BYTE BACK

"ByteBack"

ISSUE 2 • SEPTEMBER • 1993

75p

THE MAKING OF BYTEBACK

HOW THIS PROJECT COMES TOGETHER FOR EACH ISSUE

WHAT EQUIPMENT EXISTS AT THE BYTEBACK OFFICE

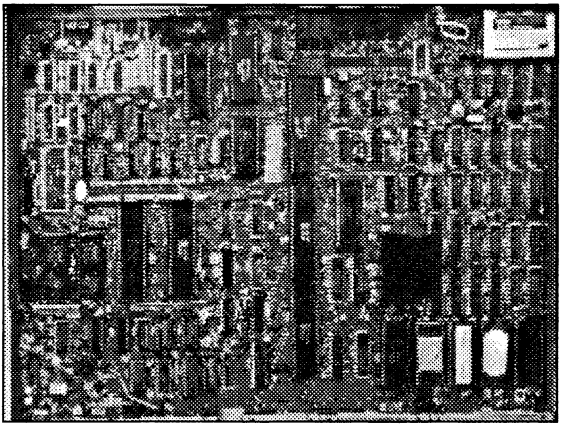
WHAT FILE FORMATS CAN MY BEEB UNDERSTAND

"THE YEAR OF THE MOUSE"

BUT WHICH YEAR WAS IT?

BAT 'N' BALL

A TOUCH OF 70'S MEMORABILIA



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- **EDUCATIONAL SECTION**
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- **CLASSIFIED ADS AND SERVICES**
- **HINTS AND TIPS**
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BYTEBACK - THE MAG YOU CAN READ BETWEEN MAGAZINES WITHOUT RUINING YOUR APPETITE!

A DIFFERENT WAY OF LOOKING AT YOUR BBC MICRO

EDITORIAL

ByteBack: The Early Years.

My intention for the magazine is first and foremost a contact point for BBC users, wherever they may be, and secondly a source of inspiration. My job is to keep the ball rolling, correlate all the information into an interesting, useable form, and along the way, basically have fun with my BBC Micro.

Your Mission: It's true that I wear the Editor's Hat, which only means I have the privilege of having final say on what gets into the magazine. It doesn't mean that I write the whole bloomin' thing! That's your job. I thank you if you have become a subscriber - you are the backbone to this little project. But it doesn't stop there. I would like all of you on my editorial team, discovering tips, ideas, articles of any kind to include in YOUR magazine. If I don't get anything to put into ByteBack, it will get boring - TRUST ME!

Here are a few ideas for articles to submit...

Reviews: hardware or software you use. It can be a bad piece that we should all avoid, or an item you just can't live without. A possible idea would be to suggest a topic of review for the next issue of ByteBack, say word processors, and then everyone who has one (or more that one if you're flash) could write in with their reviews of them, and I will dedicate a complete section to it in the magazine. This way, you get a more objective view from people who actually use the item in question.

The more obvious: Tips, Ideas, useful shortcuts, any little 'gems' that you use to make your computing more productive and enjoyable. There are loads of little pointers that make using the BBC so much easier, such as useful function key definitions for writing programs in Basic.

Programs: Anything you have written, whether it be three lines of code or of epic proportions, a game, utility, literally anything.

Tutorials: It could be just a one off article on a particular subject that you know something about (whatever it may be, it doesn't matter), or a series of articles running over several issues. If you have a little insight into something profoundly BBC-ish, somebody is bound to find it useful or interesting.

Interfacing: We should all be aware of the interfaceability (is that a word?) of the BBC, without having to resort to extra costs of hardware. There are many projects available for the Beeb, namely Light pens, Robots, Concept Keyboards, whatever. If you've got a clever, useful, interesting or just plain BBC-compatible hardware/software project that works, ByteBack would be pleased to make it famous. It may be that you could offer the parts or the kit ready assembled for a price - it would be nice to see BBC users making a little money from their machines.

Enterprise: Can you offer a service to other BBC Micro users? Perhaps you can fix a faulty keyboard, or add a volume control, etc. Make your skills known to the nation (a percentage of the nation at least).

I have noticed almost all "professional" magazines have "...copyright, all rights reserved, cannot be reproduced in any way whatsoever..." all over it. Everything in ByteBack that is a product of something I do is public domain - do with it what you want. I like the idea of programs that are submitted being left open for anyone to type, develop and re-release as an 'upgrade' rather than restricting its use (abuse?). That way, as BBC users, we all get the best deal. However if you submit an article or program that you would like to keep the rights to then that's fine too and I'll make sure a note to that effect is put alongside the article. BB

CONTENTS

EDITORS' PLEA - Can you help?
I have a friend in need of your support and he has turned to us loyal BBC "friends" because he believes in our moral support. The situation is thus: He happens to have the original of "Play It Again Sam 7" surplus, which is causing him some concern; he wants to keep it but due to unusual circumstances(?!) he must give it up, but only to a loving BBC owner who will take good care of it. Could you persuade him with your £££? If you can, call Tim on 0525 715013. And please, be gentle... BB

EDITORIAL CONTINUED

Among the many questions I have been asked by some of you, a popular one has been along these lines: "Why on earth are you spending time producing something for a computer that's 'dead' amidst a number of longer, well established 'competitor' groups, when none of it is gonna make you a single penny richer?..."
Well, if I'm completely honest, I don't really know why; I do know that I enjoy my BBC Micro. Rediscovering my Beeb just a few months ago was also the time I discovered the likes of 'Solinet', '8-Bit Software', 'Electron User Group', 'Beebug' etc, and I may well be years behind most of you - but I'm having a lot of fun! I actually don't mind how far behind I am, it means I've got years of established material to keep me interested (actually 10 volumes of Beebug)...! BB

BYTEBACK CIRCULATION

At time of "going to press" (there's no harm in thinking BIG is there?), the number of people who have received the first issue of ByteBack is a little over 40. Of these, 10 of you have committed your hard-earned couple of quid to issues 2 and 3. I hope to produce one issue a month unless that becomes too difficult to do (see 'Subscriptions' on page 14).
I don't expect to compete with the stronger BBC user groups I've mentioned, what's the point of that except a lot of wasted effort. It just so happens that I am now a subscriber to Beebug myself and I find it a very informative read. If you aren't familiar with these other groups, you could do worse than contacting them (details also on page 14).
I just want to be able to share the bubbly feeling I have for my 8-bit setup with other people who are equally as 'sentimental'. BB

This is Vintage BBC...

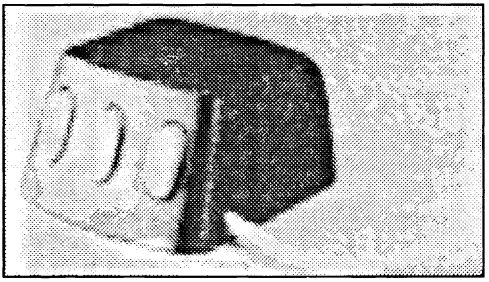
NEWS

This issue, we look at BBC activity from September's issue of "The Micro User", 1984

THE future of the BBC Micro has been assured for another four years with the signing of a new contract for its manufacture and distribution. This is a setback for Sir Clive Sinclair's often expressed hopes of increasing his share of the educational market. Commenting on the deal, Acorn's Chris Curry said: "The BBC Micro is, and will remain, the keystone of an expanding system, capable of meeting the needs of a wide range of users. Acorn, in association with the BBC, will be developing the system further to ensure it benefits from future technology, while maintaining its unique core of compatibility".

THE YEAR OF THE MOUSE

THIS year will be remembered as the year of the mouse, according to Nick Pearson, sales director of Advanced Memory Systems of Warrington. His firm has devised a mouse for the BBC Micro which is being unveiled at the Electron & BBC Micro User show in Manchester at the end of August. A mouse is a tethered electronic box that you roll over your desk like a Dinky toy. This action moves the cursor around the monitor screen of your micro. The mouse also has push buttons for entering commands. Says Pearson: "A mouse is not just a nifty way of moving the cursor. It is more like light pens or bit pads than cursor keys. And it's amazingly easy to use". According to Pearson, the mouse offers BBC users a whole new approach to working with computers. It also offers them ikon technology. Ikons are little graphic symbols which represent the services on offer from your micro. For example, a picture of a filing cabinet represents a file, and if you point the cursor at a picture of a waste bin, you can use it for getting rid of information you have finished with. The AMX mouse comes complete with ikon software, but it also works with present BBC software, making it quicker and easier to use - especially for games and word processing. The price is expected to be around £80, and Pearson is anticipating sales of between 1,000 and 2,000 units a month. With first deliveries planned for October, he expects to supply 5,000 or more units during the run up to Christmas.



Compared to modern mouses (mice?) of today's computers, this rodent certainly lacks a little style when it comes to ergonomics and comfort of use...

ABM ON TARGET

THE mysterious Acorn Business Machine range is still on schedule to make an appearance in September, according to a source close to the company's decision makers. The ABM is said to be a full scale business micro incorporating integral screen, disc drives, and including "significant" bundled-in software. As a late entrant to the competitive single-user small business market, its penetration is a matter of conjecture. Even the price range produced a "no comment" response from official Acorn channels.

The Postbag
LETTERS

Thank you to everyone who has taken the time to write in. You will see from the letters that interest in the BBC Micro is still strong and varied. Do you have something to share?

What a great idea! I have become somewhat disenchanted with Acorn User in recent months - most issues contain almost nothing of interest to me as a serious but not particularly knowledgeable BBC B user! I assume that you are looking for profiles of interests of potential readers of ByteBack, so herewith a summary of my position and interests. I am a recently early-retired Chartered Engineer, looking for consultancy, part-time or contract work, who has used computers as a convenient tool for a quarter of a century without needing to become expert in any one single kind of application. I am seriously looking into getting a PC, at the 486-DX level which will be the minimum needed for serious stress analysis using Finite Element methods or for CAD. But when I talk to dealers about my needs in this respect, and say that I want to keep my BEEB and want to be able to transfer data between the machines, because there is a lot that the BEEB can do that a 486 can't, I get accused of sentimentality! But it's true, at least for my kind of applications. It's not just the ability to interface with a wide range of other devices; this is something I have not attempted until recently, though when I tried for the first time (to a little known device called a QWERTYphone) I was surprised how easy it was to get it working. For me the value lies in things like the incomparable BASIC, and the ease of doing modest number crunching using Vine Micros' Matrix ROM. I have not found anything available for PCs that can do what the Matrix ROM does for less than several hundred pounds. Another thing is that the System is simple and versatile enough for me to feel that even with my limited knowledge I have a sporting chance of poking it into doing what I want it to do, not just what the business/games orientated software merchants produce. Perhaps an even more important reason for me keeping my BEEB going is the amount of data and self-generated software I use regularly, which I have neither the time nor inclination to transfer to another system!...

Query: I use Micro-Aid's "Family History System" on my BBC B with Watford DFS, 32k RAM and ROM/RAM (48k) boards. I have never been able to get the enhanced memory version (ETREE++) of the Family History System working to take advantage of the extra memory beyond the screen memory released by the Shadow RAM, even though the Micro-Aid Manual claims a much larger increase of available memory is possible. Can anyone help?

A.G.R.Thomson, Letchworth, Hertfordshire

I would be very interested in supporting ByteBack. I have used many computers and systems, from the humble BBC B to IBM mainframes, but I still find the Acorn machines the most friendly and charming to use. My BBC B is still around after 11 years, (and unlike others, remains cream in colour). I write regularly for Online, and Archimedes fanzine, which is published entirely on Arcs. It was also started up by enthusiasts and has now grown considerably. So perhaps there is the potential for support and help to such a new venture...

Barry Horsburgh, Peeblesshire, Scotland

More Postbag
LETTERS

I read your letter in the August issue of Acorn User and I too would like to learn more about the BBC Micro. (I am 69 years of age). I purchased a BBC 2 micro 32k in 1984 together with a tape cassette recorder and a TAXAN/KAGA printer. I have written a number of small programmes for investment records and tax returns but have relied on commercial tapes for database and word processing. I am in the process, through Watford Electronics of purchasing a DDFS, CLS400S disc drive, a 32k RAM card and a ROM, INTER-WORD. My problems in the past have been that I have not been able to speak to a BBC "fellow" on my particular problem. I did attend evening school in the past but in this part of the world we only have general courses which the tutor had copied from the BBC Basic Handbook and was not able to answer questions outside of the set piece. Concerning my problems, I have either failed to solve them or have been lucky to have hit upon the answer without knowing how. I am not interested in games because I feel that this computer has a very valued place in education and as a home computer can produce exceptional work in the field of taxation, investments, charts and databases.

B.W Baker, Raymonds Hill, Axminster

I would be pleased to have information about your magazine. I use a BBC Computer but have only started recently and there is not a lot of info about.

W.A Duff, Ayr, Ayrshire

I read your Star Letter in "Acorn User" with great interest. It seems to me, that once again, keen BBC users have become the victims of built-in obsolescence. (It happened to me when I bought an Electron for my children). I am a teacher, just retired and used both a BEEB B and Master with my class. On my retirement last month I picked up a Master Compact very reasonably priced. You'll appreciate that I'm not really into games or fancy graphics - I just want something with which I feel at ease and on which I can do word processing, databases and spreadsheets. The word processing is no problem for I have a W.P that was created by a Leeds teacher, but as for the databases and spreadsheets no one around here seems interested in the Compact. I'm now wondering if I made a bad choice when I snapped up the "bargain". Perhaps ByteBack is a way to resolve my current crisis. All success to your venture; there must be countless 8-bit users out there who are looking for such a support group.

Brad Bradshaw, Newlaithes Road, Horsforth

ED: You could be right about the number of 8-bit users, the question is: where do you find them?!..

Although a PC user, I still also own and use a BBC B. I am interested in programming to some extent, also in home-made hardware!

C Lawson, Green Lane, Burtoft

What a coincidence, that's the first Acorn User I've bought for nearly three years, when I, as must have many others, was not satisfied with the magazine, for two reasons: there just wasn't the material and any that there was wasn't challenging or satisfying. By this time, many BEEB owners will have explored their BEEB to the last bit, can strip the protection off any BEEB piece of software and were generally using and abusing their machine to its full potential. So when an article explaining how to write BASIC programs cropped up, well, I don't think patronising is a strong enough word. A friend, my brother and myself are all extremely interested in any project such as you propose and are very willing to donate any knowledge, articles, hacks, etc, etc. I assume you aim to target the fanzine at the more avid BEEB user who uses their BEEB in more complex fashions; most will be able to program 6502, certainly BASIC. Any help with subject matter please say.

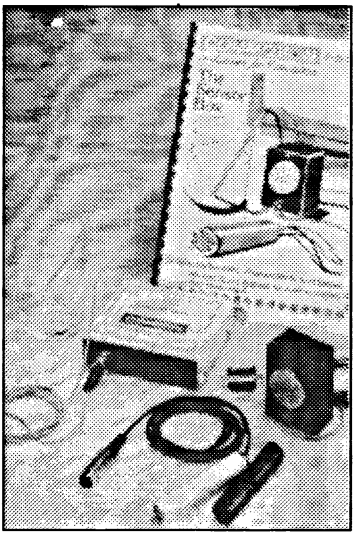
Stephen Youell, Sandy, Bedfordshire

The BBC Micro in
EDUCATION

Have you asked your BBC what it thinks about the world it lives in? Why not?

INTERFACING. That's one area of computing that many schools who delve into it find so rewarding, and something of a forte to the BBC Micro. Having been well endowed with Input/Output sockets of every description, it seems only right that there should be plenty of ways the BEEB can be allowed to teach us more about the world around us in ways other than a simple program simulation - it's totally possible to let the BBC take in feedback from its surroundings and present the results in a way that captures peoples' attention with more expression than a humble TV/Monitor could ever show.

ROBOTS: born out of science fiction and now a distinct part of our lives, in the production of cars, circuit boards, factory assembly lines, etc. Yet for many of us, the term 'robot' means much more than that; in our minds, the robot conjures up images of an intelligent life-form, a friend, a helper. Children are normally mesmerised when they see a 'robot arm' picking up objects and moving them, a 'turtle' drawing out a picture or following a line that they have drawn on paper. There is so much for a child to learn from a few connections to the BBC and a few lines of code: a probe that reads temperature, dip it into water, hold it in your hand...now squeeze it tighter and what happens? How about a sensor that reads light levels: put the sensor in a box and an 'alarm' sounds on the BBC. Switch out the light, then when it's switched on, the computer reports an 'intruder', the very basis of many security and burglar systems in use today. The list of applications is endless and I believe that children can learn a lot more from putting together an exercise like this than from a purely verbal lesson on light, heat, sound, etc - what a brilliant partner for any science teacher to have!



WHAT CAN I DO ABOUT IT?

COMMOTION, a company based in Enfield, with ten years experience in service to schools, supplies everything you could possibly want in your quest to let your BBC express itself, from complete kits - a basic 'buggy', an extended I/O control package - down to individual project parts you can select to suit your particular experiment. There are motors, gears, LEGO, switches, bulbs and balsa wood galore, plus a selection of tools to help you put it all together. I've always been interested in interfacing my BBC to run robots, control lights, motors, etc; a ten minute read through Commotions' catalogue of products had me almost reaching for my toolbox and stash of DC motors. The only thing that stopped me was the fact that I was writing this article at the time, ehem...

If you haven't yet stepped into the realm of computer interfacing and your interest in computers extends beyond word processing, then I can recommend giving Commotion a ring for their catalogue, ordering up some bits and pieces and getting stuck in. I'm pretty confident that once your BBC has given its first response on its surroundings, you'll be well and truly hooked! BB

Public Domain &
SHAREWARE

One disc on review this month: Disc #105 from BBC PD - Education for young kids

Disc #105 contains twenty menu-driven programs on a double-sided disc which have been written by Jim Stark and the collection is entitled "Programs for Children". Subjects covered includes basic maths, spelling, logic telling the time, colouring, music and naming objects. The titles of the twenty programs are as follows:

Side 0 -

Caroline and Phillippa's house 
Caroline and Phillippa's men (?!)
10 green bottles
Jill and Bill the friendly engines
The maze
I can count to 9
Snap shapes 
Colouring shapes
Dial a tune
Dial a Christmas tune

Side 2 -

I can add
I can spell
I can draw with the computer
Hangman 
I can tell the time
Nim
Finding numbers
Hide and seek
Maths crosswords 

I have marked my personal favourites with the  (well, it seems that with Jurassic Park, he's been seen in and on everything else, why not in ByteBack?) **Caroline and Phillippa's house** involves simply pressing any key continuously. After each press an additional feature in the present room of the girl's house is displayed - the ceiling, the wall, the floor, the window, the curtains, the table, the chair, the painting, etc and finally Caroline and Phillippa - in psuedo 3-D and in lots of colour. After one room, the picture scrolls up off the screen and the 'tour' continues. I found this so interesting and visually appealing that I had to stick around to see the whole of the house!

In **snap shapes** (a game for two players only), a number of randomly selected shapes are displayed in pairs, one at the top left and one at the top right of the screen, while along the bottom of the screen are two 'tracks' with a train for each player at the left hand end of the relevant track. When the two shapes displayed are identical, player one has to press key 1 and player two has to press key 0; the first player to press their button gains the point and their train moves one space to the right. If a player presses their button when the two displayed shapes are different, their train moves back a space. The aim is to reach the right end of the track. (Believe me, it has more playability than this review lets on!)

Hangman is a reasonably well known little game (a pygmy in the African rain forest hasn't heard of it yet), so I won't go into too much detail except to say that it's a version (played entirelv in MODE 7) that seems to have everything a good game of Hangman should. You are given a clue to the mystery word , ie, "it's a flower", and from there it's random-key-press city. Each pressed letter is shown on screen along with the dashes indicating the hidden word and a reasonable rendition of a hung man (when you lose that is...)

Finally, **Maths crosswords** involves finding the answers to the puzzle by solving basic maths problems. A 'crossword' is shown and a 'theme' for the puzzle is given, ie "this will give the name of five parts of the body", and each letter appears in a simple equation, for example: R=12-5. The answer, if given correctly (in this case 7) causes the letter R to be added to the grid at square 7, and so on.

You'll have to check out the other programs yourself, but I have to say I had a lot of fun! BB

The making of
ByteBack

It has become apparent to me that readers may be interested in how ByteBack is actually produced. If that's you, read on, as all will hopefully be revealed.

RESEARCH AND MATERIAL ORGANISATION

This is a posh way of saying I scoop up all of your letters, wade through them and pick out the best bits. If there aren't any, I use the next best bits. If there aren't any, I use...well, you get the picture. If there aren't any best bits at all, I make them up (joke). Sometimes I get information from outside sources, equipment suppliers, anyone dealing with the BBC, other magazines, anything that seems interesting to put into the magazine.

DOCUMENT SETUP AND KEY INFORMATION ENTRY

Basically I sit at my Apple Mac computer and organise the magazine within the DTP (Desktop Publishing Package) I design it on. Each page is allocated, numbered and the different subjects for that issue are given their place on the respective pages. For articles that run over more than one page, those pages are linked so that text overflowing from the first page automatically appears on the following page.

TEXT ENTRY

Here's where the articles are actually keyed in. If the text has been supplied on a disk from a BBC word processor or if it's a BBC program, the relevant files are *TYPE-d and as the text scrolls up the BBC screen, it appears on the Mac, courtesy of a long cable between the BBC RS423 and the Mac serial port. This is a far quicker way to enter text into the magazine!

LAYOUT ALTERATIONS AND 'TOUCH-UP'

The text, once in the relevant ByteBack document pages, has to be tidied. Sub-headings and pictures are added where applicable (or where there's a bit of empty space on a page), and text is edited to fit.

PROOFING

A copy or two is printed out on a laser printer, put together like a magazine, and proof read (normally by three or four people, and then by me again). Errors and corrections are marked on the copy, then corrected in the DTP program. Another copy is run out and again it's proof read. This process can repeat more than four or five times before the final copy is produced.

FINAL OUTPUT

The most economical way (but not the quickest) is to produce each copy directly from the laser printer. Using a photocopier is too expensive. Hopefully I will soon be able to buy a second-hand photocopier for about £150, that will make things easier and quicker to output. Finally, all the pages are put together in order, stapled and then the booklet is folded. Each copy is stuffed into an envelope, sealed and a label is printed from the Mac to go on the envelope. The last thing is to post them.

HEY PRESTO

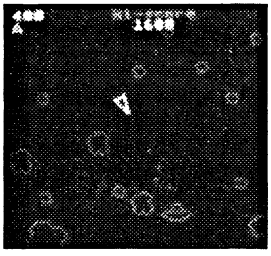
And that's it! Although the process is made up of six distinctive stages, there's a lot of time and work in each of them that this description doesn't properly justify. However, the inclusion of articles and letters from you makes my job a whole lot easier, and makes for a much more interesting read - hopefully... BB

"Classic" Games Software
REVIEWED

Two 'classic's for this month: Acornsofts' "Meteors" and "Snapper"

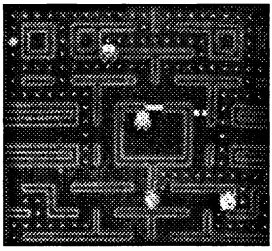
A number of the more senior ByteBack readers have expressed a certain distaste with the thought of using their BBC'S for mere games playing, while a few of the younger folk still feel that the BEEB is a worthy contender in the present home computer games' arena. Well, you can't please all of the people all of the time - we'll just deal with those people we can please by reviewing a select few of the most memorable feats of computer programming in BBC history: you may dislike computer gaming yet still marvel at the ability of an 8-bit machine to produce programs of such high quality...

METEORS



Based on the Atari arcade machine 'Asteroids', which I believe was the first arcade game to feature "vector graphics", you are a lone starship in the middle of an asteroid field, somewhere in space. Your task is quite basic and it's called staying alive (not the film). Equipped with a basic gun, you float around the screen blasting asteroids into smaller asteroids, which break into smaller asteroids, and then these little rocks can be obliterated by a further shot from your cannon; the smaller asteroids move a lot faster than the large ones! If the going gets really rough you can use the 'hyperspace' feature which will transport you randomly to another place on the screen, sometimes into the path of another asteroid! At regular intervals one of two types of passing alien space craft flies across the screen firing indiscriminately - the smaller of the two has an uncanny nack of always hitting you, even if you're moving around. I've got to say that this was my favourite arcade game of its time (early 80's) and the BBC version is a very faithful rendition of the black and white original, with the addition of a little colour. Good Game, Good Game...

SNAPPER



Another of the Acornsoft success stories, this game was based closely on the arcade hit, "Pacman" (so closely in fact that Acornsoft had to alter the leading character in their initial version of the game - the pacman - to a different chappie due to copyright infringement: I wonder if anyone still has a copy of that version...?). You take control of the little chap within a maze of dots which you must walk over (eat?) to complete the level and start over. There are four 'meanies' that patrol the maze and eventually chase you: any contact with one of them proves to be fatal, unless you have previously munched on one of the four power pills, situated at the four corners of the maze. You will then have a few brief moments to get your revenge on the meanies by walking into them sending them back to their little lair at the centre of the maze, only to re-emerge moments later, fully restored and ready to chase you again. Periodically a piece of fruit appears near the centre of the maze for bonus points and at centre left and right of the screen is a path of the maze which if taken will 'flip' you to the other side of the screen.This is another game that is worthy of 'classic' status, but once you've mastered the first couple of levels, it doesn't get very much more difficult... BB

Inside the ByteBack
OFFICE

After reading several thousand interested BBC users' letters that come bundling into the ByteBack office every day (Editors' licence to exaggerate facts liberally exercised), I have come to the conclusion that it may be useful if I include some information about myself (no, only the interesting bits, or perhaps the most interesting bits, however you look at it) so that you know what equipment I have and what format of disc I can handle, what word processing format I can translate, etc. So, without further ado, please take note of the following:

EQUIPMENT...

BBC issue 7, O.S 1.2, BASIC 1.2
3 1/2" and 5 1/4" disc drives, 80track
Watford 'Standard' DSDFS (Single/Double Density) using 1770 disc controller
128k Solidisk Sideways Ram

BBC issue 3, O.S 1.2, BASIC 1.0
5 1/4" disc drive, 40/80track switchable
Acorn 1.2 DFS using 8271 disc controller
Watford Rom expansion board
Watford 32k Shadow Ram board

A number of Roms, including:
Inter-Word
View
View Professional
Wordwise
Wordwise Plus
Inter-Chart
Gremlin
Toolkit
Toolkit Plus
Sleuth
Exmon II
DiscDoctor
Enigma Disc Imager
Commstar
Communicator
Terminal
Watford 'NLQ'

There are also a pair of BBC joysticks, almost complete collections of BBC Micro User, Acorn User and BEEBUG and an extensive collection of original games software, gained over a long period of time (much of this is available for sale, along with a number of good BBC books, see CLASSIFIEDS, page 13).

OTHER NON-BEEB EQUIPMENT:

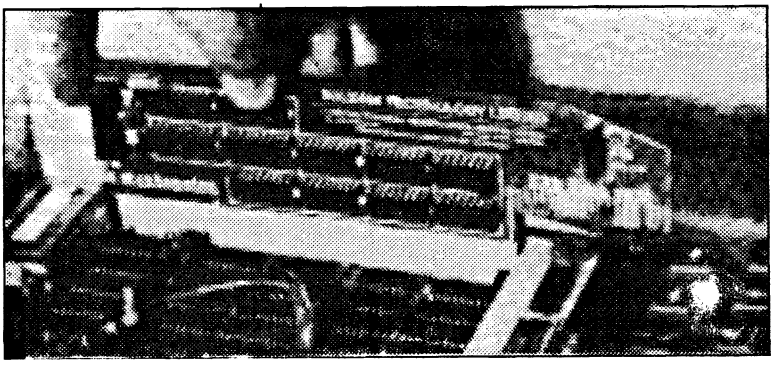
Apple Mac IICX and IISi systems
Syquest 44MB Removable Hard Drive
Laser Printer (300dpi)
Amstrad Fax Machine

When submitting anything for ByteBack, could you also supply it on disk if at all possible? That includes all letters that you send too. I appreciate that some people don't have access to a printer to produce a hardcopy letter as well; it's nice to be able to read your correspondence over my tea and toast in the morning. Discs, etc will of course be returned.

FINALLY

Normally, when a letter is sent to me regarding ByteBack, I'll pick out bits to include in the letters page. If you would rather I didn't print your letters, let me know when you send them in and I'll keep it to myself.

Over and out... BB



A touch of Class...

BAT'N'BALL

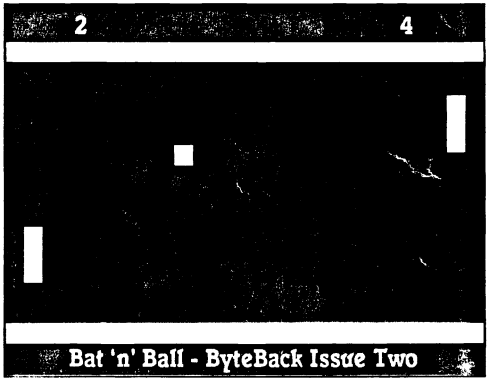
In tune with this months early-games reviews, I present *the* 'classic' of all time, which pre-dates even the BBC itself. Experience 1970's technology

Caught up in the swirl of vintage computer entertainment prompted me to create what must surely be the predecessor to *every* video game: a humble rendition of the original, 'Bat and Ball', which featured on every Binatone TV Console of the late 70's. You control the bat using up and down keys only. The game can be played against the computer or another mere mortal and the first person to reach 5 goals wins the round. Befitting its era, the look of the game is distinctly pre-'interesting'; there's virtually no graphics to speak of, and the sound has been limited to the odd squeak when the ball 'bounces' off a surface

```
10 REM BAT N BALL
20 REM ByteBack Issue Two
30 REM September 1993
40 :
50 computer%=FALSE
60 MODE7:VDU23;8202;0;0;0;: PROCrules
70 REPEAT
80 PROCsetup
90 *TV255
100 MODE4:PROCscreen
110 VDU23;8202;0;0;0;
120 PROCserve
130 REPEAT
140 PROCball
150 IF hits%<5 delay%=50
160 IF hits%>5 AND hits%<20 delay%=20
170 IF hits%>20 AND hits%<40 delay%=5
180 IF hits%>40 delay%=1
190 FOR L=1 TO delay%:NEXT
200 PROCleft_bat
210 IF computer% PROCcomputer ELSE
PROCright_bat
220 IF INKEY(-83) colour%=colour%+1:IF
colour%>7 colour%=1
230 IF INKEY(-83) VDU19,1,colour%,0,0,0
240 UNTIL game_over%=TRUE
250 PROCgame_over
260 UNTIL The_Second_Coming
270 :
280 DEFPROCleft_bat
290 IF NOT(INKEY(-17)OR INKEY(-98))ENDPROC
300 IF INKEY(-17) AND l%>3 PRINTTAB(1,l%)
nobat$:l%=l%-1:PRINTTAB(1,l%)bat$
310 IF INKEY(-98)AND l%<26 PRINTTAB(1,l%)
nobat$:l%=l%+1:PRINTTAB(1,l%)bat$
320 ENDPROC
330 :
340 DEFPROCright_bat
350 IF NOT(INKEY(-57)OR INKEY(-105))ENDPROC
360 IF INKEY(-57)AND r%>3 PRINTTAB(37,r%)
nobat$:r%=r%-1:PRINTTAB(37,r%)bat$
370 IF INKEY(-105)AND r%<26 PRINTTAB(37,r%)
nobat$:r%=r%+1:PRINTTAB(37,r%)bat$
380 ENDPROC
390 :
400 DEFPROCball
410 IF y%+yd%>28 OR y%+yd%<3 yd%=-yd%:
SOUND2,-15,100,1
420 PRINTTAB(x%,y%)CHR$(32):x%=x%+xd%:
y%=y%+yd%:PRINTTAB (x%,y%)ball$
430 IF (x%+xd%)>36 PROCcheck_right
440 IF (x%+xd%)<2 PROCcheck_left
450 ENDPROC
460 :
470 DEFPROCgame_over
480 *FX21,0
490 SOUND1,-15,136,1:SOUND1,0,0,1: SOUND
1,-15,136,1
500 PRINTTAB(9,8);"Another Game (Y/N)?"
510 G$=GET$:IF G$<>"Y" AND G$<>"y"VDU22,7
: PRINT"Don't Forget To Subscribe to
ByteBack!":END
520 computer%=0:PROCone_or_two_players
530 game_over%=FALSE
540 ENDPROC
550 :
560 DEFPROCcheck_left
570 IF y%=l%OR y%=(l%+1)OR y%=(l%+2) SOUND
1,-15,200,1:xd%=-xd%:hits%=hits%+1:ENDPROC
580 FORS%=50 TO 10STEP-10:SOUND1,-15,S%,1:
NEXT:score_right%=score_right%+1 :PRINT
TAB(33,0);score_right%
590 PRINTTAB(x%,y%)CHR$32
600 FORloop1%=1 TO 4:PRINTTAB(0,y%)ball$:
FOR loop2%=1 TO 1500:NEXT:PRINT TAB (0,y%)
CHR$32:FOR loop2%=1 TO 1500 :NEXT: NEXT
610 IF score_right%>4PROCright_wins: ENDPROC
620 hits%=0
630 PROCserve
640 ENDPROC
```

BAT'N'BALL - CONTINUED

```
 650 :
 660 DEFPROCcheck_right
 670 IF y%=r%OR y%=(r%+1)OR y%=(r%+2)SOUND
1,-15,200,1:xd%=-xd%:hits%=hits%+1:ENDPROC
 680 FORS%=50 TO 10STEP-10:SOUND1,-15,S%,1
:NEXT:score_left%=score_left%+1:PRINTTAB
(5,0);score_left%
 690 PRINTTAB(x%,y%)CHR$32
 700 FOR loop1%=1 TO 4:PRINTTAB(39,y%)
ball$: FOR loop2%=1 TO 1500:NEXT:PRINT
TAB(39,y%) CHR$32:FOR loop2%=1 TO 1500:
NEXT:NEXT
 710 IFscore_left%>4PROCleft_wins:ENDPROC
 720 hits%=0
 730 PROCserve
 740 ENDPROC
 750 :
 760 DEFPROCcomputer
 770 IF RND(100)>99 ENDPROC
 780 IF (xd%<0 AND RND(100)>25) ENDPROC
 790 IF r%<y% AND r%<26 PRINTTAB(37,r%)
nobat$:r%=r%+1:PRINTTAB(37,r%)bat$
 800 IF (r%+1)>y%AND r%>3PRINTTAB(37,r%)
nobat$:r%=r%-1:PRINTTAB(37,r%)bat$
 810 ENDPROC
 820 :
 830 DEFPROCserve
 840 FOR loop%=1 TO 1000:NEXT:hits%=0
 850 PRINTTAB(1,l%)nobat$;TAB(37,r%)
nobat$
 860 x%=17+RND(5):y%=10+RND(5):l%=15:
r%=15: xd%=1:yd%=1:IF RND(4)>1 xd%=-1
 870 IF RND(4)>1yd%=-yd%
 880 PRINTTAB(1,l%)bat$;TAB(37,r%)bat$
 890 PRINTTAB(15,6)"READY ?"
 900 FOR Loop%=1 TO 8000:NEXT
 910 PRINTTAB(15,6)"       "
 920 ENDPROC
 930 :
 940 DEFPROCleft_wins
 950 game_over%=TRUE
 960 PRINTTAB(10,6) "Player One Wins!"
 970 ENDPROC
 980 :
 990 DEFPROCright_wins
 1000 game_over%=TRUE
 1010 IF computer% PRINTTAB(14,6)"I Win!"
ELSE PRINTTAB(10,6) "Player Two Wins!"
 1020 ENDPROC
 1030 :
 1040 DEFPROCone_or_two_players
 1050 PRINT''"1 or 2 Players (1/2) ?"
 1060 G$=GET$:IFG$<>"1"AND G$<>"2"GOTO1060
 1070 IF G$="1" computer%=TRUE
 1080 ENDPROC
 1090 :
 1100 DEFPROCscreen
 1110 PRINTTAB(0,3)edge$;TAB(0,30)edge$
 1120 PRINTTAB(5,1);score_left%; TAB(33,1);
score_right%
 1130 PRINTTAB(0,31)"BAT 'N' BALL -
ByteBack Issue Two"
 1140 PRINTTAB(1,l%)bat$;TAB(37,r%)bat$
 1150 ENDPROC
 1160 :
 1170 DEFPROCrules
 1180 PRINTCHR$141;CHR$131;" BAT and BALL -
1993"'CHR$141;CHR$131;" BAT and BALL - 1993"
 1190 PRINT'"Based on the classic bat and
ball gameof the '70's, your task is to
keep the 'ball' in play by defending your
'goal' at either edge of the screen."
 1200 PRINT'"The game starts off easy but
WATCH OUT! After 15 hits the game speeds up."
 1210 PRINT'" The first person to reach a
score of 5 wins the game."
 1220 PRINT'"The control keys are as follows:"
 1230 PRINT"Q          LEFT          ["
 1240 PRINT"Z          RIGHT         /"
 1250 PRINT'"C changes the screen colour
when in play"
 1260 PRINT'CHR$136;CHR$130;" Best of luck!"
 1270 PROCone_or_two_players
 1280 PRINT''CHR$133"Any key to continue."
 1290 REPEAT UNTIL GET$<>""
 1300 ENDPROC
 1310 :
 1320 DEFPROCsetup
 1330 x%=17+RND(5):y%=10+RND(5):l%=15:
r%=15:xd%=1:yd%=1:IF RND(3)>1 xd%=-1
 1340 score_left%=0:score_right%=0:
hits%=0:colour%=7
 1350 The_Second_Coming=FALSE:
game_over%=FALSE
 1360 VDU 23,38,255,255,255,255,255,255,
255,255
 1370 VDU 23,48,126,66,66,66,66,66,66,126,
23,49,24,8,8,8,8,8,8,8
 1380 VDU 23,50,126,2,2,126,64,64,64,126,
23,51,126,2,2,62,2,2,2,126
 1390 VDU 23,52,66,66,126,2,2,2,2,2,23,53,
126,64,64,126,2,2,2,126
 1400 VDU 23,54,126,64,64,126,66,66,66,126,
23,55,126,2,2,2,2,2,2,2
 1410 VDU 23,56,126,66,66,126,66,66,66,126,
23,57,126,66,66,126,2,2,2,126
 1420 edge$=STRING$(39,CHR$38)
 1430 bat$=CHR$38+CHR$8+CHR$10+CHR$38+CHR$8
+CHR$10+CHR$38
 1440 nobat$=CHR$32+CHR$8+CHR$10+CHR$32+
CHR$8+CHR$10+CHR$32
 1450 ball$=CHR$38
 1460 ENDPROC                                BB
```



Don't tell me you've never played this game before 'cos I won't believe you. Perhaps we could use this for a "Spot-the-Ball" competition...

For Sale:
CLASSIFIEDS

★ A large variety of ROM software available, including INTER-WORD, Communicator, Inter-Sheet, Wordwise-Plus, from £4.00. Also a variety of books, (machine code and user guides). **Contact Martin: 0270 761928 (8pm-9pm)**

★ Microvitech Colour Monitor, (black metal case), with manual, fully working, excellent quality improvement over T.V display, 80-column text very clear, including BBC cable, £85 ovno. **Contact Paul: 0992 652066**

★ Acorn Electron, Plus 1, Plus 3, disc drive, two joysticks, Electron mags, lots of software, only £115. **Contact Mr P Jackson: 0274 596407**

★ BBC Issue 7, mono monitor, Panasonic printer, disc drive, Rom expansion board, 16 SWR, Wordwise Plus, AMX Super Art, mouse, joystick, many games, £200. **Contact Mr J Gaynor: 081 946 4193**

★ Printer: Star LC200, colour 9-pin Dot Matrix with listing and single sheet feeders, 4 NLQ fonts, 2 draft fonts including hi-speed draft. As used for a number of ByteBack letters that were sent out! Terrific printer for any BBC setup, £130. **Contact Paul: 0992 652066**

★ BBC B 1770 DFS, 32K SWR, ZIF socket, Wordwise Plus, Rom Image disc, £100. Twin 40/80TK Cumana disc drives, £75. 6502 Second Processor, £50. Various tapes, discs. **Contact Mr R Bishop: 0865 62688**

★ Teletext adaptor, £60. Cumana 5.25in disc drive plus 150 discs, £55. Nightingale modem, Commstar and Autodial board, £65. **Contact Mr R Wilcox: 0222 598062**

★ Star LC24-15 printer, six new ribbons, continuous paper and labels, little used, £175. **Contact R Iles: 0239 811203**

★ A wide selection of 100+ games on cassette and disc, from the early '80s onwards, including: Planetoids, Rocket Raid, Snapper, Philosophers' Quest, Sphinx Adventure (Acornsoft), Chuckie Egg, Painter (A&F), Blagger, Tarzan (Alligata), Pole Position (Atari), Twin Kingdom Valley (Bug-Byte), Yie Ar Kung Fu (Imagine), Ghouls, Chess, Jet Power Jack, Killer Gorilla, Swoop (Program Power), Invaders, Overdrive, Thrust (Superior Software), etc, from £1.75-£5.00. Also many books for the BBC including M/C programming, Adventure writing, Interfacing projects, Forth, Pascal, Lisp manuals, from £4.00. **Contact Paul: 0992 652066** for details.

★ **Wanted:** Copy of rules to Soccer Supreme (by Qualsoft) and Combat Lynx. Also copy of Arcade Soccer by 4th Dimension on disc. **Contact Mark: 081 455 4487**

★ **Wanted:** Mini Office II disc, 40/80 or Rom and manuals. **Contact Mr D Cianchi: 0234 712647**

ByteBack Classified Ads are free. If you have something to sell, buy, or swap, send the details to me. Please make sure that all the equipment you offer is legitimate, ie not pirated software.

SUPPLIERS & SUPPORT

- **Adventure Soft (UK) Ltd** - PO Box 786, Sutton Coldfield, West Midlands, B74 4HG - 021 352 0847
- **BBC PD** - 18 Carlton Close, Blackrod, Bolton, BL6 5DL
- **Commotion** - (see this issues' "Education" article, page 6 for more details) - 081 804 1378
- **Rickitt Educational Software** - 0460 57152
- **Headfirst PD** - 97 Chester Road, Southport, PR9 7HH
- **Pres Ltd** - PO Box 319, Lightwater, Surrey GU18 5PW - 0276 472046
- **Software Bargains & Mercury Games** - C/O Northwood House, North Street, Leeds LS7 2AA - 0532 436300
- **Watford Electronics** - 0582 487777

OTHER BBC USER GROUPS

- **SOLINET** - *Disc based magazine packed full of useful BBC items:* Ron Marshal, 41 Westbrook Drive, Rainworth, Mansfield, Nottingham NG21 0FB
- **ELECTRON USER GROUP**- *Magazine for the Electron with some BBC relevance:* Will Watts, "EUG", 134 Great Knightleys, Basildon Essex SS15 5HQ
- **EIGHT BIT SOFTWARE** - *Another good source of BBC information, an ADFS disc based magazine for enthusiasts:* Chris Richardson, 8BS, 17 Lambert Park Road, Hedon, Hull HU12 8HF
- **BEEBUG** - *Excellent magazine on its 12th year of publication:* 117 Hatfield Road, St Albans, Hertfordshire AL1 4JS - 0727 840303

THE NOTICEBOARD

ACORN WORLD 93 - Sponsored by Acorn User magazine and coming to Wembley Exhibition Centre between October 29-31. It will almost certainly be an Archimedes show, however BEEBUG will be there. The show is geared up to be an entertainment event, not just a box shifter. Perhaps the BBC will make a small appearance? Tickets (£5.00 for adults and £3.00 for children) are available from **Acorn World, Exhibition Planning Services, PO Box 162, Staines, TW19 5JX** or by calling the Ticket Hotline on 0784 483818.

SOUND IN ISSUE TWO - Due to a lack of space the continuation of the article on SOUND has been dropped. If anybody wants to know more about the SOUND capabilities of the BEEB, I'll cover it in another issue, however, a couple of errors did creep in with the ENVELOPES given last month:

Parachute - `ENVELOPE 2,100,-16,99,-86, 141,0, 0, 126,0,0,-126,126,126` -

More Money - `ENVELOPE 1,6,-58,33,6,2, 0,0,126,0,0,-126,126,126`

BYTEBACK ISSUE THREE - The third issue of this magazine will be sent to all subscribers at the beginning of October, including:

- Results of a survey showing the uses of computers in schools - interesting outcome
- Continued reviews of 'Classic' BBC games
- Another glance back with "Vintage News'
- INTER-BASE programming examined
- More of your letters and views

SUBSCRIPTIONS

As they say, "*...time will tell...*" Having had a few weeks to think about things, and taking into account the present format of ByteBack, it seems feasible to be able to produce this 16-page booklet roughly every 4 weeks. ie monthly. I had intended to double the size to 32 -pages and produce it bi-monthly, however, it makes it easier for me to keep it "smaller and more often". The subscription will remain at £1.00 a copy (including postage), and you can subscribe to as many or as few copies as you like, up to 12 copies maximum. No need to return any forms, just pop a cheque in the post (payable to P.Harvey), along with a note explaining which copies you require and I'll make sure you get them in tippy-top condition! BB

INPUT DATA VALIDATION FUNCTION - FRANK IVESON (PART 1)

Programs requiring user responses invariably employ a procedure or function to limit the range of input to avoid the unnecessary and inevitable error message or long periods of inactivity. Often these required responses may be simply 'Y/N' or '1,2 or 3' for a menu selection process. Often the actual data input is ignored, particularly where numeric calculations will result from the data, and quite unexpected results can occur marring the program performance.

Any commercial program of serious purpose should properly validate all data input, therefore why not programs of a non-commercial and personal nature?

To do this, consideration needs to be given to the following aspects before the function or procedure can be designed or set up, hence determining the conditions for compliance:

- *How many digits/characters is the limit?*
- *Are decimals required, and how many decimal places?*
- *Should there be more than one decimal point? (No)*
- *Will negative numbers be required?*
- *Should there be more than one minus sign? (No)*
- *Must the minus sign be a leading character?* (Yes)
- *Will negative decimals be used?*

Having given due regard to the validation need, this function was developed. Its use is, of course, specific to numeric data input. It can be set to match each particular case of data input in the program. (It can also be adapted for alpha data if required).

Example:

```
number=FNgetno(x%,y%,prompt$,allowed$,
1%,d%)
```

where:

`x%`	is the column position for the prompt.
`y%`	is the row position for the prompt.
`prompt$`	is the prompt message.
`allowed$`	is the permitted input content.
`1%`	is the maximum number of numeric digits, excluding decimal/minus sign.
`d%`	is the number of decimal places within the maximum number of digits.

Also catered for in the program are DELETE (CHR$127) and RETURN (CHR$13). A typical function would be:

```
number=FNgetno(3,4,"Please enter num
bers:","-0123456789.",7,2)
```

The listing for this function can be found in the next issue of ByteBack. BB

LITTLE BITZ LITTLE BITZ LITTLE BITZ LITTLE BITZ

• Try this line for slightly different (more interesting?) type characters in MODE 7:

```
MODE7:VDU23;8202;0;0;0;23,1,0;0;0;0;23;8,144,0;0;0;23;9,9,0;0;0;29;10,105,0;
0;0;23;11,9,0;0;0;
```

This only works with single height characters; using CHR$141 is ineffective.

• When writing a BASIC program, I normally include these lines at the beginning:

```
1 *FX11,25                    Delay for first key repeat
2 *FX12,3                     Key repeat time
3 *KEY0 MO.3|ML.|L|M          Go into 80column mode and List
4 *KEY1 MO.3|ML.100,300|L|M   List PROCedure currently being written
5 *KEY2 RUN|M                 RUN program
```

* Lines 1 & 2 speed up editing of BASIC code lines, going into MODE 3 (line 3) makes reading the program listing clearer and puts the LIST into paged mode, so pressing SHIFT scrolls the listing up one screen at a time, hitting ESCAPE then stops this at the last line displayed on the screen.

* The line numbers in line 4 are altered each time a PROCedure is being created, allowing quick LISTing and correction/alteration of the developing section of the program. Line 5 RUNs the program.

* The combination of these few lines makes writing, editing and testing a program a lot quicker than typing these commands in each time. After the program is finished, just delete these lines.