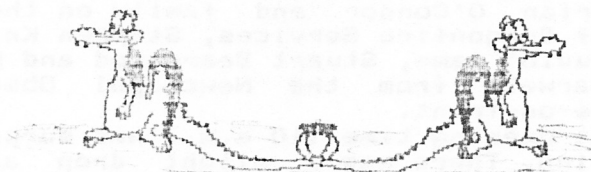


The Newsletter of the National Dragon Users Group

DRAGON



UPDATE

* ISSUE 83. GOT THE DATE RIGHT AT LAST! ==> JUNE 1992. *

CHAIRMAN: Paul Grade. 6, Navarino Road, Worthing, Sussex. Phone: 0903-207585 #
EDITOR: Robin Hemmings. 8 Ingleby Road, Wigston, Leicester, LE8 1DQ: 0533-889860 #
S/WARE EDITOR: Mike Stott, 10, Mellor Close, Prescott, Merseyside. 051-480-7712 #

The Gaffer's Bit

Oh dear, we DO have a peevish Editor this month must be the weather or something!. Unfortunately he DOES have a point (no, not to his head!), and we really DO need something more by way of material if the next issue is not to be a D.I.Y one.

Anyway, enough on this tedious subject. One or two people are STILL misguided enough to suggest that I use a DTP program for Update, so just to make it clear why I don't do so, I've made up page twelve using Express Publisher on the old IBM. Don't worry, I picked on twelve because it is the least interesting page in the issue, but it serves to make the point that unless one has something on the lines of a HP Laser or an almost as expensive "bubble jet" printer, the printer dump routines available with the DTP packages simply are NOT good enough for the job. I could have used Timeworks, Express, or Ventura, but all have the same fault ... Yank programmers just can't write adequate printer dumps, they're all too busy writing silly screen displays and title screens half a Meg long!. Anyway, now you've seen, BELIEVE!. (or buy me a Laser!!).

What else is new? . . . nothing. Ossett came and went, and didn't achieve very much (rather like Kinnock), but other than that if anything worthy of mention has happened no-one told ME!. Still no word from Mr. Preston about possible future shows (or anything else for that matter), still no adverts from the new owner of Dragonfire, still nothing to write about at all, so I may as well give up and go find a drink. Have fun writing your reams of interesting articles for our Robin!. Paul Grade.

Paul

The Editor's Chewing At His Bit

Here we are with another issue... *** WARNING *** The next one will NOT be full unless I receive more articles! Apart from this age-old plea, what news have I to offer?

By all accounts the 1992 Ossett Show went well - talk already abounds of the 1993 Show so well done to all the organisers and clients there. As you might expect, there's a show report and other related articles inside.

I would also like to offer my apologies for not being there in person. I won't go into why not (I know you'd like me to, but I won't) - the Show fell on an "impossible" weekend for me this year.

Ossett has shown that the Dragon still has a kickin' user base, so get involved and keep it that way. You know the score.

Oh... sorry about getting the date on the header wrong two issues running! I think we're right now! This is '92 isn't it? And finally can I point out that this is the 83rd edition of Update. Unfortunately however this is not an interesting fact at all, as 83 has to be one of the most boring numbers around, there's nothing special about it at all. Or is there?

On that tediously ridiculous note I'll leave you to get on with the other 13 pages - see you in august....

OSSETT AGAIN BY BRIAN YEOMAN-WALKER

The 25th April was a lovely spring morning as we drove over the Pennines for another Dragon Show, would it auger well for a good day?

The thin red line of heroes consisted of Bob Preston (who took the risk of promoting the Show), Brian O'Connor and family on the P.S.E. stand, Kieran Anscomb the new hopeful of Dragonfire Services, Stephen Knight of "PUBLISHER" and "Dragon Graphics Studio" fame, Stuart Beardwood and Mike Stott on the NDUG stand and also Keith Garwell from the Newchapel Observatory and Natural Sciences Centre near Stoke-on-Trent.

The number of entrants at opening time (10 a.m.) was surprisingly high and most stands were busy all morning. There was a slight drop around midday with a small increase after lunch, then it fell away completely by about two o'clock. Total adult attendance was 105.

There were the usual bargains for those interested :- computer covers, time honoured games cassettes, miscellaneous books and magazines, joysticks working Dragon computers complete with power supply for 20.00 give or take a bit according to "cosmetic condition", miscellaneous disc drives from 1.00 each (suitable for spares) up to 10.00 to 20.00 each in working order and whether it was a full or half-height unit.

Dragonfire and Knight were demonstrating and selling disc programmes, Stuart Beardwood showed some of the NDUG Library programmes complete with music and "effects noises" - PSSHH, KAPPAOW, and the like! Mike Stott was selling various Group discs including copies of UP-2-DATE and taking names of folk who wanted help with various problems. Mike was interested that more people stopped and talked and got to know other people than at any previous show. Keith Garwell showed a hook-up of a highly sensitive voltmeter which he is setting up at Newchapel Observatory for detecting Atmospheric Charges, in conjunction with a Dragon, a PC, and a printer; as part of a project associated with a weather station. (See article in ETI <ELECTRONICS TODAY INTERNATIONAL> Magazine, April 1992, p42.

Newchapel is well worth a family day outing for there are many items of interest on the 1 1/2 acre site - educational and recreational, too numerous to mention here. For further details phone 0782-785205.

A young programmer from Scarborough came to the NDUG stand with his disc containing six programs and demonstrated a very clever item to display on the Dragon a GIF graphics file directly read from an MSDOS disc. This disc may be issued through the Group PD Library.

One must not forget the two heroines (Mrs Preston and Mrs Stott) who laboured to provide tea, coffee, and sandwiches for those that wanted them. (Computer Shows are SO exciting for the ladies!).

Returning over the Pennines we had everything, high wind, torrential rain, hail stones: so it was a day with something for everyone.

OSSETT HELP CORNER BY MIKE STOTT

The following were the problems given to me at Ossett. Please let me know if you can help.

- 1) How to transfer ELITE-CALC to disk.
- 2) CumanaDos with zif socket Dos chip Super, 128 EDIT PLUS hangs up 64 Dragon with 128 Plus boards.
- 3) WINDOWS (Brian Cadge, Dragon User July 1985), Basic loader loads checksum okay but then hangs and commands cannot be entered. Data statements checked. November 1985 letter says program worked.
- 4) Ideas for twin outputs switchable with indicator light off D64 printer port to run either printer or modem.
- 5) DELTADOS - is a double density version available, how can you make it DD?
- 6) How can I link a modem to a 32?
- 7) Key presses whilst scrolling hi-res screens can be lost. Anybody written a keyboard buffer program?
- 8) Midi interface wanted. Any midi (->) rotation software?
- 9) SAVAGE ISLANDS PART 1 - knife is on bottom of lake but it becomes too heavy when I pick it up. How can I get it?

###

As I've got a couple of inches left to fill on this page I'll try my luck at providing some answers:-

1. Dunno ... so far as I know it has never been tried.
2. Not understood ... what's so difficult about soldering in a zif socket?
- 2b. Most things hang up with Plus boards!.
3. Cadge seldom got ANYTHING right, so results as expected.
4. Buy a printer switch box for about 15.00 and save a lot of work!.
5. Yes, but if you have an SD version you CAN'T make it DD.
6. Get a Maplin 300/300 board.
7. No.
8. Try Alfred Knotig.
9. cheat!. Paul.

BEAT THIS FOR STUPIDITY!!!.

I finally have to admit that I have managed to improve on nature I've managed to make a Perfect Prat of myself, and even worse, I can't find anyone else to blame!!!.

You don't believe me?, then read on: The more observant amongst you may have noticed that for several months now I have been complaining about the lack of "volunteers" for the revised Helpline list. Having finally managed to bribe / threaten / intimidate a reasonable number of people into volunteering, I carefully made a list of the relevant names, subjects, etc, and so I wouldn't misfile it carefully put it in a "safe place" on the desk. A couple of days later I decided the state of the desk was just too chaotic to put up with any longer, so had a grand clear-up discarded old letters, scraps of paper with unidentified phone numbers on them, reams of "special offers" from Borland offering me lousy programs at only three times the price of my hardware, and all the other odds and sods that collect in the six square inches of working space that passes for "the office". Then comes the funny guess what is no longer in the "safe place"?, guess what seems to have disappeared from the face of the planet?Right first time!, the one and only irreplaceable copy of the Revised Helpline List information!.

You Too Can Become an Idiot in Your Spare Time ... send s.a.e for Details!.

So, I now have a VERY urgent request to make ... WILL ALL PERSONS WHO AGREED TO VOLUNTEER FOR THE LIST PLEASE SEND ME A BRIEF NOTE REPEATING THE RELEVANT DETAILS, PREFERABLY WITHIN THE NEXT TWO WEEKS?. I know this should not have been necessary, and I admit that it is entirely my fault, but if there is one thing worse than no list at all it is an inaccurate one, and while I can remember SOME names/details I don't want to risk causing everyone more problems by printing misleading information.

CROSSWORD NUMBER 62 ANSWERS.**ACROSS:**

1A.CASTANET; 11.GOLD; 2B.WARDERS; 3A.WAVE; 3G.SHALLOT; 4C.PLINTH;
5J.MITE; 6B.NULLIFY; 6I.ASPIC; 9A.LAUN; 9C.MINUTE; 11A.AGREEMENT;
12H.BOUNTY; 13A.GREENHOUSE.

DOWN:

8I.COWSLIP; 8I.BURY IN A MANGER; 8I.PRUNE; 11I.BERLIN; 15.GREEN;
15.JIG; 16I.STAFF; 16I.MYOPIA; 12I.MANDARIN; 10I.PURSUE; 11I.LILLIPUT;
13I.OPTIC; 11I.OF THE EMIRNEY.

The usual software prizes for the first two all correct entries.

CROSSWORD NUMBER 63.

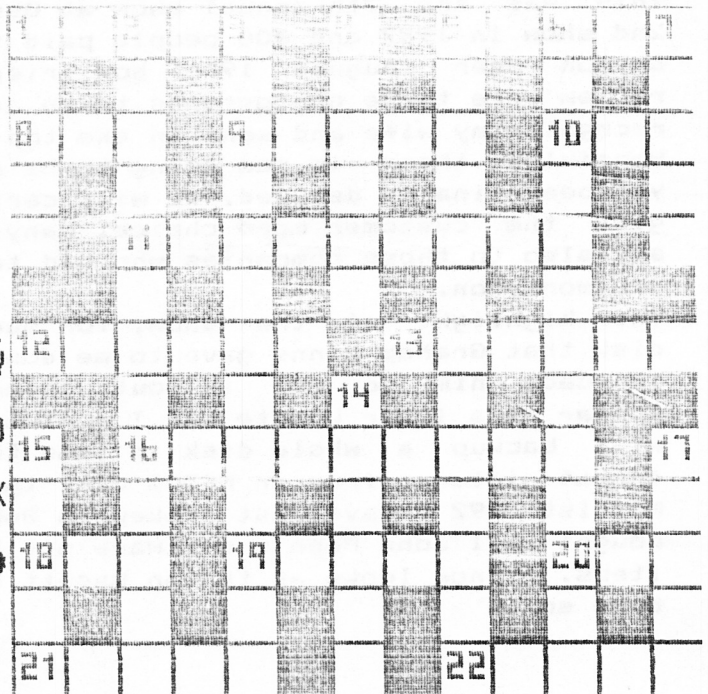
ACROSS: 1.DRAGON OR GOLF?; 5.NOT CLEAR;
8.SHORT ANIMAL 'QUACK'; 9.JACK'S SNACK;
10.SPARE IT & SPOIL; 11.MODERN HOLD-UPS;

12.IN AND OUT; 13.NOT HERE;

16.FOUND AT LAST; 18.FOR TAT; 19.QUICK;
20.CLINGER; 21.CHEEKY GIRL!; 22.OLD ROPE.

DOWN: 1.AS I ACROSS BUT YET; 2.BASICALLY
THE DRAGON DOES; 3.NOT USUAL; 4.HOUSEY
TYPEST; 5.UNHAPPINESS; 6.NOT A BEST FRIEND
7.CLEAR THE THROAT SWISS STYLE;
14.CONFLICT'S PROFITS; 15.PLAY IT OR STRIK
IT; 17.UNCOMMON.

THIS CROSSWORD COMPILED BY R.A.DAVIS.
ALL ENTRIES TO PAUL GRADE PLEASE.



PEEKING THE DRAGON (39) BY MIKE STOTT

29th March 1992 - Had to have a rest after the Wirral Radio Rally. Our stand was fairly busy all day with a considerable amount of interest shown. Many people were surprised that there was still so much support and software for the Dragon. Overall I think that we can say that it was a successful day for the group and I take this opportunity to welcome the two new members who joined. My thanks go to Peter Hawes who was the only person to respond to my plea a few articles ago for adventure hints. In return let me mention that Peter's Software Address Guide (No 2) for the Dragon is out now. @ 26th April 1992 - Just three days ago it was St. George's Day and yesterday in Ossett it was the Dragon's turn. Over 100 customers paid to come in so why was there all the doom and gloom, and talk of this being the last ever Dragon show? The reason was the lack of support from traders and exhibitors, not that this seemed to take anything away from the show. If anything there seemed to be an even friendlier atmosphere than usual and most people seemed to be spending on average about three hours there. There were visitors from all over the country, judging from the addresses of the 37 people who signed my visitors book. 9 people wrote down queries on my "Help Corner" sheets and hopefully we should get answers to these over the next few articles. Many other problems were solved at the show, courtesy of the other users.

Bob Preston, who also organised the show, had a larger than usual stand, selling hardware, software and many other odds and ends. P.S.E. took the whole area in front of the stage and appeared to be selling anything and everything for computer users. I noticed Tim Lees staggering under a daisy wheel printer amongst many other bargains. Dragonfire Services, with Keiran Anscomb at the helm for the first time, were next to Knight Computer Services. These two young writers are among the most knowledgeable on the Dragon and both companies spent a lot of time talking to the public. The usual 'noise' came from Stuart Beardwood next to me with the PD library and also showing the younger visitors how the "Electronic Book" could be used with the Dragon. On the other side of me was Keith Garwell from the Newchapel Observatory and Natural Sciences Centre, Newchapel, Stoke on Trent explaining how the Dragon is used by their establishment for many different experiments. I am definitely going to pay them a visit to see the many other uses for a Dragon.

This was the 7th annual show at Ossett. The first to be held in April was the 2nd show in 1987 and 400 people paid to get in that year. Roy Coates wrote in Dragon User (August 1986) how friendly the atmosphere was even then. With his review were three photographs taken at the show - a pint to anybody who can recognise my wife and sons in the top one or me in the one bottom right. Hopefully there is now going to be an 8th Ossett Show in 1993 but this has not yet been finally decided. We will certainly need more people to take stands to give the customer more choice. Many thanks to Bob Preston for running the show and also to those companies who did take stands and give us something to spend our money on.

The highlight of the show, for many people including myself, was the utility disk that Graham Kinns gave to me donating it as PD, although I did try to persuade him to put it out commercially as it is very good. A review will appear in a later Update but I must tell you of two of the programs. FASTBACK will backup a whole disk in less than a minute and GIFREAD will transport GIF format pictures from an MSDOS disk to the Dragon.

May 1st 1992 - Have just spoken to Bob Preston on the phone and he has now bought all John Peñ's software off him including a considerable amount of OS-9 items. It now looks as though Ossett will take place again in 1993, let us all hope so.

Desktop Publishing (9) . J.R. Winchurch . . .

DESIGNING COVERS

The basic rule here is that your cover should be bolder than the rest of the text. The layout, although simple, should give the reader an idea of the contents. At the same time it should be dynamic or eye-catching enough to induce the reader to open the document.

If your cover is for a magazine or catalogue you may need some form of graphics. This is the hardest part of DTP work. It is easy to make the design too complex, with detail crammed into every free space. It may be wise to import the graphics, as satisfactory computer graphics can be difficult to achieve. Make the lettering as simple and bold as possible.

We are now at the end of this series. Although it has only skimmed the surface of DTP, I hope it has encouraged you to consider your Dragon in a new light. It may now be an enthusiast's machine, but it has many capabilities which make it a very useful tool if used to its full capacity. These articles were intended not as a tutorial, but to give you an idea as to what is possible.

You must now further explore your machine and software. You may find some non-machine-specific DTP books can be an aid to this.

I for one have been impressed with the output of my partially upgraded D32 and the two DTP programs I have used. Of course you can't expect the same resolution as an Archimedes with laser printer, but with a decent dot matrix and a good ribbon the results are quite acceptable. If you use good DTP techniques you can only produce good output.

I haven't yet explored all the possibilities on "Publisher", but I can see there are further combinations of options worth experimenting with. It is possible to combine output from Knight's "Dragon Graphics Studio Plus" with the Group's DTP package and also Knight's "Publisher".

If you can photocopy your output and are using galley proofs, fix your proofs with double-sided tape, as both the proofs and normal sellotape would show their outline on the copy. Double-sided tape, of course, goes under the proof.

I hope I have encouraged you to put your Dragon to good use when access to the school's or firm's machines is limited or inconvenient. Good publishing.

John Winchurch.

OLDIES REDISCOVERED BY DAVID MITCHELL

In the 8 years I have had my Dragon I have collected over a 100 games. I only used to play the more recent games but I have recently discovered some excellent older games that I have had for a few years and not realised how good they were. Here are some of my best finds:

BEAMRIDER - Very original game. Possibly the first ever 'green' game. You control a ship which has to collect nuclear waste blocks while avoiding monsters. Graphics are small but acceptable. It is very addictive and great fun to play as you are always trying to work out the way to get most points.

ICE CASTLES - Highly under-rated game. The 3D graphics are outstanding. You control a small character who must collect the crystals while avoiding monsters. There are tunnels and lifts to travel about the 3D screen and many monsters to dodge. Altogether a great game.

EMPIRE - A strategy game in which you must beat the computer's forces before they conquer the Earth. Simple controls make the game easy to play. Graphics are fairly good and represent the world map quite well. A good game with levels of difficulty to improve it's lastability.

DON'T PANIC - Two text adventures that load at the same time. It has a VERB/NOUN parser and is enjoyable to play. Excellent for the new adventure player.

I do not know of any suppliers that stock BEAMRIDER, ICE CASTLES or EMPIRE. Try at the shows or a company, like PSE, that sells second hand software as well as new games. DON'T PANIC was on John Penn Discount Software's list last year but check that it is in stock before ordering. If you have any of these games already why not dust them off and give them a try. I would be interested in any finds of old games that you have made.

Please note that John Penn software is now available from R & A.J.Preston.

Printer Port Repair... Ian Jones....

A notice in issue 80 of UPDATE informs us that the MAPLIN printer cable, catalogue number FG31 is not suitable for Dragons and its use will result in serious damage. This news came too late for me but I have been able to repair two Dragons thus damaged; for those who have suffered such a fate, here is how I did it.

If the rest of the Dragon is working, this indicates that the damage is restricted to the printer port only. Let's consider the purpose of the port. A printer can't print as fast as the Dragon sends data to it. The printer has its own buffer which stores surplus data waiting to be printed (buffer sizes vary greatly depending on the model). Any data sent when this buffer is full will be lost, however, so the Dragon's printer port must not send data if there is no room in the printer's buffer.

This is done by a process called "handshaking" which is controlled by the Dragon's IC24 and IC26 chips. IC26 is one of the 6821 Peripheral Interface Adaptors and; it handles other I/O actions in addition to the printer, so the fault cannot be here. IC24 is a 74LS244 which is a non-inverting 8-bit buffer; it holds data waiting to be sent to the printer. If this is faulty such data will just be lost and this I found was the problem. 74LS244 chips are widely available at around 15 pence. I had one in a dead Dragon anyway and decided a swap was well worth trying.

So, how to replace the chip? Ensure power is disconnected and remove the four screws underneath the Dragon. Remove the top cover. There are three circuit boards:

(1) Nearest the front is the board with the keyboard attached. A ribbon cable connects this board to ... (2) The main board, in the middle, which has all the chips on it. (3) The board at the rear deals with voltage regulation and VDU output and is connected to the main board by a ribbon cable.

Disconnect and remove the keyboard (one screw on either side). By the printer port, look for a 20-pin chip with 74LS244N printed on top. There will be at least two of these and the one concerned should be labelled IC24 - in any case the printed circuit lines from it will lead to the printer port. If the chip is in a DIL socket you are in luck: gently remove it and insert the replacement, taking care that the small notch at one end faces the same way as before.

Most will be soldered in place, however. There are many ways of removing such a chip; care must be taken not to damage the printed circuit or other chips. I used a pair of sidecutters to cut the pins from the chip as close to its body as possible. If you use this method be very careful not to damage the printed circuit.

The new chip can now be soldered onto the mainboard. Place the chip (facing the right way) into the holes, then on the underside of the board bend each pin in a little to hold the chip's position. Dab a very small amount of solder onto the preheated tip of the iron and touch the iron onto a pin and its hole for a second to heat it. Then apply just enough solder for a neat joint. Alternatively you could solder in a DIL socket which will make any future replacements much easier.

Re-assemble the machine and test it. **DISCLAIMER:** I know very little about electronics. The above worked for me and others are welcome to try it but I accept no responsibility should it go wrong. The job is quite straightforward but don't be afraid to ask a more knowledgeable friend for advice - it's better safe than sorry after all!

###

PLEASE NOTE THAT ALL DRAGON PRINTER LEADS SHOULD HAVE LINES 2 AND 4 NOT CONNECTED, AND LINE 20 FED TO PIN 21 AT THE PRINTER END. P.G.

@Kwikfile.....R.A.D.....

I found it so time-wasting and tedious to use either "Unifile", which takes ages to sort new data when the file gets to any reasonable length (and just as long to amend or delete files), or the DRS system with its own complications, that I looked to something more simple, quick and easy to keep an index of the 600-or-so disk programs in my possession. The ten-line listing below does the job. It is the venerated global search with a small addition which gives the line-number where the data is situated.

In order to do this, the data entries MUST start at line 10 and MUST continue in increments of 10. (Ie, lines 10,20,30,40 etc..) Line 10000 is the last data line and indicates to the program that the last data item has been read. This method allows you to use the normal Dragon EDIT command to amend and delete data as you can find the line-number easily, make the necessary changes, and save the new version of the complete program.

At present I have over 600 programs on my version. It is important that if you decide to eliminate a complete line of data you leave the line-number in place, making it:

DATA "EMPTY"

so that the increments of 10 are not disturbed. To find this line later, global search does have the small disadvantage of printing out anything which contains the word entered. This situation can be improved by entering the word with a space before or after in some cases, and also by using lower-case text for the name of the disk, as in the sample line 10 below.

I, and others, have found this a quick and simple method of finding the program I want. The display pauses as a screen is filled, and continues on key-press until all occurrences of the word have been printed. In case of overlap, the bottom entry is repeated each time at the screen top. A sample line 10 follows:

10 DATA "DRAWEZEE.TO COPY FROM GRAPH PAPER. SPRITEMAKER. MAKES SPRITES. HIRESINV.INVERTS SCREENS. draw1"

In this case there are three programs and the disk DRAW1 is in lower case to highlight it and also to find the contents of the disk if necessary.

```
10000 DATA*
10010 CLS:PRINT@105,"PLEASE WAIT":PCLEAR1:DINA$(700):I=1
10020 READA$(J):IFA$(J)="*"THENCLS:GOTO10040
10030 J=J+1:GOTO10020
10040 PRINT:PRINT" enter TO BROWSE OR :-":LINEINPUT" WORD ";S$:FORA=1TOJ:I=INSTR
(1,A$(A),S$):IFI=0THEN10090
10050
10060 PRINT"LINE";A$10:PRINT" ";A$(A)
10070 X=PEEK(136)*256+PEEK(137)
10080 IF X=>1440 THEN A=A-1:PRINT@480," PRESS A KEY":EXEC34091:CLS
10090 NEXTA:I$="":S$="":GOTO10040
```


Odds & Sods from Ian Jones

HELPLINE LIST 1992: Put me down for it; I'm not an expert at anything but I've dabbled a lot and I have most Operating Systems and languages. I won't be much use with games though - I never find time to try them out - and phonecalls... evenings only please, on 0606-83-4473.

ANYONE USING COMMS?: Well I am, mainly on PRESTEL because everyone I used to talk to on Jolly Roger BBS seems to have disappeared. If anyone else is using COMMS why not tell us all? My PRESTEL MBX is 219998284. (Ed: E-Mail is also a good way of keeping in touch with other Dragoners. Apart from those who've already contacted me and each other over JANET, is anyone else linked up to this?)

MODEM WANTED: Anything 1200/1200 or faster, doesn't need to be fancy, just cheap and functional. 0606-83-4473 evenings only.

DRAGON SCANNER: In issue 81 of Update Paul mentions the German Dragon Power Software scanner and that the problem with it appears to be sensitivity. I agree with him. Using BASIC to read the joystick port I found sensitivity ranged from 0-17; with a potential of 0-63 this seems to be very lacking. I don't think throwing any old light at it will help though. I say this as I found it makes no difference. (Paul, have you tried it in the dark? This makes no odds either.) I think the reason is that the head is a combined infra-red emitter/transmitter, so possibly Paul was on the right lines but it would need a red LED... I haven't tried it yet so I don't know.

DYNACALC: Slight correction for Roger Merrick regarding Dynacalc (Issue 81). He said "There is no graphing function in Dynacalc". There is, and the graphing character can be changed. Dynacalc still holds up well and I use it frequently, in particular to maintain produce, feeding and calving records of a dairy farm of around 65 cows. A very good article appeared in the January 1992 Dragon User by David Rothery, which includes a description of the graph plotting capabilities of Dynacalc.

DREAMBOX: Another offering from Dragon Power Software which plugs into a joystick port. I bought one hoping to make use of its MIDI capabilities, but on my D32s and upgraded D32s it does not work. This appears to be due to its use of some of the same circuitry as the Dragon keyboard. The instructions suggest the removal of a capacitor for D32s but this disabled the keyboard. The dreambox also consists of a digitiser which I have not used. (I am working on an entirely different type of MIDI interface for the Dragon which still looks some time off and will be more expensive than the German version.)

SHOP TV: The on-line shopping facility run by INDEX is no longer available on PRESTEL. It is called INDEX SHOP TV and is now accessed by a direct line to INDEX. I assume this has been done to enable a wider user base than that available on PRESTEL. It operates at several baud rates including 75/1200. That means if you bought the NEW ERA/PRISM package or a similar setup then you can access SHOP TV. The phone number is 0345-045240.

COBOL WANTED: There was a version of COBOL running under FLEX available at one time, supposedly very good. Can anyone out there help with this please?

My address is: Ian Jones, 2 Rushton Drive, Middlewich, Cheshire.

Function Plotter...Paul Etchells...

This program will plot a function on a hi-res screen graph. First you must edit line 140 to define F(X) for the function you want to plot; any valid DEF FN is valid for "Plotter" too.

RUN the program, which can be found elsewhere in this issue. You will be asked three questions, each of which should be answered with two values separated by a comma:-

1. RANGE OF PLOT asks for the range of values for X along the X-axis, left extreme and right extreme respectively.
2. AXES DIVISIONS will put marks along the axes at the intervals specified, X-axis and Y-axis respectively.
3. EXCLUSION RANGE should be answered with two values which specify a range for X which will not be calculated. The idea here is to exclude undefinable values for functions such as $\sin(X)/X$ for $X=0$ (in this case enter "0,0"), or for very large values for functions such as $1/X$ for $-0.1 > X > 0.1$ (enter "-.1,.1"). Entering "0,0" will exclude the point for $X=0$ which will in any case be invisible since it will be obscured by the Y-axis. Therefore you should use this as the default value.

```

100 PCLEAR 4:PMODE 4:PCLS
110 '*****
120 '** function plotter **
130 '*****
140 DEFFNF(X)=SIN(X*X)/X
150 '*****
160 DIM Y(255)
170 CLS 3:PRINT@236,"plotter";
180 PRINT@296,"BY PAUL ETHELLS";
200 FOR P=1 TO 2500:NEXT
240 CLS:PRINT"EDIT LINE 140 TO CHANGE FUNCTION":PRINT
250 PRINT@96,"RANGE OF PLOT";
260 INPUT XL,XR
270 IF XL>0 THEN XL=0
280 IF XR<0 THEN XR=0
290 PRINT:PRINT"AXES DIVISIONS";
300 INPUT XI,YI
310 PRINT:PRINT"EXCLUSION RANGE";
320 INPUT EL,ER
330 PRINT:PRINT"CALCULATING POINTS...";
340 IN=(XR-XL)/250
350 PRINT@480,"PRESS SPACEBAR TO SWITCH SCREEN";
360 P=0
370 FOR X=XL TO XR STEP IN
380 P=P+1
390 IF X>=EL AND X<=ER THEN Y(P)=0 ELSE Y(P)=FNF(X)
400 NEXT
410 YL=1E38
420 YX=1E-38
430 'get ymax and ymin
440 FOR P=0 TO 255
450 IF Y(P)>YX THEN YX=Y(P)
460 IF Y(P)<YL THEN YL=Y(P)
470 NEXT
480 'plot graph
490 XS=250/(XR-XL)
500 YS=180/(YX-YL)
510 XC=2-XL*XS
520 YC=185+YS*YL
530 SCREEN 1,1
540 GOSUB 690: 'plot axes
550 P=0
560 FOR X=XL TO XR STEP IN
570 P=P+1
580 XP=XC+X*XS+.5
590 YP=YC-(Y(P)*YS)+.5
600 PSET(XP,YP)
610 NEXT
620 BEEP: 'dos command only
630 A$=INKEY$
640 IF A$<>" " THEN 630
650 PRINT@288,"ANOTHER PLOT (Y/N)? ";
660 A$=INKEY$:IF A$="Y" THEN RUN
670 IF A$="N" THEN END
680 IF A$<>" " THEN 660 ELSE SCREEN 1,1:GOTO 620
690 LINE (0,YC)-(255,YC),PSET
700 LINE (XC,0)-(XC,191),PSET
710 FOR X=0 TO -XL STEP XI:NEXT
720 FOR X=XI-X TO XR STEP XI
730 LINE (XC+(X*XS)+.5,YC-1)-(XC+(X*XS)+.5,YC+1),PSET
740 NEXT
750 FOR Y=0 TO YX STEP YI:NEXT
760 FOR Y=Y-YI TO YL STEP -YI
770 LINE (XC-1,YC-(YS*Y))-(XC+1,YC-(YS*Y)),PSET
780 NEXT
790 RETURN

```

Message from K.C.S.

Steve Knight has asked me to pass on his apologies to customers who may have ordered goods recently and not received them. There appear to have been severe problems with the postal service in his area, and several items are known to have gone missing. If you haven't received YOUR order please let him know soonest. P.G.

The CoCo Mouse....Paul Marlow.....

This mouse is intended for use with the Tandy CoCo but can also be used with the Dragon in almost any program that uses joysticks. (It will not be of much use for playing arcade games however - its best use is cursor positioning, as in graphics designers and so forth.) As with most CoCo peripherals the mouse is available from the US.

The mouse is black plastic with one red button and a silver ball. It is connected to the computer via a 140 cm lead with a standard DIN plug. Not exactly state-of-the-art, but it works. I don't have enough programs to give you a list of those it works with, but it is fine with the drawing program from September's "Up-2-Date".

The usual warnings about ordering from other countries apply, eg. lack of consumer protection, VAT, import duty etc.. It can be ordered from Tandy's mail-order service by credit card. Order #01-8344, 900 Terminal Road, Fort Worth, Texas 76016, USA.

For a copy of the order form send a SAE to me at 50 Lime Avenue, Bentley, Walsall, West Midlands WS2 0JP. Or include in your order your name, address, the date, quantity required, stock number (26-3025), product description ("TRS-80 Color Mouse"), price each (\$29.95), shipping and handling cost (\$6.50 each), type of credit card, card number, the EXACT name on the card, and the card expiry date.

As Tandy has stopped selling the CoCo in the US it might be a good idea to write to them asking about availability and any price changes. However be warned: they have a nasty habit of ignoring letters!

More on USR.... Dave Riley.....

Converting CoCo software from "Rainbow" is a good way to learn about programming the Dragon. Dragon Data must have engaged the KGB to handle their technical publications - the lack of information concerning the Dragon's internal workings is often bemoaned though I do feel that programmers must share the blame: those who have discovered "secrets" have not always made it public. There have been a few "moles" however.

Having indulged in more conversion I wrote the accompanying demonstration program to show how integers can be passed from machine code to BASIC isomg the USR instructio. To do this the routine at \$8C37 must be called, which converts an integer in the D register to a BASIC numeric value. It is referred to as "GIVABF" in "Inside The Dragon", and the equivalent CoCo routine is at \$BF4F. The BASIC listing will explain better than a mile of my prose. The machine code in the DATA string is:

```
JSR $852B ;WAIT SUBROUTINE
TFR A,B
CLRA
JMP $8C37 ;GIVABF
```

The parameter received is modified with &H30 because the ASCII value of the key pressed, and not the actual number, is passed. The program was written on a D64. D32 users should bear in mind the D32 USR bug which has frequently been mentioned.

```
10 FOR M=&HC00 TO &HC08
20 READ D$:POKE M,VAL("&H"+D$)
30 NEXT M
40 DEFUSR0=&HC00
50 CLS:PRINT@160,"PRESS ANY NUMBER"
60 U=USR0(0)
70 CLS:IF U-&H30 > 9 OR U-&H30 < 0 THEN PRINT@160,"I SAID PRESS A number":GOTO 6
0 ELSE PRINT@32,"NUMBER PRESSED WAS ";U-&H30
80 END
90 DATA DD,35,2B,1F,29,4F,7E,8C,37
```


The following article is part of a letter from John Payne, commenting on the Dragon MIDI Interface available via P.S.E.

Let me begin by saying that I am quite happy with the unit, and consider the 12.00 well spent. The hardware you get is a box with a ribbon cable terminating in a joystick connector and test clip. The top has to be removed from the Dragon and left off while the interface is in use, because the test clip goes on a resistor connected to a pin of PIA 1. The documentation also tells you to disconnect a capacitor inside the Dragon and says the Dragon will still work if you do this. I did not find this very reassuring so I have left the capacitor in so far. Looking at the Dragon schematics (the documentation supplied with the interface doesn't tell you) the capacitor in question smooths the joystick input, so if it is disconnected the joystick readings may get noisy. On the other hand, the MIDI input may not work unless the capacitor is disconnected. MIDI is a serial interface working at 32500 baud so the capacitor may smear the signal considerably.

I prised open the MIDI interface box. It contains a complementary pair of small signal transistors and a few resistors, which, I guess, act as a buffer amplifier for the PIA output (the MIDI specification calls for a 5mA current drive). The MIDI spec also calls for the input to be opto-isolated but this isn't done, which makes everything less robust than it could be. (Still, what can you expect for 12.00).

Beside the hardware, there is a disc with software to drive the interface. The disc has software to let the Dragon record and playback data from a MIDI instrument. This consists of a menu program written in Basic, and a machine code program to receive and transmit data. The source code for these programs is on the disc but is in an odd format (possibly DiscDream editor file?) that is difficult to disentangle without the proper editor. The hardware only lets the Dragon sense the voltage level (high/low) on an input line and set the level on an output line, so most of the work has to be done in software. The machine code programs basically clock the data in/out 1 bit at a time, convert 8 bits (+start/stop bits) to/from bytes and move the bytes to/from a buffer. When sending data, the bottom part of a graphics screen shows a keyboard with the keys "pressed" marked, and a (sort of) musical score scrolls horizontally across the top of the screen.

The disc also has software that lets the Dragon itself play data received from MIDI. (The principle is similar to Dragon Composer). Unlike Composer, however, there is no way to enter music at the Dragon keyboard, nor is there a way to edit MIDI data, so the most interesting part of MIDI aren't provided for. (I'm working on this).

The printed documentation is pretty thin (two sheets) and is in "Engleutsch" (similar to Franglais but with a different accent). However, listing the Basic programs and Assembler source code, and a session with a German-English dictionary generates reasonably complete information.

The MIDI transmit and Dragon sound programs both work. I haven't tried the receive program yet because of the capacitor business. John Payne.

#

I still don't see what all this MID stuff is about. John Payne DID try to explain it to me once, and I'm sure there MUST be a good reason for wanting to connect a musical instrument to a Dragon (or was it the other way around?), but what happens if you play the tuba or something similar? and does anyone know a good way of getting a D64 out of a euphonium, please, the interfacing wasn't quite right and it disappeared down the hole in the middle!. P.G.

THE EDITOR'S LATE BIT

Well, I'm still here in the editorial hotspot - no immediate signs of a changeover as yet, so for the time being - keep sending the articles to the address above. What articles, you ask? Well, the ones that YOU ARE SUPPOSED TO BE WRITING!!!! But you're NOT writing them, are you? Apart from a dedicated few, most of you are, as usual, content to sit back apathetically while the Dragon world (and, for that matter, the rest of the world as well) crumbles into pieces. Then, only then, you'll be asking, "What went wrong - why did nobody do anything?" Because YOU were one of the nobodies who didn't do anything, THAT'S why. Apologies to those exceptions whose contributions are made all the more vital by the Great British Public's general laziness. Nobody's asking you to be REALLY innovative like Paul, Mike, Keiran and so on. It's only a few articles I'm after here. Well, my subtle hints over the last few issues have come to nothing so here it is set out in bold English for you. I AM VERY, VERY SHORT OF ARTICLES TO PRINT. Next issue may well consist of a couple of reviews, a mega-long listing, one or two articles, and as many gig and album reviews as I care to write. Because there's nothing else. Now a message to the select few who DO write articles: Thank-you, please do keep them coming in, and don't forget to put your names on them unless you want them printed anonymously. Write about any Dragon experiences you may have had, any help you can give to others: someone, somewhere, is bound to find it useful. That's all folks, it's time to get off your arse and do something. We are here to support you, for Christ's sake give us something to support! Robin.

THE LATE, LATE BIT

Looks as though our Robin is getting peevish about the lack of publishable material once again, doesn't it?. Can't say that I blame him, it really is difficult to make like an Editor when you don't have anything to Edit, and of course trying to make up a fourteen page newsletter when you only have three pages of material isn't all that simple either, so why not try to make Robin happier and ensure that you find SOMETHING worth reading in the next issue, even if you have to write it yourself?!

OK, so it is difficult to find something new to write about do you hear me arguing about THAT point?!, that's a problem I've had for the past eight years or so, but I've usually managed to invent something to bore you with, so why not give it a try yourself?. No, you do NOT need to be a "computer expert" (whatever that may be), and the material doesn't need to be deadly serious or technical how about an article on the possibility of Virtual Reality programs as an answer to the population and/or employment problems? if everyone is busy having it off with a bunch of pixels the population should start to decline rapidly, and both problems will be solved ... or will they?!. Or how about a bit of speculation about what happens if you are happily involved in a "VR" personality and the machine crashes? would you disappear from REAL Reality too?!. Of course it's all ridiculous, that's the whole point!. Computers are ridiculous too, and so are people ... didn't you watch ANY pre-Election broadcasts?!. One of the nicest things about writing material for publication is that it really does help to be mad, so don't tell me you aren't qualified for the job you own a computer, don't you?!, and you paid money to read this, didn't you?!. How much proof do you want?. Paul Grade.

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