

THE UK'S ONLY SERIOUS CPC MAGAZINE

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WACCI: The club for Amstrad CPC computer owners.

FRONT COVER: by Paul Dwerryhouse.

THE TELEPHONE HELP-LINE

BOB MOFFATT, (0994) 453509, Pendine, Carmarthen.
Masterfile III, Mastercalc, Qualitas & Prottext.

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, ProPrint, CPC plus m/cs and VideoMaster.

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

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

MARK STEWART, (0773) 822599, Belper, 5pm to 9pm,
PAW Adventure Creator, Basic and general help.

VACANT To apply to fill this gap write in to WACCI
with the details you wish for your entry.

LAURENCE SAUNDERS, Herts, (Work) 061 480 4900
Maplins & technical help. Now at Stockport.

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

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

STUART GASCOIGNE, (0272) 831361, Bristol, Basic,
Machine code, PD Discs 19 to 36. * New Tel Number

JOHN HUDSON, (01484) 423252, Huddersfield. MOII,
CP/M, Wordstar/Newword, dBASE, CP/M PD, CPC-PCW-PC.

JOHN BOWLEY, (0733) 260616, Peterborough.
Help and advice about the Book Library.

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 Prottext, PowerPage, Art Studio, NC100
and NC200 notepads, The Plus computers and DTP.

NIGEL CALLCUTT, (0684) 68738, Melton Mowbray.
Technical advice, hardware and CPC repairs.

RICHARD AVERY, Tasword 464, GPaint, Another World.
35 Marlborough View, Cove, Farnborough, GU14 9YA

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

WACCI

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Owned by: *The Club Members*

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In: *October 1986*

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THANK & STUFF

Welcome to another thrilling installment of the club magazine. I remember saying last month that things were beginning to settle down here at HQ. Well things became very unsettled due to the sad and sudden death of my wife's mother. I shall not dwell on my family matters but please accept my apology for the magazine being a bit late and for not getting round to all those things I had planned to do. I'm sure you will all understand.

THE INDEX

You should all have received (oh please let it be true) by now a copy of the complete magazine and PD disc index. This superb piece of work is the result of a lot of hard work by Frank Neatherway and John Bowley. I feel they should be congratulated on the presentation and content of the little A5 publication.

If anybody would like an A4 print of the index then get in touch with John Bowley and he'll sort you out one.

FRANK AGAIN

Now that the indexing is over (he is adding each magazine and disc as they come out) Frank is taking on the role of looking after the back issues of the magazine. The concepts and ideas have not, as yet, been fully thought through but why let that stop us getting the ball rolling. The magazines available are:

21 and 32 } *These are offered at*
40 to 69 inc } *50p per mag inc P&P.*

70 to 72 inc } *These are offered at*
74 to 79 inc } *£1 per mag inc P&P.*

80 onwards } *Full price.*

There is, of course, only a limited quantity per issue available and once these are exhausted it's thinking time again. To photocopy at low volume would make back issues more expensive than the current £1.50 cost of the magazine. Would anybody wish to buy a copy in the £2 to £2.50 price bracket?

I certainly don't want to tie up club funds in items that members don't want. Your ideas would be welcome.

Please order back issues from:

Frank Neatherway (0268 784742)
3 Glebe Close, Rayleigh, Essex SS8 9HL

Cheques/postal orders payable to WACCI please. Oh - and thanks Frank.

EINSTEIN A GO-GO

Thanks go to Peter Campbell for the following data on the Einstein Users Group. To obtain details please send a SAE to Mike Martindale, Ivy Cottage, Church Rd, New Romney, Kent TN28 8TY.

OOPS

I very nearly forgot to include an advert for Frank Frost. So Here it is: DDI 3 inch disc drive for CPC464 including interface. £38 inc P&P.

THE FIRMWARE GUIDE

This is now back in stock, Frank Frost has had a batch printed, and it is offered at £6.00 including disc. This is a little cheaper than the £7.95 previously charged, the difference being the PRINT-OUT profit margin. My thanks also go to Dave Caleno who also offered to print the guide. When current stocks fall I'll be in touch with you Dave.

BRIAN AT GOLDMARK

Stamper informs me that Brian has MicroDesign clip art suitable for the Xmas/religious purposes. Give Brian a ring on 0707 3217711 for more details.

VOLUNTEERS

My sincere thanks go to all those who volunteered for a job, whether they got one or not. All posts are offered on a first come first served basis.

I have another little need that, hopefully, somebody can fill for me. The annual series "A Blast From The Past" has been written by me of late. I now need a volunteer to produce the article for the January or February issue of the magazine.

For those new to the club, the article takes a look back at club life, as seen through the magazine, with a humourous slant to it.

MIKE LYONS

Mike seems to be getting better but please keep sending your letters to Angie Hardwick. *Seeya all next month.*

COMPETITION

SPOT

WITH JOHN BOWLEY

Here we are again! Another month gone and only a short time until its Christmas. Where has the year gone? Its WACCI's 8th birthday (October) and who would have thought WACCI would still be around to-day! Long live WACCI.

MEETING....

Since I've been setting these compos for you I've had lots of fun and I have had the pleasure of meeting Mark Johnson and Frank Neatherway.

Mark is doing WACCI REVISITED and Frank is going to do PAST WACCI'S and I wish them both good luck.

I'm all for meeting members and I hope sometime in the future we have a convention where we will be able to put faces to names.

AUGUSTS RESULTS....

Not many entries to this compo so I've decided to have only two winners this month and they are:

- * 1st Pat Whitmash - 3 PD Discs. *
- * 2nd Albert Jones - 2 PD Discs. *

THE ANSWERS....

1. Wheel on a Unicycle.
2. Days in a Week.
3. Arabian Nights.
4. Heinz Varieties.
5. Cards in a Deck (with Jokers.)
6. Planets in the Solar System.
7. Piano Keys.
8. Strips on the American Flag.
9. Degrees F. at which Water Freezes.
10. Holes on a Golf Course.
11. Degrees in a Right Angle.
12. Pounds for Passing Go in Monopoly.
13. Players in a Football Team.
14. Blind Mice (see how they run.)
15. Quarts in a Gallon.
16. Days in February in a Leap Year.

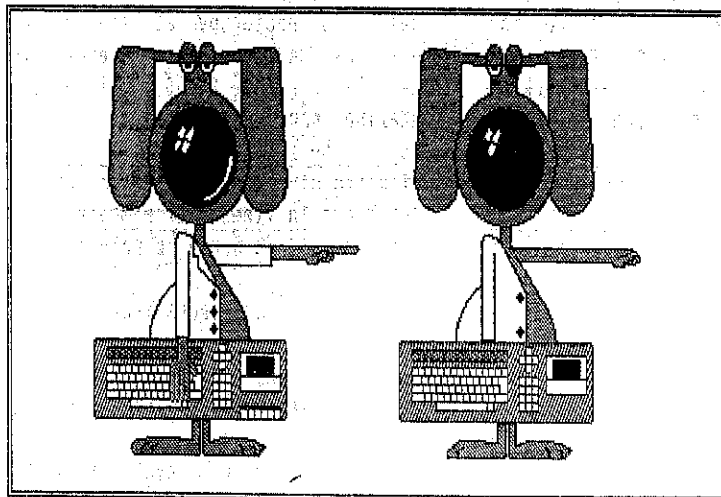
My thanks to those who entered this competition and if you didn't enter why not! Come on enter pretty please.

COMPETITION SPONSOR....

Peter Campbell (CampurSoft) has given me MicroDesign Extra. On this disc you will find extra fonts and loads of other DR files for you to use with MicroDesign+. MicroDesign Extra will set you back £14.99 on a 3" disc or £13.99 on a 3.5 disc. <<Ta Peter>>

OCTOBERS COMPETITION....

A simple one this month and all you've to do is to find the ten changes that I've done to our logo. Your entries need to be with me by the end of November. Go on have a go.



PLEASE REMEMBER....

On your entry please please put 3 PD Discs of your choice even if you want the prize on offer. The obvious reason for this is you may not come first.

Will you also scribble down on your entry whether you would like your PD on 3" or 3.5 discs please. <<Thanks>>

SEND TO....

John Bowley. 97 Tirrington, Bretton Peterborough, Cambs. PE3 9XT. Tele no. 0733 260616 between 6pm - 8pm. <<Ok>>

DIRECTIONS AND PRINT-OUT....

When you have found the ten changes you can either ring them and send me the page out of your Wacci (tut tut) or write the answers on your entry or perhaps better still write to me for a copy of this puzzle which I would be only to glad to send you.

SEPTEMBERS COMPETITION....

I've only had a few entries for this compo so I have decided to extend the closing date to the end of NOVEMBER so will give you plenty of time to enter this competition.

Just a reminder of what you had to do. Write a funny story any length but it must include the following words:

* Wacci, computer, monitor and discs *

IDEAS....

If you would like to have a go in setting you own compo then please do.

Send them to me and if used you can choose any three PD Discs that you like. So please give it some thought. <<Ok>>

BOOKS WANTED....

Do you have any books, - especially on printers? I have had some enquires for printer books that are not in the library and I'm hoping that you will be able to help in this matter.

So have a good look around and see if you can find any that you no longer need and send them to me please.

Wacci will refund your postage costs but please help if you can. <<John>>

See you all next month. Bye for now...

Fair Comment

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

MANUAL LABOUR

Paul, Just to prove that I do have a look at the contents of my section of the PD Library, it occurred to me whilst looking at DLAN on PD 86 Side B that the documentation (Manual) included was, in my opinion not over user friendly. So using my Arnor Rom's have produced the same documentation in three alternative forms, ASCII, A4, & A5. The first two are complete with a contents listing, using the default Set Print setting in Protex.

If needed I could check back and establish which members had purchased or borrowed PD 86 in the past to see if they would like a copy of these files, but thought it would possibly be better to use the pages of the magazine instead. So if anyone is interested they could either send me a disc and SAE, or a stamp and have the files on a Loan disc for copying.

Finally would just like to say how disappointing the response was to the convention question. I really thought the idea great as it would allow me to meet all the members who write to me with their requests for discs, as well as those members I speak to on the telephone. Fortunately in the past I have met many members whilst attending All Formats Fairs at Haydock Park, but as Clive has had to cease manning a stall at these fairs, with nobody willing to take his place that pleasure has gone. Perhaps some energetic member will now grab hold of the project and make a WACCI Convention a reality.

Doug Webb
Chorley

<<Hello there Doug, thanks for the note about PD 86, the DLAN doc file. If you are one of those members who struggle with DLAN's large file then please take up Doug's offer to provide you with the file split down into the various useable forms. Of course, PD disc 86 has been amended with the new forms on. My thanks go to Doug for bringing this to our attention.

With regard to the convention we must not give up hope on holding one. Realistically next summer is now the slot and that does give us some considerable time - but who is going to volunteer to pull it all together? I know the man who can do it but does he know that I know he can? Until he volunteers then nothing will be done on the Convention front. Please may a little bird have a word in his ear and ensure he volunteers. -Paul>>

ISOPROPYL ALCOHOLIC

Dear Paul. Having read Bob Miller's impressive review of Parados in the August issue, I ordered a copy from Campursoft and after a bit of a wait it duly arrived (sans documentation). I stuck it in the Micropower rombox slot 7, with the Protex stuff, switched on and called it up with !Drive. Nothing but a mangled Amstrad sign on message at the bottom of the screen. I shifted the Rom to slot 6 and tried again with the same result so I suspected either a duff Rom or one of the other Roms didn't like it. I tried Utopia's !Romon,6 and then !Drive and Parados lit up like a good-un. The next step was to track down the errant Rom and it turned out to be Romdos, so Parados seems not to like Romdos nor sharing a slot with the Amstrad Dos. I have not had a chance to try out all it's functions but can anyone tell me how to use the IBM and Ultraform formats?

Secondly, regarding the matter of slipping belts on the disc drives, has anyone looked to see if there is a tension adjustment, possibly enlarged holes on the motor mounting? Any designer worth his salt would provide some means of adjustment but I haven't the guts to undo my CPC6128 to check it out.

Thirdly, my first problem with the Canon bubblejet. The jets clogged up. I tried warm water without success but then I noticed that the cartridge said the ink contained Isopropyl alcohol. So does Maplin's Tape Head Cleaner

(Code FS88U) and it works a treat. I thought someone might be interested.

Fourthly, I had a letter from someone in Australia asking if the Mormon Personal Ancestral File (PAF) genealogical program would work on the CPC. PAF is a CP/M program written for the PCW and I wondered if any family history buffs out there could advise. How about it?

Ron Hobday
Bedford

<<Hi Ron, thanks for the letter, let's talk Parados first. Bob Miller, in his review, also found Parados not to work in slot 7, the CPM Rom slot. It did work in slot 6 and Bob did explain that he had sold his Romdos Rom so he was unable to report any conflict problems in his review.

You should have received a letter for CampurSoft with the Parados Rom telling you that Ramdos should be removed from your Rombox. The letter should also have told you to send a disc in order to receive the documentation file. Ron kindly sent his letter on disc and I was able to copy the Parados documentation file on to it for him as WACCI obtained a copy so that Bob Miller could complete the Parados review having had a sight of the file.

With regard to the slot to place Parados in you must use slot 7 if you own a Plus machine. The later versions of the 6128 allow for slot 7 useage but eariler models (due to a hardware modification of some kind on later models) will only work if Parados is placed in slot 6.

I hope the documentation will give you some clue as to the IBM and Ultraform formats but do come back and tell us if not.

An ajustment feature for belt tension on a 3 inch drive. Sounds like a good idea but I bet there isn't one. Anybody ever looked?

Thanks for the tip about the Canon bubblejet printers and clogged heads. The Epson Stylus ink contains ethyl

Pacific Software, 37 Trimingham Drive
Brandlesholme, Bury
Greater Manchester BL8 1JW

GAMES

CRYSTAL X GAMES

Cloaker	£2.00
Sector 5	£2.00
Pacifist	£2.00
General X	£2.00
P.Z.P.	£2.00
Mantis	£2.00
Justice (sold with part 2)	£3.00

Note: Each of the above games were reviewed by Amstrad Action in issue 99

PUBLIC DOMAIN GAMES

The Entertainment Disc 1 £1.00 includes Zap 'T' Balls, Croco Magneto, Puzznix, Power Tetris and more...

The Entertainment Disc 2 £1.00 includes Jumpmania, Battle Of The Planets, Les Mings and more...

COMMERCIAL GAMES (CASSETTE)

We only have limited stocks of the following games at unbeatable prices so it will be first come first served. Anybody buying three games or more can claim any one of the PD collections free of any copy charges. You will not find these games elsewhere at a cheaper price.

Quattro Adventure	£2.80
Quattro Combat	£2.80
Quattro Cartoon	£2.80
Pro Boxing Simulator	£2.80
Scooby Doo and Scrappy Doo	£2.80
Kwik Snax	£2.80
Fruit Machine 2	£2.80
Fantasy World Dizzy	£2.80
Paperboy	£2.80
Dragons Lair	£2.80
Escape From Singe's Castle	£2.80
Matchday Two	£2.80
Hong Kong Phooey	£2.80
Barbarian II	£2.80

SERIOUS

PD SOFTWARE

The Office Collection £1.00
A Compilation of all the best PD utilities around such as word processors and spreadsheets. Very Popular.

Geoff Shorts Print Enhancer £1.00
Brilliant program for improving your printer's output.

Print Master £1.00
Create stunning stationary, calendars and cards with ease. (Please send a SYSTEM formatted disc (CP/M))

Ispell £1.00
An amazing spell checker with a large dictionary.

PD/COMMERCIAL UTILITY

Powerpage Utilities £1.50
Combines a side of fonts with clip art and, exclusively to Pacific Software, a collection of various label templates for designing tape inlays, disc labels etc.

MISC.

The Demo £1.00
Logon System's highly acclaimed demo will show you exactly what your CPC is capable of.

HOW TO ORDER

1. State Clearly the name of the product in BLOCK CAPITALS.
2. Enclose a cheque/postal order for the correct amount made payable to DAVID CROOKES.
3. Send a disc for each product (We can fit four Crystal X games onto one disc)? [NB: you don't need to send a disc for the commercial games]
4. Please enclose a SAE of sufficient size for your order.

alcohol so maybe Maplin's Tape Head Cleaner would work for me but then the printer head has never clogged yet so fingers crossed.

Now to the extremely interesting question of the PAF. Ian Whaley has been looking closely at PAF (having managed to obtain a copy after a long search) but he has struggled to configure it for a standard CPC. Ian sent me a copy and I copied it from the two three inch discs to one 3.5 inch formatted to Romdos D20 format. It runs well from this type of set up. I believe that a standard CPC is just not capable of handling it - but I might be wrong. The last time I spoke to Ian he hadn't got a 3.5 inch drive, is there any change on the PAF front Ian or does anybody else know the answers to this never ending question. Please let us know if you do. -Paul>>

WHO SPEAKS WITH FORKED TONGUE?

Dear Paul, Like Isobel and Norman, I too have had some trouble with Ablex. It started at the end of July, when I decided that the Spriting Back Utility would be very useful. So, after trying out the Spriting Back Utility on my 464plus, I decided to buy a disc version for my 6128 plus.

So, I sent off the £2 and the AA106 disc token to Ablex. I waited for it to turn up, but it didn't. By now it was the end of September, so I wrote a letter explaining that the disc hadn't turned up yet.

Today (3/10/94) Ablex have wrote back saying that they had not received any masters from Future Publishing since the June issue. They have been onto Future on a number of times about this problem. They (Future Publishing) keep saying that they will send the masters soon.

Anyway, keep up the good work, Paul. You're doing an excellent job! Well done! Regards,

Richard Avery
Hampshire

Hello Richard, good of you to pop out of that (An)other World you live in. It appears to me that Ablex and Amstrad Action aren't telling the same stories. Ablex blame AA for not sending the masters and AA blame a (another) world shortage of three inch discs. AA state that from now on the cover tape will include software to

transfer it to disc. Who knows the real truth but we can certainly say that the cover tape offer on disc has faded into a distant memory now. But then the tape to disc transfer software was really all we wanted in the first case, wasn't it?

Thanks for the good wishes Richard, it is always good to hear such words of encouragement. -Paul>>

PROBLEMS AND PATCHES

Dear Mike, I have a 6128 Plus and have had a couple of problems regarding the printer and it's port.

The first is that of using the BASIC INP(&F500) to find out if the printer is on or off line. It seems that some programs check to see if this port returns the value of 30. However the 6128 PLUS returns either the value of 158 or 222 depending on if the printer is on or off line. The answer is to 'AND' the value of 64 so that if the result is zero when the printer is on line. In this way programs using this

will be compatible with all the CPC's.

The second problem is with the 8 bit Printer Port. I want to be able to send bytes with the 8th bit set to the printer. I have a program that came with the Firmwire Guide that can do this in Basic but I want to be able to do this in CPM+ (especially as I've bought the PD Program PRINTIT). Is there anybody out there who knows of a Patch that will allow me to do this? Yours Faithfully,

Simon Swift
Chesterfield

<<Hello Simon, thanks for the tip on using INP(&F500) ensuring that it works on all CPCs. What we need here is a certain Alan Tilling to explain how this fix works as many BASIC programmers will not use the commands INP and AND all that often. How about it Alan?

Now patches in CP/M aren't my strong point so can somebody please let Simon know via these pages please. -Paul>>

WAS IT YOU?

Dear Member, Is it you who sent me a 3 1/2 inch disc with a green label on. I presume it's a letter for Fair Comment but I'm sorry all I'm getting is read fail, could you please contact me so I can find out who you are then I'll send the disc back. Thanks

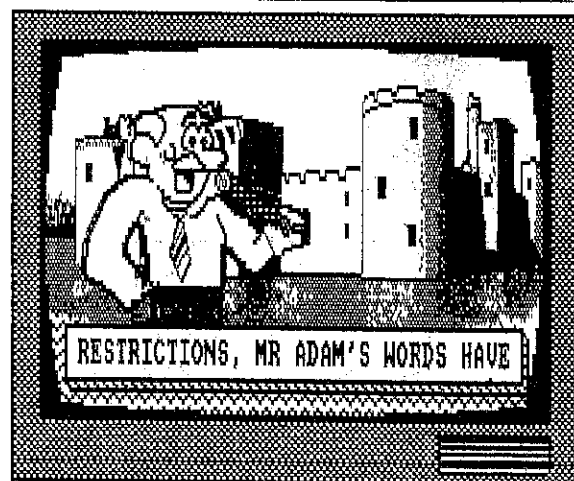
Angie Hardwick
Tel: 01922 476293

<<Dear Angie, sorry to hear members have been sending you discs you can't read. I'm sure whoever it is will be in touch.

I feel that we should simplify the use of 3 1/2 inch discs by asking that members wishing to send them into Fair Comment format then as 180k AMSDOS discs which will cause no problems to anybody.

Remember that whilst WACCI prefer letters on disc, Angie is more than willing to type up any letters that are sent to her, either typed or hand written, on paper. -Paul>>

WELCOME TO MOFFATT TELEVISION - NO SATELLITE DISC REQUIRED!



GREAT SADNESS

It is with great sadness that I have to inform members of the sudden death of the Husband of one of our members Mrs Jacqui Owen from Wolverhampton. Wilf was one of life's gentlemen and will be greatly missed. I am sure you will join with me in sending Jacqui and the children our love and best wishes at this sad time.

Angie Hardwick
Bloxwich

<<Dear Angie, thank you for passing on the sad news. My wife recently found the following poem which helped greatly in a time of sad loss. I repeat it here in the hope that it helps Jacqui too. -Paul>>

Death is nothing at all
I have slipped away into the next
room
I am I and you are you
Whatever we were to each other
that we are still
Call me by my old familiar name,
speak to me in the easy way which
you always used to
Put no difference in your tone,
wear no false air of solemnity or
sorrow
Laugh as we always laughed
together, at the little jokes we
enjoyed together
Play, smile, think of me, pray for
me
Let my name be ever the household
word that it always was
Let it be spoken without effort,
without the ghost of a shadow on
it
Life means all that it ever meant
It is the same as it ever was,
there is absolutely unbroken
continuity
What is death but a negligible
accident?
Why should I be out of mind
because I am out of sight
I am waiting for you for an
interval, somewhere very near,
just around the corner
All is well
Nothing is past, nothing is lost
One brief moment and all will be
as it was before.
Henry Scott Holland (1847-1918)

THERE IS A BETTER WAY!!

Thankyou Isobel Swade for coming out of the closet and admitting that you were at one time ignorant of the workings of the lovely CPC. Maybe now I can be equally brave and admit that after 7 years of daily use I know next to nothing of the workings of the little beauty, have never written a program, have never finished a game and have never managed to load a tape (despite using four different cassette players and twiddling forever with the volume settings).

I should explain that having bought a village Post Office Stores 9 years ago I suddenly found myself as Chief Accountant, Typist, Advertising Manager and Finance Director. All those jobs that in my previous life as an employee, had been handles by other people. For two nightmare years I struggled with handwriting letters, adding up scribbled columns of accounts and repeatedly rewriting complicated lists. There had to be a better way.

Maybe I could persuade the Finance Committe (my wife) to release £400 to buy this neat little Amstrad CPC 6128 which was being advertised as able to do anything and everything. With added support from my son. I crushed the resistance and began the painful path of leaning. First the manual - didn't get far with that. Just absorbed enough of the mechanical necessities to run the demo disc and then typed in a couple of listings. Was it really necessary to understand any of these pages and pages of arcane instructions to make the stupid machine do things? I just didn't have time or inclinations to write programs. There had to be a better way.

My son suggested buying a game. So I joined the User Club and bought a compilation disc. He enjoyed that for a time. Meanwhile the Finance Committe was looking for returns on the investment other than dubious entertainment.

Nest stop was WH Smith for a magazine. ACU looked interesting. Inside there was a big AD for Mini Office - looked like the answer to everything. It typed my letters (after I'd bought a printer - "What more expense!" said the EC) and the Spreadsheet and Database looked like

they had potential. But I was still doing accounts by hand. There had to be a better way.

An then in ACU I found the wonderful worlds of SD Microsystems! More importantly I found GENERAL LEDGER 6128. The poor lonely businessman's best friend (well maybe in second place after instant coffee). It took all my hundreds of pieces of paper and turned them into intelligible accounts with accurate totals and instant access to the size of my losses and how much the VATMAN was waiting for. All I had to do was type in the correct details. There could be no better way! At least I haven't found it yet. (I'd be happy to do a review of General Ledger any time).

Then I bought Supercalc through W.A.V.E (what a nightmare organisation it was to deal with) and that gave me a superb spreadsheet facility. So on to that go bank balance forecasts, cash flow forecasts, Post Office weekly balance, sales history, customer accounts, Tax calculations, wages, stock calculations, VAT returns and so on.

My letters now get WP'd on Brunword (what do they say you can't copy it for back-up? My Opalsoft program cracked it first time) {Please don't print that bit if it will upset Mr.Brunning} and SD Microsystems KWIKFILE handles my database needs. I could do with something in the way of a DTP program for advertising, circulars etc and I'm waiting eagerly for Powerpage 128 ordered from Robot PD. In fact I've been waiting eagerly for 5 months now. Maybe I should fork out for SD Microsystems Page Publisher?

I gave Rambase a short trail but as I remember it didn't seem able to warn the user when the disc was full or the filename was wrong and just seized up and lost everything. I couldn't get on with the serach option either - all those *'s shouldn't be necessary should they? The complete loss of two hours work was enough to banish it to its box. KWIKFILE does it better and does a pretty pattern on screen when it's sorting and saves faster without irritating bleeps.

On the subject of boxes for disc storage, I recommend any members who smoke cigars to switch to Villiger Export-an empty box of 25 will

comfortably store nine 3" discs in almost dustproof safety. The added advantage(?) is that you will have to smoke £25 worth of very tasty cigars first. Surely a small price to pay for such a fine plastic box. Fortunately several of my customers have been persuaded to switch to Villiger Export and of course I get the empty boxes.

One day I'd like to look closer at John Hudson's Supercalc Extra and Cive's loader. What a nuisance to have to load in the 'CPM disc first and only be able to print £'s with the £ symbol. (What happened there? I typed shift 3 and got a £ sign. Why does Brunword ignore the "hash" symbol?) At the moment I just skim through a lot of WACCI articles, but the ones that I do read closely I thoroughly enjoy. One day I WILL go through all those back copies and discover the 80% unused potential of my CPC.

Can I squeeze in a question at the end here? It may be a naive question but here goes. I use Intraset's "Graphologist" program which after completion exits onto the CPM prompt screen for subsequent editing through a WP program. I could save several not very vital seconds by going straight into Brunword at this stage but how do I load Brunword while still in CPM?

I could ramble on for pages about CPC'ing as well as asking countless questions like - "How do you draw even slightly accurately when using an AMX mouse?" and "I know my DMP200 is horrible to use but how are other printers of similar cost so much better?" and "Why don't Intraset advertise their CPC products any more?" and "Why can't I buy a Dictionary and Thesaurus for the CPC?" and "Why haven't Robot PD sent me Powerpage 128 yet?" and "Why do I have this feeling that the Amstrad Action magazine is aimed at 14 year old games players obsessed with Hitchiker and Red Dwarf?" and "If I feel like that why have I just sent off £12 for a year's subscriptions?" and "Why have I just paid a full subscription when as a newsagent I could get 25% discount by buying wholesale?" (strangely enough I would really hate to see the Amstrad Action magazine go under) and "Did I really need to buy a whole new disc drive last year or would a new drive belt have done?"

On second thoughts scrub the letter and I'll send in 40 questions each month. Regards,

Patrick Hanlan
Cornwall

<<Hi Patrick and thank you for giving Angie so much typing practice. Yes Angie did have to type this in!

I did feel that, maybe, this could even be an article in its own right but, as pressure of time normally dictates the order of things, here it is as a letter.

I certainly enjoyed reading about how you gradually brought the CPC into your business and the software you employed to do so.

I've given up smoking so I shall have to keep buying disc boxes. I'm pretty sure that it is cheaper in the long run but then I never liked cigars anyway. However, the thought of those leaves being roled on the thigh of a dusky maiden does....

The Supercalc articles sound just up your street, please do give them a good read and set your system up to maximum effectiveness. Oh by the way, the next person to write in and say that they skim through a lot of WACCI articles will have one months subs knocked off their subscription!

Now to answer your questions. Have you tried 'b (or is that a doll?), red (I think), don't know, pass, something to with Monty Python, I don't understand the question, 35 and 624, the blue one, ask a nine year old and yes.

On a more serious note, Patrick is the new club auditor. Thankyou for offering your services, I do need such help and it is very rewarding when it is forth coming. Thanks to Jill Cook (Arthur's better half and mum to Angela) for her kind offer to do same. The first out of the mail bag got the job. You should be hearing from Patrick soon I hope. -Paul>>

IN PRAISE OF A DOS

Dear Fellow WacCI's. Further to my letter on PARADOS, I hope that Bob's reply is in this issue of WACCI, I have, however, to praise PARADOS a great deal more!

Now that the lone nights are setting in I am spending more time on the CPC, I keep all my PD Tapes, Discs etc backed up on a 3.1/2" second drive

using RAMDOS D20, it is now that I look around my 'library'.

Other members who use RAMDOS or ROMDOS will know you have to set up the system to enable you to read and load files etc from a big format B drive using your RAMDOS system disc and how long it takes.

Well I have had PARADOS for nearly six weeks now, and I have I thought been having connection problems between my 64k Ram Pack and DDI Interface while using RAMDOS, well I've found the problem! With PARADOS installed in the DDI it instantly sets up the B drive for big formats. You don't have to call 'Drive to install PARADOS either.

Yes it's true all I have to do is now type 'B, call up the USER AREA I want, and call the file or game or programme and off we go, no installation of RAMDOS etc. I must admit I was totally amazed! So PARADOS is not only a DOS-FILE MANAGEMENT SYSTEM sitting quietly in the DDI, it also sets the B Drive to big formats, now 6128 owners, you must admit you can't beat that.

There is, however, a quirk with PARADOS and this instant recognition of Big Formats, you still have to load in 'CPM for .COM and then the system discs for anything saved or needing 'CPM to operate. Therefore, if anyone can help or has ideas of how to overcome this, I would be very grateful.

I do not know if XEXOR has been reviewed in an earlier issue but I have just got my copy from 'Sentinel' and I must say along with PARADOS it is excellent, Quantum didn't know what they have missed out on by not marketing these two utilities, I would recommend anyone wanting either to get them from CAMPERSOFT, SENTINEL or OJ SOFTWARE and not lose your cash through 'Quantum'. Lastly I must join the queue to complain about ULTRA SOFTWARE I have been waiting 12 weeks for my goods, 3 letters and 5 phone calls (answer phone) have not been replied to. Yes I even put in 2 sa's 'AMSTRAD ACTION' hopefully will now deal with them. Yours Sincerely,

Peter Curgenvan
Cornwall

<<Hello Peter, Cornwall seems to be doing a lot of calling this issue!

Your comments on PARADOS are very interesting. Obviously, if you use the disc based RAMDOS then load up time has to be taken into account. However, ROMDOS is transparent - it detects the format of the disc in drive as per PARADOS and it signs on when the CPC is switched on.

With regard to your question over CP/M, I'm afraid I couldn't quite understand the question. I rang Angie to see if was her typing but she confirmed she had got it 100% correct. So I'll do my best here but I'm sorry if I miss the point. I think you are saying that CP/M doesn't recognise your large format discs. To use ROMDOS formats in CP/M the EMS file must be patched first and the ROMDOS manual tells you how to do this.

I, therefore, have a CP/M system disc marked CP/M D20 FORMAT which I must boot up from to use the D20 discs. Since I don't have PARADOS I can't speak about it. Perhaps Bob Miller might have a thought about it? How about it Bob?

It's sad to hear of more members being ripped of by Ultra Software. Please do tell us if you are having good/bad relationships with all companies involved in the CPC market place. By the way, it took me ages to understand the expression sa's. Must be my age. -Paul>>

NEAT WHISKY

Dear Paul, Many thanks for the August issue of the club magazine. Sorry about the mix-up with the cheque (must take more water with the whisky next time) should have known better as Treasurer of the Yarm Art Society and Show Secretary for the Cleveland and Group of the Alpine Garden Society. For some reason I thought Clive was Mr WACCI! I appreciated the trust that you put in me to re-issue the cheque.

May I say how much I have enjoyed reading my first issue and found many of the articles of great interest, in particular :- Protex, Rambase and Parados. Keep it up, Good Luck and Best Wishes in your new job and future editorials.

Please find enclosed a cheque for £10.50 for 6 issues and including the August issue already received. I am assuming that this is all in order as I am unable to find any directive in the magazine with regard to minimum

number of copies to become a member. Regards,

Ernie Ruddick
Cleveland

PS Will I receive lists of PD discs, library books etc?

PPS Just a thought! It might be of some use to advertise the benefits of becoming a "WACCI" club member in the actual magazine?

<<Hello Ernie, thanks for the letter. I am a very trusting person and so far, in all the time I've been looking after the club's monies, not one single problem has arisen. I hope by now you will have received your copy of the Library Supplement. If any member has not been issued with one then please shout at me as it will be my fault.

Advertise WACCI in WACCI errmmm. I rather feel that the magazine sells itself but if somebody would care to write a paragraph or two for inclusion, perhaps on page 2, then I would happy to do so. You can be close to something and not see the wood for the trees. Thanks Ernie -Paul>>

I THOUGHT SO

Dear Paul, Having just read issue 82 of WACCI, I feel that I must set the record straight regarding demonstration versions of programs (in this case Protex).

In the article of David Crookes about the PD Scene he mentions the Protex demonstration version. Arnor Ltd have NOT given anyone permission to alter or amend any demonstration disk that we have issued. Arnor Ltd have a policy of issuing demonstration versions of Protex from time to time so that potential customers can try the program before they purchase.

I am very pleased to see that WACCI has removed the modifications made to this particular version of Protex, which only goes to show yet again what a honest and sincere group of people you are (don't blush too much please otherwise someone might think that the sun is shining all over the country). Keep up the good work with WACCI. Yours Sincerely,

Douglas Thompson
Sales Manager
Arnor Ltd

<<Hello Douglas, thanks for putting the record straight. I was in two minds regarding the article by David. On one hand, as I felt the hacked version did infringe copyright, that WACCI should have nothing to do with it whatsoever. I feel I have the duty to uphold the values and standards that all WACCI editors have done over the years. On the other hand, why hide the fact that this version must be available in some PD libraries. Indeed, if it was PD, then it would be a highly recommended program and I can understand why David gave it such a high score.

But now we know the truth and since Protex is so dear to our hearts, we wouldn't want any nasty people tampering with. -Paul>>

BELT UP

Dear Paul, Many thanks for sending the disc cleaner and I enclose a cheque value three pounds. I have tried the cleaner and at first it appeared to make matters worse, I think that after eight years the 8128 is starting to show signs of age. However I do have another 8128 which I purchased for just such an event and if its a case of the belt slipping I have bought two 3 inch drives not working to retrieve the drive belts so with a bit of luck I may yet save the situation.

Well Paul I will stop moaning and would like to thank you again for your swift response and also for stepping in to take over the editorship of WACCI. I would also like to express my sorrow at losing Clive who I met several times at the Washington Computer Fair, I wish him well and hope he continues to make written contributions in the future. Yours Sincerely,

Tom Stephenson
Stockon on Tees

<<Hello there Tom, it sounds that a clean drive head is not a substitute for a new belt.

I does sound like you should have enough bit and bobs in your collection to put a healthy 8128 together. I urge all of us that wish to stay faithful to the CPC to snap up second hand bargains as they occur. They will be a life saver one day.

I hope Clive hears your request for contributions to the magazine. -Paul>>

GEE WHIZ

Dear Paul, As usual, my letter rambles its way from one subject to another to another to another ...

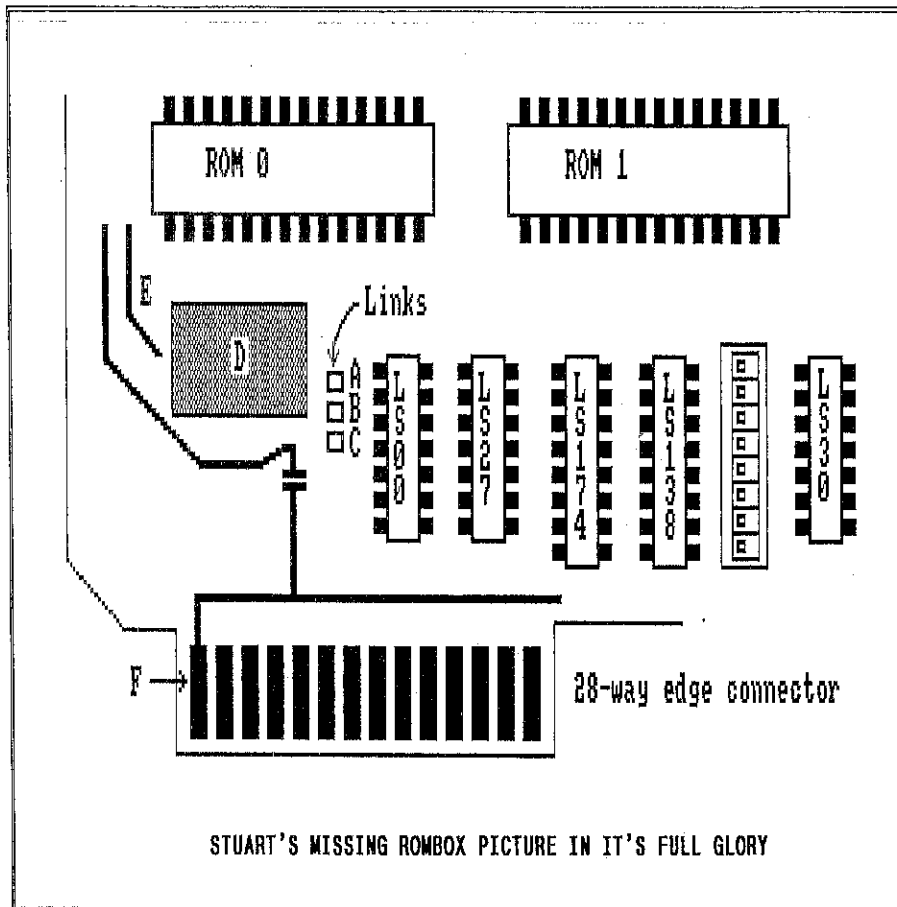
I have to start with an apology. Its like this you see - one of the master disks in my bit of the PD library was corrupted until a couple of weeks ago - PD disk 25, Microdesign disk 4. It must have been like this since I took on the library, and the problem has only come to light when two people complained of getting the same rubbish at the same time. Before then, any complaints were attributed to duff 3" disks, and as I used the two master copies at random, everyone has a 50-50 chance of getting a good copy anyway.

So, if anyone has borrowed or bought disk 25 in the last couple of years and the pictures don't load or match their descriptions, they should return it to me for a free update. I'm sure most members would have done this anyway but just in case....

In my defence, I have to say that I haven't got Microdesign so its a bit difficult to know if the clip art doesn't work. If anyone out there wants to dispose of a second hand MD cheaply, please give me a ring. I'd also like to say thanks to John Gee for helping to sort this problem out.

Changing the subject, my letter in WACCI 80, on how to modify your Rombo rombox, appeared without the picture that made sense of it all (somebody along the line forgot it), so how about including it now? It's on this disk somewhere.

When I reviewed the CPC emulator in WACCI 81, I used version 0.8. The latest version I've now seen is version 0.9, and I'm very pleased to say that it seems to cure all the problems and means that I had about version 0.8. In particular, provided that you have EMS memory so that the program can use hardware memory switching to simulate the CPC's banked ROMs/RAMs, the speed on a 33MHz 386 is consistently similar to the original CPC. Disks are now transferrable both ways, and I haven't seen any of the errant bytes that characterised the previous version's screen display. So the latest version (now available from the WACCI PD library, disk 99) gets full marks. And it still has the huge advantage of no silly noises whatsoever! (Dare I suggest that this



STUART'S MISSING ROMBOX PICTURE IN IT'S FULL GLORY

might be an improvement on the original?)

Can I suggest that we review the prices of PD disks when we use 3.5" or 5.25" disks? Doug Webb has already given us his thoughts on the subject and I think it's time for my twopennorth. My thinking is as follows - a new 3" disk costs £1.70 and the quality is such that several formats, copies and verifies are needed to make even half sure of supplying a decent copy. A second hand (ex cover disk) 3.5" costs me 25p and formats and copies first time. WACCI would still make the same "profit" to cover postage, packing etc., if we charged £1.50 for non-3" disks. This is pretty comparable to borrowing and copying the disk yourself; it would save wear and tear on the little elastic band in my 3" disk drive, and give members better value for money.

There's no logical reason why we shouldn't be able to standardise on a big dos and knock out 2 3" disks worth on a 3.5" for the same price. In the first draft of this letter I was going to suggest MAGICDOS from PD disk 68 (I can't afford a commercial one), but I've now spent a little while trying it. Let's just say that its

possible, but its not exactly practical. The problem being that I have to use the Magicdos file copier, which is tedium personified. The program just resets the XPB for disk B to 82 tracks of 10 sectors, but none of the nice copiers (eg Discology, Utopia), take a blind bit of notice of this and blithely carry on as if its a normal 178k disk. If anyone knows of a copier that works on funny disks, please write in.

If a member would prefer a different format then she/he would just have to do some copying at the other end. I'm sure that its not beyond the powers of the massed brains of WACCI to sort out little things like duplicate file names etc. After all, surely the whole point of running the PD library is to provide members with good software cheaply?

When I do sums like this, I'm not surprised that I don't get orders for 3.5" or 5.25" PD disks - as things stand, members might as well get a much more valuable 3" disk for their money. Let's put it simply - anyone who pays £3 for a 3.5" PD disc is getting ripped off. Maybe we need a member's writing in campaign.

Speaking of expensive PD software,

I've discovered that The Public Domain and Shareware Library, a company specialising in PC Shareware, have an extensive CP/M library in their archives. They hold the complete libraries of the British Osbourne Owners Group, the C Users Group, the Kaypro Users Group, the Netherlands, UK and USA CP/M Users Groups, SIGM volumes and PDSL's own CP/M volumes. Altogether they've got approximately 882 volumes of CP/M software (a volume is roughly 1 disk side). The bad news is the price - £5.25 a volume, and you supply your own disks! You can get a listing by sending a SAE to PDSL, Winscombe House, Beacon Road, Crowborough, East Sussex, TN6 1UL, and ask for their CP/M catalogue.

I've just been looking at the PD discs listings, and I notice that although discs 7 & 9 both contain UNZIP, I can't find ZIP anywhere. Where's it hiding? How can I unzip wot I can't zip up in the first place?

Moan, moan, moan. That's all some people ever do eh? Yours,

Stuart Gascoigne
Bristol

<<Hiya Stuart, why do you have to pick me so, what ever have I done to you. Actually I'm glad you wrote - you have covered a useful range of subjects and Stuart sent his in on disc thus saving Angie a lot of work.

Thanks for the update on PD Disc 25, I've checked my copy and you are right. Please can I have a free update. I'll pop a disc in the post to you once this issue has been posted out to members.

The Rombox picture is printed so that all might understand your letter that appeared in issue 80.

Thanks also for the update on the CPC Emulator. We have both versions in the PD Library - I wonder who will order v0.8? Answers on a postcard please to arrive not later than Friday 21 October 1994 - woops I've just done an Amstrad Action!

Now to your views on PD software on 3.5 and 5.25 disks. I must say you have given the matter some considerable thought and found it is not quite as easy as it sounds. However, I do agree that WACCI must come to a conclusion on this matter and I put forward for debate the following thoughts:

1. Let's assume that a 3.5 inch disc cost 50p. That ensures that branded discs can be bought to ensure quality.

2. The lowest common denominator here is a 3.5 drive with no side switch and no big operating system.

3. Let's assume that WACCI members have it between the ears and know what drives/DOS systems they own.

That little lot leaves me to feel that two 3.5 discs are needed for one PD disc order so costs are:

2 Discs	1.00
postage	0.25
jiffy bag	0.11
envelope	0.02

total	£1.37

that would make the charge £1.50 leaving a little for WACCI funds. If the member has a side switch then the cost is £1.00.

If you are willing to sort your library out so that D20 format can be used then I feel that the club should buy Stuart a ROMDOS rom (and maybe a rombox) so that he can serve the needs of members.

I don't want to lay the law down so I feel members views are needed as well as those that run the club. I throw the subject open...

To buy the PDSL CP/M library would take over £5,400 not including discs and postage. Perhaps we should leave their library where it is.

Now the amazing PKZIP. I have only ever come across this superb piece of software on the PC. I use it at work because the AutoCAD drawing files I use, based on OS data, can be in excess of 4Mb in size. PKZIP will shrink them to less than 1Mb thus allowing the use of 3.5 discs to backup and distribute drawings. I can only assume that PKZipped files have been imported on to the CP/M system but that's only a guess. Does anybody know if PKZIP is/was available for CP/M. -Paul>>

RUBBER MAN CONTINUED...

Dear Paul, I was struck down with the "Disc Missing" syndrome last week, thinking about it, my 6128 is about

seven years old (second hand from a friend) regularly used, it was bound to happen soon. It was devastating but I remembered reading somewhere that by taking the keyboard apart - six screws came into it....

Thanks to WACCI, Sept/Oct (82) James Gall in his letter and Brian Barton in the August (81) copy, have put me on the road to recovery.

Again thanks to the WACCI helpline and Nigel Callcutt in Melton Mowbray, who steered me though the operation, the disc drive is fine and working well again.

Just to update the information (a few errors have occurred during publication of the magazine.) The correct address of the firm that supplies the belt is:

S E M E Ltd
Unit 2E/2F Saxby Road
Melton Mowbray
Leics
Tel: 01664 65392

The belt is an audio cassette type and the order code is: CB64F

The size of the belt is 0.8mmx64mm in length and not 64mm wide (about two and a half inches) and certainly not 201mm in length (nearly eight inches.)

The price is now £4.82 including VAT, carriage, handling and insurance.

For my part the firm was very efficient, my order was sent by return of post.

Best wishes for the future as WACCI's editor.

Wally Collinson
Gloucester

<<Hello Wally, thank you for bringing the saga of the rubber band right up to date. I wonder if Stuart (he that started it all) has sorted his drive. Maybe another massive letter will follow on this subject from him.

Please, whoever you are, we need the blow by blow account of how to change this damned rubber band. -Paul>>

OUT OF SORTS

WHAT'S IT ALL ABOUT - STUART GASCOIGNE SORTS IT OUT

This month I'm going to look at one of the fastest sorting algorithms known - aptly called the "quick sort", but before I go on I've just found a boo-boo. In my article on shell sorts in WACCI 82, I gave an incorrect way of calculating the initial distance between comparisons.

THE ERROR STATEMENT

Line 210 of Program Four would be better as:

```
210 k=(3*INT(LOG(2*size)/LOG(3))-1)/2:
    WHILE k>0
```

The original version worked for the values of 'size' that I suggested but will give errors on some other values. Sorry. I'll make sure it doesn't happen again, honest.

FASTER THAN THE SPEEDING BULLET

Let's start with our array of numbers to be sorted again and see how it does it. We take the first item in the array, called the 'focus', and we aim to put it in its correct position, with all smaller numbers to one side of it and all larger ones to the other (but not necessarily at this point in the right order).

RECORD BREAKER?

We do this by setting up two pointers, (call them i and j (you can always spot the people who started programming with Fortran, can't you? (is this a record for nested brackets in a WacCI article?))), <<Yep. -Paul>> which begin life at the start and end of the array.

If we're sorting the following array of numbers, let's see what happens:

```
54 21 10 67 5 98 41 77
 /   \   \
focus i   j
```

First, we move the i pointer rightwards until we get to an item that's bigger than the focus (our first item). Then we move the j pointer leftwards until we get to an item

PROGRAM 1

```
procedure quicksort (first,last:
    integer);
var focus: integer;
{ assume other variables are globally
{ defined, and that procedure swap
{ does something rather obvious to
{ array items in a
begin
if first<last then
begin
c:=a[first];
i:=first+1;
j:=last;
while i<j do
begin
while (a[i]<=c) and (i<last) do
i:=i+1;
while (a[j]>=c) and (j>first) do
j:=j-1;
if i<j then
swap(i,j);
end; {while}
{ put the focus in right position}
focus:=j;
swap(first,focus);
{ sort the head half of the list}
quicksort(first,focus-1);
{ sort the tail half of the list}
quicksort(focus+1,last);
end; {if}
end; {quicksort}
```

that's smaller than our focus. Ok, so we get this:

```
54 21 10 67 5 98 41 77
 /   \   \
focus i   j
```

Then, providing j is greater than i, we swap the i and j items:

```
54 21 10 41 5 98 67 77
 /       \       \
focus     i       j
```

We carry on like this until the i and j pointers pass in the middle somewhere, as eventually they must -

```
54 21 10 41 5 98 67 77.
 /       /   \
focus     j   i
```

When we get to this stage, we know that all the items bigger than the focus are at positions larger than j, and all smaller ones are at positions smaller than i. We now swap the focus with the j item, and we know that it is now in its correct position.

```
5 21 10 41 54 98 67 77
          --
          \
          known to be correct
```

LOOK VERY CLOSELY

Let's look closely at what we've done. We've taken our original list of unsorted numbers, and chopped it into two smaller lists, the one before our focus, and the one after. We can now use the same procedure on these two lists, chopping them into two smaller lists each, and those lists into smaller lists..... etc etc etc, until we get to a list that is only one item long. We know that a list of only one item must be in order, and this means we can go onto the next list to be sorted.

```
[5 21 10 41] 54 [98 67 77]
 \\\ \\\ \\\ \\\ -- \\\ \\\ \\\ \\\
 \\\ \\\ \\\ \\\
use the same and then on
procedure on this this one
list
```

IS THAT IT?

Apart from some housekeeping to make sure that we don't run off the ends of our list, that's all there is to it.

The natural way to program this is to use recursion - a procedure that calls itself. Basic doesn't support recursive procedure calls, so the best way to see the program is in a language that does. I've chosen Pascal because it seems fairly understandable and I happen to have a working program segment handy. Program 1 sorts our array "a", when you call it by:

```
quicksort(1,size);
```

where "size" is the size of the array.

WOULD YOU BELIEVE IT?

The quicksort does best on a random initial sequence, then on average every recursive call of the procedure will cut the size of the list to be sorted in half. We can use this to explain a curious fact - if you feed the quicksort a list that is already in order, then it takes longer than the bubble sort! This is because it will chop the list into two very unequal halves - a very small one and one nearly as large as the original.

We can overcome this problem by using a different value for the focus - one from the middle of the list rather than the first item. Then even if the list is already sorted, it will split roughly in half. Of course if the original list is in random order it won't make any difference (on average) which focus value we take.

The quicksort isn't very fast for very small arrays either - setting up all these pointers is a significant overhead. We can improve it by switching to a bubble or selection sort when any list is about 10 items or less in length.

THE ANSWER

Well, the only question left is "do I have to learn Pascal in order to use this thing?". The answer is no, you can write a Basic equivalent, but you have to do manually the sort of housekeeping that Pascal does for you automatically when making recursive calls. This tends to get in the way and mask the structure of the program, which is why I presented a recursive version first.

Program Two gives a Basic version. It can be merged with the skeleton program that appeared at the start of the series.

PROGRAM 2

```
200 'quick sort
205 DIM sleft(50),sright(50)
210 s=1:sleft(1)=1:sright(1)=size
220 WHILE s>0
230 i=sleft(s):j=sright(s)
237 sleft=i:sright=j
240 IF i>=j THEN s=s-1:GOTO 350
250 IF j-i<10 THEN GOSUB 1000:s=s-1:
    GOTO 350
260 c=a(sleft)
270 WHILE a(i)<=c AND i<sright
272 i=i+1
274 WEND
280 WHILE a(j)>=c AND j>sleft
282 j=j-1
284 WEND
290 IF i<j THEN GOSUB 700:GOTO 270
300 i=sleft:GOSUB 700
310 sright(s+1)=sright
320 sleft(s+1)=j+1
330 sright(s)=j-1
340 s=s+1
350 WEND
360 '
700 'swap items
710 d=a(i):a(i)=a(j):a(j)=d
720 RETURN
1000 'selection sort (sleft to sright)
1005 FOR i=sleft TO sright-1
1010 FOR j=sleft+1 TO sright
1020 IF a(i)>a(j) THEN GOSUB 700
1030 NEXT:NEXT
1040 RETURN
```

IT'S ALL MADE EASY HERE

We set up two more arrays which we use as stacks for controlling which sublist to sort next. sleft(s) and sright(s) hold the left and right hand ends of the s'th sublist. We increment s by 1 everytime we split a list (we reuse the current stack position for one of the sublists), and we decrement it every time we finally sort a list. When s gets down to zero, we know that there are no more lists to do and then we exit.

Just a few comments to cloud the issue even more. Variables c, sleft and sright are not strictly necessary and could be replaced everywhere by

a(sleft), sleft(s) and sright(s) respectively. By using non-subscripted variables instead we increase the speed significantly.

If you run this version with a list of 30 numbers, you should see a time of about 1.9 seconds, which isn't that much faster than the old bubble sort. But try it again with a 1000 items, and you'll find it takes a mere 110 seconds, a vast improvement on all the other methods that we've looked at.

The quicksort processes an array of "size" numbers in a time proportional to $size * \log_2(size)$, which makes it very efficient. You can see how to get this figure by thinking about the number of comparisons it makes - every number in the original list, then in 2 lists each half the size, then 4 lists each a quarter the size and so on until we get "size" lists each 1 item long after $\log_2(size)$ steps.

IT'S UP TO YOU!

Another thing worth noting about the quicksort (and most related advanced sorting methods for that matter) is that it is not "stable". By this we mean that, when it processes items with equal keys, the items could end up in the output in any order. The bubble sort, by contrast, outputs items with equal keys in the same order that they were in the input. Whether this matters will depend on the application, but we can arrange for it on any sort if its important. I leave this as "an exercise for the WACCI reader".

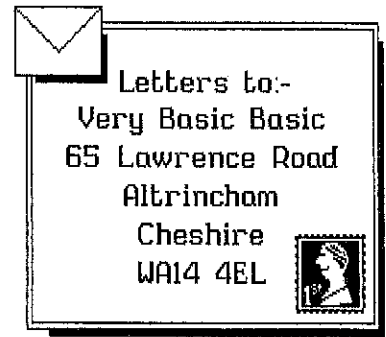
OUTRO

Well, that's all on quicksorts (thank goodness for recursive programming eh?). I could go on in the vain I've followed so far for quite a while, but you'll be amazed to hear that I'm not going to (vast sighs of relief from the entire membership!). Other sorting algorithms include insertions sorts, merge sorts and heap sorts, but while they are all very interesting, the algorithms I've discussed already should provide enough options for virtually any sorting that you might need. So, since we've sorted nothing but numbers so far, next time I'll look at some ways of sorting strings and things efficiently. So until we meet again - TTFN.

Stuart.

VERY BASIC BASIC

Written by
Alan Tilling



Here I am back again, fresh from knocking the house to pieces and rebuilding it again. It's not got much to do with computing but if anyone wants information about how to modernise staircases, I'm your man. You never know if there are enough queries, Paul might let me run a series about replacing bannisters. We could always make the link with computers as being that the computer room in most homes is the spare bedroom.

Following on from last time, when I was writing about computers making decisions. There are seven decision lines in that program at lines 3, 70, 110, 130, 1070, 2050 and 3050. All the others are instructions where Basic is told to do something or other without any option. There are four FOR/NEXT loops. The decision here is to know when it has completed the required number of loops and then it decides to exit the loop.

TO BEGIN

Let's start at the very beginning. Now where have I heard that before? Line 2 says save this file and call it "VBB81." The ,a tells the computer to save it as an ASCII file. The is a file containing words and letters ie a text file. This is necessary because when I have got the program working I import it into Protex to enable it to become part of this article. The Stop causes the action to ... err ... stop. Now at line 1 is the instruction GOTO (line) 3. That's pretty straight forward _ no ifs or buts - just go and do what you find there. In line 3 the first decision is found. If the operator breaks the program (presses esc twice) go to the subroutine at 1000. This causes the screen to be cleared and the 80-column mode to be entered. Black on green writing is selected and the program listed automatically. However, if [ESC][ESC] is not pressed then this line, of course, does nothing.

The lines numbered 10 to 40 set up this disgustingly coloured screen in the 20 column mod, mode 0 and line 60 slaps the number 20 at the location as instructed by the locate instruction in line 50. This means that 20 is placed 9 spaces in from the left and 10 lines down. Since there are 20 spaces or columns and 25 lines, 20 is placed in the middle of the screen and slightly above the centre.

THE INTERRUPTER

In line 70 is found the instruction

AFTER 100,0 GOSUB 1000

To make life easier, I will ignore the subroutine at 1000 for the minute. The AFTER command is a little strange but what it means is that *after* 100 x 1/50ths of a second ie 2 seconds as measured by timer number 0, stop whatever you are doing and go to the subroutine at line 1000 and do as required there. This is a "one-shot" command and as soon as it has been executed it is over and done with. Now it does appear to be repeating itself but that is caused by something else - all in good time.

RANDY RANDOMS

The RaNDom function in line 90 places an almost random number into a variable. This number follows a preset pattern and is repeatable. it is always between zero and is always less than one. In 90 the variable is

called x and is multiplied by 10 so it always falls between 0 and 10 but because the program needs x to be more or less than 10 the program adds 5. So x now fluctuates between 5 and 15 which is just what is needed.

This "Random" number follows a set mathematical formula which means it is predictable, and the first number in the formula, known as the seed, is always the same which means the outcome is always the same. To add the unknown element to it, this seed number is replaced by a number which is dependent on the number of 1/500ths of a second elapsed since switch on (or the last three-fingered reset) but not including the time taken for accessing the tape or disc drives. This is done by using RANDOMIZE TIME in line 80.

DECISION TIME

In lines 110 and 120 is found another decision system. Each time Basic sees the NEXT in 120 it adds 1 to the control variable called, in this case, delay and then looks at it and asks if it is 500 yet. The answer tells it to either re-enter the loop or to carry on with the rest of the program.

The < in 130 means less than so if this random number in x is less than 10 then control is sent to line 2000. Since it is either less than or greater than 10 then Basic can decide whether to go to line 2000 for smaller or line 3000 if it is bigger.

NO GO AREA

Look at 140. The line is made up of text but there is no REM at the start of the line. If you work through the program you will find that Basic never goes to this line and so an error message is not generated.

VIRUS ALERT, VIRUS ALERT

A virus is only a sophisticated program that usually hides itself away within the computer and usually ruins some programming work or some data. This 'virus' only ruins the screen display. Lines 1010 to 1040 turn the screen black and fills the "writing pen" with bright white ink. 1050 positions this pen such as to make the message appear in the middle of the screen and 1060 prints this message. 1070 and 1080 give you enough time to read the screen in exactly the same way as 110/120. 1090 is the RETURN that finishes off the sub routine and returns Basic to line 80.

When the size decision was made back in 130, Basic was sent to either 2000 or 3000. These routine are the same, only the border colour and the message are different. When the program has been enacted, the RUN at 2060 (or 3060) start the program off again in exactly the same way as if you had type run at the keyboard.

Well that's the explanation for the program. I hope it makes sense. Until next month;
Bye for now Alan

THE VIRUS PROGLET

By Alan Tilling

```
1 GOTO 3
2 SAVE "vbb81.",a:STOP
3 ON BREAK GOSUB 10000
10 MODE 0
20 INK 0,4
30 INK 1,13
40 BORDER 4
50 LOCATE 9,10
60 PRINT"20"
70 AFTER 100, 0 GOSUB 1000
80 RANDOMIZE TIME
90 x=RND*10+5
110 FOR delay=0 TO 500
120 NEXT delay
130 IF x<10 THEN 2000 ELSE 3000
140 look there is no rem. (Basic
    should never reach this line.)
1000 REM :::: VIRUS ROUTINE ::::
1010 MODE 2
1020 INK 0,0
1030 INK 1,26
1040 BORDER 0
1050 LOCATE 25,10
1060 PRINT"The dreaded Virus strikes
    again"
1070 FOR delay=0 TO 500
1080 NEXT delay
1090 RETURN
2000 REM : : : <10 proglet : : :
2010 MODE 2
2020 BORDER 13,6
2030 LOCATE 19,10
2040 PRINT"x was less then ten"
2050 FOR delay=0 TO 1500:NEXT
2060 RUN
3000 REM : : : >10 proglet : : :
3010 MODE 2
3020 BORDER 13,9
3030 LOCATE 1,10
3040 PRINT"x was greater than ten"
3050 FOR delay=0 TO 1500:NEXT
3060 RUN
10000 MODE 2:INK 0,9:INK 1,0:BORDER 9
    :LIST
```

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LABELLED

MicroDesign and DISC LABELS by Alex Sanderson

INTRO by Paul

Those of you who have been closely reading their last few copies of WACCI will have noticed the articles/letters on designing disc labels and the removal of them. What you won't have noticed is the letter Alex sent to me correcting a statement I made regarding MicroDesign. That lead to me asking Alex if he would do an article on how he used MicroDesign to do his disc labels. I asked for a detailed blow by blow account so that beginners to MicroDesign could follow it and here it comes

But first I should point out that I have printed the screen shots half size in order that the article didn't fill half of the magazine. Feedback please if you think it has worked or not. Now over to Alex.

GETTING STARTED

Having loaded MicroDesign, from the MAIN MENU press [X] then [F] to select FILING MENU, press [f4] LoadIC.f4 (see fig 1 below)

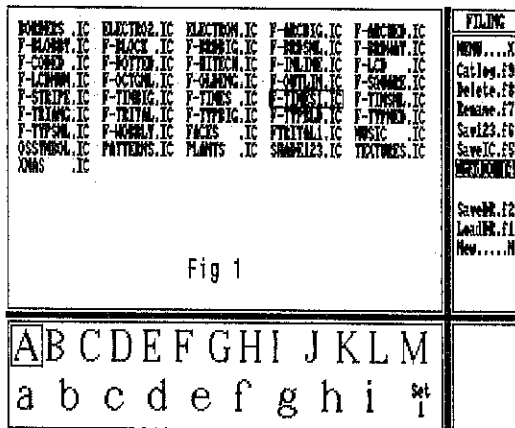
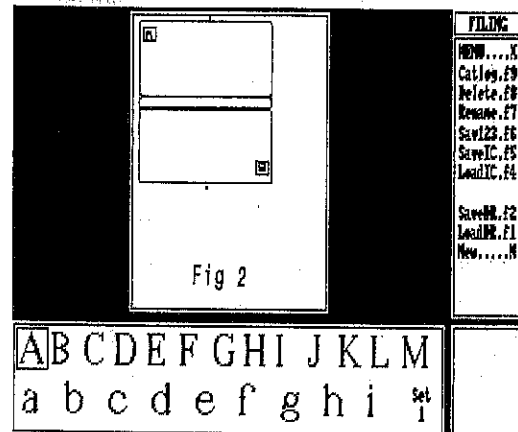


Fig 1

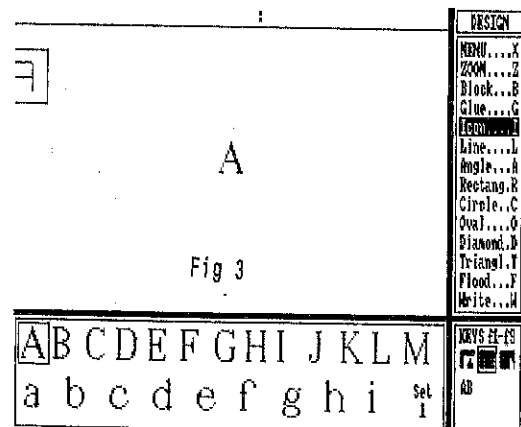
which catalogues the disc and shows a list on screen of fonts available. With the cursor keys move the cursor over the required font (in this instance F-TIMES.IC, and then press [f0]. The letters will now appear in the window at the bottom of screen. Having loaded your chosen font, Press [f1] LoadDR.f1, when a list of DR files will be shown on screen then with cursor keys select DISCLABL.DR press [f0], a rectangle will appear in the centre of the screen, using the cursor keys move it to the top left side of screen, and press [f0], the label template will now appear on the screen (fig 2).



Next press [X] then [D] to select DESIGN page (working area). It is necessary to position the template in the work area using SHIFT and cursor keys ready to start making our new label.

MAKING THE LABEL

Now comes the interesting part. Pressing [f0] will put the cursor in the MENU in the right hand window, using the cursor keys move the cursor up or down the window to select an icon, in this case Icon....I (fig 3)



press [f0] to select, a letter appears in the label area. Now look in the window bottom right of screen, there you will see KEYS f1-f9, press [f8] or [f9] which will put you in transparent mode. This enables letters to be placed

close together without part of the previous letter being obliterated by the area surrounding each letter or number. There are 3 sets of letters and numbers to each font, each set is selected by pressing RETURN/ENTER then key f1, f2 or f3 to bring the required letters etc, into the window. Then with the cursor keys move the cursor over a letter, press [f0],[f0],[f0] which will highlight [Icon..I] and the letter will appear in the work area, move this into position with the cursor keys and then press [f0], to fix it. Select the next letter, which will appear on top of the previous letter (fig 4)

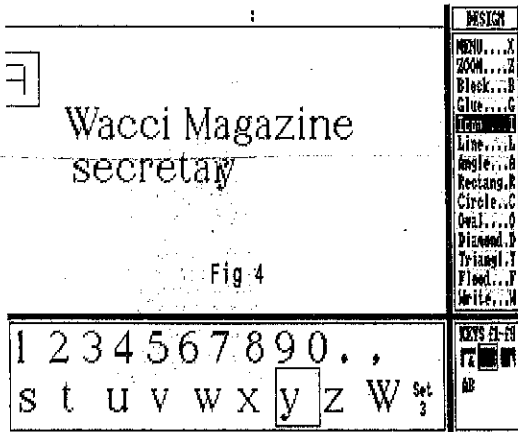


Fig 4

so locate it with the cursor keys and press [f0] to fix it. Note! if you should make a mistake placing the letter, it can be undone by pressing [.] the key below [f3], do the adjustment and press [f0]. Repeat this process until all the letters are in place and the label is complete.

NOW FOR THE LOWER HALF

To complete this half of the label, using SHIFT and arrow keys bring the 'B' side of the label into the work area and proceed to enter your text as before (don't worry that it is still shown the right way up). When it is complete, select from the menu Block...B (fig 5)

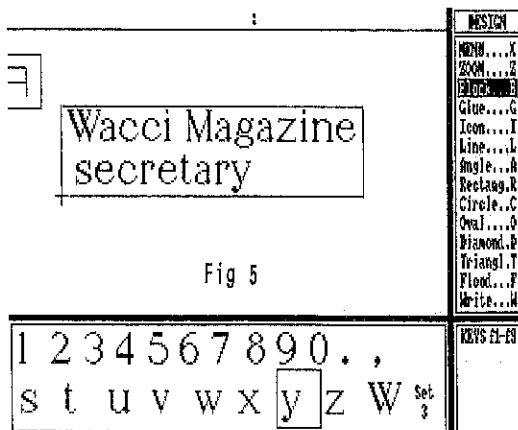


Fig 5

which becomes highlighted, then move the cross cursor to one side of the text a line or box will appear, press space bar to flip the control point, with the arrow keys draw a box around and close to the text - press [f0] another menu appears (fig 6)

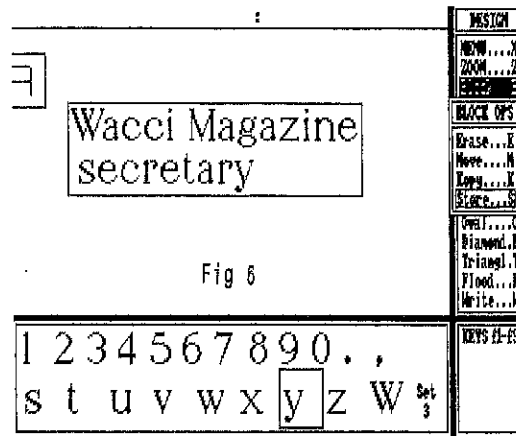


Fig 6

select Store...S press [f0] and all inside the box will have been stored into memory. Press [f0] select Block...B, again draw a box around your text, press [f0] and on the next menu select Erase...E and press [f0] to clear the text.

Press [f0] and select Glue...G, an empty box the size of the text you previously saved will appear on the screen, move this into the desired location on your label, press [f4] and [f5] (fig 7)

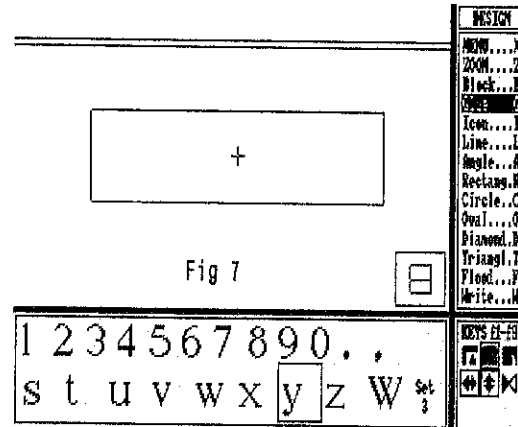


Fig 7

these select the left/right and up/down arrows (which are the ones to turn your text) then press [f0]. Bingo! (See fig 8)

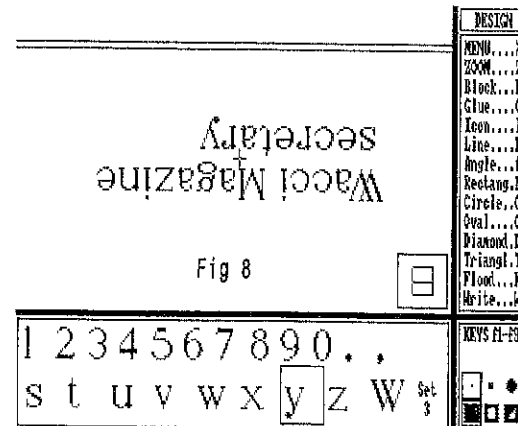


Fig 8

your label is now complete. If the text is not central or just where you want it, then press [.] key below f3, the box will re-appear allowing you to relocate it, then press [f0] to again fix it.

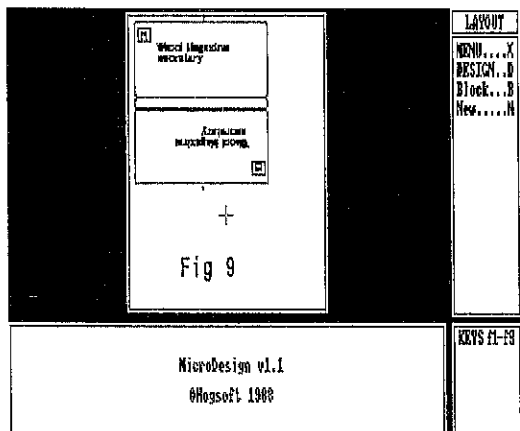
I should perhaps mention that whereas I have used the cursor and the [f0] key when selecting icons from the various menus, you can also use the KEY-LETTER to select (e.g. Write..W - press W).

Selecting WRITE..W allows you to type direct from the keyboard, in four different sizes of text. Pressing TAB selects the size of print indicated by the size of the arrow cursor, pressing CONTROL+TAB will change direction of print, either Forwards, Down, Backwards, or Up. DEL will delete the last character. Press [f0] to return to the menu.

This I find handy for putting the Disc no. or Title in smaller print in the narrow space on the end of the disc.

CHECKING THE LAYOUT

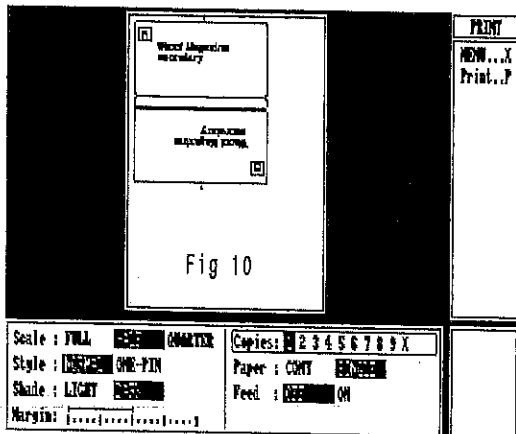
Press [X] then [L] to view the layout of your work (fig 9)



If you need to adjust it then select Block [B] and using the arrow keys, and spacebar to flip control points, draw a box around the area to be adjusted, press [f0] and select Move [M] then re-locate the area and press [f0] to fix it.

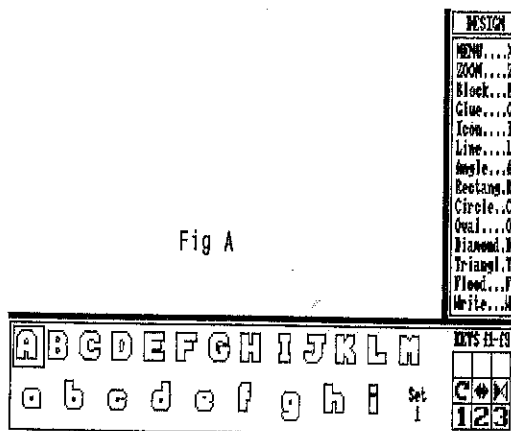
PRINTING OUT

Press [X] then [P] to get into the print mode. In the window at the bottom of the screen are the printer options. For disc labels use Half Size (this label size will fit your discs nicely), style either Normal or One-pin, Dark shade, the margin is automatically set to the left, set the number of Copies and finally single sheet (fig 10)



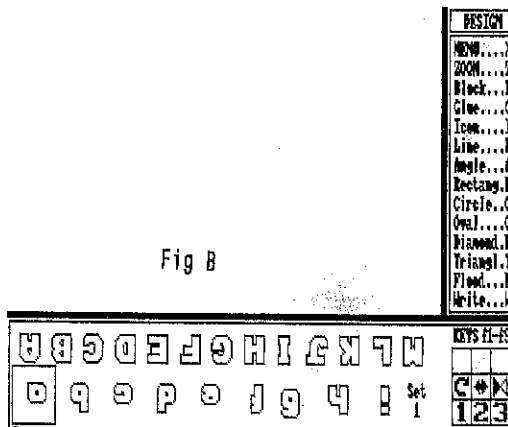
It is possible to turn each character individually and complete the label with the printing upside down. Press ENTER to move cursor and highlight each letter (fig a)

Fig A



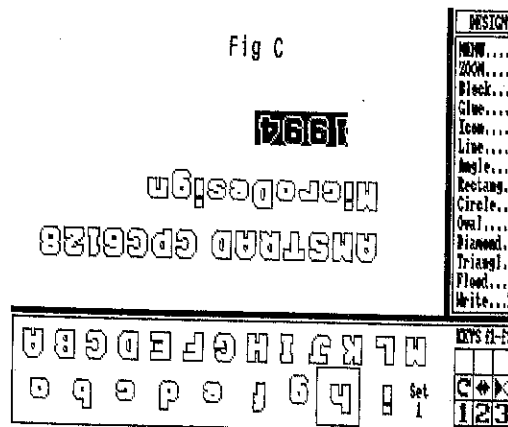
then press [f4] until the letter is turned clockwise to the required position (each press of [f4] key gives a quarter turn clockwise) press [f0], locate the letter on the label in the work area and press [f0] to fix. (fig b)

Fig B



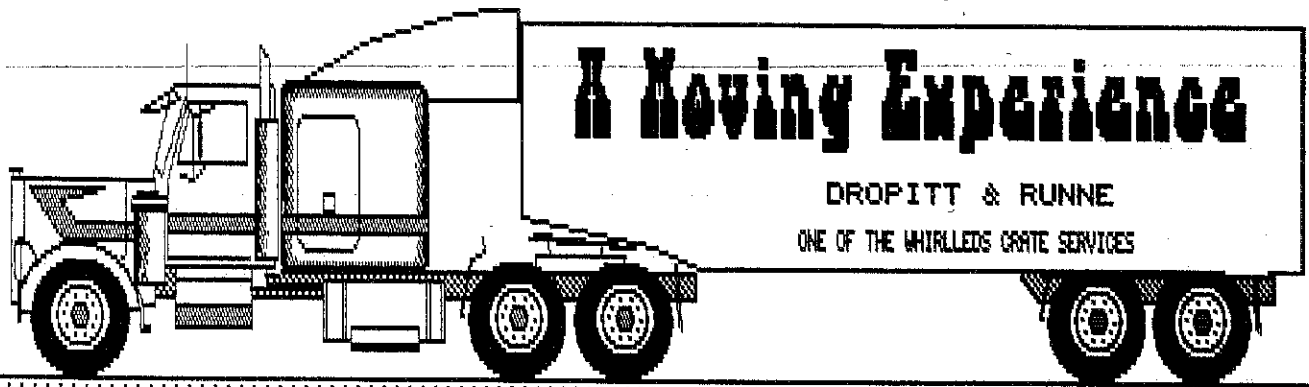
It is also possible to change the character sets for writing Up, Down or Upside Down, and then save all 3 sets of icons for future use. Put each character in turn to the required position by pressing RETURN/ENTER then [f4] and continue until the 3 sets are completed (fig c)

Fig C



Then save to disc press [X] [F] and from the Filing Menu, press [f6] [Save123.f6] (fig 1), giving it a new filename. In the future call up the font as required. Alex.

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Light Corridor	4.99			OF SOFTWARE (PAYMENT BANK DRAFT OR	
Sporting Triangles	4.99	JOYSTICKS		CREDIT CARD.)	
		CHEETAH Bug	13.95	PLEASE WRITE OT PHONE FOR LATEST	
PRINTERS		CHEETAH Mach 1	11.95	PRICE LIST (ANSWERPHONE OR FAX	
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STAR LC100 9 Pin Mono/Col	169.95	KONIX Navigator	13.95	10% DISCOUNT TO WACCI MEMBERS BUT	
inc Col/Mono ribbon + Colourdump 3		Q/SHOT Python 1	10.95	NOT ON PRINTERS AND DISC DRIVES.	
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BOB MOFFATT WAILS ON PENDINE BEACH

Should any WACCI member pass St Clears on the way to Pembrokeshire (for such it is about to become again, I'm told) please drop in to Mr Ben Evans, whiteware merchant extra-ordinary. She who Must be Obeyed has given the silver-haired worthy the deepest grilling on the arcane art of washing machines that I have ever seen. The interrogation took 2 hours and he will never be the same again.

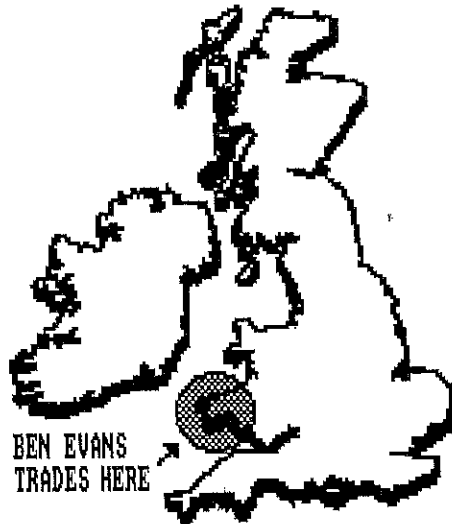
A FLAT SPIN

The ZANPOINT H1278 spins at 1200 rpm unless in the economy mode when 5 kg of wet clothes - select bubblevator mode - can be spun at 800 rpm and provided you have used green washing powder all will be fine. The HOTHUSSI ZW810 does a similar trick but doesn't have 'Dolphin flow efflux filtering'. That's what the adverts say but Mr Evans' machine specifications say something else - and Witch Washer (a job I have applied for) disagrees with both. The patience of Mr Evans, who in desperation offered the names of several worthies who could repair a broken WOOFER 72L4 for a pittance, had to be seen to be believed. His gratitude as, having finished the second packet of Bensons, I dragged She who Must be Obeyed away, was written all over his face.

TWO SHEETS TO THE WIND

Back at work the lack of a spreadsheet seemed to be cramping my style. I don't actually use spreadsheets much, but when you haven't got one dozens of little projects all seem to pile up, waiting for a spreadsheet. I embarked on quite the silliest project I have ever undertaken. I had never tried to export data from MASTERCALC before, and this appeared to be an ideal opportunity to invest a weekends work on the CPC to avoid half an hour with a calculator. The raw data was put into a Word Perfect file and saved as

ASCII. Back at home the ASCII file was read, using PC TRANS, into PROTEXT and printed out. The raw data was then typed into MASTERCALC and manipulated as necessary.



MARCH HARE

The final act of madness was to export the data from MASTERCALC into a data file, read the data file with PROMERGE into PROTEXT, save the result as an ASCII file and run it back to work for finishing off on the PC. Oddly enough it seemed to work in a fashion. The half hour task on a pocket calculator and been transformed into 2 weekends of intensive effort and more 'Find and Replace' operations than Hatfield has undertaken.

CHRONCLASM

Time has caught up with me. I have been sending chunks of this outpouring to Uncle Clive. Clive, in his own calm way has been sorting and formatting my drivel into as close to sense as any sane person can and producing for WACCI fans such as me a magnificent publication. In article time I have reached that point when some wretched fellow called Paul Dwerryhouse told Frank Netherway to speak to me about transferring Masterfile III files to Prottext. In real time I have reached the point where the July WACCI (Issue 80) arrived. Where I read the article where Frank explains how to do it. Where that nasty Dwerryhouse rings me to explain that Uncle C no longer wishes to edit WACCI. Where I have been told to take steps to close down Pendine (well my bit of it).

Clive has played a huge role in keeping WACCI going. Newer members may not recall the dark days of uncertainty as our previous Editor faded and the Hurculean task of keeping WACCI afloat was started by Clive, Paul (dreadful man), Mike and many others. That the magazine survived is a tribute to Clive, his raw determination, his ability to divide his time between WACCI, his work, his family and his relaxation (dominoes). I hope, Clive, that you will be able to read many more Issues of WACCI and regard each one as a tribute to your own personal charm, drive, enthusiasm, helpfulness and knowledge of the machine which you have supported so ably. Thank you Clive for everything. <<Thanks Bob for the sentiments. -Paul>>

In The Dark

CLOCK - THE PENULTIMATE PART (ALMOST) by Richard Smith

And so the clock program drags on like a bad joke (and you should have seen plenty of those if you have been following ITD closely), wearily plodding on with no end in sight. What a dreary life I lead. The highlight of my weekend was when the lightbulb in the kitchen cupboard blew and I had to get a spare out of the loft. Oh, depression, depression, depression... but who am I to complain?

INTRO

Anyway, my personal problems (or lack of them) aside, hello and welcome to this month's express train of machine code driven by me (and totally oblivious to signal worker's strikes) straight into your homes via WACCISville. Lets hope it's not derailed by a leaf on the track and sent plunging into the Bromsgrove Toxic Chemicals Depot. Or something.

Anyway (once again), its time for a complete, up-to-date listing of the program right up until "now" in the spacetime continuum, which is apparently only an imaginary dimension of three dimensional space and relative to the observer. Ugh.

TREKIE MAD

I have left out all the comments and the lines between the different subroutines which makes it slightly less easy to read but it does save on space which is, as we all know, the final frontier.

We need to make two modifications to turn this clock into a useful member of society. Firstly, we need to add a way of setting the time. Thirdly, we need a way of turning off the clock... clock... clock... clock.....

I was fitting the new lightbulb into the kitchen cupboard when lightning struck the local sub-station. Electricity flashed around the kitchen like something out of a James Cameron movie and these words echoed out of the time displacement vortex which had opened in the cupboard:

"....So there's this bloke, right..."
"American?"
"Yeah, yeah, yeah. This American scientist."
"...And he's been framed for murdering his wife?"
"Yeah, no, yeah. This American scientist framed for murdering his

```
LD HL,EVENT_
LD DE,CLK.
LD B,129
LD C,0
CALL #BCEF
LD HL,TICK_
LD DE,1
LD BC,50
JP #BCE9      ;*

CLK.  CALL #BB78
      PUSH HL
      CALL #BB84
      LD HL,#0101
      CALL #BB75
      CALL DISP.
      CALL SEC.
      CALL #BB81
      POP HL
      JP #BB75
SEC.  LD A,(SEC_)
      INC A
      CP 60
      JP Z,MIN.
      LD (SEC_),A
      RET
MIN.  LD A,0
      LD (SEC_),A
      LD A,(MIN_)
      INC A
      CP 60
      JP Z,HOUR.
      LD (MIN_),A
      RET

      LD A,0
      LD (MIN_),A
      LD A,(HOUR_)
      INC A
      CP 24
      JP Z,RES.
      LD (MIN_),A
      RET
RES.  LD A,0
      LD (HOUR_),A
      RET
DISP. LD A,(HOUR_)
      CALL DSPB.
      LD A,(MIN_)
      CALL DSPB.
      LD A,(SEC_)
      JP NUM.
DSPB. CALL NUM.
      LD A,":"
      JP #BB5A
NUM.  LD D,10
      CALL NUMB.
      LD D,1
NUMB. LD C,0
      SUB D
      JP C,PRN.
      INC C
      JP LOOP1.
PRN.  ADD A,D
      PUSH AF
      LD A,C
      ADD #30
      CALL #BB5A
      POP AF
      RET

      SEC_BYTE 0
      MIN_BYTE 0
      HOUR_BYTE 0
      TICK_RMEM 6
      EVENT_RMEM 7

      THE COMPLETE UP-TO-DATE
      CLOCK LISTING AS OF NOW
```

wife, and he's lost."
 "...In space?"
 "No, No, No. Yeah. Lost in space. No, no. Time. Both."
 "Tell me, does he wear a corset?"
 "No, yeah, yeah. A corset lost in space."
 "And is he wearing a green futuristic jumpsuit?"
 "Yeah, yeah, yeah. A corset and a green jumpsuit."
 "It's all been done before, you know. We need an original idea for a new TV show."
 "I think I can get William Shatner."
 "Brilliant. Let's make sixty five episodes. What are we going to call it?"
 "How about The Fugitive Lost in Spacy Time Tunnels Whilst Wearing A Corset?"
 "Catchy. How about Jumpsuit Trek?"
 "Yeah, no, yeah."
 "Great. Lets do lunch."

Then, just as suddenly as it opened it vanished, never to be seen again.

...Clock ...Clock. Phew. The routine for setting the clock is easy peasy to program as it simply has to put the values passed to it into the HOUR_, MIN_ and SEC_ bytes. The routine could be used from BASIC by CALLing it with parameters, eg.

```
CALL &4000,1,2,3,
```

but there is a much more user friendly way of doing this. Those who have already guessed that I am talking about RSXs can skip this bit if they want to. Those who don't know what an RSX is should read this bit before the next bit. Those who can remember where they were when JFK was shot can read the next bit first but may wish to come back to this bit afterwards, or indeed re-read the article starting from the second paragraph whilst humming "Amazing Grace" backwards. An RSX is a Resident System extension - a "bar" command. Its an easy way to execute a machine code program and dispenses with all that tedious mucking about with CALLs. An RSX takes the form

```
{<command name>[,<parameter 1>,<parameter 2>,etc.]
```

FIGURE 1

```
CALL #BCE9          ;* CHANGE FROM A JP TO A CALL
LD HL,WRKSP_        ;HL POINTS TO THE WORKSPACE
LD BC,CMT_          ;BC POINTS TO THE COMMAND TABLE
JP #BCD1            ;KL LOG EXT
CMT_WORD NMT_       ;ADDRESS OF NAME TABLE
JP SET              ;THE ADDRESS OF THE ONLY RSX
NMT_TEXT "TIMESE"   ;NAME OF THE ONLY RSX
BYTE "T"+#80        ;WITH BIT 7 OF LAST CHARACTER HIGH
BYTE #00            ;NULL
WRKSP_RMEM 4        ;WORKSPACE
```

where the parameters are optional. Parameters are passed to the program in exactly the same way that CALL passes the parameters. Now, our luvverly 'ickle program takes three parameters in its tea and likes to be called {TIMESET. Before the RSX can be used it needs to be initialized with the Firmware call:

```
CALL KL LOG EXT (#BCD1).
```

THE COMMAND TABLE

This routine requires the BC register to be pointing at a "command table" and HL pointing to a four byte workspace in the main memory pool (#4000-&BFFF). The command table's first two bytes are the address of the "name table". The rest of the command table is a list of three byte JP instructions to the address of the programs to initialize (more than one RSX can be created in one go). The name table is a list of the names of the commands. The maximum length of a command name is sixteen characters, all names must be in capitals without any spaces and the last letter of the name must have bit 7 set high. The table must be terminated with a null (#00) byte. There must be no smoking until the pilot extinguishes the "No Smoking" sign. Did you get all that?

WHERE SHOULD IT GO

The logical place to put the initializing routine would be with the bit at the beginning which puts the clock onto the interrupt list. The bit which needs changing has been marked with an asterisk in figure 1.

And now the actual TIMESET routine:

```
SET. LD A,(IX)      ;A=SECONDS
      LD (SEC_),A
      LD A,(IX+02)  ;A=MINUTES
      LD (MIN_),A
      LD A,(IX+04)  ;A=HOURS
      LD (HOUR_),A
      RET
```

This reads the values passed to TIMESET and puts them in the relevant counters. The syntax of TIMESET is:

```
{TIMESET, hours, minutes, seconds
```

Problem! Suppose you go out for a coffee and leave the computer switched on. Joe Bloggs comes along and, not having read this article, types:

```
{TIMESET,100,20
```

Which doesn't cause a crash but produces some weird results. Joe gets so upset that he runs out of your house and is abducted by aliens. What you may wonder caused him to leave in such a hurry? There are two problems with this: There aren't enough parameters and one of the parameters is way too big. Some idiot proofing is in order, methinks. <<Please refer to figure 2 which is on the top of the next page. You will, of course have to turn the page over and now would be a very good time to do so. -Paul>>

FIGURE 2

```

SET.   CP 3
       JP NZ,ERR2.   ;ERROR 2 IF WRONG NUMBER OF PARAMETERS
       LD A,(IX)    ;A=SECONDS
       CP 60
       JP P,ERR5.   ;ERROR 5 IF GREATER THAN 59
       LD (SEC_),A
       LD A,(IX+02) ;A=MINUTES
       CP 60       ;ERR5 IF GREATER THAN 59
       JP P,ERR5.
       LD (MIN_),A
       LD A,(IX+04) ;A=HOURS
       CP 24       ;ERR5 IF GREATER THAN 23
       JP P,ERR5.
       OR A
       JP M,ERR5.   ;...OR IF LESS THAN 0
       LD (HOUR_),A
       RET
    
```

FIGURE 3

```

ERR2.  LD A,2 ;SYNTAX ERROR
       JP ERR.
ERR5.  LD A,5 ;IMPROPER ARGUMENT
ERR.   PUSH AF
       LD A,(8)
       CP 128
       JP Z,E464.
       LD HL,#CB55
       JP ROMCL.
E464.  LD HL,#CA93
ROMCL. LD (FAR_),HL
       POP AF
       RST 3
       WORD FAR_
       RET
FAR_   WORD #0000
       BYTE #00
    
```

Ooookay, the modified routine passes control to two error handling routines depending on the type of error. If there are too many or too few parameters the routine jumps to ERR2., which produces a SYNTAX ERROR (error number #2) message, using the routine ERR which is shown in figure 3 (just up there on the right.) Likewise,

wonky parameters will cause an IMPROPER ARGUMENT error (number #5).

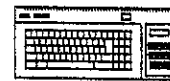
AND FINALLY....

You can use the routine ERR. in your own programs to create BASIC errors. It should work on all machines and requires the error number to be passed to it in the Accumulator.

So that's yer lot for another month. All queries/verbal abuse to the usual address, and you might just get an answer by next month when I'll be writing an on/off switch for the clock, making weak jokes and asking the question on everyone's lips: Jack Nicholson's hairline - what the Hell is going on? TTFN.

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LOOK INTO ANOTHER WORLD

REVIEWED BY RICHARD DUGGAN

When I was asked to review Richard Avery's "Another World" DISCZINE (issues 1 and 2), I had a preconceived idea of what to expect, however I was pleasantly surprised. Why? you may ask, well be patient I'm about to tell you!

WHAT'S IT ALL ABOUT?

These two issues of "Another World" have covered almost every possible subject in respect of the CPC. It is cleverly written in a "pupil asks the teacher" type Q & A style. It helps the newcomer take those vital steps into the CPC world without hesitation and cleverly puts over the information. However there is a great deal to be gained for the more advanced CPC user too. I certainly found things I did not know as I journeyed down many of its avenues. However, I think a little help on the spelling is probably needed to gain the full professional effect. Enough praise, now down to the nitty gritty!

WHAT'S IN IT?

I have selected only a few of the numerous topics mentioned in the two issues to wet your appetite - if you like what you see - send off for it!

NEWS: It updates you on news items in the CPC market and gives ideas of where to spend your 'dosh'. It also gives the low down on the good, the bad and the ugly in software companies and the cheapest prices available.

BASIC INFO: This give us a beginners look into the understanding of basic commands with examples of how to introduce them into your own programs. There is also a guide on CP/M explaining simply what the commands do and how to use them too.

101 WAYS TO USE YOUR CPC: The title is self explanatory - this includes DTP to DATABASE and anything under the sun. It includes small and concise reviews on the software programs with prices and details of where to buy. The second issue gives details of 101 serious ways to expand your CPC from adding on that extra disc drive to putting an extra Rom in your Romboard.

REVIEWS: These include a few reviews on the latest PD, Shareware and Homebrew with full guides on their performances, it also compares similar software which is not PD and gives details of the best of the bunch with percentage results.

MAILBOX: This is for your comments and a chance to air your likes and dislikes about the 'Zine with Q & A's to help both the novice through to the expert out of those tight corners that we all get into from time to time!

ARTICLES: A special offer!! If you send in an article or review on a disc and if its picked to be used in the 'Zine', Richard will then copy "Another World", f.o.c. onto your disc - how about that then.

HOT TIPS: This is a new item in issue 2 - it makes the CPC owners life easier by explaining things such as tape to disc transfer using multiface 2 etc, all the way to purchasing goods - code of conduct etc.

SUMMING UP

Richard Avery has carefully thought out an easy to understand format inside a user friendly program. I hope personally that this 'Zine will continue for many issues. With the wide range of subjects that Richard has managed to cover in such a short space (one side per issue of a 3 inch disc, and B sides crammed full of PD software), it makes it 'Zines apart from the rest. The CPC is a fine machine as everyone who owns one knows, but to gain the interest of newcomers a 'Zine of this quality will help them understand its workings and software available with ease; as long as we have people like Richard Avery supporting it in a form like this, CPC's will be kept alive for a long time to come. I feel a great deal of time and research has gone into these editions and with the price tag of £1.30 plus S.S.A.E. and disc to WACCI members £1.50 otherwise, it's a bargain not to be missed for any CPC owner. Come on Richard when am I getting Issue 3!!!

Want to buy a copy?

Then write to
Richard Avery at:-

"ANOTHER WORLD"
35 Marlborough View
Cove
FARNBOROUGH
Hampshire
GU14 9YA

GREAT



SERIES OF YEARS GONE BYE BYE ...

PLAYING WITH PROTEXT by Peter Ceresole

Last month saw muttering "There must be a neater way than those rows and rows of "D"s but I've tried and failed to find it. Can anybody help please?" Also I've tried to do the same for the "F"s so I can erase half a line at a time with CTRL-CLR, but that doesn't work. Help? Please?

NO VIRTUE

There's a lot of fun to be had with the mail merge part of Promerge, even though I've never actually needed to mail merge anything. You can be creatively rude to your friends, matching your comments to their addresses and states in life. I'm too ashamed to quote my test files: the important thing is never to send any of those letters. There's no deep virtue in any of this stuff. You don't need any of it to use Protext effectively. But it is fun! So enjoy.

THINKING RIGHT

Protext is a way of talking to your printer. After that, the printer talks to the paper and the paper talks to the other human beings out there... (This will go on until we go straight into the vortex. All those who haven't read read "Neuromancer" and "Count zero" hand back your techie badges at once). But right now, printers are what there is. If you have a Cray XMP connected to a DPM-1 everyone will know you're a nerd. But with the ZX-81 (with PostScript) and a LaserJet you can write to the Queen. Or even the Prime Minister.

ONE BIG PRINTER DRIVER

So, think of the whole thing, Protext, Promerge, Prospell, Utopia, and the KDS 8-bit interface, as ways of driving the printer. If you have a problem, work backwards. If you can figure out how to make the printer

perform, then you can do it with Protext. If there are glitches, then it's you (in this case, me.)

KIT-CAT GLITCH

Phil Morley was asking about a hard copy Cat that would fit into a disc box. I thought AHA! and GOTCHA! With the "Tiny Print" routine from PWP1, you can switch the printer into tiny print (subscript, condensed, half line feeds) and then a character dump (using Utopia's !printon) of the on screen "CAT" will.... not QUITE fit into a box. This was a bit of a blow.

Adding !2cpi (characters per inch) to the printer commands made for a (tight) fit but it was all terribly small. Time passed and then I remembered mode 1. Mode 1 CAT's in two columns, the right shape for a disc box. So this is how you do a CAT in a box:-

Make a file with ">oc" (Codes to set subscript, set condensed, set half line spacing). On my NEC 2200 this is:-

```
>oc 27 83 1 15 27 65 6
Print the file
Mode 1
!printon
CAT
```

And that's it. A perfect Designer Fit. The only that the blindingly obvious took me so long was that I always think of Mode 1 as being Ladybird Book

Three, so I forget it exists. Mode zero is Janet and John. Wuthering Heights, though, was definitely written in Mode two.

PRETTY THINGS

Now there's no limit, except the level of your masochism. You can print anything you want for instance, your signature. On my NEC, you send a set of codes to go into a particular graphics mode, tell the printer how many bytes follow and then send the codes. All this can be done in ">oc" stored commands. Now in case that sounds simple it's not. It's quite simply a b*****d (but fun, of course. On the right day.) I found the simplest way was to draw a grid. Use the "linedraw" routine from PWP1 to print a grid to design on, eight by however many you want for eight pins, 24 by whatever for a 24 pin printer. Then you draw your design over the the grid, working out which pixels you want to fill. Reading up the columns, black pixels are "1", empty ones are "0". Write the decimal number corresponding to each binary byte by each column (to make this easier, it's worth designing lines extending down from each column of pixels on your grid. It's also worth having a basic "Bin to Dec" program running, because this phase is fundamentally a matter of basing in the 1s and 0s).

VAIN OR WHAT

As a straight piece of vain glory, I decided to do my signature this way. It's far fro the best possible but the amount of coding to do it in quad density (Plus twice the size) is too ghastly to contemplate. The point is,

PLAYING WITH PROTEXT by Peter Ceresole

designing graphics by numbers is always ball-breaking but in Prottext you can tidy and mess the codes about with great ease.

ADVANCED STUFF

Now: does anybody out there in WACCI land have a way of designing say, with Advanced Art Studio and then converting the screen image with some miraculous program to Epson codes. It would be a version of a screen dump program. If you could get the codes into a file, it should be possible to get them into ASCII form, then load them into Prottext, tidy them into a series of >oc lines and whoopee, you're importing graphics into Prottext. Yes?

ANOTHER DAY, ANOTHER FIX

I've now got the Mark 2 KDS-8-bit printer interface It's much nicer than the Mk 1, being smaller and not getting in the way when it's not been initialised (the Mk 1 corrupts everything unless initialised, so to do screen dumps from Advanced Art Studio I have to take the interface off). The problem is that the Mark 2 doesn't work with Promerge Plus either. Arnor have promised me they will write a new loader for the KDS, as they did for the Mk 1 but they haven't come through with it yet. I guess they're busy adapting Prottext for the Cray but I still run to meet the postman each day...

PRINTERS FOR COURSES

John Hilton asked about getting double height characters. In fact the large characters in PWP1 were double height and double width, which are two sets of codes which can be combined on the NEC and which I've assigned to one keystroke. Steve <<Steve who? -Paul.>> says his Citizen 1200D supports this too but I'm not sure if the DPM 3000 does. I know that DPM 2000 didn't. If your printer won't do something, there's no way that Prottext, or anything else can help.

BUG-A-WUG

There's a bug in AMSDOS Prottext. So far as I know it's the only one but it's a nuisance if you're trying to

THOSE GRAPHIC CODES FOR PETER'S SIGNATURE

```
>oc 27 64

>oc 27 36 120 0

>oc 27 42 33 110 0

>oc 0 0 7 0 0 7 0 0 14 0 0 14 0 0 224 0 0 224 0 3 128 0 13 2 0 13
    2 0 49 15 0 34 15 1 194 49 1 194 49 6 4 193 6 4 193

>oc 24 27 6 24 27 6 96 124 12 96 124 12 129 240 48 129 240 48
    127 193 192 127 193 192 3 6 254 3 6 254 12 15 3 12 15 3 16 112
    2 16 112 2 97 192 4 97 192 4

>oc 131 0 8 131 0 8 12 0 62 12 0 62 16 1 195 16 195 32 2 32 2 6 64
    13 24 64 13 24 128 14 96 128 14 86 128 1 128 128 1 128 0 2
    12 0 2 12

>oc 0 4 243 0 4 243 0 11 4 0 11 4 0 28 8 0 28 8 0 0 30 0 0 30 0 0
    99 0 0 99 0 7 141 0 7 141 0 9 16 0 9 16 0 14 100 0 14 100

>oc 0 0 141 0 0 141 0 1 26 0 1 26 0 6 225 0 6 225 0 11 2 0 11 2 0
    28 14 0 28 14 0 113 0 16 113 0 33 131 0 33 131 0 2 12 0 2 12

>oc 0 4 56 0 4 56 0 7 192 0 7 192 0 8 0 0 8 0 0 48 28 0 48 28 0
    65 231 0 65 231 0 135 4 0 135 4 56 24 1 65 24 2 192 124 2 192 124

>oc 5 0 130 5 0 130 14 3 131 14 3 131 24 13 4 24 13 4 32 17 4 32
    17 4 0 33 8 0 33 8 0 32 8 0 32 8 0 0 16 0 0 16

>oc 13 10 27 64
```

print single sheets using background printing. When a new page is due, the program interrupts the foreground action and asks you to put in a new sheet. The trouble is that, to pull off this trick, Arnor had to do something sneaky and any characters from the foreground activity can get through and corrupt the keyboard routine (I think).

What happens is that the screen seems to behave in a random way as you type but there is a way out without a complete reset. You have to stay calm and think whether you're in command or edit mode (unless you've hit ESC it will be the last mode you're in). Get into command mode if you need to. The screen won't look right but have faith. Then type "CALL" [return] "BB03" and five times [return].

Nothing will come up on the screen

and if you make a mistake you're on your own but at the end everything will be fine. To get Utopia function key definitions back, you type "TOKENS,200". To get any custom keys, go CTRL-Y to your current into the background, then QUIT Prottext, run "disc (or whatever)" and go out and buy a printer with continuous feed.

OUTRO

<<That, in WACCI time travel time (is that English) is the end of Playing with Prottext Two. Next month we will bring you the Playing with Prottext Three which was the last in the series. Since reaction to the series has already landed at WACCI HQ I'll complete the series next month so as to allow a follow up series to start in Jan 1995. I will also try and print Peter's signature next month. -Paul.>>

MARKET STALL

STALL HOLDER: ANGIE HARDWICK

WANTED

The following items are wanted--by members--(please turn out your cupboards dear friends) please contact the member direct. Just to get us in the right frame of mind here's my first advert.

I want one of them fellows from Morocco like what Dedries's got and I will pay postage. Also is there anyone in the Birmingham area who can help me with inserting roms?
HELP! Angie. 01922 476293.

Ray Neal, 56 Houldsworth Crescent, Coventry CV6 4HJ
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Tel: 051 489 3790 wants: 31/2" disc drive and Protext on disc.

Stan Lomax 16 Bromley Road Sale, Cheshire M33 3QG
Tel:061 962 3643 wants: MP3 TV Tuner.

Richard Avery, 35, Marlborough View, Minley Road, Cove, Farnborough,

Hampshire GU14 9YA wants: Rombox for a 6128 Plus, willing to pay a reasonable price.

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<<The following items are available from WACCI HQ on telephone 01244 534942. Yep my telephone number and not the poor old ladies number I put in last issue. All items include postage. -Paul>>

CPC6128 keyboard, manuals, CP/M discs complete with a ABBA switch fitted. £50.00

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WORDSTYLE by SuperSoft. A WP on disc complete in box at only £1.50

PROSPELL by Arnor on disc boxed at only £8.00

TASWORD 6128 WP on disc and boxed - only £5.00

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PD SCENE

DAVID CROOKES BRINGS THE WORLD OF PD INTO YOUR HOME

More excellent Public Domain software is under close scrutiny with your charming (well...) host David Crookes.

MULTIARC DISC ARCHIVER

BY PAUL FAIRMAN

If you have a 3.5" or a 5.25" disc drive then you'll find some use in this program. If you haven't then you wont, if you see what I mean.

There is a commercial program called Disc Imager which is a utility for transferring your little used 3" floppies onto one of the higher format ones. It costs £15. Don't waste your money though because Paul Fairman's program does exactly the same at a fraction of the cost.

FOUR INTO ONE WILL GO

What this all means is that if you get hold of this program, you'll be able to save up to four 3" disc sides on one 3.5" disc. It copies your 3" disc onto the first 40 tracks of the 3.5" disc and then proceeds to transfer the other side of your disc onto the 3.5" second set of 40 tracks. Arm yourself with a side switch and you can fit the four sides of your DATA/SYSTEM discs perfectly.

The program has all of the facilities that you'll ever need to use for this simple operation. It has the necessary formatters to set up your discs so that they can be writable and it has the actual transferer. There will come a time when you will want to copy the discs back onto to 3" again and thankfully there is a routine for this as well.

EASY PEASY

It couldn't be more user friendly what with its simple to grasp menu system and understandable prompts but if you do get stuck then you'll find Paul has

hacked away and come up with 4k of documentation which explains everything so clearly that if you still don't understand, you probably don't have a use for it.

Overall, you're looking at one extremely impressive piece of coding which all second drive owners are going to find an invaluable addition to their collection. SCORE 80%

ANTI-MULTIFACE

When Romantic Robot came up with their amazing Multiface black box they had to do something to curb the piracy cries so what they did was make any transferred code usable only on the machine with the Multiface that was used plugged in.

In other words there was no chance of Joe Bloggs copying Prince Of Persia and giving it to all of his mates because they wouldn't be able to use it. It didn't come without its problems though. What happens when the Multiface dies and you're left with a load of discs full of unusable stuff?

What happens now is you get hold of Anti-Multiface which gets around this problem by tapping a piece of code onto the beginning of your transferred software. Then you can load the program without the aid of a Multiface. What's more it gives you a more attractive loading screen rather than the usual distortion.

So in that respect this program is a belter but you can't help but wonder whether it will lead to more piracy. Piracy, of course, is theft.

However in the right hands and for the right purposes you can't deny that Anti-Multiface is definately worth

getting for it is certainly one of the most useful programs in the Public Domain. SCORE 85%

CAT#8

Some of the more astute amongst us will be wondering why on earth I am reviewing a 1k program. Well size isn't everything, they say and with this it's certainly the case.

CAT#8 prints out your disc's directory so that you have a hard copy of what's lying about on your floppies. It doesn't have any other features other than that but, come on, what so you expect for 1k? As it is I'm sure there are going to be lots of people who will be happy with obtaining this. SCORE 85%

HELP!

Many people used to write to me (when I was editor of CPC Undercover) wondering what they had to load to get some PD up and running. One of the more popular requests was how to get the instructions on.

I would advice you to catalogue the disc first (type CAT) and then run the .BAS and .BIN files. If it doesn't load then try the next filename because chances are that particular program is part of another and can't be loaded directly.

AND FINALLY MORE HELP

You'll also spot some files with the the suffix (extension) DOC. These are the instructions and you need to load them into a word-processor. Sometimes instructions are cunningly hidden as README. Other than that I reckon the best way of checking out your new purchase is to experiment a little.

David Crookes

A SUPER SPROG

TREVOR LAWRENCE SHOWS YOU HOW TO IDENTIFY YOUR PROGRAMMES

Do you always choose "meaningful" names for your BASIC programs? Do you then look at those names a few weeks later and wonder what they signify? I do - so I have written SHOWPROG to help me.

```
10 REM program to display program
    names and purpose
20 MODE 2
30 SYMBOL AFTER 256:mem=HIMEM
40 MEMORY &7FFF
50 GOSUB 390 'load machine code
60 L=1:d=PEEK(&A700):IF d=0 THEN 'A
    ELSE 'B
70 add=PEEK(&A91A+16*d)+256*PEEK
    (&A91B+16*d):fsn=PEEK(add+15)
80 t=PEEK(add+13):spt=PEEK(add+16):
    p%=PEEK(add+2)-PEEK(add+20):
    spb=2^p%:rt=t
90 s=fsn:size=PEEK(add+7)+1:
    q%=PEEK(add+20):
    b1%=size/(4*(2^q%))
100 DIM n$(size),n(size)
110 POKE &9003,d:POKE &9006,&B4
120 FOR q=1 TO b1%
130 POKE &9004,t:POKE &9005,s
140 CALL &8F00
150 GOSUB 460
160 s=s+1:IF s>spt +fsn-1 THEN s=fsn:
    t=t+1
170 NEXT q
180 f=0
190 FOR i = 1 TO L-1 STEP 20
200 CLS
210 FOR j=0 TO 19
220 k=i+j:IF k=L THEN f=1:j=19:
    GOTO 270
230 IF k<10 THEN PRINT " ";
240 PRINT k;" ";n$(k);TAB(14);
    CHR$(149);
250 GOSUB 590
260 PRINT
270 NEXT j :IF f= 1 THEN 300
280 PRINT:PRINT "Press any key for
    continuation"
290 x$=INKEY$:IF x$="" THEN 290
300 NEXT i
310 MEMORY mem :PRINT:PRINT
320 INPUT "Type in the number of the
    program you wish to use";pn
330 pn=n$(pn)+".BAS"
340 PRINT:PRINT
350 INPUT "Do you wish to RUN the
    program or LOAD it? (R/L)";ans$
    :ans$=UPPER$(ans$)
360 IF ans$="L" THEN LOAD pn$
370 IF ans$="R" THEN RUN pn$
380 END
390 FOR m=&8F00 TO &8F21
400 READ x:POKE m,x:NEXT m
410 FOR m=&8F30 TO &8F41
420 READ x:POKE m,x:NEXT m
430 RETURN
440 DATA &dd,&21,&00,&90,&21,&06,&90,
    &cd,&d4,&bc,&dd,&75,&00,&dd,
    &74,&01,&dd,&71,&02,&21,&00,
    &80,&ed,&5b,&03,&90,&3a,&05,
    &90,&4f,&df,&00,&90,&c9
450 DATA &21,&85,&80,&7e,&23,&fe,&00,
    &28,&08,&cd,&5a,&bb,&3e,&c6,
    &bd,&20,&f2,&c9
460 FOR j = &8000 TO &81E0 STEP 32
470 a$=""
480 IF PEEK(j+1)=&E5 THEN j=&81E0:
    q=b1%:GOTO 570
490 IF PEEK(j)=&E5 THEN 570
500 IF PEEK(j+12)>0 THEN 570
510 IF PEEK(j+9)<>&42 THEN 570
520 IF PEEK(j+10)<>&41 THEN 570
530 IF PEEK(j+11)<>&53 THEN 570
540 FOR k= 1 TO 8:
    a$=a$+CHR$(PEEK(j+k)):NEXT k
550 n$(L)=a$:n(L)=PEEK(j+16):IF
    PEEK(j+17)=1 THEN n(L)=n(L)+256
560 L=L+1
570 NEXT j
580 RETURN
590 t=(spb*n(k))\spt+rt:
    s=(spb*n(k))MOD spt+fsn
600 POKE &9004,t:POKE &9005,s
610 CALL &8F00
620 IF PEEK(&8084)<>&C5 THEN 640
630 CALL &8F30
640 RETURN
```

IMPORTANT NOTE

Every BASIC program must have a REM as its FIRST statement. This should indicate (in no more than 65 characters) what the program does.

WHAT IT DO

When running SHOWPROG scans the disc to find all of the BASIC programs and displays their names with the content of the REM statement beside them. If there is no REM in the right place in the program the space beside the program name is blank.

THE DETAILS...

Most of the program statements have an obvious function, but a little explanation may help.

50 Loads two short m/c routines, one to read a sector from the disc, the other to print out the characters from the REM.

70-90 Obtaining information from the disc parameter block for calculating track and sector numbers as required.

120-170 Reading directory tracks and using subroutine at 460 to select BASIC programs and note their position on the disc.

190-300 Print the program names and the REMs in blocks of 20. The subroutine at 590 calculates the track and sector at which the program storage starts, loads the sector with the first CALL and prints the REM content with the second. The "flag" f, simply indicates whether all programs have been dealt with.

OUTRO

If you save this program on each of your discs of BASIC programs, typing RUN "showprog" will make selection of the program you want simple.

Trevor Lawrence.

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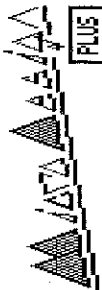
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