DRAGON UPDATE

Chairman Paul Grade
6 Navarino Road,
Worthing,
Sussex.

Editor Jeremy Hoyland.
120 Old Heath Road,
Hythe,
Colchester,
Essex.

It's one in the morning and I've just been driven twenty miles to print this shaft of light cast on an otherwise dark horizon. (Yes you're right I've been down the boozer and, to add to my troubles I'm attempting to use a manual typewriter -anathema.) It seems like a good time to announce my retirement, not this issue or even the next, but within the following few months I want to pass the editorship of this rag onto someone else; applications on a postcard to..... This means that all of you who have been bellyaching about the format, content, spelin, &c. now have a chance to make your own bog-up of the thing.

I feel that as a final duty duty I should choose the next editor, so anyone who is interested should write in to me at the above address; If you are already a contribtor then you are likely to meet with more favour, if only because it shows you are dozey enough,to carry on while the seagulls are using your head for target practice. If you are not a contributor but fancy a go then send in a n article -it'll give me something to print for the last couple of issues and enable me to judge whether or no you can write.

If anyone is interested I have decided to relinquish control of 'The Whisperer' due to preasure of work (finals coming up) rather than any dissolutionment with the Dragon. I still own, and plan to continue to do so, one of the beasties and will submit articles to the rag, whether or not they are printed depends on my successor.

On a light er note, we will be at the 6809 show and hope to see you there, you should get a discount voucher with this issue. We need a lot of new members to join so if you know anyone who'se going tell them to join up on the day, or send their £7.50 in now -your computer clubs' cheque account needs you.

Redundant Information Dept.

For those of you with 64's and Dragon DOS the following may be of interest:-
Exer41194, which works well on 32's and 64's in 32 mode DOESN'T work in 48 mode, and on some 64's doesn't always get on well with the DOS anyway, so try Exec57578, which will do the same job.
DOS users might like to see the DOS EXEC addresses too, so try typing in the following:-

```
1 REM DEL 6 IF YOU DON'T WANT A PRINTER DUMP.
2 Z=57044:X=56915
3 FORI=1 TO 26:A$=""
4 A=PEEK(Z):IF A <128 THEN A$=A$+CHR$(A):Z=Z+1:GOTO4 ELSE A$=A$+CHR$(A-128)
5 Z=Z+1:A=PEEK(X)*256+PEEK(X+1):X=X+2
6 PRINT#-2,A$;STRING$(16-LEN(A$),".");A
7 PRINTA$;STRING$(16-LEN(A$),".");A
8 NEXT I
```

SPEECH SYNTHESISER FOR THE CENTRONICS PORT
by N.P. Butcher
(reprinted from ACCumulator, the journal of the Amateur Computer Club.)

Summary
 A speech synthesier can be fitted to a Centronics port, or
direct on the bus of a ZX/Sectrum or ACE. It costs about £10, yet has
an unlimited vocabulary.

Introduction
There are various types and forms of speech synthesisers
around and also many kits, often costing an arm and a leg. The kits
and add-ons are normally machine dependant whch makes them
inconvenient and non-transportable. However it is easy to fit this
version to a Centronics port so it will fit straight onto many
computers, or with a lttle extra circuit, fit onto the CPU bus.

Centronics port
 (Editors note: This article was witten for the 36 pin
standard Centronics port, the Dragons port is 20 pin but the
connections can be found in several books and manuals.)
 This port has 8 data bits and a strobe output, and one handshake
input. the pin numbers of the standard Amphenol 36 pin socet are as
below, so if connected up to this standard it will plug into your
printer cable. Alternitavely you could wire up some other connector as
used on you particular computer.

1	STROBE
2	DO
3	D1
4	D2
5	D3
6	D4
7	D5
8	D6
9	D7
11	BUSY/READY
14	gnd
16	gnd
17	gnd
33	gnd

The Chip
The SP0256-AL2 chip by General Instruments is a specialy
programmed version of a more general purpose chip for word and phrase
speech. You may have seen that both TI and Nat Semi speech chips which
hve seperate synthesizer chip and word ROM. The word ROM limits their
vocabulary. The GI chip is of the same form, but has ROM inside and
would nomally be mask programmed with a small number of words. However
someone wth a bit of a brain at GI realised that if they replaced the
restictive word set with a set of allophones, parts of words, then
they would have a general purpose chip with which you could construct
an unlimted number of words. TI could have brought out ROM for thir
chip to do the same, but they have not thought of it yet, and anyway
you would still need two chips. The only shortcoming is that the words
are less clear than in the dedicated vocabulary versions, but they are
still understandable. The SP0256 contains a small computer which looks
at its input port to see which code word is selected, gets the
apropriate numbers out of its ROM and sends them to a vocal tract
model and thence to a pulse width modulated output. All in one small chip

A dot matrix printer with true descenders,and enough print variations to make any Epson owner envious,for 25 pounds?!
Due to a cancelled order,that was what Lethaby Numbering Systems had on offer last month. Before you go rushing to the telephone,I don't think the stocks lasted very long!
The Amber 4000 is a 40 column printer,printing on two and a quarter inch wide plain paper. Ah,there's the catch,no good expecting to do letters and Newsletter articles on that. (You could,actually-if Jeremy will change to newspaper column type format!!)
Facilities are:-
Double width,double height(these can be combined),border(puts border round a word),variable character width settings between 20 and 46 characters per line,block graphics,dot addressable grahpics,emphasized print (can also be combined with double width and height modes),a hash to pound symbol swap,and,would you believe,a built-in word-wrap facility!
Actual spec.is 8 by 5 matrix for normal print,which expands to 16 by 18 in double height and width mode. Print rate;23 c.p.s. Centronics or serial connections possible. The whole thing is less than six inches square, and weighs less than the average cassette recorder.

For many jobs,it is obviously not suitable,but is ideal for database printouts,for example - it saves wasting 80 column listing paper - and the border,emphasised and double height/width modes are excellent for label printing.
If the '4000' is the 'bottom of the range',I'd like to see one of Lethaby's full-sized printers-they must be quite something. (Anyone got an 80 col.Amber printer?)
One further point ; Lethaby Numbering Systems are a very efficient firm. I recieved my printer within 5 days of ordering. That Must be a record in the computer industry. The handbook,by the way is also very well written - it even contains useful things,like how to conect for serial operation(no separate'interface' needed),and to occaisionally clean the wretched thing!

I hope we hear more of this firm,even if they aren't Dragon specific(yet!).

(Manufacturers:Lethaby Numbering Systems,Andover,Hants.)........Ken Grade.

TIPS ON RETURN BY ADAM ATKINSON

For Return of the Ring be a dwarf warrior,assigning 10 points
to everything except strength .Sell the four bright rings.
In the door krell's labyrinth rescue the princess and find
the energy armour and the tracker.The second level comes quickly
given the 300 point reward for rescuing Xandra.Eat up to 900
points and buy as much food as you can having also
bought a first stage power pack and charged it.
 At the town steal the grain wearing your energy armour
with your power pack on.Leave the town eating afterevery 2
or 3 mines.You should get out alive.Take the grain to Cebar
when you become 4th or 5th level.At the town buy a get away spell
and a breather mask food and power packs and prepare to
go to the moon.On the planet you may meet a person shaped thing.
If you transact with them they can join you and carry things.
You will need to map the moon so save the game first.Use the
tracker to findyour way, remember it needs power.
 More next time.

I start in the leisure lounge and search the and telephone, where I find a coin and a key. The coin operates a slot machine and I get a flashlight as a prize!! Don't be greedy though, save your other coin for later if your batteries run out. I venture north to the washroom and find a grid which opens with the key.I go through the grid and find myself in a maze of sewers, it's lucky I brought the torch. To find my way I drop objects in each location to distinguish them. I make a plan.

	N	S	E	W
coin	rat	key	paper	trap
rat	coin	paper	paper	key
trap	paper	match	coin	match
paper	rat	key	rat	key
key	coin	key	paper	key
match	trap	OUT	key	trap

Having found my way I start again without my markers and get the trap and the cheese. I can't get the rats. I drop my load in the lounge.
I set off for the great hall where there are two exhibitions and two questions to answer. Not being in the mood for puzzles I guess wildly until correct. I spend ages trying to get Sir Edmund's rope but I can't. On returning to the lounge I go to the hall of mirrors and another session of dropping objects and making a plan. I find a dark passage with a crack and an airlock. Answering the questions properly makes an aqualung appear in the hall of mirrors. To go though the crack I have to drop all my objects. I find an enchanted wooodland with Guy Fawkes and the Pied Pier and a sign saying 'NO WAITING'. Going up reveals a gold key and up again finds me in the great hall again. Wearing my aqualung I negotiate the airlock where I meet Jaws and frantically swim up. On the other side is a store with a loose trapdoor which needs fixing and a studio full of junk. I find a crowbar and a lamp. Rubbing the lamp finds me in Aladdin's cave and when I go down I am back in the enchanted woodland.I return to the lounge and drop my haul.
I decide to fix the trap with the beam but can't get it through the airlock. After several hours searching for another way the penny drops. Triumphantly I get beam and lamp, rub lamp, drop beam in cave, then I go to the trapdoor via the woodland hall and airlock. I rub the lamp get the beam and rub the lamp again now I can fix the trap. It doesn't seem to do any good, I thought something would happen.
More next month

LETTERS

64K Upgrade.
Just a note before I dash off to Scotland to say that I'm rather unhappy with the 64K upgrade article, here's why:-
1) Most Dragons(32) are 16k + 16k machines; these need significant rewiring to use 64k ch There are -5V rails and 12V rails on the 16k chips and only 7 not 8 address lines. *CHIPS*
2) You always need (I reckon) the decoder mod 1 gave in my article.
3)I don't think Texas 4164s are suitable: they are 8 line refresh, requiring 256 differen refresh addresses, the SAM only (in general) provides 7 line refresh, i.e. 128 addresses. Suitable chips would be the Mosteek 4564, Hitachi 4864,and the OKI Motorola equivalents. Also 150ns is faster than necessary -just wastes money.
NB the NEC 4164s are 7 line refresh - I think.

ob Hall.

The first thing worthy of mention this month is that it now seems that we WILL
be at the 6809 Show, so I hope that we'll be seeing most of you there. One
correction that I have to make to Jeremy's editorial in the last issue
Newsletter is that the Show will be on the 30th and 31st March...NOT the 22nd,
so do please make sure that you turn up on the right date.....it gets awfully
draughty queing for a week'!.
Anyway, many thanks to Richard Bergin for offering us the stand, and I hope
that we'll do as well as the last time. By the way, if any of you get bored
with wandering around the Stands, come and give us a hand, OK?.

The second point is a repeat of the usual one.....When are you going to send
us some material to print ?????. We want to make the Newsletters interesting,
but we can't do that unless YOU send us the material to put in them.
At the moment we have half a dozen Members who regularly help out with
articles, reviews, hints, etc, but there are limits to what they (and I) can
write about. What we need is something from the rest of you.....You didn't
sign up and pay up JUST to get a monthly Newsletter, did you?.......How about
something from some of the younger Members......(Chris, I haven't heard a
word from Moulton since you sent in your application form!!.....and how about
you, Steve...we Do accept material from Gainsboro!.....AND from Norway,
Erik!)... and how about the rest of the "Silent Majority"?!?!?.....Come on,
PLEASE, you don't need to be an expert on ANYTHING....I'm certainly
not.....even if you only write in to tell me what a lousy job i'm making of
things, that's fine with me (so long as you can come up with some reasonably
constructive, non-obscene, ideas on what I OUGHT to do!). Seriously, 'though,
we do need more contributions, and we rely on you to provide them, so give it
a try, please.

One last item.....I'd like to thank Cathy Hyde of Touchmaster for lending us
copies of OS-9 "C Compiler" and "Pascal" discs for review....I'd almost given
up hope of ever finding them!, so for those members who have been enquiring,
we'll be running reviews on them as soon as possible.
Well, that's all for now, see you at the Show.

                                                          Paul.G.

GROUP SPECIAL OFFERS.

FLOPPY DISCS.
These are top quality 5.25" discs supplied by SBS Data Services. We can accept
individual orders at the prices stated below for boxes of 10 discs, but if
sufficient orders are received at the same time we can get a further reduction
of 1.00 per box when buying five or more boxes.
SS/DD: Soft or Hard sector......normal price 22.00..reduced to 14.50.
DS/DD: Soft or Hard sector......normal price 27.00..reduced to 15.50.
ALL PPICES ARE PLUS 15% vat BUT INC. POSTAGE. (although some contribution
towards postage would be appreciated on larger orders).
With a little cutting on the covers, it is quite possible to use DS/DD discs
on a SINGLE SIDED drive, thus making a considerable saving in cost.
Orders to Paul Grade. Cheques made payable to the Group.

ASCI corner for Issue 7.

Firstly this month i want to clear up some odds and sods. Our beloved Editor tagged a bit onto the ASCI column last month. As he said ,to get to the wine cellar you have to use the room with pulleys. Remember you will have to be carrying less when you want to go back up from the maze because the lift is weight operated. I haven't played Mansion of Doom so i cannot help. In Ring of Dark you cannot cross mountains. The answer is to buy a craft that will go across water then sail through the mountains via the river. Note that the bridge spell will only work underground.

I also completed The Trial of Arnold Blackwood recently and i can confirm that there are no graphics in the program. I must admit though,it is a totally new style of adventure and it may not be to everyone's taste.

It seems that other reviewers (Dragon User and Cuthbert Cronicles) dissagree with me about Speed Racer (see Issue 6). If they think that it's got unbelievable graphics then they should get glasses! See if i care!

Recently i recieved a copy of 'Worlds of Flight' by Microdeal. This has been hailed by the said company to be the best simulator on the market for the Dragon. Well,this time i think i must agree.

WOF is not a game,it is definitely a simulation and because of it a few people might get bored of playing it. This has always been a problem with flight simulators but Microdeal have tried to alleviate the problem by including a number of different worlds to start from. In fact you can fly from world to world. You can also play god by setting the weather conditions (i wish you could in real life!).

The list of variations in the game is tremendous. You can taxi round the runway,refuel,taxi round the countryside from world to world (original ain't it!),change the viewing angle up down left or right,and even take off seeing a view from the back of the aircraft. The graphics are good,they aren't as smooth as they could be but in view of the reason that they are in 3D,they are not bad at all.

The range of controls are ENORMOUS and this is the worst aspect of the program. The choice of keys was not very logical and you have to use 2 joysticks to control the aircraft. The best bet would be to make a keyboard overlay otherwise you get confused easily. I know from experience! Because the copy i borrowed was an illegal one (naughty me!)i never got the instrutions so you might get an overlay with the cassette.

The actual realism of the program is,well i've run out of superlatives,even the sound of the engine starting up. There is one point i would like to make,and that is the type of aircraft that it is supposed to be would not have flaps. However that is a small critisism.

People who fly small aircraft will love this program,it is so lifelike. People who want a bit of action within a simulator will be disappointed. If you can try a copy before buying then do so. I would go as far as to say this is the most realistic simulator for any computer bar the one for the C64 at 50.00. Who wants to pay 50.00 anyway!

I also had a query from Alan Cook up in Glasgow. He has been writing BASIC adventues for a while and now wants to write them in machine code as this seems to him a natural progression. I haven't even written a BASIC prog so i can't help him. If anyone can either help him with his 'quest' as he calls it could they please get in touch with him. His address is: 272 Mearns Road,Newton Mearns,Glasgow,GT1 5CY.

PROGRAMMING THE DRAGON 32 by PETER LAFFERTY
NEWNES TECHNICAL BOOKS/BUTTERWORTH (1984) £6.95

I discovered this book in my local library last summer and have
renewed it every 2 weeks ever since.
Programming the Dragon 32 is both simple without being patronising
and advanced without blinding the reader with science.

This book is everything that the Dragon 32 manual was not.
Chapter 1 gives a potted history of computing up to the arrival of
the Dragon and Chapter 21 is the "miscellaneous" of bits that
do not fit in elsewhere.
Chapters 2-20 consist of a clear and logical progression through
all aspects of BASIC programming from the ubiquitous
PRINT "HELLO" (Go on, admit it, we've all done it!) to four
chapters on graphics techniques.
Throughout the book there are numerous useful tips, hints and
programming routines which I find very helpful.
Finally, the fourth appendix is a comprehensive glossary of
BASIC commands and functions for the Dragon 32 (including
FULL details of the powerful EDIT command).

Peter Lafferty must have written this book specifically for
the Dragon; I have not spotted a single error, unlike some
books which have been "transported" from the Spectrum, Vic 20,
etc. by writers who seem to have been nowhere near a real Dragon.

As a beginner's tutorial this book would be ideal.
Unfortunately, it is probably too late for most of us but I
suspect children might find it a useful and interesting learning
aid.
Programming the Dragon 32 is an excellent BASIC reference
manual for the experienced programmer and I would recommend
it to any Dragon user.

Kyffin Jones

If you are a beginner or advanced programmer and you want to have fun or tackle a serious application we have the book that will help you use your Dragon.

THE DRAGON BOOK OF GAMES...by Mike James, S.M.Gee and Kay Ewbank.(Granada.5.95).

A collection of 21 games written in Dragon BASIC that illustrate how the Dragon can be used to create a wide range of effects. If you are learning BASIC then typing in these programs is an excellent way to become familiar with programming. If you already know BASIC then you will still pick up a great many programming techniques.

If you'd rather save yourself the effort of typing these games in from the listings, you'll be glad to know that you can purchase a cassette tape containing all 21 games. This tape normally costs 5.95 but you can order it from us at a special discount....for details see our order form.

THE DRAGON PROGRAMMER...by S.M.Gee...(Granada.5.95).

This book is not only an introduction to Dragon BASIC, it also explains some of the pitfalls in using Dragon graphics and sound. Starting off from fundamentals, it explains how to write BASIC programs using the natural structure of BASIC. This encourages a good BASIC style without laying down strict do's and don'ts that often take the fun out of programming. Later chapters concentrate on using the Dragon's extensive sound and graphics facilities from BASIC. The emphasis here falls on understanding how things work and on avoiding any problems before they arise. For example, if you have ever used a DRAW command to produce a small shape only to discover that the actual shape it draws depends on its position on the screen then you need to read Chapter 10 in this book!.

ANATOMY OF THE DRAGON...by Mike James..(Signal).6.95.
Dragon Data Approved.

This book is for anyone wanting to know how their Dragon works and how to control it from BASIC. It describes the Dragon's hardware and software from the point of view of a BASIC programmer. It introduces a number of new graphics modes, and explains how GET and PUT can be used to create user-defined graphics, shows how to disable the BREAK key and a great deal more.

LANGUAGE OF THE DRAGON...by Mike James....(Signal).6.95.

This is an introduction to 6809 assembly language that also includes a complete assembler in BASIC. Assembler is much easier to learn if each of the registers, instructions, etc, are introduced as a way of doing something. In this book each of the 6809's features is introduced in a practical and logical way, building up a complete picture of assembly language programming on the Dragon. A key feature is the way the idea of a bit pattern is used to unify all of the confusing types of data encountered by an assembly language programmer.

ARTIFICIAL INTELLIGENCE IN BASIC...by Mike James....(Newnes).6.95.

Although not Dragon specific this book contains many programs that will run on the Dragon without modification. Artificial intelligence is certainly where the future of computing lies and this book contains explanations and practical examples of most of the current A.I. techniques. Rather than abstract theory, each chapter explains the ideas involved by way of writing working programs, making the book suitable for all BASIC programmers.

THE COMPLETE PROGRAMMER...by Mike James...(Granada).5.95.

This is another book which is not specific to any machine but, being written with the Dragon in mind, is therefore directly useful to it. It is aimed at readers with experience in Basic programming who want to increase their knowledge of programming and to improve their programming style.

THE 6809 COMPANION...by Mike James....(Babani).1.95.

This slim volume is an ideal reference book for every 6809 assembly language programmer. It includes the complete 6809 instruction set together with information about interupt handling and programming style.