WACCI

CPC

Extra extra read all about it.

WACCI out on time!!

WACCI

WACCI

Stop press 1 - Bowley gets an issue out on time!

Stop press 2 - Spielberg wants the movie rights. Tom Cruise begs for the part of Bowley..

Contents

Thanx & Stuff

Well what can I say? I've finally got an issue out on time. Gee! Is this the start of things to come? I certainly hope so. Just goes to show you I can do it. Mind you without all you nice people out there who wrote all these excellent articles it wouldn't have been possible. I celebrated my 43rd birthday on the 4th August and Carol said to me "Don't do any washing-up or the ironing, just put your feet up John and have a day off". She's so good to me.....

Convention 98

If you are planning to come to this year's convention and you haven't bought your ticket yet, don't worry! You can always pay at the door. Price £2.00. Cheques payable to *WACCI*

Articles

After my pleading for articles over the last few months I'm pleased to say that I've received a fair amount so my heart warm thanks goes to you all. But don't stop there I want more.

Market Stall

Market Stall will be back next month, so if you got anything to sale or you want to buy anything then drop Angie a line and it will appear in a WACCI near you soon.

What's new?

Yep! I've changed things a bit again and I hope you will all agree with me that WACCI looks a lot better now.

Fair Comment

Clive Bellaby is no longer doing Fair Comment he is now getting stuck in and writing articles for all of us to enjoy. So go to it Clive and thanks.

Special Thanks

I would like to thank Jonty Jones for all the drawings he has done for this issue. So thanks mate.

Sweat and Tears

A lot of hard work goes into producing your WACCI each month but judging by all the letters and articles I've received over the last few weeks makes it all worth it.

Arnold's Basic

Last month I said you can obtain a copy of this excellent tutorial on PD Disc 125, sorry I made a boob, it is in fact on PD Disc 112 sorry.

This month's instalment include a very long listing of a Telephone Directory program.

If you don't feel like typing it all in (although its the best way to learn Basic) then I suggest you get a copy of the Basic Tutorial disc its well worth the £1.00.

Book Library

The Book Library will be making a come back soon. More news next month once he has had the chance of sorting it out..

Help

I need someone who can translate French and German to English. If you can help please get in touch.

Fair Comment Revisited

Don't forget to keep sending your letters to Frank Neatherway Frank's address is on page 5.

Fair Comment is your forum to have your say on anything you like so please keep sending in your letters.

Special Issue

WACCI has now been going for 12 years come this October and I was wondering if members would be interested in having a special issue published featuring the best of the best that WACCI has given over the years. What do you think? Please let me know. Happy reading. John.

The News Desk

with Angela (ITGA) Cook

Brympton Cottage, Brunswick Road, Worthing,
West Sussex, BN11 3NQ. Tel/fax; 01903 206739.
E-mail; angelacook@mcmail.com

How the time flies past when your having fun. I've been working hard on Wibble, been decorating my bedroom (including using wall paper steamer) in the intense heat the South has suffered recently and been forced to visit Brian Watson for an evening of largely nonsense-chat – but I blame that on the company of Rob Scott and Paul Fairman and the lack of an open Tandori....

EPSON

WACCI member Dennis Jordan wrote to me recently wanting push tractor for his Epson printer. I wasn't able to help, but suggested Dennis got in touch with Epson.

This he did and found a company that supplied what he needed. In case they may be of interest to other readers:

Unicomp Ltd
Unit 11
Bourne Estate
Borough Green
Kent
TN15 8DG
01732 780303

Thanks for the letter Dennis.

A RADICAL IDEA

Rob Buckley of Radical Software fame is working on a new operating system for the PCWs and is also looking into making a version for the CPC. It's a cross-platform product, featuring drag and drop as well as drop down menus. It is supposed to be easy to develop for as it has a built in version of BASIC.

Rob says: **"It's Windows for the Z80."** I'll keep you posted.

WATS-ON TODAY?

Peter Campbell and Brian Watson are adding the CP/M version of the "C" compiler, which was originally published by Arnor some time ago, to the (currently rather short) list of programs which will be supplied in future as shareware. Up to now, the only other one has been the CP/M version of MAXAM; aka Maxam 2.

Rather more interestingly, Brian and Peter are doing the same with the ex-Arnor print enhancement program Protype.

From now on, both programs remain covered by copyright, but may be freely distributed for no more than the equivalent of £5 to cover reasonable expenses of copying, this price to include the price of the disc/s or other media (if supplied) and postage and packing

Hopefully, this will minimise the chances of customers getting ripped off for unreasonable charges.

Either may be distributed in any form that can be used on a CPC, and the C compiler may additionally be distributed in any form used by a PCW/PcW.

When Brian has finished the last issue of 8BIT magazine he will recompile both programs' manuals as ASCII text files for free distribution/ uploading to the internet. In the mean time, if anyone wants a proper printed manual Brian has just had a few reprinted to sell on at £5, which is cost price, plus a bit for p&p. For any further clarification, please e-mail Brian at:

protext@spheroid.demon.co.uk

or write to:

Harrowden,
39 High Street,
Sutton-In-The-Isle,
Ely,
Cambridgeshire,
CB6 2RA.

BYTE98

As I mentioned last issue, the French CPC convention went well, though no Brits turned up, which was hoped for. With any luck someone who was at that get together will be able to write us an article on what was going on, which you'll be able to see in a WACCI near you.
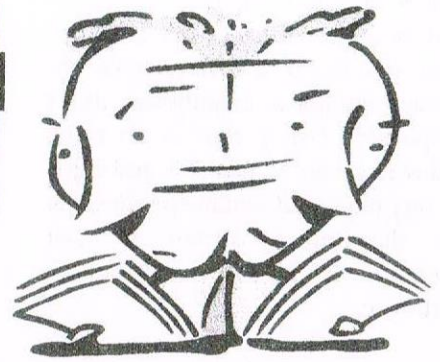
THE END

And it just remains for me to tell you that the Amstrad newsgroup in the internet celebrated it's fourth birthday on the 4th August.<<*I celebrated my 43 birthday on the 4th as well. - John*>> And we celebrate our birthday in October I believe...

Angela

Fair Comment
with Doug and John

Food for thought

Dear Clive, In an attempt to satisfy your request for more letters, here is a drop for your ocean, with some thoughts arising from issue 121.

It occurs to me that the lack of ticket sales for the convention might be due to the time interval between the last and the current issue of the mag. I expect to buy a ticket, but have hesitated, due to my uncertainty as to whether there is still a club, let alone a convention, after so long without information. It might be that some members, maybe newer, or short term subscription members, are worried by this lack of continuity.

Apparently, lack of content is part of the reason for the recent hiatus, and lack of interest for the demise of the puzzle page. As far as content is concerned, Angela covered the subject pretty well in News Desk, but I would like to reinforce a couple of points that she raised.

As an occasional contributor, I can assure any would be writer that anyone can do it. WACCI readers are a tolerant lot, and so far I have had no adverse comment on my simple efforts, so go to it. If you can speak, you can write.

What to write about? Well, a strictly personal request to someone who knows about these things, would be for an article on the Bulletin Boards as mentioned by Martin Bela. What

are they? Where are they? What equipment is needed and how is it used? How are they accessed? How much does it cost? Etc'!! There must be many other things that you know, but **WE** don't! I know nothing, but that does not stop me trying.

On to the puzzle page, although I enjoyed it, I only once entered the competition. This is mainly because I am not competitive, and partly because I am lazy! For people such as I, perhaps Carol could have a non-competition puzzle page, for our own amusement. This would of course, also be cheaper for the club, and ensure continued subscriptions, as we would need the next mag to know if we had the right answers!

Angie raises the question of to PC or not to PC yet again. While at the moment the magazine is CPC specific, not the rather nebulous "PC", if it is necessary to include other machines to ensure future issues, then it is probably better to accept the inevitable, provided there is still sufficient CPC related content to satisfy those of us who are not able to afford the enormous outlay of "Upgrading".

With the abundance of professional magazines in the newsagents, each offering a free CD-ROM on the cover, could a couple of pages in WACCI really compete? Incidentally Clive, following on from your musings on the Weird Acronym, Concerning Computers, Initially. In

issue 103, page 30, in the ITGA (Strange name!) interview, Steve Williams categorically states that Walkers Amstrad Computer Club International is the true meaning of our beloved club name. (Does this mean only Amstrad PC's will be catered for?) (I'm with you Clive, brackets are great!)

Finally, may I make a plea to all (Including Editors!) who have not yet returned other members discs.

Especially those which were provided with address labels and return postage. Please do it soon.

Cheers for now
Ray Powell

P.S. In letters to Fair Comment, how come people using word processors need to add P.S.s'??

<<Much food for thought regarding letters and articles for inclusion within the magazine in your letter. I would agree entirely with you about the time interval between magazine issues affecting ticket sales, perhaps even subscription renewals.

Might I say that as the active life of the CPC is slowly but surely nearing the end of its undoubted popularity, it's continuance will only be preserved by such persons who wish it to continue providing practical support with letters and articles.

It's up to us all to do something about it! I also consider that WACCI

ought to include the PC, not only to ensure it's continuance but to accept that the PC is the flavour of the decade and not at all indistinct in it's popularity. I have one, as do many other members of WACCI, and enjoy it very much and would consider that for the club to survive it must welcome the PC's interest into its structure.

Apart from that I for one cannot imagine all the friendships that have been formed through WACCI being allowed to just fade away, can you?.

I know there are many, maybe too many professional magazines available but they do not contain that lovely warm feeling that exists within the club membership, there is plenty of room left for WACCI.- Doug>>

<<Hiya Ray, You've just read Doug's reply to your letter and although I partly agree with Doug's reply I also feel, at times, what's the point in struggling to publish a magazine at all, however while there are members who still want to read WACCI I will carry on regardless.

Poor ticket sales could be because of the time intervals of the magazine coming out to which I'm truly sorry or it could be that members are not really interested enough to come to the convention this year.

Last years convention nearly didn't take place because of the poor response from members however at the last minute things picked up and the rest is history.

You will be pleased to know that since I've kept on mentioning the need for articles I've had a steady response to my pleas, so my thanks to everyone concerned, but please don't stop, keep them coming the more I have the happier I'll be. The puzzle page is about to make its return so stay tuned.

The truth is no we cannot compete with professional PC magazines and nor do we intend to. The only reason

this is even thought about is due to the lack of CPC articles and of course peoples interests also change along the way and all we really want to do is to cater for all club members and give them what they want, whatever that is? A couple of PC related articles will appear in WACCI over the coming months and other machines too if members want that, however WACCI will give CPC related articles first priority.

What does WACCI stand for? I don't know really. Clive says it doesn't mean anything, but the only person who should really know is Jeff Walker, so perhaps Jeff would like to write in and put us all out of our misery. -John>>

A letter from Mark

Dear Clive, Welcome back to the pages of WACCI and Fair Comment. <<Sorry to but in here but Clive is no longer doing Fair Comment he is busy writing articles. - John>>. Can I please put in an appeal to a fellow member, Jack Butler? Jack, can you please send me your phone number.

I would also like to ask Richard Fairhurst a question. Richard, I sent off for a Robot Software catalogue a couple of months ago and I still have not received one back. Did you ever get my letter and s.s.a.e? Or did snail mail manage to lose it? I would love to get my hands on a copy of SANKO, but I don't know how to! <<Simple! Just send me a disc and a SAE and I will send you a copy and anyone else for that matter. Sanko will be in our PD Library soon. Robot PD has now closed. -John>>

PC's and WACCI. Not a subject I wanted to comment on, as there has already been a lot of discussion about it, but I feel I must as it concerns the whole clubs future. For the record, I do not mind one bit how WACCI is produced, as long as it is neat and

easy on the eye to read. My sister now owns a PC, which I fully admit to using. But I will NEVER give up on my faithful CPC. Therefore, I am one hundred percent behind John's decision to produce WACCI on a PC.

With regard to Angie Hardwick's article entitled WACCI PC: "Pause For Thought". I agree with it and John, Doug etc have my backing, as long as it is only one or two pages a month and CPC articles still get top priority in the magazine.

The idea of a help-line is a good one. Perhaps we could even run a PC PD library? What does everyone think of the idea? If this was agreed, I would be quite happy to run it.
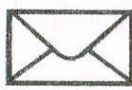
On to a lighter note. John, if you would like me to take over the puzzle page and the members still want it, I would be only to happy to do so. This also applies if there are any other jobs that need doing. Well, that is all for now. Keep up the good work everybody.

Mark Johnson
Corringham, Essex

<<Yours is just the sort of response we were looking for from the membership in respect of the clubs future with not only suggestions but offers of assistance, and as for the idea of a PC PD Library who knows we might even threaten Bill Gates!. Be prepared you may have just got yourself a job, let us see what if any reaction your comments create from everyone, yes everyone.- Doug>>

Printer problems

Dear Clive, Please, could someone among the illustrious membership of WACCI help me.

I have an OKI MICROLINE 83A STANDARD DOT- IMPACT MATRIX LINE PRINTER with my 6128+, the printer takes paper from 3 inch to 16 inches in width.

The problem I have is when I want a hard copy of a program listing, it will insist on printing on 16 inch wide paper. I would like to be able to print it out on A4 paper but the printer refuses my request.

I am a beginner as far as computing goes, so forgive me if I seem a bit thick, I have read the manual for the printer but it is alike reading a foreign language. Perhaps it wasn't translated, anyway whatever I try, I end up losing a bit more hair. I have no trouble when I am writing any documents on PROTEXT they will print out on A4.

So if someone out there in the world of WACCI could help me I would be most grateful and perhaps my wife will be able to take her earplugs out and start speaking to me again (just joking). When I type PRINT:LIST #8 the listing is printed on the 16 inch paper. Anything else I try just produces a "*click*" and nothing else.

Yours sincerely
Brian Nicholas

<<Hi Brian, You may need to adjust your printers dip switch settings, but without reading the manual I can't help you, but this may. Load your basic program into memory and then re-save it out like this:-

SAVE"filename",a

This will then save it in ASCII format, then you will be able to load it into Protext and print it out, like any other document file. -*John*>>

Who's he?

Dear Clive, I hope you are keeping well. The letter from Simon Lucus about coming across Roland Waddilove's name in a windows magazine. I too saw his name in a magazine I bought whilst on holiday. Unfortunately I left the magazine

behind, in the hotel. But I think that it may have been PC DIRECT. However, there is one thing that I can be sure of and this is that our Auntie John, Adam Waring and Rod Lawton are all appearing in PC FORMAT.

The result of my having gone through 4 or 5 PC magazines during our holiday (in Scotland by the way), was that upon getting back home, I purchased a PC computer, and already I am in trouble, I mean, where do all the files disappear to? Only to make a magical comeback some time later, when you click on a button.

In my case I'm so taken aback by the file's return to the screen that I've forgotten which button I pressed to bring it back. Over the past few months mention has been made about whether to have a PC page in a CPC magazine.

Well in my case I don't mind either way, and in this connection Clive, I'd like to ask about HD discs and the WACCI DISC 113, CPC Emulator. Why does this disc run in my PC (Even though I do not have the program fully up & running), how come it works at all? When I cannot even format A DD (Amstrad) disc on the PC.

By the way I would very much like to attend our conventions, but I am unable to drive, and the wife won't drive any distance over 45 miles, and I thoroughly detest the railways. And to Paul D. if you are reading this I hope you are keeping well.

Yours sincerely
Reg Tabb
North Baddesley

<<Hi Reg, Many thanks for your letter and I hope that you are well. First of all, PD Disc 113 is formatted to 720k for the PC and then you have to install it on your hard drive.

Once it is installed and run, it configures your PC memory into thinking it is a CPC, however some functions such as formatting a disc for a CPC to use cannot be done just yet, however I could be very wrong in saying this as there have been up-

dated versions since this one was placed into our PD Library. I know of another emulator that can read a CPC formatted disc and run programs from the PC 3.5 disc drive. I hope that this has answered your questions. -*John*>>

I agree with Pat

Dear John I am writing in response to Pat Channings letter in FC, WACCI 122. I find that I must agree with Pats comments about making back-up copies of programmes. I also have had the misfortune of forgetting myself in a moment of madness and forgetting to perform this small task. It is so frustrating!

Another thing that hits you straight between the eyes when you turn on your PC is the time you spend waiting for it to boot up and your programmes to load in. I am sure that perhaps more recent models do this job far quicker than my old plodder does but with the CPC there seems to be no boring wait.

Lastly, may I also say that while the PC has opened up a world of information to me at my fingertips, I must say that I do not have as much fun with it as I do with my CPC. There, I've said it. Keep up with the good work John, I and many others appreciate all you are doing for us.

Best regards
Bob Williams

<<Making back-ups of CPC discs is a very good idea, *shame!* you can't make back-ups of PC hard drives that easy. Just think how many discs you would need to fully backup a 3.2gig or whatever hard drive. -*John*>>

What's A Multiface
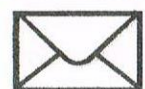
Dear Editor, I am sorry to have to admit to my lack of knowledge with

the CPC. I am relatively new to the scene and I am writing to ask for some information. I have been given a Multiface which, I am told, will improve my use no end. my question is a very basic one and probably you will laugh when you read this letter but what exactly is the Multiface and what will it do?

I do not quite know how to use it but I do know where to plug it in so I suppose that is of some consolation! Please help me out of my predicament, I look forward to hearing from you.

Yours hopefully
John Bird
(aged 15)

<<Never be afraid to ask questions we are all here to help you get the very best from your CPC. A Multiface is a very handy piece of hardware.

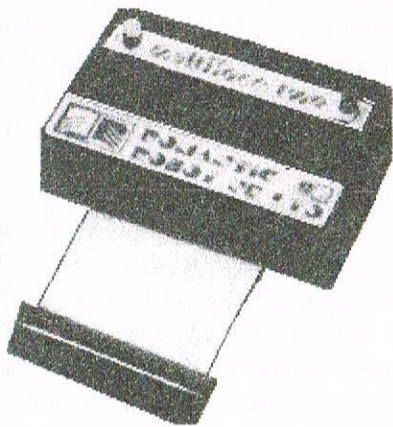It can be used for so many things for instance like game poking giving you extra lives (see Are You Game For A Game) what I use a Multiface for is:

1) To Capture screens
2) Making backup's of games.

To capture screen from games or making back-ups of games all you do is load the program that you want to backup or grab the screen and then press the **RED** button, this then freezes the program then type in a filename and then choose either **P**rogram or **S**creen then press **D** for disc and all will be saved to disc. The default for the Multiface is to save to the A: drive. If you type in **B:** filename it will save to a 3.5 disc. Maybe someone who knows how to use a Multiface to its fullest would like to do a review on it. - *John>>*

Thanks Peter
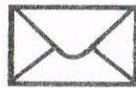
Dear John, Many thanks to Peter Rogerson for his interesting article on the Microdesign Plus (WACCI 122).

I must however make a small complaint about the header being in italics. I found it very hard to read without squinting, so could you please put this type of article in normal case to make it easier on the eye.

Ta awfully.
Steven West

<<Hiya Steven, I'm sure Peter will be very glad that you took the time to write in to say you enjoyed the article and to point the trouble you had reading the header. -*John>>*

Members Spotlight

Dear John, Great idea of Carols for the Members Spotlight. It is really nice to read about other members and their interests and lives. It goes to show what a very nice bunch of people we are within WACCI. By the way, will you thank that good old Jonty for giving me the pass level codes for Lemmings. *Phew!* It means I don't have to go through each stage again.

Bill Edwards

<<Hi Bill, I agree with you, its always a pleasure to read what interests members have. I hope you realise when Carol reads this letter she will want a spotlight from you.

UAUG used to run a Members Profile page and that's where Carol got the idea from. -*John>>*

Worth the wait
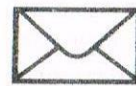
Dear John, Although my WACCI was late again it was well worth the wait. You mention the worry you have in producing a quality magazine with a good balance of articles, (FC issue 123). Well John I think you are doing a grand job. <<*Ta -John>>*

The magazine has seen many changes over the years and each editor has injected a little of his own personality into it. Also each editor has, at some time I am sure, experienced difficulties with articles and has put out a magazine that he himself may not be totally satisfied with but has had to go with what he has got.

Although I am no writer myself, I find the mixture of articles that you put in the magazine is a good selection and are of interest. They may not be everyone's cup of tea but then you can never please everyone.

The writers of the articles are very talented and write because they want to and if they can help someone along the way then its all been worthwhile.

I have occasionally looked at other CPC fanzines and disczines and to be quite honest with you, there is no other club that provides CPCers like myself with such a good quality magazine. But what I like most about WACCI is that we never seem to attack anyone not unlike a few I can mention.

Wayne Arthur

<<Good day to you Wayne, First of all thanks for your letter and you say can't write so what is this? I'm sure other editors as had problems from time to time with getting enough articles.

As time goes by and interests change and writers leave WACCI for what ever reason it leaves a big gap that is harder to fill these days, so every writer that we have now are to be congratulated on all their efforts which are very much appreciated by me. -*John>>*.

CPC664 - ABBA

Back in 1985 for a few months Amstrad marketed the CPC 664 before deciding, in its infinite wisdom, to replace it with the 6128. As a tribute to the reliability of that machine there are still quite a few around, and I've just fitted one with an ABBA switch.

First of all, the equipment that you'll need: **(a)** A screwdriver, **(b)** A soldering iron with solder, **(c)** A double pole, double throw switch, **(d)** Some wire - preferably 4-stranded telephone wire about 10 inches long, **(e)** A Very Sharp Knife.

Now for the method.

Firstly, prepare the switch. If you're using telephone wire then this part's easy. Cut back the outer insulation by about 3 cm and select two of the strands to be **INT** and **EXT**. Remove the inner insulation from these and solder the **INT** wire so that it cuts diagonally across the switch as per diagram. Push the bare wire to the base of the

FROM BELOW
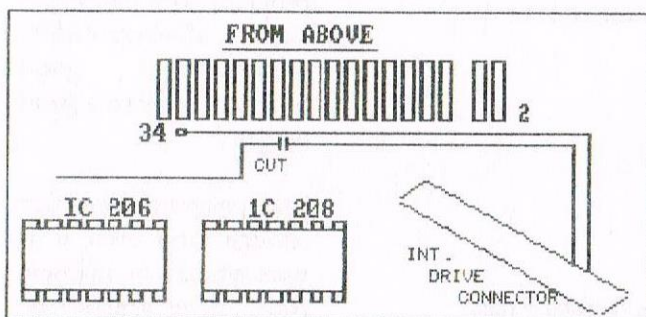
switch and ensure it doesn't foul the middle **(DS0 and DS1)** contacts. Then solder the **EXT** wire in a similar way, but lifting the bare wire away from the base. The two diagonal wires must not touch each other.

The remaining two strands should be shortened and soldered to the centre contacts of the switch. Again, make sure that no two wires accidentally touch. Now let's turn our attention to the computer. Turn the CPC 664 upside down and remove all the screws holding the machine together.

Open carefully and with infinite care unplug the keyboard membrane from the circuit board. The plastic grip lifts up in order to make the job a tad easier than it otherwise might

FROM ABOVE
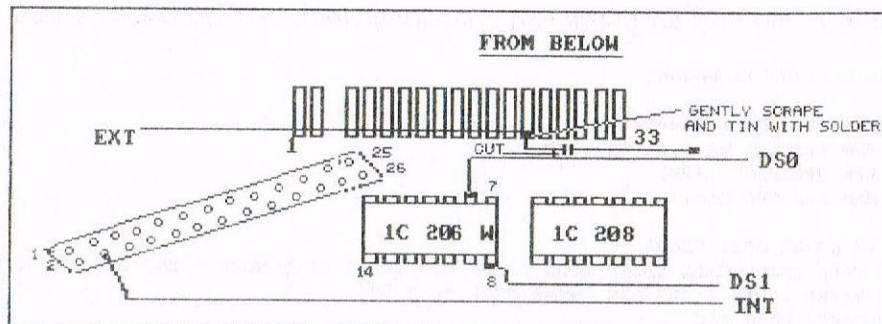
be. A word of warning, though: you are now handling the most fragile part of your 664, and although it's a simple enough task if you take care, it is possible to do irreparable damage to the membrane. Then unplug the leads to the speaker and power light, also on the circuit board close to the keyboard membrane socket.

Now you can perform the first operation. **CUT** the track on the circuit board with the **Very Sharp Knife**, as shown on the diagram showing the guts of your CPC shown from above. Be careful not to jerk the knife across the adjacent track.

Now remove the screws that hold the circuit board down and also the screws that retain the disc drive. carefully lift the circuit out out. You should be able to manipulate it so that you can clearly see the corner of the underside of the circuit board. Now you can proceed to perform the following operations:

Locate the external drive edge-connector and find the track leading to the sixth finger from the right. Cut the track leading to it and very, very carefully scrape any insulation and gunge from the end two or three

millimetres of that finger and tin it with solder. Then solder the wire designated as **EXT** to it. Locate IC 206 and solder **DS0** directly to **pin 6.** Try not to keep the hot iron in contact with that pin for more than a couple of seconds or so.

Then solder the wire designated as DS1 to pin 8, taking the same care and being equally swift. Finally, solder the wire designated as **INT** to **pin 4** of the internal drive connector. It's the pin next to pin 2, the second one along.

And there we have it. If you've done everything right then the switch should perform perfectly as an ABBA switch. If it doesn't, check that the two cut tracks have been properly cut *(use the knife and hack away a bit more).* Check that no wires on the switch are shorting together. Check that the four solder connections on the circuit board aren't dry joints.

THE SWITCH
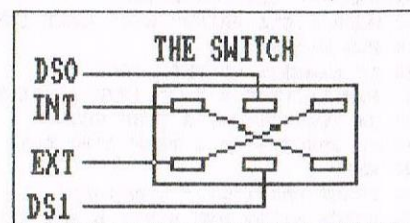
Then it'll work. *Promise.* Re-assemble your computer and if you've wrecked it don't blame me or *WACCI!*

Peter Rogerson

Arnolds Basic

It may not be the most exciting, riveting, incredibly interesting of things but a telephone directory is useful. Not just useful for putting peoples names and numbers in; that is the least of my concerns. A telephone directory makes an excellent choice for a majorish computer programming project to show many of the best programming commands that Amstrad BASIC offers.

The listing is below:

```
1 REM Telephone Directory
2 REM Written by Paul Fairman
3 REM SHEEPSOFT 1992
4 REM For CPC Basic
5 '
7 ON ERROR GOTO 63000
10 CALL &BC02:CALL &BBFF:MODE 2:INK 0,0:INK 1,26:BORDER 0:INK 2,6:INK 3,8
15 PAPER 0:PEN 1:CLS:DIM name$(500),tel$(500)
20 GOSUB 4000:CLS
25 ON BREAK CONT:KEY DEF 66,0,13
30 WINDOW 7,32,7,18:PAPER 2:PEN 0:CLS:PRINT"1 .. Input files"
31 PRINT"2 .. Search files":PRINT"3 .. List files":PRINT"4 .. Load files"
32 PRINT"5 .. Save files":PRINT"6 .. Disc Directory":PRINT"7 .. Edit files"
33 PRINT"8 .. Save Directory":PRINT"9 .. Print files"
35 PRINT:PRINT"ESC .. EXIT":CLEAR INPUT:REM 6128 only command (CLEAR INPUT)
40 PAPER 0:PEN 1:WINDOW 1,40,1,25:LOCATE 13,23:INPUT"Input option ",z
50 IF z=0 THEN CLS:KEY DEF 66,1,252:END
60 ON z GOSUB 1000,2000,3000,4000,5000,6000,7000,8000,9000
70 MODE 1:CLS:GOTO 25
998 END
999 REM *** Input datafiles ***
1000 MODE 1:CLS:PRINT"[ESC] - EXIT":WINDOW 1,40,3,25:PRINT:FOR x=1 TO 500
1010 IF LEN(name$(x))>0 THEN 1080
1020 KEY DEF 66,0,13:PEN 1:PRINT x:INPUT"Name ",name$(x)
1030 IF name$(1)=""THEN CLEAR INPUT:RETURN
1040 name$(x)=UPPER$(name$(x))
1050 IF name$(x)=""THEN 1090
1060 PRINT:INPUT"Phone ",tel$(x)
1070 PRINT:PRINT
1080 NEXT
1090 GOSUB 5000
1100 RETURN
1999 REM *** Search and Print files ***
2000 MODE 1:CLS:IF dump=8 THEN PRINT"PRINT FILES"ELSE PRINT"SEARCH FILES"
2010 PRINT"1. Name ";:IF dump=8 THEN PRINT"Print"ELSE PRINT"Search"
2020 PRINT"2. Phone ";:IF dump=8 THEN PRINT"Print"ELSE PRINT"Search"
2030 PRINT"3. Datafile ";:IF dump=8 THEN PRINT"Print"ELSE PRINT"Search"
2040 IF dump=8 THEN PRINT"4. Print all datafiles"
2050 PRINT"ESC EXIT":KEY DEF 66,0,42:ON BREAK CONT
2060 j$=INKEY$:IF j$="1"THEN GOSUB 12000:GOTO 2000
2070 IF j$="2"THEN GOSUB 13000:GOTO 2000
2080 IF j$="3"THEN GOSUB 14000:GOTO 2000
2090 IF j$="4"AND dump=8 THEN GOSUB 15000:GOTO 2000
2100 IF j$=""THEN RETURN
2110 GOTO 2060
2999 REM *** List datafiles ***
3000 MODE 1:CLS:PRINT"[ESC] EXIT [ENTER] MORE":WINDOW 1,40,3,25:LOCATE 1,25
3010 FOR x=1 TO 500
3020 IF name$(x)=""THEN 3060
3030 PEN 1:PRINT x;"  ";:PEN 3:PRINT name$(x);"  ";:PEN 2:PRINT tel$(x)
3040 IF INKEY(66)<>-1 THEN RETURN
3050 IF INKEY(6)<>-1 THEN 3060 ELSE 3040
3060 NEXT
3070 PRINT:PRINT"List complete"
3080 GOSUB 62000:REM press a key routine
3090 MODE 1:RETURN
3999 REM *** Load files ***
4000 PEN 1:MODE 1:LOCATE 12,12:PRINT"Loading datafiles":OPENIN"data.dat"
4010 FOR x=1 TO 500:INPUT#9,name$(x),tel$(x):IF name$(x)=""THEN 4030
4020 NEXT:CLOSEIN
4030 CLOSEIN:RETURN
4999 REM *** Save files ***
5000 PEN 1:MODE 1:LOCATE 12,12:PRINT"Saving datafiles":|ERA,"data.dat"
```

This is the most important part of this text because it gives a large listing of a program and then an in depth, detail by detail, account of what the damn commands do.

You will be referred to other sections of this text for some parts of the program.

BASIC is not capable of speed critical programs, and the following program gives the perfect example of where BASIC produces a good program, if given a good design.

The program runs fast enough, and even if it were written in machine code, there wouldn't be much difference in speed.

The program was designed and written for the Amstrad CPC6128, and some of the commands will only work on this computer.

The program also functions on a disk drive only because tape is so slow and inefficient. That aside the theory still applies.

Problems arise when our telephone directory program is capable of holding 500 names and numbers. Five hundred!

How on earth can we have 500 different variables in one program.

You should recall variables from part two and we could not possibly use something like:

INPUT name1$
INPUT name2$
INPUT name3$
INPUT name4$

So what can we do? Arrays to the rescue!

ARRAYS

In a program like this, and database like programs, arrays are vital for storing masses of data in ONE variable.

ALL the names and numbers are stored into name$ and tel$, but you may notice a little extra bit thrown onto the end; the brackets with a number in them (or an "x").

Again the FOR NEXT loop saves us much time and trouble. An array has these things called "dimensions" and the DIM command is derived from this word.

Take a look at this code:

FOR x=1 TO 500
INPUT name$(x)
NEXT

These are two routines. The first accepts INPUT from the user and stores it in name$(x). The value of "x" depends on where the loop is at the time; to begin with it is one

```
5010 OPENOUT"data.dat":FOR x=1 TO 500:WRITE#9,name$(x),tel$(x)
5020 IF name$(x)=""THEN 5030 ELSE NEXT
5030 CLOSEOUT
5040 RETURN
5999 REM *** Disc directory ***
6000 MODE 2:CLS:KEY DEF 66,0,13:CAT:GOSUB 62000
6010 RETURN
6999 REM *** Edit files ***
7000 CLEAR INPUT:MODE 1:CLS:PRINT"[ESC] EXIT":WINDOW 1,40,3,25
7010 PRINT"1 .. Name editor":PRINT"2 .. Phone editor"
7020 PRINT"3 .. List editor":PRINT"4 .. File editor"
7030 KEY DEF 66,0,42
7040 j$=INKEY$:IF j$="1"THEN KEY DEF 66,0,13:GOSUB 50000:GOTO 7000
7050 IF j$="2"THEN KEY DEF 66,0,13:GOSUB 52000:GOTO 7000
7060 IF j$="3"THEN GOSUB 54000:GOTO 7000
7070 IF j$="4"THEN KEY DEF 66,0,13:GOSUB 56000:GOTO 7000
7080 IF j$="*"THEN RETURN ELSE 7040
7999 REM *** Save directory ***
8000 MODE 1:LOCATE 12,12:PRINT"Saving Directory": |ERA,"dir.bas":SAVE"dir"
8010 RETURN
8999 REM *** Print files ***
9000 dump=8
9010 GOSUB 2000
9020 RETURN
11999 REM *** Name search ***
12000 KEY DEF 66,0,13:MODE 1:CLS:PRINT"[ESC] EXIT":WINDOW 1,40,3,25
12010 PRINT:PRINT:PEN 3:PRINT"Enter name ":PEN 1:INPUT s$:IF s$=""THEN RETURN
12020 s$=UPPER$(s$)
12030 FOR x=1 TO 500:IF INSTR(name$(x),s$)=0 THEN 12060
12040 IF s$=""THEN RETURN
12050 PEN 1:PRINT#dump,x;:PEN 3:PRINT#dump,name$(x);" ";:PEN 2: PRINT#dump,tel$(x)
12060 NEXT
12070 GOTO 12010
12999 REM *** Phone search ***
13000 MODE 1:CLS:KEY DEF 66,0,13:PRINT"[ESC] EXIT":ON BREAK CONT
13005 WINDOW 1,40,3,25
13010 PRINT:PRINT:PEN 3:PRINT"Enter phone ":PEN 1:INPUT s$
13020 IF s$=""THEN RETURN
13030 ON BREAK GOSUB 13500:FOR x=1 TO 500
13032 IF INSTR(tel$(x),s$)=0 THEN 13050
13035 IF apple=100 THEN apple=0:PRINT:PRINT"Aborted":GOSUB 62000:RETURN
13037 IF name$(x)=""THEN 13050
13040 PEN 1:PRINT#dump,x;:PEN 3:PRINT#dump,name$(x);" ";:PEN 2
13045 PRINT#dump,tel$(x)
13050 NEXT
13060 GOTO 13010
13500 apple=100
13510 RETURN
13999 REM *** File search ***
14000 MODE 1:CLS:KEY DEF 66,0,13:PRINT"[ESC] EXIT":WINDOW 1,40,3,25
14010 PRINT:PRINT:PEN 3:PRINT"Enter file ":PEN 1:INPUT s
14020 IF s>500 THEN PRINT:PRINT"No such file!":PRINT:GOTO 14010
14030 IF s=0 THEN RETURN
14040 PEN 1:PRINT#dump,s;:PEN 3:PRINT:PRINT#dump,name$(s);"  ";:PEN 2:
PRINT#dump,tel$(s)
14050 GOTO 14010
14999 REM *** Print them all ***
15000 MODE 1:CLS:KEY DEF 66,0,42:PRINT"[ESC] EXIT - PRINT ALL FILES"
15010 WINDOW 1,40,3,25
15020 PRINT"Please set printer up then press a key"
15030 a$=INKEY$:IF a$="*"THEN RETURN
15040 IF a$=""THEN 15030
15045 KEY DEF 66,1,252:ON BREAK CONT:ON BREAK GOSUB 16000
15050 FOR x=1 TO 500
15052 IF brek=1 THEN brek=0:RETURN
15055 IF name$(x)=""THEN RETURN
15060 PRINT#0,x;" ";name$(x);" ";tel$(x)
15070 NEXT
15080 RETURN
16000 brek=1:RETURN
49999 REM *** Name editor ***
50000 MODE 1:CLS:PRINT"[ESC] Exit":WINDOW 1,40,3,25:KEY DEF 66,0,13
50010 PRINT:INPUT"Enter name ",po$
50020 IF po$=""THEN RETURN
50025 po$=UPPER$(po$)
50030 FOR x=1 TO 500:IF INSTR(name$(x),po$)=0 THEN 50050
50040 PEN 1:PRINT x;:PEN 3:PRINT name$(x);" ";:PEN 2:PRINT tel$(x)
50050 NEXT
50060 PRINT:PRINT:INPUT"Enter datafile to edit ",df
50070 IF df=0 THEN RETURN
```

and if you are patient it goes to 500.

```
FOR x=1 TO 500
PRINT name$(x)
NEXT
```

Our next routine simply PRINTs the contents of the array effectively reversing the process. The subscript is the number in brackets, the "reference subscript".

So if we DIM name$ for 500 ie DIM name$(500), we are allowing up to 500 entries in the array. There are multidimensional arrays which complicates things more but that is beyond this guide.

First to be covered is the initialization of the program.

This very long word is a word often used by programmers to mean the setting up of all the essentials that are needed within the program.

The initialization process is usually at the beginning of the program.

[5-15] - all numbers in square brackets from now on are used to refer to the program line numbers in the end listing.

Also see DIR.BAS on the disk available from Dave Stitson PD disc no. 112 and not 125 as I mentioned last month. *Sorry.*

That's about it for this month, next month we will start where we finished. Bye for now.

Happy typing

Paul Fairman

```
50080 IF df>500 THEN PRINT"No such datafile":PRINT CHR$(7):GOTO 50060
50090 PRINT:PEN 1:PRINT df;:PEN 2:PRINT"Present name ";name$(df)
50100 PEN 3:INPUT"New name ",n$:IF n$=""THEN 50130 ELSE name$(df)=n$
50105 name$(df)=UPPER$(name$(df))
50110 PEN 1:PRINT df;:PEN 2:PRINT"Present phone ";tel$(df)
50120 PEN 3:INPUT"New phone ",t$:IF t$=""THEN 50120 ELSE tel$(df)=t$
50130 GOTO 50000
50140 RETURN
51999 REM *** Phone editor ***
52000 MODE 1:CLS:WINDOW 1,40,3,25:PRINT"[ESC] EXIT"
52010 KEY DEF 66,0,13:PRINT:INPUT"Enter phone ",po$
52020 IF po$=""THEN GOSUB 5000:RETURN
52030 po$=UPPER$(po$)
52040 FOR x=1 TO 500:IF INSTR(tel$(x),po$)=0 THEN 52060
52050 PEN 1:PRINT x;:PEN 3:PRINT name$(x);" ";:PEN 2:PRINT tel$(x)
52060 NEXT
52070 PRINT:PRINT:INPUT"Enter datafile to edit ",df
52080 IF df=0 THEN RETURN
52090 IF df>500 THEN PRINT"No such datafile":PRINT CHR$(7):GOTO 52070
52100 PRINT:PEN 1:PRINT df;:PEN 2:PRINT"Present name ";name$(df)
52110 PEN 3:INPUT"New name ",n$:IF n$=""THEN 52155 ELSE name$(df)=n$
52120 name$(df)=UPPER$(name$(df))
52130 PEN 1:PRINT df;:PEN 2:PRINT"Present phone ";tel$(df)
52140 PEN 3:INPUT"New phone ",t$:IF t$=""THEN 52140 ELSE tel$(df)=t$
52150 GOTO 52000
52155 GOSUB 5000
52160 RETURN
53999 REM *** List editor ***
54000 MODE 1:CLS:PRINT"[ESC] EXIT [ENTER] MORE [E] EDIT":WINDOW 1,40,3,25
54010 IF name$(1)=""THEN PRINT"No files to edit!":PEN 2:GOSUB 62000: RETURN
54020 LOCATE 1,25:FOR x=1 TO 500:IF name$(x)=""THEN 54050
54030 PEN 1:PRINT x;" ";:PEN 3:PRINT name$(x);" ";:PRINT tel$(x)
54040 IF INKEY(6)<>-1 THEN 54050 ELSE IF INKEY(66)<>-1 THEN RETURN
54045 IF INKEY$="e"OR INKEY$="E"THEN GOSUB 54070
54046 GOTO 54040
54050 NEXT
54060 GOSUB 5000
54065 RETURN
54070 PRINT:PRINT:PEN 1:PRINT"Editing datafile ";x
54080 PEN 1:PRINT"Present name ";name$(x)
54090 PEN 2:INPUT"New name ";n$
54100 IF n$=""THEN PRINT GOSUB 5000 ELSE name$(x)=n$
54110 name$(x)=UPPER$(name$(x))
54120 PEN 1:PRINT"Present phone ";tel$(x)
54130 PEN 2:INPUT"New phone ",tel$(x)
54140 IF tel$(x)=""THEN PRINT CHR$(7):GOTO 54130
54150 RETURN
55999 REM *** File editor ***
56000 MODE 1:CLS:KEY DEF 66,0,13:PRINT"[ESC] EXIT":WINDOW 1,40,3,25
56010 INPUT"Please enter datafile number ",x
56020 IF x=0 THEN 56120
56030 PRINT:PRINT:PEN 1:PRINT"Editing datafile ";x
56040 PEN 1:PRINT"Present name ";name$(x)
56050 PEN 2:INPUT"New name ";n$
56060 IF n$=""THEN 56120 ELSE name$(x)=n$
56070 name$(x)=UPPER$(name$(x))
56080 PEN 1:PRINT"Present phone ";tel$(x)
56090 PEN 2:INPUT"New phone ",tel$(x)
56100 IF tel$(x)=""THEN PRINT CHR$(7):GOTO 54130
56105 GOTO 56010
56120 GOSUB 5000
56130 RETURN
61999 REM *** Press any key ***
62000 PRINT:PRINT"Please press SPACE BAR":CLEAR INPUT:CALL &BB18
62010 RETURN
62999 REM *** Error handling system ***
63000 MODE 1:PRINT"Error! ";ERR;" at line ";ERL
63001 IF DERR=146 THEN PRINT:PRINT"No datafiles in memory":GOTO 63010
63002 IF DERR=147 OR DERR=148 THEN PRINT"Directory/disc full"
63003 IF DERR=144 THEN PRINT"Bad command - disc missing?"
63004 IF DERR=194 THEN PRINT"Disc write protected"
63010 PRINT:PRINT"Please press SPACE BAR to return to mainmenu":CLEAR INPUT
63020 CALL &BB18:MODE 1:CLS
63030 RESUME 25
```

Program listing by Paul Fairman

Brunword 32-Pin Font Editor by Simon Lucas

How many Brunword users would like to create brand new fonts but don't know how to go about it? Simple. It's called 'Microsoft Font Nicking' (TM). Those beautifully crafted PC fonts that you see can be converted onto the Amstrad quickly and easily using the info in this article and a PC bitmap 'MATRIX32.BMP', available from me. There you go, a use for a PC after all.

The font editor, in case you hadn't already twigged, is for editing existing fonts or creating new ones in two different ways. The first is by laboriously making a new font from scratch or, if you are also lucky enough to own a scanner, to scan in you own handwriting.

Even the latter method can be time consuming as it involves printing out a 'matrix' from the printer, filling in letters in the different columns and finally scanning back in the image ready to be edited by an art program and finally, by the editor itself.

Results

However, if you are willing to spend the time, results can be satisfactory and you can end up with a font looking just like your handwriting.

Lazy people like myself who can't be bothered with such hassles simply 'borrow' Microsoft's fonts with the aid of a PC, using my patented method that produces 'startling results in very little time!' The final output when printed with Brunword is excellent, better than the output from my PC! How does one achieve such marvels? Read on...

Requirements

For the purpose of this article, it is assumed that you own the following pieces of software: BMP-CON, DOS-COPY and MATRIX32.BMP available from me.

MATRIX32.BMP is a special bitmap that is required, described in more detail later. BMP-CON and DOS-COPY are available from that friendly PD librarian, Dave Stitson.

1st things 1st

The first thing to do is load up your PC and find a font that you would like to have as a Brunword font.

Enter PC Paintbrush located in Accessories. Go to File, Open and open MATRIX32.BMP. A picture will appear, rather like the one in figure 1, but without the letters.
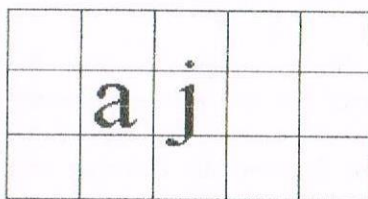

Figure 1

As you can see, there are 5 different sections, each 3 storeys high. Each respective section indicates the part of the letter - Ascender, Main body and Descender. In Paint, look at the toolbar to the left and select the button with the 'A' on it (the text option-see fig. 2).
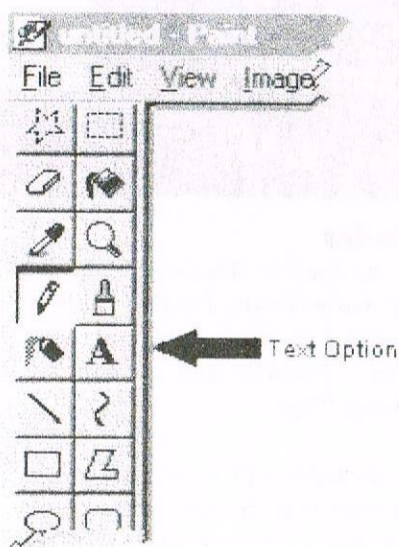

Figure 2.

Position the cursor in the middle of the first box and type in 'a'. Do the same for the second box but type 'b' etc. When you have finished filling in the letters, carefully erase the box surrounding the letters - the box is only a guide. Try to remove as much of the box as possible.

Save the file to disk using an eight-letter filename. Next, switch on the Amstrad (hooray!) and load up DOS-COPY. Insert a 3" disc with at least 130k free and the disk with the saved file into drive B. Select 'Copy MS-DOS to Amsdos' and press return.

On completion of copying, load up BMP-CON. When it asks 'select work drive' choose drive A and insert the disk that the file was just copied on to. Select the file and choose mode 2, all pixels and wait...

Save Me

Save the file onto a fresh disk and load up your favourite art program. Select mode 2 and the invert option to change white to black and black to white. Re-save the file and you are now ready to import the file into the Brunword Font Editor - *Phew!*

```
    *** 32 Pin Font Editor ***

    Copyright Brunning Software

    L - Load a different font

    E - Edit a character

    D - Download Save

    S - Save the font

    R - Reduce/Import Screen Chard

    Press a key
```

Although the process may seem long-whinded, in practice it does not take long and can sometimes only take 45 minutes to get a brand new font transferred onto your Amstrad.

The next step is repeating the above process until you have filled a disk with screen files containing all the characters of the font.

Editing

The final stage involves loading up the Font Editor. When the Font Editor loads, it catalogues the disk and states 'Enter a filename'. In order for you to create new fonts or edit existing ones, the font has to be resident in the memory in the first place so state a font filename and press |Enter|.

When the main menu is presented, insert the disc with the screen files on it and select R for 'Reduce/Import Screen Char'. Type the filename for the picture that contains lower case 'a' to lower case 'j', not forgetting the extension.

The program then asks you to enter the position of the character on the screen. In the first case, just enter 1 as we want to import the lower case 'a' character. If you want to import 'b' enter 2 as the position on the screen etc.

It then asks you for the screen offset. This is simply horizontal correction if you have not aligned the character correctly - ignore it initially unless you get bits chopped off of the character when importing it.

The next question, 'Width of character' is a simple question regarding the on-screen size of the character.

For example, if you import the letter 'i' the width would be very small, about width 10. If you import 'w' then it would be bigger, about 40. Of course, the size always depends on what sort of font it is - whether it is bold etc.

The final question that the program asks is what character the screen character is to be imported into.

Simply enter the letter of the character you are importing. E.g. if the screen character you are importing is an 'a' then press 'a' - simple really!
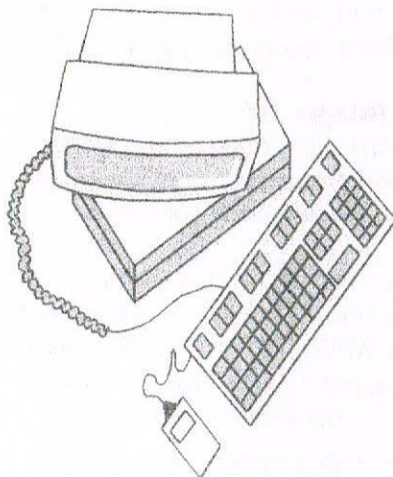
The character should now be imported and you will be presented back to the main menu. Press E for edit to finetune the character and repeat the process for each character until you have a whole new font in memory.
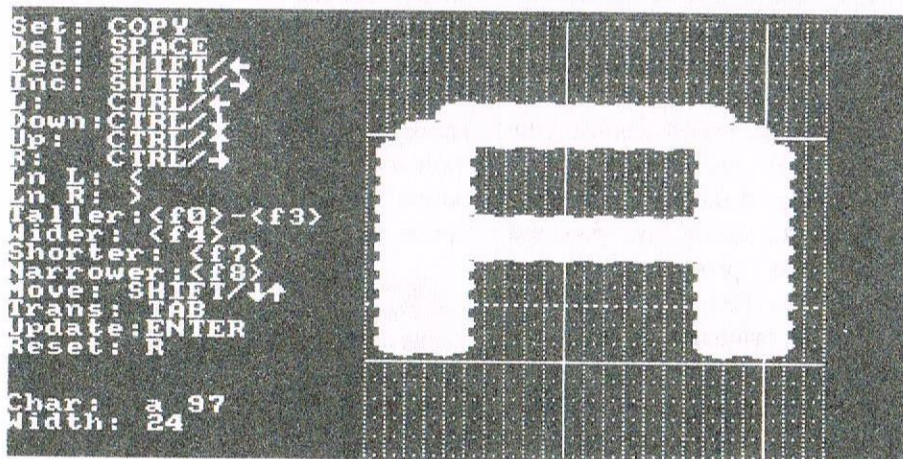
Save-ior

Save the font to disc, using one of either two methods. The first method only applies to those people who own 24-Pin printers and is entitled 'Download Save'.

This method is only to be used if you are certain that the font is complete and requires no more editing. The font, when saved must be 24-Pins

high so that the fonts can be downloaded quickly so printing speed is at the optimum.

The second option is to be used if you want fonts higher than 24 pins or if you have a 9-pin printer - it simply saves the file in a format that can later be loaded up by the editor.

Once saved the fonts can be loaded into BrunWord by pressing H when in the menu, or they can be loaded automatically when specified in the written text.

Only one external font can be in memory at any one time, so if you have many external fonts you wish to use in the same document, then you must make sure the disk stays in the drive at all times so that the fonts can be loaded in turn.

If anyone finds that I am going too quickly for them I apologise, but all will become clear if and when you purchase the Font Editor as the documentation that explains the program is very good. I do believe that Peter Brunning may still have a few copies left but please check with

him before departing with any money! If you require more info on the Font Editor or font transferring, then write to me at:

73 Palace Road,
Hampton Court,
East Molesey,
Surrey,
KT8 9DN

File Header Reader
by Ratz

*** Header Reader routine for RamRom project ***
(c) 1998 Ratz of STS

Add the following lines to last month's code!

Ratz digs out the CPC again after the Great British Beer Festival. Hic!

Hi people. Now we've got underway writing our masterpiece, we can really crack on. From here onwards, I'll assume that you have already typed in last month's basic rom listing, and I'll just give you additional code rather than the whole kaboodle all over again.

Ok, I hope you found last month's stuff pretty understandable; this months should be fairly easy to follow as well. It's a routine that allows you to examine the header of a disc file; you can see the type of file, where it goes, how long it is, and where it executes. Again, it's nothing earth-shattering, but the sort of utility you might need to use fairly often.

The assembly listing contains 3 major routines, labelled headread, hex_print and dec_print. The last two print out a 16-bit number as hexadecimal and decimal respectively; it's a bit beyond this article to describe exactly how they work, so I'll leave you to work it out! (hint - the hex routine just shuffles bits around and the decimal routine counts how many 10,000s, 1,000s, 100s, etc are in the number).

All you have to do is incorporate this code with last months's, add an entry in the name table and jump table, update the help page, save and re-assemble. Once you've loaded it on to the ramrom, you should have a new command, which you use as follows:

```
; *** add to jump table....

        jp headread

; *** add to name table....

    defb "RHEADE",  "R"+128

; *** add to help text....

    defb "|RHEADER,f$ - header info of file f$",10,10,13

; *** header reader routine....


.headread       ; *** reads file header and prints information ***


            dec a       :ret nz         ; return if no <>1 parameter
            call get_params             ; get len and adr of filename

            ld b,a                      ; b holds length
            ld hl,&170  :ex de,hl       ; hl = filename adr
                                        ; de = adr to load
            call &bc77  :jp nc,&bc7d    ; open file, return if error
                                        ; hl points to header address
            ld (iy+0),a                 ; store filetype
            ld (iy+1),e :ld (iy+2),d    ; store start address
            ld (iy+3),c :ld (iy+4),b    ; store length
            ld de,26    :add hl,de      ; look at bytes 26+27 of
            ld e,(hl)   :inc hl         ; header to get execution adr
            ld d,(hl)
            ld (iy+5),e :ld (iy+6),d    ; store execution address

            call &bc7a                  ; close down file

            ld hl,head1 :call string    ; print "start address"
            ld l,(iy+1) :ld h,(iy+2)    ; get start address
            push hl     :call hex_print ; print in hex....
            ld hl,head4 :call string    ; print slash
            pop hl      :call dec_print ; ... and in decimal

            ld hl,head2 :call string    ; print "length"
            ld l,(iy+3) :ld h,(iy+4)    ; get length
            push hl     :call hex_print ; print in hex....
            ld hl,head4 :call string    ; print slash
            pop hl      :call dec_print ; ... and in decimal
            ld hl,head3 :call string    ; print "execution address"
```

|rheader,"program.bas"
(CPC 664/6128)

f$="program.bas":
|rheader,@f$ (CPC 464)

```
          ld l,(iy+5)   :ld h,(iy+6)      ; get execution address
          push hl       :call hex_print   ; print in hex....
          ld hl,head4 :call string        ; print slash
          pop hl        :call dec_print    ; ... and in decimal

          ld hl,head5 :call string        ; print "filetype"
          ld a,(iy+0)                      ; get value of filetype

          or a          :jr nz,h_skip1    ; is it basic (0) ?
          ld hl,head6 :jp string           ; print "basic"
.h_skip1 cp 1           :jr nz,h_skip2    ; is it protected (1) ?
          ld hl,head7 :jp string           ; print "protected"
.h_skip2 cp 2           :jr nz,h_skip3    ; is it binary (2) ?
          ld hl,head8 :jp string           ; print "binary"
.h_skip3 cp 22          :jr nz,h_skip4    ; is it ascii (22) ?
          ld hl,head9 :jp string           ; print "ascii"
.h_skip4 ld hl,head10:jp string           ; print "unknown"


.head1    defb 13,10,"    Start address    :&",0
.head2    defb 13,10,"      File length    :&",0
.head3    defb 13,10,"Execution address    :&",0
.head4    defb " / ",0
.head5    defb 13,10,"         Filetype      :",0
.head6    defb "basic",13,10,0
.head7    defb "protected",13,10,0
.head8    defb "binary",13,10,0
.head9    defb "ascii",13,10,0
.head10   defb "?",13,10,0

.hex_print    ; *** prints hex value of hl register ***
              ; *** look at Programming the Z80 to figure it out! ***

          ld a,h    :call hex1            ; deal with hi-byte
          ld a,l                          ; then lo-byte
.hex1     push af
          rrca      :rrca
          rrca      :rrca
          call hex2 :pop af
.hex2     and 15
          add a,&90 :daa
          adc a,&40 :daa
          call &bb5a :ret


.dec_print    ; *** prints decimal value of hl register ***

.dp_10000 ld de,10000:call dec1           ; depending on how many 0's
.dp_1000  ld de,1000 :call dec1           ; you want printed, you can
.dp_100   ld de,100  :call dec1           ; call to different addresses
.dp_10    ld de,10   :call dec1           ; eg, if hl holds 36,
.dp_1     ld de,1                         ; call dp_10000 -> 00036
                                          ; call dp_1000  -> 0036
                                          ; call dp_10    -> 36
                                          ; versatile, eh?


.dec1     ld a,255                        ; set value to 255
.dec_loop inc a                           ; increase value by 1, ie first
                                          ; time, value will go 255 -> 0

          scf        :ccf
          sbc hl,de  :jr nc,dec_loop      ; can we take away power of 10?
          add hl,de  :add 48              ; no, so adjust value and
          call &bb5a :ret                 ; print it up on the screen
```

The program is pretty straight forward - firstly, it checks that only 1 parameter has been passed, then uses the routine get_params in the same way as the text routines last month. With HL pointing to the filename, DE pointing to a 2k buffer and B holding the length of the filename, the progam then calls the firmware routine at &bc77 to open the file.

If an error occurs, the file is abandoned (via &bc7d), and the routine returns to basic.

On returning, HL points to the address of the header, DE holds the start address of the file, BC it's length and A it's filetype. These values are saved into the rom workspace that we have reserved.

The routine then gets the execution address of the file from bytes 26+27 of the header, and saves this as well. The file is then closed down via a call to &bc7a, and the routine then sets about printing the results up, using the string routine from last time.

HL is loaded with the start address/length/etc and displayed in both hex and decimal. Finally, there is a section to display the file type (basic, binary, protected, ascii or unknown) which is again fairly easy to follow.

Right, that's your lot for this thrilling installment. Next month, I think we'll look at some disk routines. *See you then!*

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Members Spotlight on Simon Lucas

We have had our Amstrad 6128 for approximately 12 years (never failed once) but my love for this machine only came to light about 5 years ago when my uncle kindly donated all of his CPC gear to me..

I was content enough at the tender age of 11 with the few games and utilities that I possessed - they included the mere titles of Operation Wolf, Prince of Persia and the Tasword word processor, amongst a few other tapes.

The telephone call

One evening I received a phone call from my Uncle 'terminator' Wickens asking if I would like to have his 6128 as he was thinking of moving onto a PC.
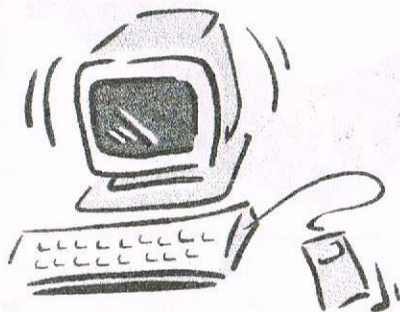
Obviously I did not refuse the offer but was somewhat surprised when he arrived with a 6128, about 300 3" discs and every Amstrad magazine ever published!

Saviour

[Who thinks up these sub-headings? I bet I could write anything and you wouldn't even notice]. I continued to collect Amstrad Action, but when that ceased publication I was at a loss as I could no longer buy Amstrad gear until WACCI saved me about two years ago (cheers all at WACCI).

Amongst other items in my room, I have a 486 PC running Windows '95, Office '95 (slowly) and the CPC emulator, about the only piece of software that does not crash or go wrong! [At this point Mr. Fairhurst points out that I should bin the PC and get a Mac instead] Oh, and a Yamaha CS1x MIDI keyboard! I may seem spoilt, but my parents, especially my dad insists the PC stays in my room as it is no use to him-it keeps on crashing! Also, they complain that there is no more room in the house.

Of course this means that I can easily transfer work to and from both computers - just copy onto 3.5" disc using DOS-COPY and bob's your mother's brother - either print off using the inkjet or run on the emulator!

Baboon

My room is also where I compose my music masterpieces that will make me lots of cash! Apart from my musical ambitions the keyboard will be used to aid me in my A-level music (yes, I know Mozart etc. composed without one of those, but he was a genius, but me...?)

Hardware for the Amstrad given to me by my uncle consists of a scanner, printer, modem, light pen, light gun, Grafpad drawing pad, Brunword MKIV, multiface, rom board and 3.5" and 5¼" disc drives. Now do you understand why my uncle is called terminator?

Pickle

On the non-computing side of things I enjoy swimming at Teddington Swimming Pool, making music, going to parties and eating lots and lots of Indian food!

I have a very cool doggy (a Jack Russel) called Izzie who is 2 this month, named after the famed bridge builder Izimbard Kingdom Brunel.
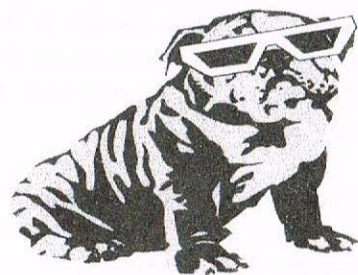
He knows many words but the most surprising must be that he growls at the mention of the words 'fat tummy' and 'chemistry' (I kid ye not-he seems to have associated the words with bad things such as patting his tummy after he has just eaten!)

Tree

I also have a fish called Cheese who frequently attempts to commit suicide by jumping out of his bowl, but I suspect that this is because of the fact the my dad keeps on putting him near sunlight (Doh!).

If anyone requires info on the new Brunword Fonts or game-swapping/ contacts write to:

73 Palace Road
Hampton Court
East Molesey
Surrey
KT8 9DN

Thanks Simon. Who will be under the Spotlight next month?   *Carol*

Negative Image

Making a negative picture FX's an interesting trick using both Advanced Art Studio and Microdesign+ see FIGS. 1&2 We'll start with Art Studio first I think...
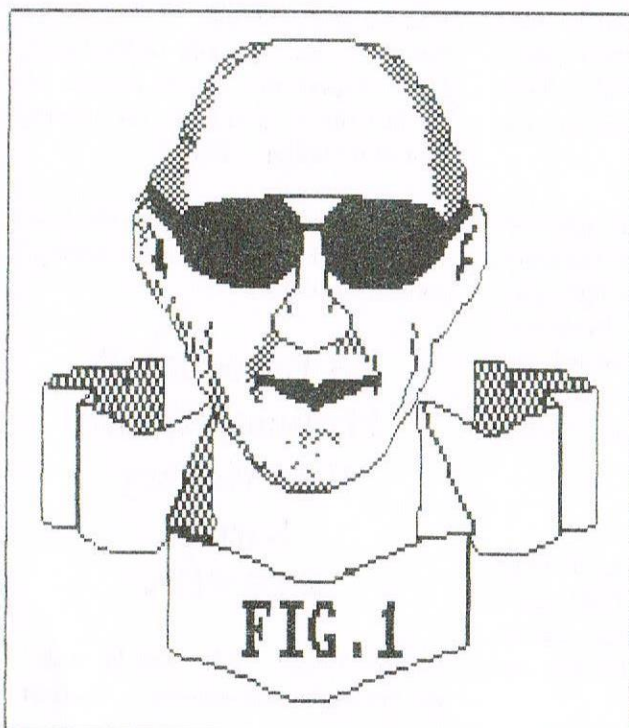
Draw or load your chosen picture or clip art in MODE 2, this mode gives the best results both on screen and at the printer even if you have a DMP200 or the like.

Using the WINdow option in Art Studio CUT out and save the section of the picture/clip art you want to transform

Go back to the WINdow option and click on the PASTE option. Now click on the XOR option.

Come out of the WINdow selection and go to FILL, choose BLACK and FILL the WHOLE SCREEN. Now drop back into the WINdow options and load your clip art from the FILE option.

Voila', the clip art thanks to the XOR ink command switches the inks creating a negative effect!

Doing it the MD+ way is a little more time consuming; of course you could just transfer the Art Studio negative into MD+ if you have BOTH programs. If not as before draw or load a picture or clip art of your choice into MD+.

Now whilst still in design mode press ENTER, then press f6 (the large black dot) and f3 (the reverse ink option).

Either start at the top or the bottom of the picture, it makes NO difference, HOLD the SPACE BAR and press either the right or left CURSOR key so the black dot runs through the picture.

STILL holding the space bar move the dot up/down/left or right NO MORE than the height/width of the dot itself. Carry on until the entire picture has been reversed...

Have you ever come across a MODE 2 picture that you'd like to put some colour into?

Here's how to take a mode 2 picture over into MODE 0 using Art Studio without
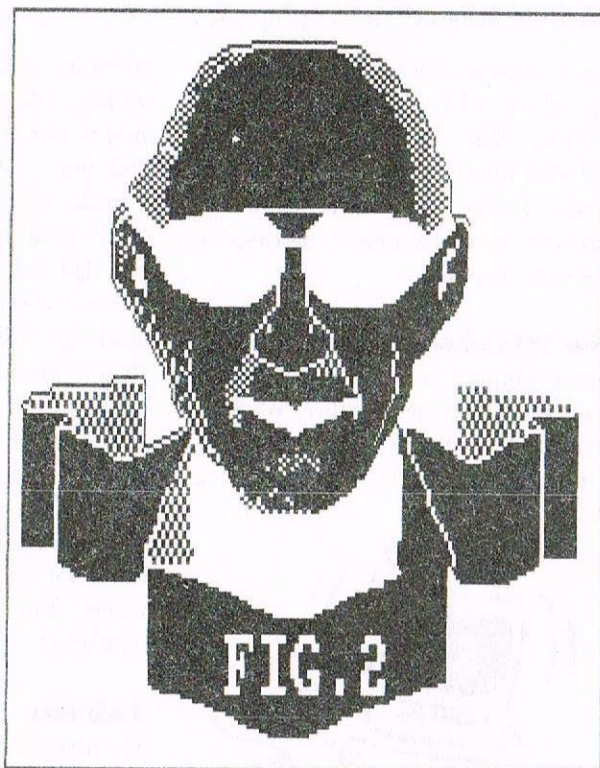
having to re-draw the entire thing, and only loosing a fraction of the resolution...

Load the picture into Art Studio's MODE 2 option. Go to MISC and click on MODE 1. Using the MAGNIFY X8 option REPLACE/ REMOVE any stray pixels that WILL have either doubled or vanished.

The amount of repair work that needs doing depends on the size of the picture your working on.

Go back to MISC and move the picture on into MODE 0. Now repeat the repair work only this time do so using the colours you want to insert into the picture... *EASY!*

Jonty

FIG.2

FIG.1

Are You Game For A Game?
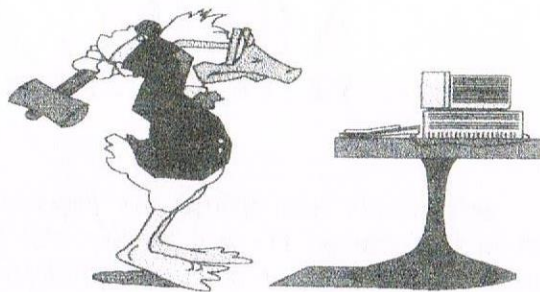
Angie shows us some more games to keep you entertained. If you have any game pokes or cheats then please send to along to Angie her address is on page 2.

Battle of the Planets

To load Battle of the Planets Run "Battle. Zoltar has declared Galatic War in your Universe.

Alien space craft surround each planet and after a certain time they will land on the planet and destroy the civilisation ? life of the planet.

Your performance in space will limit the amount of alien craft landing on the planet in that system.

On the planets you will repair and fuel ships that you may dock with in order to replenish and repair your space craft.

Your space craft is equipped with laser system, nuetron torpedoes and a long range scanner. The long range scanner has three main indicators that appear on the screen edges.

CONTROLS

Q to T UP   A to G Down
P and I Right   O and U Left
B to Space operates lasers
Cap's shift to V operates
neutron torpedo
K to increase speed
J to reduce speed
1 to 5 status instructions.

The Bard's Tale

To Load Type Run "Editor then press return or enter.

Main Menu

(L)   Load Party – you will be prompted for the name of previously saved parts, either from this program or the Bard's Tale game itself. Once the party has been located on tape or disk, the members of that party will be added to the Characters list. The Character list appears at the top left of the screen and can contain up to 114 different characters.

(S)   Save Party – this saves the party currently in the member's list ready to use in the game.

(C)   Character name – this takes you to the character sub menu which has the following options.

Character menu

(D)   Delete character – this deletes the highlighted character from the character list. Use the up and down cursor keys to move the highlighted through the character list.

(S)   See character – this shows the highlighted character's statistics in the same way as view character mode in the main game. Press the space key to exit this option.

The Pool Gold option does not work in the see character option and you can only trade items or gold with characters in the members list. Equip and drop item works normally.

(C)   Choose Character – this will add the highlighted character to the next vacant slot in the member's list if there is such a slot.

(R)   Rename character – allows you to input a new name for the highlighted character.

(B)   Back to main menu – returns you to the opening menu.

(M)   Member Menu – this takes you to the member sub menu which has the following options:

Members Menu

(106)   See member – this shows the selected characters statistics in the same way as the view character mode in the main game. Press the space key to exit this option. Pool gold, trade, equip and drop item work as in the game and only effect the characters in the member's menu.
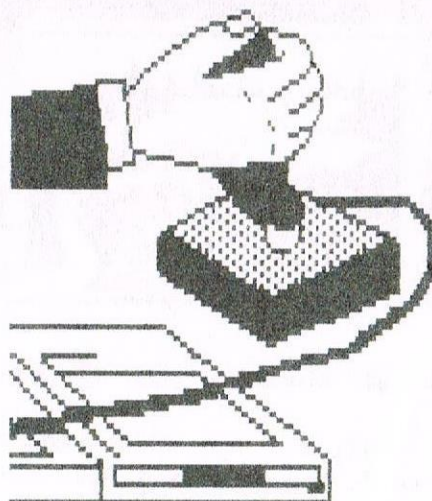
(R)   Remove member – at the prompt type the number of the character you wish to remove from the member's list and replace in the character list.

(N)   New Order – at the prompt type in the numbers of the members in the order you want them to match.

(B)   Back to Main Menu – returns you to the opening menu.

(Q)   Quit Program – leaves the program and go back to basic.

Angie Hardwick

# MIXING AND MATCHING
PETER ROGERSON

Here we are with another two pages of trying to prove the capability of the CPC to do things normally left to high-powered PCs and the like, this time with a bit of a retrospective of old, old games. After all, I guess that more games have been produced for the noble CPC over the years than have gorgeous serious applications, so they need a bit of considering, eh?

For the highest quality printout using dot-matrix printers and producing pages of combined text and graphics it might be necessary to use two programs and pass the paper through your printer two times. This will involve a great deal of measuring, of course, printing the text or illustrations first and leaving precisely the right spaces for their complements. But, besides fingers for the manipulation of keys we mortals have been equipped with brains, so it shouldn't be impossible, should it?

Right, then. Here goes. I'm back with that gorgeous old chestnut *Protype* for the wordy bits and am printing them on pages already containing MicroDesigned piccies. This way I can use a clear and crisp font, one unobtainable to me via any DTP for the Amstrad that I know of. I'm not attempting columns as Protext without the assistance of Promerge doesn't cater for them, and for my subject matter I'm going to look at a couple of games that came out way back in the nineteen-eighties, both of them the brainchild of a sibling duo, the Oliver Twins. But first, a reminder of one of the little tips I passed on to the unknowing last month. Breaking down screens into clip-art.

First, though, you must find the screens. If you've a pile of games discs there are probably a few useable loading-screens amongst the files on them, and here's you might consider going about finding them. CATalogue the disc and look for files that might contain screen code. Such files are invariable 17k long and have names like "SCREEN.BIN" or "GAME2.SCR". To look at them without having to go to the trouble of loading them into a graphics package is simplicity itself. Just type *Load"FILENAME.SCR",&C000* and it should appear on your screen like magic. The &C000 bit is the place is your CPCs memory where screen information is held. One of several things might happen when you do this. You might get the loading screen nice and intact or you might get it chopped about and displayed like a four-piece jigsaw puzzle with the pieces in the wrong place. These two are okay. You might, on the other hand, get a mishmash of indeterminate lines and colours. This is a consequence of loading something that is not screen into screen memory. It won't harm your CPC, of course, but it isn't pretty. You might also get what is clearly bits of a picture combined with loads of unwanted gobbledegook. This is what happens when a small-sized screen, say like that used by the Sinclair Spectrum, is displayed on the larger screen area of the CPC. For the moment, forget this kind, too.

Here's a typical loading screen, reduced (via MicroDesign Plus's reduction technique) by a factor of two.
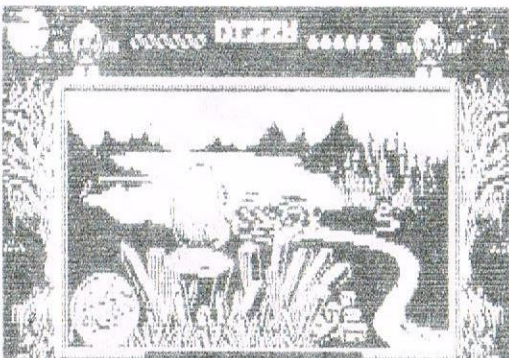
This was alluded to last month. It's the screen from *Dizzy*, probably the most famous game from the Codemasters stable. I read in an old new-stand Amstrad magazine that it was originally coded on a CPC 6128, so that's all right. *Dizzy* is a game that entertained my family when its junior members were a great deal younger than they are now. It is of the Graphic Adventure genre, which means the main character(s) has an adventure the solution to which involves the exploration of an alien landscape and the manipulation of some of the things he finds along the way.

I suppose the exploration bit is what drives people on. To go that one step further, solve that one insoluble puzzle and thus gain access to another dark area of nowhere.

Dizzy is an egg, which makes him an odd sort of hero. But he does wear boxing gloves, so I guess it's okay. But the great thing about him is that he is totally unreal, could never exist anywhere, is not living at all, which means when he gets stung to death by spiders or drowned in water (a single raindrop will suffice - I'm glad I don't share his neck of the woods with him) it doesn't really matter. His death isn't death at all, merely an irritation as a game splutters to an unbidden halt.

Dizzy was at first embraced by the Newstand computer magazines, then tolerated, then treated with the kind of sarcasm and cynicism that no egg ever deserved. But (and I have absolutely no statistics of any kind to support this) I'd be prepared to bet that the very first Dizzy game outsold all other 8-bit games by a considerable margin. Why, it may even end up, when computers are all dead and have been forgotten, as the biggest seller of all time, past, present and future. After all, it was released on its own, then in goodness-knows how many compilations and finally appeared as a freebie (that was a misnomer) on just about every 8-bit cover-tape there ever was. Then it appeared for the 16-bits and even made a cartridge appearance, I believe.

It involves our hero making his way across a sizeable landscape picking up the most unlikely things and using them in a variety of even more unlikely ways. So the raincoat stops it raining (sod's law, that) and the hard hat stops stalactites from falling. But what does that kind of science matter when an egg's searching the length and breadth of a virtual world looking for the ingredients from which he'll concoct a lotion and banish the dreaded wizard Zaks for ever and a day?
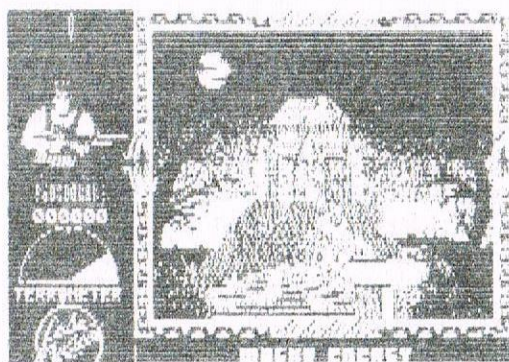
Before shrinking the screen I drew a block on the screen and created a couple of smaller .DR files. Here they are, complete and beautiful.
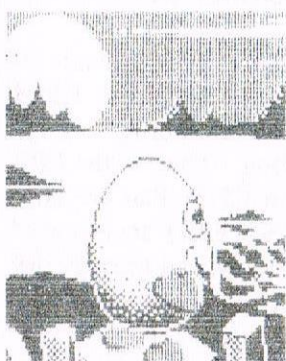
Both of these have already appeared in one form or another on the pages of this illustrious magazine and have been repeated in order for me to outline the method of creating cut-out .DR files. Firstly, select the FILE option (Ctr-F), then press f2 (which selects the SAVE option. Then mark the area you wish to save by rubber-banding the selection block and give it a file-name. And that's all there is to it. This is the same method you would use if you wanted to save part of any picture. For PowerPage the method is similar. Mark the block (shift-copy) and select the FILE option from those along the bottom of the screen. Then choose CUT from the SAVE sub-menu and Bob's you're uncle.

The programmers of Dizzy had already created Ghost Hunters when Dizzy was realeased onto an unsuspecting world. Ghost Hunters incorporates an early Oliver Twins favourite - digitised speech, but on the downside it's impossibly difficult to get far in. It involves searching through endless rooms in a haunted house for ghosts, and zapping them. On the way around magic potions help to revitalise you. But you'll still be dead before you get too far, take my word for it. In fact, Ghost Hunters is one of those games that keeps your attention for a while and soon relinquishes it as you hit upon that difficulty problem. It's only too soon that you realise that you're going to run out of energy before reaching the next foaming tub of goodness, and a message appears on-screen informing you that your Macho energy is low. I ask, you, Macho Energy! But the game has a loading screen and here it is, again reduced courtesy of Microdesign Plus. Ghost Hunters has every appearance of being an excellent game and is let down by not allowing the games-player to progress swiftly enough. Failure, or the fear of failure, keeps the game firmly locked away where time and a myriad microscopic life-forms will inevitably corrupt its magnetic soul.

And that's my assessment of two ancient games.

Finally, something that's been on my mind for some time. The CPC was launched in 1984, with the disc machines waiting until 1985, and until the plus models came out years later they were untouched by Sugary hands. The machine I'm using now is identical in every respect to when it left the factory in 1985. Yet over the years the programmers have performed ever-increasing miracles as they have honed their skills. In those early days, when, say *Roland in the Cave* was being created, they had exactly the same machine with exactly the same capabilities as did the mortal who created Prehistorik 2. Yet the two games are so far apart in every single respect that they might have been written on two computers that were silicon generations apart. It makes one wonder how much the computer has taught the men who created it, and just how swiftly they learned.

Right then. To remind you, the pictures in this article were printed courtesy of MicroDesign Plus and the text via Protext under control of Protype. And the pages were printed twice. Simple.
Peter Rogerson

The CPC And The Year 2000 by John Hudson

Though the CPC has an internal clock, it only counts in 300ths of a second and it starts from 0 every time you turn the CPC on.

Programs which run under AMSDOS can use this clock to keep track of time if the user enters the time every time they run the program. The only AMSDOS programs which are likely to use dates are accounting and spreadsheet programs but they are unlikely to use the internal clock.
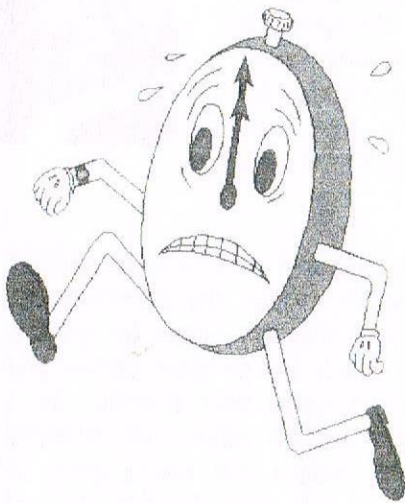
If you are using such programs, you need to check that they will not produce nonsense on 1 January 2000 but, before you try this out, make sure you back up any existing files and/or test a backup of the program so that you don't cause any disasters for yourself.

If you are using dates in RAMBASE, you MUST enter them as eight character dates like 19980205 (for 5 February 1998) in order to make your RAMBASE files work properly after 31 December 1999.

CP/M 2.2 has no clock functions but CP/M Plus maintains a system clock which starts at midnight on 15 December 1982 every time you load CP/M Plus. This can provide dates into the 22nd century. The CP/M Plus system clock is designed in a similar way to many PC clocks.

It can take the date from a battery backed hardware clock such as the KDS Realtime Clock (whose hardware still appears to work but whose software is not up to it!) or from a program such as DATE.COM supplied by Digital Research.

Unfortunately, DATE.COM stops working on 31 December 1999 and uses US format dates; fortunately, John Elliott came to our rescue over four years ago with a patch which allows you to create XDATE.COM which works until 31 December 2077 and uses UK format dates. (Thanks to Angela for contacting John Elliott and getting his permission to place it in the PD library.)

I don't know of any CP/M Plus software which directly uses the CP/M Plus system clock except DATE.COM, XDATE.COM and SC2DATE.COM. The most likely candidates are accounting programs.

Supercalc2 does not use the CP/M Plus system clock because it was written in CP/M 2.2 days - which is why I wrote SC2DATE.COM to plug this gap.

The only Supercalc2 function which will not work in the 21st century is TODAY but you can work round this by changing every reference to TODAY to TODAY +36524.
All the other Supercalc2 date functions rely on Supercalc's internal Julian calendar which runs to the end of the 21st century. Perhaps WACCI members who have experience of other CPC or CP/M programs which use dates or know of fixes for year 2000 could send them in.

To answer Nora Lees' queries in WACCI 117, the CPC and CP/M Plus use various ways storing date and time information. Time in the CPC and the day in CP/M Plus are both stored as numbers which are increased every 300th of a second or every day respectively.

Time in CP/M Plus is stored in a special form of binary called Binary Coded Decimal (or BCD). What we see on our screens is a result of translation whether by BASIC in AMSDOS or by a CP/M Plus program which takes these numbers and converts them into a form which should make sense to us.

So the CPC never does `recognise' the year 2000 - it is just another day number (in CP/M Plus) which happens to be over 8035. It is the software which has to recognise this and put 20 rather than 19 as the century.

The real difficulties are not in our world but in the worlds of process engineering and large computers many of which use a `text' string like `05/02/98' rather than a day number to store a date.

As far as larger computers are concerned, the big consultancy firms are coining it in by persuading people that they have a problem (they probably have) and charging them fat

fees to sort it out. One company I know is training 20 new COBOL programmers from scratch every three months to keep up with the demand.

But this is unlikely to `solve' all the problems because COBOL is fiendishly difficult to understand and novice programmers may not pick out some of the tricks older programmers would spot.

In the world of process engineering, things are more serious as some equipment relies on hardware clocks which cannot recognise the 20th century.

Firms which have bought supplies on the open market probably don't know which of their hardware clocks will work beyond 1999. Finding this out is probably the biggest problem more so if the hardware clocks are fitted to equipment at your local intensive care unit.

For the benefit of PC users, I have discovered that my PC (AMI BIOS + DR DOS) stores 2000 as :0, 2010 as ;0 and so on - in other words, it offsets the decade by ten characters in the ASCII sequence to indicate that the decade is in the 21st century.

I don't know if Bill Gates has spoiled this nice idea by putting in his own way of doing it in Windows.

Your best bet - draw out enough money to last you at least ten days before 31 December 1999, fit a new burglar alarm guaranteed to work beyond 31 December 1999 and don't go skiing or indulge in any dangerous sport which might land you in hospital over the *New Year*.

You could also write to your bank, building society, credit card provider, employer, pension provider, etc. seeking an assurance that their equipment will be fully 2000 compliant by 31 December 1999 and threaten to go elsewhere unless they provide that assurance.

New BrunWord Fonts

Hello Brunword User! Simon Lucas and WACCI proudly present to you four completely new fonts for use with BrunWord, created using the 32-Pin Elite Font Editor. The fonts include Comic Sans Bold, Comic Sans Mead, Harrington and Tempus, each with their own unique character.

To take advantage of this offer, send your disc (3" or 3.5", any format) along with a SSAE to me to receive these fonts **ABSOLUTELY FREE!**

Write to: 73 Palace Road,
               Hampton Court,
               East Molesey,
               Surrey,
               KT8 9DN.

Here is a demo of the fonts:

TEMPUS
New typeface giving a more relaxed appearance.
The quick brown fox jumped over the lazy dogs.

HARRINGTON
Old style typeface giving a clean appearance.
The quick brown fox jumped over the lazy dogs.

COMIC SANS MEAD
Cheeky style giving a pleasant appearance.
The quick brown fox jumped over the lazy dogs.

COMIC SANS BOLD
Cheeky style giving a pleasant appearance.
The quick brown fox jumped over the lazy dogs.

Programmers' Patch by Matthew Phillips

The last couple of articles have looked at the "official" differences between BASIC 1.0 and 1.1, but there are several other differences that come under the general heading of Bugs. These are things that weren't meant to happen but did, and this is how to deal with them.

A PROBLEM IN THE PRINT WORKS Once I had finished writing the |SCAN RSX which was published in June, I tested it out on the Crib game from WACCI PD disc 6. As it stands, the game does not work on the 464, mostly because of extra parameters in graphics commands.

The |SCAN RSX identified all of these, and after I had altered the lines, I ran the program expecting it to work. Alas! several cards printed in the wrong place, and the screen scrolled up.

This was because of another difference between BASIC 1.0 and 1.1. It is not actually documented in the manuals, and is all to do with the "word-wrap" feature of the Amstrad's PRINT command.

Try the following:

```
BORDER 25:MODE 1:
LOCATE 39,1:PRINT"Hello"
```

The LOCATE command puts the cursor near the end of the top line, but because the string "Hello" is too long to fit on the line, the cursor moves down to the start of the next line to start the printing. This feature is documented in the manuals, and to override it you should do

```
PRINT USING"&";"Hello"
```

For ordinary strings the 464 and 664/6128 behave exactly the same. The difference comes when you have control characters in the strings. Characters 8-11 move the cursor, and it is sometimes convenient to store combinations of printing characters and cursor movements in a string.

For example:

```
10 a$=chr$(135)+chr$(139)
+chr$(10)+chr$(8)+chr$(8)+
chr$(141) +chr$(142)
20 MODE 1:LOCATE 5,6:PRINT
a$
```

This little program prints a square box on the screen. Now try altering the LOCATE command to position it at 39,6 - just at the end of a line. In BASIC 1.1 the box will print at the end of line 6, but in BASIC 1.0 it prints at the start of line 7.

This is because BASIC 1.0 uses a simpler method for deciding whether to start a new line. The computer just looks at the length of the string, and if it is longer than the number of characters left on the line, it starts a new one before printing.

BASIC 1.1 looks through the first few characters of the string to see if there are any control characters among them. If there are(say) six spaces left on the line and the first seven characters in the string are ordinary characters (with ASCII values of 32 or above) then a new line is started before printing.

Otherwise the string is printed at the current cursor position. This complicated behaviour of the PRINT command in BASIC 1.1 is not explained in the user guide. Even that is not quite the whole story, as when looking at the beginning of the string, CHR$(1) is treated differently from the control characters. CHR$(1) itself is ignored and the next character is treated as an ordinary character rather than a control character. This mirrors the effect that CHR$(1) has on printing.

Having gone into all this detail, the cure for this difference between the versions of BASIC is usually quite simple. If you encounter a PRINT command which is printing a string containing control characters, then you should use PRINT USING"&"; instead.

Programs so altered will still work on the 664/6128. There may be extremely subtle cases in which this method won't work, but now you know all the details you will be able to sort it out!

REMARKABLE REMS

BASIC 1.0 does not cope at all well when you put certain characters in REM statements. Many of the control characters cause odd effects, while characters over 127 are mostly converted into BASIC keywords.

The RSX character "|" causes the next character in the REM to disappear when listing. This difference is not very important because programs with these characters in REM statements will run as normal. They will just produce odd results when listing to the screen or printer.

CALLED TO THE BAR

464 users will be very familiar with the restrictions on using string parameters in RSX commands.

While in BASIC 1.1 you can type:

    |ERA,"*.bak"

on the 464 you have to use the cumbersome

    a$="*.bak":|ERA,@a$

This is actually a bug, as you were meant to be able to use the direct version, but Locomotive Software did not get it working for the 464.

Remember that on the 664/6128 you can also have results of string functions, such as LEFT$, as parameters to CALL or an RSX.

To solve this problem you can put the parameters into temporary strings as in the example above, or if there are a lot of them it may be easier to run Listing 1.

This listing is by Dominic Wise and was printed in Amstrad Action issue 53, February 1990. (Let's hope they don't mind us reprinting it...) This listing gives 464 users the ability to pass strings directly to RSXs and CALL commands.

The real techies among you may like to get out your disassembler to find out how it works. It seems to use a patch block at &AC04. There are nine of these blocks of three bytes from &AC01 to &AC1B on the 464, and they can be used to patch various Upper ROM functions. There is no such block on the 6128. I have not seen an explanation of what these blocks are for, so count that as my request on the article wish-list!

LINE INPUT

There is also a bug with the LINE INPUT command. It is meant to work in the same way as the INPUT command, in that

    LINE INPUT"Name";a$

should print up the prompt "Name" followed by a question mark and a space. A comma instead of a semicolon suppresses the question mark. On the 464, however, the question mark never appears. This will not cause many problems, but the screen display may turn out not quite as the programmer intended it.

If you are a 664/6128 user who wants your program to run on a 464, always use the comma, and provide the question mark and space yourself.

If you are a 464 user you may find when running your programs on a 664/6128 that extra question marks will appear. You should always use the comma as well. The command with no prompt:

    LINE INPUT a$

will produce a question mark on the 664/6128. If you want to avoid this happening, use

    LINE INPUT"",a$

Thanks to Richard Fairhurst for pointing this one out, which I was completely unaware of. I will now have to go through my own programs to check the LINE INPUTs.

GETTING THE SUMS WRONG

There are a few areas where the 464 is "arithmetically challenged". For example, try

    PRINT (-1) ^ 1

On the 464 you will get "1" while the 664/6128 will print the correct answer of "-1". The same applies to any other negative number. Of course there is not much point in raising something to the first power, but if you had variables involved it could cause problems.

Another more serious problem affects logic statements and the IF command. As we explained in March 1997, all logical expressions are evaluated to give a number, and if the number is not zero the expression is considered to be true. For example,

    IF 7 AND 3 THEN PRINT"Cheese"

will print "Cheese" because 7 AND 3 is 3 (which is not zero). Sadly, 464 BASIC has a bug because if the expression yields an integer value where the least significant byte is zero the expression will not be considered true, even if it is! The following statements will not print "Cheese" on the 464:

    IF 256 THEN PRINT"Cheese"

    p=256:IF p AND 256 THEN PRINT"Cheese"

    IF 1024 THEN PRINT"Cheese"

Those are just a few examples, and there are many more like them. Note, however, that the following two statements do print "Cheese":

    IF 2 ^ 8 THEN PRINT"Cheese"

    IF 256.0 THEN PRINT"Cheese"

This is because BASIC is treating the numbers (which both work out as 256) as real values rather than integers. In fact, if you enter the following two lines:

    10 IF 256 THEN PRINT"Cheese"
    20 IF 256.0 THEN PRINT"Cheese"

then LIST the program, both lines will display the same, but because line 20 has 256 stored as a real number it will print "Cheese"!

If you suspect bugs in a program to be due to this fault, just put brackets round the whole expression and "<>0" after it.

This will force the computer to treat non-zero values as true.

There are several other arithmetical bugs that affect all the CPC machines, which are mostly the result of rounding errors when using floating point numbers.

SWEEPING UP THE GARBAGE

The 464 is very slow on garbage collection. If you increase the length of a string, BASIC stores the string in a new area of memory, and eventually the old chunk will be reused.

Garbage collection is when BASIC goes through memory tidying up all the string storage. The string handling on the 464 is much less efficient than that of BASIC 1.1, and this can cause severe problems.

Sometimes the machine seems to hang up for a few seconds unexpectedly, and sometimes you run out of memory altogether.

One thing that can sometimes help is to force BASIC to do the rounds more often. If you put

dummyvar = FRE("")

at strategic points in a program, this can stop the problem building up. The garbage collection is most likely to be needed when BASIC requires vast amounts of memory suddenly.

Whenever you open a file for reading or writing, 4k of memory is needed for use as buffers, and when you only have 64k RAM, this is a very large amount to get together. In order to find this memory, BASIC rearranges the string storage space.

Unfortunately if the name of the file you were about to load was in a string variable, a bug on the 464 means that sometimes BASIC loses track of the name of the file, resulting in a "File not found" error.

The best way to get round this is to reserve the file buffers at the start of the program, so that they are always available and BASIC does not have to waste time garbage collecting each time a file is opened. To do this, just insert the following commands at the start of a program:

    SYMBOL AFTER 256:
    OPENOUT"d": SYMBOL AFTER
    240:CLOSEOUT

After opening out a dummy file, we reinstate the user definable characters, which lowers the level of HIMEM, trapping the file buffer above it, so that when the CLOSEOUT command arrives BASIC is unable to return the file buffer to normal use.

If the program has a SYMBOL AFTER statement in it already, then you can put the OPENOUT and CLOSEOUT around that.

The same method works on the 664/6128, and if a program needs file access, it doesn't do any harm to reserve the buffer in readiness. Another bug on the 464 relates to

loading binary files. If you haven't reserved a file buffer as described and load a binary file into memory, BASIC creates a file buffer, but does not free the memory once the file is loaded as it should do.

Issuing a CLOSEIN command immediately afterwards will cure this one.

KEYBOARD LAYOUT

One last difference between the CPCs is the keyboard layout. The 6128 has a totally different layout, but for once the 464 and 664 have much the same design (apart from the 664's mammoth blue cursor keys).

Sometimes keys are chosen that work well on the 6128 but not on the others, and vice versa. It is usually easy enough to sort it out.

One feature of the 6128 is that it is possible to do CTRL-SHIFT-ESC with one hand. I am not convinced that this is an advantage!

There are doubtless other slight bugs with the 464's BASIC and firmware. If you know of any, why not write in to Fair Comment and let us know.

Until next month, happy programming.

Matthew

Listing 1.

```
10 MODE 2
20 INPUT"Assemble to &BEC0?",a$:IF UPPER$(a$)="Y" THEN st=&BEC0:GOTO 40
30 INPUT"Assembly address?",a$:st=VAL(a$):IF st<=HIMEM them MEMORY st-1
40 FOR n=0 TO 6:t=0
50 FOR m=0 TO 8:READ a$:x=VAL("&"+a$):t=t+x:POKE st+d,x:d=d+1:NEXT
60 READ a$:IF VAL("&"+a$)=t THEN NEXT ELSE PRINT"Error in line"10*n+90:STOP
70 FOR n=0 TO 2:POKE st+26+n,PEEK(&AC04+n):NEXT
80 CALL st+39,st:CLS:PRINT"RSX strings utility installed at &"HEX$(st,4)"."
90 DATA 7b,fe,0d,20,14,e1,d1,d5,e5,526
100 DATA 21,3b,01,19,20,0a,3e,02,32,112
110 DATA c1,b0,e1,2a,c2,b0,37,5f,c9,54d
120 DATA c9,c9,21,9c,b0,22,9a,b0,b7,522
130 DATA 08,d9,c9,3e,c3,32,04,ac,eb,478
140 DATA 22,05,ac,3e,cd,32,ac,b9,11,386
150 DATA 1d,00,19,22,ad,b9,c9,00,00,287
```

ROMing About
by Jonty Jones

ROM's fiddly at the best of times, expensive at others. You've read about them, you've bought them but just how do you handle them? Or even posting them off to a buyer etc, lets take a brief look at ROM's ROM boards and box's...

LET THERE BE LIGHT

Either a commercial OR a ROM containing PD software be it a single or double ROM they ALL have one thing in common - a label of some sort on the back. This label be it a commercial label depicting the company's logo etc or just a piece of coloured sticky tape MUST NOT be removed UNLESS you are about to BLOW a new program onto it. ROM's are erased using UV's (Ultra Violet light). If you wish to replace a damaged or poor label do so ONLY when you have no choice and do so under dim light conditions.
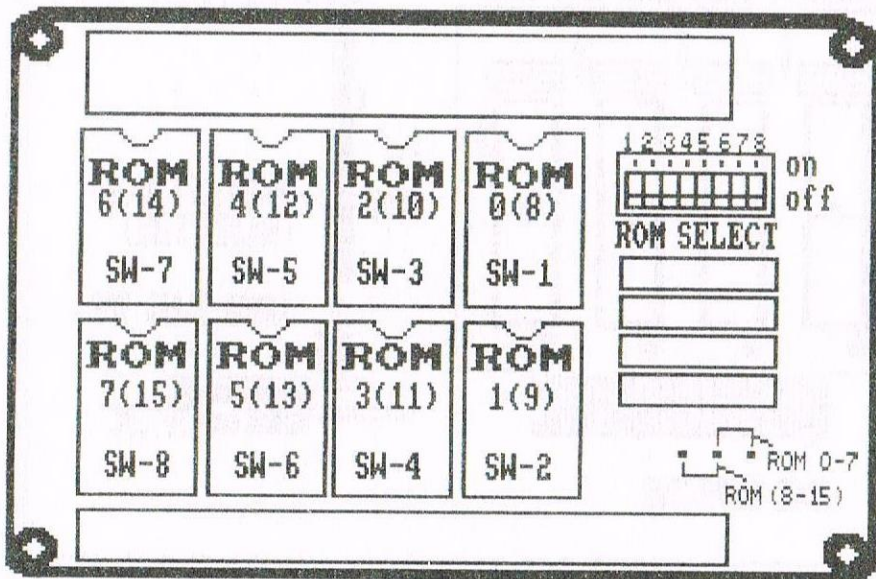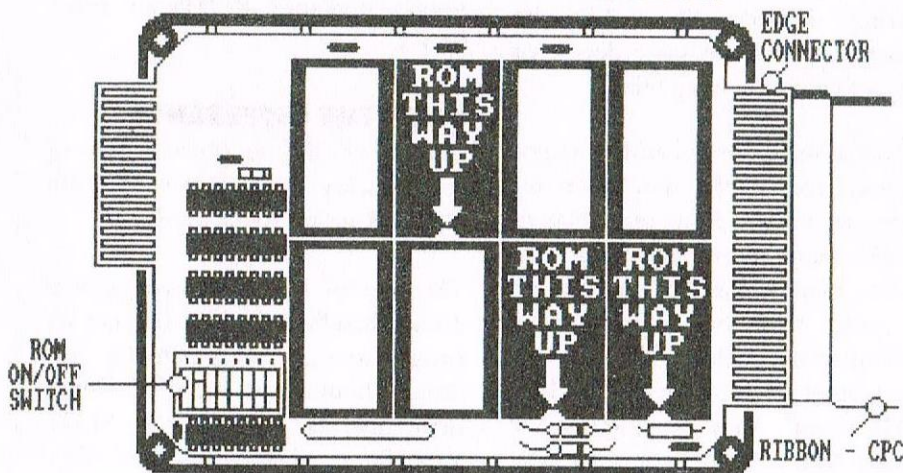
IT'S UP-LIFTING

To remove a ROM from a box or board extreme care MUST be undertaken at all times. The SILICON ROM body is quite tough in itself but the thin legs *aren't!*

Lever the ROM out from it's housing by levering each END of the ROM a fraction at a time with a small jeweller's screw driver or similar. In

FIG.1

FIG.2

Rombo ROM box

FIG.1

LIFT
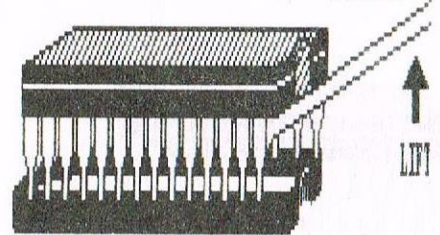
around two motions per end the ROM SHOULD pull free. If not repeat until it can. Older ROM boards/box's that you inter-change ROM's to from will release their ROM's much easier so DON'T be too heavy handed *see fig 1.*

PUTTING THE ROM BACK INTO ROMBOX

Replacing a ROM into a ROMbox or board is obviously easier than removing one, but care IS still the watch word here.

There are several possible way's of damaging the ROM's STATIC, LIGHT EXPOSURE to name a couple. The TWO most common mistakes are - FITTING ROM's UPSIDE DOWN and BENDING THE LEGS.

When you come to replace a ROM look carefully at the ends of the ROM and on one of the ends you should find a small NOTCH-like dent? All ROM box's or ROM boards have a similar dent or sunken end to their slots.

FIG.2
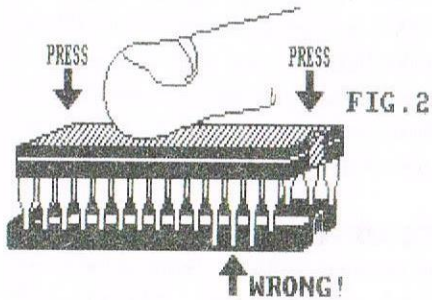
When fitting the ROM(s) line up the notch's or dents. IF for some unknown reason your box or board hasn't(?) then ONLY fit ONE ROM at first, one way or another you'll SOON know if it's in right.

ALL the legs MUST be INSIDE their allocated slot positions or the ROM won't sign on, see fig.2.
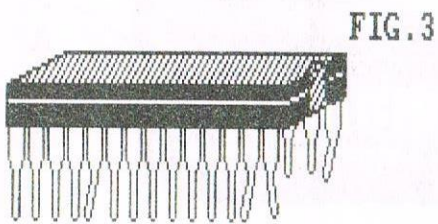
FIG.3

BENDING AT THE KNEE'S...
BEGIN Bent legs to the most part can be repaired by hand even in extreme cases as in fig. 3. But it must be noted that these legs will always be weak.

Snapped or cracked legs can be repaired using solder but again they'll be weak and the work this would demand at best will be outstripped at the cost of an actual replacement ROM (around £5.00).

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(ARNOR BOARD TOP VIEW)   (ARNOR BOARD BOT VIEW)

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INTO CPC

ROM

PROTEXT OR MAXIDOS

BOARD SETUP

(HONEYSOFT BOARD BACK/SLOT VIEW)

ROM ON/OFF SWITCH

ROM SLOT

HONEYSOFT BOARD (SOLDER SIDE)

ARNOR BOARD TOP

TO CPC

EDGE CONNECTOR
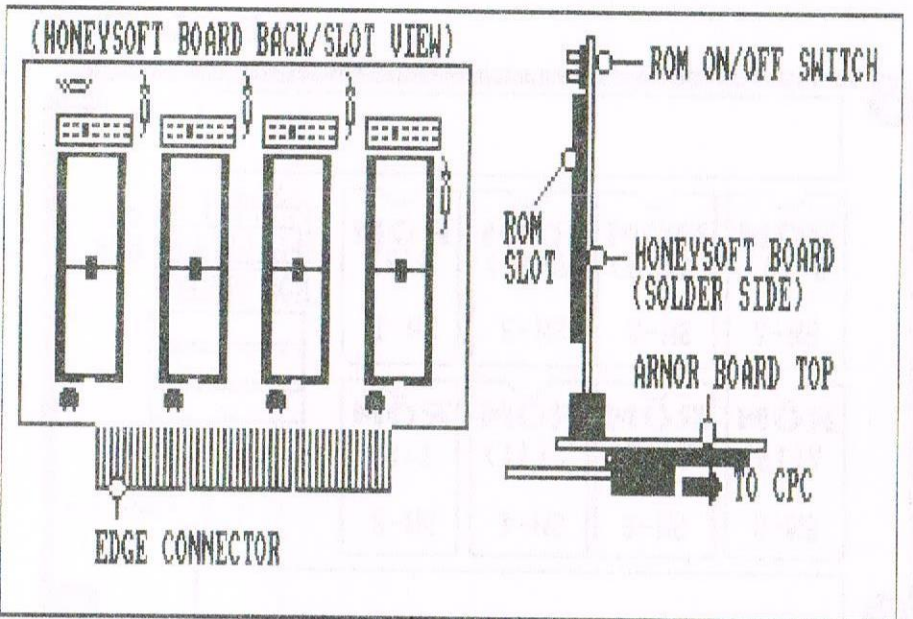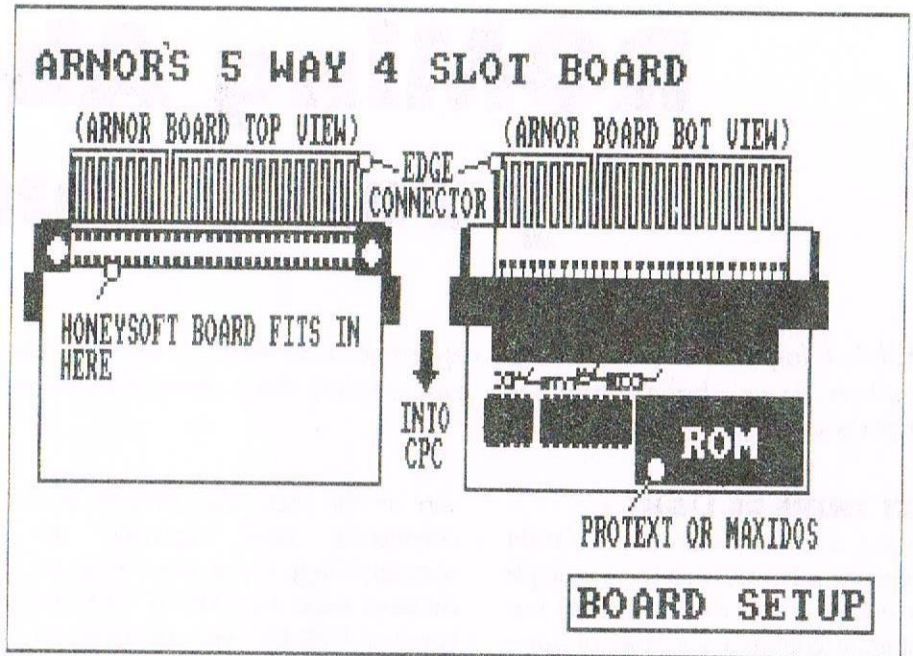
TO WHOM IT MAY CONCERN
Posting ROM's SHOULD be undertaken with the same degree of care as fitting/removing them.

As well as some form of cushioning or support the ROM would favour better with some form of shielding. ROM's have been suspected that ROM's may be erased from build up of static whist being handled by mailing services. The quickest and by far cheapest form of shielding is TIN FOIL. Gently wrap he ROM in the foil and then either place it in a special ROM posting box (if you have one) or sandwich it (them) in a piece of foam etc. All postal and or ROM handling companies won't hold any blame for poorly packaged ROM's or other goods.

SPOT THE DIFFERENCE
This article has an obvious lack of techi quality to it, it was in truth NEVER meant to have any.

The idea of this article was geared around handling the hardware not it's programming. Accompanying this article should be a set of drawings depicting the ROMBO 8 SLOT ROMBOX and the ARNOR 5 WAY 4 SLOT ROMBOARD.

Jonty

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