I had hoped to convey seasonal jollity and frivolity this month. Unfortunately, such luxuries have been replaced by a decidedly unwanted sense of soberness.

Yes, the unthinkable has happened. Dragon User Magazine has ceased publication. No doubt participating software companies and other publications will hide their true anxieties and be the first to proclaim the fact that "this is not the end" and that Dragon life will continue much as it has done since 1984. However, I certainly will not hide the fact that Dragon User ceasing publication is a hell of a blow and will have repercussions. How far widespread will those repercussions be? That largely depends upon you and prominent software companies.

I have attempted to analyse and pinpoint any possible repercussions elsewhere, and as such, will not wallow on here. However, I would like to add that we, as possibly the most heavily supported remaining magazine, will do everything possible to emulate Dragon User - from welcoming many of their contributors and subscribers (a process already being undertaken) to moving onto a professional format.

The firm message from us is that, of course, there is no hiding the fact that this piece of news will come as an almighty blow and shock but it is not expedient to dwell on the past and everybody must look towards the future.

Moving onto lighter matters: and indeed I would just like to dwell on the past very briefly, but only to thank all those who attended the Weston show and who came along to our stand for a chat. It was a very enjoyable weekend from my point of view, and a reasonably profitable one from New Era Publications' point of view. I am sure all our thanks go to Andrew Hill for organizing the event.

On this rather joyous note, I feel it is the best time to wish all our readers a very happy, peaceful and prosperous new year.
DRAGON USER MAGAZINE has ceased publication.

It is understood Dragon Publications, Dragon User's publishers were unable to support any further editions after unforeseen occurrences.

Draining

"...Money in the bank account is draining like bathwater", explains proprietor Bob Harris.

"In these circumstances, there is no possibility - and indeed very little point - in attempting to carry on. Therefore this issue of Dragon User will have to be the last."

Harris reported that Dragon User's subscription level fell from 2400 to 1450 following on from the transaction of the magazine from Sunshine Publications in July 1988.

"In recent months, the flow of income from subscriptions has dwindled to a trickle. In particular, since the end of the postal strike, the take-up rate of renewal invoices has fallen from 60-65% to a mere 20%", he said.

Bob Harris had voiced the hope of continuing Dragon Publications in the form of an amateur magazine based on Dragon User, although this now looks extremely unlikely. All contributions and excess money from the magazine will be donated to the National Dragon Users' Group "so that the end of Dragon User does not further endanger the survival of the Dragon itself."

Bob Harris also expressed thanks to Helen Armstrong and other contributors for their hard work over the last few months and apologised to those who did renew their subscriptions.

In an editorial, editor Helen Armstrong responded to the news by saying, "I am going to miss the old beast. I won't starve this week. But I don't like thinking of Dragon resources wasted. Something may be worked out so that our material will be available from another source." She also asked subscribers to support remaining Dragon publications.

6809 User understands that only outstanding subscriptions will be given due consideration for possible refunds.
"Show Success"

THE Colour Computer Convention, held on December 4 and organised by Dragonfire Services has been pronounced a success.

An attendance figure of almost 250 was recorded on the day with all retailers voicing content. The National Dragon Users' Group reported selling in excess of ten copies of their DTP package, while New Era Publications sold out of their 680-9 User "T"-Shirts and copies of 6809 User itself.

New software on display included Dragonfire's WIMP System and Pulser's Impossiball, while newly formed Sunnysoft were using the Delta Dos Users' Group stand to display their new offerings.

Bob Harris from Harris Micro Software/Dragon Publications was notable by his absence and it is understood he earlier telephoned the organisers to inform them that he was "ill".

Andrew Hill told 6809 User that he was generally happy with the show, a feeling which was echoed throughout the day by retailers and users alike.

Spring Shows

THE National Dragon Users' Group and Dragonfire Services have announced that they will be "definately" going ahead with a London Dragon show to be organised for the second week of April.

In Dragon Update, group chairman Paul Grade explains, "Dragonfire and the Group will be jointly organising a show for the London area in early April which I hope will be even better than the Weston Show...so 1989 looks like being quite a good year for Dragon owners."

Paul Grade told 6809 User that he is hoping for an attendance in excess of 500, which if achieved, will be the highest recorded for any Dragon show in recent years. He emphasised that the show "will be the best in recent years" and is relying on his links with the national computer press for editorial coverage.

R & AJ PRSTONS also look set to organise a Dragon show to be held on March 25 at Ossett Town Hall, the familiar setting to the shows previously organised by John Penn Discount Software.
Sunnysoft beam hope for animal centre

6809 USER Software Editor, Mr. Roger Quaintance has announced the launch of a new software company to be called "Sunnysoft".

The software company has been primarily set up to help fund Sunnydale Animal Rescue Centre in Ilfracombe. The rescue centre run by Mr. Quaintance and his wife Susan looks after horses, goats, rabbits, hamsters, gerbils and guinea pigs, and has been attacked by vandals for the past four years after Halloween and Bonfire night.

"Every Halloween for the last four years I've spent all night patrolling in the cemetery to prevent gangs of youths from running riot and damaging the place... We just want the centre to be left alone," says Mr. Quaintance in the North Devon Journal.

The company is already offering four programs: RAB Maths Tester and Logic Trainer, as described in this issue, along with Towers of Hanoi, a "mind stretching game with the option of demonstration at all levels" (priced at £2.50) and Resistor Colour Codes, enabling users to read colour codes on resistors and priced at £8.50.

Contact Sunnysoft at 20 Church Street, Ilfracombe, North Devon, EX34 8HB.

REPAIR MAN

NIC SPIERS, as reported in the January edition of Dragon User is now offering a repair service to all Dragon and Tandy users, while also selling spare parts.

Send an S.A.E. to Nic Spiers at 20 Eaton Way, Great Totham, Essex, CM9 8EE.

Greenwood Electronics, who ceased advertising in Dragon User in 1986 are also still selling spare parts and are offering kits in conjunction with Martin Cleghorn’s Hardware series in 6809 User. Contact them at 443J Milbrooke Road, Southampton.

POWER ON

KEVIN COLEMAN is offering Dragon power supply units which are a direct replacement to the original Dragon Data units and conform to B.S.415 specification.

Priced at £22.50 contact Kevin at 1 Suffolk Gardens, Dover, Kent CT17 9NH.
Gearing Up

6809 USER is gearing up for an expected increase in subscription levels following on from Dragon User ceasing publication.

6809 User has already begun the process of attracting a large proportion of ex Dragon User contributors and will begin the process of attracting subscribers with a full page advertisement in Dragon Update this month.

Editor Simon Jones comments, "In the advertisement we have made it be known that we are in no way trying to act as a 'Dragon User Mark II' - we have not the facilities or money to do so. We are merely trying to offer a reasonable alternative and service to Dragon and Tandy users who may have felt 'stranded'. We are not using the tragic news of Dragon User ceasing publication as a tool for making money since it is widely known 6809 User is a non-profit making concern and will continue to function in the same way (anyone who does not believe us are more than welcomed to see our bank balance!)."

The next edition of 6809 User will be published on March 15. The Dragon Gazette will be published on February 15.

It has been revealed in the computer press that Britain's most prestigious 3D graphic company used a Dragon 32 to help debug top game Carrier Commander.
LETTERS

SUN SHINES ON DESKTOP

ISSUE eight of 6809 User has just arrived. Many thanks.

I think I ought really to answer a couple of the points raised in Chris Smithson's review of the Group's "Desktop" package.

Firstly, I don't like referring to it as "DTP", but under the terms of the licence with Falsoft the one thing we can't change is the title, so there's nothing I can do about it. A true professional DTP has many more facilities and needs them - it also has a price ticket nearer a thousand pounds than a tenner!

The original Falsoft program was much smaller, tape based, CoCo format and with very few fonts; our version, while using the framework of this, owes much more to the work of Ray Smith and Ken Grade. We now have a CoCo DOS version available, with a DMP105 printer dump instead of an Epson Compat. type one, and while a tape version is quite possible it would be painfully slow to use if one needed several typefaces.

Lack of printout of the instruction pages? Well, they are short and simple so we thought it was unnecessary, but the program is unprotected so anyone wishing to add the "PRINT £2" is quite welcome to do so. The only point in an otherwise very fair review that I would take exception to is the comments regarding the screen dump. It would appear that Chris isn't too well up on printers or he would know that 99% of "Epson Compatibles" do NOT have a reverse line feed facility, nor do most Epsons! This is why no provision was made for one in the dump which was designed to produce acceptable results on the greatest possible number of printers. Quality, density and even dump size will vary wildly from one "Epson Compat" to the next... just because several printers accept the same commands it does NOT follow that they execute them in the same way, and the comments on these points made in the review do really only apply to the type of printer used by the reviewer! The program is produced under licence and we pay Falsoft one dollar per copy sold, and while I can think of a lot of ways in which it could be improved, we can't really change much more and still have any of the original program left!

A couple of unrelated things I'd like to mention while I'm at it (no, NOT that!). I wish Simon would make it clear that Update is NOT intended to be a magazine! It is the NOUG's Newsletter, and as such doesn't attempt to be light reading, nor does it need a tarty cover! In formatting Update the main aim is to put as much information as possible into the available space, and if this means printing it in reduced condensed subscript mode then I'll do just that! Format is secondary to content so far as I'm concerned. The £8.00 quoted as subscription fee doesn't just get you a dozen copies of Update; it covers running an "at cost" repair service, answering (or attempting to) all the questions members care to write or 'phone in, organising various deals, etc., and a lot more. If I was just running a magazine I could do it so much cheaper!

Secondly, I hear that someone who had better remain anonymous here, suggested that 6809 User resembles the Sun newspaper. Well, I've looked all through this month's edition and someone has left the picture of a topless Simon out of my copy! If
there isn't one in yours either why not write to Simon and demand that he includes one in the next issue!!
PAUL GRADE, NDUG, 6 Navarino Road, Worthing, Sussex

Firstly, I would like to offer my sincere congratulations to Paul for breaking the world record for the longest published 'letter'!

Thanks for clearing up the points regarding Desktop.

Finally, regarding our "close links" with the Sun "Newspaper", I wouldn't tempt fate if I were you Paul... with the depleted state of our contents, anything's possible!

MIRROR IMAGE

I SHOULD be most grateful to receive a copy of 6309 User: This was mentioned in the "Mirror" today. Fame indeed!

I have long been a Dragon fan and presently have a '64 with twin disc drives, a printer plotter and hundreds of progs. We run "Dragnet" every Sunday morning between 10.30 and noon and average anything from ten to fifteen Dragon owners every week. We are all aware that the faithful old Dragon is capable of far more than the "manual" attributed to it. A great pity that Dragon Data were unaware of its true worth.

Please find enclosed a cheque for 65p. I look forward to receiving my copy A.S.A.P. Many thanks.
FRED HOPEWELL, 64P6C, 48 Gladstone Street, Loughborough, Leicestershire, LE11 1NS.

Many thanks to everyone who wrote in regarding our entry in the Daily Mirror. We hope you find the magazine of use.

TERMINAL

MANY thanks for my copy of 6309 User. May I say that the new format is, in my opinion, excellent and still seems to be improving.

As a Dragon user of five years, I look forward to any publications that I can get. I like the idea of a hardware section, but a serial interface yet again?

Perhaps Mr.Cleghorn would let us lesser mortals into the secret of how to couple up another computer as an 80 column terminal and how to run it. I think that it has to be done through the serial port and that you would need a software driver so that the other computer acts as an extension keyboard. That is as far as I can figure it out.

Anyway, keep up the good work - I shall be supporting you in what way I can.
F.J.FISHER, 29 Thornham Road, Gillingham, Kent ME-6RE.

Certainly the choice of a serial port seemed a popular one amongst our many Dragon 32 subscribers but the good news is that Martin is looking very hard at your suggestion and may well undertake it in a forthcoming issue.
Dear readers,

IN view of the "review" of the "major British Dragon" magazines in the November issue of 6809 User (page 28), I would very much like to "set the record straight" on the comments made about our magazine.

Firstly, our venturing into A5 format was not following 6809 User in its lead. We have intended to go into this size for some time, and indeed, have asked readers several times what they think of this, then proposed, new size. It was only after we received a resounding majority vote that it actually went into this A5 format — if readers didn't vote for it, we would not have gone into A5 size, or if they now said "bring back A4" we most certainly would! It was not following 6809 User's "lead".

Dragon Magazine has always run a kind of "Public Domain" library right from the start in early 1986. We have now just decided to publicise it more since readership is up to numbers which we can expect to get new software in and use of the library on a regular basis, where as before this was almost impossible. As to Dragon charts, we have, again, featured Dragon charts since July 1986 — the first readers' voting charts in an amateur Dragon mag! Previews of forthcoming issues is done only once in a while and not continually. We have always done "cover stories". Oh, and by the way, the "Paper Round" which the review was published in was a feature we did and still do from time-to-time!

As to our statement of being the leading Dragon publication in the amateur world, we say WE ARE! We have more subscribers than any other (including 6809 User despite its claims). We intend to stay this way. And, Simon has told us that his circulation is BELOW ours — proying our situation at the top.

Enough of the self-congratulations and some praise for this magazine. Yes, 6809 User. Its cover is (usually) excellent and there is often one or two unusual, interesting, articles within the magazine which you just don't read about elsewhere... and, of course, the hype they put on many things makes the publication fun to read and a change from the norm.

ANDREW HILL, Editor, Dragon Magazine, 13 Parry Jones Close, Blaina, Gwent, NP3 2XX.

Thank you for your letter. Despite disagreeing with many of your points, I do not really wish to lengthen an already prolonged debate — particularly at a time when unity is the fundamental key to the future of the Dragon amongst the remaining magazines.

However, I would just like to point out that, after our success at the Weston show and our publicity in the national press, I do strongly believe our circulation figures are parallel to each other. Of course, however, circulation figures are in no way a guide to quality as is reflected in the fact that the Sun has 4,019,000 readers and The Guardian has 413,000!
THANKS

AT the last Ossett show I bought Duplidisc 2 from the Computape stand. This was the cassette based version and it turned out to be faulty; in fact it turned out that Computape's master copy was duff. So they offered to supply it on disc - I only have one drive at the moment and that is a 3" one and I offered to pay for any extra cost involved in putting it on that format.

Computape couldn't oblige and very kindly Harry Massey contacted Graham Smith of Orance Software on my behalf. Orance couldn't oblige either so Graham went to the trouble of supplying me with a tape version that I could transfer to disc. I haven't actually tried it yet but all the same top marks go for both for their efforts in trying to satisfy a customer. Such service, I think, is worthy of commendation in 6809 User?

IAN JONES, 2 Rushton Drive, Middleswich, Cheshire, CU10 ONJ.

Most certainly!

DESKTOP or DESKTOP?

COULD you please tell me what the difference is between the NDUG's Desktop and Macgowan Consultants' Desktop?

DENIS WATTEAUX, 32 Rue du Parc, 77360 Vaires Sur Marne, France

I am afraid I have yet to see Macgowan's version and as such, I am unable to oblige. In fact, I have yet to hear of anyone who has seen Macgowan's Desktop and am having reservations as to whether Bill Macgowan has seen it himself!!

Do you live in the East Surrey/North Hampshire area? Would you like to expand your knowledge of the Dragon and meet people with the same interests as you with a view to forming a local user's group? Then...

CONTACT: Peter Marsh - 04867 6071 (Brookwood)

How do I get through the first screen in Manic Minor?

CONTACT: Mr. A. Hogg, 398 Blandford Road, Efford, Plymouth, Devon, PL3 6JB.

Where may I obtain parts etc. for my Dragon?

CONTACT: Harold James, 19 Partridge Place, Aston, Nr. Sheffield, S31 0GQ.

Please send all letters/classified insertions/article correspondence to: 6809 User, 37 Collins Meadow, Harlow, Essex CM19 4EN.
LETTERS

READERS' COLUMNS

THANKS for printing my letter in edition eight of 6809 User.

Although I don’t own a Dragon, I am very enthusiastic about it - it doesn’t deserve to be where it is at the moment as it easily outclasses its 8 bit rivals. I own an Atari ST on which I use a W.P. to produce my own fanzine, but I am a sucker for “lost causes” and I would jump at the chance if someone gave me a Dragon.

Now for some comments on edition eight of 6809 User. As usual, the news coverage is great and there are a number of new programs coming out in the new year. For example, The Prisoner (a text adventure) by Pulser Software. How about some game reviews - there was only one on Spy Against Spy this issue!

I love adventures on the Dragon and my friend is a pretty good adventure player, so perhaps I’ll visit him soon and get some tips for your section.

You say that a lot of 6809 User subscribers do not subscribe to Dragon User. Well, don’t you think this is a little silly? Dragon User is the "professional" magazine for users (no offense meant to you) and it is likely that if D.U. folds then it will take the whole Dragon world with it - i.e. the companies have no where to advertise, so they lose money and no games are produced; this escalates with the end result being that users drop out. It’s a vicious circle, so I’d advise all 6809 User subscribers to subscribe to D.U. It makes sense, doesn’t it?

Congratulations to Martin Cleghorn - I really liked his section - keep up the good work Martin!

Simon, as I’m so enthusiastic about the Dragon how about letting me do a column for 6809 User? Something like Paul Grade’s column in D.U. but not so depressing! If so, I’ve got some ideas but you could offer some too.

I was thinking about NEV-ERA as a software house. How about contacting some software houses that aren’t operating any more and marketing their software?

I hope to see issue nine of 6809 User soon. Best wishes.

MATTHEW DE-MONTI, 42 Kings Lane, Ll. Harrowden, Wellingborough, Northants, NN9 5BL.

Thanks for your letter. Regarding Dragon User, we have in fact been recommending people subscribe to the magazine since issue 4 of Dragon’s ROAR. The statement concerning the fact that 10-15% of our subscribers do/did not subscribe to D.U. is merely an observation.

Obviously, in light of Dragon User’s “collapse”, I must disagree with your opinion that the Dragon world will collapse with it, but I believe I have said more than enough on this issue elsewhere!

Of course, we always welcome ideas/suggestions and offers from readers concerning magazine content and I have now offered Matthew a column in the Dragon Gazette starting as from January. Readers’ columns seem to be an excellent idea and indeed if anyone else would like a column - be it specialised or general, then please do feel free to write in.
I'm an old codger who happily plodded away happily failing to solve *El Diabolo* and *The Return of the Ring* for many months before I learnt, almost by accident, of the existence of the National Dragon Users Group, and soon started reading "Dragon Update", which I regard as a must for learned and experienced Dragoneers, but which is tough sledding for a simple-minded cove like me. After eleven months I can now understand more than half of it. What? Well, nearly half if you include the editorial and the small ads. page. But I shall certainly continue to support what I regard as a valuable contribution to the Dragon community.

When the new *Dragon's ROAR* was first advertised I thought (sorry about this!) that the copy was a bit brash and arrogant and that at an age when my reactions are too slow for joystick controlled "shoot 'em ups" the magazine was not for me. However, Mike Vine, who lives in the next village to me, leaned on me very gently and I decided to chance a trial subscription. May I say how pleasantly surprised I have been? I have enjoyed reading a balanced magazine, improving with each issue and with quality contributions. To take just two examples: an article on the copying of games, etc. (Chris Smithson), which is by far the most sensible I have read, and a series on Basic programmes (Julian Lister) which, from the very first steps, guides the learner towards structured programming.

However, the last issue had a special bonus for me. I was astounded to find Stewart Rotherson asking if anyone could help me with a Deltados manual (I wonder how that happened, Mike?) and even more astounded when, only forty-eight hours later, I received just what I needed from a kind member. Thank you Fred; indeed thank you to all three. Perhaps I can put my thanks in a way that I think you'll all approve of by saying I have a Cumana-dos operating manual gathering dust here and if anyone cares to ring 0708 48528 I'll be only too glad to let them have it.

JIM FINLEY, 11 Fernden Way, Romford, RM7 9PJ.

Thanks, Jim.

Indeed, I would like to thank everyone who wrote in during December, putting new vigour into our Letters pages. I hope this trend will continue and that 6809 User will become THE forum for users' views/comments and suggestions. Underlining how important this is, we will always print reader's letters - if necessary extending the magazine in order to incorporate them all, as we have done this month.

Can anyone help me obtain a copy of EDITASM+ or any other Tandy CoCo disc or cassette Assembler/Editor package?

CONTACT: Alexander McIntosh, 26 Southhouse Avenue, Liberton, Edinburgh EH17 8ED.
Tel.: 031 664 6888

DRAGON software for sale: - Rolaball, Screaming Abdabs, Juniors Revenge and lots more. Send SAE for list to:-

CONTACT: Andrew Dakes, 1 Trumpet Terrace, Cleator, Cumbria CA23 3DX.
WILL you remember the fourth of December? I know I will, for that was the day that the Dragon's and CoCo's came out of hiding again. The occasion, of course, was the Colour Computer Convention at Weston-super-Mare. The weather was foul and Weston seemed hardly the most likely of places to attract large numbers - but in spite of this the show still managed to attract over two hundred and fifty visitors, all with hungry computers to feed. Bargains galore were there for the taking with a fair amount of new and second hand hardware about. I saw one chap walk away with a printer plotter, complete with sets of replacement pens - all for only £30. Most of our old friends were there with some new products and services to offer.

I am not sure if there was any significance in placing the N.D.U.G. stand next to the bar, but it certainly guaranteed that they got plenty of exposure. Quite a few copies of the group's Desktop Publishing program changed hands, along with a few of their other products. The most interesting feature was the 256k Dragon being operated by the group. I must admit to being surprised at how few chips were required to achieve this. However, I have to say that it is not the sort of thing to be undertaken by an amateur like myself.

There always seems to be some little idiosyncrasy at these shows and this time it was the turn of the Delta Users' Data Exchange. They are launching a Public Domain Library service, whereby they will in return for £1 copy a disc full of public domain programs for you. All you do is supply a formatted blank disc and the money. What is peculiar about that, you may ask? Well, the peculiarity is that at present the only programs available are for Dragondos, not Delta! Still, it is a good idea and well worth supporting. John Penn had their usual array of software all at discount prices. As usual, John managed to produce something extra for the show. This time it was some H.C.Anderson software, including OS-9 at under £55. Both Prestons and Computape were having a busy day.
sitting all our old favourites. Prestons were making up for the lack of Harry Whitehouse by offering discs and printers at discount prices, while Pro-Tech Systems seemed to be selling scores of disc controller cards at only £14 each.

Pulser and Orange were side by side and fighting it out for the games buyers. Orange offered their Lucifer's Kingdom while Pulsere chose the show to unveil their new game Impossiball and to plug away at Utopia. Both seemed to have their hands full most of the day, which will give you an idea of the level of interest.

By now you will have noticed that some names are missing. Bob Harris was apparently taken ill on the Saturday and so could not make it. However, unless he also passed whatever it was onto the staff of Dragon User, I cannot understand why no-one from the magazine turned up (I am sure the reason will become all too apparent now - Ed.). I have to admit I was disappointed at the non-arrival of Harris, not least because Bill McGowan did not put in an appearance and I have been looking forward to seeing his Desktop Publishing system in operation.

Andrew Hill of Dragonfire Services organised the event and we all owe him a vote of thanks for doing so. I gather that an attendance of 200 was the break even point so at least Andrew finished up in the black. He was also there as an exhibitor offering the W.I.M.P. system and his new Airball Construction Kit and the Jet Set Willy Screen Designer. All these seem to arouse a lot of interest, so it was a good day all round for Andrew.

It was great to see so many at the show, but why should we think that a turn out of two hundred and fifty is good? Even a conservative estimate puts the number of Dragon users at ten times that amount - that is without the CoCo users. So, where were you all? I know Weston-super-Mare is not exactly central, but there are such things as motorways and railways. I live two hundred and fifty miles away, but I got there, so unless you live north of Harrogate, then distance is no excuse.

Unless these events prove to be worthwhile they will not survive. It is no use sitting around saying "I'll wait till they hold one nearer." That sort of attitude ends with you not being prepared to cross the road to attend.
If you want more shows then you must make sure that the ones that are held are well attended. It looks like the N.D.U.G. will be going ahead with a spring show this year, the date and venue to be fixed. If you don't go to that one then you don't deserve to get any more. For those of you that did attend then you know what the others missed and I must apologise for sounding like Paul Grade. I must admit I am beginning to know how he feels.

Alternatively...

CHRIS SMITHSON reports from the Alternative Micro Show

FOR some time now I have been thinking (yes I know it is dangerous) that what we needed to liven up the 6809 scene was some form of partnership. If we could join forces with users of other computers that are being shunned by the mainstream of the computer press, we could organise shows big enough to draw in people who might otherwise not realise we exist. Or to put it another way, to reach the punters other shows do not reach. Just think of all the machines that were sold and ask yourself how many of their owners even know 6809 shows even happen let alone where and when they are held. Machines have been sold and resold and the current owners probably do not even know that this magazine, or Dragon User come to that, even exist. A show big enough to be advertised in the main computer mags. could reach such people; if not people themselves then maybe through their friends. It may not expand the market but it might slow down the shrinkage. Like everybody else I only had ideas, other people actually did something about it and the first ever Alternative Computer Show was born.

The show was held at the Aston Villa Sports Centre in Birmingham - about two hundred miles away from my home. In spite of Simon's prediction that the show would be ignored by most of our suppliers, I decided that I had to attend. Now I could do a Paul Grade and give you all a verbal headbashing for not turning up; instead I will try to give you some idea of what you missed.

The main sports hall which housed the show was large enough for eight basketball courts and easily accommodated
the one thousand people that attended. There was a bar and cafe upstairs where those of us who had travelled most of the morning could get a meal. Over forty exhibitors were there, covering machines from the Sinclair QL to the TI99/4a. Ten of these were manned by various user groups. These ranged from Enterprise users to the Jupiter Ace group. Unfortunately, M.D.U.G. failed to attend. However, four Dragon and Tandy suppliers did attend, namely John Penn, Prestons, Computape and Capri Marketing.

The atmosphere was terrific; everyone was very friendly even when they knew that I was not intending to buy from them. Very few people had no time to chat and they didn’t worry at all that I had not got one of their machines. This is not to say that no-one bought anything: I saw several people walking around with printers under their arms. One stand seemed to be doing a roaring trade in monochrome monitors. They were selling a 14” Sanyo green screen with sound for £55 so it is not surprising that they did well. Once upon a time 6809 shows attracted disc and peripheral suppliers but not any more; we do not get big enough attendances to make it worthwhile.

I found it very interesting to look around and see what other people were doing with their computers. An Einstein for instance was running a wonderful C.A.D. system which looked most impressive. Just standing near the Preston stand was great; you could hear things like "ooh look a Dragon, I thought they died years ago", or "my mates got one of them, I didn’t know you could still get the software." Don’t get me wrong, plenty of Dragoneers did attend. Both Prestons and Computape had quite a good day — almost as good as a 6809 show.

It was about four fifteen when I managed to tear myself away and get stuck into that journey again. I thoroughly enjoyed my time in Aston and I know I will go again next year. The question is, WILL YOU?

STOP PRESS

Rmsoft have announced that they intend to proceed with the second Alternative Micro Show to be held in London on Saturday April 1. With R. & AJ Preston’s and the M.D.U.G.’s shows taken into account, this would mean THREE Dragon related shows in CONSECUTIVE weeks.
Further details in the Dragon Gazette.
Dragon Graphics Studio is a utility for designing, graphics and hi-resolution screens. It was initially written for the programmer's own use in situations where no other packages were suitable. The program runs under a WIMP (windows, icons, menus & pointer) type environment as used in 'other' computers and is as user-friendly as possible throughout.

As a graphics package, it has all the normal functions: lines, rays, circles, ellipses, arcs, airbrush... etc., together with some features only found on those 'other' computers, such as the ability to cut-out areas of the screen and store them, both in memory, and on disc, for use in other pictures, enabling a library of "clip-art" to be produced. Infact, DGS contains every drawing tool, and function you are ever likely to need, whether you are doodling with the pen, producing graphics for another program, or even producing electronic drawings, DGS has something for you.

As far as text goes, no other Dragon utility surpasses DGS - text may be added to drawings from any of the 21 supplied fonts, all made italic, bold, or inverse, and spaced out to your requirements. A font editor is also provided within DGS to allow you to design, or customise, fonts for use with the program.

At any time during the drawing process, you may UNDO your last move, save the screen, or dump it to a printer to see how it looks on paper. The dump routine supplied is suitable for EPSON compatible printers having DOUBLE DENSITY graphics - details are supplied for you to incorporate a dump suitable for your printer.

Dragon Graphics Studio fills over 50k of space and therefore the program is disc only, but still works both on the Dragon 32 & 64! Dual drive users are catered for as the system disc may be used in any drive, and a drive-number can be added when a filename is entered. DGS requires one DRAGONOS/compatible 40T drive, and a floating, or switched joystick.

Demo Pictures. *Outrun* won NDUG graphics library prize in October 88. All drawn with DGS.

**ORDER FORM**

Please send me a copy of Dragon Graphics Studio on 40T DRAGONOS disc.

NAME: 
ADDRESS: 
POST CODE: 

I enclose a cheque/PO made payable to S Knight for £ including post & packing.

Please send order form to:

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B'ham B28 0LE
End and Start of an Era

By SIMON JONES

DECEMBER 24 1988 will be remembered for one reason only in the Dragon world: not because of its seasonal connections but because it was the day that marked the end of an era for the 1450 people who found Dragon User on their doorsteps.

The figure of 1450 contrasts greatly with the figure of 2400 which was the subscription level a mere five months earlier. Therefore, the first question one must ask is simply "where did they all go?" A number of factors have been blamed, the most prominent of which is the Postal Strike. Dragon Publications believe the postal strike was the most noticeable reason why people did not resubscribe. Other factors include apathy, upgrading and the belief that Dragon User ceased publication when Sunshine Publications discontinued the magazine.

However, it is obvious to see if Dragon Publications had managed the magazine in a different manner then Dragon User could have continued. The use of DTP instead of conventional methods would have saved hundreds of pounds each month. Decreasing contributory fees is yet another facility in an endless procession of possible money saving tools. Bob Harris may counter this by believing there would have been no need for such drastic action if user apathy and the Postal Strike had not won the day, yet these options should have been made instantly available in such a crisis.

This is not a criticism of Dragon Publications; merely an observation and indeed Bob Harris must at least be deserved of praise for taking on the vagaries of Dragon User when few would have been so bold.

Indeed, Dragon User's history is full of such examples as the above when the proper course of action could have meant a sustained and active user base. For example, in 1986 it is estimated Dragon User lost 6,000 subscribers merely because they gave only one month's notice of moving onto a subscription only format. At this time, the average reader only bought the magazine on a bi-monthly basis and thereafter in the minds of 6,000 users it was assumed the magazine had ceased publication. One only has to look at QL User which announced its subscription only plans FIVE months in advance to see the proper course of action.

Ironically, this was the case in 1988 when only ONE month's notice was given that the magazine would continue under the new ownership of Dragon Publications and in the month 80% of the subscribers had renewal invoices sent to them. At this point the magazine was at its lowest point with only 24 hurriedly produced pages and with the editor, Helen Armstrong not expecting the magazine to continue past July. It is therefore not difficult to see why many potential resubscribers had reservations.

Indeed, Dragon User ceasing publication was in no way inevitable and its life could have been prolonged for at least another year. Yet, unfortunately, we do not live in a perfect world and must make the most of what is left.

What will happen to the Dragon now? We put this question to Paul Grade, chairman
of the most heavily supported remaining Dragon publication who responded in an
untypically optimistic fashion. "Most will stay with the machine", he said.
"No doubt some users and software companies will use the news as the excuse they
were looking for to move on, but they are a minority."

Dragon Update will now theoretically take over Dragon User's role as the main
advertising forum, with some 1000 readers. This should provide an ample base for
companies who wish to use the NDUG's economical advertising rates. 6809 User will
now be offering at-cost advertising rates in order to supplement the existing
advertising potential. Dragon shows and small scale mail shots should also help
dispell myths that companies have no forum to advertise their goods.

From a user's point of view, no doubt a vital piece in the Dragon jigsaw will be
missing. However, this does not mean that the jigsaw cannot be completed with some
imagination: Exchange of ideas is of course still possible through Update and 6809
User, as is reflected in our Letters Pages. Information, tips and general articles
will be similarly available, particularly considering the fact many of Dragon User's
contributors will be joining 6809 User.

As we concluded in the February edition of Dragon's ROAR ("Is there life after
Dragon User", page 25) the Dragon world will continue to grind and the potential
within the machine now unleashed will continue to spread. Companies still have the
same marketing opportunities and software will continue to be produced much as it
has been since 1986. The Dragon flag may have been at half mast during December,
but we must make sure the same flag continues to fly aloft for many more years to
come.

Contributors Required

6809 User urgently requires a number of general contributors.

From reviewing games to writing a regular
machine code orientated column, from languages
such as Pascal and 'C' to writing articles on the
Dragon/Tandy's graphic and sound capabilities, if
you would like to write for 6809 User, please
inform us at 6809 User, 37 Collins Meadow,
Harlow, Essex CM19 4EN.

In return, we offer a comprehensive package
involving free software and other services offered
by New Era AND occasional pay.
CHRIS SMITHSON debates whether hacking should be made illegal.

You can't have failed to notice in recent months that the news media have been shouting about how the police have managed to catch a hacker. I suppose it is so rare that they actually catch someone that they have to make a song and dance about it. This particular naughty boy had managed to penetrate a Ministry of Defence computer via the university networks system and through that gained access to a N.A.S.A. mainframe.

This is bound to lend weight to the lobby at Whitehall that want hacking to be made illegal. The subject of this last operation was, in fact, illegally using a university computer. Technically he was stealing the computer time so he could have been arrested and charged. However, if he had sat at home using his own computer and accessed a bank computer he would have committed no crime.

Because this case involved a Ministry of Defence computer we'll probably hear hysterical ravings about breaches of national security and endangering the safety of the realm. I doubt whether anyone will tell us that the computer in question was used only to calculate the wages or to keep track of the royal yacht. Bear in mind that the M.O.D. machines that handle only the important decisions (like which brand of boot polish will be issued next) are linked by microwave transmissions - NOT by telephone lines and certainly NOT tied into the national network.

Bearing this in mind, we must ask ourselves what harm the hacker does. Certainly one thing they have done is to give the man from the ministry a heart attack. Just when he thought his views on the contents of the ministers cranium were safe in an interdepartmental mailbox, some hacker finds it and tells the press. Likewise with bank and credit card computers - as long as the hacker does not use the information he or she gains for some evil purpose, then what harm has been done? On the other hand, if the hacker does do something malicious then such acts are already covered by the law.

From the point of view of the hacker's victim, probably the worst damage that is inflicted by the hackers is the
loss of face. They have been telling us for years that their systems are impregnable and fool proof. At least one bank insists that its cash dispensers are infallible in spite of a wealth of evidence to the contrary. Imagine then the embarrassment when someone manages to break into the system and move all the money around, or come to that, a government computer that sent all the mail for G.C.H.Q. to 15 Cherry Gardens, Canterbury. This may sound ridiculous but this is the sort of things that most hackers do.

For them the important thing is the challenge. They pit their wits against the person who designed the system which they are trying to access. The more difficult it is, the more important it is to succeed. In effect, it is like getting into Greenham Common or R.A.F. Molesworth writing "Kilroy waz ere" on the control tower window and then getting out again. In such circumstances, hackers do us all a service by keeping the people who operate the target systems on their toes and hopefully making it more difficult for the criminal fraternity to break in and make use of the information. Of course there are malicious hackers who will deliberately plant a virus in the system that they are exploring or instruct the system to trash its data. Not only are these people rare but their activities are covered by existing legislation.

Of course, there is one certain way of making any system hacker proof. How? Simply don't connect it to the public telephone system. Now I know that some systems need to be networked. The banking system for instance could not work the way it does without many computers networked together throughout the country. The question we should ask is why do they have to use the national network? Why not have their own lines, available only to them. The military, as we have already mentioned, use a microwave link for the sensitive information; only the mundane stuff is directly accessible to the hacker. The only danger is that if one computer in the network has access to both the closed system and the national telephone system then it can be used as a gateway to the rest of the system. For instance, the criminal records computer is not accessible direct but rumour has it that it can be accessed via D.V.L.C. computer at Swansea. Swansea, of course, is connected to the telephone system.

The main reason that most establishments do not have
their own private lines is due to the cost of installing such things. It is much cheaper to use a system which already exists than to start building your own. In effect, they make it when someone gets in.

The final question is what could be achieved by legislating against hacking? Breaking the speed limit is illegal, but is there any real need for wheel clamps? Well, if it did the same for wheel clamps. Most people that break the speed limit or park illegally do so because they don't expect to get caught. With hacking, the odds against being caught are infinitesimally greater. It is my opinion that any Bill to outlaw unauthorised access to a computer would be a total waste of parliamentary time. Still, I suppose that they have nothing better to do. What do you think?

If you have any views on this subject, please write to Comms, 6809 User, 37 Collins Meadow, Harlow, Essex, CM19 4EN.

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'No wimp'

CHRIS SMITHSON examines Dragonfire's/Broomsoft's new W.I.M.P. system

AS W.I.M.P. systems percolated down to the home micro market, it was beginning to look as if they were never going to reach the Dragon scene. However, behind closed doors people were feverishly working away to make sure that this was not the case.

The first on the scene was KLIK from Bob Harris. Designed to run under the Basic 42 operating system, KLIK offered joystick or keyboard control over the system. Now for the first time comes a freestanding W.I.M.P. system.

W.I.M.P. is the first program from the Broomsoft stable to exploit the extra RAM of the Dragon 64. The totally soft (everything in RAM) aspect of the machine in 64K mode means that commands can be added or taken from the original Basic, or, as in the case of W.I.M.P., the machine can be totally reconfigured. The outcome of all this work is a system that makes your Dragon behave as if it were something much more erotic.

ALL THINGS BLUE

The first thing to greet you when you Boot your W.I.M.P. disc is a "Blue" screen containing several Icons (little pictures). The blue screen is somewhat lost on me as I use an amber screen monitor and Duncan has been modified, as per the mod in Dragon User, to switch off the colour. My "Blue" turned out to be a fine black and orange check. If you use a colour TV, I am assured you will see a BLUE screen.

There is a pointer on the screen which can be moved using a joystick (potentiometer type) to point at any of the Icons. At this point, pressing the fire button would normally call the program indicated by the picture; however, since this "Front Page" is really only a demonstration, only two of the Icons actually have corresponding programs: these are the Icon designer and the art package. More on these later.

Selecting the "Trash Can" or Dustbin kills the program and releases you into W.I.M.P. proper. The screen clears and a programming window opens up. This is the time that
you start to see W.I.M.P. for what it truly is: not so much an operating environment but more a tool kit which enables you to create your own. Sixteen new commands have been added to Basic and the machine's memory reorganised to make room for the storage space for the pulldown menu windows. A revised memory map is printed in the instructions leaflet so that machine code users can find the available space to fit their routines. The extended Basic makes it relatively straightforward to write your own programs using Pulldowns and Icons. The screen displays that can be achieved look very professional, especially the shadowed boxes. A text window can be defined and, unless specifically programmed to do otherwise, all text will be kept within the window. The purpose of this is to stop the text writing over any graphics already displayed on screen.

The system comes complete with a set of thirty five Icons and can accommodate up to a hundred and twenty eight. All these are rather small, using a matrix of 8x8 pixels and it is not always immediately obvious what they represent. However, it is possible to define your own pictures and there is no reason why two or even four pictures cannot be used together to form a single Icon. All text appears on the graphic screen and it is common these days to use such a capability to increase the screen capacity. This being the case, it came as a surprise to find that Broomsoft have opted to keep the 32x16 display. The result is that the display is very readable if a little chunky.

After my reference to KLIX in the opening paragraph, some readers could be forgiven for thinking that the two systems are very similar. In fact, they are completely different. KLIX is more you ready made off the peg system where as WIMP is more like the building blocks with which the home programmer can build a system tailored to his or her own needs. This point can be illustrated by mentioning KLIXs load command which shows all the files on disc as icons and lets you choose using the "mouse". There is no reason why you cannot make WIMP do this but the point is that you will have to program it. This brings me to a more serious limitation and that is that because WIMP uses the full eight graphic pages, only 15k bytes are available for user programs. (The author, Michael Edwards, has asked
me to point out that 21k is available when using PCLEAR 4
- Ed.). On the more positive side, it is dead easy to set
up the disc so that you Auto-run your own Basic programs
including WIMP by using the Boot command. This is fully
expanded in the instructions and really is a piece of
cake.

FREE PROGRAMS
I did say that I would discuss the free programs that
are supplied, so here we go. The first one is MouseArt
and as you may imagine it is a joystick operated drawing
program. This is intended to do everything that Gem Paint
does on the P.C. clones. It does what it is intended plus
one thing that may not be so desireable - namely by
showing up the limitations of the joystick control. This
is mainly caused by the fact that the Dragon's joystick
only reads values from 0 to 63 and with a screen resolutio-
n of 256x192 there is no way that the pointer can move a
pixel at a time. This problem is overcome if the joystick
reading routine was re-written to acomodate the switch
type self centreing joysticks. Alternatively, we could
always use a mouse - I gather that across the pond in the
U.S.A., one is available for the CoCo. The Icon designer,
on the other hand, does not suffer so much from the
problem as it works on an enlarged picture which is
divided into blocks. As I said before, the Icons are
rather small but larger ones can be made up using several
Icons to make a large one.

"EXCELLENT VALUE"
By and large at £12, WIMP offers excellent value for
money and provides an easy entry into the world of Icons
and pulldowns. It is a pity about the restricted memory
but then you can't have everything. More programs that
run under the system are to be made available in the
future. With a bit of luck that may include a mouse and
driver or a different joystick control.

W.I.M.P. is available from Dragonfire Services at 13
Parry Jones Close, Blaina, Gwent NP3 3NH.
Good value

PROGRAM: Diamond Manor
SUPPLIER: Dragonfire Services
PRICE: £3.00

In this new adventure available only from Dragonfire, your task is to enter the manor house, steal the diamond and then escape.

With approx. 100 locations, it was great fun to play if a little bit inconsistently at times. In mapping the adventure I managed to find the same location at two different places and if I had carried on mapping I would have ended up with a roll of matching wallpaper.

You are able to carry as many things as you like and apart from two locations it does not seem to hinder you. I got a little bit fed up being told that a particular object "is not here" when I was either carrying it or could see it in the location description. "You cannot do that here" would have been a better response.

There are a few red herrings and very few sudden death situations which all in all translates into a very playable adventure and good value for money.

PROGRAM: Autorun II
SUPPLIER: R & AJ Preston
PRICE: £1.99

THIS is a very useful utility for programmers, although unfortunately the review copy did not contain any instructions and experimenting was the only way in which the facilities could be tried out.

Designing a loading screen in simplicity itself and the program works well, autoruning both Basic and machine code programs. The only quibble, as mentioned, is the lack of documentation but once sussed out it could not have been easier.

REVIEWER: R. Quaintance
6809 Charts, the only Dragon/Tandy chart representation, brings you up-to-date each month with the most popular programs, courtesy of our readers.

As we rely purely upon you in the compilation of this chart, please could you send your top ten programs to: 6809 Chart, 6809 User, 37 Collins Meadow, Harlow, Essex CM19 4EN.

The first person to send their top ten programs receives a game of his/her choice.

Last month's lucky reader was chart regular Eddie Freeman, affectionately known as "Lord Edward".

**Airball bounces back to top spot**

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**NUMBER OF RECORDED VOTES (to 10/12/88)**: 12

**HIGHEST NEW ENTRY**: Rally - Pulser Software

**HIGHEST CLIMBER**: Indoor Football - Quickbeam

**BIGGEST DESCENDERS**: Speed Racer - Microdeal
                        Crazy Foota 3 - Orange
From the triumphs of last month in Williamsburg, I am now ready to disclose the secrets of my amazing finds whilst on holiday in Jerusalem.

Feeling somewhat wealthy after my exertions in Williamsburg, I embarked on a relaxing holiday in Jerusalem. Wandering down the main street in a southerly direction I happened upon a set of steps leading to the top of an underpass; so thinking I might get a better view of my surroundings, up I went; however, all I saw was a pair of sunglasses someone had inadvertently dropped, so thinking to hand them in to the local constabulary I pocketed them and returned to the street.

Passing the area known as the Golden gate, I espied on the gate itself a ruby coloured button, but being unable to get near it, I was determined to inspect it at a later date. My next encounter strangely enough was with yet another gate known as the Zion gate where I found a Shepherds staff which I took with me to use as a walking stick. Moving on I came to a crossroads and was just about to enter an area known as the Arab Quater when I heard someone mention that the wailing wall was just down the street, so I turned and headed for that instead.

Feeling somewhat disappointed in my expectations of this famous wall, I wandered off into the Jewish Quater and almost at once found a Bronzed Bagel. Thinking that people round here were somewhat careless, I took the bagel and carried on sightseeing. Passing through the Jewish Quater, I saw ahead of me a synagogue and being inquisitive (some call me nosy), I entered the building. Thinking to adjust my eyes quicker to the bright sunshine outside, I put on the glasses prior to leaving and almost at once noticed a passage previously hidden from view, so off I went to explore and at once found myself in a small room.

Not having removed the glasses, I failed to notice a table in front of me and stumbled into it and down a hole beneath it. Picking myself up, I looked round and discovered I was in an underground cavern which had a door on one side. After numerous attempts to open the door and
escape I slumped exhausted to the floor saying "AMEN" to my hope of any rescue, whereupon there was a sudden puff of smoke and I found myself transported back to the streets!

Wishing to further investigate this apparent miracle, I set off down the street and almost immediately found a set of keys. Taking the keys, I continued onward and soon found myself passing my original starting place. Not wanting to burden myself unnecessarily, I dropped the Staff and Bangle and made my way back to the Synagogue and finding the passage, returned to the caravan. Just as I was about to repeat this apparently magic word to see if it would work a second time, I remembered the keys and thought I might as well try them on the door. With only a little effort I managed to open the door and so deciding to throw caution to the wind, I went through the door and found myself by the shore of the Dead Sea.

Wandering round, I chanced upon a small cave which looked worthy of further examination and on doing so I was rewarded by finding some Scrolls which I at once picked up. Shortly after leaving the cave I came upon a rather Ancient book which had been lost on the shore. Retrieving it, I decided to head back to town but in order to get my bearings I climbed a nearby mountain. Near the summit I looked down and there staring at me in the face was a ruby coloured ring. Slipping the ring on my finger, I quickly took my bearings and headed back to the cavern where upon saying "AMEN", I was returned to the street.

Retracing my steps yet again, I returned to my starting point where I unburdened myself of all I had collected with the exception of the ring which was rather tight on my finger (my fingers having swollen slightly due to the heat). Remembering the gate I had been unable to reach earlier, I set off once more, this time determined to get a closer look. On approaching the gate and looking at the button positioned on the gate, I perceived it to be of the same colour as the ring. Wondering if it could possibly be the same type of stone, I reached out and touched it, whereupon the gate swung open.

Adventurous as ever, I investigated further and proceeded through the gate, finding myself in a place known locally as "Paradise". Touring around this area, first
north then round the cardinal points of the compass, I managed to acquire a Silva Halva, some Ancient Shekles, a Golden Calf and some Gold coins. Having returned to the gate I discovered to my dismay that I was now unable to pass through and return to my starting point. Giving this problem some thought I decided it was worth trying my magic word again and so said "AMEN".

Instantly, I was transported to the street and quickly made my way to the starting point where I dropped all my collected treasures (this time even managing to remove the ring). Hailing a passing policeman, I explained how I had found this mottley collection of treasures and would appreciate his help in returning them to its rightful owners. He replied that I had found many long lost national artifacts and as a result should accompany him to the station where a substantial reward would be forthcoming. In this manner I successfully completed what had started out as a restful holiday and finished yet another rewarding adventure.

TIPS FOR THIS MONTH

Black Sanctum : To make progress you must go through the mirror. Unable to light the lantern? You should have looked at the mantle place. To make the alter : You need the boards from the door in the alcove and the hammer from the crypt as well as the saw from the caretaker.

STALAG : If you feed the dog it won't bite you. The key to barracks no.3 is in the football lace.

HELP REQUIRED

Waxworks : Is there one tail'sman or two in the alter room? Can the mummy in the sarcophagus be revived (if so how)?

If you have any adventure queries or tips, please write to Robert Cleminson at 6809 User, 37 Collins Meadow, Harlow, Essex CM19 4EN, enclosing an S.A.E. if you would like a personal reply.
LISTING
0 #aaaaaaaaaaaaaaaaaaaaaaaaa
1 #PRINT CONTROL BY IAN JONES#
2 #aaaaaaaaaaaaaaaaaaaaaaaaa
10 #SET UP MENU BOARDS##
12 GOSUB 15:GOTO50
15 CLS5:PT=34
20 FOR I=0 TO 10
25 PRINT@PT,CHR$(132):STRING$(8,140);  
30 PRINT@PT,CHR$(133):STRING$(8," ");
35 PT=PT+32:NEXT I
40 PRINT@PT,CHR$(132):STRING$(8,140);
43 IF PT=396 THEN 47
44 IF PT=406 THEN RETURN
45 PT=44:GOSUB20
47 PT=54:GOSUB 20
50 #PRINT MENU 1aaaaaaaaaaaaaa
55 PT=35
60 PRINT@PT,"=#MENU 1=";PT=PT+64
65 PRINT@PT,"1. RESET ";PT=PT+32
70 PRINT@PT,"2. EMPHAS";PT=PT+32
75 PRINT@PT,"3. D/WID. ";PT=PT+32
80 PRINT@PT,"4. D/STR. ";PT=PT+32
85 PRINT@PT,"5. U/LINE ";PT=PT+32
90 PRINT@PT,"6. SCRIPT ";PT=PT+32
95 PRINT@PT,"7. SC.OFF ";PT=PT+32
100 PRINT@PT,"8. COMPR. ";PT=PT+32
105 PRINT@PT,"9. ";
110 #PRINT MENU 2aaaaaaaaaaaaaa
115 PT=45
120 PRINT@PT,"=#MENU 2=";PT=PT+64
125 PRINT@PT,"1. T.O.F. ";PT=PT+32
130 PRINT@PT,"2. ";PT=PT+32
135 PRINT@PT,"3. ";PT=PT+32
140 PRINT@PT,"4. ";PT=PT+32
145 PRINT@PT,"5. ";PT=PT+32
150 PRINT@PT,"6. ";PT=PT+32
155 PRINT@PT,"7. ";PT=PT+32
160 PRINT@PT,"8. ";PT=PT+32
165 PRINT@PT,"9. ";
180 #PRINT MENU 3aaaaaaaaaaaaaa
185 PT=55
190 PRINT@PT,"=#MENU 3=";PT=PT+64
195 PRINT@PT,"1. SENSOR ";PT=PT+32
200 PRINT@PT,"2.SKIP """PT=PT+32
205 PRINT@PT,"3.C.P.L."""PT=PT+32
210 PRINT@PT,"A.L/PAGE"""PT=PT+32
215 PRINT@PT,"5." "PT=PT+32
220 PRINT@PT,"6." "PT=PT+32
225 PRINT@PT,"7." "PT=PT+32
230 PRINT@PT,"8." "PT=PT+32
235 PRINT@PT,"9." "PT=PT+32
250 'MENU SELECT**********
253 PRINT@450,CHR$(133);STRING$(26, " ")
254 PRINT@462,CHR$(132);STRING$(26, 140)
255 PRINT@451,"WHICH MENU? (1, 2 OR 3)"
260 A$=INKEY$;AS=VAL(A$):IF AS =0 OR AS>3 THEN 260
265 ON AS GOTO 300,400,500
300 'ITEM SELECT MENU 1*********
305 PRINT@451,"MENU 1 WHICH ITEM? (1-9)"
310 A$=INKEY$:IF A$="" THEN 310 ELSE AS=VAL(A$)
315 ON AS GOTO 1000,2000,3000,4000,5000,6000,7000,8000,9000
400 'ITEM SELECT MENU 2*********
405 PRINT@451,"MENU 2 WHICH ITEM? (1-9)"
410 A$=INKEY$:IF A$="" THEN 410 ELSE AS=VAL(A$)
415 ON AS GOTO 10000,11000,12000,13000,14000,15000,16000,17000,18000,19000
500 'ITEM SELECT MENU 3*********
505 PRINT@451,"MENU 3 WHICH ITEM? (1-9)"
510 A$=INKEY$:IF A$="" THEN 510 ELSE AS=VAL(A$):IF AS=0 THEN 250
515 ON AS GOTO 20000,21000,22000,23000,24000,25000,26000,27000,28000,29000
1000 PRINT$-2,CHR$(27);"@";GOTO10
2000 GOSUB 30000
2010 IF A$="0" THEN PRINT$-2,CHR$(27);"F";GOTO10
2020 IF A$="1" THEN PRINT$-2,CHR$(27);"E";GOTO10
2030 GOTO2000
3000 GOSUB30000
3010 IF A$="0" THEN PRINT$-2,CHR$(27);"W0";GOTO10
3020 IF A$="1" THEN PRINT$-2,CHR$(27);"W1";GOTO10
3030 GOTO3000
4000 GOSUB30000
4010 IF A$="0" THEN PRINT-2,CHR$(27);"H":PRINT@451,
FOR I=1 TO 2000:NEXTI:GOTO10
4020 IF A$="1" THEN PRINT-2,CHR$(27);"G":GOTO10
4030 GOTO4000
5000 GOSUB50000
5010 IF A$="0" THEN PRINT-2,CHR$(27);"-0":GOTO10
5020 IF A$="1" THEN PRINT-2,CHR$(27);"-1":GOTO10
"SUB/SUPERSCRIPT ALSO OFF"!:INPUT AS
5030 GOTO5000
6000 PRINT@451,"0=SUPER, 1=SUB WHICH ONE?"!:A$=INKEY$
6010 IF A$="0" THEN PRINT-2,CHR$(27);"SO":GOTO10
6020 IF A$="1" THEN PRINT-2,CHR$(27);"SI":GOTO10
6030 GOTO6000
7000 PRINT-2,CHR$(27);"T":PRINT@451,"DOUBLE STRIKE
STILL ON ":!:FORI=1 TO 2000: NEXTI:GOTO10
8000 GOSUB70000
8010 IF A$="0" THEN PRINT-2,CHR$(27);CHR$(146):GOTO10
8020 IF A$="1" THEN PRINT-2,CHR$(27);CHR$(143):GOTO10
8030 GOTO8000
9000 GOTO10
10000 PRINT-2,CHR$(27);CHR$(140)
11000 GOTO10
12000 GOTO10
13000 GOTO10
14000 GOTO10
15000 GOTO10
16000 GOTO10
17000 GOTO10
18000 GOTO10
19000 GOTO10
20000 GOSUB20000
20020 IF A$="0" THEN PRINT-2,CHR$(27);"8":GOTO10
20030 IF A$="1" THEN PRINT-2,CHR$(27);"9":GOTO10
20040 GOTO20000
21000 PRINT@451,"LINES FOR PERF. SKIP ":!:INPUT AS
21010 PRINT-2,CHR$(27);"N";CHR$(AS):GOTO10
22000 PRINT@451,"CHARACTERS PER LINE ":!:INPUT AS
22010 PRINT-2,CHR$(27);"Q";CHR$(AS):GOTO10
23000 PRINT@451,"NUMBER OF LINES PER PAGE":!
This is a simple utility program which I have written out of necessity. I have two printers, both have totally incompatible control codes and I was finding that prior to using the printer I had to send one CHR$ statement after another or else go to even more trouble altering all my programs.

A menu driven utility program seemed like the logical solution. This is the result: it allows the printer to be set up with the minimum of fuss prior to running the program which will actually use the printer.

This program allows up to twenty seven options to be displayed at once on three menu boards. Each option on the menu may be up to six characters long. To select any option is just a case of first entering a number between one and three to identify which menu board the choice is listed on, then entering a number between one and nine for the actual required item.

As the control codes for different makes of printer vary, I have included the more common codes that are generally compatible; adding more is a simple matter, so here is a brief explanation of the program.

The program first sets up the three blank menu boards, each with a black border on the left and bottom edges to make them stand out. Then the menu is printed onto the menu boards.

Adding to the menu is a straightforward case of filling the appropriate blank space in one of the three menu subroutines. For example, in menu two, item seven is on line 165. Look at the menu select routine, in this case for menu two. The last line is this subroutine has an ON GOTO statement and the 7th line number in this statement is 17000, so that is where the desired routine is inserted. If the program is to return to the original menu, then a GOTO 10 at the end of the routine is all that is required.

That’s it; nothing complicated. This program could itself be added as a subroutine of your own program (taking care not to clash the line numbers), allowing Print Control to operate at anytime.

Please send all listings to: 6809 User, 37 Collins Meadow, Harlow, Essex CM19 4BN, enclosing all relevant documentation.
PART II  DIY HARDWARE

In part one I explained how to connect the 6850 ACIA to the computer bus. I told you that we could use the P2 control line to address the ACIA, well, as with most hardware projects, the theory sometimes doesn’t hold up. When I came to test this project I found the ACIA and my Delta DOS interfered with each other. This is because the Delta DOS, whilst only needing 4 address registers, uses all 32 lines between FF40h and FF5Fh. This is most likely true with other Disk systems so its been back to the CAD and I’ve re-designed the addressing of the ACIA so that with the aid of 2 more chips, it will appear at FF72h-FF73h. I will leave it till another article to explain how these two chips work because for now I expect you want to get on with the board.

Having connected the ACIA to the computer bus, the next step is to provide a suitable clock to generate a selection of baud rates. For comms use we will need 75, 300 and 1200 baud rates, 2400 for some printers and even as fast as 9600 for some devices. The chip we are using for this is a CMOS 4060 14 stage counter. This chip takes a clock signal and divides it by factors of 2 up the power of 14 giving various outputs in this range. The clock used is a 2.4576MHz crystal (see fig 1). The ACIA, under software control, further divides the clock rate by 1, 16 or 64. The factor we are using is 64 thus as pin 13 of the 4060 has a output divide rate of 2^9, the resultant baud will be ...

\[ \text{BAUD} = \frac{2457600}{512 \times 64} = 75 \text{Hz} \]

The other outputs will provide bauds of ......

| 1. | 75 |
| 2. | 150 |
| 3. | 300 |
| 4. | 600 |
| 5. | 1200 |
| 6. | 2400 |

and if we use a ACIA divide rate of 16 we get ......

| 1. | 300 |
| 2. | 600 |
| 3. | 1200 |
| 4. | 2400 |
| 5. | 4800 |
| 6. | 9600 |

and using a divide by rate of 1 .... well you work it out! The result is just about every baud rate ever used (except 110 which died about 10 years ago).

Order complete kits from Greenwald Electronics (excl.PCB’s) for £17.95 inclusive of postage and VAT. Telephone (ACCESS orders): 0703 772501/783740 - (please quote 6809 User) or write to them at the address given on page 38.
I have left the method of connecting the desired baud rate (1 - 6) to Tx clock and Rx clock (pins 3 & 4) of the ACIA, to your own ingenuity. If you are changing bauds often then you could use a bank of dip switches.

The last chip we will look at this time is the MAX232. This is a quite recently developed chip which does the job of what used to take 2 or 3 chips and a pair of transistors. Its cost of around $7 is a reflection of this. The purpose of the MAX is to convert the 5v-0v TTL levels of the ACIA and computer to the +10v & -10v that RS232 convention uses. The way it does this is worth study but there isn't room here to go further. Fig1 is a full schematic of the circuit. Fig2 is the PCB track layout.

The connection of the board to the computer is made by pulling out the 6809 chip from its socket and plugging in the board to the empty socket. The 6809 now fits on the new board. This system means that the expansion port is left free for DOS or other cartridges.

PARTS

SEMICONDUCTORS
S1 6850ACIA S2 MAX232 S3 4060BE
S4 74LS30 S5 74LS138

RESISTORS
R1 6M8 R2-3 3K3

CAPACITORS
C1-4 22uF -electrolytic single ended type.
C5 22pF C6 33pF C7 .01uF -disks

MISCELLANEOUS
2.4576 Mhz crystal 13 x vero pins
connecting wire DIN socket & plug(s)
40 pin wire wrap dil socket
1 x 24 3 x 16 1 x 14 dil sockets
9 and 25 pin 'D' type sockets are used by a number of computers but I suggest you use a 5 pin domino din socket which will make the port compatible with BBC (Acorn) peripherals (Fig 3).

A kit of these parts (excluding socket & plugs) is hopefully being produced by Greenweld for around $15. A tinned finish PCB for the project is available from me for £5 c/o New Era publishing.

In the next issue, part III .... constructing the board, testing, fault finding and software.

FIG 2

For kits contact Greenweld Electronics at 443J Milbrooke Road, Southampton SO1 0HX (accept Access cards).
For PCB's contact New Era Publications at 37 Collins Meadow, Harrow, Essex CM19 4BN.

"DIY HARDWARE" : (C) Copyright 1989 New Era Publications/Martin Cleghorn
COMPETITION

With EDDIE FREEMAN

GEOGRAPHY is put under test this month, with five cities or countries of the world listed below, but with every second letter missing. To make it even harder, EDDIE FREEMAN has also missed the first letter to each city or country. Can you name them?

1. otg1
2. ugra
3. mtra
4. ooc
5. ahntn

Please send your entries to: Eddie Freeman, 6809 User, 37 Collins Meadow, Harlow, Essex CM19 4EN. The closing date is March 1. The winner will receive a game of his/her choice.

Last month's lucky winner was Bob Smith from Norway, who correctly named the "odd ones out"; this was despite the fact our "typesetter" indiscriminately printed "coronet" instead of "coronet" in one of the groups. Bob Smith also gave his reasons for picking the correct "odd one out" to the following groups, which were:

Violin, cello, harp, CORNET, viola, piccolo.
"It doesn't give you indigestion when you eat it."
Humbug, liquorice, bullseye, butterscotch, SWERT PEA, toffee.
"The only one that doesn't make a noise when sucked in the cinema."
Ghost, PHAETON, spook, spectre, wraith, spirit.
"It's the one Charles Dickens rode in while writing "A Christmas Carol".

Congratulations to Bob Smith, with a honourable mention going to our adventure columnist Robert Cleminson (but of course, we can not show favouritism!)

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