DRAGON MONTHLY

ISSUE 4 · AUGUST 86

NO!
HAVE A LOOK AND SEE!
ITS A SURPRISE!

DRAGON MONTHLY

CHRIS WARREN

EDITORIAL:

First things first, an apology from me about the lateness of this month's DM. No excuses - except that I had a cold, and the cat did a runner so I was too upset, and it was the printers fault and that 'phone call I didn't get kept me busy for a while and I wasn't on holiday at the time none of this didn't happen!

Anyway, what do you think of the new look? And the extra 4 pages, not bad eh? If we are going to keep the production up to 20 pages (or even more - who knows?), we need your articles again....

Once again we have special offers from the companies advertising in Dragon Monthly but you must remember to tell them your subscription number and state that you are a subscriber of DM otherwise you will not get the benefits. Any of you lot that are going to Wales for the Dragon show in October can come and see us and especially the wonderfuly talented me! (although I can't spell for the life of me).

After my moan last month, I did actually receive 2 articles and a few letters, amazing! Maybe if I moan this month as well, I'll get a few more.....no. I think I'll give you a chance to send something in without being influenced in any way. (But boy I'll have something to say next month if you don't!). By the way, this magazine is going to be invaded by "Jooba's" (!) next month.....oh my God.

Wayne Smithson

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NEWS ROUNDUP

The long awaited "BEANPATCH" for Micro Vision's Beanstalker program has finally been released. Beanpatch allows the user to edit load and save their own Beanstalker screens to and from tape. The tape effectively extends the life of the game indefinately as you will never run out of screens. The tape will retail at £2.00 inclusive of postage and packing and can be ordered from Micro Vision.

News of a new software company for the Dragon fills the air with mystery and the unusual..... It is OCCULT SOFTWARE, based in Chandlers Ford. Occult Software's first offering is a program on 'Numerology' and judging by the information received it sounds fascinating. The information states:

"Following this program will give you an insight into not only yourself, but others around you. You will find there is an overall character number, this shows how the 'world at large' sees the subject; this is followed by the outer character number, which shows how the subject 'projects' himself to others and the impression he makes; the final number is the inner character, this shows the true 'inner-self' of the subject, how he is regardless of how he may appear to others."

The price of this program will be £5.00 and is due for release at the Cardiff show on October 4th. Andrew Pierce of Occult Software is also on the lookout for, "unusual - and stress the 'unusual'", programs to market on a royalty basis or outright purchase depending on the program so amy budding weirdo programmers get in touch! Occult Software live at this address: Occult Software, 1 Merrieleas Drive, Chandlers Ford, Hants., SO5 2FQ. Telephone 04215 4406.

THE TALISMAN is also due to be released (again) at the Cardiff show, and like Frankie it too has 100 screens and hidden routines, so be at the show when Frankie does battle with The Talisman as both programs are going to be worth seeing. The Talisman is another Roy Coates production through Micro Vision. (sounds like a film!)

FRANKIE is due to be released at last at the show in Cardiff (going to be a good show that). Some of you may know about Frankie but for those who don't, it is a 100 screen platform and shoot-em-up game put together. Nobody has yet managed to cram 100 screens into the Dragon except me and that Roy Coates person so its a first for Dragonkind folks! Frankie is also in colour or black and white and has a miriad of hidden routines in it (dubbed 'Hackers Delight') and so it caters for the hackers and thinkers of the Dragon population as well as the games players. Who has produced it? Us of course, see bottom of page 14.

SMITHSON COMPUTING PRESENTS

'ELECTRONIC AUTHOR" is THE machine code advanced word processor. Features include: Automatic page numbering, centering, paragraphing, 51/64 x 24 true upper/lower case screen display with full screen editing; either 'What You See Is What You Get' (WYSIWYG) type printing or let the computer arrange text, and it is all VERY easy to use. JUSTIFIED TEXT, making your letters, documents, etc., beautifuly neat. Full block copy, delete, move included. Repeat key, excellent phrase search, change or delete facility. Fast typing, no missng out characters. Loading/saving rewritten to abolish I/O errors and allowing filenames of up to 20 characters. Comes with full documentation and configure program to allow it to run with ANY PRINTER. Text space available is a massive 19,000 bytes!! **DRAGON DOS VERSION NOW** AVAILABLE. Cost is ~~£14.95~~ £12.95 (cassette) or £19.95 (disk).

...It is an excellent program...easy and very versatile to use. A must for anyone who owns a printer. - T. Bottomley, Wakefield.

"Excellent" - Jason Orbaum, Dragon User.

"..it is advertised as THE wordprocessor for the Dragon...it probably is." - Barry Johnson, Dragon Update.

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LETTERS PAGE

Send us your views, hints and tips, pleas for help, suggestions etc., and we will print your letter. Come on, put pen to paper. Send to LETTERS PAGE, DRAGON MONTHLY, 24 COAL HILL GREEN, BRAMLEY, LEEDS 13.

MISSING PROGRAMS?

In the past couple of months, 4 of my programs have disappeared. The cassette is still there, but there is nothing on them - the cassettes have been erased but the erase tabs have been removed (its un-natural....Ed)

I have now solved the mystery! It was due to a loose screw by the record head on my tape recorder. When play was pressed the slightest touch of record caused the record head to spring up and thus erase the tape. I would advise anyone who has has their recorder for any length of time to check the screw before they loose any of their programs.

J.D. Haigh
318 Pellon Lane
Halifax
HX1 4QD.

CITIZEN NEEDS HELP

I have a Dragon 32 with a Citizen 120-D printer, and cannot get block and line graphics to come up, except on its own in self-test. Also could anyone tell me the ASCII codes for WIDTH"LPT1:",255 and J=N MOD 128. Please could someone relieve me of this problem, preferably with an example. Any help would be most welcome.

Philip Ravenscroft
40 Cedar Road
Willenhall
WV13 3BZ.

RAINBOWS

Re: B.D. Johnson's letter in DM1. I too have tried without any success to subscribe to "Rainbow". Nobody seems willing or able to do anything about it, even people like WH Smiths. Apart from buying bundles of back numbers from Elkan in Manchester (there may be none left now) the only other alternative seems to be to buy direct from America which makes the price very steep indeed. Unless perhaps maybe the Tandy Users Group may be able to help?

J.D. Bateman
Orchard House
Cleator Moor
Cumbria
CA25 5LN.

MICRO-ELECTRIC!

Firstly, keep up the good work. I do not envy your task, it must be very difficult finding enough material and also trying to get contributions (understatement of the year! Ed). I have a suggestion.

I am an avid DIY person. If anything goes wrong I attempt to repair it. I have therefore built up some knowledge on electricity, repairing cars (oh good! Ed), etc. However I have no knowledge or possibly I have a little microknowledge of microelectronics. What I would welcome is some articles telling me about printed circuit boards, resistors, capacitors and what they do. Obviously it would be appropriate they could relate to the Dragon. I realise boards vary in the Dragon, I have had the top off mine and by talking to someone with some knowledge now realise that there are 2 boards. A power board and a main board (mother board?).

You see, I have a microknowledge of microelectronics. Now over to you.

Eddie Freeman
80B Main Road
Old Duston
Northampton
NN5 6RA.

Wayne says: Actually there are 3 boards in the Dragon, power board, main board and keyboard! Ha, ha - I jest! I have spoken to an electronics expert about this but he wouldn't do it so I've asked Roy Coates (who?) instead. If I haven offended him, you may see something in a later issue. My knowledge of electronics gets as far as knowing what each individual chip or resistor does and how it works but I get completely lost when you put them all together and make a circuit!

JOYSTICKS FLEA

I have typed in the program called FLEA in March issue of Dragon User. I find that it is a good game but I have tried to convert the game to run on joysticks without success. Could anyone help me to convert it to joystick as I think it would play better.

I find that Dragon Monthly is very interesting, and I look forward t it every month. Keep up the good work.

Robert Reid
Flat 1
1 Gordon Road
Weston-Super-Mare
Avon, BS23 3BD.

OK, lets hip to the groove and boogy on down to some funky machine coding, you dig! Hi, its wonderful, talented, trendy and very witty me again for the third part of this enlightening tutorial. These are just some of the things no-body wrote in to say about this page. First things first, 2 answers to last months little problem I set:

```
        LDX #1536                          LDX #1536
        LDU #7680                  LOOP    LDA ,X+
LOOP    LDA ,X+                            STA 6143,X
        STA ,U+                            CMPX #7680
        CMPX #7680   *or CMPU #13824       BNE LOOP
        BNE LOOP                           RTS
        RTS
```

Both routines do the same job, but notice the second one is slightly shorter than the first. You should know how they work, read last months page on addressing modes, but if you are not sure, write or telephone and I will explain. Notice the CoMPare instruction compares with the number after the one we want to finish at (7679). This is because of the autoincrement, when location 7679 has been copied, X has 1 added to it and becomes 7680.

Now, onto something different, **BRANCHES.** You have already met one of the simplest branches, BNE (or LBNE) which means Branch if Not Equal, here are a few more simple ones:

BEQ - Branch if Equal, obviously the opposite of BNE.
BLO - Branch if LOwer.
BHI - Branch if HIgher.
BLS - Branch if Lower or Same.
BHS - Branch if Higher or Same.
BRA - Branch Always. (Jump).
BRN - Branch Never. (does nothing).
BSR - Branch to SubRoutine. Like GOSUB in BASIC.
BMI - Branch if Minus.
BPL - Branch if PLus (positive).
BGT - Branch if Greater Than (2's complement).
BLT - Branch if Less Than (2's complement).
BGE - Branch if Greater than or Equal (2's complement).
BLE - Branch if less than or Equal (2's complement).

For the time being, we can forget about the 2's complement form of branches, personally, I very rarely use them. Have you ever done a sorting routine in BASIC whereby you check the 2 numbers next to each other and swap them round if they're in the wrong order? It's the simplest sorting method around and you are about to do it in machine code.

First though, you need to know about **EXG and TFR** commands. Actually you will only need EXG but TFR is similar so I will explain that as well while I am at it (at what?). EXG stands for EXchanGe and it swaps the values in 2 accumulators or 2 registers around so EXG A,B would put A into B and B into A. Likewise EXG X,U would put U into X and X into U, simple eh? TFR stands for TransFeR register and copies the first into the second so TFR A,B would copy A into B leaving A as it is, TFR B,A would copy B into A, TFR U,D would copy U into D (A and B).

Armed with this information, you should be able to write a sort routine. In fact, that's the problem for this month. Write a sort routine to sort out 200 numbers between the address' 4000 and 4200. Remember, you will need a flag to check whether the sort is complete or not. To test your routine, use the BASIC program on the next page and assemble your code at location 5000.

```
10 PCLEAR4:CLS:A=RND(-TIMER)
20 FORN=4000TO4200
30 POKEN,RND(255):PRINTN;
40 NEXT:PRINT:PRINT"PRESS A KEY TO SORT"
50 IF INKEY$=""THEN50
60 TIMER=0:EXEC 5000:'This is where your routine will be
70 PRINT"TIME TAKEN";TIMER/50;"SECONDS"
80 PRINT"PRESS A KEY TO SEE SORTED NUMBERS"
90 IFINKEY$=""THEN90
100 FORN=4000TO4200:PRINTPEEK(N);
110 FORD=0TO100:NEXTD,N
120 PRINT
```

Remember also to save your programs before you execute them in case they don't work and crash - there are no error messages in machine code!

One more thing about branches. It is obvious what happens after a CMP instruction, eg. CMPA #200 followed by BEQ LOOP would cause the program to goto LOOP if the value in A was 200. If the BEQ did nit come after a CMP instruction, the BEQ stands for branch if equal to zero. The same applies with BNE and most of the other branches. So, DECA followed by BNE LOOP would go to loop if A as not equal to zero, and SUBA #25 followed by BEQ LOOP would go to loop if A was equal to zero after 25 had been subtracted.

The value of a location or accumulator can be tested at any time by using the command **TST**. TST stands for TeST (obviously!) and can be in the form TSTA, TSTB or TST location. The TST command is exactly the same thing as a CMP with zero so TSTA is the same as CMPA #0 but is quicker and uses less memory.

All the branch instructions listed here also have a brother - the L branches, for instance LBNE, LBEQ, LBHS, LBSR etc. These do exactly the same but the L stands for Long and they are necessary when you are branching to a part of the program which is a long way from where you are (>128 bytes or so away). They take up extra memory so always use short branches (the ones without the L in front) when in doubt. Your assembler will tell you if you need a long branch when you come to assemble it in which case you just put an L in front.

If you want to use the BSR (or LBSR) command, you must exit the routine you are branching to via an RTS (ReTurn from Subroutine) command. This pair acts exactly like GOSUB and RETURN in BASIC. More about the branches next month, as well as a bit on their addressing mode, RELEVANT.

The BRN, Branch Never command may seem like a waste of time seeing as it does nothing what-so-ever. It does have its uses though, mostly in programs that [self modify]. This means that the program can change itself while running and that can be useful when you want to use only part of a rouine. For example, say you had a 1st routine that BSRed to another 2nd routine but you do not want it to this tme. All you have to do is change the BSR to the 2nd routine, to BRN by storing the correct number ($21) at the location where the BSR is and then continue the 1st routine. When yu have finished you then put the code for BSR ($16) back, Easy! BRN can also be used as a slight pause in a program (and I do mean slight, about 2ms!) where timing is critical.

One more thing, I'm curious as to how many of you are actually following these articles, write and tell me how you are getting on and where you are stuck (if at all) and I will clarify any uncertain areas in following issues. In any case, bye bye for now and don't let the bed bugs eat your toast on a morning.....**Wayne Smithson**

Hi, I'm back again with much more code's and poke's that I promised you from the previous issue. I'll start my page by explaining the code for an arcade game called "The Dark Pit", reviewed a couple of months back.

The Dark Pit

First load it up then play the game in the normal way. When you are stuck type: **(P,8,L,M,C)**. After that it should make a loud thrrrrp! noise. This code is a bit like MAX on Jet-Set-Willy, I'll be explaining that later, anyway use the arrow key's to skip from sheet to sheet then when you have found you sheet you would like to be transported to press <ENTER>, then your man will apear at the top left hand corner then use the arrow keys (again) to stear you man up,down, left or right, then press enter and the game will restart, you can type this code in as many times as you like. Thanks to Gordon Twist, one of the authors for that.

JET SET MAX

You should all know this but for those few who don't, here it is again. When playing Jet-Set-Willy to change from screen to screen just type MAX but press all these three keys down at the same time or you will find that it does not work (tut, tut). Then just use the arrow keys or joystick the same way as The Dark Pit but instead of pressing <enter> press fire or space.

MANIC MADNESS.

When playing Manic Miner to change from screen to screen type PENGUIN but be careful when pressing 'P' because this can pause the game. Then, if all goes well an old boot should appear at the bottom right then all you have to do is press <BREAK> and a letter from A-V, this is the number of sheet you would like to start from, eg. - G=sheet 7. And now.....this:

This month I am going to give some new codes that will help you in your game they're called poke's. (Yeah, this guys a dopper - Ed.) You can only use the pokes if you can disable the auto-runs (if any) on the games. These 3 pokes below will give you extra lives where n is a number between 1-255.

```
LUNAR ROVER PATROL.POKE&H5728,n:EXEC
WHIRLEY BIRD RUN...POKE&H2078,n:EXEC
ROMMELS REVENGE....POKE16516,n:EXEC
```

These work because I have tested them, a lot more pokes and colour poke's to change colour of your screen next month. (If anyone knows of any pokes, codes or how to disable auto-runs, just drop me or Wayne a line, address at the front of the mag.

```
==================================================
= * D R A G O N   T O P   F I V E   G A M E S * =
=                                                =
=  (1) BEAN-STALKER.........(MICRO VISION)       =
=  (2) SHOCK-TROOPER........(MICRODEAL)          =
=  (3) ROMEL'S 3 D..........(MICRODEAL)          =
=  (4) SHAOLIN MASTER.......(QUICKBEAM)          =
=  (5) BOULDER CRASH........(BLABY)              =
==================================================
```

The top five will be printed every month, this is how you can help. Predict your top three games for the next issue, if you predict the correct top three then you could win yourself a fiver. <fanfare!>. To make things a bit harder, you have to send an amusing caption using letters from your top three (you don't have to use all the letters). Obscene captions will be accepted freely but not printed....well, maybe!

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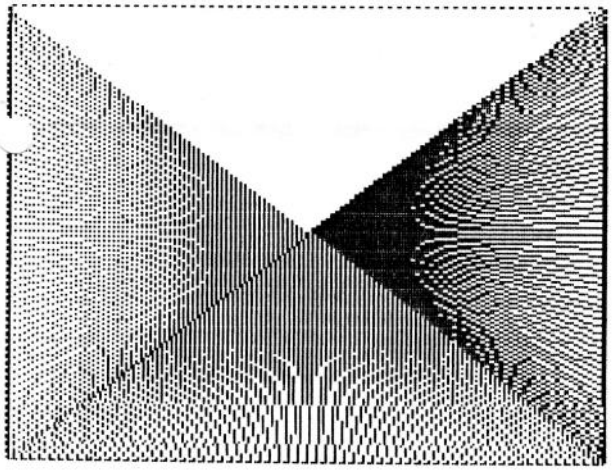

ROUGH ACRE,
STAUNTON-ON-ARROW,
Nr. LEOMINSTER,
HEREFORDSHIRE,
HR6. 9HS.
Tel. 05447 385.
****


```
10 'SCREEN DUMP:- MEMOTECH DMX80
20 'DIP SWITCH '3' MUST BE "OFF"
30 PMODE4,1:SCREEN1,0
40 Y=0
50 PRINT£-2,CHR$(27);"P";CHR$(0)

60 PRINT£-2,CHR$(4);
70 PRINT£-2,CHR$(27);"K";CHR$(0)
;CHR$(1);
80 FORX=0TO255
90 A=PPOINT(X,Y)*128+PPOINT(X,Y+
1)*64+PPOINT(X,Y+2)*32+PPOINT(X,
Y+3)*16+PPOINT(X,Y+4)*8+PPOINT(X
,Y+5)*4+PPOINT(X,Y+6)*2+PPOINT(X
,Y+7)
100 PRINT£-2,CHR$(A);
110 NEXT
120 PRINT£-2,CHR$(27);CHR$(48)
130 PRINT£-2,CHR$(27);"A";CHR$(8
);
140 PRINT£-2,CHR$(10);
150 Y=Y+8:IFY>191THEN END ELSE60
```

here it is at last....! not exactly 'program of the month' but just a humble basic screen dump. It's for a Memotech DMX80 but it's easy enough to change to suit most printers. Being basic it is rather slow, about 6 to 7 minutes.

Try and keep away from large black areas as this may warm up your printer head too much, experiment with a few things first because it draws in negative with some screens.

Make sure DIP switch 3 is off (with some printers this may be DIP switch 2) or you will get a gap between each line. This switches off the auto line feed.

Line (50) sets printer to 'elite' mode in order to give a 1:1 ratio of the screen, otherwise you get oval circles.

Line (60) dumps the picture on the far left of the paper. (Try other numbers and see where it goes).

Line (70) standard bit image designation command.

Line (80-110) collects the data from each row accross the screen, 8 pixels high, and puts it into 'A'.

Line (130) sets line feed to 8/72inch. To get no gaps between each row.

Line (140) line feed command. Set to what line 130 told it to do.

Line (150) instruction to scan the next line accross the screen or to end the program if it has done the whole screen.

I don't know if you are familiar with the Memotech DMX80?, but it's a fantastic printer with loads of features usually only contained on much more expensive printers. If you get into doing hardware reviews perhaps you could have a look at it?

keep the mag coming, it's just what Dragon Users are looking for even if they don't all write in.

yours...member:-may860046.

Mike Townsend.

DRAGON MONTHLY "REVIEWSOFT"

Whether you belong to a company or are an individual, if you have a program you would like reviewing then send it to REVIEWSOFT here at Dragon Monthly. Let us tell the Dragon world about your program!

PROGRAM: Adventure Writer
TYPE: Utility
PRICE: 8.00 (cass)
SUPPLIER: COWEN SOFTWARE
23 Bristol Avenue,
Levenshulme,
Manchester,
M19 3NU.

The first I heard of Cowen Software's Adventure Writer was from Mike Gerrard's column when he was talking about how Cowen had squeezed Collossal Cave into the D32. Well here it is, they claim it's more powerful than Quil and they are probably right as Quil is for the Spit Ding Spectrum. The tape has three programs on it; the Formatter which sets up the database, the Editor which manipulates (hard word to say late on a saturday night) the database and the Executer which as the name suggests executes the adventure. This is the best part of the utility as you can write adventures using the editor and the formater occasionally to 'tidy up' the memory then save the code to tape and use it to run it every time.

Cowen say all they want, if you are going to sell an adventure written using Adventure Writer, is that you mention them in the game. The whole package for £8.00 is a snip and when the full manual is ready you'd be a fool not to buy it. That about sums it up except that I haven't told you about the actual commands! Well, they resemble a very understandable version of assembly language. There are commands to cover everything, eg. you have tested to see if you have dropped a ming vase and if you have then you change the text from Beautiful Ming Vase to Pile of Broken China.

Cowen say that a version will be available soon that is compatible with DRAGON DOS and Rainbow Writer so if you were writing a game on disk then you could save graphic screens on disk and load them in when you need them. So they have just about turned it into a graphic adventure writer. Overall 5/5.

Stephen Cogan

PROGRAM: HI-RES
TYPE: Utility
PRICE: 4.00 (cass)
SUPPLIER: STARSHIP SOFTWARE
23 Tintern Road,
Cheadle,
Hulme,
Cheshire SK8 7QF.

This seemed to me to be an unusual program to introduce so late in the life of the Dragon. It should not be confused with the similarly named, but different by several orders of magnitude, HIRES utility from Compusense.

HI-RES is a small program that allows you to put text on the graphic screens. it comes in 3 parts, 2 different character sets and a designer program that allows you to change the character sets to your own liking. I found this necessary for the PMODE3 character set as they seemed to be far too chunky for my taste. The 2 character sets are provided as you can only use one or the other depending on which pmode you are in, 3 or 4. You only get these 2 choices to use as it won't work in the other pmodes. Both only give you a 32 by 24 display and each text string must be assigned X and Y co-ordinates and then passed to a small subroutine for printing on the graphic screen.

The printing to the screen is instantaneous and it has the apperance of being in a window, but this is merely dependant on the foreground/background in which the text was created. This can be changed by using a POKE to invert the text. I spent a while trying to make it work with my diskdrive plugged in but could not get it to work.

I am afraid that I don't think this compares with programs like RAINBOW WRITER which I have used quite a lot and HIRES from Compusense; both of which can be loaded into higher memory on my 64 and work with a diskdrive. Admittedly HIRES is about £20 but the last time I saw Rainbow Writer advertised it wa only £5 and it is against these that have to compare the price of this program which at £4 I thought was rather a lot considering the profesional features of the other 2.

Even with the best will in the world, I couldn't recommend this at the price which is a pity because I really do like to encourage people to write good software, especially for the Dragon.

Barry Johnson

PROGRAM: BeanPatch
TYPE: Utility
PRICE: 2.00 (cass)
SUPPLIER: Micro Vision
8 Wensley Road,
Liverpool
L9 8DW.

Beanpatch is the utility that players of Micro Vision's Beanstalker will have to get their hands on. The patch allows you to edit load and save Beanstalker screens to and from tape. The patch itself is loaded from within Beanstalker through the reserved option.

Before this patch became available, it was possible to edit the screens, but you couldn't save or load them so they were lost when you switched the machine off. To load it then, you just press 5 for reserved on the menu then type the access code 'REGISTER' and 'Y' to the tape response. Once the patch has loaded, the screen menu changes to include the 3 extra options. Operating the editor itself is very easy and you should be adding to the 60 screens provided in no time at all.

If you have Beanstalker (if not, why?), then this patch is a must as it effectively extends the life of the game indefinately.

Wayne Smithson

PROGRAM: Predictor
TYPE: Utility
PRICE: 4.00 (cass)
SUPPLIER: Benley Software
c/o John Penn Software
Dean Farm Cottage
Kingsley
Bordon, Hants.

Predictor is, as the name suggests, a predicting program! It predicts the results of horse racing and football matches for doing the pools of. It is text only and is written in BASIC.

The program itself is quite easy to follow if you know a bit about the Gee Gees. Although it does explain how to find out the information required for the predictor to work, I still couldn't find all I needed, so I seeked help. Having entered the information of 10 races into the program, (twice because the program has no error checking what-so-ever, this should not happen with commercial software), it gave me the predictions I wanted.

Now, my initial reaction to this program was that of the 'what a load of guff' nature but, hold fire, let us see if the donkey's it had picked actually won. And they're off.....

Well, believe it or not, 6 out the 10 nags won! Now I think that is very good indeed but it is a great shame that Predictor is badly programmed. If the programmer had bothered to error check every input (in case of idiots like me), and had attempted to make the screen layout good to look at, then this would be worth the £4 asking price. This happens with so many programs, the important bit that does all the working out may be a masterpiece of programming, but if the program looks crap, the user is going to think that it is. Most of us DO judge a book by its cover. Having said that, if I'd actually backed the flippin' horses it predicted I'd have been sitting on a crate of champers by now...cheers!

Wayne Smithson

CODED DRAGON

This program so kindly donated by me (Wayne), will dump the high resolution graphics screen to a BROTHER HR5 printer in either normal or double size.

To select a normal size dump, POKEstart+14,0 and for a double size dump POKEstart+14,1 where start is the location you loaded the machine code into (default is 10000). The code is completely position independant so you can put it anywhere once assembled.

To enter the code, use an assembler or a hex loader with the second column of numbers (ie. 20,0E,03,1B,41,10,08,00 etc.)

The program could easily be changed to work with other printers by changing the numbers in the PITCH and GRAPH parts of the program. The first number on each row is the number of codes (max. 4) followed by the codes themselves.

If replace the COMA (hex $43) command at location $276C on the printout to NOP (hex $12), you will get a reverse printout, ie black for white and white for black. Enjoy yourselves!

```
2710  2710              ORG #10000
2710                    PUT #10000
2710 200E               BRA START
2712 031B410400 PITCH   FCB 3,27,65,4,0,0
2718 041B4BC000 GRAPH   FCB 4,27,75,192,0,0
271E 0000       SIZE    FCB 0,0
2720 6D8CFB     START   TST SIZE,PCR
2723 270B               BEQ NORM
2725 6F8CF7             CLR SIZE+1,PCR
2728 8E8001             LDX #$8001
272B AF8CED             STX GRAPH+3,PCR
272E 2006               BRA NCSET
2730 8EC000     NORM    LDX #$C000
2733 AF8CE5             STX GRAPH+3,PCR
2736 8E2712     NCSET   LDX #PITCH,PCR
2739 E680               LDB ,X+
273B A680       PPIT    LDA ,X+
273D BD800F             JSR $800F
2740 5A                 DECB
2741 26F8               BNE PPIT
2743 0FE7               CLR 231
2745 8E2718     NLINE   LDX #GRAPH,PCR
2748 E680               LDB ,X+
274A A680       PGRA    LDA ,X+
274C BD800F             JSR $800F
274F 5A                 DECB
2750 26F8               BNE PGRA
2752 CE1DE0             LDU #7648
2755 B6C000             LDA $C000
2758 8144               CMPA #68
275A 2603               BNE NDISK
275C CE23E0             LDU #9184
275F 96E7       NDISK   LDA 231
2761 33C6               LEAU A,U
2763 C6C0               LDB #192
2765 6D8CB6     PLINE   TST SIZE,PCR
2768 2622               BNE DOUB
276A A6C4               LDA ,U
276C 43                 COMA
276D BD800F     HERE    JSR $800F
2770 33C8E0             LEAU -32,U
2773 5A                 DECB
2774 26EF               BNE PLINE
2776 638CA6             COM SIZE+1,PCR
2779 860D               LDA #13
277B BD800F             JSR $800F
277E 6D8C9E             TST SIZE+1,PCR
2781 2602               BNE SKINC
2783 0CE7               INC 231
2785 96E7       SKINC   LDA 231
2787 8120               CMPA #32
2789 26BA               BNE NLINE
278B 39                 RTS
278C 3404       DOUB    PSHS B
278E E6C4               LDB ,U
2790 53                 COMB
2791 6D8C8B             TST SIZE+1,PCR
2794 2704               BEQ FHALF
2796 58                 LSLB
2797 58                 LSLB
2798 58                 LSLB
2799 58                 LSLB
279A 8D09       FHALF   BSR SHIFT
279C BD800F             JSR $800F
279F 96E8               LDA 232
27A1 3504               PULS B

27A3 20C8               BRA HERE
27A5 8604       SHIFT   LDA #4
27A7 97E9               STA 233
27A9 59         SH2     ROLB
27AA 1FA8               TFR CC,A
27AC 09E8               ROL 232
27AE 1F8A               TFR A,CC
27B0 09E8               ROL 232
27B2 0AE9               DEC 233
27B4 26F3               BNE SH2
27B6 96E8               LDA 232
27B8 39                 RTS
```

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****

Dragon computer shows play a vital part in keeping the Dragon civilisation as we know it, alive. You all have Dragons, some of you have diskdrives and printers as well as the occasional modem, touchpad - not to mention the software. Can you afford to let the Dragon die?

If the answer is 'no', as it should be, then be at these shows if at all possible. After all, if you don't it's your loss.

Dragon shows are advertised free of charge in Dragon Monthly. If you are organising one, or know someone who is, drop us a line with the details.

STEPHEN COGAN'S ADVENTURE PAGE

I'll start with a new beginning to the page and not much else. First a moan, only two kind people wrote to me, P.A. RAVENSCROFT and Mr T. SYKES who is going to supply me with a few maps of adventures so watch the end of the page next month. I will also be printing your top five adventures every month so let me know what yours are. Five pounds is on offer to the person who correctly names the top five and supplies us with an amusing caption made up from the letters of the adventures (you don't have to use them all).

1. El Diablero (Microdeal)
2. Juxtaposition Pt 1 (Wintersoft)
3. The Vortex Factor (Microdeal)
4. Collossal Cave (Cowen)
5. Bedlam (Spectral Ass.)

Cowen Software have managed to fit a fair amount of the original adventure in. If you never had the good luck to see it you have two or three mazes, a pirate who leaps out and steals your treasure and puts it in a maze, nasty dwarves who throw knives and axes at you, the original empty bottle with stream. As an adventure on it's own it stands up very well, the location descriptions are just long enough to give a good read though not as long as the original. I get the feeling that I can complete it, not in "Sea Quest" time but long enough to give a challenge. Also you really have to read the location description hard because it's so easy to miss that there isn't a pit to the south, but in your location! (any comments about how much better an adventurer you are than me, put them on a postcard and send them to me. I'll be sending mine in - Ed.) At £6.00 including p+p you should buy it from Cowen Software Ltd, 23 BRISTOL AVE, LEVENSHULME, MANCHESTER, M19 3NU. (I'm only putting this as people are always writing to ask for issue 1's from Wayne so there must be plenty of you who didn't see my incomplete adventure list). Incidently, the adventure was written using their Adventure Writer which is reviewed elsewhere.
Ratings :-
Problem Difficulty: 6/10.
Type : Text only (except for the first location)
Value for money: 9/10.
Overall: 9/10.

One adventure you should look out for is Tanglewood from Microdeal and was originally going to be called Willow The Wisp from the cartoon series, but Microdeal didn't want to infringe the copyright. In it you can choose from one of five characters (this is getting to be a trend, Space Trek I, II and To Boldly Go) There are plenty of locations with over 700, Schark Castle, The Woods, Dwarf Dive and text only sections according to one of Microdeal's mail-shots. I'll be reviewing it in next month's D.M. Oh and another thing in it you don't actually save your position to tape it gives you a code or word which you type in at a later date to get back your former position.

Guess what, the oh so famous me and those people Smithson (does he mean me? - Ed) and that other fella Roper and the artist who drew the new cover, got together a while back to make what will be one of the best adventures around which uses the hi-res screen with three scrolls, one with inventory, one with location description and one with your input and anything the Dragon has to say about it. If you can't wait to see this masterpiece then you can send me a SAE with one sheet of A4 paper in it then I'll give you a screen dump of the screen - makes sense! The adventure itself is top secret at the moment - Ed.

And now for something completely different.... The Cricklewood Incident. From the beginning I could tell this was it, the most insane adventure to hit the adventure scene since Pimania (not that I am comparing them!) The cover was the fist clue; The authors and Salamander Software disclaim any responsibility for decisions, murders, suicides, insanity (no I was like this before I played it), or cataclysms resulting from playing this adventure. With a choice of Utter Wally, John Travolta, Ghengis Khan, Superman, or Geoff Boycott I knew it would have to be no not John Travolta but Geoff Boycott, a Yorkshireman. I spent the first few hours (yes!!) being picked up by alien spaceships and being jettisoned, being arrested by the police for vagrancy, Geoff Boycott?

When attacked by a hells angel I found out how smelly my armpits were when he ran off. Before I say what happened next in the Vole Strangler affair I am slightly insane but have all my brains intact, that cleared up I found a crate of Fosters amber nectar and got brain damage from drinking it! If you meet the herd of Aussies with the crate then they steal it and run off laughing otherwise you get attacked but this time I tried a bit of head-butting.

After being duffed up by what I thought was a gangster and wakeing up in a dark alley with a button with a sign that says do not push (reminds me of The Restaurant At The End Of The Universe where you press a black button and a black sign lights up saying please do not press again) of course I had to press it and Salamander almost but not quite had me fooled into thinking that it'd performed a cold start (on-off). If you press it again, no I won't spoil the surprise.

The screen layout is standard windows, location in one box ect. I feel it may appeal more to those of you looking for a bit of light relief from serious adventures though this page should provide enough light relief, from what, I don't know. Ratings :-
Problem Difficulty 4/10 (if you attack them from the point of view of say Wayne)

Type : Text only.
Value for money 7/10 at 4.95
Overall 5/10, 8/10 for loonies.

Next month I will be reviewing a graphic trilogy by Jonathan Cartwright who is hoping to get them accepted by one of the big companies. (Hear that Wayne?) (Pardon? - Ed.) From my preliminary look at the first two they should be worth buying so come on Blaby, Incentive, Microdeal, Computape etc, ring or write to me and I'll tell you more.

The map of Juxtaposition* has been sent in by M.D.WALLER, thanks to him for that. Again no one has offered help or said they need help, come on even I need help sometimes. I managed to get an offer of help from Tom Wilkinson, 13 SHAFTESBURY AVE, HULL, HUMBERSIDE, HV8 9B8 who isn't even a subscriber! He offers help on Black Sanctum, Calixto Island, Caverns of Doom, Circus Adv, Don't Panic, Golden Batton, Mansion Adv, Pirate Adv, Seaquest, Shenanigans, All Ket Trilogy, Trekboer and Vortex Factor. ENCLOSE AN SAE.

Martin Waller, whose address I printed last month, offers help on Juxtaposition. So in the first three months you can get help on 17 adventures, not bad eh?

I'm not printing any codes because I'm still sulking because not many people have written to me not even to say how brilliant I am. (? no not Ed)

So it's time for me to go to beddie-bys and I expect to have some letters at 12 SANDHILL MOUNT, LEEDS, WEST YORKS, LS17 8EQ tomorrow morning, OK!?

Or you could shock me by ringing me on (0532) 689783 between 11am and 9pm weekends.

*<Map of Juxtaposition, 'CETI-V' is on top of next page>

Advanced orders now being taken at the special price of £5.00!!* exclusively to Dragon Monthly subscribers. Save £1.95 on the actual price and be the first people to experience the game of a lifetime.
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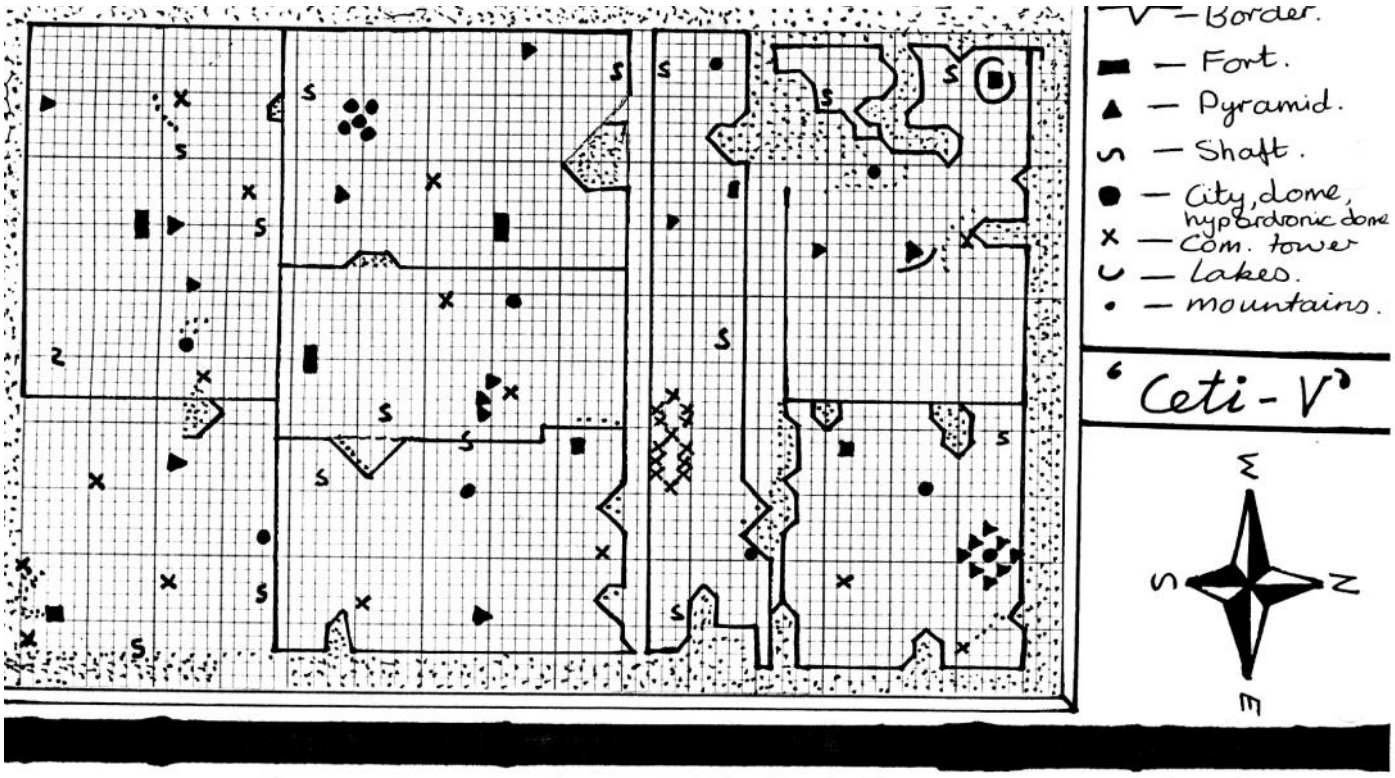
What game?
-see next page.....



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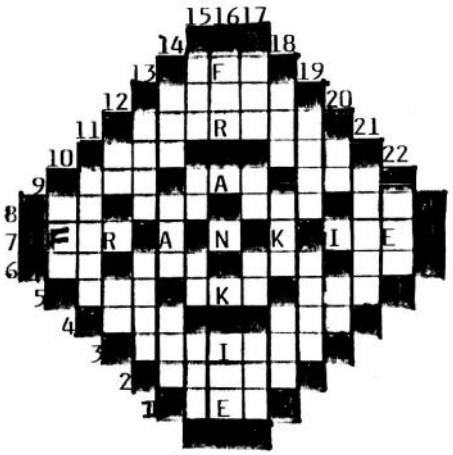
SMITHSON COMPUTING, 24 COAL HILL GREEN, BRAMLEY, LEEDS, LS13 1DR. Tel: 0532 551631

Hello, hello, is there anybody out there?. Well, that's a relief, for a horrible moment I thought perhaps only Wayne and I actually received the mag.. The reason for this is that wading through last months mail I find ... not a single competition entry for the last puzzle page. If you completed part of the puzzles but didn't send them in because you didn't think you had done enough, kick yourself now, you would have won. Ah well, things can only get better, but only if YOU respond, if you don't respond then the puzzle page disappears and with it your chance to win yourself the free goodies on offer. You can't say the prizes aren't good enough, last months prizes included several nice books along with the games so come on, it only costs the price of a stamp and a little brain exertion to enter. In case you thought last months crossword was a bit tough, this months is an easier one.

This month 3 copies of the latest Dragon mega-game FRANKIE are on offer for the best entries received, one for the best crossword, two for the maths puzzle. Both puzzles are straightforward but the crossword grid is numbered differently to avoid the squares being cluttered with the numbers. To explain it, the row 9 across has three answers so clue 9,1 applies to the first answer of 9 across, clue 9,2 to the second answer of 9 across and so on. Good luck.

ACROSS :: 1 A young sheep: 2 Mistake: 3 A pump or a * coach: 4,1 You could be all at this if in the red: 4,2 A Chuckie Egg meanie: 5,1 Roland is one: 5,2 To squeeze out the last bit: 5,3 The direction: 6,1 Small thanks: 6,2 Enemy agent: 6,3 Goes with whisky: 6,4 Rambo's this kind of man: 7,1 Christmas tree: 7,2 Put something on this to postpone it: 8,1 An alternative: 8,2 Either: 8,3 The cigarette tree? : 8,4 We are partly users: 9,1 A sleeping appliance! : 9,2 Useful in adventures: 9,3 A lump of turf: 10,1 Misery: 10,2 Pull: 11 Book a flight: 12 Teach: 13 A small newt:



:: DOWN :: 10 Olde frequently: 11 Type of pipe: 12,1 Me and you: 12,2 South africa (anagram!): 13,1 A musical sequence, usually repeated: 13,2 Test is an anagram of this olde word: 14,1 It: 14,2 Forty winks: 14,3 Exist: 15,1 A particular time: 15,2 Belonging to me: 15,3 Olde you: 15,4 Culture: 16,1 Distant: 16,2 Olde anger: 17,1 Type of bird: 17,2 Small father: 17,3 Short reference or regarding: 17,4 Olde ale, put gin with it to get a measure: 18,1 Fish trap: 18,2 Blue, high, or diver? : 18,3 That woman! : 19,1 Hurry: 19,2 Olde vase: 20,1 To depart: 20,2 North America (anagram!): 21 Olde measure of land: 22 To optically register an item!.

Now onto the second of this months puzzles, the maths one. All you have to do is answer the following three questions:- FRANKIE=512, how?. FRANKIE=192, how?. FRANKIE=64, how?. To make it a bit easier still, a clue is 'ASCII', also only plus and minus are used. As a tie breaker (he said optimistically) also send in the wittiest statement you can come up with from the letters of:- FRANKIE GOES TO HECKMONDWYKE. There are two copies of FRANKIE to be won in this puzzle so have a go. All entries to be in by 30th September 1986. Send them to- I. Rockett, 2 Knowle road, Burley, Leeds, LS4 2PJ.

Even if you can't complete all the crossword, still send in your best effort, a best effort would have one last month, it might win this month as well!

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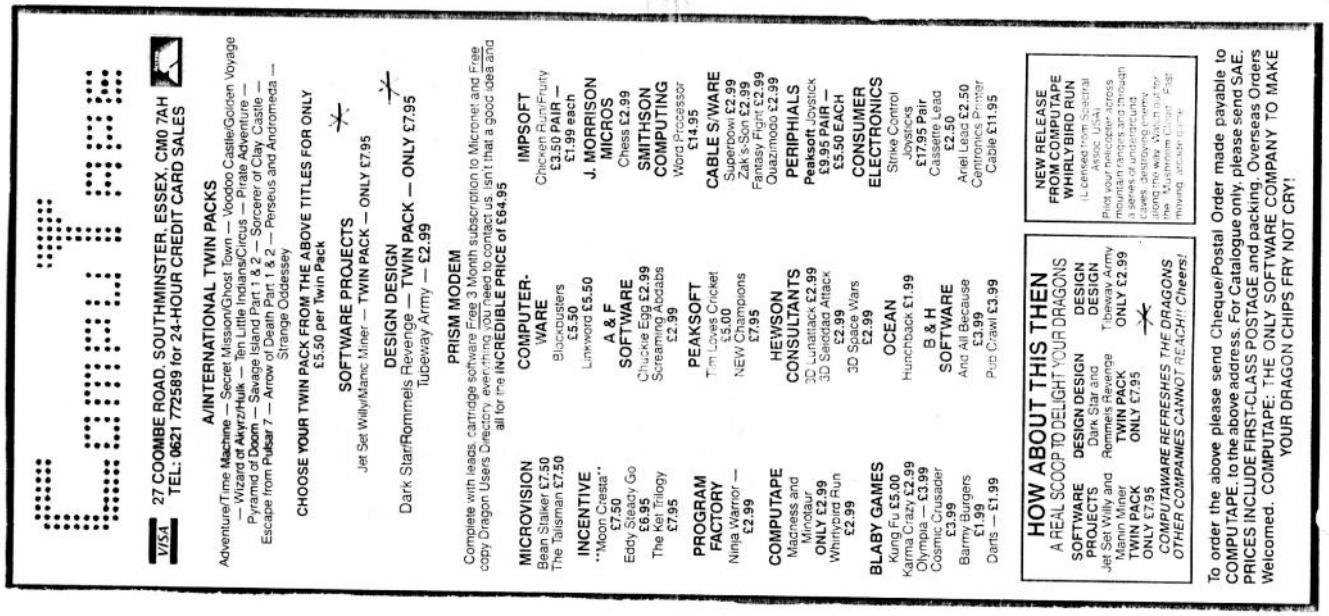

PRINTER BARGAINS: I can get hold of some ex-demonstration Triumph Adler full size (upto 180 cpl) daisywheel printers, the exact same model that printed this magazine, for £150. They are worth well over £350 and I can only get a few so first come first served. I can also get Brother HR5's for £70.00. Telephone me (Wayne) on 0532 551631 or write to me at 24 Coal Hill Green, Bramley, Leeds 13.

ADVENTURE for the Dragon, "The Bomb". Can you defuse the mad scientist's world decimator bomb? Great fun! (64 locations). On the same cassette: "Games List" - keep track of all the games you can't afford. AND a leaflet (free for opening celebrations), "An Introduction to Adventure Gaming" - 3.5 pages of hints and information - absolutely free with "The Bomb" and "Games List". All this makes a great adventure starters pack for just £3.50 (£4.50 outside UK). Order from Hobbitsoft, 8 Ingleby Road, Wigston, Leicester, LE8 1DQ.

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FOR SALE, pair of Quickshot II joysticks, 100% unused, £8 each. Software including top titles. Also, wanted - swap my EDIT+/HI-RES cartridge for your ALLDREAM cartridge. Write to Ian Rockett, 2 Knowle Road, Burley, Leeds, LS4 2PJ.

"6809 ASSEMBLY LANGUAGE PROGRAMMING" by L.A. Leventhal book for sale, completely unused gift, only £10. Contact Barry Johnson, Flat2, 4 Carisbrooke Road, St Leonards o/s, E. Sussex, TN38 0JS. This is the book recommended in the machine code tutorial in isue 2 of DM.

ELECTRONIC BUFFS, I have various electronic components I want to get rid of: Various capacitors (electrolytic and ceramic); Various resistors, regulators, rectifiers, pots., LED's, SPDT switches, slide switches, toggle switches, terminals, speakers, ribbon cable, relays; A 6522 VIA (unused), 2 SN74LS125 tri-state buffers, 2 SN74LS245 octal tri-state bus tranceivers, various other gate and amplifier chips; prototype board to fit Dragon cartridge slot; complete article on how to interface to the Dragon using the 6522 VIA and chips mentioned to the cartridge slot. All I want for this lot is £10 plus postage, the 6522 itself is worth double that. Telephone Wayne on 0532 551631

BOOKS! The following books, all for £1 each: Adventuring with Electronics; Adventuring with micro-electronics; Programming with Graphics; Logo programming; Simple interfacing Projects; Computers and your Child; Computing for the Hobbyist and Small Business. All these books are not Dragon relevant but are brand new (except for the electronic books). Please add 60p postage, cheques payable to Wayne Smithson, 24 Coal Hill Green, Bramley, Leeds 13.

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