips you could give them?.

This is a Group, not a Company, and I can't write to you and demand you submit 300 words on something or other before print deadline.....we couldn't work things that way, but we DO need you to write something, anything at all, and it doesn't matter whether you're a professional computer journalist or an absolute beginner who only bought a Dragon last week. It doesn't matter if you're 12 years old or 76, YOU can write something that someone else will be interested to read, so PLEASE, whether it's queries, reviews, articles, routines, hints, or whatever....don't wait to be asked, send it in, and if we can, we'll print it. OK?.

One other point: as you'll have noticed, we're starting to carry commercial advertising. Anyone with a Dragon related product who is willing to offer a reasonable discount to our Members, and allow us to review the product, can advertise in the Newsletter at a nominal 20.00 per A4 page. Anyone interested should contact Jeremy or myself for full details. We may not be able to claim a circulation of thousands (yet!), but we have the advantage that EVERY reader is not merely a Dragon owner but is a Dragon USER....someone who NEEDS good Dragon products. If the product is any good, you can't get a better potential market than that.

Well, I'll sign off now, and just say that I hope that 1985 will be a good year for all of you, and let's try to make it The Year of The Dragon. *Paul G.*

#### 5.25" disc special offer to Members.

We have managed to negotiate a substantial discount to Members on top quality discs supplied by SBS Data Services.

Individual orders can be accepted for boxes of 10 discs, but if sufficient orders are received for us to purchase five boxes at a time we can get a further reduction of 1.00 per box, and a proportionate reduction for bigger orders, so the more you buy the cheaper we can get them!!.

SS / DD soft sector.....normal price 22.00.....14.50.

SS / DD hard sector.....normal price 22.50.....14.50.

DS / DD soft sector.....normal price 27.00.....15.50.

DS / DD hard sector.....normal price 27.00.....15.50.

All prices are PLUS 15% vat, and are for a standard box of 10 discs.

For those of you who haven't discovered it yet, the Dragon can use DS / DD's, which are a great saving cashwise. All you need is to do a little minor cutting on the covers.

All orders please to Paul Grade, cheques made payable to the Group.

## QUESTIONS AND ANSWERS.

Firstly from Chris Fry, who wrote the Dragon Sculptor program:- I am desperate to obtain a copy of 'Inside The Dragon' but where from? Also do you now any good algorithms for hidden line removal for graphics as I am stuck part way through a 3-D rotation, translation &c. program.

I got my copy of 'Inside the Dragon' from Boots in Colchester, however I believe that Touchmaster are also selling it and they are at the old Dragon Data address. I'm afraid I can't help at the moment with hidden line removal so if anyone else knows anything write in and I'll publish it.

Next from Waldemar Borrman who can't get a screendump (ex Dragon World, feb84) to work with his GP100A and EDIT+ cartridge, relocating the dump doesn't seem to work so if anyone can help I'll pass it on.

Several enquiries for 32 & 64 circuit sheets, Paul can supply 32 sheets at 50p a set to cover copying and postage but I'm afraid we haven't been able to get hold of any 64 sheets. If anyone has any and can let us have a copy we would be grateful.

Walter Norrington of Steyning complains that his 32 occasionally slows down. As far as we know the only thing that can cause this is a drop in the mains voltage, and whilst there isn't really any cure, a smoother such as 'The Plug' would certainly help matters.

There have been several queries about the 64's RS232 port, and complaints that it uses non-standard code. The main confusion seems to be over the point that while the 'DLOAD' and 'DLOADM' commands will allow you to download programs in ASCII format, and in machine code routines, it cannot be used when using the Dragon as a terminal, or when using the RS232 as a serial printer outlet. Anyone wishing to do the former should refer to Smeed & Somervilles 'Inside the Dragon', which gives a very good description of the procedures involved. Anyone wishing to divert the printer to the 232 should POKE &H3FF,1.

## LETTERS

Dear Mr. Hoyland,

May I make a few comments on Ann Milstead's note on Telewriter, which I came to by a different route from hers? My typewriter broke down for good, and I had to replace it. I had already some experience of WP programs on far more expensive machines, but as I couldn't really afford WP at all, I had to go for a cheap program. But it had to be a real one, not a toy, or it wouldn't be worth buying. After reading reviews for months I settled on Telewriter, and the Dragon to go with it. In that order.

I haven't been disappointed. The program I had on the Sirius was better (at around £3300), but not ten times better. The main fault of Telewriter, or rather the Dragon, was the slowness of key-response which Ann mentions. However, I have recently bought from Deltasoftware for £2.50 a tape called MEGAMAZE, which includes a very short program called KEYBOARD, and this allows me to type as fast as I can, without ever skipping a letter. In fact, I have to be sure that I don't flick a key in passing, or it will type that too. I agree that for WP disc is immeasurably superior to tape, but I just couldn't afford to think about it, so Microdeal's failure to fulfil this promise irritated me less than it might have done.

## CLASSIFIED.

Dragon Data Chess (cartridge)	£9.00.
Tandy Skiing (cartridge)	£7.00.
Tool Kit. (cartridge)	£15.00.
DASM (cartridge).	£9.00.

or exchange for good adventures (or games or strategy.).

John Shouler. 70 Victoria Road. Parkstone, Poole, Dorset.

Snow Queen by Pauline Hampson

This game is an educational game for 7 year olds based on Hans Anderson's story "Snow Queen". It is a pattern recognition game .

The object of the game is to help Kay to become free from the Queen by spelling a given word , the idea being to recognise the individual letters in a maze of random black and white blocks. Once you obtain a sufficiently high score you spell ETERNITY as Kay did.

There are 5 levels of play and 840 words can

be given. Keyboard or joysticks are used.

As the game begins all the ice letters are displayed as they will be seen in the maze.

The graphics come between the maze screens and are quite pretty showing snowflakes and at higher levels the Snow Queen's palace. The maze screen takes up two thirds of the screen. The other third shows the word to be found and the score. The maze screen is hard on the eye and at first it is very hard to spot the letters. If you make a mistake the Queen turns you to ice!!

You use the controls to move a window over the maze to circle the letter. Joystick control takes a lot of practice and I found the use of the keyboard slow and tedious. However with the game comes a set of instructions and this explains how to alter the program to give more time and a higher score per letter. I think that children will find the game rather lengthy so I advise increasing the score per letter and the time given.

Recognition of shape is a valid educational exercise . The letters however are a rather non standard shape with diagonal strokes displayed as offset blocks.

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I think that the game would be improved by abandoning the letters in favour of simple geometric shapes . I would then simplify it and make it suitable for pre school children for whom shape recognition is a valuable exercise.

My nine year old daughter liked it though in spite of my reservations.

ASCII CORNER  
by Neil Scrimgeour.

This month's ASCII corner will have to be a short one due to the fact that there are some special offers and information to relay to you. Therefore the subject of this month's mini review is "The Trial of Arnold Blackwood".

What a weird title that is! And I suppose you could say that it really sums up the program. WEIRD! By weird I don't mean bad but just unusual. Regular readers will know that my sense of humour is rather bent and this sort of program is right up my street. From the outset your goal in the program is not clearly laid out but if you're quick enough you can read some useful information at the start. The presentation in this program is well above average and the text screen is in MODE 4. Now whether you get any pics in this prog is unclear because due to workload I haven't got very far. I originally thought that Nemesis used a copy of Rainbow Writer but after delving into the main prog (in BASIC) it seems that Nemesis have written their own version.

Within the actual adventure there are many locations to visit and in at least one case you will have had to have watched a BBC Sci-Fi prog to work out what to do with an attacking creature.

The best part of this prog for me is a good sense of humour which lifts it above the rest. The worst part is that there is no game-save facility in the prog which I think is necessary for all adventures. However if you want to meet Chamberlains and ZX81's then it might just be the program for you.

As Software Editor a number of special offers have been relayed to me from various companies.

Cambrian Computersolve are offering Snowqueen for 4.95 instead of 5.95. It is an educational program and it will be reviewed soon by Pauline Hampson.

Magic Midnight are offering RAT RACE and LACHLAN at 4.50 each. I've never seen either of these progs but I believe they are strategy and adventure games.

Ramssoft is a company who publish books for the Dragon amongst others. The books on offer are The Dragon Book of Games 5.95, The Dragon Programmer 5.95, Anatomy of a Dragon 6.95, Language of the Dragon 6.95, Artificial intelligence in BASIC (various machines) 6.95, The complete Programmer 5.95 and The 6809 Companion 1.95 (plus 30p P&P).

Postage and packing rates for the UK is 80p for the first title and 40p per book thereafter.

Nemesis offer Trial of Arnold Blackwood 5.50, Meddler (tape copier) 5.00 and Iagon 55 (filing system) 5.00. Reviews of all of these to follow.

The relevant addresses are: for Cambrian, 15 Derwent Close, Prestatyn, Clwyd

Magic Midnight 30 Handel Close, Basingstoke, Hampshire

Ramssoft PO Box 6, Richmond, North Yorkshire

Nemesis 10 Carlow Road, Ringstead, Kettering, Northants

#### MANIC MINER

Manic miner from Software Projects originally appeared on other machines and has been converted to the Dragon, a trend that we hope will continue - although it's a pity that there isn't more really first class games software devised on the machine. The graphics are in black and white, but what seem to be interference fringes add a mild rainbow effect to most scenes. The detail is first class with characters clearly defined and the sound effects good however if you are as rotten at the game as I am you can get fed up with hearing the same tune time and again. There are twenty plus screens, I know this because you can see them all at the beginning if you want, not through any great skill of my own.

So how does it measure as a game? Pretty good if you're prepared to work at it. I think it is definitely one for those who are good at arcade games and not for dilettantes like myself. In some respects it is similar to donkey kong - at least in conception, this is a game that I, although Greene King made large amounts of money on the beer I drank trying to figure it out,

All in all a good game - shame about the colour but it's hardly their fault, and I look forward to Jet Set Willy which is promised soon.

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The Dragon Library.....RAMSOFT.

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**THE DRAGON BOOK OF GAMES...**by Mike James, S.M.Gee and Kay Embank.(Granada.5.95).

A collection of 21 games written in Dragon BASIC that illustrate how the Dragon can be used to create a wide range of effects. If you are learning BASIC then typing in these programs is an excellent way to become familiar with programming. If you already know BASIC then you will still pick up a great many programming techniques.

If you'd rather save yourself the effort of typing these games in from the listings, you'll be glad to know that you can purchase a cassette tape containing all 21 games. This tape normally costs 5.95 but you can order it from us at a special discount....for details see our order form.

**THE DRAGON PROGRAMMER...**by S.M.Gee...(Granada.5.95).

This book is not only an introduction to Dragon BASIC, it also explains some of the pitfalls in using Dragon graphics and sound. Starting off from fundamentals, it explains how to write BASIC programs using the natural structure of BASIC. This encourages a good BASIC style without laying down strict do's and don'ts that often take the fun out of programming. Later chapters concentrate on using the Dragon's extensive sound and graphics facilities from BASIC. The emphasis here falls on understanding how things work and on avoiding any problems before they arise. For example, if you have ever used a DRAW command to produce a small shape only to discover that the actual shape it draws depends on its position on the screen then you need to read Chapter 12 in this book!

**ANATOMY OF THE DRAGON...**by Mike James...(Signal).6.95.

Dragon Data Approved.

This book is for anyone wanting to know how their Dragon works and how to control it from BASIC. It describes the Dragon's hardware and software from the point of view of a BASIC programmer. It introduces a number of new graphics modes, and explains how GET and PUT can be used to create user-defined graphics, shows how to disable the BREAK key and a great deal more.

**LANGUAGE OF THE DRAGON...**by Mike James...(Signal).6.95.

This is an introduction to 6809 assembly language that also includes a complete assembler in BASIC. Assembler is much easier to learn if each of the registers, instructions, etc, are introduced as a way of doing something. In this book each of the 6809's features is introduced in a practical and logical way, building up a complete picture of assembly language programming on the Dragon. A key feature is the way the idea of a bit pattern is used to unify all of the confusing types of data encountered by an assembly language programmer.

**ARTIFICIAL INTELLIGENCE IN BASIC...**by Mike James...(Hennes).6.75.

Although not Dragon-specific this book contains many programs that will run on the Dragon without modification. Artificial intelligence is certainly where the future of computing lies and this book contains explanations and practical examples of most of the current A.I. techniques. Rather than abstract theory each chapter explains the ideas involved by way of writing working programs, making the book suitable for all BASIC programmers.

**THE COMPLETE PROGRAMMER...**by Mike James...(Granada).5.95.

This is another book which is not specific to any machine but, being written with the Dragon in mind, is therefore directly useful to it. It is for those who want to increase their knowledge of programming and to improve their programming style.

**THE 6809 COMPANION...**by Mike James...(Bebanil).1.95.

This slim volume is an ideal reference book for every 6809 assembly language programmer. It includes the complete 6809 instruction set together with information about interrupt handling and programming style.