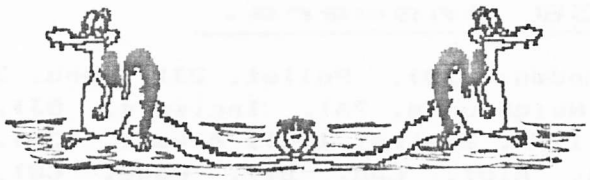
The Newsletter of the National Dragon Users Group

DRAGON UPDATE



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* ISSUE 54. 'Show Announcement - See Page 8' FEBRUARY 1989. *
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The Gaffer's Bit . . . . . .

Which do you want to hear first, the good news or the bad?. The good?. Well, we now have the Show all set up and paid for. The bad?. I've just spent YOUR money doing it!.

Briefly, we now have the Dragon & Tandy Summer Show all set up and ready to roll. So that it doesn't clash with Ossett or the Alternative Micro show or the mystery Ross Bros thing we've moved the date on a few weeks to June 3rd. and the location fifty miles down the road to Hove. (That's the up-market end of Brighton, for those of you can't find a road map). The location is one of the best ever, and it should be the best show for several years. Now this has all been done on YOUR money, so it's in your interest to ensure that we cover the costs, and there are two ways of doing that. One is to make sure that you attend, and bring along everyone else you can persuade as well, and the other is to make sure that we get the maximum possible number of stands sold. Know anyone with ANYTHING of interest to sell?, anything of use to Dragon owners?. cheap printers, drives, discs, radio gear, modems?. Then tell them about the show NOW and ask them to phone me for details, because we need them there just as much as we need the usual Dragon firms, that's what made the first shows so good, variety!. Have YOU written or developed anything for the Dragon or CoCo and think it might sell?, then tell me and we can probably arrange for you to try marketing or at least demonstrating it there, but I MUST know NOW, because things have to be costed and arranged well in advance. It's your show, it's your money on the line, so make sure it works. I've done MY part, now it's YOUR turn.

Yet another bit of good and bad news. Pam D'Arcy has decided to finally hang up her Dragons and try making a living elsewhere, but that doesn't mean that all the work she has done is wasted or that her programs are going to disappear. Pam has very kindly allowed Stephen Wood (Yes, that's right, The Editor!) to take over the titles on behalf of the Group, and they will continue to be marketed so long as there is a demand. Full details next month.

It looks as though I shouldn't need to nag you about lack of material this month, Stephen seems to have done the job for me!. He's perfectly correct, of course, what you write is what you get, and if you don't write anything of interest it's no use complaining that no one else does. Personally I think the content quality has gone down badly recently, but if you like it that way who am I to argue?. Well, if this issue is going to get out on time I'd better get on with the rest of the master pages. Don't forget, Ossett 25th.March and Hove 3rd.June.

Paul G.

The Editor's Bit. . .

Right, it's show preview time, so track down the article in this issue and make a careful note of the date. You know you must attend, so make the effort.

I hear that we have quite a few new members in the form of ex-Dragon User subscribers. Hello, wherever you are. I shall expect your obligatory first article without further delay.

I can hear you all now saying "it's all reviews this month". Well, frankly, TOUGH. Mike has taken the time to sort the software out, the reviewers have taken the time to review them, so YOU can take the time to read them. What's that? You want to read about something else? Well WRITE ABOUT IT THEN.

Yes, don't come too near me this month because I BITE. Almost a year has passed since I started editing Update, and it hasn't got any easier, so... well, see page ten.

To any small children reading this, don't worry. The offensive suggestions which Paul and I fling at each other are made up. (I hate you really, Paul.) And while we're on the subject Paul, don't think I don't know who did that to my fish because... ah, I hear the dulcet tones of MASH in the background. Excuse me, this is my tea break.

Stephen. * @ Well, if this issue is going to get out on time I'd better get on with the rest of the master pages. Don't forget, Ossett 25th.March and Hove 3rd.June.

Crossword 38 Answers.

Across. 1A). Archimedes. 2D). Pullet. 2J). Peru. 3B). Giraffe. 4E). Haddock. 5A). Subtitles. 6B). Neighbours. 7A). Incisors. 8J). Moat. 9K). Gnu. 10B). Stray. 11A). Arrows. 11H). Brakes. 12C). Alkali. 13A). Galaxy. 13G). Beaker.
Down. A1). Assassin. A10). Lap. B1). Rage. C8). Astral. E7). Squawk. F3). Fathom. G7). Rascal. I1). Ethos. I8). Spare. J1). Spectrum. J9). Flask. K1). Beck. K6). Smog. L1). Crude. L6). Spanner. M1). Eucalyptus.

OS9/II on a 128K Dragon(3)...Bob Hall.

Last time, I described how to get an extra 64K onto a '64 without dire surgery (see end corrections). This time I'm going to describe the heart of the project (Fig 1) - the Memory Mapping RAMs, together with the address multiplexors, and a bit of the attendant logic. The RAMs take the 64K address space of the 6809 (the 'logical address space')) and map it, in 8K chunks and not 2K chunks as I wrote in Part 1!, into any other 8K 'block' in physical memory. There are two different mappings available, and the one in use is set by a task bit (TR), which is 0 for the 'system map' and 1 for the 'user map'. In addition the circuitry described provides access to 256 bytes of 'reserved common memory' between FE00 and FEFF (logical addresses), and the normal SAM control registers between FF00 and FFFF.

1) THE MAPPING RAMs. In normal operation (MM high) the two high speed static RAMs, IC3 & 4 (*), take in as address the top 3 address lines from the processor (A13,14,15) (**), together with the task bit (TR), and output as data the mapped addresses (a13M to A1SM) (*).

2) THE MULTIPLEXORS. To allow the dragon to function as a normal '64 on power up, both mapped and unmapped addresses are fed into two LS158 multiplexors, IC1 and IC5 (*), so that either set may be passed to the SAM. A third LS158 (IC2) switches the address bus to the RAMs so that these appear as a continuous set in memory (at FFA0 to FFAF) when writing mapping data into them. It doesn't appear to be necessary for OS9/II to be able to read the contents of the RAMs back on to the data bus so I've not provided that facility. Both LS158s and S189 produce outputs which are the inverse of their outputs. To produce the correct sense for the unmapped address lines at the output of IC1, the 'A' input of IC1 are taken from the outputs of IC2.

3) THE 'RESERVED COMMON RAM'. To detect when the CPU is addressing the 'common RAM' at FE00 to FEFFF or the I/O registers at FFF00 to FFFF, we AND together the top seven unmapped address line to form (FE) - it's convenient to do this in two stages, as shown, because some of the common RAM is in the top block of memory; to map into it we apply (FE) to the output controls (pins 15) of the two (*) output mulitplexors. When (FE) is high the multiplexors are disabled and their outputs go high, as required.

4) Finally, we come to the LS244 buffer (IC8) (***) and the LS175 latch (IC13) (***). I included the buffer as a precaution against wishing to invert the data bus (by using an LS240) - its only role now is to reduce the load on some of the data lines, which isn't really necessary unless you're going to extend further, or are going to use other types of static RAM (such as the 7489). The latch holds the task bit (TR, bit 1) and turns on the MMU (MM, bit 4) - once turned on, the MMU can't be turned off except by pressing reset - this is a trick to avoid having to decode separately the register at FF90 (the CoCo 3 MMU register) from FFF91 (the CoCo 3 Task Register) - see part 4.

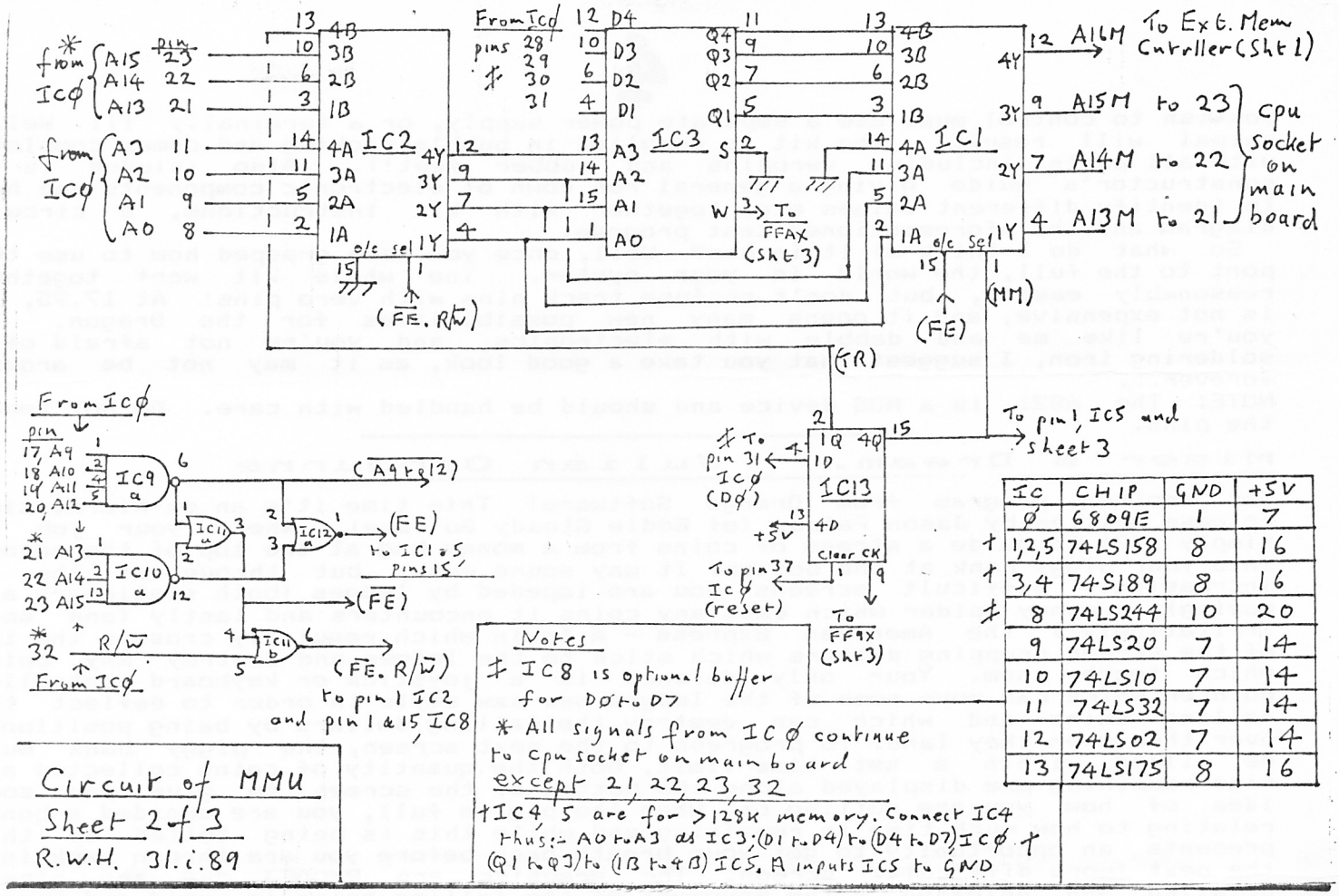
NOTES: (*) As I wrote in part one (which was edited out), you can get away with only one S189 if only going to 128K total memory.

(**) Pins 21,22 & 23 of IC0, the CPU, are not continued directly to the equivalent socket on the motherboard - neither is pins 32 (read/write)-see part 4.

(***) The chip numbering system is obscure, but is as used on my original wiring chart, to minimise errors!

CORRECTIONS: In part 1, I said the MMU segment size was 2K - you will now all realise it's 8K! In part 2, I described the pull up resistors as having a value of 22K - in fact I've used 2K2.

Next time, I'll describe the decode circuitry and the role played by the 6116 static RAM (IC7!).



Ic	CHIP	GND	+5V
ø	6809E	1	7
† 1,2,5	74LS158	8	16
† 3,4	74S189	8	16
‡ 8	74LS244	10	20
9	74LS20	7	14
10	74LS10	7	14
11	74LS32	7	14
12	74LS02	7	14
13	74LS175	8	16

Circuit of MMU
Sheet 2 of 3
R.W.H. 31.i.89

Notes

‡ IC8 is optional buffer for DØ to D7

* All signals from IC ø continue to cpu socket on main board except 21, 22, 23, 32

†IC4, 5 are for >128K memory. Connect IC4 thus:- A0 to A3 as IC3; (D1 to D4) to (D4 to D7) Icø † (Q1 to Q3) to (1B to 4B) IC5, A inputs IC5 to GND

Input/Output Port...Stuart Parnell.

For a long time now I have been toying with the idea of building an I/O port for my '32 to control amongst other things "Duane", my turtle come robot. As som of you may already know, there is a Dragon I/O port kit available from Maplin Electronic Supplies, and it is this device I chose to build.

The Maplin kit is based around the well known 6821 which provides a tri-state port and a TTL compatible port. In addition to these, there is a third port available which is enabled by a cotrol line on the 6821. Port C, as it is known, provides the following: four latched outputs plus the inverse of every latch, two relays (capable of switching up to 1A at 100V, but not mains voltages), and two Opto- isolators, each capable of switching a load of up to 8mA at 20V or 25mA at 5V, provided the total power does not exceed 150mW. A nice touch which I liked is that there are four LEDs in the circuit, two of which let you know if the relays are on, another to show that you have gained access to port C, and the fourth for your own use.

For anyone unfamiliar with the 6821, using the port must look quite confusing. At first glance how can a chip with two data direction registers, two data registers and two control registers only occupy four addresses in memory? The answer is that to gain access to the data registers, you send the appropriate signal to the control registers, but this is not made very clear in the instructions. My advice is to get a data sheet on the 6821 as this explains all codes and modes available.

One other area where the instructions let you down is the testing procedure. They state that connecting your mulitmeter to various points and using certain POKEs will operate the LEDs, relays etc, but what they do not tell you to do is first set up the control registers. So guess what? Nothing happens! The best way to test the unit is to type in the program listed in the instructions as this works perfectly.

The only other niggle is that there isn't a R/W line available to the user. However, this can be overcome by taking a line off of pin 11 of IC1 which normally controls LED1.

All the components are held on a double-sided PCB which plugs directly into the Dragon cartridge port, which also supplies the power. Of course, anything

you wish to control must use a separate power supply, or a terminally ill Welsh animal will result! The kit is supplied in bubble packing and comes complete with all parts (including veropins and rubber feet!). Also inluded is a constructor's guide giving a general run down of electronic components and how to identify different values etc, together with kit instructions, a circuit diagram and the aforementioned test program.

So what do I think of it in use? Well, once you have grasped how to use the port to the full, the world is your oyster. The whole kit went together reasonably easily, but don't confuse track pins with vero pins! At 17.95, it is not expensive, and it opens many new possibilities for the Dragon. If you're like me and dabble with electronics, and you're not afraid of a soldering iron, I suggest that you take a good look, as it may not be around forever...

NOTE: The 6821 is a MOS device and should be handled with care. DO NOT touch the pins.

Miser's Dream. Julian Osbourne

Yet another program from Orange Software! This time it's an ex-Microvision release written by Jason Falcus (of Eddie Steady Go fame), where your job is simply (?) to guide a stream of coins from a money bag at the top of the screen into your piggy bank at the bottom. It may sound easy, but throughout the 10 increasingly difficult screens you are impeded by ledges (both stationary and moving), a money spider which eats any coins it encounters and lastly (and most irritatingly!) the American Express - a train which regularly crosses the top of the screen dropping dollars which stick to the ledges and destroy any coins which touch them. Your only defence is a joystick or keyboard controlled pointer which can move some of the ledges see-saw style in order to deflect the falling coins and which can destroy the falling dollars by being positioned over them when they land. To progress to the next screen, the piggy bank must be filled within a set time limit, both the quantity of coins collected and time remaining are displayed along the bottom of the screen to give you some idea of how you are getting on. When the pig is full, you are awarded a bonus relating to how much time is remaining and while this is being totted up this presents an opportunity to get your breath back before you are thrown back into the next (more difficult) screen. The graphics are PMODE3 and are nicely detailed and animated - the movement of the falling coins is rapid and smooth and the joystick control is also very good. As you get further into the game, the method of collecting coins needs more and more thought and by the fifth or sixth screen the action is fast and furious. To sum up, this is one of those "just one more go" type of games (which has cost me more than one burnt dinner!), and at 2.99 you can't go wrong.

Available on Tandy or Dragon disk or cassette (2.99 + 50p P&P) from Orange Software, The Garth, Star Road, Nant-y-derry, Abergavenny, Gwent, NP7 9DP.

CAD6809. Jim Blackman

The ideal graphics program if you are artistically inclined. Unfortunately I am not but I will endeavour to give you an idea of its capabilities. Both tape and disk versions are available and it is mainly joystick controlled via an icon menu. Options range from RAYS, FRAME, BOX, CIRCLE, DISC, to the very interesting options such as MIRROR, COPY, SWAP, EXTRA-FILL and ZOOM plus 10 other useful options. There are also 4 different SHADES you can use along with 8 different BRUSHES to achieve your masterpiece. Unfortunately there is no erase option as such but this can be achieved by ZOOMing in on the offending area and resetting the unwanted pixels. INVERTing when in the ZOOM option performs in a very novel way. I played with this for a few minutes just to watch the unusual way it works. Some of the options are boringly slow but arrow keys move the cursor 10 pixels in the direction chosen, SHIFT and arrow keys move to extreme left/right/up or down. EXTRA-FILL, a late addition to the program allows you to fill an area with a pre or user definable 8 x 8 pattern. I liked the efficiency of the SWAP option which exchanges two sections of the screen up to a maximum 50 x 50 pixels before you have time to blink. COPY is a time saving feature which will copy any 50 x 50 area any where you want on the screen, a boon if there is a lot of repetition in the picture you are drawing. I'm not sure I liked being returned to the menu every time I made reply to "OK? Y/N". This means selecting an option again then returning to your drawing when you want to continue with the same option. I would have liked a facility within the program to dump my drawings but presumably this piece of software is designed for screens within your own programs. Eventually I will combine my own dumper program within CAD-6809 so that I can get hard copies. An excellent utility and at 5.45 including postage well worth the investment.

CAD-6809 available from Pulser Software, 36 Foxhill, High Crompton, Shaw, Oldham, Lancs, OL2 7NQ.

OS9/2 & the CoCo 3...Jason Shouler.

I have for a long time considered the CoCo 3 to be the natural upgrade to the Dragon. Two main reasons come to mind. The first attraction has to be the sheer capabilities of the machine, and the second the historical link between the two machines. Indeed the CoCo 3 provides an insight into the type of machine that Dragon Data might now be producing had they survived. Actually getting hold of a CoCo 3 is a lot easier that might be assumed. A Visa or MasterCard is the best method as no charge is made for currency conversion. You can make the order by post or over the 'phone, and some companies do not even charge carriage.

So, having ordered one, what problems can be expected when it arrives? Firstly, you'll need a 240-115V mains adaptor which Tandy(UK) can provide for 15.00. You won't be able to use the modulated output, but the composite output is perfectly suitable for any mono monitor. The colour information is still encoded as NTSC so there isn't much point in using a composite colour monitor unless it has a PAL/NTSC switch (or you're happy to view in B&W). For colour output your best bet is an RGB monitor. Unless you're an existing CoCo user then you'll need a disk controller. My experience of these is that they can be picked up for a reasonable price from the pages of MicroMart, but make sure you get the newer FD-500 controller rather than one of the older types (if it works with the CoCo 2 then it's OK). The lack of a parallel port can be a problem if you have a parallel only printer. You can buy a serial to parallel converter, but I prefer adding a parallel port to the system, eg a DISTO/CRC port, costing the same as a converter.

OS9 Level 2 and 512K

If you're an existing OS9 user then you'll certainly want to purchase the Level 2 system. This will cost you $63.95 (MicroWorld) and includes a very comprehensive 3" thick manual (System + Basic09 + Programmer's Manual). The unexpanded CoCo 3 128 is roughly equal in power to a Dragon 64 and PlusBoard. However, the real magic occurs when you upgrade to a full 512K. It is easy to run out of superlatives when attempting to describe what it means to have 'mfree' return 424K when you first boot the system. Many hardened Level 1 enthusiasts can do quite a lot with only 42.5K, so try to imagine what can be done with ten times as much... What Level 2 on the CoCo 3 has which is not shared by many other operating systems is its superb windowing system. The system can support upto 16 active windows and each acts like it's another user on the system. The best way to visualise this is probably if I describe my system. It consists of a CoCo 3 512K, a MultiPak expander holding a Tandy Disk COntroller, an ACIApak, and a parallel port plus real time clock workshop running at 4800 baud. When the system boots it sets up four 80*24 windows with a Sculptor 4GL database running in two windows. It also loads about 30 of the most commonly used system utilities into the workspace, including all the modules that the database will ever require, as well as all the wild card utilities. This leaves the CoCo 3 a joy to use, with 200K free!

I'll close by providing some comments on suppliers:-

MicroWorld, PO Box 69, Wind Gap, PA 18091
Tel: 010 1 215 863 8911 - CoCo 3, OS9 Level 2 system.
Lowest prices with good after-sales support. 'Phone orders taken.

Performance Peripherals, 11432 Pena Way, Mira Loma, CA 91752
Tel: 010 1 714 681 3007 - 512K upgrades, No halt controllers.
Good products with first rate personal service.

DISTO/CRC, 10802 Lajeunesse, Suite 102, Montreal, Quebec, Canada, H3L 2EB
Tel: 010 1 514 383 5293 - Parallel port, realtime clock.
Good hardware but OS9 expertise and backup poor.

Frank Hogg, 770 James Street, Syracuse, NY 13203
Tel: 010 1 315 474 7856 - Hard Drive system, Sculptor 4GL.

Peeking The Dragon(11)...Mike Stott.

I have now completed my stint of seven days a week working and am once again able to get back on to my beloved Dragon after 12 hours a day on my PC at work. I must apologise to Orange Software for not mentioning their name in connection with the review of COMPOSER X by George Cartwright. This was my mistake entirely, but hopefully I will be able to throw my L-Plates away shortly as I promise to try and get my act together. In future I will try and remember to add the name and address of the Software Company to each review.

As I said in my last article I will give you a list of the Software Companies who have been in touch with me since I took over in this job. I will start with the company who sell the aforementioned COMPOSER X.

Orange Software, The Garth, Star Road, Nant-y-derry, Abergavenny, Gwent, NP7 9DP. TEL - (0873) 880252.

Next comes a company who have sent me nearly as many items for review.

Dragonfire Services, 13 Parry Jones Close, Blaina, Gwent NP3 3NH. TEL - (0495) 292088. @ Another company to have sent a number of programs

Pulser Software, 36 Foxhill, High Crompton, Shaw, Oldham, Lancashire, OL2 7NQ. TEL - (0706) 849189.

Other companies who have sent me software are

Kouga Software, 94 The Oval, Firth Park, Sheffield, S5 6SP.

Knight Computer Services, 76 Etwall Road, Hall Green, Birmingham, B28 0LE.

Sutcliffe Electronics, 15 West Street, Hothfield, Ashford, Kent, TN26 1ET.

Three companies who have sent me copies of their lists are

Harris Micro Software, 49 Alexandra Road, Hounslow, Middlesex, TW3 4HP.

Compusense Ltd, 68A Willoughby Lane, London, N17 0SP.

Capri Marketing Ltd, 24A White Pit Lane, Flackwell Heath, High Wycombe, Bucks, HP10 9HR.

Bob Preston, who is organising this year's Ossett show, has said he would send me some software for review but nothing received at the time of writing this. R & A.J.Preston are at Kings Hall Court, St. Brides Major, Mid Glamorgan, CF32 0SE.

I am sure there must be others still out there as well but I'm afraid I have had no contact from anyone. Please let me know if you are still on the Dragon scene and I can let our readers know where you are. A list of your available software would also be useful so I can tell people who ask me what is available. Since I wrote my last article I have only received four items for review and these have all come from Orange Software. The first is an upgraded version of their word processor called VISITEXT EXTRA. Then there is a database, ORANGEBASE, which allows you to define your own fields. Third is a text adventure called 6-KEYS OF TANGRIN which comes free as a demonstration program with HI-TEXT PLUS (or TANDY HI-TEXT). Lastly there is WAR HAMMER OF GILLIBRAN which is similar to a text adventure but comes up with a menu giving you choice of actions instead of the usual "WHAT NEXT?". This last one my two sons have insisted that I do the review for as they think it is brillliant (their description not mine). The other three review programs have been sent out.

This month I have been inundated with reviews from my band of helpers and these will appear as space permits.

Shortly I hope to have a second opinion on COMPOSER X, and I would like to ask all our readers to please write either a review or a list of comments about any item we review if you have a different viewpoint or have found quirks in them or a particular good point that has been missed. Also if you find an unusual or different use for a program let me know so that everyone can share your find.

I hope to see as many of you as possible at Ossett where I will once again be running the Group's stand. Please come over and say hello or tell me how you could do a better job than me at this.

Text Screen Print...D.J.Gray.

Following the Dragon led me into taking an 'A' level in computer studies, and part of the course was to produce a working program complete with documentation which was carried with the aid of my Dragon and Shinwa CPA80 printer. The examiners required that evidence of computer output be submitted but as my program was interactive between user and computer, the following program was developed to provide a faithful reproduction of the text screen, centred on A4 paper and enclosed in a border. The program has been written in positon independent code but the BASIC loader places it at the top of RAM. The resulting machine code program can be saved using CSAVEM or SAVE "TEXTPRNT", &H7F41, &H7FFF, &H7F41.

The printed output is achieved by using the Elite mode in enlarged print with added semi-graphic characters to form a border, the codes for which are set within the program. The printer is reset to its power state at the end of the sequence. Having installed the machine code you can then load your BASIC program that displays the required text screen. A small modification is required to your program, the addition of EXEC &H7F41 at a point where the screen to be printed has been displayed. When this command is encountered the program will pause until a key is pressed: a DOWN ARROW will print the page, whilst any other key will cause your program to resume operation.

There is, as usual, a drawback. Shinwa semi-graphic characters (CHR$s 128 and above) are not the same as those for the Dragon, so reference should be made to the printer manual, thus these codes in your program should be changed as per the manual to achieve the correct result. If you have an Epson compatible printer, the following locations may be of use:

&H7F63 contains &HB8 top left corner character.
&H7F6A contains &HB9 top right corner character.
&H7F77/&H7F94 contain &HB6 vertical edge characters.
&H7FAB contains &HBA bottom left corner character.
&H7FB4 contains &HBB bottom right corner character.
&H7FDE contains &HB5 horizontal edge character.

The code for setting the printer instructions is contained from &H7FFF2 to &H7FFC, which set enlarged mode (&H1B;&H57;&H01), elite print (&H1B;&H4D), left hand column to 7 characters (H1B;&H6C;&H07), and line spacing to 8/72" (&H1B;&H41;&H08). Resetting the printer to power up state is achieved by sending &H1B and &H40 to the printer; these codes are held in &H7FC0 and &H7FC5 respectively.

The line numbers are important - do NOT change them!

```
100 REM ************************
110 REM ** TEXT PRINT LOADER **
120 REM ************************
130 CLEAR 200,&H7F0:A=&H7F41
140 FOR I=2000 TO 2100 STEP 10:TTL=0
150 FOR J=1 TO 10
160 READ A$:TTL=TTL+VAL("&H"+A$)
170 IF A$<>"ZZ" THEN POKEA,VAL("&H"+A$):A=A+1
180 NEXT J
190 READ A$:IF VAL("&H"+A$)<>TTL THEN PRINT ERROR IN LINE";I:STOP
200 NEXT I
2000 DATA 34,16,BD,80,06,81,00,27,F9,81,3AF
2010 DATA 0A,26,03,8D,04,4F,35,16,39,C6,25D
2020 DATA 0B,31,8D,00,98,A6,A0,BD,80,0F,3F3
2030 DATA 5A,2E,F8,86,B8,BD,80,0F,8D,72,509
2040 DATA 86,B9,BD,80,0F,86,0A,BD,80,0F,467
2050 DATA 8E,04,00,86,B6,BD,80,0F,C6,1F,3FF
2060 DATA 6D,8C,7D,27,04,8D,62,20,0D,6C,329
2070 DATA 8C,74,A6,80,8D,3D,BD,80,0F,5A,496
2080 DATA 2C,F3,86,B6,BD,80,0F,86,0A,BD,4F4
2090 DATA 80,0F,8C,05,FF,2D,D4,6D,8C,58,471
2100 DATA 27,02,20,CD,6C,8C,51,86,BA,BD,45C
2110 DATA 80,0F,8D,28,86,BB,BD,80,0F,86,457
2120 DATA 0A,BD,80,0F,C6,0A,86,1B,BD,80,404
2130 DATA 0F,86,40,BD,80,0F,39,2D,0E,81,316
2140 DATA 20,2C,04,8B,60,20,06,81,60,2D,26F
2150 DATA 02,80,40,39,C6,1F,86,B5,BD,80,458
2160 DATA 0F,5A,2C,FA,39,6F,8C,14,86,20,37D
2170 DATA BD,80,0F,5A,2C,FA,39,1B,57,01,378
2180 DATA 1B,4D,1B,6C,07,1B,41,08,01,ZZ,15B
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REMEMBER, MARCH 25TH & JUNE 3RD.

THE DRAGON SUMMER SHOW 1989.

Right, sit up and pay attention! This is THE guide to THE Show of 1989. Ignore ANYTHING else you may read about the NDUG show, THIS is the Where, When and Why of the '89 show.

The venue : The Great Hall, HOVE TOWN HALL, HOVE, SUSSEX.
The date : SATURDAY, 3rd JUNE 1989
The time : 10.00am till 3.30pm

Got that? Right, explanations. The show has been moved out of London because: a) It was too expensive. b) The right venue was not readily available. c) we want to avoid clashing with the other planned "shows". It has been put back 2 months so as to avoid us being too close to the Ossett show, thus giving you a chance to get some more money together!

The 'Great Hall' is, I am reliably informed (by Paul), of a large size, and is ably served by Hove and Brighton BR stations. Price for trade stands is not yet fixed, but it is likely to be cheaper than previous Dragon shows. We are also looking for Demonstrators, either just showing off (no charge), or selling THEIR OWN PRODUCT (around 15-20.00). You are NOT allowed to sell products which are not your own on these stands!

Entrance fee will be payable on the door, so there is no need for advance tickets. It looks as though this may be one of the last major Dragon shows, so PLEASE make the effort to attend. DON'T FORGET - Saturday, 3rd June. BE THERE. Stephen.

What Does An Editor Do...?

I have frequently asked myself this question, but this is more of an explanation to save you time and postage, and to save Paul and myself having to reroute queries.

Any advertisements, subs renewal, queries about advertisements etc go to PAUL.

Queries regarding articles, plus of course any articles themselves, should be sent to ME.

Orders for back issues go to ERIC HALL (address in advertisements).

Software for review goes to MIKE STOTT (address as header).

This should hopefully save you having to make more than one 'phone call...Stephen. ■ ** Personally I thought Editors did ANYTHING if the bribe was big enough!. Paul.

Sprite Magic For DOSPlus...C.Jobson

I recently purchased and installed DOSPlus 4, the much improved disc operating system produced by P.G.Scott. Unfortunately, I found that my disc version of Sprite Magic, supplied by Knight Software some years ago, would not function. The following method will provide a version which will work with both DOSPlus 4 and DOSPlus DELTA. It is advisable to carry out and test the modifications on a backup copy in the event of a typing error.

```
CLEAR 200,&H6000
PROTECT OFF "SMCODE.BIN"
LOAD"SMCODE.BIN"
POKE&H6EFD,&HAC
POKE&H6F01,&HC6
POKE&H6F02,&HB2
POKE&H70C2,&HD8
POKE&H70C3,&H24
POKE&H713E,&HD3
POKE&H713F,&H56
POKE&H7864,&HDF
POKE&H7865,&H2D
POKE&H7883,&H9E
SAVE"SMCODE",&H6E80,&H7FFF,&H6E80
PROTECT ON"SMCODE.BIN"
```

Accept NO excuses!!!.

Those of you who read all the Dragon related publications will no doubt have noticed a strange lack of advertising from certain firms recently. All of them claim to still be in business, but some say they "may have to drop the Dragon if there aren't enough sales". It could be that they think Dragon owners are all telepaths, but a cynical person might get the idea that they're looking for an excuse to abandon Dragon. What do YOU think?.

HenceForth(16)...Bob Smith.

The screens that I gave you last month herald the atart of a few articles concerning the use of text and strings in FORTH. The first two screens 252-253 are three generally useful words for coping with strings.

VAR$ n1 --- cccc
is a word for constructing a single string of any length at the top of the dictionary. To be useful the string has first to be iped clean with spaces, and then filled with the desired text.

INPUT$ addr n1 ---
fills the place given by address first with n1 spaces and then n1 or less characters from the keyboard. ENTER will terminate the string before n1 characters are input.

WRITE$ addr n1 ---
writes n1 characters starting at addr to the screen. It ignores trailing spaces when there are only spaces left in the area defind by n1.

Example:-

After 252 LOAD type:
300 VAR$ MY-TEXT MY--TEXT 300 INPUT$ <ENTER>
HAPPY NDUGGERS <ENTER>
MY-TEXT 300 WRITE$ <ENTER>

will place the characters from the keyboard into the string variable MY-TEXT, and then write them on the screen.

The Buzz Word program is based on using disk screens to store the data and writing these (INDSK) to a string variable (BUZZDATA) for use by the program. 3-RDM generates three random numbers that each select a word from the three sets of 10 words in BUZZDATA. BUZZWORD searches through the buzzword set until tthe next * is found. BUZZ repeats the printouts until you get fed up.

So, the sequence of operation is:-

13 LOAD 252 LOAD 514 LOAD
390 391 INDSK

Check that BUZZDATA contains the buzz words by writing:-

BUZZDATA 300 WRITE$

To run the program type BUZZZ and bingo!, you are a Technical Writer.

Next time I'll be looking at some more string and text words.

The Dragon User's Handbook...F.J.Fisher

For those of you who have not yet received their copy of the above, here is a short review.. It comes in an A5 format (six A4 sheets folded in half) and it is divided into various section, the first being a list of Companies, 17 in all, followed by User Groups and magazines - 12 in all, including Update.

This is followed by 5 pages of Arcade/Adventure games, over 250 in all, also detailing the companies and their prices. There is also nearly a page of educational software, together with a few musical items. Next comes Flex/OS9 software, BASIC 42 and other utilities, assemblers and disassemblers, and finally hardware and books.

Also published is a Directory, containing a list of all autorised members of 6809 User and their interests - you may even find a member near you!

Conclusion? Well, obviously a lot of research and hard work has gone into this handbook, and it is an invaluable source of information. It may even persuade you to buy some more software, who knows!

Published by New Era Publications, 37, Collins Meadow, Harlow, Essex. CM19 4EN.

Handbook 1.75, directory 65p per issue or 3.50 for six (one year).

In answer to your questions ...

To save myself the bother of having to repeat the same old information every few days, the other UK Dragon publications at the moment are as follows:-

6809 User. Published by Simon Jones at37,Collins Meadow, Harlow, Essex.CM19-4EN.

Dragon Magazine. Published by Andrew Hill at Unit 3, Rising Sun Enterprise Centre, Blaina, Gwent.

Dragon Logic. Published by Donald Morrison at 72,Diriebught Road, Inverness.IV2-3QT.

If there are any others about they are being remarkable secretive about their activities!.

The Editor's Late Bit...

Has anyone ever mentioned tthe fact that the majority of you out there in DragonLand are incredibly lazy? Don't say no! I have, Paul has, Tim Lomas has. Can't you take a hint? Try this one for size....

WE NEED ARTICLES - AND LOTS OF THEM - RIGHT NOW - NOT NEXT WEEK

Get the message? You complain to Paul that the articles are either too dificult, too basic, not interesting, or that there are too many of one thing, so isn't it strange that you are quite happy to let others work and then brand Update as "boring", while you aren't prepared to RECTIFY THE SITUATION. At an educated guess, I'd say around 800 of you have never written anything for us. Didn't you read the introductory shet when you joined?, or the many pieces in Update like this one? Update is what YOU make it. We don't have any genius writers in the group who churn off articles by the dozen, all we have are a few people who are good enough to write articles now and then, and I now take this opportunity to thank all of you who HAVE written (or are writing at the moment) for Update. You wonder why Paul and myself have to fill in so frequently - surely it's obvious! I'm not prepared to have over 75% of our membership doing nothing, it isn't fair on the 25% who DO work. I'm not asking for 18 episode sagas, just ONE article a year from each of you slouchers out there. For one, it would make Update more interesting, and secondly, Paul and I would no longer be on your backs.

Think carefully about this. We all want Update and the Dragon to survive. Paul, Mike and I are doing as much as we can,. but the only people who can make it work are YOU. Stephen.

Easel+ . Review by F.J.Fisher .

A graphics system utilising Dragon 64 plus Harris Micro's Basic42. Easel+ is a program to enable you to draw and edit both simple and complex designs with single keystrokes and a variety of special effects. It runs using the advanced features of BASIC42 to provide a drawing environment that is both friendly and versatile.

The above is taken from the beginning of the operating manual as supplied.

Like all graphic drawing programs which use all pmodes and colour sets the use of a colour monitor would greatly enhance the screen display. Having said that this utility does its best.

To continue, this program uses single key entry to move the cursor through the 8 directions as defined on page 124 of the Dragon manual, plus line, box, and circle. There are also Flip up/down, Reverse left/right, Scroll up/down/left/right and Fill/Paint. In addition there is also a disk management section as well as save/load to disk. Pmodes and sets can be redefined, all this through pulldown menus. The printer options are for MX80 and CGP115. I deleted the CGP115 and substituted my MacGowans Dumper routine.

Four demos are also included which you can practise on. One tip, the cursor is in foreground colour , so set the INK to background BEFORE moving the cursor, otherwise you will leave a trail.

I found a tendency to compare this with David Makin's PICTUREMAKER. There is a similarity, but this being on disk has the edge, and I found it to be a lot easier to understand and operate. I do have another one which uses the joystick and icons and as it uses only Pmode4 and shadings instead of colour the screen display is quite good. I understand that a similar one has just been released. I must get a copy.

The colour fill/paint mode takes a bit of getting used to, but must be tried. There is also a keyboard inlay but there are two step sizes on key 3 and 0, 0 should be INVERT, Orange Software please note!! The instructions come in the form of a booklet (which is an improvement over the A4 sheet supplied last time). Also it would have been helpful to have reprinted page 93 of the manual and a complete set of the colour numbers.

All in all a very nicely put together program, it is definitely one of my favourites.

Easel+ - 4.99 (+50p p&p) disk only from Orange Software, The Garth, Star Road, Nant-y-derry, Abergavenny, Gwent, NP7 9DP.

DRAWEZEE.

Most of you must already have a Drawezee tape, it's always been one of our best sellers, but we can now offer an improved DISC version in both DragonDOS or CoCoDOS format!. See ads for details.

The Late, Late Bit .....

I knew it!, the excuses have started rolling in already! ... "I don't think I can afford to come to the Show, it's so far to travel ...". Great!, but you always expect the Group to be able to take stands all over the place, don't you?. No excuses, PLEASE!. If all else fails, get out your best mini skirt, head for the nearest lay-by, and wave a Yorkie at the nearest truck driver (the girls will have to find their own way of getting a lift!). I don't care how you do it, but GET THERE!, and that includes all you potential exhibitors too. Yes, I know I'm being unreasonable, but why shouldn't I?, people seem to think I'm being unreasonable when I complain about getting phone calls from Dragon owners at three in the morning, or when the newsletter is a couple of days late, or if I try to earn a living instead of being "on call" 25 hours a day 8 days a week, so why should I worry about a few more allegatons of "unreasonable behaviour"?!. Anyway, you should have got the message by now. More complaints, insults, and inane drivel next month. Paul.

Paul G.

Crossword Number 39.

ACROSS: 1A)Underwater observation device. 2A)Very cold house. 2J)Half. 3B)Sailing vessle. 3I & 6I)Container where a group of experts might gather to POOL their ideas. 4B)Hit a bad one of these for a spell of bad luck. 5B)Musical instrument. 6F)Throw out. 7F)Repel. 8A)Money paid to unemployed. 8F)Device for setting something off. 9C)Timepiece. 11D)Large person. 12H)Type of tree.13A)Seabird.

DOWN: A1)Four gills. A5 & K4)Piece of equipment used in famous POW escape. B1)Cairo is the capital. B7)Witchcraft. C5)These are shown on OS maps in black. D9)Direction in an adventure. E5)This American place appears to have a lot of vice. F1)Hero of several Microdeal programs. G9)See 3I. H1)Type of flour. I8)Seabird. K4)See A5. K9)8F should have a safety one of these. L3)This command calls up another item in a loop. M1)Gilbert and Sullivan opera/musical. M10)Type of fruit.

Last month's winner was Eddie Freeman, who wins a choice of any program from the current Dragonfire Services list.

EVICT

THE ADS START HERE ....

WANTED. Front panel for Dragon Data drive unit.
Phone H.Knight on 021-777-2477.

Dragon 32, games, books, joysticks, Dragon User mags. 30.00 or near offer.
Phone Maureen Adams on 021-429-1869.

For Sale. Touchmaster Touchpad and software. 15.00 or might exchange for Tandy items.
Ray Stevenson. 13,Moore Avenue, Thelwall, Warringto.WA4-2JW

WANTED. Race RS232 cartridge. Buy or swap.
Phone Alan on 0909-477734 eves or weekends.

FOR SALE. Sharp Pocket Computer PC1245. Sharp CE125 pinter and microcasette recorder. Two manuals, mains adaptor, leads, and 10 rolls of paper, + carry case. 75.00 or might split or consider exchange for good dot matrix printer. Phone Barry on 0424-714048.

Amberscreen monitor (no sound) 35.00. Dragon 32 30.00. Tandy disc controller 30.00.
Phone Jason on 0202-722599.

47 back issues of Dragon User. Aug.84 to Sept.88. also 18 back issues of Update. Free if you pay the postage and packing!!.
Phone Ray on Mansfield 644717.

WANTED. Dragon 64 with Plusboard. Must be in good condition. Price inclusive of postage to:-
Bill Stevenson, 11,Johnston Terrace, Edinburgh.EH1-2PW.

Dragon 32 with data recorder, RS232, Buzzbox modem & software, Trojan & Datapen lightpens & software, joysticks, many books plus almost all D.U's and Updates, and lots of software. Reasonable offers considered. Also DELTA DOS cartridge and programmers manual 50.00.
Phone Julian on 099289-3036 after 6p.m.

Dragon 64, Dragon 23, two Superwriter 2 cartridges with manuals, spare Issue2 main board (complete), spare SAM chip, Dragon dust cover. Books - The Working Dragon 32, Programming the 6809, 6809 m/c Programming, The Dragon 32, D32 Programmers Reference Guide. Programs - too many to list, but including screen dumps, banner printing program, printer drivers etc (to be sold as one lot). Dragon Forth. Sensible offers please for all or part.
D.E.Windle, School House, Nevern Road, Rayleigh, Essex.SS6-7PE. (0268-778732).

Help yourself and help the Group!. Dragon dust covers, top quality, only 2.50 each and half the price is donated to Group funds!!.
Order from R.Preston, Kings Hall Court, St.Brides Major, Mid Glamorgan.

GROUP SPECIALS!.

UPGRADE MANUAL. Full DIY instructions for upgrading your D32 to 64K. Written by Bob Hall. Price 2.00.

CIRCUIT DIAGRAMS. Available for D32, D64, Dragon DOS controller, Cumana DOS controller, and CoCo DOS. All the same price 1.00 each.

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DRAGON DOS TO COCO DOS. Want to run Dragon discs on your CoCO?. No problem. New program written by Chris Rouse allows your CoCo to convert Dragon DOS discs to its own format and retokenise Basic routines. Versions available for CoCo DOS V1.0 and V1. Price 5.00 inclusive.

COCO DOS TO DRAGON DOS. Dragon version of the above program!. Allows you to convert CoCo discs to Dragon DOS format. Written by Randy Longshore. Price 5.00 inclusive.

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DISC EDITOR. Utility disc for V1.0 . Full view and editing facilities. Written by John Cox. Price 5.00.

ALL THE ABOVE ARE OBTAINABLE FROM: PAUL GRADE, 6,NAVARINO ROAD, WORTHING, SUSSEX. CHEQUES MUST BE MADE PAYABLE TO THE N.D.U.G.

GROUP SERVICES.

P.D.UTILITY LIBRARY. Contains a very good collection of utility programs and routines available at a nominal charge. new routines always wanted for Dragon, Tandy and other machines. for details send s.a.e. to:-
Lee Cooke, 117,Limbrick Lane, Goring, Worthing, Sussex.

DRAGONART GRAPHICS LIBRARY. Contains THE biggest and best collection of graphics screens for the Dragon, all available at nominal charges. The Library also wants YOUR original graphics efforts. Full details and list available from:-
The Librarian, 5,Glen Road, Parkstone, Poole, Dorset.

TX Lo-res screen editor and manipulator. Written by Ian Rockett. Price 2.75 inclusive.
The Librarian, 5,Glen Road, Parkstone, Poole, Dorset.

BACK ISSUE UPDATES. Reprints of all issues of Update (from original master sheets) available at ONLY 85 pence per copy inclusive of postage. 14 page index of Update articles only 2.50. Single articles 50p.each. (sae for details). @ Send to Eric Hall, 32,Thackeray Mall, Fareham, Hants.PO16-0PQ. Cheques made payable to "Back Issues Dept. (NDUG).

GROUP & MEMBERS PROGRAMS etc.

NDUG DESKTOP!. The Group's DTP package. Based on a FALSOFT program (produced under licence) this package is now available on either Dragon DOS disc (with Epson type screen dump) or CoCo DOS (with DMP105 dump!. Produce your own small posters, advertisments, magazines, program title screens, etc. Price 8.50 to Members, 10.00 to others. Orders to:-
Ray Smith, 5,Glen Road, Parkstone, Poole, Dorset. Cheques made payable to NDUG.

OS9 MODEM PROGRAM. Up & downloading of files, any Baud rate from 50/50 to 9600/9600.(NOT split rates). Up/download buffer from 4 to 32K. All 6551 options supported. Price 8.00.
Phone Barry Knapp on 0932-242800 evenings only.

COMO9. Easy to use, full feature OS9 comms program, together with source, Xmodem (CRC & SUM), function keys, disc monitor. Send direct from disc. Suitable for any OS9 system. Price 5.00.
PD-PAK. Selection of useful PD OS9 utilities, includes DCOPY. Price 5.00.
Jason Shouler, 14,Rosemary Road, Parkstone, Poole, Dorset.

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J.Bushell, 33,Tennyson Avenue, Clevedon, Avon.BS21-7UJ.

NEW PROLOG COMPILER. An all new PROLOG compiler which converts Prolog 2 to 6809 Assembler. Full implementation with runtime module and comprehensive documentation on disc. Requires Assembler 09 which is NOT supplied. SPECIAL MEMBERS PRICE 12.50
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Cheques/orders to Graham Strong, 78,Coleridge Crescent, Goring-by-Sea, Worthing, Sussex.

DESKTOP UPGRADE!. Additional TEN type fonts now available for DESKTOP. Simply make a backup of your Desktop disc and send the ORIGINAL disc, with a cheque for 4.00 to:-
The Librarian, Dragonart Library, 5,Glen Road, Parkstone, Poole, Dorset.

MISCELLANEOUS ADVERTS

WANTED!. Is anyone in the Bisley area interested in forming a local Dragon Group?.
P.Marsh. 37,Corbetts Walk, Bisley, Surrey.GU24-9DU.

WANTED!. Is anyone in the Swindon area interested in forming a local Dragon Group?.
Phone S.T.Lee on 0793-617024.

WANTED!!. Dead or dying Dragons and Tandys for use as spares for YOUR repair jobs!.
Phone Alan Butler on 0371-4234. evenings only please.

WANTED!!. Defunct printers of ALL kinds for use as spares in YOUR repairs. MUST be cheap!.
Phone Paul Grade on Worthing 207585.

FOR SALE. Dragon 64, cassette player, Brother HR10 Daisywheel printer, Reuters 12" greenscreen monitor, GPO combined phone and modem. 175.00 the lot or would consider sensible offers for individual items.
Phone P.R.Mudd on 0258-857133 during office hours.

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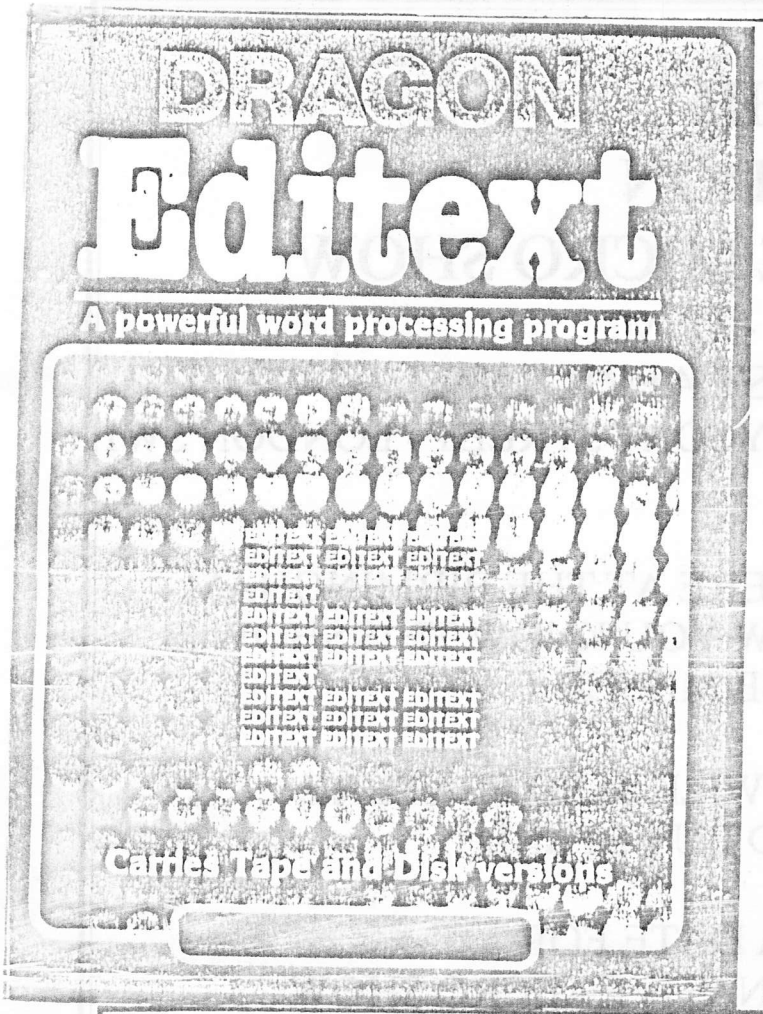

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