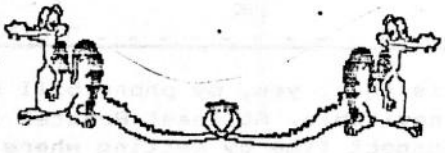
The Newsletter of the National Dragon Users Group

DRAGON UPDATE



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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. Phone:01-674-0327.
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The Gaffer's Bit - - - - - - - - - - - - - - -

Right, first thing on the list is going to cause a panic....owing to the diabolical state of the postal service we're going to have to change the copy deadline for Update material. As of now, ALL material for inclusion MUST reach me or Tim BY THE FIRST OF THE MONTH, so please make a point of posting it on time. Reason being that the postal service is now so bad that it often takes over a week for first class post to make the journey between London and Worthing, which is why Issue 26 was so late.

Next point is Micronet.....How many of you would be interestd in joining Micronet/Prestel if we were to take a few pages for Dragon news?.....and if we did, would anyone be prepared to organise that side of things (because I don't really have time to do so)?. If there's enough interest we can give it a try, but there's no point if only a handful of you would be willing to join, so let me know what you think about it, and maybe we can get something sorted out. it's your choice.

Has anyone ever told you how idle you are?...they were right!. I sit here, getting bruises on my typing finger trying to con you into writing material for us to print, and what happens?, I get stuff in from the same old few and the rest of you just take no notice at all. Look, I don't care if you can't spell, or can't use joined up writing, or know nothing about hardware or the finer points of OS9....IT DOESN'T MATTER!, you MUST have something to say about something connected with Dragons, so why keep it to yourself?. It's not fair on the regulars who DO write. What's up?, afraid you'll make a fool of yourself?....don't let it worry you, I used to think that too until I realised that I couldn't improve on nature!, so I'm not accepting THAT as a valid excuse. I dunno which is worse, you not writing the material or the post not delivering it!. On that point, have you noticed how carefully they word things...."98% of first class mail is delivered on time"....they don't say WHERE they delivered it, though, do they?!.

Oh well, I suppose I'd better stop rabbiting on and give Our Illustrious Editor a chance to get in a word or two. (and I bet they wont be polite). Don't forget, someone, somewhere, wants an article from you, so get writing!!.

Paul G.

THE EDITORIAL BIT

Well, November is on us again, and the time for the Show draws nigh, 'tis not time to cast aspertions on anyone, even the Post Office escape my attentions (but note Paul's bit about copy dates). I'm not even going to berate you for the lack of articles (again) (but don't let that stop you sending them in!!). Perchance I should wonder why everyone uses CGP115 printers (well that's all I get articles about anyway).

The night draws on and 'tis time to put the newsletter to bed (that's technical jargon for getting it finished , well sort of) besides which, I've got to get up early in the morning & get to work. So, another months grind reaches it's conclusion, and I can, perchance, spend the morrow getting my programming finished. See you at the Show, bring an article with you to keep a poor old Editor happy!!!!! T.L.

27.02

PRESTEL . . . . . TONY SIMMONS

The first thing to be said is that, yes, my phone bill has gone up since I went online! That much is inevitable. At least Prestel is a local call for most, the trick is to cut connect time by getting where you want to be as quickly as possible. Remember, it's free in off peak hours and if you keep out of IP areas which charge, and don't store data. For those who know nothing about Prestel, first you need to pay your subscription fees. Most users join when they buy their modem. Joining Micronet is the usual way for Micro owners. Micronet are Information Providers (IPs) for Prestel, this is another charge, at the moment, 10.00 per quarter for Micronet and 6.50 for Prestel. This is billed directly and is of course in addition to the cost of the phone calls. When you join, you get an account number, a password and a mailbox number (mine is 730892720 so that's where to direct messages) and a password. It cost nothing to send or recieve mailboxes unless you chose to store the messages you recieve. The first thing to do with your password is change it (regularly) in case anyone tries to use your account. Having been online a while now, I can see how important it is to be able to prepare text off line for quick transmission. This has been tried in sofware and is I believe a firmware option on some modems. Auto dial and answer etc? This depends on your pocket, for the average user, I doubt the expense is justified but if you have a burning desire to run a BB these would be vital.
There are several software offerings for Prestel. You need something to operate at split rate (1200/75), I use a program developed by Eric Donagain called VDATA. In Hires on the Dragon of course, you can't get the benefit of the Prestel colour. This isn't a great loss, but could cause the occasional loss of information. The current version of VDATA works under FLEX. It provides a frame save facility, a quick frame text dump and a full graphics dump. The ability to save frames quickly to disc for later viewing is another way to cut down phone bills. If anyone knows of a software package with offline text preparation, let me know (and me ... TL).
So, what's on Prestel? The format is a series of interelated frames, the whole edifice can best be likened to the root structure of a tree (OS9 users will feel at home!). Frames are numbered and sub frames lettered to form a set from a to z. A set of sub frames can make up a feature or form a magazine style series of articles. If you subscribe to Micronet, then you start with the Micronet index. From there you can select frame after frame to wander through. A useful guide to the world of Prestel is the Bi-monthly magazine Telelink. If you know where you want to get to, you can save time by avoiding the indices and entering the page number directly (ie *700110161# which is the start of the Dragon frames within the gallery. There is so much going on in the micro world and indeed the Dragon world that one contact tends to lead to another. At the time of writing the following Dragon contacts exist in Prestel:
Dragons Tail *700110083#; Dragon Mag *700110161#; Gordon Twist OS9 *700110128#
The features on offer are changing daily so any review can only be subjective. Being online lets you feel you are up to date with the news. Sometimes response can be slow when a frame is called up. The slow 75 baud rate of sending mailboxes can be infuriating, the use of offline text preparation is SO important.

CROSSWORD 16 ANSWERS

Across:
1A)Traffic 2E)Length 3A)Morse 3G)Shards 5H)Kungfu 6C)Wizard 8F)Report 9A)DNA 9E)Stylus 11B)Attack 11I)India 13A)Soldering iron

Down:
A1)Temple of Doom C2)Arrowhead E1)Flex E9)Slade G3)Shark H1)Ugh I7)Fouling J3)Runners L3)Softek L10)Giro M1)Computape
Winner of X-Word 16 was Graham Smith of Bristol. Prize for the winner of 17 will be "Space Trek" by Broomsoft.

DRAGON DIARY ..... NEIL SCRIMGEOUR

I was looking through my Scale modelling mag and found an article about rare kits. I'll point out that I'm 24 and modelling is my main hobby, not a schoolkid. Anyone taking the mick of modelmaking is ignorant, if it wasn't for models you might not be alive today. Anyway, the author was angered by the exorbitant prices of rare kits, but as I read on, I found in parts that he was being hypocritical. As I reread parts, I saw a lot of my own writing style and yet this article really gets my back up! So, how much do I get other peoples backs up? I'm sure Compusense & Microdeal have a dislike of me, probably Maridian as well after last month. Reviewing S/W is a serious buisiness, yet some reviewers treat it as a joke. They also have a responsibility to the S/W company to give a fair review. If someone had said for instance that Ring of Darkness was a load of rubbish, when it was in fact state of the art at the time, would we have had Return of the Ring or Barons of Ceti 5? With the swoop of a pen, the reviewer could ruin the company. Another example is a budget title which got 25%, 75% and 'The bargain of the year!' in different mags, now how can they be so different? It's OK with more than one review, but in the case of the Dragon, most people take D.User reviews as gospel. What the market wantedwhen Dragon Data was not a myth was another dedicated mag, would more S/W companies have survived then? A second review can only be a good thing. This is one reason Paul started up the group when Dragon Dungeon collapsed, another voice was needed. ALthough we have a large readership, we don't rech a lot of Dragon owners, perhaps because we don't offer what they want. Do they miss out on good S/W because it got a dull review in DU? I would think probably so. I've always believed the reviews in Update were fair. When we get S/W, it goes to the people who know that subject and should give the best views on the prog. They are not allowed to keep it unless a handful were given as freebies. The game or H/W is passed back to Paul and used as a prize. I wouldn't deny that some may have got a bad review but as no one's written to tell me, I assume everythings OK. If you think that someone's given an unfair review, write & say so, hopefully it'll be printed. As has been muttered many a time, Update is what you make it. On a different note, someone has moaned to me that he doesn't want to hear about the GPO or when the editor's going on holiday, yet he hardly contributes. If you don't like the content, you know whwat to do! Write something yourself. The contents of the Diary may change next month, I've covered most of what I wanted to say. If you want a topic covered, write & tell me. I should be at the Show, so I'm sure I can find something to write about (like how we set up the stand or something).
Finally, why do you owe your lives to models? How do you think companies test vehicles, aircraft etc?. Also, if anyones got a Frog Wessex or Shackleton they want to get rid of, PLEASE get in touch with me. And yes Roy, I know this has nothing to do with Dragons.

ANOTHER REVIEW OF A REVIEW

Having seen Mr Freestone's notes regarding Printer Control in Update, I purchased the program. I can only confirm everything he says, it's very user friendly and will do virtually enything from letter to graphic screens on your printer. On first looking at the manual with the program, it looks complicated, this is not so, it's a damned good package. Its functions are too numerous to mention here, it's certainly made my life a lot easier.
Gerald Hale.

Apology.....

I HAD hoped to be able to get this issue out to you before the Show, but for various reasons, mainly the small number of hours in a day, it just hasn't been possible. Sorry, but there was nothing I could do about it. P.G.

DIRECTORY FILES...(Ken Grade.)

Most people know how to dump a disk directory to printer using POKE 111,254. By POKing 111,255,the output can be dumped to tape,if used in a routine like this:-

```
[5] OPEN"O",#-1,"DIR":POKE111,255:DIR:PRINT#-1,"DIR":CLOSE#-1
```

Not very useful? Well,if the file is read back into an array variable,and a disk name/number assigned to it rather than"DIR",it can be stored back on disk as a disk file.

The routine in lines [15] to [23] will read in the file from tape,and lines [24] to [32] will write it to disk. Now,when you want to check what should be on any given disk,RUN the routine starting at line [36],which will read the appropriate file and print it to screen.

I got sick of trying to track down those elusive programs which"should be on here",(and never are),and which turn up when looking for something else. So,I thought,if a "catalogue" could be made of every disk directory and kept on a separate disk(to be lost separately!),there was some chance of keeping track of disk contents (provided the file was kept up to date!). People with twin drives should be able to Save the disk directory from one drive direct to the other,using POKE 111,253. Of course,a file needs to be opened first,using CREATE. If it doesn't work,a tape back-up is always useful,isn't it (isn't it??)?

```
15 CLS:CLEAR2000:DIMD$(255)
16 LINE INPUT"DISK NAME/NO ";N$
17 OPEN"I",#-1,N$
18 FOR X=1 TO 255
19 IF EOF(-1)THEN 22
20 LINEINPUT#-1,D$(X):PRINTD$(X)
21 NEXT X
22 CLOSE#-1
23 PRINT"NO. OF PROGRAMS/FILES=";X:W=X
24 PRINT"INSERT CATALOGUE DISK"
25 LINE INPUT"DISK NO./NAME ";N$
26 CREATE N$
27 FWRITE N$;W
28 FOR X=1 TO W
29 IF X=W THEN 32
30 FWRITEN$;D$(X)
31 NEXT
32 CLOSE
33 PRINT"READ DIRECTORY OR QUIT(y/q) "
34 Z$=INKEY$:IFZ$=""THEN 34
35 IFZ$<>"Y"THEN 46 ELSE RUN 36
36 DIM D$(255):LINE INPUT"DISK NAME/NO. ";N$
37 FREAD N$;W
38 FOR X=1 TO W
39 IF X=W THEN 42
40 FLREADN$;D$(X)
41 NEXT
42 CLOSE
43 FORX=1 TO W
44 PRINTD$(X)
45 WAIT200:NEXT
46 PRINT"ANOTHER ONE?":INPUTZ$:IFZ$<>"Y"THEN END ELSE 15
```

PASCAL (J.MORRISON) ..... CHRIS FRY

D32 users without discs who wish to learn a second language, or have the speed of M/C without having to use assembler may be interested in this package. The program is supplied on a single cassette, which has always loaded first time, and is accompanied with a 17 page duplicated manual which gradually introduces the Pascal language with many examples (all of which work!!). For those not familiar with Pascal, the manual gives a good introduction, if you can program in Basic, you should have little trouble adapting. One of the best features is that it allows you to create, edit, run and modify your programs without having to save any source code to tape, load a seperate compiler or any of the other irritating operations required when using packages such as Oasis' Sprint etc. This does leads to the ineviatable drawback, the maximum size of source code is under 6k and the greatest machine code files can only be located from $5B00 upwards. Mind you, I have never written a program this large in Pascal anyway. The main drawback of this implementation for me is that like many other 'mini versions' of recognised languages, there is no facility for using floating point arithmetic. This makes any programs using detailed mathematics a problem. It does however allow you to build up complex data structures and logic functions with ease, which can be difficult in Basic.
For those with a knowledge of Pascal, this implementation allows: Begin, End, * + -, Div, Read, Write, Var, Integer, Const, For-To-Do, For-Downto-Do, Repeat-Until, While-Do, If-Then-Else, And, Or, Case, Func, Proc, Mod and Mem, Shl & Shr which allow you to PEEK, POKE, test & modify memory locations and variable values. A futher command CALL allows you to access other machine code routines such as Basic ROM routines.
To sum up, I have found the system fairly user friendly and have never had any problems editing, compiling and then running the programs I have written. I can reccomend this package for any hobbyist programmer.
From: J.Morrison Micros, 4 Rein Gdns, Tingley, West Yorks. 19.95

NEMESIS REVIEW .....RAY SMITH

There are loads of programs about which allow you to examine programs on disc. The Rolls Royce of these is probably Pam D'Arcy's Diskaid. This is worth the money for the documentation alone, as this is quite superb. Anyone who has any doubts about how programs are saved on disc should possess a copy - it explains things in such a way that even an idiot (like me) can understand.
Meddler does a similar job for tapes, without Pam's documentation. Not only does it copy most tapes, I say 'most', although I haven't found one it can't cope with, but admittedly I haven't got the latest games. Meddler is more than just a copier because it allows you to examine that tricky program on tape in detail, using both CHR$ code (tokenised Basic) and Hex. It is completely menu driven and gives start, end and load addresses of M/C programs and counts the bytes in Basic. That program that always gives and I/O error can be looked at and often the bug is easily spotted and a fresh enhanced header copy can be made.
Dragon 55 is a totally flexible database program that holds 55 pages (screens) of text or low res graphics (hence the name). Usually when using databases, you are more or less restricted to a formula laid down by the writer which tends to confine you input within the structure. With Dragon55 there are no such limitations and the contents of each page are only limited by your own imagination. It is menu driven and conprehensive instructions are contained in a database on the tape which is reay to hand. This supplied database, not only contains the instructions, but also useful information on the Dragon, including numbers of peeks and pokes. It incorporates easy scanning of the complete contents in memory amd a fast search routine.
Meddler and Dragon 55 are both by Nemesis Software, and special price to members is 3.50 each.
Orders and cheques should be sent to Paul Grade.

EVENING CLASSES? .....C.JOBSON

When you read the pages of this or any other magazine, do you skip the ones on hardware projects? Do you cringe when the first few lines of an article on machine code tells you that it's not as difficult as people make out and the writer is going to demystify it for you? One can only sit back in admiration at how clever these people are, but how do we mere mortals make a start?
It has always been my opinion that if you can learn a technical subject from reading a book, then you are too clever by half and that the easiest way to learn is if someone teaches you. I have found the best place to be taught is a technical college. Pop along and see what courses they offer. Their prospectus will list these courses and you can go along at enrolment time and discuss with the staff what you require in either the electrical engineering or computer departments. Technical colleges will probably have more facilities than schools and give better value for money. As an example, my local college has 20 BBCs, 10 Apples plus the odd Pet, courses are about 24.00 for 40 weeks of 2 hours per week. Their labs will provide all the tools, components and test facilities. There is an added bonus to be gained here in that you may be a 'mature' student who actually wants to learn. The lecturer should welcome you with open arms, as a contrast to a number of his students who will be from TOPS or MSC schemes, some of whom only attend in order to qualify for benefit and have no desire to learn, this giving the lecturer a hard time.
If you decide to go for a college certificate course such as microprocessor technology, this covers machine code from binary up, and provides an excellent grounding. Although my college opted for the 6502 chip throughout (only one instruction set to learn for all its machines), it was extremely easy to work out machine code problems on the Dragon and convert to 6502. In fact Grosvenor software sell a 6502 cross assembler for DragonDOS users (it was at this point that my colleague slung his rubber keyed Spectrum for a Dragon 64). Having got back into the nightclass groove from completing this course, I decided to go for a City & Guilds in microcomputer technology (course 223). A sylabus was handy and can be purchased from C&G. The course takes 3 years to complete, comprising 2 nights per week (24.00 per night per year) but you may get an exemption from the first year for completing the previous course. This aspect is quite challenging but equally rewarding. All the various aspects of computing are explained in detail. There is a balance between software assignments, hardware topics and projects, culminating in a two part exam and final project (another 18.00 I'm afraid). It is at this time that you entertain thoughts of 'why am I doing this at my age' ..... Ignore them! The project itself can provide another bonus, since the course is not specific to any computer, you could use your Dragon. I took part of mine from an article in an early issue of Dragon User to add a 6522 VIA chip to the cartridge port, then added a burglar alarm circuit to that. This could save you paying 20.00 for a Dragon Claw.
Having succesfully completed all this, the question is 'what next?'. Well, I have opted to do a robotics course (No, not the dancing type), but even if you stopped there, you could have the satisfaction of being able to read all the articles in this magazine! Two final pieces of advice, first try and get a friend to go with you, this may be a spur to leave your nice warm house in the middle of January to struggle through a blizzard, sit for 2 hours and then struggle back when the snow's 3 inches deeper. Second, never be afraid to stop the lecture and make him go back over a subject you don't understand, after all, you've parted with good money, it's up to you to ensure you get value.

DRAGON USER NOVEMBER

Well, what gems can you find in the November issue of Dragon User?
Well, as well as all the usuals, and a few snippets of news, we have the normal rash of reviews, an article on disc drives, a graphics utility to split the screen & reveal another below it, another game listing, missile attack, didn't I see that as an arcade game? A spreadsheet program and of course the arcade & adventure pages.
Back issues 1.25 from Dragon User.

RUNNING DOS IN 64K MODE ..... JOHN COX

One of the main grumbles about the D64 is .. You can't run the discs in 64k mode! Well, the assembly listing below will allow you to do just that. As there are various versions of Dragon DOS (About 13 in all), you can have them all on disc and run whichever one you please, it saves a lot of messing about, unplugging the Cartridge, replacing the EPROM etc. I have been using this for some time now and thought it was about time the rest of the NDUG should get the benefit of it.
IMPORTANT NOTE: Some users are under the impression that when the Dragon is in 64k mode, they will have an extra 32k to play with. This is not the case, the Basic is copied into the cartridge area, thereby only giving an extra 16k (approx). That is why the DOS will not run when in 64k mode. What the program does is, put the Dragon into 64k mode, copies the Basic back to $8000 (same as 32k mode), then copies the DOS back into the cartridge area. What is the advantage of that? True, if you PRINT MEM, you will find you still have about 23335, the same as 32k mode, BUT... you now have the area above DOS, just under 8k! very handy for putting your utilities that you can access via a simple EXEC. So, if you have a lot of machine code routines, put them in there. It's a shame that Rainbow writer is that fraction too long to fit.

Assemble the listing to $1FBB and save to disc.
WHAT YOU HAVE TO DO

1) Save your DOS to disc
2) LOAD "PROGRAM.BIN"
3) LOAD "DOS.BIN",&H2000
4) SAVE"DOS.BIN",&H1FBB,END(DOS.BIN address),&H1FBB

And that is all, simple! The program also works for most cartridges as well, it is a bit more involved in that you have to save the cartridge to tape, load from tape & save to disc, then go to step 2. Obviously the program names will be different, won't they? If you have several DOSs on disc, they can be loaded and executed over each other, so you don't have to power down. If you press <reset> the computer coldstarts.
It doesn't work with Delta as the chips are different. I'm hoping that some of you budding programmers will produce some useful utilities, that space above DOS is REALLY useful. (If anyone does produce any useful bits to stick up above DOS, send them in so we can all share them ... TL)

```
1FBB 1A10     ORCC #$10     1FD2 B7FFDE   STA $FFDE     1FE9 8E2000   LDX #$2000
1FBD 7FFF48   CLR  $FF48    1FD5 20EF     BRA $1FC6     1FEC 108EC000 LDY #$2000
1FC0 8E8000   LDX #$8000    1FD7 8E9D3D   LDX #$9D3D    1FF0 EC81     LDD 0,X++
1FC3 B7DDFE   STA $DDFE     1FDA BF010D   STX $010D     1FF2 EDA1     STD 0,Y++
1FC6 A684     LDA 0,X       1FDD 8E015E   LDX #$015E    1FF4 108CFF00 CMPY #$FF00
1FC8 B7FFDF   STA $FFDF     1FE0 8639     LDA #$39      1FF8 26F6     BNE $1FF0
1FCB A780     STA 0,X+      1FE2 A780     STA 0,X+    1FFA 1AEF     ORCC #$EF
1FCD 8CFF00   CMPX #$FF00   1FE4 8C01A7   CMPX #$01A7     1FFC 7EC000   JMP $C000
1FD0 2705     BEQ $1FD7     1FE7 26F9     BNE $1FE2
```

ADVENTURE WRITING .. P.C.ASBURY SMITH

am essentially a Basic programmer, though I have been known to venture into other codes. For some time, I have thought that the input and parser routines for Basic adventures are ineficient in their overall design. I have managed to get the parser routine working satisfactorily but have not come up with a satisfactory answer to the input routine, I would welcome any ideas.
INPUT ROUTINE - My idea is very simple. As a space denotes the need of a word, by keeping a check for spaces, the input can be split into Subject - Verb - Object as the command is typed in. Listing 1 gives the essential deatils.TW is the current word, TL is the current word length, line 70 tests for <enter> and passes control to the parser routine. The routine removes all leading spaces

and puts the first 3 letters of the subject and verb into CH$ and VB$, and the first 4 letters of the object into NO$

PARSER - From the beginning of our craft, Adventure writers have been sold on the idea of a string search for word identification. So far as Basic is concerned, I'm sure that this is a major design flaw. The words should be stored in a quasi data file and be searched using data search technique (listing 2) . Line 20-30 set up a data file for the verbs. You will notice that the entries are in alphabetical order. The 2 dimensional array contains an entry for each letter of the alphabet, V(N,1) contains the number of entries beginning with the nth letter , V(N,2) contains the start number of those entries. Line 60 gets the ASCII code of the first letter of the verb VB$ and subtracts 64 from it, hence A=1,B=2 etc. Suppose we typed in JUMP, V(10,1)=0 means that there are no verbs beginning with J, hence, no futher check is required. Now take ACT, V(1,1) tells us that there is only one entry beginning with A and V(2,1) tells us it is entry 1, therefore EITHER VB$(1)="ACT" OR the verb is invalid. Either way, no futher check is required. Lastly suppoose we typed CARRY, V(3,1) tells us that there are 3 verbs beginning with C, V(3,2) says they are VB$(3) and VB$(4) and if these two are not "CARRY" then again no further test is required.

What could be simpler or quicker oncce the basic idea had been conceived? Naturally one would want a seperate file for subject and object. I reckon that the system outlined could handle a 200 word vocabulary without falling significantly behind machine code for speed and we poor Basic programmers can look the MC merchants in the face.

The listings for this article will appear next issue.....TL

Thanks to Pat Winstanley for permission to reprint this article from Adventure contact.

EASY MACHINE CODE (1). .... R.A.DAVIS

Perhaps you haven't had the time or the inclination, or like some of my friends you imagine that unless you are a mathematical genius, machine code is beyond you. In that case, this article, and those which follow is for you. Just to give you the bare bones of what you need to know to make some attempt of your own. We all know by now that:-

1) The Dragon uses numbers, in binary format to operate, and
2) Binary is easier to handle as hexadecimal numbers, and
3) That a BYTE of binary consists of 8 bits. Half a byte is a nibble, 4 bits.

If we didn't know that, we do know! So, lets have a look at 4 bit binary. In decimal numbers we might have 4 columns, one for thousands, one for hundreds, one for tens and one for units. In 4 bit binary, we would have 4 columns, one for 8's, one for 4's, one for 2's and the last for 1's. Like this:

```
  Decimal                    Binary
  1000's 100's 10's u's      8's  4's  2's  1's
     0      0     0   1        0    0    0    1 (the BIT in 1's column)
     0      0     0   2        0    0    1    0 (the BIT in 2's column)
```

The whole of the 4 bit binary table looks like this:-

```
  8.4.2.1.                 8.4.2.1.                  8.4.2.1
  0 0 0 1 =1               0 1 1 0 =6  (4+2)         1 0 1 1 =11  (8+2+1)
  0 0 1 0 =2               0 1 1 1 =7  (4+2+1)       1 1 0 0 =12  (8+4)
  0 0 1 1 =3  (1+2)        1 0 0 0 =8 (bit in col.8) 1 1 0 1 =13  (8+4+1)
  0 1 0 0 =4 (bit in col4) 1 0 0 1 =9  (8+1)         1 1 1 0 =12  (8+4+2)
 0 1 0 1 =5  (4+1)         1 0 1 0 =10 (8+2)         1 1 1 1 =15  (8+4+2+1)
```

And the nibble is full at a count of 15. If a further bit is added, then it goes into the higher half of the byte, which has columns of 16,32,64 and 128, and the lower nibble would change to zero. The next part will explain how the upper nibble is treated in exactly the same way as the lower nibble, for hexadecmal numbers.

Machine Code to DATA. (Terje Olsen).

This program will convert any of your machine code programs to Basic DATA statements. It is relocatable anywhere in memory,and will provide the required number of line numbers. When the program has been typed in,RUN it,then convert the start and end addresses of your MC program to hexadecimal numbers(use PRINT HEX$!). POKE 30804 with the first two digits of the start address of your prgram;POKE 30805 with the last two digits. POKE 30806 with the first two digits of the end address;POKE 30807 with the last two digits. Then,and only then,EXEC 30802. The conversion takes about a second. Warning!Any Basic program in memory will be erased when you use this routine.

```
10 CLS:CLEAR200,30801:A=30802:B=30975
20 C=0:FOR E=0TO13:READF:IF A+E>B THEN 30 ELSE POKE A+E,F:C=C+F:NEXTE:READ F
30 IFF<>C THEN PRINT"DATA ERROR IN";PEEK(&H31)*256+PEEK(&H32):END ELSEA=A+14:IFA
<=B THEN 20
40 DATA 032,050,000,000,000,000,255,030,001,007,000,010,050,053,0488
50 DATA 053,204,048,048,237,140,247,166,140,238,129,100,037,007,1794
60 DATA 128,100,108,140,235,032,245,129,010,037,007,128,010,108,1417
70 DATA 140,225,032,245,139,048,167,140,219,057,204,000,010,237,1863
80 DATA 140,208,238,140,197,158,025,175,140,197,220,025,031,001,1895
90 DATA 031,018,195,000,062,237,129,079,167,140,184,236,140,182,1800
100 DATA 237,129,204,134,032,237,129,166,192,167,140,166,141,173,2247
110 DATA 236,140,167,237,129,166,140,164,167,128,108,140,154,166,2242
120 DATA 140,151,017,163,140,142,034,027,129,014,039,006,134,044,1180
130 DATA 167,128,032,217,079,167,128,236,140,130,195,000,010,237,1866
140 DATA 141,255,123,159,025,032,175,204,000,000,175,164,237,129,1819
150 DATA 237,128,159,027,159,029,159,031,174,141,255,097,159,025,1780
160 DATA 189,132,039,126,131,113,0730
```

Microline Screen Dump.

```
1 REM SCREEN DUMP FOR MICORLINE 80 PRINTER
2 REM SENT IN BY R.J.ROLPH
3 REM WILL DUMP A PMODE 4 GRAPHICS SCREEN
4 REM LOAD OR DRAW YOUR GRAPHICS SCREEN FIRST THEN RUN THE DUMP ROUTINE
5 POKE 65495,0:REM SPEED UP POKE- IF YOUR DRAGON WILL TAKE IT
6 PRINT#-2,CHR$(27);CHR$(66);CHR$(29)
7 PRINT#-2,CHR$(27);CHR$(56)
8 PMODE4,1:SCREEN1,1
9 X=0
10 FORY=191 TO 0 STEP-2:C=128
11 P1=PPOINT(X,Y):P2=PPOINT(X,Y-1):P3=PPOINT(X+1,Y):P4=PPOINT(X+1,Y-1):P5=PPOINT
(X+2,Y):P6=PPOINT(X+2,Y-1)
12 IF P1=0 THEN C=C+1
13 IF P2=0 THEN C=C+2
14 IF P3=0 THEN C=C+4
15 IF P4=0 THEN C=C+8
16 IF P5=0 THEN C=C+16
17 IF P6=0 THEN C=C+32
18 PRINT#-2,CHR$(C);:NEXT
19 PRINT#-2
20 X=X+3:IF X>254 THEN END
21 GOTO 10
```

Query.....

Well, where are all those genius types we were supposed to have in the Group?....I STILL haven't had a word in reply to my request for help with a "frame-grabber" add on. All too shy, perhaps?.

DRAWEZEE REVIEW . . . . . E.A.FREESTONE

Let me first declare my interest,having had some correspondence with R.Davis,the originator of Drawezee,we senior citizens are a mutual admiration society. Loading time is quite fast,with a clear and colourful loading screen appearing in about twenty seconds,forty seconds later,the program is loaded and ready for use. The most useful feature of the program is the use of the Dragon's DRAW,CIRCLE and LINE commands, enhanced with the possibility of mixed text and graphics. Graphics may be drawn with a single keypress,giving single pixel movement,or by holding the key down which gives turtle-like movement. Screen colour combinations are very good,but you must keep notes of your results. Although you can sit down and key in your information,it works as easily as that,I would suggest that for a real sense of satisfaction and good learning curve,you put your ideas onto graph paper with the text if required,then list out your x & y co-ordinates and commands,then input the information. I think the program is worth the asking price,even for those who cannot make a hard copy of their masterpiece. Through Update,why not ask a fellow member to print it for you,if he has a copy of Drawezee?

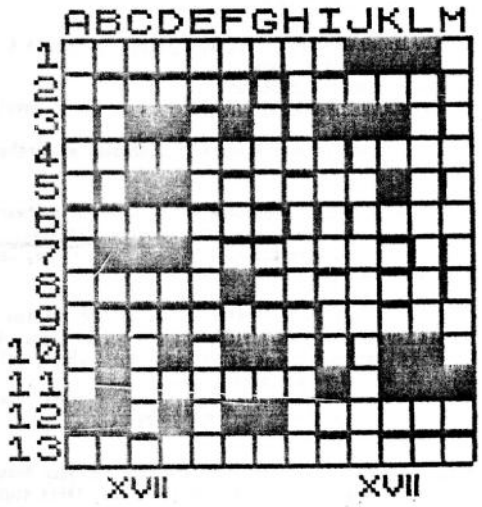
TYPIST2. . . . . R.A.DAVIS.

```
0 'TYPIST2.BY R.A.DAVIS.14/9/86.
1 REM FOR CGP115 AND MCP40 PRINTER PLOTTERS
2 PRINT#-2," ":PRINT#-2,CHR$(17);:N=0:S=1:CLS1
3 GOSUB24:CLS1
4 POKE329,0
5 I$=INKEY$:EXEC32777:IFI$=""THEN5
6 IF I$=CHR$(9) THEN GOSUB15:GOTO5
7 IF I$=CHR$(10)THEN GOSUB 20:GOTO5
8 IF I$=CHR$(127) THEN N=N-1
9 IF I$="@" THEN PRINT#-2,CHR$(8);:PRINT#-2,CHR$(95);:GOTO5
10 IF I$=CHR$(13)THEN N=0:PRINT"":ELSE IF S>1 THEN N=N+(S/2)+1 ELSE N=N+1
11 PRINTI$;:PRINT#-2,I$;
12 IF N=32 THEN PLAY"T1203D"
13 IF N=40 THEN N=0:PRINT""
14 GOTO5
15 REM COLOURS
16 EXEC34091:X$=INKEY$
17 IF X$="E"THEN RETURN ELSE X=ASC(X$)-48
18 IF X<1ORX>4 THEN 15
19 FOR J=1TOX:PRINT#-2,CHR$(29);:NEXT
20 EXEC34091:I$=INKEY$:S=VAL(I$)
21 IF S<0OR S>9THEN 20
22 PRINT#-2,CHR$(18):PRINT#-2,"S";S
23 PRINT#-2,CHR$(17);:RETURN
24 CLS1:PRINT:PRINT" TO START YOU PRESS [E] TO STAY  IN THE PRESENT COLOUR OR PR
ESS [1] TO [3] TO MOVE TO ANOTHER  COLOUR IN ROTATION.              THEN YOU PRE
SS [0] TO [9] FOR  THE SIZE OF PRINT.                THEN TYPE."
25 PRINT" DURING TYPING YOU CAN ALTER.  THE COLOUR WITH [RIGHT ARROW] & [1] TO
[3] TO ROTATE THE PENS.  YOU ESCAPE THIS CHOICE BY  [E]. ALSO YOU CAN ALTER SIZE
 BY     PRESSING [DOWN ARROW] FOLLOWED  BY [0] TO [9].                    HIT
A KEY.";
26 EXEC34091
27 CLS1:PRINT:PRINT" SIZE [0] IS 80 CPL & SIZE [1]    IS 40 CPL.
 IN SIZE [1] A [BELL] WILL LET  YOU KNOW THAT ONLY 8 CHRS ARE  LEFT BEFORE C/R
, BUT THIS IS    NOT RELIABLE OTHERWISE."
28 PRINT" PRESS [ENTER] AT ANY TIME FOR  C/R.                          PRESS [
LEFT ARROW] TO BACKSPACE PRESS [@] TO UNDERLINE EACL      LETTER AS YOU TYPE IT,
NOT WORD  START TYPING WHEN CURSOR FLASHES."
29 PRINT HIT A KEY";:EXEC34091
30 CLS1:PRINT:PRINT" COLOUR [E] = NO CHANGE                  [1] TO [3] TO ROTATE
. ?":GOSUB15:PRINT" SIZE [0] TO [9] ?.":GOSUB 20:RETURN
```

CROSSWORD 17....J.D.Bateman.

Across:- 1A) Royal Snake; 2A & A1) Gardeners wouldn't like this program on their cabbages; 2H) Round ---- keeps traffic moving; 4A) Killing a machine code program perhaps; 4J) Kojak has no use for one of these; 5E) Top up; 6A) Firm still supporting the Dragon; 6J)Pain; 7E) A fast newspaper; 8A) Turn a pale bluish colour with anger; 8G) Found in a childrens playground; 9A) Land of small people; 9I) American soldier played by Phil Silvers; 11C) Powerful businessman; 12H) An agreement signed by two Nations on declaring peace for example; 13A) Microdeal adventure.

Down:- A1) See 2A; B2) Mode of transport; C9) Musical instrument; E3) Remove a compass point from rescued to form the past tense of a gipsy threat; E10) Mark left after an operation; G2) Steep rock face; H1) Falls in drops; H9) Indian companion of the masked avenger; I4) Adhesive; I8) Flow back; J4) Secret information; L2) Indian weapon; M1) New DRAGON game.



****

The late, late Bit.....

Just for once I have to get serious about something, otherwise we'll have no Group. No, we aren't in any danger of going broke or anything like that, it's quite simply that I can't keep up with the volume of work that the Group now requires, and unless I get some active assistance, fast, the whole damned thing is simply going to fall apart.
Perhaps I should explain that statement. In any week, I get on average 120 letters, some of them enquiries about joining the Group, some from people ordering things, and the majority with questions to be answered, sometimes several different ones per letter!. In addition to this, there is the newsletter. What happens there is that the material comes in to me, I check it and contact the writer if there are any points which I need explained etc, and foreward it to Tim who selects what he thinks wil make a good Issue and types it up to disc, which he then sends back to me. I have to read it in, proof read and correct typo errors etc, and dump it to printer in a form which looks reasonable and which will photocopy nicely. I then have to run off the Issue, at a rate of eight sides per minute, (plus paper jams, phone calls, etc), check and collate the ten reams or so of pages, staple them up, fold, envelope, print and add labels and stamps, add reminder slips where necessary, seal the lot and consign it all to the post. Additional to this there are little matters like roughly sixteen hours of telephone converstaions per week, deals to arrange, paper etc to buy, and circuit sheets, Upgrade manuals, etc to photocopy, plus making the odd half a dozen or so backups of various routines that you ask me for.
Now I'm not complaining, merely explaining the set-up to you so that you will understand the problem, but if you care to work this little lot out you'll find it comes to well over 70 hours per week on average, and unfortunately I have to make a living as well, which takes a minimum of another 50 hours or so, and if you add these totals together you'll find that there isn't much time remaining for matters like sleeping, eating, or the 101 domestic jobs that have to be done, (or even repairing your hardware for you!).
So what can YOU do about it?...well, I'm not asking you to handle the admin or printing work, but some of you MUST be capable of dealing with particular types of questions....like answers to adventure game problems, the transfer of arcade games to disc, graphics, machine code problems, OS9, FLEX, BASIC42, FORTH, etc, or questions about printers, light pens, Ultradrives, hardware faults....ANYTHING. One or two might even be able to take the odd repair job off my hands on an 'at cost' basis. If you can help in this way, then write and let me know and I'll print your name and address on a regular basis and members with problems can write direct to YOU with them. Don't worrk, if you get stuck I'll still help out where I can, but this would take a lot of the routine work off my hands and (a) give me time to attend to the rest properly, and (b) get half an hour off occasionally!. At the moment it's all just a bit too much for me to handle, so if you can help, please do. OK?.
Please don't get the wrong idea, I'm not trying to get out of anything, it's just that I don't have time now to attend to ANYTHING properly, and it's the Group members who suffer as a result. There is the point, of course, that you DID join a Group, not simply buy a magazine subscription, and as a Group member surely it's reasonable to expect to participate in the work involved in running the Group?. I'm no more 'expert' than you are.....I'm just the idiot who once wrote a letter to Dragon User magazine asking why someone didn't start a User Group and who then got lumbered with the job of doing just that!. OK, so I started it, but that doesn't mean I don't need your help to keep it running. I've done everything I can to help YOU over the past two and a half years, so I reckon I'm entitled to ask some of you to help ME when I need it. Fair enough?. Paul.

The 6809 Show.....

Alright then, what's the excuse THIS time?....overslept?, were off on a dirty weekend and couldn't be bothered with Dragons?, went to the wrong address?.....I don't believe a word of it!. I was there, so were your Illustrious Editors, but where were YOU?.

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All above are ORIGINALS with instructions. Contact David Rothery, 1 Heath Road, Glossop SK13 9AY TEL 04574 3912

EXCHANGE my Premier (Delta) DOS cartridge for your DragonDOS or equivilant. ALSO Dragon 32 for sale, as new, takes double speed poke.45.00.
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Dragon 64 for sale, very good condition..Bargain 75.00 inc. postage.
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All the above drives are used but working. Some manuals available.
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BACKDATE UPDATES: Copies of all earlier Updates available from either John Cox, 3, St.Peters Road, Portslade, Sussex. (0273-422492) or Chris Channing, Main Road, Dunsby, Nr.Bourne, Lincs.PE10-0UB.

WANTED: OS9 Stylograph Key Assignment chart/summary to replace my lost one!. Also wanted one or two double sided 80 track drives and a good dot matrix printer.
For Sale: MCP40 printer/plotter + pens, paper etc, and many cassette games.
Details from Nic Coome on Swindon 643035.

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