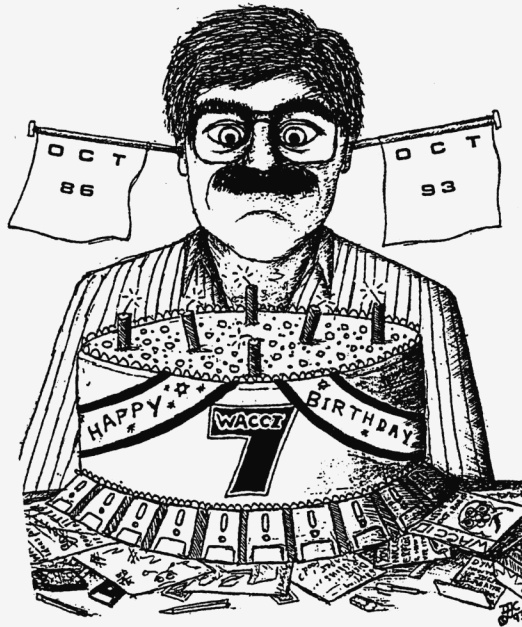


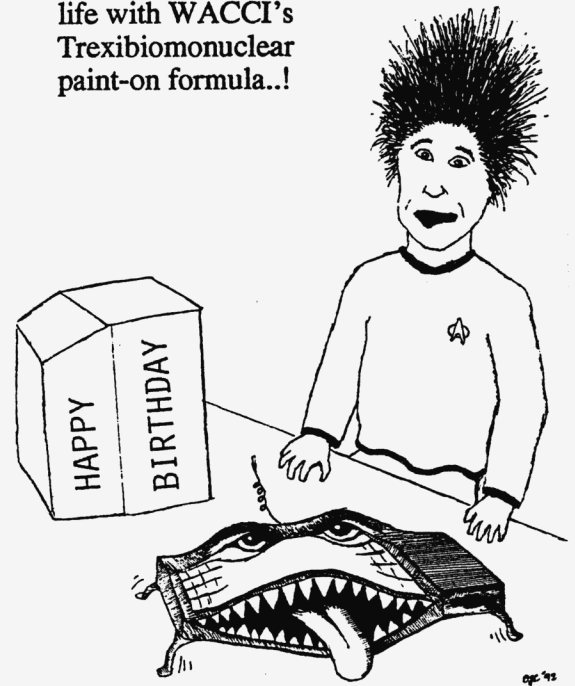
ISSUE 75
FEBRUARY

£1.50
1994

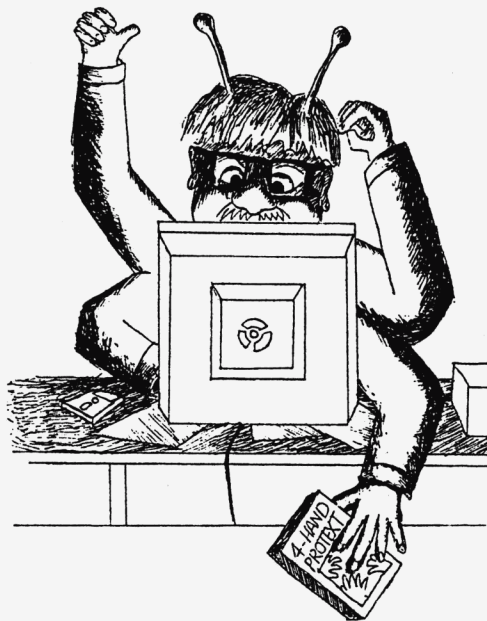
WACCI



See your CPC come to life with WACCI's Trexibiomonuclear paint-on formula..!



WACCI PROBE:
MONITOR RADIATION :
ADVANTAGE OR HAZARD ?



*We wake in the morning,
And grow old with the day.
Night brings peace;
Souls are released
To all the it new.
Then dreams come true.*

David Carter (1970 - 1994)

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MIDDLE PAGES - THE PULL OUT SECTION

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WACCI is distributed by: Russell MacDonald, Luck, and they who put the cost of stamps up!

WACCI: The club for Amstrad CPC computer owners.

FRONT COVER: by David Carter.

THE TELEPHONE HELP-LINE

BRIAN NORRIS, (0832) 273973, Peterborough specialist on MasterFile III, plus general advice

STEWART PEPPIATT, (0245) 353903, Chelmsford, Basic, M/Code, DMP2000, VDE, Scrivener & general problems.

PETER CAMPBELL, (041) 554 4735, Glasgow, OCP Art Studio, Vidi, Basic, MicroDesign & Art Programs, CPC plus m/cs and of course VideoMaster.

FRANK FROST, (0983) 882197, Isle of Wight 4pm to 10pm, VDE, CP/M and Protex.

IAN NEILL, Work (0926) 416157 9am to 5pm, Warwick Eprom blowing, Hardware, Electronics and more.

PETER CERESOLE, (081) 878 0391, London, Protex, Promerge, Utopia and Nukes. (Amateur status. -Ed.)

PAUL DWERRYHOUSE, (0244) 534942, Deeside, Clwyd, Basic, Bankman, PD Planner, Ispell, Accounts, etc

LAURENCE SAUNDERS, Herts, (Home) 081 953 8827 Maplins & technical help. (Work) 081 951 0969

NIGEL MELLS, (0784) 250763, Ashford, Tape to disc problems, Basic programming and a general natter.

MIKE LYONS, (0942) 59942, Wigan, Basic, Stop Press, Dk,tronics Speech Synth, Rodos and general help.

STUART GASCOIGNE, (0272) 777828, Bristol, Basic, Machine code and PD Discs 19 to 36.

CLIVE BELLABY, (0602) 725108, Nottingham, 8 tp 9pm Basic, Cobol, Forth, CP/M, Writing, Editing.

JOHN BOWLEY, (0733) 260616, Peterborough. Help and advice about the Book Library (but don't ask what the competition answers are)

MARTIN YOUNG, (0224) 480217, Aberdeen, M/c code, The audio/video chips, Page Setter 64, C and the (by special request) RAM Music Machine.

CHRIS GREEN, (0895) 633641, 5pm - 9pm, Middlesex, MS800, CP/M Protex/Prospell/Promerge, PowerPage, OCP Art Studio, NC100 Notepad Computer, The Plus Computers and DTP.

This help-line is provided on a voluntary basis by club members to assist other members. This service is provided to help you. Please call help-liners between 7pm and 9pm (unless stated otherwise.)

If we receive reports of this service being abused by software pirates we will close it immediately.

WACCI

Edited By: The Management

Owned By: The Club Members

Phone: 0602 725108

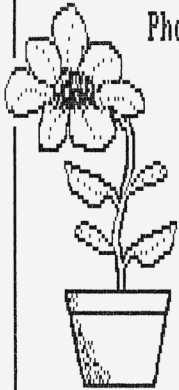
Conceived and Founded

By: Jeff Walker

In: October 1986

Developed and expanded

By: Steve Williams



THANK & STUFF

The New
Editor

Well WACCI has reached the grand old age of 75 .. There ought to be a celebration for 75 .. it's a long way from 50 (and almost as far to 100!) Had it not been for the sad news of David Carter's death, I would feel like celebrating, as it is, I feel at somewhat of a loss as to what to say or do .. I suppose we should give thanks for the blessing we have, and make the most of each day.

WHERE ARE WE NOW

Membership has stayed constant over the past year, this is good news as my prediction was that it slowly drop ... mind you, I'm thinking of giving up predictions for 1994/95!

We have changed printers and this issue of WACCI was printed using the new Epson Stylus 800 Inkjet - the main advantages are the increased printing speed (especially graphics) and the constant depth of ink on each page.

There's lots of new library books, most of were donated by E Marsland of Shoeburyness (in Essex.)

Ron Boreham has donated a lot of back issues of AA, CWTA, CPC Computing and other CPC magazines...

Neil Springthorpe donated a 464, 64k memory pack, and many tapes and games to be sold on behalf of WACCI.

Andy Hughson who donated lots of games on tape. (I hope I got your name right this time.)

So many other members have donated games, books etc to WACCI that I could probably fill the magazine saying thanks. They know who they are, and they know know that they have my (and the clubs) very grateful thanks.

ON THE MOVE.....

The Book Library, after many years of hard labour the pressure of work has forced Steve Lee to relinquish control

of the library to John Bowley (of the competition spot fame.)

The only change you'll notice if the change of address.

Patrick Dunne has moved home, (you may have noticed the new address in WACCI 74. If you didn't, he's moved,) please send orders to his new address.

ALL FORMATS SHOWS

We'll be there, so why not pop along and have a friendly chat.....

- Feb 26 Washington, Northumbria Centre
27 Glasgow, Woodside Hall,
St Georges Cross
Mar 6 Bristol, Temple Meads Station
13 London, Tolworth Recreation
Centre, A3, Surbiton
19 Haydock Park, J23 M6
20 Birmingham, Nat M/Cycle Museum
27 Glasgow, Woodside Hall.

AVATAR

Steer clear of this company - they are not delivering goods that have been ordered - although members cheques are being cashed. Avatar is now under the control of Phil Craven (and Mike Lyons will tell you all about him.)

Burning your money is more fun than buying from Avatar (and being burnt.)

OUTRO

Feb 8th, my phone broke, peace...ahhh!

DAVID JAMES CARTER

1970 to 1994

It was with a very great sadness I heard the news that David Carter had passed away in his sleep.

David was one of the CPC's great characters - he was always happy, he always ready to help others and he gave far more to the computer world than he took from it.

Many of you will have met David at the London All Format Fairs, where he spent many a happy hour talking about computers, art and the good old days (before PC's.)

Many of you will have a copy of David's Amiga Graphics PD Disc or you will have marvelled at the quality and humour that he managed to incorporate in the front covers he designed for WACCI.

Many of you will know David as the founder and owner of the Penguin Software PD Library.

David will be sadly missed by all those who knew him and by all those who have missed the opportunity of knowing him.

May you rest in peace,
you will never fade in our minds.

COMPETITION

WITH JOHN BOWLEY

SPOT

Hiya masterminds it's that time again to put on your thinking caps and enter the realms of brainteasers for yet another chance to win some great WACCI PD Software or the prize on offer, it's your choice. But you need to enter first <don't you!>

NOVEMBERS RESULTS....

We had only a few entries into this months compo. Bit of a let down really because we need your help in designing some covers for our great magazine.

Any-way you will do better in future won't you!! <<You will - oh good!>>

* 1st - Kulvir Singh Bahra, Hounslow *

* 2nd - Ron Izett, Maidstone *

DECEMBERS RESULTS....

Wow! I had lots of entries to my wordsearch. Thanks for your support.

* 1st - Vic Peterken, Dorset *

* 2nd - Sandy & Nigel, Northampton *

* 3rd - Dave Teague, Cheltenham *

* 4th - Richard Avery, Farnborough *

* 5th - Ron Boreham, Dyfed *

* Spot Prize - Bob Houston, Runcorn *

If you are wondering why I have given out a lot of prizes this month. The reason is there are 5 members to my family. So we all picked one and one for luck. Well done to the above.

We would like to wish Dick Hornsby a very happy birthday. His birthday was on the 25th January. <<Cheers! Dick>>

JANUARY COMPETITION REMINDER....

What you have to do is name three ROMS that Arnor Ltd do that are not part of the Protext family and in no more that 30 words why you should win ProPrint to reach me by the 25th FEB....

CHILDRENS COMPETITION....

I have had no response so far for this spot. But it's early days so get busy writing soon please. <<It's up to you>>

WACCI NEEDS YOUR HELP....

I want to give you PD Software and all you have to do is : Design some covers for our great magazine. This would take a lot of hard work off U Clive so please help and I will give you 3 PD discs of your choice for your designs if they are chosen. <<Please help>>

CHOOSING YOUR PRIZE....

When entering this competition please would you state what prize that you would like. If you choose the prize on offer still send me a list of 3 PD Discs with your entry. <<Thanks>>

BOOK LIBRARY....

I have taken over the WacCI book library from Steve Lee and I will try to match his quick response to your requests. Best wishes to Steve Lee you will be greatly missed. <<From WACCI>>

DONATIONS....

Please send me anything that would make good prizes. <<Many thanks>>

CONTACT....

If you need to contact me for request for Books, Donations, Setting a quiz or unclaimed / unreceived prizes you can reach me between 6.00pm - 8.00pm. You can try out of these times if you like but you take your chances. <OK!>

SEND TO....

John Bowley. c/o WacCI Competitions
97 Tirrington, Bretton, Peterborough
Cambs, PE3 9XT. Tele no. 0733 260616

FEBRUARYS COMPETITION....

I was amazed of how much dirt and dust that I found inside my CPC 6128. So I have decided to offer you a dust cover and 2 PD Discs as first prize.

These dust covers were sent to me by Adam Shade of Dartsma who's new address is : 49 Heavitree Road Plumstead. Sorry I can not find his new telephone no. So Adam if you are reading this give me a call and thanks for the bits and pieces....

Listed below are 15 questions and what you have to do is fill in the initials for example : 2001 = A S O which means : A Space Oddesy <simple>

1	1066 = B of H
2	12 = S of the Z
3	26 = L of the A
4	101 = D (WD)
5	6 = W of H the E
6	24 = H in a D
7	2 = W in a F
8	20,000 = L under the S
9	65000 = P (GM)
10	3 = F in a Y
11	7 = S on a F P P
12	13 = B D
13	7 = D S
14	1815 = B of W
15	625 = L on a T S

WACCI BOOK UPDATE - PLEASE KEEP

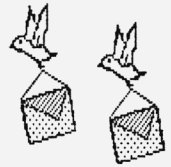
The CP/M Plus Handbook
Graphics Programming Techniques 464
Service Manual For The Plus Range
Z80 Applications
The CP/M with MP/M Handbook
Basic Programming On The Amstrad
Citizen Swift 24 Printer Manual
Amstrad Assembly Language Course
Machine Code For Beginners On The 464
Citizen Prodott 9/9x Printer Manual

Please call for more details. <<John>>

Fair Comment



Mike Lyons
85, Leigh Road
Hindley Green
Near Wigan
WN2 4XF



SHADOWY MEN IN TIGHTS?

Dear Mike, I got a bit of bovver guv, which I hope the shadowy band of CPC experts that lurk out there can help me with. Put very simply, I recently received from the PD library two discs which were as desired in every respect except one. I refer to DOSCOPY which, co-incidentally, was "plugged" in December's WACCI by Philip Jiminez as being a good and useful utility.

Unfortunately, while I can load the program, and go through all the instructions, when I get to actually formatting or attempting to transfer files, (previously converted to ASCII format), I get, in the case of formatting, an error message: SYSTEM ERROR!! Write Fail: and an attempted transfer will produce: SYSTEM ERROR!! Read Fail. After a great deal of head scratching and nail biting I had a chat with the Honourable Clive, Sheriff of Nottingham, (or should I say, being as how he's the Editor, San Serif of Nottingham), who kindly sent me another disc in case mine was duff, but to no avail.

The blessed thing won't work on my set-up which is a 464 upgraded to 6128 and a 64K RAM pack, DD1 3" disc drive and 3½" second drive, ex-SD Micros.

Naturally, I don't feel much inclined to part with any dosh to Herr Facehugger unless I've got some guarantee that the thing will work, so will some kind person please tell me what's wrong.

Is the DOS of the 464 configured differently to the 6128? Clive says it runs Okay on a 6128 and Philip seems to confirm this. Where's the problem? Any help would be much appreciated. Regards and New Years Greetings,

Ron Izett
Maidstone, Kent

<<Howdy Ron. I can't help with your DOSCOPY problem, except to say that it has correctly copied one of this month's letters from a 3½" PC disc to a 3" CPC disc on my 6128 without the slightest hesitation. However, I did not try to format a disc with it.

Anyone out there help this poor fellow? Friar Jiminez might help, perhaps, as the gubbins has his recommendation.

I have a vague recollection that there are some slight differences between the 6128 and an upgraded 464, but I'm not too sure as to what they are and whether they would cause your present problems. -Maid Michael.>>

CAVEAT DISC DRIVER

Dear Sir, the article on large format drives in WACCI 72 arrived just after I had obtained a 5.25" drive without instructions and it solved a number of my problems.

However, I didn't like the idea of fixing the side switch to both ribbon cable and drive, so I connected the earth cable from the switch, (shown as 0v in the article), to the adjacent ribbon "earth" cable - number 31.

This was done by cutting both wires 31 and 32. One end pin and the centre pin of the switch were connected to wire 32 as shown in the article whereas a wire from the other end pin was used to re-connect the severed ends of wire 31. As wire 31 is led immediately to 0v at the interface connector this is electrically equivalent to the published circuit.

The advantage of this method is that the drive can be changed without affecting the cable or side switch. The switch can also be placed at the computer end of the cable if it is desired to keep all the ABBA switches, etc. together.

I used a small Tandy single-pole change-over switch with three conductors stripped from the side of an old ribbon cable. The switch is fixed to the side of the disc drive at the front using a double sided sticky pad so that it is fairly unobtrusive, convenient and removable.

This works well with my drive and I can see no reason why it should cause any problems with other drives provided that the connections are made near the ends of the ribbon cable.

You are welcome to publish this letter in WACCI with any caveats, criticisms (or even warnings) which you consider appropriate. Yours faithfully,

Eric Lothian
Glenrothes, Fife

<<Hello Eric. Thanks for the detailed instructions and diagrams which you supplied. I hope the industrious Sir Clive has managed to reproduce them in one form or another <<Err, I would if I had them! But I haven't! So I wont, or more correctly, can't. -Ed.>> for the edification of other members attempting such an interference with their cables.

I always like to stress caution in attempting anything which involves soldering bits to anything else. This is from personal experience. Unless you know what you are doing, or are prepared to pay for very expensive repairs, get someone who *does* know what they are doing to do it for you. Did I ever tell you about the time I put a new plug on my mother-in-law's washer? - Don't ask. -Mike.>>

<<Err, please send me copies of the drawings and I'll include them in the next issue. Many thanx. -Ed.>>

CAVEAT FAIRY CLIVEMOTHER

Dear Sir, My son is becoming more interested in using his Amstrad CPC 464 for writing letters, preparing sketches, etc. after seeing the sort of software which I have available on my 6128. He has even reported that his children are beginning to use it for school work and even prefer it to the SEGA for some games!

However, his efforts to increase their usage of the computer are hampered by the usual problems of memory size and the lack of a disc drive. As he is unemployed he cannot afford to buy a 6128 and I was thinking of buying one for him through WACCI, if they can be obtained cheaply and you have no objection. I'd prefer a colour monitor, however the mono version would suffice.

I personally would like a 3.5" disc drive. I have just fitted a 5.25" drive which was donated to me but I had forgotten what a pain 5.25" discs were to actually use and store.

I'd very much appreciate it if you could give me some guidance as to the availability of these items through WACCI together with an indication of the likely cost. You may publish this letter in WACCI if you consider it appropriate. Yours faithfully,

Eric Lothian
Glenrothes, Fife

<<Hello yet again, Eric. Two letters in a month is going it a bit strong.

Uncle Clive has had the great idea of trying to fill members' needs and wants if they let us know about them. This one should be fairly easy.

I don't know the current prices of cheap 2nd. hand drives, but it's not so long ago that I bought a 6128 for around £30.00 (no monitor, of course).

I'm sure Fairy Clive will butt-in at this point and give us his valuation, (after waving his magic wand of course. -Mike.>> <<There's nothing I like more than waving my wand - Okay a quick guide to second hand CPC prices:

Computers: 464	£ 10 to £ 15
664	£ 30 to £ 50
6128	£ 40 to £ 60
Monitors: Green	£ 10 to £ 20
Colour	£ 40 to £ 60
464 DDI-1 1st Drive	£ 45 to £ 70
664/6128 2nd 3" Drive	£ 30 to £ 50
3" uncased drives	£ 20 to £ 25
3.5" disc drive	£ 25 to £ 40

There's a direct relationship between price and quality. The price is also affected by other factors, such as demand, the availability of manuals, who pays the postage etc. If you want to part-exchange the 464 for a colour 6128, we'll happily oblige. The one

big hidden cost is delivery, a colour monitor costs around £15 to post and a 6128 costs around £5 postage.

In general buying a second hand 6128 is cheaper than upgrading a 464 to a 4128. (To upgrade you need the DDI-1 disc drive at £50, a dk'tronics memory pack at £25 and the updated 4025 chip at £15. That's a total of £90.)

You don't say which monitor is fitted to the 464. If it has the 12v power supply it'll fit a 664 or 6128.

If it doesn't have the 12v power supply, then you need to either change the monitor or fit an external 12v supply (it must be regulated!) Many of the later 464 were fitted with the 664/6128 monitors as Amstrad decided that producing two types of monitor was an expensive idea....

Hopefully, this will help you decide the best way to overcome the problem. Drop me a line when you decide what to do. Best wishes. TTFN. -Ed.>>

* SIREN SOFTWARE * SIREN SOFTWARE * SIREN SOFTWARE * SIREN SOFTWARE *

Wilton House, Bury Road, Radcliffe, Manchester, M26 9UR
Tel: 061-724-7572 Fax: 061724-4893

RS232 SERIAL INTERFACE AND CABLE

On special offer, *only* £29.99 (originally sold for £59.99 - Amsdos only)

3.5 Inch Discs Now available at a special price of £7.50 for 10.

LOWER PRICED DISC DRIVES

Our famous 3.5" disc drives for the CPC 464/664/6128 are now only £69.99 (inc post and packing.) These second drives come complete with all the cables, a 16 page manual and our famous Ramdos program. The only program that gives you 800k of on-line disc space. It's fast, efficient and very easy to use. Also included are a formatter, directory editor and sector editor etc.)

ROMDOS XL VERSION 4

The latest version has hit the streets. It's been tidied up and all the bugs have been removed. It gives instant access to 800k per side without the need for troublesome side select switches. It now features auto format detection, file copying, erasing, sector/directory editor, etc, etc, etc ...

Only £24.99 on rom and £39.99 on cartridge (464/664/6128 only.)

A cartridge is a single socket Rombox, with Romdos XL built in - Cartridges cannot be used on the CPC 464+, CPC 6128+ or GX4000.

** For further details, phone Simon Cobb on 061 724 7572 **

** No other discounts are available on these prices. **

A SLIVER IN TIME SAVES 14

Dear Mike, who would have thought a sliver of tape, correctly placed, could have saved so much hassle. And YES! it worked. <<Of course it did, I told you it would. Trust me. -Mike.>>

My Xmas pressie of a Seikosha SL-95 colour printer was fast becoming a source of irritation as the line spacing did its own thing. Scatter graphs were even more scattered, and lines of text had enough room between them to park a double decker. (A slight exaggeration I admit!) I remember reading that 24-pin printers often have this trouble. Anyway, since my phone call to you the problem of the gapped graphs and the stretched text has disappeared. I did as you suggested, (put a bit of tape over the dreaded PIN 14), and it did the trick.

As grateful as I am that it worked I didn't quite understand the reasoning behind it and, bearing in mind that my last brush with a computer was a ZX81; could you possibly explain it to me?

Also, could you say if there are any programs which would make use of the printer's colour facility? If it involves another piece of tape I'll be fine, but don't ask me to plug in a soldering iron! Thanks for your time and trouble, have a Happy New Year!

Edwyn Stevenson-Bryan
Westcliff-on-Sea, Essex

PS. Will WACCI be at the All Formats Fair at Brentwood, Essex, in January?

PPS. Did you say that Dk'tronics have a memory expansion for the CPC6128?

<<Hello Edwin, it's nice to talk to members on the 'phone, especially when my advice turns out to be good. The way it works is something like this:

On the Amstrad end of the printer port pin 14 is connected to ground. This means that the voltage on that pin is held permanently low. Some printers, on the other hand obtain an active low signal from pin 14 which signals an auto line feed. Because pin 14 is held low the printer assumes you want it to print a line feed after every line. However, the Amstrad sends this anyway so you get two of them. Is that explanation clear? Probably not. My Star doesn't have this problem. I've checked its pin-outs and pin 14 is N/C, avoiding the problem.

You may still find that you have got a problem with stretched printouts when you print graphics. There is nothing you can do about this. It has to do with the size of line-feeds which 24-pin printers have to use.

The normal line spacing for 9-pin printers when printing graphics is 1/216th of an inch. 24-pin printer's usually use 1/180 of an inch, (this is due to mechanical problems and to do with the physical size of the pins and the size of the print head.) The overall result is a 12% increase in the length of the print out. On a small-ish print out it won't really matter and you won't notice it.

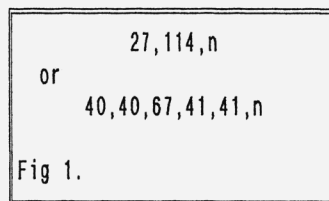
On something like a full-page Stop Press or Microdesign printout it can be a problem. For example, Clive has to design graphics to compensate for the extra length.

Text is not affected, as the standard line spacing of 1/6th of an inch, (or 7/72 or 1/8), are catered for and, in any case, ASCII characters are of a standard size on all printers, (Pica, Elite or whatever), which is as it should be.

As to colour printing. Only a very short time ago you could have bought a deeply wonderful program called Colourdump3 from MJC Supplies. MJC are now defunct, so unless someone has a copy which they are prepared to let you have, I don't know of any other

program which will print in colour. You have to remember that, when the CPC was first produced, the affordable colour printer was as likely as finding life in a Sinclair Spectrum, or me passing my driving test.

Most printing software will only print in Mono, (i.e. whatever colour you set the printer to and white), but if you use a word processor you should be able to set up a control code, (or send codes some other way), to tell the printer to change colours while printing for that extra special heading or to emphasise a point or several. The Star has a set of colour codes which take the shape of fig. 1.



n is a number between 0 and 6, (making 7 colours in all.)

The first set of codes is the usual ESCape sequence which might be used in a control code. The second set of figures is an unusual, (and ungainly), method of inserting colour changes. It's not too bad when you are just using colour for titles, but in the middle of your text it's a pain as it ruins the formatting. Basically it's what you use if you're desperate.

The codes translate into ASCII as follows:

((C)) n

i.e. two open brackets, big "C" and two closing brackets followed immediately by the colour number, (no spaces allowed. They are only there 'cos my stupid printer won't print the command otherwise!)

I'm sure your printer will have something similar, somewhere.

WACCI, I am sure, provided a stand at the Brentwood Fair, but I wasn't there 'cos it's too far for me to go. Did you go? It's worth it just to meet the munificent, magnanimous pachydermatitis himself. <<Hi Edward, it was very nice seeing it you at the Brentwood Fair, many thanks for the donations, they'll be sold to raise money for WACCI. The Brentwood Fair

was a little bit on the quiet side, but will improve as people in general get used to the venue. TTFN. -Ed.>>

Dk'tronics did do a 256K memory expansion for the 6128. Where you will get hold of one now is anybody's guess. You might try Datel who advertise on the back page of AA.

Alternatively, his hirsute-ness may be able to get one from somewhere, probably at a knock-down price. You can only ask. He can only refuse.

Don't be disappointed if you only end up with 320K instead of the 384K you might be expecting. The first 64K block occupies the same space as the spare 64K bank on your 6128, (something that they failed to mention in the advertising, or even in the manual!) It took me ages to figure out where my memory was going. -Mike.>>

FIB PARKER - OH GROW UP MILADY

Dear Mike, could one of the WACCI team give me some help with a couple of disc related questions?

Looking through a PCW magazine re adding a 3.5" drive to those machines, I read that using a 3.5" drive with the settings for a 3" drive, though not causing immediate damage, could cause some long-term damage without FIB files, whatever they are.

Since I have recently bought a 3.5" drive for my 6128, I am now concerned. I use the drive in "normal" 178K format and with the aid of ROMDOS XL in 800K format. Do you only need these FIB files for high-capacity formats and, if so, does ROMDOS XL take care of the 3.5" drive settings?

The other question are :- I have back-ups of some commercial software, (the original masters are locked away out of reach of the usual nasties like sunlight, coffee, magnetic fields etc.) As I use the back-ups for day-to-day use. Will the data on these discs deteriorate in time, as some of them haven't been used for five years or more. I would hate to crash my back-up, only to find the master disc had deteriorated in storage due to lack of attention. Yours faithfully,

Martin Beddall

Wombourn, South Staffs

<<Dear Paranoid Martin, in the 8 or 9 years for which I've had my 6128 I've never come across a FIB file. (I have

told a few lies, made a few mistakes, but no FIBs.) I can't believe that there would be a problem. As far as I know it must be a PCW problem.

I should think that the life of a disc would be measured in decades, rather than simple years. I also have a number of original discs which have been locked up in a disc box for almost 8 years. As far as I know they are all still happy. It's much more likely that use would cause more deterioration than non-use - and, of course, the odd accident. (Of course, some things do deteriorate with lack of use - brain cells.) -Mike.>>

<<Err, discs should last 'forever', provided that they are correctly cared for, ie. kept dry, warm, away from magnets, cats, fluff, dirt, dust and so on... PCW's use FIB's and the CPC's use FCB's to control the disc spin rate, motor on delay etc. You don't need to alter them, it will not harm the drive, however, if you've wondered why 3.5" drive B's give out the odd 'Drive B disc missing message' when there's a disc in the drive - this is the answer... TTFN. -Ed.>>

IT'S ALL GREEK TO ME

Hi Mike, as I'm a WACCI member and I face some problems with my CPC, I thought that you're the right person to contact in order to get some help. I'm much into the demo scene and I want to get as many contacts from abroad as possible. What I need is a 5.25" or a 3.5" disc drive.

I was quite pleased when I read the article about building a 3.5" disc drive at a low cost. Well, here I face that problem. Although my CPC is a normal 6128, its ports are like the Plus ones. It was made in Chicago. Anyway, I thought that I should do what the Plus owner would do to build the cable to connect the drive with its CPC. Imagine my surprise when I found out that there were 36 pins on the disc drive 2 socket of my CPC and not 34 pins as described in the article. On the socket, I found these numbers, (viewed from the rear):-

18 17 16 15 14 13 12.....1

36 35 34 33 32 31 30.....19

What should I do to build the cable? I hope you are going to be able to help me. Yours,

Helias Fotopoulos
Halargos, Greece

<<Hello, Helias. It's nice to hear from our foreign investors. I think you will find that, on consulting your manual, pins 18 and 36 or pins 1 and 19 are marked as N/C. As far as I am aware, the connections on the back of your CPC are identical to those of the edge-connector types here in blighty. Before you get to work with your soldering iron, though, I'd check very closely with the manual to see what the actual pin outs are. Does anyone else out there have any ideas, (bright or otherwise? -Mike.>>

NARY A CROSS STITCH

Dear Clive, Like the wife of your correspondent Ian Whaley, I am very interested in Cross Stitch, and would very much like to have a program to design and print my own patterns.

The current issue of NEEDLECRAFT carries adverts for three different programs, but they make for depressing reading to CPC owners;

IL-SOFT, 0993 779274
Buttercross House,
16, Langdale Gate,
Witney,
Oxon.
OX8 6EY.

(For IBM, Amiga, Archimedes)

URSA SOFTWARE, 091 477 5293
17, Camborne Grove,
Gateshead,
Tyne and Wear.
NE8 4EX

(For IBM, Amiga, Atari)

HTB COMPUTERS LTD, 0794 516279
Broadwater House,
Broadwater Road,
Romsey,
Hants.
SO51 8GT

(VGA monitor and IBM Compat. PC)

The first company has been around for some while and continues to offer improvements - but not for the CPC - and the other two are more recent, so the idea is catching on. They can also be used for designing multi-coloured knitting patterns, and if more women were computer users, (or more men did knitting and embroidery), no doubt there would be lots more of them. They are almost certainly responsible for the recent proliferation of magazines full of cross-stitch designs.

I live in hopes of a CPC version of at least one of these programs, but meanwhile I am working on persuading my next-door neighbour to buy one - she does cross-stitch, too, and she owns a PC. Yours sincerely,

Pauline Russack
Duston, Northampton

<< Hello, Pauline, nice to hear from you again. Not only a musician but an embroiderer as well. Thanks for the info about programs available.

I don't understand what's so terribly difficult about writing a program to print out cross stitch patterns. What are the requirements? How fast does it have to be? How accurate must it be? How do you use the pattern? Is it like a knitting pattern, (e.g. k 1 p 1 etc.), or is it more complex? if you let us know the requirements then perhaps one of our budding composers could write you a PD program to do it. -Mike.>>

CROSS DRESSING DOWN UNDER!

Dear Mike, It's nice having those articles about machine code in WACCI regularly, and to get some idea what goes on at that level. I'd like to ask for something even more fundamental.

Before I get on to my main question, one side-issue comes to mind. Am I right in believing that computers can't really multiply?

Do they have to do it by repeated addition methods, rather like the operators of comptometer machines in the olden days, (well, say around the 1940's), had to do?

Now, could our noble editor consider finding someone who can write for us an article, (or two), explaining how the inventors managed to find ways to make electronic circuits programmable in the first place? In nice simple

words, if possible. It was before we got transistors, wasn't it, and in the days of thermionic valves? How does it work? Yours sincerely,

Michael Briscoe
Auckland, New Zealand

<<Dear Michael, I like those machine code articles as well. Unfortunately, I don't seem to get the time to play around with the ideas. (Sigh)

Yes, it is true that the original computers could not multiply. They are very stupid machines really and work by repeated addition in binary.

However, (as usual), this is not the whole story. There is a method of multiplying by two, which involves the manipulation of bits by rotating them one place to the left. As an example;

Denary		Binary
25	=	00011001
50	=	00110010

If you look at the above binary representations of these two numbers, you will see that 50 has the same pattern of 1's as 25, but moved one place to the left and with a 0 tagged on in the, (now vacant), last place. This zero, technically, comes from the left-most place, (called the Most Significant Bit or MSB.) The right-most bit is called the Least Significant Bit or LSB.

If your number is less than 256, (the largest number which can be held in 8 Binary digITS), this is fine. However, unless your computer is a 16 bit machine, a problem arises with bigger numbers. There isn't really space to go into it here, but I'm sure our resident abacus wielder, St Clive the inestimable, will go into great and copious detail of binary, (and other base), arithmetic when he finds it necessary.

As a follow on from this, I'm sure our ancient and revered editor will be able to get hold of someone nearly as old as he is to describe how computing machines were invented. Mind you, I'm not one to gossip, but.. last I heard, St. Clive thought a transistor was a man who dressed as a women's. -Mike.>>

CONFUSING OF DORSET

Dear Mr. Lyons, re-reading my letter of 31st. October in print in WACCI 73, it's no wonder that anyone is confused by it. I think the easiest way is to list the lines concerned as follows:-

```

10 KEY 139,"MODE 1:CALL &BC02:CALL &BB4E"+chr$(13)
12 KEY 128,"RUN 60"
30 SYMBOL AFTER 256
40 MEMORY &A0FF : 'UTOPIA is at &A1BD
50 GOSUB 10000:
51 'M/CODE starts at &A400 and sets up RSX's to 'PRINT, (double height),
52 '|LSCROLL, 'RSCROLL and 'CHR, (read character at x,y)
60 gosub 13000:'SYMBOLS (line 13000 is SYMBOL AFTER 200
70-79 ' ENV's and ENT's
100 ' SELECT PROGRAM
102 GOTO 7000 'Night attack or which other needed or RUN
105 pro=INT(RND*7)+1
110 IF pro = 1 then 1000: 'Submarine

```

Fig. 1 D's Program

Other programs, (so far), are ESCORT, RAIDER, OILING AT SEA, WOLFPACK and MACSHIPS. The first four were written in 1985 in a mixture of modes, ship-symbols, clouds colours etc, gradually being amended to MODE 0 with similar symbols for each program.

Lines 900- are colours, screen layout with clouds, ships etc. and I am trying to develop lines 800- for all the blow-up routines.

The above set-up prevents MEMORY FULL, or Improper Argument errors, the latter pointing to the SYMBOL AFTER command. I also do not wish to reset the computer as, usually, I finish each session with a game of patience which uses RANDOMIZE TIME in the shuffle routine. Patience contains a line for SYMBOL AFTER which can cause trouble at times but not with the above arrangement.

Each part was amended separately, but general alterations are done on the 6128 machine as it loads so much more quickly. I hope the above is of assistance. Yours sincerely,

D. S. Anthes
Bridport, Dorset

<<Hello again D. I'm glad it wasn't my lack of comprehension which prevented me giving an answer to your problem.

The first thing that comes into this weary old brain cell is that if you actually use "RUN 60" to restart the

program then you will immediately lose any symbols you've set up and you will also foul up the "SYMBOL AFTER 256" in line 30. I am puzzled as to why you wish to call TXT INITIALISE, (&BB4E), immediately after a MODE n command.

A simple MODE 1 would be enough on its own as this automatically resets the TXT status. This has absolutely nothing to do with memory!

What is the point, if I may ask, of setting MEMORY &A0FF, when your m/c is loaded at &A400? As you have said that UTOPIA is at &A1BD I would have thought that you would get memory full by trying to write above this area. Would it be possible to re-write your machine code routines to another area of memory? How long is the RSX file? Is the RSX data held as DATA statements within the program? If so, you could, before first initialising the RSXs, save the code off as a separate BINary file, and load it into memory as a separate file, (not forgetting that a 2K buffer is required for disc accesses. i.e. Run the bit which creates the RSX code. Stop it before any CALL statement, (e.g. CALL &A400), and type

```
SAVE"rsxfile.bin",b,&A400,&100
```

to save it to disc/tape. The important bits are the BINary marker, (b), the address, (&A400), and the length of the file, (&100 in the example.) To reload the file include the following lines in your program:-

```
LOAD"rsxfile.bin",&A400
CALL &A400
```

Having looked at my ROM addresses, I must ask why UTOPIA is so low down in memory. I have five ROMs active on my board and the lowest, Promerge+, signs on at &A271. That's 180 bytes higher. Have you got more ROMs on than me? Do you actually need them all on?

I would probably wonder whether your machine code might be interfering with ROM or BASIC workspace, (depending on its length.)

Finally, a couple of things about TIME. If you use a hard reset, that won't necessarily affect the command RANDOMIZE TIME adversely.

The pseudo-random number is, it is true, generated by accessing the internal clock, but this does not mean that the numbers are going to be easily guessed just because the seed is small. In any case, RANDOMIZE can only use INTEGER values in the range - 32768 to 32767 so as soon as the clock hits 32768, (which it would in a very short time, (109.23 seconds), you would effectively be back to 0 again.

I think you are missing the point that TIME is used only as a seed to generate a new semi-random number. I hope this is of help. -Mike.>>

<<Hi Denis, Clive here, I read all about you in CPC User, hence, unlike Mike, I now know your first name!

Things are a bit rushed at present, (no change here) when they settle I'll have a re-read of WACCI 73 and this letter and see what's happening...

Have a good year. -Ed.>>

LIFE, CAPTION, BUT NOT AS WE KNOW IT

Dear WACCI, you left the caption off the cover of issue 73, "I am pregnant and you forgot to book ahead!"

One for the competition master: Take ten 3" (7.5cm) wire nails with flat heads. Drive one into a suitable solid piece of wood to a depth of 1", (2.54cm), in a vertical plane, (point down). Take the other 9 and balance them on the head of the first. Second question is for all and sundry with a

techie bent. I have a circuit board marked Z80 controle, <<sic>>, card 41-2094, made by a company called Broadercasting Ltd., who are now no longer with us. The i/c's are :-

1 * Z867891

3 * 74 LS ?? and two memory chips

HM 6116P-3 Static RAMs. what is it, and will it do any good if it is bolted to my 6128?

I have the DK'tronics sillycone disc operating system without the boot tape. Is it of any use to anyone? I also have the Rembrandt icon drawing system with light pen. Can someone, somewhere, use this? Regards,

Tom Gordon
25, Eyet Street
Leigh, WN7 1XB
(0942) 601837

<<Thanks for the snippets, offers and queries, Tom. Anybody know anything about Tom's board? -Mike.>>



FOR SALE FOR SALE

Panasonic KXP-1170 9 Pin Dot Matrix Printer
(with spare ribbons)

Phone: Dave Grimshaw 061 792 7231

CAVIARE EMPTY

Dear Clive, in September 1993 I wrote, stating that I felt ripped off because I had paid £16.00 for one disc of very poor software. Please find enclosed the disc I received. Could you evaluate it for the other WACCI members, please? Derek still advertises in the small ads section of AA.

For users of Protex who wish to have an alarm clock displayed in the top right corner I suggest getting a copy of the Alternative Firmware Guide. I use the clock loader, which runs as an RSX. If users find it difficult to incorporate the clock loader with their DISC2 file or with writing one for Protex on ROM I will do it for them if they send me a disc.

Protex on ROM has an unlisted function. After saving a document it is not necessary to retype the filename on future saves. You just need to type "S" [RETURN][RETURN] and the file will be saved with the original name. I find this useful as I make three backups of my documents. Now, I don't have to worry about typing the correct file name three times. This should also work for disc version of Protex. <<It sure does. -Ed.>>

Does anyone know where I can get hold of Soundtrakker 128K? I bought the 64K v1.1 from New Age Software's Simon Warford. He sent me this version because he didn't have the 128K version advertised in AA issue 95. New Age Software doesn't exist anymore. I would really like the 128K version and don't mind paying another £25.00 or so for it. Please help. Yours faithfully,

Dale Crook
Room 72, Beechridge Lodge
Woodland Way
Baldock, Herts, SG7 6LR

<<Hello Dale, this is Mike here. I've sent your disc off to Clive who will look at it for you. I'm not sure he'll be able to tell you anything, (it's small; about 3"; black in colour...), but he may pass it on to someone who has the time to look at the software in detail. On a preliminary run I, personally, am inclined to agree with you about the cost. I did manage to complete the first level of one of the games, but soon became bored when I realised how repetitive it was, wandering back and forth between the other characters.

I did know about the Protext short cut and I'm sure it is mentioned in the manual. Thanks for mentioning it, though. Do you know the one about the [COPY] key? I'm not one to repeat myself, (well, not exactly...)

Would anyone who knows the whereabouts of Soundtrakker 128K please let Dale know. He's obviously got money to burn and I've heard he's very impatient. I think he's also got this overwhelming desire to become a noisy neighbour. -Mike.>>

AVATAR - THEY'VE GOT HIS MONEY!

Hi WACCI, Well here goes, the first letter from a new member. To start I'd like to say a big thank you to Clive for his all his help. His non-stop CPC chatter (and the bank manager laughter when I asked for a mortgage to buy a PC) have made me take a second look at the CPC, what a great machine it is!

I sent an order and cheque for £72 to Avatar some three months ago and I haven't received the goods yet.

Mind you that didn't stop them cashing the cheque six days after the order was sent to them

I spoke to them and they told me they were waiting for the bits.....

I spoke to them, the bits had arrive, it'll be delivered in a few days..

My wife spoke to them a month later, the bits have just arrived said Phil. My wife told him, that's what you said

Last month! Oh! said Phil, I'll ring back. He didn't. She didn't call him a liar! I'd have called him a.....

I'm still waiting for either the goods or my money to arrive!

AA has finally started to get the message about companies, like Avatar, who advertise in AA. Some are poor. If you have a problem write to:

Alison Winters
AA Advertising Complaints
Future Publishing
30, Monmouth Street .
Bath, Avon, BA1 2BW

I've written about Avatar, so we will see if it does any good. <<Avatar! She will be very busy! -Ed.>> Cheers,

Colin Moss
Tamworth

<<Hiya Colin, It was nice seeing you at the All Formats Show. Sorry, I had to change your letter to fit the page.

Several members has been ripped off by Avatar. We need someone to organise the small claims court proceedings.

Can you help? WACCI will pay the court costs! It'll be worth it to rid the CPC world of those rats who steal members money. I wonder what Mike will say about Avatar. Blue air? -Clive.>>

* DISCOUNTS ** SAVINGS ** DISCOUNTS ** SAVINGS ** DISCOUNTS *

SIREN SOFTWARE, WILTON HOUSE, BURY ROAD, RADCLIFFE, MANCHESTER, M26 9UR (TEL: 061 724 7572)

See the advert on Page 6 for details of their, RS232 Serial Interface, 3.5" Disc Drives, Romdos XL, Ramdos and more....

CAMPURSOFT, 10 MACINTOSH COURT, WELLPARK, GLASGOW, G31 2HW (TEL: 041 554 4735)

Phone for the latest details of MicroDesign, MicroDesign plus, VideoMaster, ProPrint and their other programs.

SD MICROSYSTEMS, PO BOX 24, HOLBEACH, LINCS, PE12 7JF (TEL: 0760 720381)

10% off all Software and Consumables, whilst Hardware items will be post free. See the advert on Page 12 for full details of their products, which include: Page Publisher, DiscBase, Picasso Art, Kwik File, Discs and much much more

GOLDMARK SYSTEMS, 4 ESSENDON GARDENS, WELLING GARDEN CITY, HERTS, AL7 3QD (TEL: 0707 321711)

Specialist software for the CPC's. Willing to give members of WACCI 10% discount off all Software and Hardware (But not off special offers or on disc prices.) Special Offer, New CTM 644, CPC 6128 Colour Monitors, Only £65 plus postage & insurance.

CPC UNDERCOVER, DAVID CROOKES, 37 TRIMINGHAM DRIVE, BRANDLESDBOLME, BURY, BL8 1JW

Alternative A5 size CPC magazine - usually 80p, now only 70p to club members.

SENTINAL SOFTWARE, 41 ENMORE GARDENS, EAST SHEEN, LONDON, SW14 8RF (TEL: 081 876 7032)

10% off all software - phone for upto date prices, please mention WACCI when ordering.



THE 'ZENE



THE AMSTRAD 'ZENE, ALIVE & KICKING? BY TIC OF BENG

*And once in a while, along the way, an orders been sent to me,
I have been a PD Library, copied a thousand discs...
That's enough of my singing...
I'd better start writing...*

SERIOUS STUFF

You wait for years and then two great PD programs come along at once. You'll probably have read about Pro-Tracker and DigiTracker in AA, so I won't go into too much detail here.... Anyway, as I've said previously Pro-Tracker is a great Music program and DigiTracker is a really great Music program. It's a far more user-friendly and versatile program than Pro-Tracker....

DIGITRACKER

The version reviewed in AA was v1.0, the earliest version. Since then there have been 3 new versions, the latest being V1.3, which now contains better quality sound output, faster editing of songs, a full English manual, as well as the option to now, convert CPC Pro-Tracker tunes to DigiTracker format... (In other words, there is no longer any need for Pro-Tracker, as now, all the modules you converted using Pro-Tracker can be converted again to digitracker, not needing the Amiga source....).

The only down side about DigiTracker is that it is shareware, where as Pro-Tracker is Public Domain....

MORE CHEESE PLEASE!

Again, another excellent program from Antoine of MM&PF, CHEESE CRUNCHER, a new cruncher on par with Cruncher and Turbo Imploder written by Crown...

This crunches everything in about 9 seconds, and decrunches directly from disc (It's called the DAF system...),

in other words this is the cruncher for you. (Look out for the AA review!)

B-ASIC v1.3 & THE CPC PLUS

Oh! Some interesting news for all Plus owners. I've received B-ASIC v1.3 from Longshot of LOGON SYS. The new version contains commands to 'link' up to 6 or

more hardware sprites and move them as 1 sprite (a truly an amazing command, it makes writing games easy, almost!)

There are other commands to help the games coder, like being able to define a path for one sprite around another moving sprite. (eg. An extra side arm attached to your space ship, rotating around it, as you move around....)

There are lots of new commands for all B-ASIC people. Send a disc, I.R.C. and a self-addressed envelope for it, and some more new programs...)

Until next time, Bye! TIC of BENG

THE AMSOF PD LIBRARY UPDATE

SERIOUS: APS 11: M-Cad. CAD program (German instructions) said to be superb.
APS 14: Inc. PD Planner, Cruncher v1.4, Amiga-Msdos-Amsdos and more.
APS 17: Inc, Copy, Disc'O'Magic, DosCopy, IFF Convert and more.
APS 18: Banner Printer, around 80% in AA, so it can't be bad!
APS 19: Inc, BMP convert v1, example slideshow and VGA Editor...
APS 20: Inc, Pro-Tracker, Amiga-Msdos-Amsdos, Crime, Cheese and more.
APS 21: Inc, Amiga 2 CPC (convert art), DigiTracker, BMP Convert v2
APS 22: Inc, B-ASIC v3.1, DigiTracker v1.3, Sprite OCP System & more.

DEMOS APD 37: Inc, DragonBreed AC/DC, Gozeur 5, Robby Vector, Physix Demo
APD 38: Inc, AFC Expo Demo, Spagetti 2, Magestic Demo 2 and more..
APD 39: Inc, CPC Is Dead Demo, Factice 1, SWAB Intro 1.
APD 40: Inc, CCC Boys Demo, Sex-House, Donald Duck, Striptease..
*** Over 16's only - Proof Required ***
APD 41: Will be finished shortly...
APD 42: Amiga Sound Demo, Metal Screammers II, Sector, Metallica.
APD 43: Voyage Demo 93 - Side A } The best demo ever, brill vector
APD 44: Voyage Demo 93 - Side B } gfx, SoundTracker Music, Magic!

For full details of the above selections, (this includes a program by program description), write to me enclosing a SAE and blank disc for a free catalogue (this takes up two sides of a disc..... Updated: 27.11.93.

** British Customers Please take note: English stamps are no use in Ireland, so please send 40p to cover the postage to Britain.

AMSOF PD, Lissanly, Cloyne, Midleton, County Cork, Ireland

LIFE WITH A NOTEPAD

CHRIS GREEN TALKS ABOUT HIS NC200 NOTEPAD COMPUTER

You may remember that not too long ago I was singing the praises of the Amstrad NC100 Notepad. Well, forget I ever even mentioned it because since then I've had three, all of which have crashed taking coursework with them. With that in mind, I shouted (very very very very loudly) at the manager in Dixons and achieved the impossible, a complete refund. Conveniently, Amstrad have now brought out a successor, bigger, better, bug free and nearly twice the price (and I bought it). But was it worth the risk or the price, read on and find out!

THE BASIC PACKAGE

For your 350 clams you will receive a large cardboard box (which makes a great briefcase, all you Blue Peter fans) with some nice pictures of the computer and the accessories you DON'T get with it (such as discs and memory cards). Nearly forgot, you also get free with it some top quality styrofoam, an A4 size computer, a real vinyl (real, not artificial) case, a very well written manual (which is as thick as a phone book) and a power pack. Oh, and they no longer give you a free set of batteries (cheapskates.)

Down to business now and on opening your briefcase come cardboard box, you discover the first major difference between it and it's baby brother is that it now has a lift up top like a real laptop PC. This is called a clam shell design but God only knows why because it sure doesn't look like any clam shell I've ever seen before.

Apart from this the only other cosmetic differences are that the sockets are now covered with a little hinged cover, the fold up legs have gone and the On switch has been moved inside and that memory card slot has been moved to the right hand side rather than the left. Bored yet, good.

I almost forgot to mention, to the right of the machine, on top of the memory card slot is an extra hole, which is cunningly disguised as a 720K 3.5 inch disc drive.

IF LOOKS COULD TELL A STORY?

On opening the NC200, there is little cosmetic difference, the CPC 464 style multi coloured keyboard is there (only it now has another little white.)

THE TECHIE BIT

On the really technical side, the screen is now a 16 line as opposed to an eight line display, and it has a back light (which means you can now actually see what you are writing). Although not cosmetic, it should be stated now that the Z80 processor has been ditched in favour of a 12Mhz custom processor which is rather quick off the mark, visibly.

NC200 NOTEBOOK COMPUTER SPECIFICATION

12Mhz Custom Processor
128K Battery Backed Up RAM
Full Qwerty Keyboard
16 Line Back Lit Supertwist Display
720K 3.5 Inch Disc Drive
PCMCIA Memory Card Slot
Parallel & Serial Interfaces
Word Processor/Spell Checker/Mail Merge
Address Book/Database
Spreadsheet (Cracker)/Calculator
Diary/Alarm/World Time Clock
Tetris Clone (Three Versions)
MSDOS 720K Format Disc Manager
BBC Basic
VT52 Terminal Emulator

Recommended Price = £349.99

Shop around for the best price, the best I found was £297.23 inc vat & delivery.

BATTERIES NOT INCLUDED

After you have purchased and fitted the five (yes, five not four or six) C cell batteries you may begin. A bit of warning, with your *five* batteries in

place your NC200 will weigh a ton, but why do they have five batteries when Amstrad know that they are sold in two's and four's.

REALITY WINS OUT....

Batteries (five) in place, switches checked, LEDs lit, leads lead ... Back to reality, after switching on you are greeted with the familiar graphical start up screen.

This has been vastly improved over the last one, with the time and date displayed in big characters in a self contained box. Wherever possible the standard system font has been elbowed in favour of graphical fonts. There are in total six boxes which are (from the top, left to right):

THE OPENING MENU

Games
Time & Date
Spreadsheet
Word Processor
Calculator
Diary/Clock/Address Book

YOU HAVE TO START SOMEWHERE

I won't deal with these in any particular order, so I'll start with the word processor.

It's the same as before, blissful Protext. It still packs the same 48000 word spell checker which is as thick as a brick, but it works. The whole program benefits from the 16 line screen as you can now see more of what you are editing. The faster processor has meant that functions are carried out

much faster and the machine never slows down when editing large files.

As before, you can draw boxes and display basic font changes on screen or as control codes.

On the control side, all editing and layout preferences can be preset and saved through a set of configuration menus, much the same as before. From within the program, the menu which replaced the command line also allows you to save to disc in either Protext, Wordstar or ASCII formats. CPC owners should use Wordstar or ASCII. The Protext format on the notebook is incompatible with CPC Protext.

The program contains updated printer drivers for all forms of Dot Matrix, Inkjet and Laser printers.

Only one bug ever existed in this variety of Protext, when you got your typing speed up, the occasional wrong letter would appear, and they were not typing errors. This has been cured in the port over to the new processor.

By the way, none of the functions have been lost or altered in the conversion, well done Arnor.

MAKING THE BED?

Now to the spreadsheet. Like the word processor, it is based on the CP/M version of a program. This time it is the CPC/PCW program Cracker.

It is very good, and very quick. All possible spreadsheet functions are included and the program allows for a wide sheet, which can be saved in all manner of different formats (including PD Planner). A number of example files are available from within memory (they are stored on the ROM), including one which shows how the spreadsheet can be used as a database.

A comprehensive help system is on line during use of the program should you get stuck.

Finally, you can manipulate the data into tables, graphs, pie charts etc, which can be saved to disc or memory.

A CALCULATED ANSWER

The calculator's much improved, thanks to the larger memory and screen size. The numbers are still in green, it's still fiddly to use, but it benefits from the 'on-screen' chart which shows each stage of the calculation.

ADDRESSING THE SITUATION

The NC200's address book is Promerge compatible and has been extended to include fax and mobile phone numbers and a comment. This is due to the larger screen. The section titles cannot be altered unfortunately.

DIARY THAT EVENT

The diary is a Protext file for every day you require, and is compiled into one large file on exiting.

However it can now be printed to screen or printer, either a day, week month or year at a time, quite handy.

Diary and address book files can be saved and loaded from disc as well as memory, and can be renamed allowing for the creation of several files, with only the need to change the name to the defaults in order to use them.

TIME TO GO HOME

A world time clock has been included again, as well as an alarm. The alarm can be set for six different occasions and a message displayed on screen if needed. The time zones can be edited. The clock can also be adjusted.

The machine's new found ability to multi-task means that the clock never stops or leave the screen, an added bonus over before. The added animation of the clock is used in all programs except the word processor (it appears on the header line). It does not appear in the following four programs.

GAMES GAMES GAMES!

As an added treat, three versions of Tetris have been added to fill up space. The music is annoying, but can be turned off. The games are really good, including the one which features triangular shaped pieces. High scores are saved as a matter of course.

HERE IS THE BBC BASIC

BBC Basic is also included, but is not illustrated on-screen. It is not accessed by pressing two coloured keys, but rather the yellow (function) button and the B simultaneously. It is an updated version and is great if you do or did Computer Studies at school (where you definitely would have used a BBC). I still would have preferred Locomotive, but never mind.

EMULATION, NOT FLATTERY

The terminal emulator allows you to make use of the serial port for file transfer and bulletin board use. Accessed by yellow and S, it is simple to use, can be configured and saved and is bug free. <<So you can now run up the phone bill even quicker than before, whilst writing a note to BT explaining why you shouldn't pay.)

MANAGE THOSE DISCS

Finally, the disc manager is accessed in much the same way, only using the letter F. Alas, it's not documented.

Performing this task will catalogue the disc in the drive and allow you to format, rename, create a directory, delete, copy to memory and so on. Operations can be done in multiples or file by file.

THE SCORES ON THE DOORS

Overall, the machine is a great piece of kit, and all the bugs of it's baby brother have been removed. I've been using one for five months and it hasn't crashed yet, although I still make a regular back up of the memory just in case.

The discs can be used on any PC with a Double or High Density drive, and can be used on the CPC with a program like 2 in 1 (see issue 70) or DOSCopy. DOSCopy is PD, it's on PD DISC 86 from WACCI (there's a review coming soon.)

The manual is great, although a bit big. The spreadsheet instructions make up half of the book, which is good as they are very hard to use or understand. It is well written and has novice and experienced user sections.

ALMOST FINALLY

One final gripe about the machine. You can only use the drove on a fresh set of batteries or from the mains (as it uses 12 times the normal power rate). The back light uses three times as much as normal. In normal use, a set of quality batteries last 40 hours, cheap last ten and rechargables last two. It will cost you a fortune in batteries, so get Duracell batteries.

READ IT AGAIN SAM

Remember, this is only a follow up on the development of the NC range. If you want further detail on the software etc, then take look at issue 69 where I performed a full diagnostic of the NC100 in detail.

OUTRO

Overall, this is definitely a CPC essential, although a bit expensive. None the less, if you are a writer like me, you will never know how you lived without it! Cheers.

*May your battery never fade,
until after you've done the backup!*
CHRIS GREEN (No longer the D.H.B)



THE WACCI HOMEGROWN SOFTWARE LIBRARY

HOMEGROWN DISCS FROM:

**PATRICK DUNNE
40 WAVERLEY ROAD
LEAMINGTON
WARWICKSHIRE
CV31 2DF**

MAGAZINE DISC ONE

The first two WACCI'ies produced. Now available in their original format (on disc or tape.) The magazines easily transfer onto paper.

MAGAZINE DISC TWO

The third WACCI magazine. Bundled with loads of early WACCI screen pictures plus screen printer program and screen picture squeeze program.

HOMEGROWN DISC ONE

Masters of Midworld, Minimon, Chardes, Eddy, Chat, Header reader, Fruitworm, Othello, Four in a row, Memdata+, XOX, The World, Jigsaw-1, Pontoon, Progdoc, Helping hand, Bomber, Life, Tunnel Dive, Lock-N-Key, Darts, grid warrior, Jigsaw-2, Star Chase and UFO.

HOMEGROWN DISC TWO

Amsig, Beetlemania, SDump, Disc, Pixel plotter, Englebert, Globe, Multiprog, Proforma, Functdr, Functsol, Formulae, Regiload, CGen, Excat, Exprint, Story, Neatlist, Romread, Symphony, Dripzone.

HOMEGROWN DISC THREE

Bouncer, Basic+, Label Printer, Pairs, Missile, S&P, Synth, Squeezer, WacMon, Logopolis, Depro, Disassembler, Nosey, Music Composer, XRef, Breakout, Wordy, Maths magic, Disc Menagerie, Sprites, Sumvaders, Caverns of Skeletor, Zener, Astrosuite, T&P and Hotrods.

HOMEGROWN DISC FOUR

Trivia quiz, Calendar, Proto, Othello, Snooker scoreboard, Chess clock, Menu, Deffont, Gomoku, Autoline, Amsig help, Spellbound, Calculator, Crunch, Style, Firmware explorer, UDgrab, AGE, Font, Discmap, Tape RSX's, Viewfax, Pharoah, Tee-off, Primes, Di-symm, Oz, Fractal, Diamond miner, Crazy maze, Go, Shifty, Patience, SoundFX, Snakes, Pathfinder.

HOMEGROWN DISC FIVE

Graphic Magic, Jigsaw-3, Banner, ADAM, Backgammon, SDM (large screen system), Write-it-right, DYS-SYMM2, Sheepdog, Nomopoly, Envelope, Orrery, Dominoes, Contours, Complex, Printer, Diabolo, Poster, Music, and Globe.

HOMEGROWN DISC SIX

Quiz, Stats, Colprint, Globe II, Disc, SDump3, Straight, Biomorph, S-Light, Dominoes 2, Spread, Numero and Synth.

HOMEGROWN DISC SEVEN

WACCIword, Romread, Keyboard, Convert, SDump4, Bank+, EZMusic, SPX, Grafplot, Hardcat, AGE128, Wild, DCheat, PCheat, Strobe, Magic squares, Decomp, 3dXOX, Invoicer, Pacplant, Typing tutor, LNA.

HOMEGROWN DISC EIGHT

The kirk Editor, Dwerrybase and the Football pools predictor.

HOMEGROWN DISC NINE

Chess, Mode, Display, Organise, Mfile, Display, Read, Grapho, Inlays, Edbutt, Tidy, NPC, Invaders and WACCIspell.

HOMEGROWN DISC TEN

Ascii-To-Mini Office II, Xword, Xdraw, MCPgraph, Fruitrun, K1, K2, K3, loot, Keycard, Cassdisc.DR, Example1, Frame, General.DR, PCBdraft and Progdoc-V4.

HOMEGROWN DISC ELEVEN

Biglabel, Display2, CGP115, POPT 120D, CGP115, 120D, WACCIword (V3) and WAR.

HOMEGROWN DISC TWELVE

Hex-to-bas, Hex-to-bin, HP, OHM, OSKD, Resid, Draughts, Example2, Forth Demo, Machine code tutorial, Print, Dotman, Mastercomposer and PDP1.

HOMEGROWN DISC THIRTEEN

Hex-enter, Davart, Morse tutor, Craig, Knockout, PCHandle, Screen squeezer, Dirsort, Xmas card, Adult Quiz, Xsum, WACCIword(V4), Banker, Donald, No-No, Copy256, and SYSTEM to DATA format.

HOMEGROWN DISC FOURTEEN

Ahem, Clock, Amslabel, Copier, Clock1, BioSpheres, Regiload 2, Extracat, DFI, Snakes-N-Ladders, NiteShow, Ringmenu, Self Destruct, ID, Memprint, Monthly, Memmap, DFI and Escape from WACCI HQ.

AJ'S CONCEPT DISC

128K REQUIRED

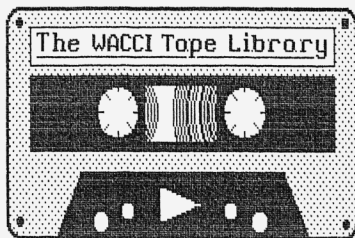
Green's strip pontoon, Dripzone plus, Beetlemania, Saucer attack, 3D Maze, Englebert, Globe and Juggle.

AJ'S TWILIGHT ZONE

128K REQUIRED

Escape from WACCI HQ, Starfire, 3DXOX, Invaders, Chat, Star Chase, PacPlant.

It only costs £3.00 to buy a disc or £1.00 to borrow it.



THE WACCI TAPE SOFTWARE LIBRARY

TAPE REQUESTS TO:

ARTHUR COOK
BRYMPTON COTTAGE
BRUNSWICK ROAD
WORTHING
SUSSEX, BN11 3NQ

THE TAPE LIBRARY RULES

1. The tapes in the library are available to WACCI members only.
2. The maximum loan period will be FOUR weeks and members are expected to treat the tapes with care.
3. There will be no hire charge, members should send stamps, cheques etc., to cover postal costs.
4. Please return tapes in the Jiffy bag and SAE provided.

TAPE SET ONE

£0.77

- Utilities:*
- HEAD Tape or Disc header reader RSX
 - HEADER Colourful tape header reader
 - KEYDEF Single keypress command typing
 - MEMDATA+ ... M/code into data statements
 - PROGDOC Programmers Utility
 - MINIMON Mini machine code monitor
 - HELPHAND ... Decision making aid
 - ROMREAD Tells you about your ROMs
 - EXPRINT Print ASCII characters
 - FORMULEA ... Mixes up chemicals
 - FUNCTDR Plots graphs of maths functions
 - CGEN Icon driven character generator
 - FUNCTSOL ... Solves quadratic equations
 - GLOBE View earth from space
 - NEATLIST ... Emulates the BBC's LISTO command
 - REGILOAD ... Load and test the Registers
 - CHARDES Big character designer
- Games:*
- 4INAROW Computerised connect four
 - BOMBER Bomb the buildings to land safely
 - PONTOON The card game
 - JIGSAW Two complete computerised jigsaws
 - MASTERS A complete adventure game
 - CHAT Based on the famous Eliza
 - FWORM A Caterpillar/Fly game
 - GRIDWAR Another Caterpillar/Fly game
 - ENGL Bert game
 - STARCHAS ... Space shoot em up thingy
 - LOCKnKEY ... Maze game
 - UFO Another A-maze-ing game
 - LIFE The Game Of Life
 - OTHELLO Reversi simulation
 - TUNNEL Freefall tunnel dive game
 - WORLD Graphics demo of the Earth spinning
 - XOR Two player noughts and crosses

TAPE SET TWO

£0.77

The first three issues of WACCI. WACCI was originally distributed on tape before going print only in Early 1987. In 1990 the first three issues of WACCI were discovered hidden in a draw. OMG did not distribute tape software so there were transferred onto disc. Well the wheel has turned full circle 'cos we've copied them from disc onto tape. The tapes also contain several early screen pictures and screen handling utilities.

TAPE SET THREE (UTILITIES)

£0.77

- AGE v4 A window and menu routine
- CONVERT Converts Metric to Imperial to Metric
- EZMUSIC Music making program with documentation
- KEYBOARD Musical keyboard with documentation
- PI Pi calculator with documentation
- POPT Print Options Menu
- SDGLOVER Tune for EZMUSIC
- CONVERT Example screen for decomp program
- DECOMP Decompress "Advanced Art Studio" pictures
- DEMO Part of DECOMP program
- INVGEN Super invoice creator with documentation
- LNA Logic network analyser
- MAGICSQR Magic square generator ... can be printed
- NUMBFIL Part of MAGICSQR
- FOOTBALL Football pools program with data files
- TINYEDIT Text Editor for the 464
- TINYRSX Part of TINYEDIT
- TINYCHR Part of TINYEDIT includes documentation
- DCHEAT Dripzone cheat
- PCHEAT Pacplant cheat
- PACPLANT Pacman game
- PDG Prisoners dilemma game
- 3DXOX 3D noughts and crosses
- WILD Quiz game
- SDUMP4 Super screen dump with documentation
- STROBE Drawing program with documentation

TAPE SET FOUR

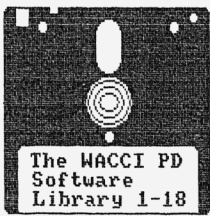
£0.77

For those of you who have purchased the ALTERNATIVE FIRMWARE GUIDE but who would like the programs on tape instead of disc then here they are.

GENERAL INFORMATION

If anyone has any tapes, games or utilities, they feel would be of use to the Library, please send them to Arthur Cook. Alternatively you could bring them along to one of the ALL FORMAT COMPUTER FAIRS. You can either donate a tape to the club or you can loan it to the club in which case you retain ownership. Please tell us which when you send the tape.

Please let Arthur Cook know of any loading problems



THE WACCI PUBLIC DOMAIN SOFTWARE LIBRARY

PD DISCS 1 TO 18 FROM:

**PATRICK DUNNE
40 WAVERLEY ROAD
LEAMINGTON SPA
WARWICKSHIRE
CV31 2DF**

PUBLIC DOMAIN DISC 1 - FORTH PROGRAMMING - CP/M 2.2 ONLY

The complete Forth programming language disc. Includes both versions of Forth, a full description of the language and an easy to follow 'Teach yourself Forth' series.

PUBLIC DOMAIN DISC 2 - UTILITIES - CP/M 2.2 OR CP/M 3.1

NSWP Superb disc and file management utility
BINCALC On screen calculator
COMPARE Compare two files for differences
LOOK Views and edits ascii and binary files
BD04 Checks discs for bad sectors and files
XDIR Directory utility
UNLOAD Convert COM files to HEX files
NDDT Improved version of DDT & SID
RASMB Convert HEX files into mnemonics
RASMTA As RASMB but saves stack pointers
LOHD Improved version of LOAD
LASM Improved version of ASM
XIZI Z80 to 8080 to Z80 m/code translator
ZMAC Relocatable Z80 macro assembler
LINK Z80 machine code program linker
D Directory utility
SD Directory utility
DISPLAY Improved text file reader
DS Directory utility, replaces DIR
MDIR Directory utility, replaces DIR
PRINT Superb text file printer utility
WC Counts the words in a text file
ED Documentation for ED.COM
Z8OASM Z80 assembler
ERAQ16 Improved version of the ERA command
LU Library file creator

PUBLIC DOMAIN DISC 3 - MBASIC - CP/M 2.2 OR CP/M 3.1 (PLUS)

The complete MBasic disc. MBasic was originally a full price release (Basic-80). The disc contains all you'll ever need to including, MBasic, MBasic Compiler, Instructions and several complete programs (StarTrek, MPG & Convert.)

PUBLIC DOMAIN DISC 4 - AMSDOS

POWERPAGE DTP program, by Richard Fairhurst
PD PLANNER Spreadsheet by Paul Dwerryhouse, 128k Reqd
RAMBASE3 Super Database by John Fairlie, 128k Reqd
RAMDISC Create a Ram drive, 128k Reqd.

PUBLIC DOMAIN DISC 5 - CP/M GAMES - CP/M 2.2 OR CP/M 3.1

BASE Text only adventure
BASE2 Part 2 of the BASE adventure
ISLAND Text only adventure
ISLAND1 Part 2 of the island adventure
PRESSUP Simple to play game, but very hard to win.
ADVENT The original Colossal Cave adventure
CUBE Version of Rubiks cube.
GOLF Weird text only golf game.
MASTMIND Interesting version of MasterMind.
OTHELLO CP/M version of Reversi.

PUBLIC DOMAIN DISC 6 - AMSDOS GAMES - AMSDOS

ADDER Guide the snake to collect points
ANNA Eat the diamonds with your annaconda
ASSETS Asset strip companies to make a profit
BIO Plot your BioRhythms, having a good day?
CALENDAR Print out a calendar for the year
CATLABEL Print out a label for any disc
CBEEP Customise the beep on your CPC
CRIB The card game of crib
DESERT Guide your tank around the desert
DROPF0UR A version of connect four
EDITOR Run your own magazine and make a profit
EEZAP Shoot the balloon to win
GIN Play the card game on your CPC
HANGMAN Guess the word before it's to late
ICEFRONT An interesting game
MUSIC Write and play tunes
ODE Dedicate an ode to a friend
PATIENCE Play the card game of patience
PIQUET The card game of piquet
ROMANNUM Converts numbers to roman numerals
SPRING An interesting game, well worth playing
TRENCH Fly your fighter down a trench
BOP Plays a bit of Bop music
CHESS Basic game of chess
COLOSSAL The solution to Level 9's colossal cave's
CREEPY Move around the vegetables, don't touch
CSEA Get the submarines before they escape
CTN Conversion of a very old english game
CONNECT Another version of connect four
GIGO & FRED ... Garbage in, garbage out, talking rubbish!
HOROSCOPE Want to know the future ? here it is!
OCTAVE Play the octaves on the numeric keypad
ORGAN Use the keys as an organ! designer tunes?
POOLS Win the pools with this super aid?
SPLAT A super machine code & Basic game
TIMEBOMB Collect the timebombs before they explode

IT ONLY COSTS:

*£3.00 to buy a disc (including disc and p & p) or
£1.00 to borrow a disc.*

PUBLIC DOMAIN DISC 7 - UTILITIES - CP/M 3.1 (PLUS) ONLY

FORM3 Read & write to PCW format discs.
MIKEDIT Easy to use line & text editor
SUPERZAP Super track & sector editor
ZDEBUG17 Z80 interactive program de-bugger.
UNZIP Unpacks library files created by PKZIP.
NEWCCP Adds lots of new commands to the CP/M
ANDYBASE Superb Database, v1.1, now shareware
WCOUNT Counts words, lines and chars in a file.
UN33 Unerase erased CP/M files
ARK11 & ARC24 . Creates *.ARK archive files, Version 1.1
DC-CPC Spreadsheet, similar to Supercalc 2.
UNARC UN-ARChive files created with ARC24.COM
ADRIVE Switch between normal & 80 track drive A
ASSIGN Redirect disc commands, drive A to B etc
CRUNCH28 Crunch archive files to save disc space.
UNCR28 UN-CRunches *.???. files.
EXTDISC Changes the drive parameters
FORMAT Format discs to the new parameters
MENU Simple & easy to use Menu program
QTEXT21 Speeds up screen handling

PUBLIC DOMAIN DISC 8 - COMMS - AMSDOS & CP/M 3.1

ZMP The best CP/M Comms program (ZModem.)
TERM504B The best Amsdos Comms program (XModem-1k.)
plus all you needed to know about comms,
including, phone list, help files and more.

PUBLIC DOMAIN DISC 9 - UTILITIES - CP/M 2.2 OR CP/M 3.1

CLEANUP Improved version of CP/M's ERA command
DIRCHK Check the disc directory and locate files.
DISPLAY Improved version of CP/M's TYPE command.
FILECHOP Splits up large text files
LRUN23 RUN a .COM file from within a .LBR file.
LT29 Easy the use library file unpacker.
NC NewCopy, improved disc to disc file copier
NULU15 Super disc utility, similar to NSWP
UNZIP Unzips archive files created by PKZIP.
ACOPY21A General purpose, super fast, file copier.
DU Superb Disc utility. Fully documented.
GREP Scan text or programs for keywords.
LIST Improves the appearance of printed output.
LOOKAT View text or program files.
MFT Easy Multi-File Transfers on CP/M.
RESCUE Rescue programs from corrupted discs.
RPIP Improved version of PIP.
SORT Sorts text files into alph-numeric order.
VLIST Improved version of TYPE.
WSCLEAN Strips high bits from text files.

PUBLIC DOMAIN DISC 10 - WORD PROCESSING - AMSDOS & CP/M

VDE266 Word Processor, top quality PD package. The
Latest and final version (2.66) of VDE, the
complete word processor. VDE runs under both
CP/M 2.2 & 3.1.
ISPELL The PD Spell Checker Version SEVEN by Paul
Dwerryhouse.

PUBLIC DOMAIN DISC 11 - AMSDOS - ADVENTURES DISC ONE

GENO Journey to Geno, super two part adventure.
ORKON The Orkon Mission, another super adventure.
ESCHER Eschers Crazy Mill (The water runs uphill!)

PUBLIC DOMAIN DISC 12 - COBOL - CP/M 2.2 OR CP/M 3.1

The complete Cobol programming disc. This top quality PD
package contains all you ever needed, including the compiler
a full 'Teach yourself Cobol' series, examples, instructions
and two complete programs.

PUBLIC DOMAIN DISC 13 - DEMOS DISC ONE - AMSDOS

AMIGADEMO Your CPC does an Amiga Demo imitation
MADNESS Quality Graphics (contains bad language)
MALIBU Super Graphics Demo
HUNTER Super Graphics Demo
BARS Super Graphics Demo
GPA-NOEL Plays 'Noel' to a christmas scene
JOGGING Super Graphics Demo (pictures a bit rude)
REMIX Super Graphics Demo
WACCI The WACCI logo by David Carter

PUBLIC DOMAIN DISC 14 - AMIGA GRAPHICS ONE - AMSDOS

David Carters first graphics disc. This disc contains 49
screen pictures. The pictures were drawn for the Amiga,
and then converted to CPC format by David. The Pictures
include, Bike, Bird, Castle, Donald Duck, Horse, Marilyn,
Maxhead, Garfield+Odie, Odie, Buggs Bunny, Saturn, Eagle,
Porsche, Venus, Harrier, Dollar, Burnball, Lens Window,
Monster, Moonchild, Punisher, Smoker, Strawberry, Mazda,
Sword, Terminator, Terminator2, Tiger Like, CocaCola,
Turtles, Bolts, Doors, Fantasia, Garfield, Gorilla, Gun,
Imagine, Juggler, Kingtut, Sunbath, Mona Lisa, Prince,
Robocop, Robocop 2, Ship, Stargaze, TigerDSC, TigerSLP,
Tyranno and Venus.

PUBLIC DOMAIN DISC 15 - AMSDOS

"FLAGS OF THE WORLD" By Andre Coutanche, Stuart Gascoinge.
All the world flags bar 20 (mainly 'cos they are too
difficult or 'cos they are forever changing.)
"THE ANIMATOR DEMO" By David Carter.
Four interesting graphics demos by Davis Carter. Written
using the Animator Graphics package (this is no longer
available.) David pushed the package to the limits of its
ability whilst producing this disc.

PUBLIC DOMAIN DISC 16 - PASCAL & ZBASIC - CP/M 2.2 & 3.1

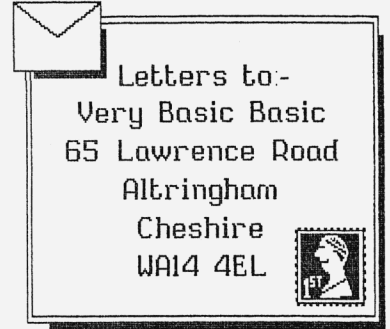
PPC PASCAL -A superb Pascal compiler. Many commands are
non-standard, however it's easy to use and learn, and it
does produce stand-alone *.COM files.
ZBASIC - A public domain release of a commercial product.
ZBasic is easy to use and is a near-industry standard
version of Basic. The full (and costly) version will produce
stand-alone *.COM files, this feature has been removed from
the PD version.
Both come complete with full instructions.

PUBLIC DOMAIN DISCS 17 & 18 - JRT PASCAL - CP/M 3.1 ONLY

This twin disc set contains JRT Pascal. (Originally a full
price software package costing circa \$450 dollars.) It has
now been released as Public Domain product. JRT Pascal is an
industry standard version of the language. To write source
code files you'll need a word processor that produces pure
ASCII files. VDE266 the superb public domain word processor
(on WACCI PD Disc 10) will do if you don't own a word
processor.
The disc contains full instructions and rules.

VERY BASIC BASIC

Written by
Alan Tilling



HELLO EVERYONE, 'TIS I, EXHAUSTS HIS DATA AND HIMSELF!

Do you have problems with your programs? Does the stupid thing tell you lies like "Data exhausted in 1010" and when you have a look it's not even a data statement? Frustrating isn't it? There are certain error reports that can be very confusing but when you know what the Basic interpreter is trying to tell you, you will find its seemingly wrong statements are in fact, quite correct.

START HERE

Let's start with the one that must be the most frequently seen and which is amazingly one of the simplest (if not the simplest) to explain.....

SYNTAX ERROR

Inside Basic there is a list of terms that it can understand. When the return key is pressed, the interpreter takes the word and or words that have been inputted and compares it/them with this list and if it finds it/them it carries out the task. If it can't be found, the interpreter assumes it must be a variable name (I say it because it/them is a bit long winded but it means the same.) and so it looks down the list of variable names it has just assembled from the program you have just entered. If it still can't find the word the interpreter throws up its hands in horror and says that it doesn't understand or in computereese Syntax error.

COMMON AS MUCK

The most common causes are spelling mistooooks or omitting the spaces betweenwords. <<Oh7yeah!-ED.>>

It is this constant checking of every word that makes Basic programs comparatively slow in their execution.

EXHAUSTION

A very confusing report that is often seen is "Data Exhausted". The big problem with this is that it always

seems to report the error in the wrong line. You get Data Exhausted in 1010 but when you look in 1010 you find that it isn't a data statement at all but a Read command.

Other strange ones are the NEXT reports. You know, you write a FOR/NEXT loop and terminate it with a NEXT but the computer doesn't see it. Basic doesn't usually make mistakes so what is going on? Type in the code shown in Program 1. Put a disc in the drive (or a tape in the tape thing), type goto 2 [RTN] and the disc drive will burst into life. I say save it first because it is full of mistookos so have a look at it and try and see if you can spot them first.

WHAT IT DOES

All the program does is to print the names Clive, Paul, Mike, Alan and Thomas in a neat column down the left hand side of the screen then all the names appear across the screen. I think you can work out where the names come from but Thomas may stump you.

I don't think Thomas is a member of WACCI, is he Clive? <<Not yet! -Ed.>>

Once you have typed in the program and have saved it, type run [RTN] and you will be greeted with the message NEXT missing in 1020. Have a look at 1020 (list 1020) and lo and behold it's a FOR/TO statement.

The associated NEXT is in 1060. The term "associated" gives the game away. Remember *for every FOR there must be a*

PROGRAM ONE by Alan Tilling

```
1 GOTO 3
2 SAVE"prog1",a:STOP
3 ON BREAK GOSUB 10000
5 REM error program by A Tilling
1000 MODE 2
1005 INK 0,14:INK 1,0:BORDER 0
1010 DIM names$(5)
1020 FOR x=0 TO 5
1030 READ names$(x)
1040 PRINT names$(x)
1050 FOR y=0 TO 500
1060 NEXT
1070 PRINT names$(1),names$(2),
names$(3),names$(4),names$(5)
1080 END
1090 DATA Clive,Paul,Mike
1091 DATA Alan,Thomas
10000 MODE 2:LIST
```

NEXT. Well there are two FORs so we must have two NEXTs. Type edit 1060 [RTN] and change 1060 to NEXT x:NEXT y [RTN]. There are two loops therefore there must be two NEXTs.

What is more they are now labelled x & y to make the program easier to read so now type run [RTN] and voile, the program quickly grinds to a halt with Unexpected Next in 1060.

This is daft! First it says there's a Next missing and then it says its got one too many. What going on?

LOOPY LOU

One of the problems is the program has not been typed in in a manner that lends itself to error detection. Remember the golden rule If there's a loop, it doesn't matter if it is a

FOR/NEXT OR A WHILE/WEND, indent the text. If there's a loop within a loop, indent the text further. Take a look at 1060 (list 1060 [RTN]). There are two NEXTS. It's quite in order to have two NEXTs on a line but at this stage, one on each line would be simpler. So edit 1060 and change the line number to 1065 [RTN]. Now enter 1050-[RTN] and the listing will be displayed from 1050 to the end and 1060 and 1065 will be identical. Edit 1060 and delete :NEXT x. Now edit 1065 and delete NEXT y: (Don't forget the returns).

AUTOMATIC

To make it easier to edit the lines that require indenting type auto 1020 [RTN] and 1020 will be presented. That line is OK so press [RTN] and 1030 will be shown with the cursor at the first character position so press the space bar then [RTN]. Carry on pressing the space bar and [RTN] until 1070 is presented then press [ESC].

Did you notice 1065 was not shown? That was because Auto without any parameters defaults to every 10 lines.

Now enter the following line 1062 <space><space>rem. I know 1062 doesn't mean any thing but it makes this explanation clearer. Type list [RTN] and the program will be displayed along with all the indents. Now you can see that loop y falls within loop x and loop y must be completed before you can come out of loop x so, going back to the original line 1060, it should have read NEXT y:NEXT x. The lazy way would have been just to type NEXT:NEXT. Arnold would have assigned the x & y (mentally, if I may use that term) and all would have been hunky dory but not so readable.

ONWARDS

Right, onwards into the thickening twilight. Nothing else can go wrong, or can it? Type run and see. Well the names appear in a vertical line down

the left hand side of the screen as predicted. Did you notice the delay (caused by the y loop) between each name? Oh no, here's another error Data exhausted in 1030. If you list 1030 you will find that it's a read command and not a DATA statement at all. Have a look at the full listing. The data is in 1090 which is after the END statement so why doesn't it say 1090?

Well the READ statement is short for READ data and it was during this READING that it ran out of data. The DIMension (5) in 1010 is correct as is the 5 in 1020 or is it? Don't forget the computer counts from zero so 0 to 5 is in fact six reads and since there are only five pieces of data, it runs out before the READs, hence the alarm. Change 1020 to 0 to 4 (or 1 to 5) and all will be well. Well I hope this little journey down error ally has been some use to you. So until next month, when 'Tis I becomes 'Wer I!

Bye for now. Alan

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LD A, CODE

UNCLE CLIVE POKES ABOUT IN MACHINE CODE

If it doesn't stop raining soon I'll probably get wet rot! That's what I like, a lively punchy opening (even if doesn't have anything to do with the series!). I promised you stacks, pushes and pops and stacks, pushes and pops you shall have.

Way back in WACCI 47, Alan Tilling did a wonderful description of how stacks work, and if you missed it, here it is again.....

IT'S A STACK UP

This parameter stack, known as "the stack" can be likened to piles of many things, dinner plates, playing cards or Pink Floyd albums, but I'm going to use the bill spike analogy.

Bill Spike was one of the founder members of WACCI but then he came to and was given a clean bill of health by his psychiatrist, so we lost him.

The bill spike principle works on the old practice of having a spike onto which you stick all your bills to stop them from getting lost. On the first day you push the electric bill onto the spike, on the next day your gas bill, then the grocer's bill, the tailor's, the water rates, the poll tax, the cobbler's etc.

Now when you come to pay them, you must pay the cobbler before the poll tax, the poll tax before the water, the water before the tailor, the tailor before the grocer, the grocer before the gas, and finally the gas before the electricity.

The salient point that must not be forgotten is that the first on the stack is the last off or, to put it the other way round, the top of the stack is always the last on. Please don't forget this, it is the most fundamental point of stack operation.

This First In, Last Out principle is referred to as FILO. Others in the same series are First In, First Out (FIFO), Garbage In, Garbage Out (GIGO) and my neighbours pet dog (FIDO).

AND THERE'S MORE.....

So you know how the stack works. All that's left to find is why on earth do you need it? As with all things the answer is both easy and difficult.

STACKING UP!

The stack has one main use: as a short term storage area for data. The reason for this is simple, using the stack is easy and very very fast.

Let me outline this with an example. Suppose, the BC register holds 10 and the DE register holds 5 and we want to swap the values over. The easy way to do this is....

1. Move the value from BC to the stack
2. Move the value from DE to BC
3. Move the value from the stack to DE

in machine code terms we 'push' values onto the stack and we 'pop' values off the stack, so this becomes;

```
push bc    ;move BC to the stack
ld  b,d    ;move D to B
ld  c,e    ;move E to C
pop  de    ;move the stack to DE
```

There are other methods we can use;

1. Move the value from BC to the stack
2. Move the value from DE to the stack
3. Move the value from the stack to BC
4. Move the value from the stack to DE

This also swaps the values over. In machine code terms, this becomes;

```
push bc    ;move BC to the stack
push de    ;move DE to the stack
pop  bc    ;move the stack to BC
pop  de    ;move the stack to DE
```

There are plenty of other methods we can use! Which is best? The one which produces the optimum results (in terms of both speed and ease of use) for the program is the best!

THE DEFINITIONS

PUSH register pair

Stores the contents of a register pair (AF, BC, DE, HL or SP) at the top of the stack.

The high part is pushed first, then the low part.

The computer 'remembers' that a new item has been added to the stack by updating the value of SP.

After a PUSH instruction, SP will always point to the low part of the topmost item on the stack. PUSH is the opposite of POP.

POP register pair

Removes the top two bytes of data from the stack and stores them in the specified register pair. The AF, BC, DE, HL, IX and IY register pairs may be used.

POP moves the top most byte in to the low part of the register pair and the next byte in to the high part of the byte. POP is the opposite of PUSH.

After a POP instruction the SP is updated automatically.

SP (STACK POINTER)

The Stack Register is a true 16 bit register (not a register pair) specifically designed to act as an address pointer for accessing an area of memory known as the stack.

It should never be used as a general purpose storage register.

The stack grows downwards in memory and the Amstrad CPC allows 256 bytes of stack locations. In practice it is very unlikely that number will be exceeded.

The position of the stack is not fixed in memory, it is set by the firmware commands immediately below &C000 in memory.

PROGRAM 18: DEMONSTRATING THE PUSH AND POP COMMANDS

```
org &8000

ld bc,&3031      ;loads the b register with &30, and c with &31
ld de,&3233      ;loads the d register with &32, and e with &33

push de         ;move the contents of the de register onto the stack
push bc         ;move the contents of the bc register onto the stack

pop de          ;move the top value on the stack into the de register
                ;this loads d with &30 and e with &31
pop bc          ;move the next value on the stack into the bc register
                ;this loads b with &32 and c with &33

ld a,c          ;check it out by loading the a register with the contents
call &bb5a      ;of c (&33 ascii). Print the character, it should be a 3.

ret             ;and then end
```

Compile the program, then save the code with: save "mc7.bin",b,&8000,&F

To run the program use: 10 MEMORY &7FFF : LOAD "MC7.BIN",&8000 : CALL &8000

A WORD OF WARNING

Before you rush headlong into using POP and PUSH please listen to this warning. The incorrect use of PUSH and POP will quickly crash your program.

You must PUSH (move) a value onto the stack before you POP (remove) the value from the stack. If there's no value on the stack then your program will crash with strange results.

Please note that PUSH and POP move values from and to the stack, they do not copy values. If you use PUSH bc then the bc register must contain the value to be pushed, if not the program will crash. When the value has been

pushed from the bc register onto the stack, the bc register is empty. Please remember that the value has been moved not copied. A short program to demonstrate them point;

```
org &8000      ;compilation address
ld bc,&4252    ;load bc register
push bc       ;move contents to stack
push bc       ;crash the program...
```

Please take care when using the PUSH or POP commands otherwise you will end up with a crash. For every POP there must have been a PUSH. For every PUSH there must be a value to be pushed.

PROGRAM 18 (AGAIN), FOR THOSE OF YOU WHO DO OWN AN ASSEMBLER

```
10 CLS: MEMORY &7FFF
20 FOR mem = &8000 to &800E : READ num : POKE mem,num : NEXT mem
30 CALL &8000
40 END
50 DATA &01,&31,&30      ;ld bc,&3031      load b with &30, c with &31
60 DATA &11,&33,&32      ;ld de,&3233      load d with &32, e with &33
70 DATA &D5              ;push de         move de onto the stack
80 DATA &C5              ;push bc         move bc onto the stack
90 DATA &D1              ;pop de          move the stack to de
100 DATA &C1             ;pop bc          move the stack to bc
110 DATA &79             ;ld a,c          copy c to a
120 DATA &CD,&5A,&BB      ;call &bb5a      print the a register, a '3'
130 DATA &C9             ;ret             end the program
```

THE SUMMARY

The stack is used to store value on a short term (temporary) basis. It was not designed for the long term storage of data within a program.

For medium and long term storage use an area of memory that has been set aside for the purpose. (Er, More about this next month.) On to the next bit.

MEMORY MADE EASY

Whilst playing with the Roms <<hacking inside really.>> I noticed that many of them, had spare space inside. <<For future expansion?>> And as I poked around I thought that if we could gather all the spare memory together then we'd have more than the standard 128k of memory to use.

Now here's a short program that will give the CPC a 153k - please note the new command DJNZ.

PROGRAM 20: MEMORY GATHERING/LOSS

```
org &8000      ;you'll need to
ld b,&98       ;sort out what's
.loop         ;happening for
ld a,&6b       ;yourself....
call &bb5a
djnz loop     ;TTFN, ITMA
ret           ;quit to Basic
```

To save the program, use:

SAVE "MC20.BIN",b,&8000,&8

To run the program, use:

```
10 MEMORY &7FFF
20 LOAD"MC20.BIN",&8000
30 CALL &8000
```

Basic only users should use:

```
10 MEMORY &7FFF
20 POKE &8000,&3E:POKE &8001,&6B
30 POKE &8002,&CD:POKE &8003,&5A
40 POKE &8004,&BB:POKE &8005,&10
50 POKE &8006,&F9:POKE &8007,&C9
60 CALL &8000
```

OUTRO

That's it for this month. Once again I have been beaten by the end of the page... Have a very good month and if you're stuck, don't panic, drop me a line and I'll help out. TTFN. -Clive.



Inspiration

George Ho-Yow eats three machine code routines for breakfast

Welcome to my Inspiration corner once more, WACCI programmers. I am afraid that I have to put the Morse decoder project on the back-burner for a while. Despite much encouragement from letters received on the subject, I must weigh the effort required to complete the project against the benefit of it to WACCI readers. As the saying goes: one man's meat is another man's poison, and I suspect that many of us are not especially enchanted over the prospects of receiving morse code.

WHY AND WHEREFORE?

Nevertheless as previously stated, I hope you found the idea of using some form of real-time design techniques of interest. I thought I'd take a break from the decoder and take on another task that's equally or more difficult.

Not really, just joking! With the spectre of job-cuts stamping it's way down the corridor at work, I keep worrying about whether I'll have a job in the near future, so my mind isn't exactly geared up for taking on too much at the moment.

Hey, if I'm sacked I'd be able to devote more time to writing, hee hee.

MINDFULL OF LIFTING PROBLEMS

What I have in mind for this month, is to remind you about the use of simple logical rules and how to apply these rules so that you are able to model a "real system." <<Magic! -Ed.>>

Suppose Clive was to say to us, "I find tramping up and down the stairs at WACCI HQ is an ordeal. How about designing a lift system for the first four floors for starters?"

So, rather than rushing off to the shops and buying lots of relays and push-buttons and whatever is necessary to make a lift controller; let's see if we can mimic the requirements for a lift control design, using our CPC. Later on, we could build an electronic controller using a Z80 chip and ROM/RAM based on our design.

Well we had better brush up on our logic operators, as we are going to need them for this job. Just in case

you're rusty on the use of logical expressions, I'll quickly run through them for you.

THE LIFT OPERATOR! LOGICAL?

Let's only consider those logical operators that are of practical use to us. Life will be so easy, if we just stick to three operators.

These are the AND, OR and NOT. See I've already introduced a use of the AND operator in the previous sentence (smug grin spreads across my face.) Seriously, the AND operator is pretty straight forward. EG., You have heard of an egg-AND-spoon race, haven't you? Well, to enter the race you need both items. No good going to the starting line with just a spoon in your hand.

The OR operation or function (there I go again pre-empting the example by using the word "or" already,) is different to the AND operation in that either of two items will satisfy the equation. But the OR operation is a bit devious, in that there are two forms of it.

So, if I say that: CHILDREN are either BOYS OR GIRLS, then since if (a) there is a mixture of boys AND girls, OR (b) just boys, OR (c) just girls, we will be considering children in all three cases, this type of OR operation is known as an INCLUSIVE OR.

On the other hand, the old cliché: "Six OR half-a-dozen," is an EXCLUSIVE OR operation or function.

So if I give you six eggs OR I give you half-dozen eggs, you'll get the same thing. But if I give you a half-

dozen AND six eggs, you'll get twelve. Hmm, I'm not sure whether this is a good example! But hopefully you will see what I'm getting at.

LONG LIVE THE DIFFERENCE!

The difference between the two ORs is that in the INCLUSIVE OR, item-one AND item-two are acceptable as being true.

In the EXCLUSIVE OR, item-one AND item-two being true isn't, only one or t'other is acceptable.

By the way, "XOR" is used to indicate an EXCLUSIVE-OR operation.

Finally, the last logical operation that I want to remind you of, is the NOT operation. This is to cater for opposite conditions.

Life can be cruel, one minute we're laughing and the next minute we're sad. So, Happy = NOT sad. Which leads to a better example of an EXCLUSIVE-OR equation: Emotion = Happy OR Sad, IE., we can't be both happy AND sad at the very same time. Note that to show the difference between the two ORs, XOR is used to indicate an Exclusive-Or while the inclusive OR is just plain OR.

LET ME RECAP.....

So the three main logical operators are, AND, OR and NOT. We can use these three to meet any requirement we may come across in every-day life.

It may be worth remembering that the NOT operation can be combined with the AND or the OR operators. Mr. De Morgan gave the world this rule.

$\text{NOT}(a \text{ AND } b) = (\text{NOT } a) \text{ OR } (\text{NOT } b)$ and conversely, $\text{NOT}(a \text{ OR } b) = (\text{NOT } a) \text{ AND } (\text{NOT } b)$. Notice how the operators change from an AND to OR and vice versa when the left-hand-side of the expression is expanded.

The NOT AND is contracted to NAND and the NOT OR for the NOT OR. Therefore $\text{NAND}(a.b) = (\text{NOT } a) \text{ OR } (\text{NOT } b)$.

Thank you for being patient with me so far, now I feel that we're in a better position to follow the programming, on now to modelling the lift system.

BUTTONS, LETTERS AND INPUTS

I'll kick off by looking at the input requirements. We need call buttons on each floor. I'll allocate the keyboard letters to represent the respective lift call buttons.

On the Ground Floor, the A key will represent a push button marked UP. On the First Floor, the B key will be the call button for the lift AND we want to go DOWN, the C key represents the call button for the lift AND we wish to go UP. On the second floor we will allocate the D key for a call to go DOWN and the E key for UP and so on to the third floor where we just have the F Key to go DOWN. With me so far?

The other inputs are the buttons in the lift itself. We will allocate the CPC Keys, G, 1, 2, and 3 to represent a request to have the lift moved to the Ground, First, Second, and Third Floors respectively. I won't go into emergency STOP buttons and the like.

OVERS AND OUTPUTS

Now for the output requirement. We can model this by moving the word "LIFT" up and down the CPC's screen. Okay, not very exciting, but we can always elaborate on the graphical modelling later if you so wish.

THE FUNCTIONAL BITS

We've got our inputs and output, now we have to work on the functional requirements. We have to arrange for:

(a) If an UP call button is pressed and the lift is moving UP, then the lift must stop at that Floor else if the lift is obviously moving DOWN, it ignores that request until the lift

changes direction OR stops. Similarly, the reverse is true for a DOWN call and the lift moving DOWN.

(b) If the lift is still and a button is pressed the lift must work its way to that floor. Please note: it may be stationary on the correct floor.

So the controller has to observe these two rules in deciding when and where to stop. After stopping the lift, the controller will open the doors and close them after a time delay of say, twenty seconds. It will then check if there are any more Calls to service.

(c) Some form of floor-destination storage is necessary. I don't know if you're old enough to remember those lifts without Call-request/destination memory. You had to sit on the call-button for ages to ensure that you got your request in. With the electronics of today, you can easily add memory to your controller so it would register a call-button request and arrange to go that floor eventually.

As an aside the lift can only move UP XOR DOWN (XOR=Exclusive OR,) so in our design if we attempt to move the lift UP AND DOWN simultaneously, we must display a warning message on the screen. Ermm, this message should be in the output specification as well.

Before writing a program to model the lift system, let's look at a state diagram of the system, (it's at the bottom of this page.) I'll start by monitoring the buttons and taking it from there.

It is a well known fact that there are many ways of writing programs, but I am adopting this approach to show how the 'EVERY command' in BASIC can be put to good use. In State (1) we will use the EVERY command to examine

the call-buttons (the CPC keys) to see if any of the valid ones are pressed. This will be done every two seconds.

Not shown in the state diagram is the consequence of applying rule (a) XOR rule (b). Inevitable the lift will have to move UP XOR DOWN.

The program can use another EVERY command to simulate the lift movement. Separate "EVERY interrupt" handlers will make the movement more realistic. (One interrupt handler is processing the keys and setting the destination, The other is concerned with moving the lift, when the destination is reached, STOP the lift, OPEN the door and after twenty seconds, CLOSE the door.

The EVERY time for this handler can be set to five seconds. We can place the error detection for simultaneous UP AND DOWN signals sent to the lift in this handler. We can even check if the is door open while the lift is moving and other conditions that may cause discomfort.

We've a good idea of what we want in our program. Let's recap. We need to scan the keyboard to see if keys A to G or 1 to 3 are pressed. Don't forget, it may be that there is a convention at WACCI HQ and with so many wanting to use the lift, all the buttons could be pressed in random order within a second. So our design better be good!

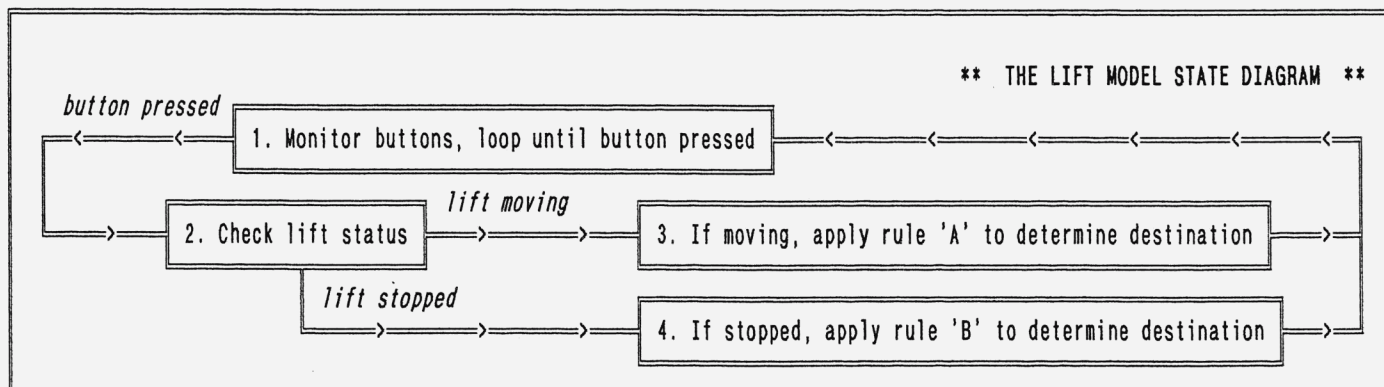
OUTRO

That's about it folks. I'll be back in March with next instalment. -Byeeee

** THE KEY ALLOCATION TABLE **

Floor(s)	Ground	First	Second	Third
Going: UP	A	C	E	-
Going: DOWN	-	B	D	F
Lift buttons:	G	1	2	3

** THE LIFT MODEL STATE DIAGRAM **



CP/M+ EXTRA

UNCLE CLIVE POKES ABOUT WITH CP/M PLUS (v3.1)

Here's an idea that saves disc space, speeds the loading of CP/M 3.1, allows CP/M to be loaded from large format discs and allows easy patching of CP/M.... I think you'll agree that these options are well worth having....

Question: Does this break copyright?

Answer: No! You can make three backup copies of CP/M for your own use.

Question: Will CP/M plus still work in the same way? Does it change?

Answer: It still works the same way!

THE THEORY BEHIND IT ALL

CP/M programs (*.COM files) are stored as ascii files. The 'CPM command loads the C10CPM3.EMS program file at &C00, then calls &C00 to run it.

If we convert the C10CPM3.EMS file from an ascii to a binary file, we can then load it, patch in the required changes and then run it.....

PROGRAM ONE: CPM2BIN.BAS (CONVERTS THE C10CPM3.EMS ASCII FILE TO BINARY)

```
100 ' Program to convert C10CPM3.EMS to a binary file
110 ' By Clive Bellaby (c)WACCI 1994
120 FOR addr=&7000 TO &7053 : READ num : POKE addr,num : NEXT addr
130 CALL &7000 : END
140 DATA &06,&0B      :' ld b,&b      ;OPEN INPUT FILE, filename length
150 DATA &21,&3E,&70  :' ld hl,infile ;address of filename
160 DATA &11,&00,&72  :' ld de,&7200  ;address of 2k buffer
170 DATA &CD,&77,&BC  :' call &bc77  ;open file as input
180 DATA &21,&00,&0C  :' ld hl,&c00  ;address to start storing file data
190 ' .READ_CHAR
200 DATA &CD,&80,&BC  :' call &bc80  ;read a character from the file
210 DATA &D2,&19,&70  :' jp nc,close ;quit if soft or hard end of file
220 ' .NOT_YET
230 DATA &77        :' ld (hl),a   ;poke character into memory
240 DATA &23        :' inc hl         ;increase memory address
250 DATA &C3,&0E,&70  :' jp read_char ;jump back for next character
260 ' .CLOSE
270 DATA &FE,&1A     :' cp &1a     ;test if soft end of file
280 DATA &CA,&14,&70  :' jp z,not_yet ;if yes jump back, its not the end
290 DATA &CD,&7A,&BC  :' call &bc7a ;CLOSE FILE, if hard EOF file met
300 '
310 DATA &06,&0B      :' ld b,&b      ;OPEN OUTPUT FILE, filename length
320 DATA &21,&49,&70  :' ld hl,outfile ;address of filename
330 DATA &11,&00,&72  :' ld de,&7200  ;address of 2k file buffer
340 DATA &CD,&8C,&BC  :' call &bc8c  ;open file for output
350 DATA &21,&00,&0C  :' ld hl,&c00  ;WRITE FILE, file start address
360 DATA &11,&00,&60  :' ld de,&6000  ;length of file
370 DATA &01,&00,&0C  :' ld bc,&c00  ;entry address of file
380 DATA &3E,&02     :' ld a,2     ;file type, 2=binary
390 DATA &CD,&98,&BC  :' call &bc98  ;write file to disc
400 DATA &CD,&8F,&BC  :' call &bc8f  ;CLOSE FILE
410 DATA &C9        :' ret       ;quit to Basic
420 '
430 DATA &63,&31,&30  :' .infile defm "c10cpm3.ems"
440 DATA &63,&70,&6D,&33,&2E,&65,&6D,&73
450 DATA &63,&31,&30  :' .outfile defm "c10cpm3.bin"
460 DATA &63,&70,&6D,&33,&2E,&62,&69,&6E
```

WHAT DO I NEED TO DO?

Start by grabbing hold of a blank disc and formatting as a DATA (178k) format disc on both sides.

Now copy the C10CPM3.EMS file from side one of your 'system discs', (they are the ones that came with the 6128) onto one side of your ready formatted disc (use PIP.COM or your favourite file copier to do this.)

Type in and run Program One (that's the one on the left of this page.) You can use either the Basic or Assembler versions - they are both there.

Once you've run the program a new program C10CPM3.BIN should appear on your work disc. It has, great! It has not? I wonder what you did wrong? Oh dear, check that you've followed the instructions and you typed the program in correctly and try again. I doubled checked the program and instructions and they should be correct!

TO CHECK IT OUT

To check if the conversion has worked is simple, from Basic enter:

```
RUN "C10CPM3.BIN"
```

The drive will whirr, CP/M plus (3.1) will load at you'll be sitting looking at CP/M's A> prompt..... If not, nip back to the start of the article and run through the instructions again.

I have followed the instructions and my C10CPM3.BIN file loads and runs.

The new file can only be loaded and run using the RUN"C10CPM3.BIN" command (it cannot be run using 'CPM command.)

PROGRAM TWO: RUNCPM.BAS (RUNS AND PATCHES THE C10CPM3.BIN PROGRAM)

```
100 'RUNCPM.BAS by Clive Bellaby (c)1994 WACCI
110 'Development: C10CPM3.EMS was converted from ascii to binary to
120 'allow it to be run directly from Amsdos (Basic.) The file is
130 'loaded at &C00 where it is patched and called to load CP/M.
140 ' The patches are in the Romdos manual - the exception is the patch
150 'address is now &b00 higher in memory.
155 '
160 MODE 2
170 PRINT " REVISED CP/M 3.1 LOADER by Clive Bellaby, January 1994"
180 PRINT : PRINT
190 PRINT " 1. Data/System Format ( Standard 178k or 169k Discs )
200 PRINT
210 PRINT " 2. Ramdos D20 Format ( 792k, 256 directory entries )
220 PRINT
230 PRINT " 3. Ramdos D10 Format ( 796k, 128 directory entries )
240 PRINT : PRINT
250 PRINT " _ Select The Required Drive B: Format"
260 '
270 '+++ For extra Romdos formats add the option to the menu, then
280 '+++ alter a$=upper$(inkey$)...etc to allow higher numbers
290 '
300 a$=UPPER$(INKEY$) : IF a$<"1" OR a$>"3" THEN GOTO 300
310 '
320 PRINT : PRINT" Loading...Please Wait....
330 OPENOUT "d" : MEMORY &BFF : CLOSEOUT : LOAD"c10cpm3.bin",&C00
340 '
350 IF a$="1" THEN GOTO 640 : 'Data/System Format Selected
360 '
370 '1st set of pokes (original address &1087)
380 RESTORE 390 : FOR add=7047 TO 7049 : READ num : POKE add,num : NEXT add
390 DATA &C3,&E2,&E
400 '2nd Set of Pokes (original address &10A2)
410 RESTORE 420 : FOR add=7074 TO 7088 : READ num : POKE add,num : NEXT add
420 DATA &32,&DD,&B0,&21,&e5,&3,&11,&7f,&ff,&1,&1b,&0,&ed,&b0,&c9
430 '3rd set of pokes (original address &F1A)
440 RESTORE 450 : FOR add=6682 TO 6684 : READ num : POKE add,num : NEXT add
450 DATA &CD,&F8,&1
460 '4th set of pokes (original address &3B8)
470 RESTORE 480 : FOR add=3768 TO 3773 : READ num : POKE add,num : NEXT add
480 DATA &79,&E6,&3,&f6,&20,&c9
490 '5th set of pokes (original address &5A5)
500 '
510 '+++ For more Romdos formats, add the extra patches (from the Romdos
520 '+++ manual), Then add extra IF a$="n" THEN commands to suit.
530 '
540 IF a$="2" THEN RESTORE 590 : ' D20 Format
550 IF a$="3" THEN RESTORE 610 : ' D10 Format
560 '
570 FOR add=4261 TO 4287 : READ num : POKE add,num : NEXT add
580 '
590 DATA &28,&00,&04,&0f,&00,&8f,&01,&ff,&00,&f0,&00,&20,&00,&00 : '** D20
600 DATA &00,&02,&03,&01,&50,&0a,&31,&00,&02,&09,&10,&60,&ff
605 '
610 DATA &28,&00,&04,&0f,&00,&8f,&01,&7f,&00,&c0,&00,&20,&00,&00 : '** D10
620 DATA &00,&02,&03,&01,&50,&0a,&11,&00,&02,&09,&10,&60,&ff
630 '
640 CALL &C00
```

THE NEXT STAGE

So you've run your file and it worked! Now for the next stage, patching the file for Romdos and other formats.

PROGRAM TWO DOES IT.....

The second program patches your newly created C10CPM3.BIN file, the patches allow you to setup your drive B for: standard data/system discs, Romdos D20 discs or Romdos D10 discs.

If you're going to select a standard data/system format drive B: you'd be better using RUN"C10CPM3.BIN".

You can add additional drive B: disc formats by following the in-program notes (and reading your manual.)

CREATING A STANDALONE FILE

If you decided you want to create (for example) a ready patched, ready to run C10CPM3.BIN file for Ramdos D20 discs:

1. Change line 640 of program two to:
SAVE "D20.BIN",B,&C00,&6000,&C00
2. Run program two and select option 2 (which patches in the Romdos D20 disc format) this creates and saves the D20.BIN file on disc.
3. Reset your computer and load the patched version of CP/M with:
RUN "D20.BIN"

You can use the same method to create other standalone CP/M loader that are ready patched for Romdos etc.

LOADING CP/M FROM DRIVE B:

This is a hard one to do! The steps to use are as follows:

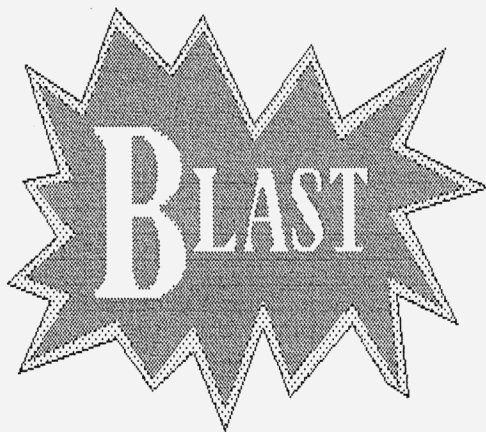
1. Copy the C10CPM3.BIN and RUNCPM.BAS file on to the disc in drive B:
2. Change to drive B: by entering, |b
3. Enter RUN"RUNCPM" to load CP/M 3.1 (some drive A: disc missing error messages will be displayed, press C to cancel and carry on....)
4. CP/M will load, at the A> prompt enter B: to change to drive B:

OUTRO

Although each of these stages may look complex, they are in fact quite easy to follow and understand. The best bit of advice I can offer is, do it one step at a time.

Next month, the final installment, more patches, more detail and a large slice of luck! Have a good day!

Uncle Clive of WACCI



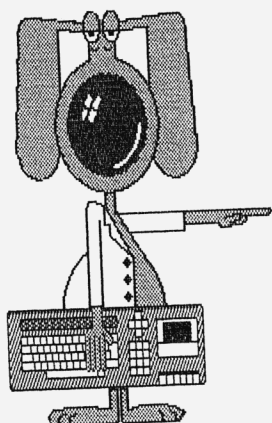
FROM THE PAST

BY PAUL DWERRYHOUSE

Welcome to another edition of Blast From The Past. For the benefit of new members this is a review of the past year where we look at what the club and the magazine have been doing. It was another action packed year with lots happening so let's begin the look back at 1993 and I think I'll start with the very first page.

THE FRONT COVER

There were 13 front covers this year including the birthday release of the very first WACCI that was free with the October (71) issue. What was the best and the worst cover?



NUMBER
ONE
OF THE
NUMBER
ONE
CPC
MAGAZINE

Well I am afraid the very first of the year designed by ME was the worst. Oh how could I have ever sent such a naff design off to Clive. The best belonged the May (66) edition. It showed how you could take a simple MicroDesign picture of Captain Kirk and Mr Spock, add a funny caption and really upset Amstrad Action. There was no malice intended in it and most saw the funny side of it even if the then editor of AA didn't. The cover was of course designed by a club member!

A special mention should go to Dave Carter for his October (71) birthday cover drawing, it's a super drawing of Big Ed (on a good day!) Sadly, David's no longer with us, he'll be missed.

INSIDE FRONT COVER

Now the IFC is a riveting read I'm sure you will all agree and some important changes to the club are reflected here. January (62) was the last to be printed by the plate and ink process, issue 63 was photocopied and Russell Macdonald took over the printing and distribution coordinating role from Clive and set up the WACCI Distribution Warehouse. This enabled WACCI to fight back at rising printing costs and absorb the latest postal increases.

Issue 63 was also the last issue to be printed on the Epson LQ-200, with the next issue the Epson LQ-100 was used. The major difference between the two printers is 100.

One last change to the page over the year was the addition of five new helplineers namely; Laurence Saunders, Stuart Gascoigne, David Carter, Chris Green and lastly Martin Young.



THANX AND STUFF

Sadly, Clive had to announce the death of three members, Barry Gordon, Walter Pearce and Allen Cooper. They maybe gone but they are not forgotten.

CPC Domain, run by John Fairlie, closes down and Clive reported, from the pages of AA, that S D Microsystems

had disappeared. Gosh, a bit of a gaff by AA as S D Microsystems were alive, well and kicking anybody they could for daring to say they were anything else. WACCI was sorry it did not check out the story as S D are our friends.

MJC Supplies were also in the news for closing down. Rated as the best supplier for CPC products the CPC world had ever seen, the loss was a particularly sad one.



Bob Blanchard had to give up running the Homegrown Library due to ill health. Patrick Dunne stepped in to fill the void left. Mark Riley was the next librarian to fall due to the pressure of work and Stuart Gascoigne took over. Thanks go to Bob and Mark for the time and effort they put in.

Clive announced that the club had purchased 2000 ex-software discs and these were available, formatted by WACCI with a 3.5 inch disc label, at the splendid price of 60 pence each.

When Clive said WACCI would be out on time it was late and when he said it would be late it was on time. Sounds like he would be great as a weather forecaster.

The best spelling mistake of the year goes to issue 70 with the classic farming line of:

"I cannot attend all of the sows, much as I'd like to."



Fair Comment

FAIR COMMENT

In these pages great debates take place over a wide range of CPC related subjects. Lets dip into a few and see what the talking points and issues were this year.

Well Mike (*guns a blazing*) Lyons got a bit of stick from William Smith for not asking any questions before firing. Mike was, later on in the year, to tell us all off about members having a go at each other. The word trigger-happy was used, *well if the cap fits...*

WAVE had a funny year in the letter pages. They were either good or bad but never just okay.

Mr A Sheldon wrote the following words and made the whole membership shudder at the thought of it happening to them:

Dear Sir, The last time I wrote to you with a query, Clive Bellaby turned up on my doorstep.....

Did it affect the number of queries WACCI receive? No one really knows.

Phil Craven continued his guest appearances in Fair Comment and Ronnie Baird told of the ridiculous lengths he had to go to get his money back from the said Phil Craven. A tale well worth remembering now that Avatar have moved to Bradford.

Michael Beckett, in his letter in the May (66) issue, gave us all the Poke we had been waiting for. The password protection system on the Advanced Art Studio is now a thing of the past. An *Epic Poke* if ever there was such a thing.

Poor (*smoking guns*) Mike got more stick, this time from Kevin O'Rouke about the use of "*och aye the noo*" as a header to a letter from Kevin. What nobody mentioned was that trying to think up catchy, snappy and appropriate headers for letters is sometimes not easy. However, Mike doesn't expect to win every time, so mark one up to Kevin.

Colin Perkins opened up a debate on the standards of English within the magazine. Both Mike and Clive replied

and haven't long standing members heard it all before.

The Amstrad Notepad NC100 debate continued steadily and one common fact emerged. They crash losing all stored data files.

A warning was sounded by Dale Crook about Derek Payne's programs. WACCI did receive review copies of a couple of his programs but felt that the standard was not sufficiently high enough to warrant a review in WACCI.

The best header to a letter award went to the issue 72 letter from Alex Sanderson from Blackpool. Poor Alex had been let down over the non-arrival of a PD disc and wanted somebody to sort it out for him. The header read:

A LITTLE STICKY BLACKPOOL ROCK

The best answer to a letter must go to issue 71, the George Ho-Yow letter entitled "*A Bit On The Side*".

The best letter award must also be given to issue 71, to the letter entitled "*The Essence Of Time*" which was written by A D Solomon.

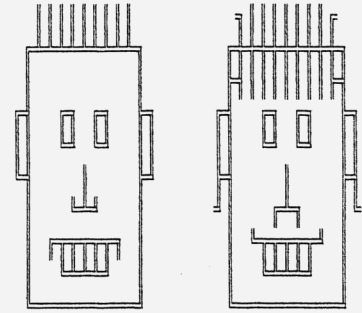


HARDCOPY

This series covered an area that WACCI had sadly been lacking in over the years. It built up into the complete guide to squeezing the best from your printer using Protexit.

The last four episodes appeared in this year and they covered such topics as line draw characters with or without an eight bit printer port, the use of control codes and making the most of your dip switches.

The most useful article, for me anyway, was in the January (62) issue. Using the information provided I configured my setup for the line draw or box characters available on the clubs new Epson LQ-100 24 pin printer sitting next to my CPC6128.



WHICH IS THE REAL MIKE LYONS?

DIS[C]ORGANISED

It was Bob Moffatt who wrote this excellent little series and three out of the four instalments appeared in your favourite magazine in 1993.



Everybody needs a system to look after their floppy discs, and the data held on them, but I'm afraid this series gave *old St. Clive Of The Headers* the opportunity to give the membership the unforgettable article header:

BOB MOFFATT PUTS THE WHIRLED TO WRIGHTS

I cringed every time I saw it and it even crept in the paragraph headers, yep, you remembers the one:

WHIRRLD SERVICE

Notice the two different spelling for "*whirled*" but which is right? <<None, 'cos they're different words. -Ed.>>

INSPIRATION

This year had eight inspirational pieces in it and George confirmed that all had been conceived in the smallest room of the house.



Inspiration

George Ho-Yow eats three machine code routines for breakfast.....

Now, I don't know about you, but after reading time and time again that George has three m/c's for breakfast I began to see *why* he spent so much time in the smallest room.

Seriously though, *isn't he clever*, I mean anybody who knows how to mix toad's spawn with blue beetle spittle is ace in my books - keep up the work George and more grease to your elbow.

THE 'ZENE

Here Derek Hyland adds yet another dimension to WACCI that never existed before - the european scene complete with wierdly named coders. These rather strangely named characters do add considerable to the CPC scene so the articles have a rightful place in WACCI. Derek does keep up with the news and some exciting prospects are taking place on the continent.

THE 'ZENE

I do find all this "TIC of BENG" stuff a little childish and, somehow, it doesn't sit well on the pages of WACCI. Since these people use names likes "the Fraggie" and "Face Hugger" then I suppose we will have to put up with it. It is worth pointing out that the "Face Hugger" wrote Doscopy, a truly excellent program, so what's in a name. What do you think?



VERY BASIC BASIC

As the year began so it ended for Alan Tilling and his VBB. Yep - not present in the magazine. The very fact that VBB had run unbroken (*I think that's true to say*) since the February 1989 issue (29) says an awful lot about the commitment Alan has shown to WACCI over the years. Over 40 articles under his belt, that must be a record.

VERY BASIC BASIC

Written by
Alan Tilling

So I will award Alan (*hello everyone, 'tis I*) Tilling the Long Service Award and the heart felt thanks from me and hundreds of WACCI readers who have enjoyed and benefited from his Basic words of wisdom over the years. Long may it continue too.

IN THE BEGINNING

This year saw the start of one or two or three mini series by Uncle Clive. This was the first and it started at the beginning at time (*1984 in CPC terms*) and explained many of the fundamentals it is necessary to know in order to own and look after a CPC.

It was pretty humourless and included such features as wall to wall text, boxes crammed full of data and for once *St Clive Of The Headers* let himself down.

The content of the four part series was exemplary and I look forward to jazzing it up in a WACCI Series Revisited in issues 201 to 204.

FILES AND DISCS

The second CRB mini series of the year, this one was a five part series. It started off with the intention of being just a one off article covering subjects like discs, text files, writing to WACCI and the like. The last instalment was about programming in CP/M Mbasic. *Spot the link, I can't see it but then he is the editor.*

LD A, CODE

The last in the trilogy of mini series from Big Ed. The series is aimed at people that want to get going in m/c.

The very last one of the year finished with the line "*So until next months popping goo issue*" proving that m/c effects people in strange ways!

This one gets the much coveted BBC award. You probably know the award better as the *Best Bellaby Concoction* and this award will be given annually to anybody who writes three or more mini series and edits the magazine.

CPC ESSENTIALS

In the title to Chris Greens' mini series *St Clive Of The Headers* showed us he was capable of joined up writing. Chris gave us his view of everything essential to own if you have a CPC. A series well targeted if I may say so.

Many of us, I feel, will disagree with his choice but that is not being critical. Chris prefers MS800 as his large format operating system, I prefer Romdos. Beauty is in the eye of the beholder as well as being only skin deep. The MS of MS800 stands for MicroStyle, perhaps we should have the last word on this subject from *old smoking six guns* himself. Oh ... right Mike, I think he just described an illegal act.

INDIVIDUAL EFFORTS

No that's not the title of an article, it's just a paragraph header. There have been loads of individual contributions to the magazine over the year. Let's have a look at all of them as it would be unfair to leave anybody out. We'll look at the contributions magazine by magazine.

JANUARY 62:

The ABC of PD appeared, written by Clive, and it looked at CP/M assemblers. He didn't mention if Zmac was Scottish?

FEBRUARY 63:

A super little tale by Uncle Peter Ceresole called Keyboard Blues featured this month.

KEYBOARD BLUES

Peter sure knew how to tell a tale or two and this one was no exception.

MARCH 64:

Selwyn Owen told us of his method of producing colour printouts. James Williams reviewed a book, boy we could do with some more of those. Jess Harpur reviewed SIM by Goldmark, it

was not one for the faint hearted. Ron Izett told and showed us how to archive to tape the slow way. Finally Keith Mortimer showed us how to increase our word power.

APRIL 65:

Peter Ceresole in his last (ever?) contribution to WACCI talked deeply about WYPFIWYG. Andy Frame fell in love with Promerge Plus but who wouldn't and finally Angela Cook shared the Diary of Margaret Splokwich with us all. What the heck was she going on about?



MAY 66:

Alan (INKEY fingers) Tilling popped up again with a tale of refreshment for printer ribbons. This can save you pounds on new printer ribbons as well as making a mess everywhere.

How Refreshing

JUNE 67:

The ABC of PD cropped up again and looked at PD disc 68. The owner of the WACCI Distribution Warehouse told us how to built our own 3.5 inch drives at real bargain prices. A cottage industry was born overnight.

JULY 68:

Doug Webb and myself gave you the WACCI questionnaire but forgot one very important question. *We didn't ask what printer you have!* What a pair of wally's. Well I blame Doug for it as he is not around to defend himself.

AUGUST 69:

Chris Green talked about his Notepad NC100. I just couldn't believe my eyes. Chris did you really have that much success with it? Didn't it ever crash? *My advice to anybody with a good Notepad is to ditch it before it has a chance to go bad.*

SEPTEMBER 70:

The ABC of PD and Clive were back with a look at yet another PD disc. Do you think Clive uses a random number generator program to decide which disc to review?



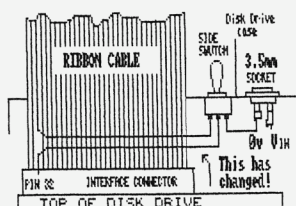
CPC UNDERCOVER got a review (a good one) as did ROMDOS XL (with the help of St Clive Of The Headers) but did smoking gun Lyons really like it. A conclusion that says "On balance, I'd say yes but..." does leave things a little open. Chris Green gave us a little chat about three disc copiers and David Liggins gave us his splendid menu program.

OCTOBER 71:

David Crookes produced a Watchdog style article on mail orders and Clive gave us another ABC of PD, again using his RND proggy.

NOVEMBER 72:

Russell M and Clive B gave us an update on building 3.5 disc drives.



The cottage industry moves up a gear as the drives will now work!

DECEMBER 73:

Martin {C} Young, with Csaw in hand, starts to cut through the vast ocean of knowledge he has on the subject. Ron Izett dressed his CPC and placed her on the catwalk for us all to see. Finally the *Bognorian* told us about his experiences with XEXOR. This was

Ian's second written contribution to WACCI, the first being a letter, way back in the sands of time. *You should do it a little more often Ian!*

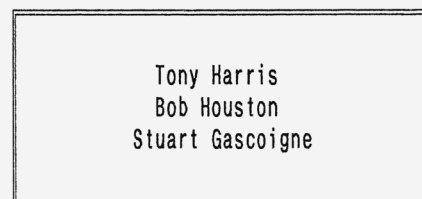
THE INDIVIDUAL AWARD

This took a little time I can tell you, about 5 seconds to be precise. For its seer writing style my choice is Ron Izett and his superb Dressing For Dinner article. A breath of fresh air in WACCI's pages. *Thanks Ron.*



COMPETITION SPOT

Some interesting little puzzles were set this year and a total of 24 members received prizes and the most successful were:



but only just with half a dozen members close on their heels.

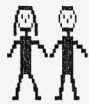
The Competition Spot had its ups and downs this year but I would like to wish John Bowley every success with it in the coming years.

OUTRO

Yes, one or two of you may have spotted that I have left out most of my contributions. Well its not for me to say about them.

I finished last years Blast From The Past by asking you to volunteer your services to WACCI if you could help the club. A big thanks goes to those that did and if you feel you could help the club in anyway, or you wish to volunteer for the next available post, then please let us know. WACCI can only survive with your help.

Paul F Dwerryhouse.



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|---------|---------------|--|
| Jan 22 | North East | Northumbria Centre, Washington, Dist. 12 |
| 23 | West Midlands | National Motorcycle Museum J6 M42 |
| 29 | Essex | Brentwood Centre, off A12 J28 M25 |
| 30 | Surbiton | Southborough School, Hook Road |
| Feb 12 | North West | Haydock Park Racecourse J23 M6 |
| 13 | West Midlands | National Motorcycle Museum J6 M42 |
| 26 | North East | Northumbria Centre, Washington, Dist. 12 |
| 27 | Glasgow | Woodside Hall, St. Georges Cross |
| Mar 6 | West | Brunel Centre, Temple Meads, Bristol |
| 13 | London | Totterth Recreation Centre, A3 Surbiton |
| 19 | North West | Haydock Park Racecourse J23 M6 |
| 20 | West Midlands | National Motorcycle Museum J6 M42 |
| 26 | North East | Washington Leisure Centre, District 1 |
| 27 | Glasgow | Woodside Hall, St. Georges Cross |
| Apr 9 | Essex | Brentwood Centre, off A12 J28 M25 |
| 10 | Cardiff | University Union, Park Place |
| 16 | North West | Haydock Park Racecourse J23 M6 |
| 17 | Belfast | Ulster Hall, Bedford St. |
| 23 | North East | Washington Leisure Centre, District 1 |
| 24 | West Midlands | National Motorcycle Museum J6 M42 |
| May 15 | West | Brunel Centre, Temple Meads, Bristol |
| 21 | North West | Haydock Park Racecourse J23 M6 |
| 22 | West Midlands | National Motorcycle Museum J6 M42 |
| 28 | North East | Northumbria Centre, Washington, Dist. 12 |
| 29 | Glasgow | Woodside Hall, St. Georges Cross |
| June 11 | North West | Haydock Park Racecourse J23 M6 |
| 25 | North East | Washington Leisure Centre District 1 |
| 26 | West Midlands | National Motorcycle Museum J6 M42 |
| July 16 | North West | Haydock Park Racecourse J23 M6 |
| 17 | West Midlands | National Motorcycle Museum J6 M42 |

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