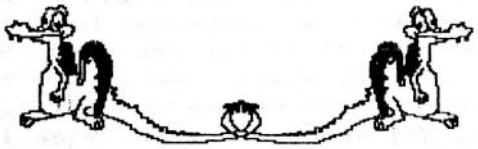
The Newsletter of the National Dragon Users Group

DRAGON UPDATE



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The Gaffer's Bit.....

Think of it!, three long years!. I could have robbed the local bank and got less than that ..... and no chance of release on parole even!. Honestly, I dunno why I ever started this Group, I must have been even further out of my tiny mind than usual!. Thing is that when I started the Group it didn't take up a lot of time, but now it's turned into something that needs far more time than I can spare, with the result that I never seem to be able to keep up with it all. I almost found a solution once, one Neil Markwick!. Having persuaded him that he needed a Dragon, and that having got one, needed to join the Group, I then managed to persuade him that he ought to spend his weekends here, typing his fingers to the bone and scorching the remains on a hot copier. It worked beautifully for almost two years, and then he left school and got a job, and since then I've been quite unable to convince him that he ought to work weekends as well!. Come back Neil, all is forgiven (well, almost all!). Failing that, anyone got a suitably literate brat that they want to get rid of at weekends?!. It really is a shame that one can't just go down the market and buy a couple of bargain slaves at the Summer Sales any more, it would make this job so much easier!. Oh well, I suppose I'll have to get on with the job myself again, at least for now, or you wont even get the chance to read this self-pitying garbage. Paul

The Editorial Bit.....

This month I'm going to keep this bit short, the main reason being that the original copy disappeared up its own CC Error by the time it got to Paul!. So what strikes the Editorial Mind at this unearthly hour of the day (other than last night's hangover!)?. Well, perhaps a small request to you all ...PLEASE don't send the same articles to us AND to other magazines ....we don't mind who prints our material, but some others aren't so broad minded, and it can lead to a lot of trouble and confusion. This month I'd just got the master disc of Update to Paul for printing when I glanced at another publication and spotted an article which was identical with one I'd just passed to Paul to print!. End result?, I had to phone Paul and get him to remove the offending article and replace it at his end, as if he didn't have enough to do already!. OK?. Thank you. Here endeth the moan for this month. I suppose most of you are off on your summer (?) holidays any time now, or have already been!. Spare a thought for your Poor Old Editor, who isn't getting a holiday this year because he can't spare the time!. Summer tends to be the time when the supply of articles dries up, because you lot are all to busy sunning yourselves on the beach to write them, so why not write something before you go ...even if it's only "Goodbye"!!. T.L. T.L

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PASCAL FOR BEGINNERS .. GARY COXHEAD

I have seen many articles on Pascal, most of which are reviews of compilers, very few aimed at beginners. I must say now, that you should be able to follow this even if you know nothing about programming, but if you know a little about Basic it will help you understand the concepts. So, why learn Pascal when Basic will probably do the job anyway? Well, two reasons; first Basic was designed as a beginner's language and was never designed to force people to adopt a structured approach, and second , Basic is an interpreted language which means that the program and interpreter must reside in memory at the same time. This tends to lead to slower running programs which take up a lot of memory. 'BUT' I hear you say, 'Basic is easy to learn and does what I want anyway'. Pascal is also a beginner's language and is also easy to learn. During these articles I'll show you why and how you should have a go at Pascal. If at the end you decide not to use it you will have learned lots of programming 'style' enabling you to write neater error free programs.
The first 'high level' languages such as Fortran and Cobol are still popular and have wide scientific and commercial applications, but contain features which allow programmers to produce S/W which is error-prone and difficult to maintain. Advances have been made in the structure of programming languages from Algol60, which introduced data typing and block structure, through Pascal, which emphasised structured programming, to ADA, which provides real time facilities for process control. Pascal was introduced in 1971 by Prof. Niklaus Wirth. His aim was to make available a language which would allow programming to be taught as a systematic discipline. A few terms and ideas need to be explained here, so I don't need to keep explaining them. You'll also need to know what is needed to follow these articles and run the programs. Firstly you'll need a Pascal compiler. There are several about and each will have its own merits, but all will have a 'core' which will conform to the Wirth standard plus various extra features. All the programs in these articles should run on any system but I have used two compilers, Lucidata under Flex, and Microware under OS9. For both of these you'll need a D64 and disc drive, for those with a D32 or no drives, Oasis used to market 'Petite Pascal' but I have no experience with this one. Secondly you'll need an editor of some description; for Lucidata the standard Flex editor or SP-Edit will do, and for Microware, Stylograph is fine. Now, you use the editor to write or create a 'source code' of your program which is a text file of the statements to be executed. This is read by the compiler and compiled into a machine language equivalent of your file (the 'object file'). Once this is done the compiler is no longer needed as the object code will run on its own. This gives the first 2 advantages. You don't need an interpreter in memory so you can write longer programs and they run faster as they are now in machine code (some compilers produce an intermediate code called 'P code' which is executed by a 'run time system'. The benefit of this is that programs which are too long can still be run by 'virtual memory switching'). Now Pascal doesn't run as fast as proper assembled machine code. This is because some Pascal statements can't be coded into individual machine code statements. Therefore Pascal programs tend to take more memory than their assembly language equivalents, but then why wrestle with assembly when you don't have to! However they do run at between 10 and 50 times as fast as Basic.
Finally before I launch into the language proper next time, may I recommend two books I've used extensively; Pascal - An introduction to methodical programming (Findlay & Watt, Pitman) and; Pascal for students (R. Kemp, Arnold). They'll cost you about 8.00 each but you can get them from your local library. That's it for this time, next time I'll introduce the features of Pascal and give you a small program to type in and try.

EASY MACHINE CODE (11) ..... R.A.DAVIS

Perhaps your interest in machine code has been awakened now and you should be able to get to grips with some of the books on the subject with more confidence. Programming the 6809 by Zaks & Labiak gives explanations of all the opcodes. Dragon Machine Code by Robin Jones & Eric Cowsill is very helpful. I got my copy from Shiva Publishing, 4 Church Lane, Nantwich, Cheshire, CW5 5RQ (Tel 0270 629440). Also Hilton Computer Services, Dragon Division, 10 Jerome Rd., Larkfield, Kent, do a good memory map from which you can find some good ROM locations and 'Hooks'. To end this part, here is a small routine you can use in most programs, especially when giving pages of instructions. It introduces PSHS which means push these registers onto the stack to save information saved in them. a precaution sometimes needed so that when you return to the main program, the registers have not been corrupted by the routine. The reverse is PULS which pulls the information from the stack back into the registers. The stack works on a last in first out sequence, but the Dragon ensures that the correct information goes into the correct register, however the instruction is sequenced. The FCC command with DASM enables you to load a string as Data, see line 70 below:-

```
10  CLEAR 400,&H7000
20  EXEC&HCFFA
30  ALL
40  @START EQU *
50  BRA @BEGIN
60  @DATA EQU *
70  FCC "HIT", $60,"A",$60","KEY",00
80  @LEN EQU *
90  @BEGIN PSHS A,X,Y
100 LDX #$05EA      110 LDY @DATA
120 @PRINT LDA ,Y+
130 CMPA #00
 140 BEQ @END
150 STA ,X+
160 BRA @PRINT
170 @END PULS Y,X,A
180 RTS
190 END
2000 CLS:EXEC&H7000
2010 GOTO2010
```

Without lines 2000- nothing will appear on screen. Here is the Basic listing:-

```
10 CLS
20 DATA 48,20,0A,48,49,54,60,41
30 DATA 60,4B,45,59,00,34,32,8E
40 DATA 05,EA,10,8E,70,03,A6,A0
50 DATA 81,00,27,04,A7,80,20,F6
60 DATA 35,32,39
70 I=&H7000
80 FOR J=1 TO 35
90   READ A$:A=VAL("&H"+A$)
100  POKE I,A
110  I=I+1:NEXT
120  GOSUB2000
130 CLS8:SOUND 220,1
1999 GOTO 1999
2000 EXEC &H7000:EXEC 34091
2010 RETURN
```

Don't object because this is as easy to do in Basic. Most thing are! Machine code is faster, if you want speed, and necessary if you want to Bit-set the SAM chip, so it is worth some understanding. On the subject of the latter chip, get the Motorola information ADI 595. Page 18 gives the Dragon system. If you want more of this sort of article let the editor know. Otherwise best of luck with your explorations.

<<You'll all be glad to know that I've received a continuation of these articles so this is not now the last of the series. Next, reading the keyboard....TL>>

CROSSWORD 24 ANSWERS...

Across:- 1A)Dragons Tail 2A)Stir 2F)Spire 3B)Prestons 3J)Amen 6A)Collate 6I)Foot 7A)Hole 7E)Plough 8D)Pie 8G)Conch 9A)Ripe 9F)Superkid 10D)Elope 11B)Graphite 12D)Omega 13A)Colossal Cave

Down:- A6)Chart B4)Spoon C1)Airball C8)Spiral D1)Greed D7)Epee F3)Turtles G2)Poste H1)Tiny H9)Petal I3)Serf J8)Crazy K1)Lampoon L5)Atari M1)Minotaur M9)Dairy

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Delta Users Data Exchange..Dave Martin.

Following the mention of DUDE in the June issue I would like to clarify the objectives of the project and also highlight a few points that I feel are important. Firstly, I set up the group to provide a means of contact for Delta users, so that any problems people had could be resolved quickly and with the minimum of fuss. You are required to complete a simple registration form and return this with a token fee of 20p to cover postage costs. If and when you ever need anything or have a technical problem, you simply contact me by letter or phone and I will either attempt to solve the problem myself or put you in contact with someone who can. Easy eh?. There are a number of people (you know who you are) who have already experienced the benefits of DUDE, not least myself!. I do NOT give out people's addresses or phone numbers without first confirming that it is OK. I never intended DUDE to be a full blown "user group" to rival NDUG etc .. it's there as a service to Delta users and can be considered as an extention to existing groups. There, that's THAT said, so now for the nasty bit!.
There MUST be quite a few Delta owners out there. To date I have had what I can only describe as a pitiful response to my pleas for support. What is it with you Dragon people?!. You complain that nobody does anything to support your micro and then when someone goes to the trouble of providing a service c whatever, the majority of you don't respond!. I have put muself out of pocket sending out registration forms to a number of Delta users. I have received a small number of these back, and quite frankly I now wonder whether I am wasting my time. For goodness sake get your act together and instead of spending your time apologising to Amstrad owners for owning a Dragon, do something positive to keep YOUR micro going. DUDE may not be a mighty step foreward, but at least it isn't a step back, and let's face it, there isn't much support for Delta any more, is there?. I look foreward to hearing from you, especially those people who have not returned their registration forms yet ...(Martin Layley, why haven't YOU contacted me yet??). Phone me on Southampton (0703) 38042, and if I'm not in leave your name and number and I'll call you back. Cheers. Dave.

APOLOGIES.....

Apologies to those of you who've been trying to get Chris Jolly's listing from last issue working, here are the corrections for the data printed....

Line 1 - for BDC1 read 8DC1
Line 7 should read 3AA6845F393434BD0C3F3534270139A7 DD
Lines 28 and 32 - for 108E read 1082

REDUNDANT INFORMATION DEPARTMENT

This is a routine to remove the 'block graphics' display from tunes compiled by Composer with 'graphics on', which some people find annoying.
The POKEs to do this come from Composer, they appear at the end of the program, just before the 'notes' REM statement. To make the routine work for tape, alter the locations PEEKed in line 1 to:- 487 & 488 for S (start); 126 & 127 for E (end); 157 & 158 for EX (exec). Change line 1 to read '... CLOADM N$' and line 4 to read '...CSAVEM N$,S,E,EX' instead of the disc commands given. Then the whole tune doesn't have to be recompiled with graphics off (awkward if it's someone else's tune), to remove the blinking blocks, as some people believe..(Ken Grade).

```
1 PCLEAR1: LINEINPUT" PROGRAM NAME:-";N$: LOAD N$+".BIN":
S=PEEK(1618)*256+PEEK(1619): E=S+PEEK(1620)*256+PEEK(1621):
EX=PEEK(1622)*256+PEEK(1623)
2 Y=33: POKE S+&H95,Y: POKE S+&H9A,Y: POKE S+&HC5,Y: POKE S+&HC9,Y: POKE
S+&HCD,Y: FOR E=E+1 TO E+9: POKE E,255: NEXT E
3 PRINT" CHANGE DISCS IF NECESSARY.": LINEINPUT "PROGRAM NAME (IF YOU WANT TO
CHANGE IT):-";N$
4 PRINT" SAVING ";N$;" START ";S;S;" END ";E;" EXEC ";EX: SAVE N$,S,E,EX
```

WINNING COMPETITION ENTRY.

```
10 'INTRODUCTION.  ROUTINE BY ROBERT CAMERON.
20 CLS
30 PRINT
40 PRINT"THIS PROGRAM WILL PRINT EVERY"
50 PRINT"COMBINATION OF LETTERS"
60 PRINT"FOR A WORD UPTO 10 LETTERS LONG."
70 PRINT
80 'ENTER WORD
90 INPUT "WORD ";W$
100 CLS
110 Z=LEN(W$)
120 DIM A$(LEN(W$))
130 FOR IN=1 TO LEN(W$)
140 A$(IN)=MID$(W$,IN,1)
150 NEXT IN
160 FOR N=2TO Z STEP 1
170 A=0:B=0:C=0:D=0:E=0:F=0:G=0:H=0:I=0:J=0
180 REM
190 IFN>9THEN FOR A=1 TO LEN(W$)
200 IFN>8THEN FORB=1TO LEN (W$):IF B=A GOTO420
210 IFN>7 THEN FOR C=1TO LEN(W$):IF C=A OR C=BTHEN GOTO410
220 IF N>6 THEN FOR D=1TO LEN(W$):IFD=A OR D=B OR D=C GOTO400
230 IFN>5 THEN FOR E=1 TO LEN(W$):IFE=A OR E=B ORE=C ORE=D GOTO390
240 IF N>4THEN FOR F=1TO LEN(W$):IF F=A ORF=B ORF=C OR F=D OR F=E GOTO380
250 IF N>3THEN FOR G=1TO LEN(W$):IFG=A ORG=B ORG=C ORG=D ORG=E ORG=F GOTO370
260 IF N>2THEN FOR H=1TO LEN(W$):IF H=A OR H=B ORH=C ORH=D ORH=E ORH=F ORH=G GOTO360
270 IFN>1 THEN FORI=1TO LEN(W$):IFI=A ORI=B ORI=C ORI=D ORI=E ORI=F ORI=G ORI=H THEN GOTO350
280 IFN>0THEN FOR J=1TOLEN(W$):IFJ=A ORJ=B ORJ=C ORJ=D ORJ=E ORJ=F ORJ=G ORJ=H ORJ=I GOTO340
290 T$=T$+A$(A)+A$(B)+A$(C)+A$(D)+A$(E)+A$(F)+A$(G)+A$(H)+A$(I)+A$(J)
300 REM
310 PRINTT$,
320 LN=LN+1:IFLN=16 THEN GOSUB490
330 T$=""
340 IFN>0THEN NEXTJ
350 IFN>1THEN NEXTI
360 IFN>2THEN NEXTH
370 IFN>3THEN NEXTG
380 IFN>4THEN NEXTF
390 IFN>5THEN NEXTE
400 IFN>6THEN NEXTD
410 IFN>7THEN NEXTC
420 IFN>8THEN NEXTB
430 IFN>9THEN NEXTA
440 NEXTN
450 REM TRY AGAIN
460 PRINT"DO YOU WANT ANOTHER GO (Y) FOR YES OR (N) FOR NO"
470 I$=INKEY$:IFI$=""THEN 470
480 IFI$="Y"THEN RUN ELSE END
490 PRINT"PRESS (Q) TO QUIT OR (M) FOR MORE"
500 I$=INKEY$:IFI$=""THEN 500
510 IFI$="Q"THEN END
520 IF LEFT$(T$,1)=E$ AND MID$(T$,2,1)=" "THEN RUN
530 I$="":LN=0:CLS:RETURN
```

TANDY TOUCHPAD ----- ROGER MERRICK

If you're quick you can find this peripheral in your local Tandy shop reduced from 70.00 to 17.95. They say it can be used as a joystick but is intended to be used as an input device for graphics programs - allowing the user to 'draw' on the sensitive a area. It connects via a joystick port. (Although advertised as Dragon compatible, it has a central pin which must be removed with pliers, thus voiding the guarantee and lowering the specification - one of the 2 buttons won't work.) The peripheral comes in a box with rudimentary instructions and no operating software. It is approx. 6"x 8" with a 4" square sensitive area. It looks like a child's blackboard. My first impression was that even at 17.00 it looked expensive.

The first program I ran with it was Salamander's Graphics system. I was immediately impressed. Although the relative mapping of a square sensitive area onto the rectangular graphic screen might be thought awkward, I found a significant improvement in controlling the program, compared to potentiometer joysticks. It became much easier to produce detailed screen images (I must contribute to the graphic library <<Yes you must .. TL>>). With any graphic input device, users might find it confusing that there is nothing to see on the sensitive area itself, you have to look at the screen.

As a game controller it is less successful (and wasted). You have to use the special stylus, or a hard object like a pencil as you have to press on the surface quite firmly to register a response - a finger won't work. In the excitement of a game, I noticed bits of plastic from the stylus were worn aw as I scraped the stylus against the hard plastic surrounding the sensitive area. Despite this, as a graphics aid I recommend it.

TANDY ORCHESTRA 90 CC ... R. MERRICK

The above item is a cartridge designed for use with the Colour Computer. It originally retailed for around 70.00 but can now be found for about 20.00. It provides the user with a stereo range of six octaves, high quality sound and a high quality programming language. Like the Composer program, it doesn't offer a pseudo keyboard synthesiser. You have to program the device to play the required music using the special programming language. The Orchestra 90 CC takes over your machine, dedicating it to the purpose of composing, playing and I/O-ing music files. As the music relies on special hard and software, the music cannot be incorporated into other programs. As the machine becomes dedicated you cannot link in graphics etc. Unlike Composer, the user has much more control over the type of sound generated. The programming language is relatively sophisticated (though it doesn't match Ample for the Beeb). You can create pieces of considerable complexity and duration. Dragon owners considering using this device should note that it will not operate on their machine to full specification in the following respect.
The keyboard layout is all messed up as it reads the keyboard directly and the locations differ between Tandy & Dragon. The key operations can all be accessed but to obtain 'P' you have to press '@', for 'S' you press 'C' etc. You'll have to work out a key assignment chart. It will only do cassette operations.
I did have the idea that I would open the unit, whip out the EPROM and see if it could be patched to work with DragonDOS. Unfortunately, it's a Tandy custom chip, soldered onto the board. Anyone who's done any patching with this sort of device, please let us know. The option to print out the music text to a printer is not available to 32 owners, 64 owners must use the serial port; I haven't tried it. The sound is generated via the stereo outputs (or monitor output), you don't get the sound via the TV. This is something to do with the Dragon having an extra video output over the Tandy, though what, I don't know. Despite the drawbacks, this unit does create impressive sounds and the programming language is quite straightforward to learn. In no time I had 'Twinkle twinkle little star' emenating from my hi-fi. You don't have full control over the sound envelope so the more exotic synthesiser sounds a la Jean Michel Jarre or whoever are not possible.
I'd appreciate hearing from anyone who uses this item and any music they've created.

HELP!!!

I've just received a plaintive plea from Mike Ganley, who says that he is researching for a series of articles on the history of home computers, and obviously would like to include as much as possible on the Dragon. However, there being no published material on the subject, he would very much like all and any information you can supply ....particularly about early development, the connection with Race and other firms, what went wrong, GEC, Eurohard, etc. So, if you can help at all, please contact Mike at 34,Springfield Avenue, Horfield, Bristol BS7-9QE.

Situations Vacant!!.

Tim Lomas tells me that owing to lack of time he will be resigning from the post of Unpaid Editor in the near future, and Barry Caruth, being completely mad and a dedicated masochist into the bargain, has volunteered to take over this thankless task .... which will mean that we will be needing someone to take over as Software Editor. The hours are lousy, pay non-existant, and you need to be expert at scrounging!. If you're interested, let me know soonest. Paul.

7.

GOING NATIVE (2) ..... CHRIS JOLLY

PART 2 ... RUNNING 'C' PROGRAMS UNDER DRAGONDOS

The actual transfer of a compiled 'C' program from OS9 to DragonDOS is simplicity itself, once the OS9 to DragonDOS file transfer has been created (see part 1). The only wrinkle which needs to be ironed out is the 'C' startup code. Fortunately 'C' programs don't need much setting up. They are relocatable (as are all OS9 modules) and so know how to take care of themselves to some extent. Luckily the OS9 header is big enough to be overwritten with a small startup routine. The module header is not required outside OS9 and it is convenient to have the entry point for the code as the beginning of the file. The short 'C' program shown here takes a compiled 'C' program as its input and writes a DragonDOS compatible binary file consisting of a DragonDOS binary file header containing load and start addresses and a short startup routine replacing the OS9 header. Because DragonDOS needs to know where to load a binary file, the conversion program prompts for a load address which is specified in hex. This would normally be somewhere above the graphics pages perhaps with a small margin for Basic loaders etc. (ie around $2C00), or for short utilities it could be within the graphics pages. Once a compiled 'C' program has been processed in this way it can be copied directly to a DragonDOS disc and run under DragonDOS. The important issue which must be carefully considered when writing code to be ported in this way, is which library routines can be called. Basically this problem is fairly easy to resolve as only those routines which do not make calls to the operating system may be used. Therefore string handling, floating point arithmetic and a few utility functions can be called. I/O functions, memory allocation and other system calls are not allowed. This doesn't mean of course that 'C' programs ported from OS9 cannot perform I/O, merely that you have to write the I/O functions yourself to be compatible with DragonDOS. (Basic and DragonDOS ROM calls can be made). The startup code locates the code part of the program in low memory starting at the load address, the data above that and the stack pointer is initialised to $8000, thus allowing maximum possible stack size. The startup code also initialises the DP register so that the 'direct' storage class can be used. The next article will contain some hints and tips on writing and compiling 'C' for DragonDOS.

```
#include<stdio.h>
main () {
   char infile[30],outfile[30];
   FILE *is, *os;
   unsigned modlen,execoff;
   unsigned data,load,entry
   int c;
   printf ("Output file: ");
   gets (infile);
   printf ("Output file: ");
   gets (outfile);
   printf ("Load address: ");
   scanf ("%x", &load);
   is = fopen (infile, "r");
   if (is == NULL) {
      printf("Can't read %s/n",infile);
      exit(1);
   }
   os=fopen (oufile,"w");
   if(os == NULL){
      printf (Can't write %s/n",outfile);
      exit(1);
   }
   fseek (is,91,0);
   execoff = getw (is);
   fseek (is, 01, 2);
   modlen = ftell (is);
   data = load + modlen;
   data = 256 * ((data + 255)/256);
   entry = load + execoff;

putc (0x55, os);   putc (0xce, os);  putc (0x1f, os);  while((c=getc(is))!=EOF)
putc (0x02, os);   putc (0x80, os);  putc (0x1f, os);     putc (c, os);
putw (load, os);   putc (0x00, os);  putc (0x8b, os);  fclose (is);
putw (modlen, os); putc (0xcc, os);  putc (0x03, os);  fclose (os);
putw (load, os);   putw (data, os);  putc (0x7e, os);  }
putc (0xaa, os);   putc (0x1f, os);  putw (entry, os);
putc (0x10, os);   putc (0x42, os);  fseek (is, 161, 0);
```

MUSIC MAKER...Ken Grade.

Written by David Makin and marketed by John Penn Software,this is a very comprehensive program for writing or copying music so it may be played by the Dragon. The hi-res. screen is used to display a very realistic pair of staves with treble and bass clefs,on which notes are placed using the arrow keys. The idea behind the program was to make it possible for anyone to transcribe music from a score or song sheet, without being familiar with musical notation. A short explanation of musical notes, and how chords are made up, is included in the handbook which comes with the tape.
The most useful feature is that, although 4 sound channels, or voices are available, it is not neccessary to use them all, if, for instance, only two are needed. Another useful idea is that notes making up a chord may have differing time values - e.g. minim plus two crotchets and a quaver may make up a chord or note group. The program does keep track of the time remaining on each channel, so that nothing gets out of step. Notes can be 'tied',either a whole chord, or individual notes of a chord. To summarise, it is much closer to writing music on manuscript than either 'Composer' or 'Composer Companion'. The main point is that you needn't know know G sharp from A flat to be able to use it. Tunes can be saved (to tape!) either as files or as independent machine code routines. (The machine code can later be transferred to disc, and has no adverse effects on DragonDos.)
The snags:- it is quite time-consuming to enter up music, as there are several keypresses needed for each note. The handbook doesn't say that it is necessary to reserve sufficient memory before loading a machine code tune, by using the CLEAR command. It appears to be necessary, otherwise the Dragon hangs up and refuses to play (quite literally!). Tunes are erased from memory once they are saved, which no doubt conserves memory, but isn't always so helpful for those who want to try just one more thing...
The quality of music produced by the program is at least of the same standard as can be produced using "Composer". It should be possible to produce a better sound using Music Maker because of the points I've mentioned.
If you are interested in music, but have "never had the time to learn..." then try this program.Despite the few drawbacks, it is a very worthwhile investment at #5.00. Many thanks to John Penn and David Makin for supplying the review copy.

NTS Dragon Users Group.

Some time ago I mentioned that Richard Ball intended forming a new Dragon Group, aimed at the less "expert" owners, and I've just received a copy of his Group's first newsletter.
I have to admit that I wish OUR first issue had been up to the same standard, and even though Richard is suffering from that old problem of not having enough material sent in for publication, he has made a really good job of it .....it is certainly well worth the subscription of 7.50 per year (or 4.00 per 6 months).
He has made no attempt to play the expert and blind everyone with terminology, but concentrated on helpful tips, listings, plus the usual arcade and adventure pages and of course general news.
Altogether a very creditable first attempt, and one which deserves to succeed. You can contact him at 75,Sunnybank Road, Pontypool, Gwent. NP4-5LN.

Are you running, or even thinking of running a Dragon or Tandy based group or magazine? If so, let me have all the details and if possible a copy of your newsletter or magazine and I'll do my best to give it some publicity. What' happened to all the local groups now? ....there used to be dozens of them, but it's been a long time since I last heard of one. Is there anybody there.....?. Paul.

DELTA DOS (5) ..... MARTIN LAYLEY

More DeltaDOS routines....

```
SU5       - Saves a block (n*256 bytes) of memory to a given set of sectors
     ENTRY ..... C77E
     CONDITIONS - Entry - 7A7A & 7A7B hold the 1st address of the code
                          7A68 & 7A69 hold the number of the 1st sectur
                          7A6A & 7A6B hold the number of the last sector
                  Exit  - None
     NOTES - Exits via FIRST
LOADIT    - Reads a set of domains from disc into memory
     ENTRY ..... C66F
     CONDITIONS - Entry - 7A2Ø & 7A21 contains the 1st address in memory
                          7A68 & 7A69 hold the number of the 1st sector
                          7A6A & 7A6B hold the number of the last sector
                  Exit  - None
     NOTES - Only loads in multiples of 256 bytes (normal length of a domain).
INFILE    - Closes all channels but does not write out any of the buffer.
            Sets the file area
     ENTRY - DØ63
     CONDITIONS - None
SFILES    - Sets the number of file channels
     ENTRY - D3BB
     CONDITIONS - Entry - B register contains the number of channels
                  Exit  - None
     NOTES - The number of channels must lie between 1 & 8
HH4       - Selects which file channel is to be used for disc access
     ENTRY - DØF3
     CONDITIONS - Entry - B register must hold the channel number
                  Exit  - 7A46 holds the current file number
                          7A6F set to ØØ
                          A register set to FF
     NOTES - Exits via FIRST
OP3       - Open a file
     ENTRY - D256
     CONDITIONS - Entry - B register holds the channel number
                          7AA6 points to the ',' in the filename
                  Exit  - None
     NOTES - Exits via FIRST
             Reads in the first sector of the file, to the buffer pointed to
             by the FCB which is set up by SFILES
CLOSE FILE- Closes a given file channel
     ENTRY - D2B9
     CONDITIONS - Entry - HH4 must have been called first
                  Exit  - None
     NOTES - Exits via FIRST
```

ANOTHER COMPETITION.....TL

I have in my sticky little mitt a voucher from Dragon Magazine for a free item from the Broomsoft and Dragonfire catalogue for one of you lot to win. Having been wondering what to ask you to do to win it I came up with the following idea.

What I want is a program which will bounce a ball around the screen, if you can do it with a shadow on the bottom of the screen, even better. It must be in Basic and no more than 2Ø lines, the smoother the graphics and the shorter the program the better. No use of machine code, no swapping of graphics pages and a rotating ball which changes direction of rotation when it hits the edge would be even better.

Entries to this competition to me, not Paul by 3Øth September (1st post).

Oh, I nearly forgot, in the case of equally good programs the prettiest screen presentation will win.

10.

GALACTIC GUS (QUICKBEAM) -- MIKE STOTT

Normally a review copy of a game is different from a normal copy so the reviewer can progress further in the game. This review is of a standard game. When I first tried the game I absolutely hated it. I was losing all of my eight lives within seconds of starting and felt very dejected. Having persisted I am now hooked and spend a lot of time trying to sort out the many problems facing Gus, the fighter pilot who is searching for fuel pods to refuel his fighter so he can rejoin the spaceship Dragon. He is seated on a rocket chair and has to be steered round laser doors, creatures and other surprises. This is not a zap-em type game as you have no weapon to use but one must be very skillful to avoid the creatures on many of the 215 screens as you move through the maze trying to find fuel. The type of maze involved is not too unlike Dark Pit. There are also bananas and small white objects which obviously have to be taken somewhere. I have also seen a key (but can't reach it yet) which has to be taken to the keyhole to gain access to further screens. Once you have mastered the trick of how to avoid the creatures, try invisible land where you can see the creatures but Gus is invisible. For the hackers there's a combination to be entered to get further. Speed 5 is the slowest and the only one with which I can cope at the moment. The graphics in this game are nothing special but for 4.00 you are presented with a series of challenges which will keep even the most adept busy for many hours. Not a classic game, but certainly good value for money and containing a variety of problems, some of which I have left for you to discover for yourselves and probably others which I've not even come across.

Banker Board drawings.

Here are the long awaited diagrams which SHOULD have been printeed with Bob Hall's article in the June update, but which somehow went missing!!.

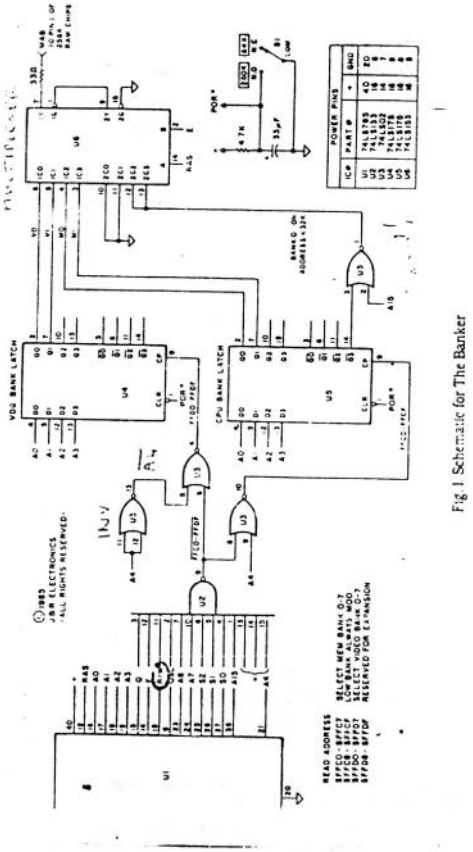


Fig 1 Schematic for The Banker

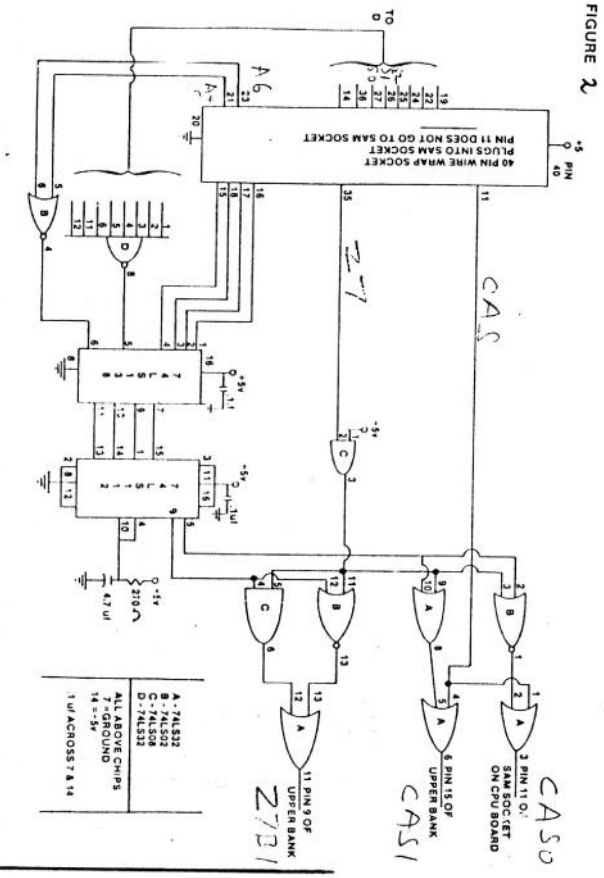


FIGURE 2

THE N.W. ENGLAND DRAGON SHOW AND CONVENTION

SATURDAY, 12th SEPTEMBER 1987

at Bishop Henshaw UPPer School,
Rochdale, nr.Manchester,

10 a.m. to 4 P.m.

Entrance Fee:- £1.50 for adults, and
£1.00 for children.

On September 12th, Pulser Software will be orGanising the N.W.England DraGon Show and Convention, at BishoP Henshaw UPPer School, Rochdale, Lancs.

Many of the major retailers have been invited to come along to sell or demonstrate their software and hardware, including :-

DRAGON USER MAGAZINE
COMPUSENSE
COMPUTAPE
JOHN PENN
PEAKSOFT
PAMCOMMS
GROSVENOR
NATIONAL DRAGON USERS' GROUP
HARRIS MICRO SOFTWARE
MICROVISION
QUICKBEAM
P.N.P.COMMUNICATIONS
R & AJ PRESTON
OS9 USER GROUP

Also, we hoPe to have demonstrations, a coMPuter 'clinic' with a Panel of exPerts to helP with PeoPles' Problems, a forum to answer PeoPles' Queries, and hoPefully a Prize draw. Snacks and seatinG will be available and a licenced bar has been aPPlied for.

Easy access from the M62.

Any retailers or demonstrators interested in bookinG a stand should contact Pulser Software on (0706) 849189

Prolog
By METASOFT

Full-feature 5th generation language for Dragon 64 with OS9 operating system

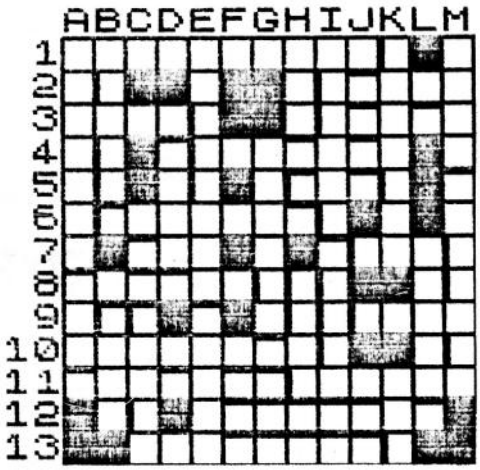
£29.95 inc P&P, 100 page manual

METASOFT, 4 Pinehurst Walk, Orpington, Kent, BR6 8DD

CROSSWORD 25. Compiled by J.D.Bateman.

ACROSS:-1A)Update advertiser whose name implies more interest in computer design than music. 2I)Having two feet. 3A)French me. 3I)Altercate. 4E)Motorcycle appendage. 5H)Small insect found in non-runnig program. 6B)Acronym for formula translation (high level language). 7C)Japanese innovation supposedly making C.D. obselete. 7J)Firm which tried to save the Dragon for a short time. 8A)Temporary store for data found in most printers. 9J)Trade name of fountain pens successor. 10A)P.Beed creates his artwork on one of these. 11A)Young girl (Irish). 11H)I.B.A's teletext srvice. 12E)Breed of dog. 13J)Small tinned fish.

DOWN:- A1)Underground gaol in castle. A8)Binary digit found in horses mouth. B1)Call off as in space mission. B9)One of these inside another is called nested. C9)A flower from Amsterdam. D4)European currency. E1)Tape container. E9)Egg container. G4)American nappy. H1)Rob with a drinks container. H8)Bird extinct since 1681. I1)Old counting frame. I7)Thin slice cut from crystal of silicon or germanium. K1)Raise the gaffer to increase your memory capacity. K11)Type of lettuce. L7)Hard substance forming sea reefs. M1)C.Fletcher writes odd ones. M5)The negative electrode.



Last month's winner, who won a copy of MAGBASE complete with D.User AND Update files very generously donated by Pulser Software, was J.E.Slade of Thanet. This month's prize is a copy of Peter Williams TAPE DOCTOR utility program.

Basic 42 utilities.....John Cox.

Icons?, Mouse?, having an Atari St this was a familiar language, but on a Dragon?!. There was simply no choice but to fire up the "wee beastie" and take a look!.

I first used the "Mouse" utility which is joystick controlled rather than keyboard. The screen is split into four windows, command, result, parameter and status. The command is on the right of the screen with the various disc commands (24 in all) which are accessed by the joystick and fire button. So I went for DIR ... A cursor started to flash in the parameter window, so I pressed the button again. Problems!!!!!!. Every time I pressed the button a number (Ø to 3) appeared on the screen. Suddenly the drive started and a message appeareddd ...WP!. The problem turned out to be a defective joystick, so I plugged in another one and away I went!. Thank goodness the disc was write protected as the mouse had chosen DSKINIT!!!. There are a lot of nice toushes, as the status panel shows how much memory is left, drive, mode (run, load, etc), and the last program loaded into memory. When you list a Basic program it is listed one line at a time, which is very handy if, like me, you cannot read the scrolling screen!. I shall not go into all the various commands as space here is limited, but I feel it would have been nice if the cassette i/o port had been included, (Yes, I KNOW this is disc based!) along with the 232, but perhaps Boob Harris has this planned for the future?.

Next is Structured Basic. I feel that this will need an article all of its own as it deserves quite a lot of space. Briefly, it is an extended Basic for the Dragon that speeds up execution and writing of a Basic program. It even has its own error codes and messages. Hopefully I shall go into this in depth nexc month.

Icons. This utility adds extra commands to Basic 42, and allows you to define, clear, save and load Icon definitions and specified windows with Icons in them, and select an Icon from within a Basic or m/c program using the keyboard or the right hand joystick. Up to 99 Icons can be defined at any one time. There is also an Icon draw program supplied which allows you to draw Icons for your own programs. I had great fun drawing little discs to emulate the ST screen!. I felt that it couldn't be eeasier, as one could move the Icon around the chosen window to the desired position after it had been drawn, and then saved to disc. This has very good possibilities for future programs that could elevate the Dragon.

However, the Artist program supplied, which demonstrates the Icon utility was not in keeping with the quality of the remainder of the programs on the disc. Yes, I KNOW it was only a "demo" program, but I had to be very careful of the PAINT command as twice it painted over the Icons!!!. It seemed to ignore the windows and paint the entire screen!. However, I feel that this is only a very minor problem.

On seeing this disc I must admit that my first thought was "impressive, but what practical USE have these utilities", but on second thoughts they DO have a very great potential, and the only problem is that you need to have Basic 42 resident (Sorry Bob!), which has limitations. All in all an excellent package, well written as always, with a fair amount of documentation. If you have Basic 42 then these utilities are a must. If you haven't, WHY NOT???!.

It has to be said.....

Bad news is no news to Dragon owners, I know, but I'm sorry to have to confirm that Julian Cogdell's "Dragons Tail" magazine is now defunct. In addition to this, Simon Jones' "Dragons Roar" (formerly Drag Mag) will not be appearing as planned, owing mainly to lack of support and subscribers. Simon tells me he WILL be trying again with "Roar", but for the time being it is out of circulation. In both cases no one should be any worse off, except the organisers, as full refunds are being given to all subscribers.
May I offer a bit of free advice to anyone thinking of starting up their own group or magazine?. Don't expect an instant rush of members / subscribers, it simply wont happen that way. A lot of people will express interest, many will offer help and support, and even more will tell you that they will subscribe. Don't believe a word of it!!!. In reality you'll be lucky if 1% of those keen types ever become subscribers, and the help will disappear as soon as you actually ask for it, and if you want support, buy a corset!.
Don't expect running a group or magazine to be a hobby, if it works at all it will become a full time occupation for which you'll receive a little praise, a lot of abuse, and no profit.
Don't under cost the job ..... work out all the expenses you can think of, add 50%, double the total, and you'll be somewhere near the actual cost. Remember that phone and electricity bills have to be paid, and stamps, labels and envelopes can cost a small fortune too!. Don't spend money on advertising, it wont get you any new subscribers, and it seems to give the impression that if you can afford to advertise you can afford to give things away as well!!.
STILL want to start a group or a magazine?. Then good luck to you, and if I can help at all, I will, but please remember that once you start, you're lumbered!, you can't change your mind without either taking a loss yourself or causing your subscribers to do so. What's all this about? ....well, I've been at this game for three years now, and seen a lot of groups / mags come and go, and it gets depressing seeing all those hopes, good intentions, and hard work come to nothing, so I thought a general warning might be in order. OK?. Paul.

Dave Cadman's "Classics". R.A.D.

You may already have heard the Canadian version of Beethoven's "Fifth", and the American "William Tell", but even if you have, "you ain't heard nothing yet!". Dave's "Classics" disc (also available on cassette) has seven of his arrangements of popular classical scores, giving almost 20 minutes playing time in total, and thay are all excellent!. The first is a Mozart K40 excerpt which you will find very familiar as it was once made into a "pop" record. A lively piece, very well transcribed for the Dragon. The second is Chopin's Minute Waltz (Opus 64, No.1), another well known piece cleverly done. Bach's Fuga 17 from the 48 Preludes & Fugues is next, a slower composition perhaps not suited to all tastes, although the following piece, Bach's "Sheep may safely graze" is a famous one which is widely appreciated. Then comes the lively and easy to listen to "Humoresque" which can get your feet tapping. In contrast this is followed by the moving "Moonlight Sonata" by Beethoven, an exceptionally lovely composition, and the climax is Handel's "Cortege" ..."Entry of the Queen of Sheba", one of Dave's finest efforts. Not many people know that if you have Hi-Fi equipment it is possible to make recordings of Dragon music either from the monitor port or from the cassette mic lead ... or you can listen to the music through the Hi-Fi instead of the TV or Monitor audio, which in most cases isn't good enough to register the very low notes. This disc is an excellent selection which gives a first class demonstration of how good the Dragon really is, and Dave deserves both thanks and admiration.

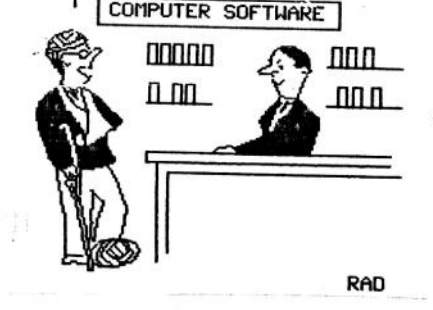
The Latebit.....

I just thought I ought to use this bit of space to say thank you to all those members who have taken the time and trouble to contribute articles and material of all kinds during the past three years. Without your work the Group couldn't have become the success that it is, and whatever the eventual fate of the Dragon, at least you can have the satisfaction that YOU have done something to keep it alive and encourage others to stay with the machine. I'd like also to thank all of you who have very generously contributed to the "Copier Fund" .... it's helped to keep our present copier operational, and we now have just on 300.00 towards the cost of an eventual replacement ...there's a long way to go yet, I know, but with your help we'll get a new one eventually!.

Notice to HMG.

Just to liven things up, we have decided in this issue to include extracts of material from the book "Spycatcher". You will find at the top of every page in this newsletter numbers which are accurate copies of those used in the book, and will also find that many of the words we use are also to be found therein, although not always in the same context. The actual story was far too boring to bother with, and in any event, everyone knows the standard MI5 type plots anyway, except possibly certain politicians and other educationally sub-normal persons, so there was no point in including them here. See you in court!. Bring your own Fosters!. Paul Grade.

"I crashed while I was using the flight simulator programme !"



Classifieds & Special Offers Ads.

DRAGON MUSIC!!!. A selection of music on tape or disc, arranged by Dave Cadman and produced by him on a specially extended version of Composer. The tunes are divided into four categories, "Rags", "Classics", "Standards", and a "Miscellaneous" selection. This month's release is a "Standards" selection,"Rags" and "Classics" selections still available.
Prices are TAPE 3.5@, DISC 4.@@, inclusive of postage. Orders to Dave Cadman at 32, Breedon Hill Road, DERBY DE3-6TG.

Dragon 32, plus D.Data disc drive and Dragon DOS, 5 discs of games etc, plus manual and a printer cable!. Bargain: 11@.@@ the lot o.n.o.
Phone J.T.Black on @67@-819389.

NEW Dragon 64 for sale...75.@@.o.n.o. Upgraded 32/64...5@.@@.
D64 main board, perfect working order...35.@@.
Phone Alan Butler on @371-4234 evenings.

Wessex Wyvern 4 way expansion board + software. 4@.@@ or swap for good 12@@/75 modem & software.^
Phone @7@3-38@42.

Shugart 5.25 SS 4@ track drive. Uncased and minus PSU. Perfect working order. Full height. Ideal second drivve. 3@.@@.
Phone Philip on @7@5-5@434@.

Dragon 32 for sale.....any reasonable offer considered.
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OKI 1/3 height (ultraslim) disc drive. NEW. 68.@@; Mitsubisshi disc drive NEW. 63.@@; Mitsubishi disc drive. Used but perfect. 53.@@ (two available). TEAC disc drive. Used but perfect. 53.@@. All the above drives except the OKI are half height, and all are 4@ track 5.25" double sided units, uncased and without power supply. Prices include postage etc.
Large number of NEW 27256 EPROMS available at 2.@@ each.
Phone Alan Butler on @371-4234 (evenings only please.).

Basic Programs Listed. 1 Program Listing...75p. up to 4 pages. Additional pages 5p. each.
For more Programs...5@p. each.
All tapes and listings will be returned as far as possible the following day...
W.Hale, 'Rose Cottage, Hungerhill, Coolham, NR.Horsham, W.Sussex. RH13 8QE.

MODEM PACKAGE SPECIAL!!!. Complete package for D64 owners, comprising of a Prism Modem 1@@@, connecting lead and software to access Viewdata and all scrolling type BB's. The modem will operate on 12@@/75 baud for Prestel, and on 12@@/12@@ for user to user operation. The price for the complete package is ONLY 35.@@ to Group Members, 4@.@@ to non members.
Cheque/PO or cash (registered post) to T.Hayton, 36,Laurel Drive, Willaston, South Wirral L64-1TW.

Games to disc transfer...Unprotected game code of any game sent in return for a blank tape and 22p stamp, but you MUST include the inlay card to prove you have bought the original.
Contact M.R.Vine, 12@,Auriel Avenue, Dagenham, Essex RM1@-8BU.

THE BEST ADVENTURE AVAILABLE ANYWHERE!!."The 13th Task" from ARC Software. Only 2.5@ + 3@ pence postage.
ARC. 272,Mearns Road, Newton Mearns, Glasgow.G77-5LY.

FORTH OPERATING SYSTEM: Simply the best there is. Written by John Payne, and available for DragonDOS, Superdos, and DD or SD DeltaDOS.Available ONLY through the Group. 8.5@ inclusive. Orders/cheques to the Group, 6, Navarino Road, Worthing, Sussex.

Circuit Sheets: Available for D32 (most variants), D64, Dragon DOS controler, and Cumana DOS controler. All the same price 1.@@ each. Cheque/orders to the Group. 6, Navarino Road, Worthing, Sussex.

Dragon Upgrade manual: 32/64 conversion method fully explained so that you can uprate your 32 yourself without difficulty. Written by Bob Hall and available only through the Group. Price 2.@@. 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.@@ or on cassette for 2.5@.
J.C.Bussell, 33, Tennyson Avenue, Clevedon, Avon BS21-7UJ. (@272-875528).

OS9 MODEM PROGRAM: Up and downloading of files. Any Baud rate from 5@/5@ to 96@@/96@@ (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.@@.
Please phone Barry Knapp, @932-242@@@ evenings only.

DRAWEZEE! A graphics drawing program, on tape, which we think is one of tthe best!. Written by R.A.Davis,it must be a bargain at 2.5@ including postage. Orders to Paul Grade,6,Navarino Road, Worthing, Sussex.

DRAGONDOS EPROMS: Your DOS 2764 reblown to "patched" V1.@ specificaton, or to Eurohard V4.@ or V4.1, or to PETER WILLIAMS TRANSLATED & DEBUGGED ENGLISH VERSION OF V4.1. Price for any version just 3.5@.
Computil, 24,Jays Mead, Wotton-under-Edge, Glos.GL12-7JF.

BACKDATE UPDATES: Copies of all earlier Updates available from John Cox, 3, St.Peters Road, Portslade, Sussex. (@273-422492). (Chris Channing, is currently having copier problems!).

DDCOPY: Dragondos to OS9 file copy utility. Includes 'Telewriter' & Basic conversion filters....8.@@.
COM@9: OS9 comms. program. Xmodem (CRC & SUM), multiple upload modes, monitor buffer, function keys and more!. Suitable for any OS9 system (CoCo needs ACIA-Pak) and includes source files....8.@@.
PD-PAK: Selecton of useful public domain OS9 utilities on one disc....5.@@.
Jason Shouler. 7@,Victoria Road, Parkstone, Poole. BH12-3AE. (@2@2-722599).

GRAPHICS SCREENS...The Group Graphics Library, "DRAGONART" has agood selection of screens available now, so why not make use of the service offered?. Why not submit YOUR graphics as well?, you could win a prize!. All you need do is write for details.
Dragonart Library, 5,Glen Rd, Parkstone, Poole, Dorset.

NEWCOPY: A m/c tape utility program for the production of backup copies of m/c programs. Capable of loading either headed or headerless programs or sections of programs, and saving these in thier original or alternative formats. Also allows easy tape positioning using motor on/off routines. Written by Stuart Mills, and available to Group members at 2.5@ plus 25p postage/packing. Orders and cheques to the Group.

Household Accounts program: Written by Graham Strong this program is ideal for almost all home accounts purposes. Capable of providing estimates of next years bills!!!, and many more features. Price (DragonDOS disc) 5.@@ inclusive.
Orders to G.Strong, 78,Coleridge Crescent, Goring, Worthing, Sussex.

WANTED!!!. Help required to convert games to SuperDOS disc format. All and any help most welcome.
Please phone Keith Hunt on @21-525-6@18.

PRINTOUT SERVICE.
1 BASIC program listing (up to 5 pages). 5@ pence.
2 or more programs 4@ pence each (up to 5 pages). All additional pages 5 pence each. (5 pages = app 25@ lines).
Screen dumps 3@ pence each, 2 or more dumps 2@ pence each. (dump size appx. 6" x 4.5").
Text files, data files, DREAM source code files, please enquire.
All tapes or SuperDOS compatible discs (ONLY) must be accompanied by suitable stamped addressed envelope to hold tape/disc and printouts. All enquiries must include SAE. 24 hour return service where possible.
Contact Z.Green, Aberllywd, Insh, Kingussie, Inverness-shire. PH21-1NT.