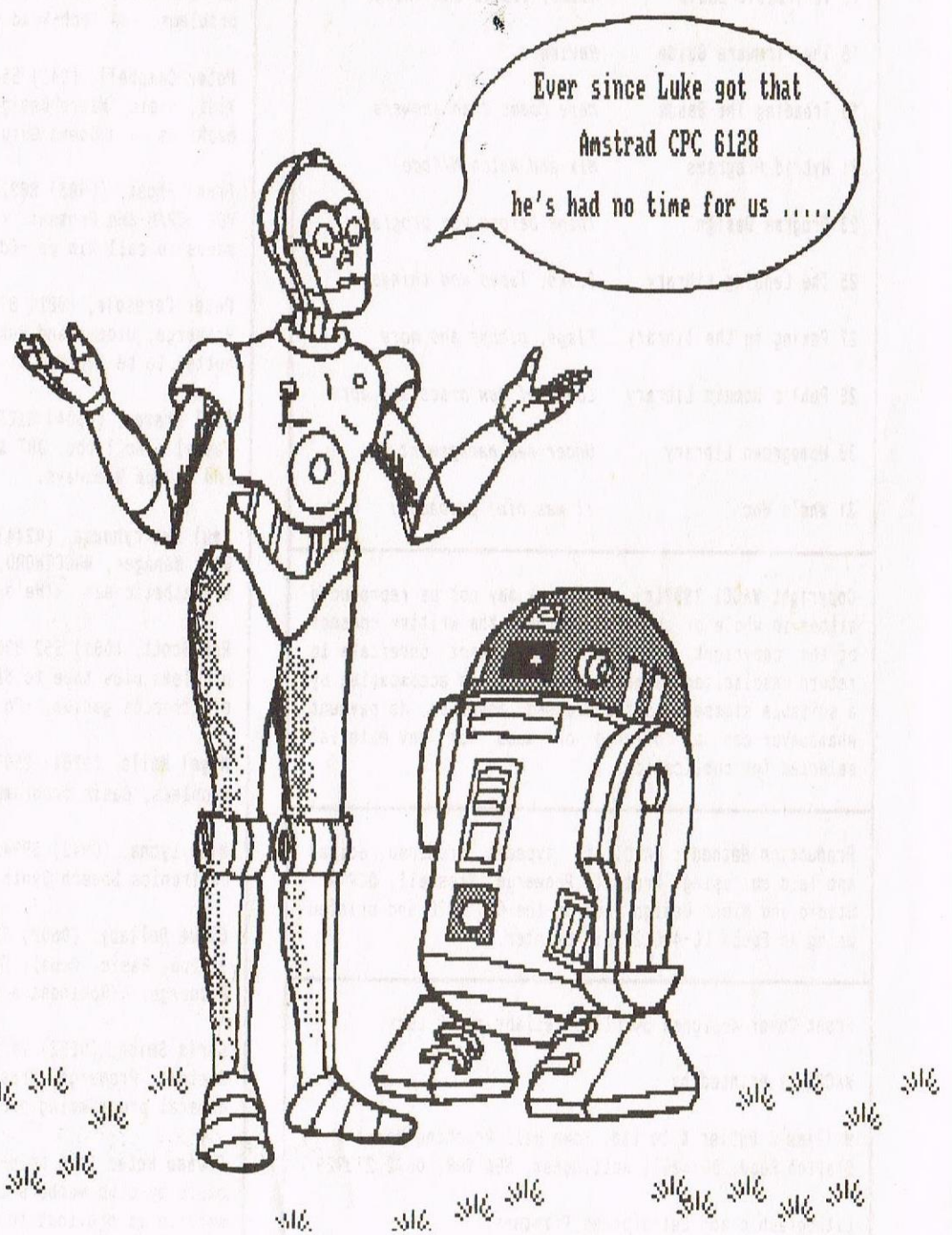
WACCI

THE UK'S ONLY SERIOUS CPC MAGAZINE

Issue 56 £1.50
July 1992

WACCI PROBE:

DIY Robots Investigated



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WACCI : is the computer club for the Amstrad CPC and PCW computers. The club magazine is distributed monthly.

The Telephone Help-Line

Tony Walker, (0772) 651698, Preston, 10.00am to 10.00pm, Comms, Protext, Prospell, Tape to disc, CP/M on ROM.

Brian Norris, (0832) 73973, Peterborough, a specialist on MasterFile III (no less) plus general advice.

Norman Buxton, (0260) 223257, Macclesfield, Basic and farming? <<Control codes a speciality -Ed.>>

Stewart Peppiatt, (0245) 353903, Chelmsford, Basic and Machine Code, DMP2000, VDE, Scrivener and general problems. <<A Tech-Head -Ed.>>

Peter Campbell, (041) 554 4735, Glasgow, OCP Art Studio, Vidi, Basic, Micro Design & Art Programs, CPC plus machines. <<A Comms Guru as well -Ed.>>

Frank Frost, (0983) 882197, Isle of Wight, 4.00 to 10pm, VDE, CP/M and Protext. <<He LOVES a chat but nobody seems to call him up -Ed.>>

Peter Ceresole, (081) 878 0391, London, Protext, Promerge, Utopia and Nukes (amateur status) <<Total nutter to be avoided at all costs -Ed.>>

Paul Graves, (0304) 812342, Ash, All varieties of Pascal (inc Turbo, JRT & Standard). Phone between 5.00pm and 9.00pm Weekdays.

Paul Dwerryhouse, (0244) 534942, Deeside, Clwyd, Basic, Bank Manager, WACCIWORD, WACCISPELL (ISPELL), and a sympathetic ear. <<He's pretty good at accounts. -Ed.>>

Rob Scott, (081) 552 8900, East Ham, any & all hardware problems plus tape to disc, disc to disc etc. << An electronics genius, -Ed.>> Now with extra Bonzo.

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

Mike Lyons, (0942) 59942, Nr Wigan, Basic, Stop Press, Dk,tronics Speech Synth, rodos and general help.

Clive Bellaby, (0602) 725108, Nottingham, 8.00pm to 9.00pm, Basic, Cobol, Forth, VDE CP/M, Protext, Promerge. <<Dominoes a speciality. -Me.>>

Chris Smith, (0252) 24721, Aldershot, Comms, BB's, Protext, Promerge, Prospell, Utopia, Brunword and general programming problems.

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

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

W A C C I

Edited by 'The Management'

0602 725108

Owned By

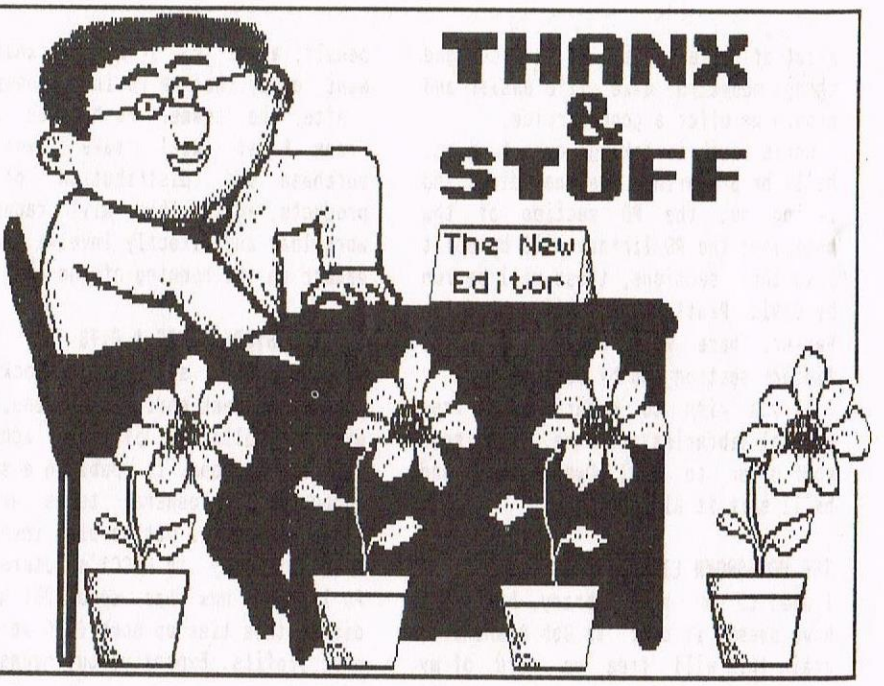
The Club Members

Conceived and Founded by

JEFF WALKER

Developed and Expanded by

STEVE WILLIAMS



Who on earth is running the country! That's what I want to know, we have loads of warm wonderful sunny weather and then some jumped up civil servant books a Test Match and Wimbledon for the same weekend, it then rains. Then they look surprised! Why? Why on earth are they surprised? That is what I would really like to know.

There's plenty of other things I'd like to know, like who made it cold in the winter, after all, if winter was warm, when it snowed, we could all go "Oooohh ain't it pretty", then the sun would promptly melt it all, and then we would live happily ever after.

WHAT'S HE ON ABOUT

Planning, that's the answer, if we are going to take WACCI forward we need to plan for the future. This will ensure that WACCI continues to provide the range and quality of services that we have to expect.

To do this we need to take a quick look at what has happened over the last six months. In December 1991 most members thought that WACCI was dead, (gone, but not forgotten) and that the CPC was a dying machine.

IT'S GETTING BETTER

Since then many things have happened: You've received 7 issues of WACCI (all on time); Campursoft launched a new version of MicroDesign; Siren have launched an 8-bit printer port, serial interface and more; Goldmark have issued several new products (including Stardump); Three inch disc are now available again (thanks to Magtron who are importing them from Italy); and many, many, many more new and improved products are available for the CPC.

GETTING BETTER ALL THE TIME

From a WACCI perspective we have very well over the past six months (or seven issues). I don't know why you get seven issues in six months - We did fences and fence-posts at school. To get a much better idea of where are let's summarize our achievements:

WACCI TODAY

1. There are 42 quality discs in the Public Domain library.
2. Club members are entitled to a range of members discounts.
3. The Book and Tape libraries continue to do well.
4. Prices on all products have either been held or reduced.
5. Membership is increasing.
6. We have a members charter.
7. More and more of you are taking an active role in running your club. (Yep, it belongs to you.)
8. Finally, we've more money than we owe members in subscriptions.

So all in all we're more than happy with the past six months and we're also happy that we can go on producing the same high quality range of services for the foreseeable future.

PANIC, I COULD HAVE CRIED

Apart from the real panic as issue 50 was distributed to members, knowing that we had used up around a £1000 worth of other peoples money producing it, and not knowing if it was still wanted by members.

There have been many other similar situations, like the several occasions on which we ran out of discs and sat there with orders we could not send out. Like the time the Fair Comment disc was lost in the post for a few days and did not arrive until we were almost ready to go to print and of course there's more.

There will always be panics, but if we all work together, they are soon sorted out, we relax, then something else goes wrong.

PUBLIC DOMAIN LIBRARY CHANGES

Over the past months, I have been preparing the new PD discs and writing the PD section of the magazine. The discs have been passed on to Chris Smith who has been copying and distributing them (as well as sorting out disc labels and the like.)

Chris was finding it difficult to cope with the orders and I was finding it hard to prepare discs, write the column and edit the magazine. So we had issued a plea for help and we got

a lot of offers, so we have changed things about to make life easier and ensure we offer a good service.

Chris Smith is taking over from me, he'll be preparing the new discs and laying out the PD section of the magazine. The PD library will be split into three sections, these will be run by David Pratt, Mark Riley and Ian Parker. There will soon be a forth library section run by Doug Webb.

If you wish to order discs from several libraries at once, then send your order to Paul Dwerryhouse and he'll sort it all out.

THE HOMEGROWN LIBRARY

I used to run this library, however I have passed it over to Bob Blanshard, again this will free up more of my time, thus allowing me to concentrate on the main task of producing WACCI.

HOW MANY PAGES

If my records are correct, then I have produced 224 pages of WACCI (7 issues) at the rate of one page per day - so if occasionally I look more than a bit tired, then you'll know why. Most of you are aware that I work full time as well as producing WACCI. Now I'm not complaining, I chose to take on the task and I was well aware of the size of the task, and the size of the plaudits that go with the job.

ISPELL, YOU SPELL, WE SPELL

Paul Dwerryhouse and friends have now issued an updated version of ISPELL, the complete PD spell checker. Version 6 now has a 13000 word dictionary and many other improvements.

John Fairlie was writing the Spell Checking series, but he's now involved with other problems (He and others have taken over the Scull Disczine) so they are busy learning how to edit a magazine - I wish them luck.

If you want to take over and finish the series then give me a ring and we'll sort something out.

SALES AND THINGS

Stock items continue to sell well, as you know we have a policy of only selling items where we can beat the standard high street price.

Last month we added the firmware guide to our list of products, this is selling very well. Why not let us know which products we should buy on your behalf, after all, if we sell what you want to buy then we're in business.

After the summer rush dies away, Frank Frost will take over the purchase and distribution of new products, again, this will reduce my work load and directly involve another member in the running of the club.

STOCKS, STOCK-TAKES & BITS

We completed a six monthly stock-take during the week ending 28th June, Paul will be collating all the accounts data and we hope to publish a set of accounts. In general terms we are making a surplus but we also investing a lot of money in WACCI's future. The PD library now has some 201 master discs, this ties up some £300 worth of club profits. Expensive but necessary.

COMPETITION

There were six entrants for the first compo and about the same number for the second competition. Now if members are not going to enter then there's no point in running a competition. So if you want a competition, please enter this months so we can see that it's a worthwhile use of your space.

MIKE LYONS

Is recovering from having his throat cut, so if you've been waiting until he's a bit better before you write, get writing, he's a bit better.

CPC ATTACK

I've not seen a copy yet, so if some kind soul wants to pass on a copy so I can see what's happening .....

AMSTRAD ACTION

We're receiving a lot a enquiries following the publication of the WACCI page in AA and the offer of a free issue 52 (well for a 34p stamp.) This can only bode well for the future, the stronger our membership base, the more services we can offer.

We are still interested in technical articles for the page, if you have an idea, drop me a line or ring me. Ta.

MOONSTONE COMPUTING MOVE

The people who bring you 2-in-1 and MFU have moved to larger premises at:

Moonstone Computing
Fleming House, Renfrew Street, Glasgow G3 6ST, Tel 041 353 2223

BACK ISSUES

We have a number of back issues of WACCI available for sale. Back issues cost £1, please state which issue(s) you want, please send your order to Paul Dwerryhouse or Clive Bellaby and please make all cheques payable to WACCI. The available issues are:

40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54 and 55.

Special offer price. If you buy issues 40 to 49 (excluding issue 45), then you can have all 9 for only £6.

PASCAL, 'C' & FORTH

The Forth series is almost at an end, (stop cheering at the back,) now we need someone to write the next series, which should be either 'C' or Pascal. If you're interested, drop me a note or give me a ring on 0602 725108.

A PLUG OR TWO OR THREE

I've had several letters from people who run disc libraries, asking if I'll give them a mention, errm, go on then I'll do it for you.

Yorkie PD, 11 Beechwood Avenue,
St Albans, Herts, AL1 4XP

50p per disc side plus SAE
Large, varied selection of discs

Tuck PD, 15 Ravencar Road,
Eckington, Sheffield, S31 9GJ

£1.00 per disc plus SAE

Signal Software, 83 Longleat,
Great Barr, Birmingham, B43 6PY

New library, rapidly expanding,
£1.00 per disc plus SAE.

Why not send a stamped, self-addressed envelope for full details, to all of these libraries?

SUMMARY

Its been a good six months. We are now stronger and better than before. Where next? Well we still need cover for me and we still want you to write and tell us what you want from your club.

It's your club, you own it and have an equal say in how it's run. If you don't tell us what you want, we wont know, so we wont do it. TTFN ITMA BYE

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

Following representations made on behalf of WACCI members we are pleased to let you know that replies have been forthcoming from the following firms:-

SIREN SOFTWARE of Wilton House, Bury Road, Radcliffe, Manchester, M26 9UR (Tel: 061 724 7572)
They are pleased to offer all WACCI members 10% discount on all their products for the CPC, including 3.5" disc drives, software and blank discs. They will also supply a copy of their 3.5" disc drive utility FREE with each disc drive ordered. Phil Craven wrote a very favourable review on Siren's 3.5" second drive in WACCI issue 28. As far as after sales service is concerned I, personally, have found them to be very helpful and they will be only too willing to help.

Siren's SONY disk drive is fully compatible with the CPC range and will format not only to 178K but has no difficulty with the addition of Ramdos or Romdos to format to 800K. The drive operates very quietly (so much so that you think it is not working.) It has a slimline housing,with its own power supply, has a twelve months guarantee, and includes disk utility software. Normal price is £69.99 + £4.00 Postage & packing but WACCI members get a 10% discount.

BRUNNING SOFTWARE of 138 The Street, Little Clacton, Essex, CO16 9LS (Tel: 0255 862308)
Peter Brunning, the author the Brunword suite of programs is willing to allow a generous discount on Brunning products. Members placing an order and using Access or Visa cards are allowed 10% discount but those of you who order by post enclosing a cheque are allowed 14% discount. The programs supplied on 3" discs for use on both the 6128 & 6128 plus are:-

Brunword 6128 with Brunspell & Datafile... £ 30 - less 10%
Info-Script with Brunword 6128 & BrunSpell £ 50 - less 10%
9 Pin Brunword Elite..... £ 55 - less 10%
9 Pin Brunword Elite with Info-Script..... £ 92 - less 10%
24 Pin BrunWord Elite with info-Script.... £ 90 - less 10%
Elite Font Editor with 'Chelmer'&'Clacton' £ 25 - less 10%

CAMPURSOFT of 16 Slatefield Street, Gallowgate, Glasgow, G31 1UA (Tel: 041 554 4735)
Peter Campbell and Jess Harpur run this outfit - So it must be good. Campursoft discount both MicroDesign and MicroDesign plus for WACCI members. Save £3.00 on Micro design plus, yours for only £11.99. Or you can buy both packages for only £27.99 (saving over £6.00 on the individual prices.)

SD MICROSYSTEMS of PO Box 24, Holbeach, Lincs, PE12 7JF (Tel: 0406 32252)
They will allow us a discount of 10% off all Software and Consumables in their extensive range. However this EXCLUDES any Hardware items but they are prepared to send such items post free. Examples of their software programs include PC-CPC Transfer software @ £24.95, Home Finance @ £14.95, Kwikfile @ £12.50 and a suite of programs for the small trader which includes General Ledger £29.95, Stock Accounting £39.95, Small Trader's pack £29.95, Payroll program £52.50 and Graph-Master @ £14.95.Phone them on 0406-32252 for further information.

DATEL ELECTRONICS have agreed to supply WACCI direct with their goods at trade prices, and more details of these items will be appearing in a later issue when we know exactly what savings we can offer you.

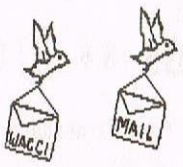
MJC COMPUTER SUPPLIES of 2 The Arches, Icknield Way, Letchworth, Herts, SG6 1UJ (Tel: 0462 670301)
Mike Cooper the big white chief of MJC has always been a keen follower of CPC users and is only too pleased to help out with any problem anyone may encounter. He is still a computer buff at heart. Since branching out in business he has to some extent succeeded because he is one of those who still thinks that the customer is number ONE. MJC are one of the few commercial mail order firms still supporting the Amstrad CPC market, covering as wide a range of Software & Hardware as they can get their hands on. I may be a bit biased but I believe this is the type of firm to encourage to ensure a steady supply of CPC goods. We can expect "Special Offers" on certain items in the form of an "on-going" list of discounted products. More news on this when details have been worked out.

GOLDMARK SYSTEMS of 51 Comet Road, Hatfield, Hertfordshire, AL10 0SY (Tel: 0707 271529)
Specialist software for the CPC's. Willing to give members of WACCI 10% discount off all Software and Hardware (But NOT off special offers or on disc prices). There should be an insert in this issue from GOLDMARK and please refer to same.

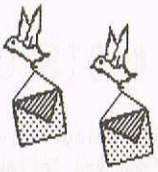
PROPAC COMPUTER GROUP of 153 Pickhurst Rise, West Wickham, Kent, BR4 0AG (Tel: 081 777 6241)
They are specialists in Citizen Printers and are able to offer an extra £20.00 off their discounted prices. If you are in need of a new printer and fancy a Citizen then I suggest you give Alex Kinch a ring. We await their new catalogue, which we are told will be issued in July.

That's it for now. I am still awaiting replies from some suppliers. As new discounts are arranged details will appear in WACCI near you. Please mention WACCI when replying to adverts - you know it makes sense - haggle that price! Stamper.

Fair Comment



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



PRAISE FOR PAUL

Dear Clive, I felt I had to write in praise of Paul Dwerryhouse's "PDP" Spreadsheet which I received recently on WACCI PD Disc 4. The first program I have written is a rather unusual application, it is a problem in chemical engineering known as a Mateial Balance. You are given a feed stream consisting of a number of components each of known quantity.

The problem is to separate it into products each of a specified composition so the quantity of each product has to be determined. The calculation basis is a set of simultaneous equations which is solved by successive approximation using the Jacobi iteration method.

The calculation is repeated until two consecutive sets of results are identical. I needed to make one phone call to Paul when I thought I had lost my program, he quickly told me how to retrieve it, now it works perfectly. Who needs Lotus 123? Regards,

John Shaw
Wargrave, Berks

PS. I support Tom Betts' suggestion for problems. I spent a long time, unsuccessfully, trying to condense the Pyramids program into one line but I learnt a lot about Basic. This made it a worthwhile exercise.

<<Hi John, Clive here, although Mike has now recovered (*virtually*) from his operation, I'm doing some of the early letters. We're never going to get Paul through his front door, what with your letter and the release of the updated version of ISPELL .....

I'm sure Paul will be thrilled by your comments, as will Tom Betts, now I agree, I like the idea of a WACCI competition, however the entries have been few and far between. If members don't enter it then it will be dropped because we do need the space.

It's a problem finding a Competition that members will want to enter. Well I'm sure we'll get it right eventually (if not sooner.) Lotus 123? Was that a Sinclair program? TTFN -Clive.>>

GEORGE AND THE LYONS

Hello Clive, Thanks for keeping your promise and sending me the disc from AA. Never thought I'd see it again.

The second article on Inspiration I think will cause a bit of indigestion to most readers. I received a letter from Allen 'L Plate' Cooper. He compared my articles on Inspiration and the Call Command as a ploughed field to a jungle.

I told him that was because it was your effort in formatting the text and program in simpler terms for the Inspiration. Well he was very encouraging on the whole, and reckons I should write more in that style. So after wrapping up the article on the disc directory. I would like to have another go at Inspiration part 3, with your blessing of course.

I think your idea of a Dep Editor is prudent. I would like to nominate Mike Lyons, he seems to capture the spirit of WACCI quite well. Perhaps you can even rotate term of Office so other persons get a chance to have a go at Editing. Bet you not many would volunteer though. Regards.

George Ho-Yow
Hayes

<<Hi George, a ploughed field in a jungle is where one would expect (or need to find) some inspiration.

Thanks for the article about disc directories, and the third part of the 'Inspiration' series - they certainly feel inspiring. There is an article cum letter from *another admirer* of yours, it's on page 31.

I wonder what Mike will make of your suggestion, as I replying to this letter, so the first time he'll see it is when Issue 57 drops on his doormat, *Surprise! Surprise!* Mike get up off the floor and have a nice hot sweet cup of tea. Best Wishes. -Clive.>>

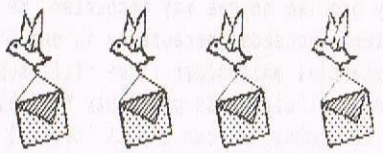
MAC THE LAD FOR US!

Dear Mike, I just had to congratulate the WACCI team on producing such a high quality magazine. When I finished reading WACCI 54, I immediately sent for a 6 month subscription. About a week later I received WACCI 55 which was just as good as the previous one, if not better. So I eagerly await the next issue, which no doubt, will be just as an enjoyable read! Enough of this, I hear you say (I've got good hearing) down to the main subject of my writing to you.

Why doesn't WACCI write a total beginners guide to comms, you know the sort of thing. Recommended modems, required interfaces, best software, etc. This I feel would be quite a good thing, as many people (well at least two!, Brian R Norris, whose letter was published in issue 55, and myself!) would greatly appreciate this.

I have just started on the long trek through the outback of the good old Z80 chip, (or to put it another way, I've started to learn machine code.)

I think I'm quite a proficient BASIC programmer, although I'm not to great when it comes to programming sound or complex graphics, I make up for it by the fact that I can write some decent 'serious' stuff. This 'serious' stuff often requires speeding up, so that is one reason for trying to learn machine code. Your tutorials seem to be quite good, apart from one thing, which assembler are you using, I have just got Maxam on disc, it really is superb (Hey, Arnor, if your reading this, you know where to send the cash.)



Anyway, Because I am learning machine code, I would like to order the Alternative Firmware Guide, which comes complete with disc. For only #7.95 you can hardly go wrong. This really is a fair old phenomenal deal. This firmware guide will be helpful as there are many useful 'built-in' rom routines which can perform many a clever trick, and generally speed up programs. I'm also going to order 10 blank discs (desperately needed), and the cheque is in the envelope.

I understand that WACCI will be at the all formats computer fair, does this mean that you'll also be at Birmingham on the 19th July. I am hoping to get to Birmingham, but the possibility seems to be dwindling, fast! (problems with the car). So if any kind soul wants to help out a fellow WACCI member, I will be most grateful. (I'll even pay the petrol money!)

Do you still require people to help with any part of the running of the magazine, or the PD library, if so, you can contact me at the above address with the relevant, and some not too relevant details. Cheers.

Mark McIntyre
Bolton

<<Hi there Mark, Mike not well (well he's sort of well) so you've got me answering the questions for thee.

Thanks for the praise, it's always welcome, except for Paul, he's had too much praise this month .... We're glad you like the magazine, we're even happier when you subscribe, and we'll see it we can get someone to write a beginners guide to Comms for you.

Best of luck with machine code, most (probably all) of the programmers I know use Protext and Maxam on rom (this makes recovering from frequent crashes quite easy.) I'll agree, the firmware guide is a snip at £ 7.95.

I'll be at the Birmingham show so if you can make I'll see you there, if not, then I'll see you at the Haydock Park All Formats Fair on 24th October.

I'll see what we can sort out that you can do to help with the running of one of the libraries or something else or whatever. Thanks you very much for your competition entry as one of only a few entrants you stand a good chance of a prize. TTFN. -Clive.>>

A NEW LIB-BOOK PACT ?

Dear Clive, It was a pleasure meeting you last weekend. It's nice to be able to put a face to the familiar voice. I must say that I don't think that the picture of you in 'AA' wasn't at all flattering, was it? <You Decide?>

Thanks again for the bits and pieces that you provided for me to bring away with me - they will ensure that I can deal promptly with the next batch of book orders. Enclosed is the latest book library update list. I have (of course) only included new volumes and duplicates of ones we already had listed. It's now quite an impressive list, considering it's still quite early days for the library.

I did have a little idea that may be of interest. I thought that it may be worthwhile offering to loan out a book at our expense (i.e. with WACCI paying the postage both ways) to any member willing to write a review of the book after having read and used it. This way it should be possible to get a more in-depth feel for a book, beyond that gained by skipping through it to try to briefly review it. What do you reckon? <Seems Okay to me. -Clive.>

I'm sorry about the lateness of the list - I had meant to do this a few evenings ago but time just did not permit. I hope it reaches you in time for inclusion in 54. All the best,

Steve Lee
Ramsey, Huntingdon

<<Hi Steve, I can't accept an apology, If I do, then I'll end up apologising for not getting your letter into Issue 54 (or WACCI 55 for that matter.)

To err is only human, to blow it completely takes an editor! I'm think that loaning out books, free of charge to members, well sort of free, they do a review of the book, is a very good idea. I'm sure that members take more notice of other members than the do of our rantings and the like.

I also enjoy meeting members, that's the real reason we attend the All Formats fairs, It gives members a chance to meet other members, that's what it's all about. ITMA -Clive.>>

SECOND TIME LUCKY

Dear Clive, This is only the second occasion that I have written to any publication, the first was about one year ago, I also sent a program. The only result for my effort was the loss of 8 months subscriptions, one disc, plus a jiffy bag with return postage.

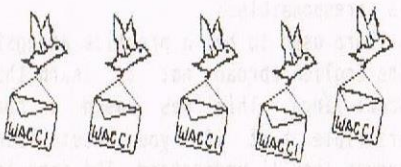
I know my English and grammar leave a lot to be desired, as a programmer I know I have a lot to learn, but did I deserve such punishment?. Now to show that I am a glutton for punishment, I enclose six pounds for a further four issues and once again submit the same program for your perusal. As to the program, it is a calendar printer with annual and lunar memo capability, plus a bank holiday calculator. I found a bug in the original copy I submitted, this has now been corrected.

I use the program on a CPC 6128 with a DMP-2000 printer. If you think it will be of interest to other members, you may wish to include it in the WACCI Homegrown Software. I would like to say how pleased I was to recieve No 50 of my favourite magazine and to thank all who's efforts got it back into print.

Jack Butler
Grays, Essex

<<Hello Jack, I'm happy, that you're happy, that we're back. Thanks a lot for the program, I've tried in on both my printers and it works happily. I'm sorry that on the last occasion you wrote you lost your disc, the program and your subscription. I promise it won't happen this time.

We're currently reorganising the Homegrown library discs, there are being split into two sections (games and utilities) so there will be a short delay before the program appears on a disc. Best Wishes. -Clive.>>



RESPONSIBLE? MOI?

Dear WACCI, Many thanks to whoever was responsible, <<Alright, own up. Who was it?>> for sending me, so promptly, the sample copy and for the two later issues sent in response to my subscription. <<Okay. Relax everyone it's Clive's fault.>> I'm very pleased to find myself in the company of computer users who have other thoughts than zapping aliens and using unpleasant language. <<So are we.>>

Talking of 'language', <<Were we?>>, can you please tell me why machine code programs don't have line numbers like BASIC? This has been worrying me for a long time, but I didn't like to show my ignorance by asking.....

The purpose, <<a large marine mammal related to the Dauphin>>, of this letter is to ask if anyone can help me to type in foreign languages, using the accented and other special letters of which Arnold is capable; by altering the DIP switches, <<inside

your printer, of course?>>, I have induced my DMP2000 to print in French and German, but the garbage I get on screen makes it very difficult to edit the text. I now have Brunword Elite on Rom, <<Lucky you>>, and the manual mentions that this facility is available, but doesn't give the kind of instructions which I can follow.

I have profited greatly in the past from the coaching of Rob Baxter and, now that he has deserted the CPCs for a more flexible, <<??>>, set-up, would be happy to pass on my knowledge to anyone who needs help with the Advanced Music System.

Looking forward to the June issue and thanking you in advance for any help you can give me.

Mrs Pauline Russack
Duston, Northampton

<<Well hello there, Pauline. It's so good to have a letter from a WACCI-ite of the female persuasion.

Uncle, (or as we laughingly call him Saint), Clive is the man who can. He organises and sends out our dose of WACCI, month by month. If it goes wrong, it's his fault. Everyone else is irresponsible.

There used to be a practice amongst the English abroad not to learn the local lingo. This was based on the principle that if you shout loud enough they'll understand. The same is true of machine code. Committed coders think that if they bellow numbers at you you'll eventually get the idea. This is not true.

Machine code programs do not use line numbers for a very good reason. Machine code is a set of instructions in the computer's own language which, because a computer is such a stupid beast, has to be *very* simple. Machine code is just a series of numbers, each of which, (in simple terms), makes the computer do something.

When you meet an assembler listing, (hello assembler listing), this is *not* machine code, but is a kind of in-between language to allow us 'normal', 'human' people to write machine code without having to remember all those blasted numbers.

They don't, (generally), use line-numbers either, but they do use loops. The program listing will contain things called LABELS which mark parts of the code. The addresses of the labels are stored in a table somewhere in memory and the computer uses this to keep track of where it is, (more or less). Some modern versions of Basic use labels instead of, (or as well as), line-numbers, (Atari Basic for example), but, for beginners, I prefer the old way. Have you ever tried to write a *simple* program in Atari Basic? Don't. It's too complicated.

And now for your main question. I don't know anything about Brunword, though I'm given to understand that it's extremely good. Having said that, it ought to have some way of displaying regular german, french and even greek characters on the screen as well as line-drawing ones, so that WYSIWYSTG, (wot you see is wot you're supposed to get.)

Obviously, there are some problems. Not the least of these is that the characters which your printer can print are often very different to the ones your screen can, and also some characters which you print on the screen have a different character code on the printer. One such character is the greek letter SIGMA. If you look in your CPC manual you will find that Σ has character code 190. My printer uses character code 228 for the same thing. This is one of the joys of 'standards' - there aren't any. There should be some way of assigning a new code to a character when it's sent to the printer with Brunword, as there is with Protext which is what I use. Any Brunword users out there want to help Pauline?

I remember the name Rob Baxter with great respect. When I was still a tyro on AMS he was a master. Expect a call soon. -Mike.>>

<<Wanted, a Brunword user to write a short'ish series about Brunword. There must be a committed Brunword user out there who can describe the benefits of Brunword. Best wishes, TTFN, -Clive.>>

OUR SPECIAL THANKS GO TO .....

Dear Clive, I've enclosed a few items of tape software this letter - mainly games I'm afraid, for your disposal in any way which may help WACCI's funds.

If they're of no use to you, please send them back and I'll gladly refund the postage. Yours sincerely,

Stephen Collyer
Orpington, Kent

<<Hi there Stephen, It's gestures like this, that make life worthwhile. I'm always being amazed by the generosity of club members towards the club. All I can do is offer our sincere and heartfelt thanks to you. I always find it hard to express sincere thanks with the written word, so I hope I sound as happy as I am. TTFN. -Clive.>>

FOR SALE

A varied selection of quality tape software. The money raised will go into the club bank account.

Mini-Office II (tape)	£ 4.00
Barbarian II (tape)	£ 3.00
Encyclopedia of War (tape)	£ 4.00
Driller (tape)	£ 3.00
Captain Blood (tape)	£ 3.50
Lancelot (tape)	£ 3.50
Times of Lore (tape)	£ 3.00
Star Wars (tape)	£ 3.50
Stormlord (tape)	£ 3.00

Please send your order(s) to:

WACCI, 12 Trafalgar Terrace
Long Eaton. Nottingham, NG10 1GP

Finally, our special thanks to:-
Stephen Collyer

EXPENSIVE PASTIMES

In reply to Brian's comment on Comms, may I point out that in WACCI 52, page 21 I stated that an interface (RS232 also called SIO) can be got for some £15 from the source stated in WACCI 54. I haven't checked whether the price has remained at this value though. I've seen the same interface going for £35 elsewhere.

Most external modems will work with the Amstrad/Pace RS232 Interface. I started off with the Amstrad V21/23 modem which offers 300 baud and 1200/75 split rate operation, <<*don't mention operations, please*>>, but I've lately moved up to the SM2400. There's quite a difference moving over to a Hayes compatible modem from the straight forward V21/23 manual modem. The operation, <<*Oh no. Not again*>>, at 2400 baud is quite noticeably faster than 300 baud though, <<I should think so too>>, and perhaps, if I had known this, I might have opted

for the faster modem from the start. The price put me off at the time. Shop around as prices vary considerably - a magazine like Computer Shopper is a good source of price information.

Please note that *internal* modems are for IBM contemptibles. For software use WACCI PD disc 8, and in particular TERM504B. You may also need a lead to connect modem and RS232 unit. This last bit is for Al Cooper. Digital Radio Comms is expensive. You need a VHF transceiver and packet handling gizmo attached to your RS232 and a Radio Amateur's Licence. Regards.

George Ho-Yow
Hayes

<<Yo George. How-Yo? Thanks for the erotica, (or is it esoterica?). I automatically assumed you would have a *Hayes* compatible modem anyhow, (or yow). -Mike.>>

GOODBYE, GOODBYE

Dear Mike and all, I'm sorry, but I've sold my 6128 plus, please cancel my subscription and include an advert for a few things I have to sell, thanks.

Andrew Doyle
Clonmel, Eire

<<Hi there Andrew, we're sorry to see go, best of luck out there in the big wide CPC'less world. ITN. -Clive.>>

FOR SALE

Advanced amstrad user guide	£ 4.00
Z80 Assy lang programming	£10.00
Programming the Z80	£10.00
Anatomy of the CPC's	£ 8.00
Mastering M/Code	£ 5.50
The cp/m+ handbook	£10.00
Z80 Assy lang for students	£ 5.00
Using your CPC disc drives	£ 2.00
Easy add on projects CPC	£ 2.00
Op Thunderbolt-cartridge	£10.00
Hisoft Assembler (disc)	£ 5.00

Price includes p&p. All items are almost new. If sending money, then please 'send Bank Drafts' only.

Andrew Doyle, 129 CherryMount,
Clonmel, Co Tipperary, Eire

Tel. 052 22767 (Eire members only)

HE'S GOING AS WELL

Dear Mike, unfortunately space, family pressures on time and finance mean that I need tell sell off my trusty Amstrad, so please will you run the following advertisement, Cheers,

Andrew Freeman
Rodington

<<Sorry to see you leave the CPC scene are you sure that this is the right decision, you could always get rid of the family (after all, this would solve the problem.) We wish you all the best for the future. -Clive.>>

EXTREMELY DISSATISIFIED OF CUMBRIA

<<Dear Mike?>>, I know you prefer letters on disc, but today it wasn't possible. This letter is a follow-up to Brian R. Norris's in Issue 55.

At the beginning of May I sent Chris Smith an order for three PD discs, (6, 10, and 14). Now, nearly three months later, four 'phone calls and two promises that they had been sent I have still not received my order. I know Chris is very busy but three months is going a bit far.

Please could this mess be sorted out as soon as possible. Each month AA keep on saying how good WACCI is, but I'm beginning to wonder just how much of it is a big con to attract new members. <<Eh!>> What is an as-is basis for the programs supplied?

Andrew Minnion
Cumbria

<<Well, Hello Andrew. Dealing with your letter backwards, ('cos that's just the kind of guy I am).

"As-is" means that the programs are taken to be fully working, (or not), as they stand on the disc. Neither WACCI, nor any other PD library - as far as I know - actually *guarantees* that the programs they supply are fully working or suitable for a particular purpose. Many PD programs are 'pre-production' versions of

FOR SALE

Complete Amstrad CPC kit, details summarised below. I would prefer to sell as a complete unit. I can deliver locally (Shropshire and nearby) otherwise the buyer to arrange transport.

CPC 6128 with CTM644 colour monitor
Amstrad DDI-1 second 3 inch drive
Rombo Rom box, includes Protext, Promerge+, Utopia & Rodos on Rom
Seriel RS232 interface plus Honeyterm comms software on two Roms
Dk'tronics light pen plus software on Rom
KDS 8-bit printer port
Compatible tape recorder
Serious software on disc, 12 titles including, Maxam, Masterfile III,
Stop Press, Qualitas, Forth Laser Basic and more .....
Games software on disc, 12 titles, including, Sim City, Annals of Rome,
Jack Nicholas Golf, Barbarian, E-Motion and more .....
Several games compilation discs, UD Gold etc
around 30 discs of PD software, games, serious and more .....
around 15 tapes of budget games
14 books including Amstrad CP/M Plus, Whole memory guide, M/code and more ...
around 150 magazines covering the last five years
20 blank discs, joystick, leads and assorted bits ....

It originally cost £1500, but the best offer around £400 secures the lot.
Get in touch with me at the address below or phone me on (0952) 770421

Andrew Freeman,
3 Rodington Heath, Rodington, Nr Shrewsbury, Shropshire, SY4 4QZ

Just as a footnote, my thanks to everybody in WACCIworld for all the enjoyment, help and information over the past years.

commercial programs or old versions which have been superseded and donated to the public domain by their authors. Others have been put into the public domain with the express intention that they should not be sold as commercial products. Many PD products come without documentation of any kind, (particularly some of the earlier stuff). Much PD software is of excellent quality, but there is also a lot of trash hiding out there as well - just like your local book library.

The WACCI PD library contains many examples of the good and some of the bad, (and in Clive's case the ugly), but, thanks to the stupendous efforts of WACCI members, the bad are being weeded-out, documentation is being brought up to date or even created from scratch and new programs are being included all the time, (we've given up on Clive).

Now, as to your missing discs. Clive, are you there? Is Chris about?

Hi it's Clive here, errm, early May to mid June is six weeks not three months, but let's not split hairs.

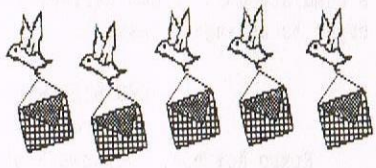
The real problem has been solved, by splitting the library into sections. When Chris took on the task I told him there would be 3 or 4 new discs per month to cope with. After all, he must complete his GCSE exams and run the BB as well. In reality, we have issued an average of 8 disc a month. I estimated that we would sell 25 to 30 discs per month, in reality we have been selling 130 discs a month.

Way back in April Chris asked for help 'cos he knew this problem would arise, his plea was published in WACCI 54 (published Mid May 1992.) I'm not sure what else could be done, we are a club, the only helpers we can call are the club members, this we did, and within two months we had re-organized the library, thus (hopefully) avoiding any future problems.

By the time you read this, you should have received the discs, if not, please let Paul Dwerryhouse know (I think he's your nearest member) and I'll personally send them out first class, recorded delivery, then and only then will I be happy that you've received them.

We do move heaven and earth trying to ensure that members get the quality service that I (and they) demand. If we blow it, sorry, we'll put it right once we know there's a problem. What else can we do? WACCI is owned by the members and run by the members for the benefit of other members. Let me now hand you back to Mike, but first a final message, I know it's a pain in the doldrums waiting for that longed for software to arrive, my (and our) apologies for the delay in getting your software to you. I'm very sorry about this but I'm now going to hand you back to Mike. AAB. -Clive.

Finally, Andrew, as a club member myself, I would like to defend the club from naughty names. The new WACCI is a *real member's club* run by the members, for the members, with the members. We shall fight them on the beaches. We shall fight... OOPS! Wrong speech. If, like me, you had had to wait over six months for an item of hardware or software from a commercial company, for which you had parted with £80 or more of hard-earned pocket money you would know what angry really feels like. Everything that is printed in AA, (about WACCI), is true, decent and accurate and stands for the good old British Way. It is good, it looks good, it tastes good and, by golly, it does you good. -Mike.>>



IN THE DOLDRUMS AGAIN!

Dear Clive, you cannot use doldrums instead of posterior, as you did in your reply to Andrew Minnion's letter in WACCI 56. Not only is doldrums a poor substitute for bottom, but it is technically incorrect.

My dictionary states 'the doldrums are a windless area near the equator' this cannot be .....

<<This letter was cut short in the best interests of sanity. -Clive.>>

A MOUSE, BUT IT WONT SQUEEK

Dear Clive, thanks to you and the rest of the team for getting WACCI back together, long may it continue.

I appreciate that you must be a very busy man and I'm reluctant to increase your work load. But, who else can I turn to? The only? remaining glossy magazine is little more than a comic. My son in law has given me a serial mouse with a 25 pin "D" socket at one end <<*and a mouse at the other?*>> and which works beautifully on his PC but is of little use on my upgraded 464.

Is there anything I can do about it? There seems to be little published information about mice in our hobby press. Do you have any information? Do you know of anybody who does? I look forward to your reply.

Harry Gubby
York

<<Hi there Harry, the short answer is *'No, sorry, I know nothing'*, however I am always willing to spout on about subjects about which I know nothing, so here goes..... nothing.

You need a special interface to use a mouse. One that converts the output signal (usually it's from the joystick port) into a serial signal that the mouse can modify as it is moved. The same interface converts the serial input from the mouse into an input that the input port understands.

It's probably more expensive trying to build a special serial port than it would be buying a second hand Amstrad CPC compatible mouse.

We do have a second-hand Maplins CPC Expansion Kit for sale, with extended motherboard, serial interfaces and Rom board all built in. I have been trying to check it out, but have not had the time. This may well do the trick, but, and it's a *big 'but'*, it'll cost you around £25 including postage, and I cannot promise it'll work.

We are working on a series that may be useful, but it wont be in WACCI for five or six months'*ish*. This series will look at linking the CPC to Robots and other 'real world' interfaces.

Meanwhile, being as I know nothing about mice, can I suggest you wait until other members who do know what they are talking about, have had the chance to reply. TTFN. -Jerry & Tom.>>

GOOD SERVICE

Dear Clive. A short note to say thanks for the quick service in supplying me with the 'Alternative Firmware Manual' (three days.) While I'm thinking about it, it's great V.F.M. Thanks a lot.

Dave Chatterton, Essex

<<Thanxs for the compliment. -Clive.>>

DYNAMIC DAVE CLICKS AGAIN

Dear Clive, Enclosed, a copy of Amiga Graphics Two; and a selection of digitized photographs from the All Formats Show. Remember the Disc camera I used? It produces the most amazingly duff prints, most of which were a disaster - fortunately, as you can see (providing that you do have ROMDOS) - there were a few that came out o.k.

I'm very impressed with WACCI - obviously Steve knew what he was doing when he picked you for the job... Most fanzines are illegible ego boosters; but WACCI always comes across as well written, informative and interesting.

A suggestion for future issues, why don't you ask all your contributors to send in a passport photo, so you can stick it at the top of whatever they have written? I always wonder what the various users I speak or write to look like, I'm sure your readers do too!

Think about it: I didn't know what Richard 'Robot' Fairhurst or yourself resembled until AA printed a photo in the PD column.

There aren't nearly enough photos in the CPC press these days (excluding AA, of course), and it's time that there were. Well, I hope to see you at the next AFS near London - and I'll bring a better camera when I do!

You can keep the discs - don't worry about sending them back; though you could send me another copy of WACCI to read, say, anywhere from issue 50 to 53. I really should think about getting a subscription - is this necessary? Or can I just order one month by month? I look forward to future communication, Yours,

David Carter
Woking, Surrey

Dear Uncle, I'm sending this as a printed letter, as well as on disk (Protext IBM format,) because it's really about the output from the BJ-10ex. I've been following the series by Bob the Brigadier with admiration. A man of direct action. I owe him a great deal in getting my own BJ-10ex set up in one afternoon in which only two Swedish forests were wasted (instead of three days and five forests.) Thanks Bob.

However, his work was all concerned with the Epson emulation (called 'LQ' mode by Canon.) The native Canon/IBM mode has, unbelievably, got no italic print as IBM don't believe in it. You have to use bold instead, which is okay I guess. The trouble is, the Epson emulation gives slightly spindly print. A bit weak. The Canon emulation has a stronger type face, so I have switched. It also has inverse print (hard on the ink) and a very peculiar thing called shaded print, which looks quite useless but rather pretty.

shaded print- inverse

It also has a '1/2' symbol (*which I don't have. Ed.*) I enjoyed finding that one.. Mode 1/2, multilingual page, character set 2. Another forest gone. I'm sure you don't want yet another full piece on this printer, so I'll just say that it's fairly easy to set the main Canon/IBM features up from the manual, certainly to make a Protext printer driver.

HERE ARE THE MAIN FEATURES TAKEN FROM THE ARNOR PRINTER DRIVER:

```
'@'=27,"5",0,27,"[\",4,0,0,0,&d8,0,27,"I",0,27,"F",27,"W",0,27,"6",27,
   "[T",4,0,0,0,1,181,27,"[I",5,0,0,11,0,144,1                    ;; reset
'b'=27,"E",27,"G              ;27,"F",27,"H"                       ;; Bold
's'=27,"S",1                  ;27,"T"                           ;; Subscript
't'=27,"S",0                  ;27,"T"                         ;; superscripT
'u'=27,"-",1                  ;27,"-",0                         ;; Underline
'l'=27,"W",1                  ;27,"W",0                          ;; enLarged
'i'=27,"[@",2,0,0,32          ;27,"[@",2,0,0,16                   ;; Inverse
'a'=27,"[@",2,0,0,2           ;27,"[@",2,0,0,1                    ;; shAding
'v'=27,"[@",4,0,0,0,2,0       ;27,"[@",4,0,0,0,1,0          ;;double height
'e'=27,":"                    ;18                                  ;; elite
'c'=15                        ;18                               ;; condensed
'n'=18                        ;                                    ;; pica
'p'=27,"P",1                  ;27,"P",0                       ;; proportional
'q'=27,"I",2                  ;27,"I",0                         ;; NLQ (Pica)
```

The reset code is a monster, but it has to be, to reset everything, including setting the Yank code page (27."[T",4,0,0,0,1,181). If you want the International code page, you have to go (27,"[T",4,0,0,0,3,82). And believe me, that isn't in the manual. I had to fish it out of the depths of printer driver. Those Canon manual writers ought to be shot. Your respectful nephew

Peter Ceresole, London, England

<<Thanks for that, Bob will be pleased that his good work saved a forest or two. It's a pity that companies who put so much money in the R&D needed to produce a quality printer, decide to spend only pence producing a usable manual. Oh well, It's a good job I don't read manuals. TTFN -Uncle Clive.>>

The Poem - David Carter

WACCI is the best, indeed.
Others are tacky and hard to read.

With no covertape, there's pages
galore, After reading right
through you'll thirst for more.

From a Worldwide audience it is
admired, For with WACCI's text
you'll never get tired.

The Reply - Clive Bellaby

You'ld like to see my photo
... in the mag,
although my tummy, it does sag.

You'ld like Richards photo in
there? as well?
So his face will ring a bell.

You think .... You think my poem
it's a disgrace?
Well, just you, just you wait,
Wait until you see ... my face.

** Competition Spot ** Competition Spot ** Competition Spot **

INTRO

The closing date for the last months competition has not arrived, so we don't yet know whose won (or lost). So far, we have had a brain-teaser and a design a front cover competition and very few entrants.

DOES YER WANT IT!

That the 64 dollar question, if you do then please send some replies, if not, write in to Fair Comment and let us know what to do with it.

Well on with the show, what was the question? I remember, what sort of competition should we have this month?

What will convince you to pick up a pen and send in an entry form? I've decided that we'll have two different competitions this month, and give you longer to get your entry ready.

Got it, if you don't enter we'll scrap the competition and devote the space to a computers and the fish farmer in south Devon spot - with full commentary from Jimmy Hill and chin.

COMPETITION NUMBER THREE

We'll start with a get the questions right to win. the winner will receive 3 PD Discs of their choice.

1. How do you correctly build a fence that uses six fence posts and six fence panels?

2. You have a draw full of socks. It contains 10 pairs of socks. Each pair is a different colour (Urgh.) How many socks must you take from the draw to guarantee that you have at least one matching pair.

3. I know a number. It's between 1 and 999. It's a whole number. You can ask me questions about my number. How many questions must you ask to guarantee that you can find the number? What are the questions you must ask?

The closing date is the 20th August so don't delay, post yer entry today.

COMPETITION NUMBER FOUR

We have a second competition for this month, another chance of fame, another chance to win 3 PD discs from the ever expanding PD library.

To win, you must write a one page (it's about 700 words) article, story or a review in the usual WACCI sort of style. You could write about a serious subject, programming, a PD disc or program, or a computer based story.

It must be readable, suitable for publication in WACCI and it must be your own work. You have until the end of August to submit your entry.

Don't worry about the standard of your entry, everything that's published is edited by the editor to suit the WACCI style. It's all nicely laid out on the page by the editor as well.

Please send all enteries to the Editor at the main club address. He'll pass them on for judging.

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(041 554 4735)

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... AND THERE'S MORE YET TO COME...

THE ABC OF PD

Chris Carter-Bown calls Helping Hand to order.

The opening scene: A crowded Courtroom somewhere in England, Rumpole has just exited left or that could read 'excited he left' after she who must be obeyed rang from a nearby callbox .....

Defence Barrister: *"And so, ladies and gentleman of the jury. In summation of this very difficult and complex case, I will say this to you; In arriving at your verdict take into account the choices that I have put before you concerning my client and his own testimony of the events of that fateful day last December. Hand in hand with that evidence are those factors which will alter your perception of what you have heard. In closing, then I would urge you to consider carefully what I have said."*

Cut to jury room: The jury file out of court & retire to backroom. The jurors mutter darkly to each other, undecided both in their conversation and thoughts. They are desperately attempting to avoid making a decision, well that's not strictly true, they don't know how to.

Juror #1: *"What are we going to do? I don't want to get this wrong, if only we could get some help from another source, almost a machine I suppose."*

Cut to camera 2: One of the jurors, sitting apart from the rest suddenly jumps to his feet as hit by a sudden and powerful thought.

C. Bellaby: *"WACCI, that's it. I knew it. I've got it. WACCI."* (Shouting)

General Melee: in a jiffy all gather round him, in awe of this man who dared to utter the sacred word of the Machine AMSTRAD. Some breakdown and mutter drivel like IBM and TANDON. A lone voice breaks through the silence like a crack of lightening.

Alone voice #1: *"What's that then?"*

C. Bellaby: (Mumbling) *"I, the 101st descendant of the line of the Keeper of the WACCI archive, I remember. Remember the 5th of Novem.... no that's not right. Oh drat.... I've got it, By George, I've got it. It's called 'Hand that helps.' It is a wondrous collection of lines which will decide for us."*

Alone voice #2: *"How's that then?"*

C. Bellaby: *"Not out! But more to the point, I don't know..... but I know a man who does."*

Editor (smiling): *"I also know a man who does, well I mean, he did, however, after doing it he was arrested ....."*

Cut Back to play: Cut from the room to a study, circa late 20th century. A man is bent over a keyboard, typing fervently, stopping only to mop his brow, drink several gallons of dark fizzy liquid and mutter to himself.

The ABC of PD man: *"How can I introduce this program. It needs to be different, to reflect it's uniqueness. How would I use it..... I've got it... I'll write an introduction in the form of a sketch, expand the idea of a 'Helping Hand' and take it from there."*

Thinks... Now what sort of sketch can I use?, I know, I'll write about a zoo, with animals and a car....

Scene cuts to page 2 of this article! Quickly!

THE FACTS OF THE CASE

The facts, as presented by my learned friend are as described, by and large, the truth, the whole truth, although, not necessarily, all of the truth.

To ensure that you can make up your own mind (without undue pressure.) I have laid out all the facts, in a manner that will allow you to decide whether or not you believe the defence, or as I feel is correct, you believe me, so let me summarize:

Location: WACCI Homegrown Disc 1

Style: Basic program

Designer: Jeff Walker (c)1986

Concept: by YS (who?)

To run: In Basic use RUN "HELPHAND

Advice: Read these notes

THE DESCRIPTION:

The user is invited to input data in the form of a CHOICE or a FACTOR which affects the light a particular choice may be seen by. The program then asks for input on the way you feel on certain points. After a very short time it will produce a 'Probability' table of your best and worst choices.

USE:

The scene shifts to the backroom. Bellaby is in deep conversation with him self attempting to remember how to switch on the computer and work the program. Suddenly all becomes clear, he jumps for joy and starts typing:

RUN "HELPHAND

This bring up the usual sort hello I'm a computer program, what can I do for you - sort of message. Then press any key (other than ESCape) to continue, and when you've pressed a key you can continue..... When you have continued you'll be asked to enter the options ..... so we will enter some options to keep the program happy .....

1 Guilty: convict as charged.
2 Guilty: convict & reduced sentence.
3 Not Guilty: Let go.
4 Don't know: Remand for reports.
5 Guilty: place on probation.

FACTORS:

It's no good just considering the options, we need to consider the factors that we will use to decide which is the best option:

1. Man is telling the truth.
2. Man is a liar.
3. Element of truth.
4. Wrong but stupid.
5. Wrong and knew it.

Scene shifts to reality: you can find out the rest by trying it. Will he hang or not???

..*.*.*.*.*

The blame for this article can be laid very much at the feet of one Andy Frame, up there in Cumbria, for it was he that said" There's a smashing little program called "Helping Hand", and the rest is history, or drivel or both or either or neither or it's time I finished..... 'nough said!

..*.*.*.*.*

Rather than fill in the rest of the page with lots of words, I thought we would get back to reality, and use another example, this time, one with a practical (and useful) base.

WHICH CAR SHALL I BUY ?

That is the question, but what's the answer? Well we're going to use helping hand to find out ..... So if you'll kindly type in:

RUN "HELPHAND

Then press a key when prompted, and you'll find yourself at the options menu, so now enter:

Fiesta (and press return)
Escort (and press return again)
Metro (press return .... again)
end (and again.....)

We've entered the two options, now we have to decide which factors affect the choice we're going to make....

THE FACTORS TO BE CONSIDERED

The factors I'll use to decide which is the best option are: I want a car that's cheap to run; I want a car that's a reasonable price to buy; I want a car that's safe to drive; I want a car that's new*'ish*; I want a car that's stylish and finally I want a car that's easy to service.

We need to put theses factors into a list that we understand so we can enter it into the computer program. So it's get typing time .....

It must be economical to run.
It should be cheap to buy.
It should be safe to drive.
It should not be an old car.
It should be easy to service.
end

You will (of course) remember to press return after entering each factor you wish to considered. The options and factors are the hardest part of the task .... you need to know what is going to affect your decision making (*coin tossing*) process.

THE IMPORTANT FACTS

Now we're into the next stage of the process, each of the factors is compared against each of the other factors to decide which are the most important factors. In our example, some of you will think that the price is more important than the running costs, whilst others will not. This stage personalises the chart.

CHOOSE YOUR CHOICE

The various factors are then compared on a one-to-one basis against the options available. So you decide which is the best option for each factor, after all the options and factors have been considered, comes .....

THE DECISION

Is displayed by giving each options a percentage rating .... and the highest rating should be the best option. Well until next month (probably). -Chris.

The Court Case

Many (well at least one) of you of you will want to know the final decision .... Guilty or not Guilty ... truth is stranger than fiction ..... ACU were found guilty of bringing the CPC into disrepute.

Anon (Chris Carter-Bown) 1992

VERY basic basic

Written by Alan Tilling

Letters to:-
Very Basic Basic
65 Lawrence Rd
Altrincham
Cheshire
WA14 4EL

They'll turn our gallons into litres and our miles into meters - Jim Hacker (just before becoming Prime Minister)

Hello everyone, 'tis I.

With the ever increasing cost of petrol etc. it pays to keep a check on the performance of your car's engine. All that is needed is to keep a little book in the glove box and when you fill up enter the speedo reading and the amount of petrol that you've just put in the tank.

DIESEL DO

What if I'm using diesel, I hear you cry. No problem, use the word fuel in place of petrol. They don't call me sneaky for nothing. (Clive, am I allowed a screamer here?) <<No! -Ed.>>

To calculate the consumption all you do is to take the previous speedo reading from the present speedo reading to give the miles travelled. We then divide the miles by the number of litres used and that's it, the consumption in miles per litre.

Calculating miles per litre

Present milage	20000
less Previous milage	19750
Miles Travelled	250
Litres Used	32

Miles per litre (250/32) = 7.81

If you want it in miles per gallon, and let's face it who doesn't, multiply the litres by 0.22 and then divide the miles. *Like this.....*

Calculating miles per gallon

Present milage	20000
less Previous milage	19750
Miles Travelled	250
Litres Used	32
Gallon used (32 * 0.22)	7.04

Miles/gallon (250/7.04) = 35.51

The miles per gallon of 35.51 sounds a heck of a lot more reasonable to me. If I was told that my car only did 7.81, I'd have a fit. Mind you I don't hold with all these new-fangled metricified measurements.

I've just read WACCI No.53 and I see that Mike (call him Mick - he loves it.) has let the cat out of the bag about Clive's and my involvement with the building of the pyramids. It took me long enough to get used to miles per gallon, I used to do all my working out in cubits per camel. Have a look at Fig. 1 (this is a computer's eye view of the above sum.

SWING LOW SWEET CHARIOT.....

Personally, I preferred those big old american cars, where they had to work out the number of litres per mile.

If you wanted to be boringly correct you ought to add this line.... 125 kmtrs = miles * 0.625 and change line 140 consl = kmtrs/litres. This would give the consumption in kilometers per litre which means that 170 would need amending, but there you go.

The program of Fig 1 would certainly do the trick but I think it would be better to have all the information

```
100 INPUT"Please enter PREVIOUS mileage";prev
110 INPUT"Please enter PRESENT mileage";pres
120 miles=pres-prev
130 INPUT"Now enter amount of fuel used (in LITRES)";litres
140 consl=miles/litres
150 galls=litres * 0.22
160 consg=miles/galls
170 PRINT"Fuel consumption is"consl"miles per litre or"consg"miles per gallon"
180 INPUT"Please enter the date";date
200 ZONE 10
210 PRINT" Date","Present","Previous","Miles","Litres","Gallons","Miles/Gallon"
220 PRINT
230 PRINT date,pres,prev,miles,litres,galls,consg
```

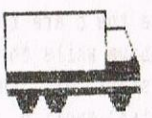


Fig. 1

displayed like a bank statement, and like all bank statements the first column is the date, hence line 180.

THE 10th ZONE

The statement in line 200 is a strange one, ZONE 10. The zone is the area in which the printing takes place so when the computer encounters a print statement which uses commas (,) as separators, it regards each comma as the start of the next zone. Initially, each zone is set, by default, to 13 columns (characters) wide we need ours set to 10 hence the 10 after ZONE.

To find the sizes of the zones required I found which was the biggest heading and counted up its letters. Seven headings were needed and to keep things in proportion, I truncated Miles per gallon to Miles/gall. This meant that the biggest heading was 10 characters long and 10s into 80 is more than the 7 headings needed. I then realised that Miles/gallon could be spelled out in full.

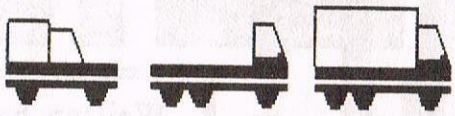
Before we run the program let's have a look at lines 210 and 230. (220 is just to give a space between the headings and the information.) Both look very similar don't they? In 210 each heading is enclosed in quotes and so is printed verbatim. 230 looks similar but it contains the names of the variables used for each column. Since there are no quotes, the contents of the variables are printed and the commas ensure that they are printed in the correct zones (or in our case, columns).

The print statement of line 170 is worthy of comment. The first part, { 170 PRINT "Fuel consumption is" } is reasonable enough but then comes {consl} then another piece of english. It looks as if consl is enclosed in quotes but don't be fooled. The " before the c are the closing quotes of the above while the " after the l are the start of the next piece of (printed) english. Thus since consl is the name of a variable and occurs without quotes, its contents are printed, very similar to line 230.

RUN RABBIT, RUN

Now's the time to RUN the program .. ...What a mess. The screen wasn't cleared, the columns have been somewhat nobbled and look at all those decimal places.

The columns have been wrapped around because the computer is in its wake up state of mode 1 (40 columns). Earlier in the zone explanation (or should that be earlier in the explanation zone .....) I said that 80 was divided by the .... remember? If line 90 is



added as mode 2 this will be put right and the screen will be cleared also. I've thrown in some colours and just for a change I've made the border a different colour from the screen to show up where the columns end ....

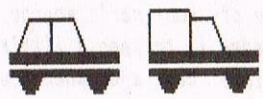
```
90 INK 0,13:INK 1,0:BORDER 14:MODE 2
```

The decimal places are rounded by the instruction ROUND plus the number of decimal places required. Like this ...

```
145 consl=ROUND(consl,2) and
155 galls=ROUND(galls,2) and
165 consg=ROUND(consg,2).
```

Isn't it a nuisance always to have to enter the previous mileage when you

THE COMPLETE ALL SINGING ALL DANCING FUEL CONSUMPTION PROGRAM



```
10 'Fuel Consumption by Alan Tilling for WACCI issue 56
20 DIM date(100)
30 DIM pres(100)
40 DIM prev(100)
50 DIM miles(100)
60 DIM litres(100)
70 DIM galls(100)
80 DIM consg(100)
90 INK 0,13:INK 1,0:BORDER 14:MODE 2
100 INPUT"Please enter PREVIOUS mileage";prev(x)
105 WHILE x<99
110  INPUT"Please enter PRESENT mileage";pres(x)
115  IF pres(x)=0 THEN x=99:GOTO 240
120  miles(x)=pres(x)-prev(x)
130  INPUT"Now enter amount of fuel used (in LITRES)";litres(x)
140  consl(x)=miles(x)/litres(x)
145  consl(x)=ROUND(consl(x),2)
150  galls(x)=litres(x) * 0.22
155  galls(x)=ROUND(galls(x),2)
160  consg(x)=miles(x)/galls(x)
165  consg(x)=ROUND(consg(x),2)
170  PRINT"Fuel consumption is"consl(x);
175  PRINT"miles per litre or"consg(x)"miles per gallon"
180  INPUT"Please enter the date";date(x)
185  PRINT
186  x=x+1
187  prev(x)=pres(x-1)
190 WEND
191 :
192 REM ******************     DISPLAY TABLE     ********************************
193 :
200 ZONE 10
210 PRINT" Date","Present","Previous","Miles","Litres","Gallons","Miles/Gallon"
220 PRINT
225 FOR x=0 TO 99
230  PRINT date(x),pres(x),prev(x),miles(x),litres(x),galls(x),consg(x)
231  IF pres(x)=0 THEN x=99
232 NEXT x
233 END
```

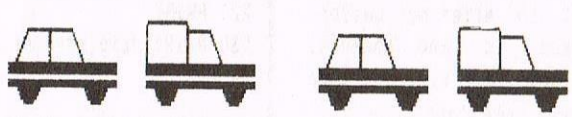


Fig 2

have already entered it as last time's present mileage? Add the following three lines and it will be automatic.

```
181 prev=pres
182 GOTO 110
111 IF pres=0 THEN 200
```

THE KEY ENTRY

By the way, you ought not type the keywords in upper case. If you always carry out all you program entry in lower case, the Basic interpreter will convert all keywords into upper case so, if you make a spolling mistook they will remain in lower case and give themselves away.

DRIVE ON

When the program now gets to line 181, it makes the contents of the variable prev equal to the contents of pres and then 182 sends Basic back to ask for the new value of pres and so on and on and .... Line 111 has been added so that when pres is equal to 0 or in fact [RTN] has been pressed with no entry, control goes off to the print routine and prints out the information. Unfortunately it only prints out the latest set of figures. This is because only one (set of) variables is used and therefore the information keeps overwriting itself and staying at one level. What we want is a method of keeping the same variable but changing its name each time. This is called an array and can be imagined as looking like this: ....

```
          0 1 2 3 4 5 6 7 8 9
    pres ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦
```

That is the variable pres(x). The (x) is the number of the pigeon hole that we are interested in. I've only shown the first ten but there can be any number you like (within reason) and this number is set up by the word DIMension. Now all that we have to do is to keep the same variable names but keep updating the subscripts which are numbers (simplicity itself for a computer) and there we are. Have a look at fig 2 (it's on page 16.)

THE SAME BUT DIFFERENT

Have a look at both fig 1 and fig 2 and you will see that they are basically (with a small b) the same. In order to get the repetitive action, a few more lines are added but the original listing can still be seen.

The initialisation consists of DIMensioning each array used. I have set this at 100 being two fill-ups a week for a year. You can leave this as it is or change it for a smaller number as you wish. The point to remember is that a portion of the memory has been allocated to the arrays and if they're large and many then the dreaded "Memory full" may occur, even when the arrays are empty.

WHILE WE'RE AT IT

Line 105 is the start of a WHILE/WEND loop which ends at 190. While/wend loops are very similar to FOR/NEXT loops, the main difference is that a for/next goes around for a set number of times were as the while /wend goes around for any number of times WHILE some control has happened. When the control effect occurs the loop is left by way of the While END keyword.

"x" is the variable that we used for the array subscripts and there are 100 pigeon holes so the control state is less than 99 (it starts at 0 which also means that there are 101 pigeon holes but 100 is easier to think of. When x exceeds 99 all the arrays will be full and the lop must be exited.

A FOR/NEXT loop keeps track of where it is automatically but you have to do it for a while/wend, hence line 186. Every time 186 is passed, the contents of x increases by 1. <<Oh, so that's what x=x+1 does, -Ed.>>

TIP TOE THROUGH THE LISTING

Let's go through this briefly. At the start x=0. Line 100 asks for the previous mileage same as before, which could now be called start or first mileage. The value entered is placed in pigeon hole 0 of prev. The loop is entered and 110 asks its question. (I'll come back to 115 in a moment.) The program runs as it did before but each variable now has the subscript (address) of 0, this time. Eventually the date is requested. Incidentally, I've left this as a number variable (no $) so the date must be entered as (say) 25.12 note the computer accepts this as twenty five point one two. It doesn't realize it is Christmas day. The print at 185 is just to make the display more readable. At 186 x is increased by 1 so now all arrays point to cell number 1. 187 takes the pres value in cell x-1 (ie box No. 0) and copies it into prev(1) ready for use in line 120.

WHILE YOUR WEND AWAY

The wend now checks to see if x=99. It is not (of course) and so it sends Basic back to the previous while and the loop starts all over again. Eventually x does equal 99 and wend allows the program to progress.

To cease entries before the 100 have been entered, line 115 is pressed into use. IF pres(x)=0 means if [RTN] has been pressed in response to 120 ie the current cell of pres is zero THEN make x equal to 99 and then go to line 186 where 1 is added to x making x greater than 99 and so the WHILE/WEND loop is exited. The display section is entered and the contents of each pigeon hole is printed out using a FOR/NEXT loop, again checking for pres(x) with a zero entry to signal the end.

OUTRO

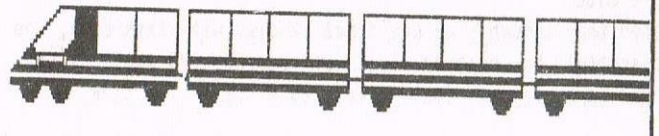
Well that's an awful lot for this time so I'll say "Bye for now" Alan.

MUM, I DON'T LIKE GREENS

Don't work out the miles per litre
or the gallons per metre,

let the train, take the strain .....

after all, we have to get our £144 million back, *somehow* ..

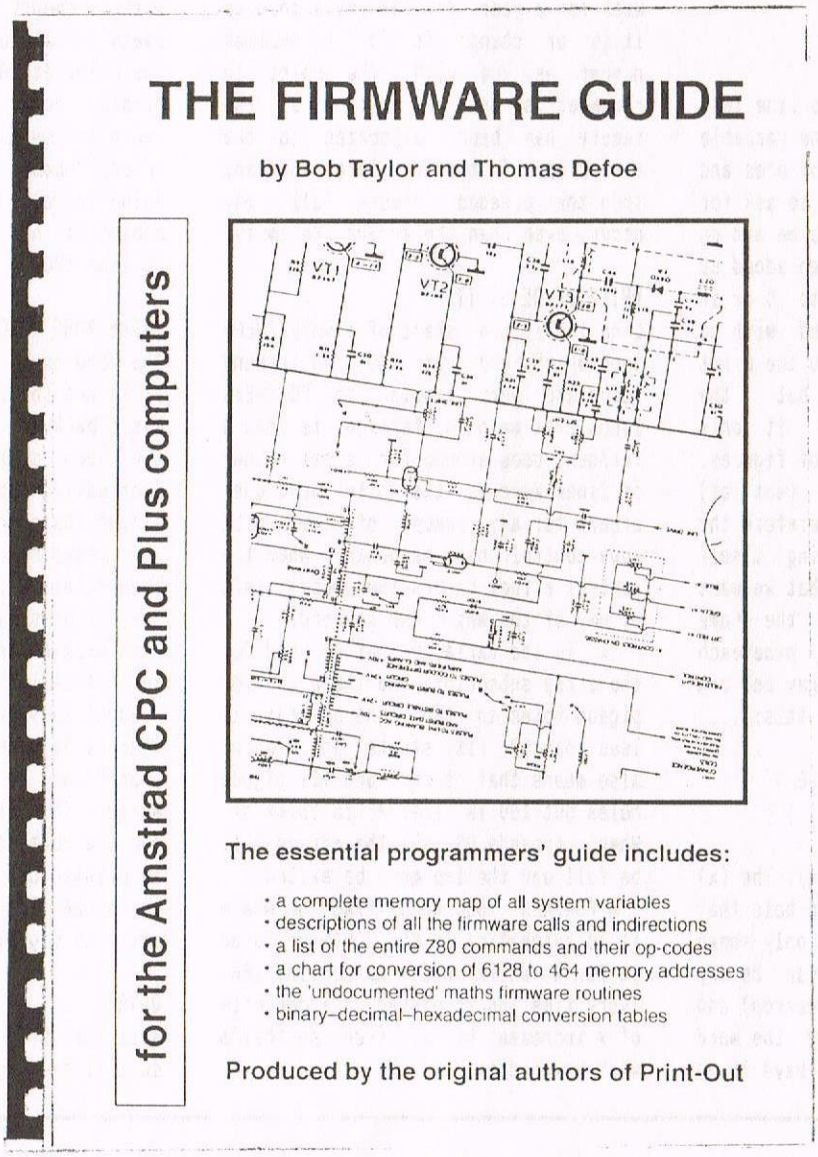


THE FIRMWARE GUIDE

Reviewed By Old Uncle Clive himself!

Over the past months things looked bleak for your faithful old Amstrad CPC. Amsoft had stopped making three inch discs and firmware manuals, commercial software houses seemed to have abandoned the 8 bit market place and I wondered in the CPC would (or could) survive.

Don't be glum, things have changed, and for the better .... Three inch disc are back in production and there's a new firmware manual. Many of the products that disappeared have been replaced, by upgraded versions, released by new software houses.



THE FIRMWARE MANUAL

All serious CPC users will happily tell you that you'll need a CPC firmware manual to do quality work.

Without a manual, a vast array of firmware calls will remain unused - problems that can be overcome will remain unsolved and you'll spend longer writing a masterpiece.

A SHORT STORY

Once there was a man called Thomas Defoe and he ran a CPC users magazine called 'Print Out'. Now Thomas got lots of letters asking about firmware calls.

He thought I'm not going to be able to answer all the queries quickly, so I talk to Bob Taylor and we'll write a book that give all the answers, so they sat down and wrote the new improved 'Firmware Guide'. They looked at the book, decided it would sell well, so they had some printed and then they sold them.

THE DISC

Then they thought, we could sell a disc with this book, the disc could be crammed full of serious CPC applications, such as a program that gives 203k per disc side, and a machine code assembler, and a machine code monitor, and a clock, and a cuddly toy (*oops wrong program*) and much more.

Then they wrote lots of good programs that took up the whole of one side of a disc, and they then filled the other side of the disc with the same programs (in case they got damaged) and then they thought.....

Hang on a mo.... If we don't charge people for the manual and disc we'll be out of pocket, so they decided to charge the ridiculously small price of £ 8.75 (*which includes the disc.*)

TAPE USERS

If you've not yet got a disc drive, then don't panic, members who have purchased the manual can borrow a tape with all the programs on from the tape library, and it's free of charge.....

BY ITSELF

You can buy the manual without either the disc or the tape, but in our (my) opinion it is much better to buy the manual and disc as a complete set.

THE SIZE

It's 10 and a bit by 8 inches (or 269 by 202 funny foreign bits.)

It's held together by a spiral binder and it's an easy size to handle and store.

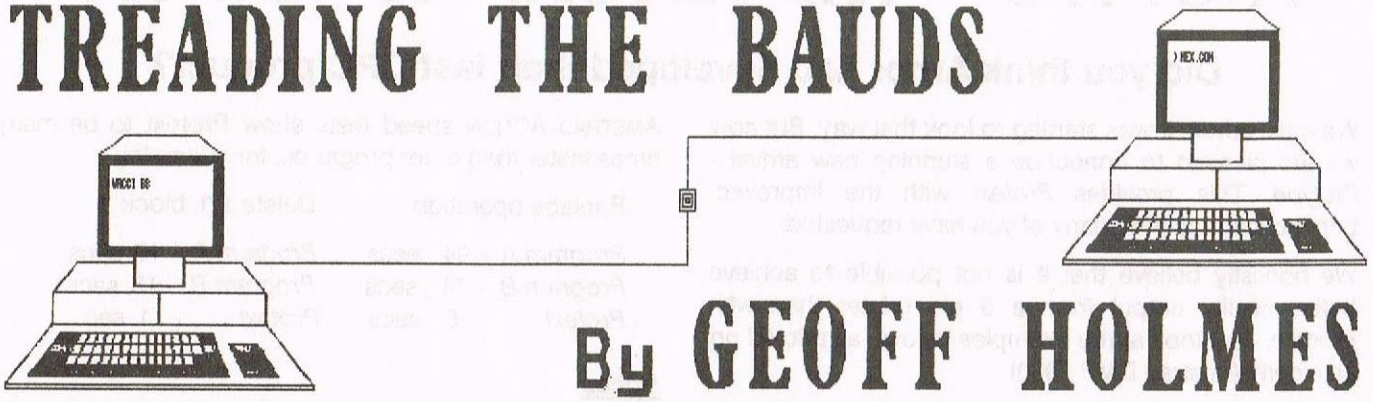
The picture in the middle of the page is a half size photocopy.

THE SUMMARY .....

Well, what else can I say about a firmware manual..... It's technically correct, it's factual and if you haven't got a firmware manual yet - it's a must. It has a card cover, it contains 80 A4 size pages each crammed full of important facts. This is a must for any serious programmer, without it (or a similar manual) you might as well buy a ZX81 ....

**** It's £ 7.95, buy it now (if you haven't got one.) ****

TREADING THE BAUDS



By GEOFF HOLMES

I may well reveal my age group when I say "Tempus fugit!" And I feel that way too. Well summer is upon us, welcome cuckoo in, cuckoo... cuckoo, as the old song goes, I think. While on the subject of songs, this article is going to be my swan song. All together now, "Ahhh.. "

WHERE HAVE WE BEEN?

Looking back over the previous articles, I've taken you through hell and high water mainly on the technical aspects of comms. I hardly mentioned the zany humour to be enjoyed reading some of the messages found on BBs.

There are program files on games, utilities and such like for all the popular computers. There too, you will find quite a few experts on various subjects who are on the whole quite helpful. You only have to ask. But perhaps you are the independent sort of person and try to resolve a problem on your own. Me too, I usually try to solve a problem by looking at it from various angles. Dr Edward de Bono really opened my mind with his series on lateral thinking. But there are times when you just don't have the resources to crack a tricky problem, and you have to ask for help.

WACCI BB

On-Line 24 hours, 7 days a week

On : 0252 318557
Sysop : Chris Smith

Speeds: 300/1200/2400
Format: 8N1

v23 (12/75) available by request, phone Chris on 0252 24721 (voice).

WACCI's own BB carries all the new public domain programs, help-line details and messages areas.

THE CLASSICS

Among the comms programs, you can find some of the old comms classics such as MEX.COM and ZMP.COM. These are written in CP/M. On the CPC6128, you will find that CP/M programs do not run very well at baud rates greater than 1200. I learnt this from observation as I couldn't understand why the text was okay until the bottom of the screen was reached.

Then by chance I saw some messages on this phenomenon from Paul Martin, a guru on CP/M, Z80 and many other areas as well I suspect. He explained that the scrolling of the screen had a higher priority than taking in chars from the serial port. So while the screen was being rolled upwards any chars being sent from the BB was lost.

Our esteemed editor said that he resolved this problem by clearing the screen when the cursor reached line 25 (as this stopped the screen from scrolling.). I haven't done much in the way of writing CP/M comms progs having been put off by the char loss problem. I think I'll stick to writing in machine code.

YE OLDE BUFFER!

While thinking about how to resolve this problem, I remembered the technique used in real-time system design for coping with devices operating at differing speeds.

A small cyclic buffer is used to capture incoming data. Then a larger cyclic buffer is used to assemble the contents of the small buffer into messages for processing later. Another technique which I used successfully, was to use one medium sized buffer, but have pairs of pointers for loading and unloading the buffer. I won't bore you with more technical details.

ALMOST FINALLY

I hope you have had some enjoyment in reading these articles. I can assure you that I had much pleasure in writing them. Perhaps we may even exchange messages on BBs in the near future, as a matter of fact if you have been online you may have done so without realising it. Who knows what the future will bring. Perhaps computer comms will rise to the same status as Amateur Radio (*hams.*) Bye Bye! I may be back *'sniff'*, *'sniff'*.

FINALLY

Finally what, well I (or we -Ed) are not sure, there's a follow up series planned for beginners and if somebody will write one, there'll be a series all about radio packets.

If you're wondering what a radio packet is, then wonder no more, radio packets are comms for radio freaks.

If you're wondering what the main advantage is, then wonder no more, radio packets don't incur phone bills.

If you're wondering what all this is about, well Clive added it 'cos there's a long way to go before we get to the end of the page. That's it, no more, *I'm off, have a good day .....*

BAUD RATES

Rate	Receive	Transmit
v21	300	300
v22	1200	1200
v23	1200	75
v22bis	2400	2400

PROTYPE – THE RETURN OF ARNOR!

Did you think Arnor had developed their last CPC product?

We must admit, it was starting to look that way. But now we are pleased to announce a stunning new arrival - *Protype*. This provides *Protext* with the improved printing features that many of you have requested.

We honestly believe that it is not possible to achieve better quality output from a 9 pin printer than with *Protype*. Just look at the examples below - all printed on an elderly Amstrad DMP 2000!

Protype costs just £30 and is available on disc only. It works with *Protext* ROM and disc versions and may also be used as a stand alone program.

5 years after its original release Protext remains indisputably the leading CPC word processor. In the February 1991 issue, AMSTRAD ACTION said:

"Without doubt the most complete word processor available for the CPC ... Protext is very much a professional quality program."

AMSTRAD ACTION speed tests show Protext to be many times faster than other programs, for example:

Replace operation		Delete 17k block	
Program A	- 94 secs	*Program A*	- 17 secs
Program B	- 74 secs	*Program B*	- 15 secs
Protext	- 5 secs	*Protext*	- 1 sec

Prices

Protype	£30	(disc, Protext not required)
Protext + Protype	£45	(disc)
Rombo ROM box	£20	(when at least one ROM is purchased)

ROM prices

		Promerge Plus	£20
Protext	£25	Utopia	£20
Maxam	£25	Maxam 1½	£20
Prospell	£20	BCPL	£20

Protype is a typesetting print enhancer designed to squeeze maximum quality from low-cost 9 and 24-pin dot matrix printers. This paragraph shows how **Protype** can work to a right-hand margin.

Liquid 293K	c_p/J kg^{-1} K^{-1}
① Acetic acid ($C_2H_4O_2$)	$1{\cdot}96 \times 10^3$
② Acetone (C_3H_6O)	$2{\cdot}21 \times 10^3$
③ Water$_{sea}$ (H_2O, salts)	$3{\cdot}90 \times 10^3$

supports over 40 European languages including:

Anglo-Saxon	þ ð æ œ ā ē ī ō ū ǣ ǣ
Czech	á č ď é ě í ň ó ř š ť ú ů ý ž
Latvian	ā č ē ģ ī ķ ļ ņ š ū ž
Polish	ą ć ę ł ń ó ś ź ż
Turkish	á â ç ğ ı î ö ş ü

A **Ganga común, «*Pterocles alchata*», 38cm**
♀ con tres bandas en el pecho †
♂ faja pectoral castaña ‡

B **just some of the non-ASCII symbols:**
« » „ “ ” ¡ ¿ 1º 2ª ¶ §
© £ ¥ ¤ ¢ ½ ± ÷ × ↓ °
← → ♯ ♭ ß ð Ð þ Þ ø Ø
å Å æ Æ œ Œ ł Ł đ ħ H
←*line graphics too*→

This actual-size printout was produced in one operation on a 9-pin printer using Arnor's Protext and Protype.

Protype (disc only) works on:
- O Amstrad CPC6128 [+]
- O CPC664 & 64K expansion
- O CPC464 & 64K expansion & disc drive

Uses less than 350 bytes of the main 64K.

Fæðer ūre, þū þe eart on heofonum	(Old English)
Ár n-atheir, atá ar nèamh	(Irish Gaelic)
Fader vår som är i himmelen	(Swedish)
Svargayehi väḍasiṭina apagē piyāṇeni	(Sinhalese)
Teve mūsų, kurs es danguje	(Lithuanian)
Pater noster, qui es in cælis	(Latin)

PROTYPE IS VERSATILE:
- *multiple diacritics (accents) with any letter* (ę̀ ṇ̄ ş̀ Ạ̈)
- *tabulates proportional text / micro-justifies spaces*
- 240 DPI × 216 DPI *resolution on a 9-pin printer!*
- *works with all 9-pin or 24-pin Epson-compatible printers*
- *use from Protext, Basic or machine code*
- *includes the seven fonts used in this demonstration*
- *choice of character designs within a font* (page or page)
- mirror imaging of a line of text!
- super*script*, sub *script*, *underline*, b *box*, e *encircle*
- *kerning (spacing of 'difficult' character pairs* (AV)

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HYBRID PROGRAMS

Pat Love takes a "mix and match" approach to her programs

I'm a lazy gardener - a very, very, lazy gardener. I prune the rose bushes once a year and do the lawns now and then. What has gardening got to do with programming, I hear you ask? Not a lot, tree sorting, root directory, rows (rose, got it?) and hybrids perhaps. Me old mate George H. mentioned hybrid programming in his recent article entitled INSPIRATION. Forgive me George, when I say that your article was a bit over the top, I know you can be a sensitive flower at times, so I thought I'd soften the blow before I say "Blarrrp!" (my idea of a raspberry.) Just joking George.

HYBRID HIGHLIGHTED

I like the idea of hybrid programs and would like to elaborate on it from a pragmatic angle. As a quick reminder a hybrid program is one in which BASIC and Machine Coded (M/Code) programs are integrated to work together.

You will see the beauty of hybrid technique for experimenters and serious titivaters alike, as this article unfolds.

MIX AND MATCH IS BEST

Many potential programs are lost because some enthusiasts are loathe to take the plunge into M/Code. On the other hand clever M/Coders think it beneath them to write in BASIC, and slog away for days or weeks to stick with pure code.

But we WACCIes don't have such hang ups, the world's our oyster and we are free to enjoy writing programs that are easy to produce. Also most importantly is the ability to maintain programs that will meet our changing requirements. How often do you find after writing a program, you say to yourself: Wouldn't it be nice if I had this and that? But woe, woe.... woe is me, I am undone (sorry wrong script!) it's too difficult to alter my program, it'll be a complete rewrite.

A TYPICAL PROGRAM

Okay, let's make a start by running through a typical example. This will outline how a hybrid program is put together. Let's start by looking at the correct way to organise the BASIC part of the hybrid program.

STAGE 1: Set the memory

Limit the memory allocated to BASIC to a minimum of 1 less than the address at which the machine code part of the program load at. Eg.

```
10 MEMORY &3FFF
20 LOAD routine.bin,&4000
```

If you get an out-of-memory error then recompile your source code to a higher address. Adjust lines 10 and 20 accordingly. *Easy isn't it?*

STAGE 2: Machine Code Addresses

Allocate names and equivalent addresses for entry to the M/Code routines to be called from BASIC. Eg.

```
30 initialise% = &4000
31 setstring%  = &4123
32 savebuffer% = &534A
33 bufadr%     = &9A04
```

Now in the body of the BASIC program, you can use these meaningfully instead of just numbers. See Fig 1.

Now isn't LINE 150 a lot clearer than the more usual sort of (may I say *"the very messy looking command"*):

```
CALL &4000,rate%,status%.
```

Just look at LINES 200 and 250. If you alter the M/Code so that setstring% is now &412A, no problems here.

All you do is EDIT 31, so that setstring%=&412A. But if you had coded lines 200 and 250 to be CALL &4123, Hello world and so on. You would have to edit these lines and any other such occurrences. It is quite easy to overlook an obscured line sometimes.

That's about all that I can think off (at present) regarding the BASIC part of hybrid programs.

THE MACHINE CODE INTRO

What can I say about Machine Code? Not a lot! Try to structure your routines so that there is only one entry and one exit point to/from the routine. Have each routine in a module of its own. Use parameters to the routine to

A MEANINGFUL HYBRID PROGRAM

```
150 CALL initialise%,rate%,status%
200 CALL setstring%, Hello world
250 CALL setstring%, How are you?
310 INPUT Enter name of file to be saved:  ,name$
320 fname$= LEFT$(name$,LEN(name$)-1)+(RIGHT$(name$,1)+&80)
330 REM filnames need the MSD bit set, hence the preceding palaver.
340 REM I hope this works, I am thinking this up as I write.
350 CALL savebuffer%,@fname$,bufadr%
```

Fig 1

pass working data, status flags and the like. I notice a few readers saying well all this seems fair, but what's in it for me?

WELL WHAT'S IN IT FOR YOU!

So I says to them, try working out 3.142 times 3.333 in machine code. Now do this in BASIC, and you will find it a cinch. Try it out for yourself. So if you are writing a M/Code program and you need to perform real number calculation, drop in BASIC do them and return back to M/Code with the result.

Some knowledgeable programmers have figured out how to access the BASIC ROM, but this isn't public knowledge so we have to do the next best thing as previously suggested. Setting up and accessing an array in M/Code is another case in point.

LET'S BUILD A LIBRARY

I hope you are sold on hybrid programming, and look forward to seeing more contributions to WACCI of this format. As a matter of fact, we can build a library of useful routines and stash them away in the WACCI homegrown library for access to all.

If you can think of M/Code routines you would like to see, then please write in and perhaps some clever Coder will oblige us with a solution. While I can code freely, I find that I don't have the experience of experts who swap registers around and manipulate the stack with natural ease.

HYBRID PROGRAMS ARE EASY

It is surprising how relatively easy it is to create and maintain hybrid programs. When you think of the hundreds of AMSDOS firmware calls and external commands just waiting to see the light of day, I just can't understand what you're waiting for. Go on, drag them out and see what they look like. Especially now that there's a new firmware manual out for the CPC.

CALL IT AGAIN SAM

As a reminder of the use of the CALL Command, I've tabulated the various parameters in Fig 1. Finally my last recommendation is: while developing your program, try to change only one bit at a time.

When your program fails after making several edits all over the place, it is difficult to find where the failure occurred. You can't always make changes in isolation, but nevertheless where possible stick to the rule of changing one thing at a time when (and if) possible. Then you'll always know those effects caused by your changes. If you make lots of changes you may be creating more problems than answers.

THE DICTIONARY DEFINES HYBRID AS

1. An animal or plant that is the offspring of two different species or varieties.
2. Something made by combining two different elements.

Oxford Dictionary, 1991

OUTRO

Send those requests for routines and programs to WACCI. By doing so, you are helping make WACCI the best CPC magazine ever. It is your club, and it is both your subscription and your active participation that makes WACCI great. Let's show AA and CPC ATTACK how to it's done. *Byeeeeeeee.*

MACHINE CODE CALL PARAMETERS

Fig 2. Format of a parameter when CALL is executed.

Parameter type	IX+0,IX+1 has	Comments
INTEGER CONSTANT	2-byte integer value	EG. CALL &4000, 42
INTEGER VARIABLE	2-byte integer value	CALL $4000, int%
FLOATING-POINT CONSTANT & F-P. VARIABLE	2-byte integer value	EG. CALL &4000, 1.54 CALL &4000, var
STRING *	addr of addr to 3-byte string descriptor	EG. CALL &4000, a$ CALL &4000, @a$
INT ARRAY ELEMENT F-P.ARRAY ELEMENT	2-byte int value 2-byte rounded	EG. CALL &4000, iarray%(1) CALL &4000, varray(2)
@INTGR. VARIABLE	2-byte addr to 2-byte value	EG. CALL &4000, @int%
@F-P. VARIABLE	address to 5-byte F-P. value	EG. CALL &4000, @var
@STRING	same as STRING	EG. CALL &4000, @a$
@INT ARRAY ELEMENT @F-P ARRAY ELEMENT	addr to INT value addr to F-P.value	EG. CALL &4000, @iarray%(3) EG. CALL &4000, @varray(4)
@STRNG ARRAY ELEMENT	same as STRING	EG. CALL $4000. @a$(5)

Please Note: The 3-byte string descriptor is composed of three bytes, the first of which has the length of string and the following two bytes make up the address of where the string commences in memory.

PROGRAM DESIGN

Inputs, Outputs, Feedback ? George Ho-Yow has it covered ...

I was asked to take on board a fifth-former for a week during his work experience stay with our Organisation. To kill two birds with one stone. I thought of setting him a task as well as give him an idea of what a brief report should look like. Hence the following essay.

INTRODUCTION

The development of Large Scale Integrated (LSI) Microchips was the start of a new era in Computer history. Before the advent of LSI chips, computers were relatively huge monsters and very expensive. They were to be found mainly in commercial and research establishments. With LSI chips, manufacturers were able to produce Home Computers at a price affordable to the consumer market.

The actual computer and associated peripheral devices, such as floppy drive unit is usually called Hardware. The programs that run in the computer are referred to as Software. There is quite a difference between the two. For example you would purchase quite a number of programs compared to the one off hardware purchase perhaps.

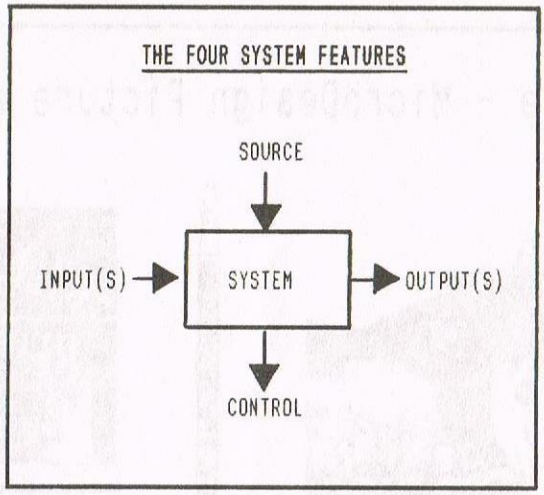
PROGRAMS IN GENERAL

It is not surprising that a program is designed to meet some requirement or need. Programs are generally written for training, education, business or entertainment. If a program is not well defined and produces random outputs for a given input, that program is of little use to anyone other than that of a novelty perhaps.

Now for every rule there is an exception. And there is a program called a random number generator which is designed specifically to do that. For a given input, called a seed, the program will generate a series of numbers that will appear to be random in nature. I say appear to be, because they are not random numbers, they are generated by a fixed series of events.

PROGRAM DESIGN TECHNIQUES

I have given you a clue towards simple program design, by use of the words input and output. But first of all, I would like you to consider a program as if it were a system. Now Engineers are very good at designing systems. So let us look at how they go about defining a system. All systems will have four features or properties. These are Input(s), Output(s), Control and Source. These are represented pictorially in fig 1.



The idea underlying program design then, is to specify what the program is (ie the System.) And then specify the nature of the four properties.

> Incidentally Engineers sometimes refer to Control as Feedback.

Let us look at an example which will demonstrate these principles.

THE TASK

You are given the task to write a program to solve a quadratic equation.

X1 = (-B + (B^2-4*A*C)^0.5)/(2*A) and
X2 = (-B - (B^2-4*A*C)^0.5)/(2*A)

Rather than leap straight into writing a BASIC program, let us see if a formal approach offers any benefits.

CONSTRAINTS

Are there going to be any *constraints* imposed on the program? Well, in this example there's just one. The Inputs to the program *shall* be real numbers and in the range -1000.0 to +1000.0 inclusive.

INPUT SPECIFICATION

The *Inputs shall* be three real numbers representing the coefficients A, B and C.

OUTPUT SPECIFICATION

The *Outputs shall* consist of the words:

1. The roots of the equation Ax^2 + Bx + C are X1= ??.? and X2= ??.?
2. See the following Control Specification for further Output details.

SOURCE SPECIFICATION

The Source can be considered as the programming language. For example BASIC, PASCAL or even Machine Code. Let us choose BASIC.

CONTROL OR FUNCTIONAL SPECIFICATION

1. The program SHALL check that the input to the program are within range and of the correct format.

2. Division by zero *shall* be detected and not executed. If the roots turn out to be imaginary this *shall* be indicated by a prefix "I".

   The program *shall* print advisory messages indicating errors detected by the program.

FINAL CHECK

Examine the four specifications to see if there are dependencies among them. For example, having made a change to the input specification (spec), is there a need to alter the Functional specification?

WRITING THE PROGRAM

Writing a Computer program is like writing an essay. It depends very much on the author's style, skills and experience.

However a number of steps outlining the order in which the program will carry out the task can be stated. This is called an Algorithm. An algorithm is like the recipe used by cooks.

SHALL OBSERVATION

You may have noticed the verb *shall* used in the specifications. This is the manner in which specs are formally written. All *shall* functions with be tested. In a major projects, software development packages are used, you may see the term Computer Aided Systems Engineering (CASE) used. One of the tasks of CASE is to scan the specs for all occurences of *"shall"* and and correlate this with the Test spec so nothing is overlooked.

THE ALGORITHM FOR THE TASK

1. Start of program.
2. Request, take-in and store coefficient "A".
3. Check that the number entered is within the range specified.
4. Repeat step 2. and 3. for coefficients B and C.
5. Check that the determinant B^2 - 4*A*C
6. Apply the formula.
7. Print results.
8. End of program.

TESTING

Now prepare some values for A, B and C to test your program. Use values to test each *shall* statement. Also values to check that the Input constraint is satisfactory.

CONCLUSION

You have seen a methodology (sounds impressive does it not) which can be used as an aid in writing small programs. As stated previously in Industry more powerful development packages are used, but the underlying principles are very much the same as proposed in this essay.

The advantage of writing specs and algorithms demonstrate to users and designers alike the manner in which the program operates.

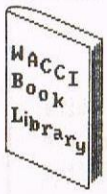
Note that the program is coded only after the specs and algorithms have been developed. This makes writing the program relatively easy. You know exactly what is expected of the program. Launching straight into code without much thought usually ends up in a mess. I know that for a fact.

FINALLY

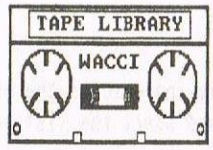
In time, you'll become proficient in using the technique. After all, *"from little acorns mighty oak trees grow.*

Now Available - MicroDesign Picture and Clip Art Discs

There are now 11 discs full of MicroDesign pictures and clip art in the library - and they only cost £ 3.00 per disc



The Lending Library



The BOOK and TAPE Library Rules

Book Librarian: Steve Lee Tape Librarian: Arthur Cook

This is how we intend the library to run. As this is our first time of doing something like this, things may not work out according to plan and thus could be subject to future amendments, but we'll see how it goes.

1. The books and tapes in the library will be available to WACCI subscribers only. The service will not be run for profit. It is run to benefit members.

2. The maximum loan period will be 4 weeks.

3. Members are expected to treat the books and tapes in their possession with great care and to return them at the end of the loan period in the same condition as they are received in.

4. There will be no hire charge as such. Members wishing to borrow books or tapes should send stamps, a cheque or a postal order for the correct value.

5. Books and tapes will be sent out in a jiffy bag along with a self addressed return envelope.

   When you have finished with the book or tape, place it in the jiffy bag and then place the jiffy bag in the envelope provided.

   Stick the appropriate postage on the envelope and send it back.

   (The 'hire' cost is listed alongside the titles available.)

6. Should a book or tape not be available when a member requests it we will notify them of this fact, and advise them how long the wait will be.

7. Should any book or tape prove to be tremendously popular, then the loan period for that book or tape will be reduced to two weeks, to avoid any member waiting too long.

   We will also try to obtain additional copies of the book or tape to alleviate any delays.

If anyone has any books or tapes they feel would be of use to the library, please send them to us. These can either be as a donation to the club, or on loan with the donor retaining ownership. Please tell us which when you send the books or tapes.

LIBRARY BOOK LIST UPDATE

No	Title	Contents	Cost
50	Introducing AMSTRAD CP/M Assembly Language	Guide to CP/M software patching 6128 & 8256	0.54
51	Ready Made Machine language routines for the 464 & 664.	Graphics, sound, string manipulation & screen character M/C routines.	0.54
52	AMSTRAD Graphics - Advanced User Guide.	Advanced BASIC graphics, 3D, CAD, Matrices etc.	0.54
53	Music & Sound on your AMSTRAD.	BASIC sound & music generation - harmony, sound & noise effects.	0.48
54	Assembly Language programming for the 464, 664 & 6128.	Introduction to M/C programming with examples in Ass. Lang.	0.96
55	The INS & OUTS of the AMSTRAD	Subroutine calls, ROM's External ROM's, serial & parrallel interfaces etc.	0.48
56	The AMSTRAD Disc companion	Using Word processors, Spreadsheets, Databases & intro to writing your own.	0.72
57	Citizen 120D+ Printer Manual	- - - - - - - - -	0.72
58	Electronic Calculator Users' Handbook.	Not just for computers, loads of info. for Trig, Log, Hyp, maths, conversion factors, all sorts. (Length viscosity, illuminance etc)	0.36
59	Understanding and Expanding your AMSTRAD 464/664/6128.	Hardware tutorial and add-on projects. (External keyboard, ROM board, EPROM programmer, L.A.N. etc)	0.96
60	Doing somethink with an Amstard, I've lost the entry!		
61	Some Useful Basic Subroutines.	Not Amstrad specific but easily adaptable.	0.48

Also, I have a number of copies of Amstrad Computer User (87 - 89) and CWTA (87 - 88), donated by Phil Morley. (Remember him ?) Should anyone be looking for a specific copy to borrow I might be able to help. Feel free to write or ring (on 0487 814043) and I'll see what I can do to help. Steve Lee

LIBRARY BOOK LIST

Having reached the end of the book list, I'll go back and start the list again .....

No	Title	Contents	Cost
01	Mindbending Games for the AMSTRAD CPC 464.	BASIC games listings.	0.48
02	PCW Games Collection for the AMSTRAD.	BASIC games listings from PCW magazine.	0.72
03	The Working AMSTRAD.	A library of practical subroutines & programs.	1.20
04	The AMSTRAD program book.	Various BASIC games & utility listings.	0.72
05	Brainteasers for the AMSTRAD.	Puzzle type BASIC listings	0.72
06	40 Educational Games for the AMSTRAD 464.	You'll never guess !! (More BASIC listings)	1.20
07	Adventure Games for the AMSTRAD CPC 464.	A guide to creating adventures in BASIC.	1.44
08	The AMSTRAD Pentacle Adventure Creator.	An early BASIC adventure creating program.	0.72
09	A Guide to playing The Hobbit.	As the title says.	0.72
10	The AMSTRAD CPC 464 Advanced User Guide.	Advanced BASIC guide, with utility listings.	0.72
11	Advanced Programming Techniques on the AMSTRAD CPC 464.	Advanced BASIC listings and some small assembler listings.	0.72
12	AMSTRAD Advanced Programming Techniques.	Advanced BASIC with applications programs.	0.96
13	AMSTRAD Advanced Users Guide.	Some BASIC, mostly system routine addresses, control blocks etc.	1.20
14	Making Music on the AMSTRAD CPC 464 & 664.	Music and effects in BASIC	0.96
15	Assembly Language for the Z80 (Pocket Guide)	As the title says.	0.48
16	An Introduction to Z80 Machine Code.	Basic Machine Code introduction, some listings.	0.48

Finally, the library is being steadily used by members and the only real delay has been in loaning out the original Amstrad Firmware manuals. Best Wishes, Steve.

TAPE LIBRARY LIST

Tape library sets consists of two C90 tapes. Tape 'hire' cost 72p per set. Members will limited to borrowing one set of tapes at a time. This restriction will be lifted as more tapes become available.

These tapes are not protected and they can normally be copied on a good music centre that has 'tape-to-tape' facilities or twin cassette decks.

The programs on these tapes are copyright protected and their distribution is limited to WACCI club members. Club members may copy the tapes for their own use or for the use of other club members.

TAPE SET ONE 0.72p

UTILITIES: Head, Header, Keydef, Memdata+, Progdoc, CGen, Minimon, Regiload, Helphand, Romread, Functsol, Formulea, Functdr, Exprint, Neatlist and Globe.
GAMES: 4inarow, Bomber, Pontoon, Jigsaw, Masters, Tunnel, Chardes, Chat, FWorm, Gridwar, Engle, Starchas, Lockнkey, UFO, Life, Othello, World and Xor

TAPE SET TWO 0.72p

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

TAPE SET THREE 0.72p

Agev2, Convert1, Ezmusic, Keyboard, PI, 3Dxox, Sdglover, Popt, Convert2, Decomp, Invgen, Lna, Magicsqr, Numbfile, Pdg, Strobe, Tinyedit, Tinyrsx, Tinychr, Dcheat, Pcheat, Football, Demo, Pacplant, Wild, Sdump4, Strobe.

Please report any loading problems to Arthur Cook.

Watch this space for details of new tapes, books. Forget Oracle, you'll only find details in your WACCI.....

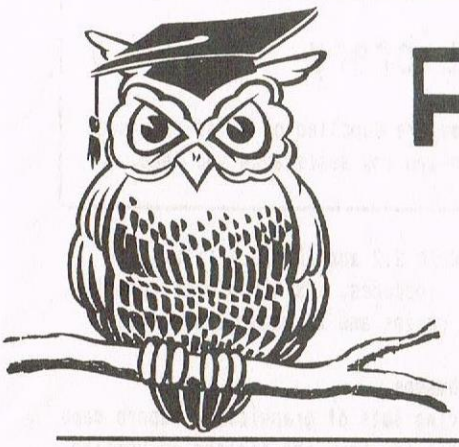
Tape requests should be sent to:

Arthur Cook, Brympton Cottage, Brunswick road, Worthing, Sussex, BN11 3NQ

Book requests should be sent to:

Steve Lee, 48 Field Road, Ramsey, Huntingdon, Cambs, PE17 1JP

The tape and book lists will be published every couple of months. Updates will be published monthly. Reviews of books and tapes will appear in 'Poking in the Library'.



Poking in the Library

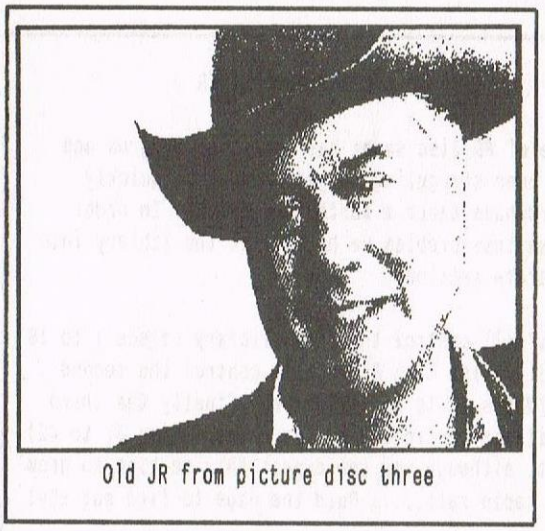
With Gwynn 'The Welsh Wizard' Hopkins

Well, Once again I've been rolled out again to review three of the WACCI Public Domain library discs, and, once again they all have a graphics bias.

DAVID CARTER RIDES AGAIN

First up is disc 31. This is the second of the 'David Carter Amiga graphics discs'. There are four less (gasps of outrage) pictures, but they are still of a very good standard.

The program first asks if you have a monochrome monitor it is rather pleasing to note that the clarity of the graphics does not suffer with them in monochrome mode as compared to the colour mode. It's good seeing both of them covered! The pictures also change faster. There are the usual strange piccies (like a flying hotdog) as well as the more recognisable ones.



Old JR from picture disc three

There is a definite space theme in this collection with Star Wars and space shuttles and the like featuring heavily. My fav one in the set is from a Bugs Bunny cartoon. Okay, so perhaps I am a little to old to watch cartoons but how many of you have seen the one where Bugs takes a wrong turn on the way to Barbados and ends up bull fighting in Spain, well the screen shot is from that very cartoon.

PICTURE DISC THREE

We're on to WACCI PD Disc 24 or piccie disc number 3. This is another collection of pictures tastefully done in blue and yellow or yellow and blue. The colours are user selectable (use the standard INK n,n command.) There's the most requested programs / authors chart with Jeff Walker firmly at number one with Auntie John Kennedy in hot pursuit. *I Couldn't find you anywhere on there Clive.*

ET travels home in style !

FLAGS OF THE WORLD UNITE

On more more to disc 15, and this is another graphics based disc. The program started life a simple, 64k, lets show them what can be done with this sort of program .....

On side A there is a collection of all the flags of the world. Well, not quite all of them. Nineteen have been left out, the excuse being that they are too hard. Bah, pathetic, what's the world coming to if people can't draw the flag of Bhutan or Belize with their computerised art package.

It still leaves 169 flags to gaze at in wonder and there is also a facility to test your knowledge of the flags of the world. I thought I knew quite a few flags of the world but I'm damned if I can draw a flag of Guinea-Bissau, Angola, Rwanda or Mauritania. After all apart from Angola I'd never heard of the (*far away*) places.

And of course, apart from everything else, some countries do change their flags (usually, it's just after they have changed the government) on a more than regular basis.

BEWARE THE ANIMATOR COMMETH

On the flip side of disc 15 (that's side B to mere mortals) is another of David Carters offerings: "The Animator Demo" written, surprisingly enough, by David Carter, who used the Animator graphics package.

This package of four demos takes up the whole of the disc side. All you need to do is type RUN"DISC and all will be revealed. David wrote these demos to show what the animator package could do.

Two of the demos contain a 'these will only run on a 6128 warning', but I'm told by 464 owners they run on a 464 without problems.

THAT'S ALL FOR NOW FOLKS

Just as things are getting interesting up comes the bottom of the page to end it all. To finish, a note, *Iah!* The drawings are standard screen pictures printed (half size) by MicroDesign.

* FSW * The WACCI Public Domain Software Library * FSW *

All the programs in this library have been fully tested on an Amstrad 6128. The programs are supplied on an as-is basis. Please advise WACCI of any problems, we will do our best to rectify the problem and provide any assistance you need.

PUBLIC DOMAIN DISC 1 - CP/M 2.2 ONLY
The FORTH language disc. Includes two versions of Forth and an introduction to the Forth programming language.

PUBLIC DOMAIN DISC 2 - CP/M 2.2 and CP/M 3.1 (plus)
Utilities disc containing: NSWP, Bincalc, Print, Look, BD04, Unload, Compare, Print, Unload, NDDT, SD, ED, Rasmb, Rasmta, Lohd, Lasm, XIZI, Z80asm, Zmac, Zlink, D, WC, Display, MDir, DS, XDir, Eraq16 and LU.

PUBLIC DOMAIN DISC 3 - CP/M 2.2 and CP/M 3.1 (plus)
The complete MBASIC disc. Includes MBasic, MBasic compiler, full instructions and example programs.

PUBLIC DOMAIN DISC 4 - Amsdos (128k CPC's only)
Amsdos utilities disc, containing: PD PLANNER (Spreadsheet), POWERPAGE (The DTP program), RAMBASE3 (Database) & RAMDISC.

PUBLIC DOMAIN DISC 5 - CP/M 2.2 and CP/M 3.1 (plus)
The CP/M games and adventure disc. Contains three very good adventures: Base, Island and Colossal Caves. Plus several good games: Golf, Pressup, Cube, Othello and Mastermind.

PUBLIC DOMAIN DISC 6 - Amsdos
Games disc - 37 assorted games for the CPC including, Splat, Gin, Spring, Trench, Patience, Piquet, Hangman and many more

PUBLIC DOMAIN DISC 7 - CP/M 3.1 (plus) ONLY
The CP/M plus Utilities disc, containing: Superzap, Mikedit, Form3, Zdebug17, Unzip099, Newccp, Crunch/Uncr, Ark11, UN33, WCount, Andybase, Dc-cpc, Dcalc, Arc24, Unarc, Adrive, Menu, Assign, Extdisc, Format and Qtext21.

PUBLIC DOMAIN DISC 8 - Amsdos and CP/M 3.1 (plus)
The Comms disc: contains, ZMP (CP/M, Zmodem file transfers), TERM5048 (Amsdos, XModem-1k) and loads of useful help files.

PUBLIC DOMAIN DISC 9 - CP/M 2.2 and CP/M 3.1 (plus)
CP/M Utilities disc containing: Cleanup, Acopy21a, Filechop, Dirchk, Display, Lrun23, LT29, NC, Nulu15, Unzip, MFT, Grep, Du, List, Lookat, Rescue, Rpip, Sort, Vlist and Wsclean.

PUBLIC DOMAIN DISC 10 - CP/M and Amsdos
Word processor and spell checker. VDE266, probably the best CP/M PD word processor and ISPELL the best PD spell checker.

PUBLIC DOMAIN DISC 11 - Amsdos
Adventures. Two full adventures, Journey to Geno and Orkon Mission plus an animated demo of the crazy mill by Escher.

PUBLIC DOMAIN DISC 12 - CP/M 2.2 and CP/M 3.1 (plus)
The complete COBOL disc. Includes, NPS MicroCobol compiler, a full Cobol programming series and 23 example programs.

PUBLIC DOMAIN DISC 13 - Amsdos
The Demo's disc. Containing lots of graphically superb demo programs. Please Note: This is now the cleaned up version, although one of the demos contains bad language.

PUBLIC DOMAIN DISC 14 - Amsdos
David Carter's super collection of 49 screen pictures. These pictures have been transferred from an Amiga to the CPC.

PUBLIC DOMAIN DISC 15 - Amsdos
Contains 'Flags of the World', by Andre Coutanche and Stuart Gascoigne (Superb pictures of world flags) and 'The Animator Demo', four interesting graphics demos by David Carter.

PUBLIC DOMAIN DISC 16 - CP/M 2.2 & 3.1 (plus)
PPC PASCAL, superb compiler, produces standalone .COM files. ZBASIC Basic is a demonstration version of the language.

PUBLIC DOMAIN DISC 17 & 18 - CP/M 3.1 only
This twin disc set contains JRT Pascal, which used to be a full price ($450 'ish) program but now released as PD.

THE PD LIBRARY NEWSLETTER

The volume of PD disc sales has continued to grow and Chris has been struggling to get orders out quickly. Some orders have taken a month to despatch. In order to overcome this problem we have split the library into three separate sections.

Dave Pratt will control the first library (discs 1 to 18 inclusive), whilst Mark Riley will control the second library, (discs 19 to 36 inclusive). Finally the third library will be controlled by Ian Parker (disc 37 to 42) at present, although you can expect this section to grow at a very rapid rate..... Read the page to find out why!

If you want to order discs from more than one library, but you only want to write out one order (and cheque) then send the details to Paul Dwerryhouse, he'll split your order and pass it onto the appropriate people. Please make all cheques and postal orders payable to WACCI. This helps us keep track of orders. Cheers.

Send your orders for these Public Domain Software discs to: Dave Pratt, 14 Dowgate Close, Tonbridge, Kent, TN9 2EL

Price: £3.00 includes disc and p&p or £1.00 to borrow the disc. (Please make all cheques payable to WACCI)

* FSW * The WACCI Public Domain Software Library * FSW *

PUBLIC DOMAIN DISC 19 - Amsdos
Lots of MicroDesign format pictures and clip art

PUBLIC DOMAIN DISC 20 - Amsdos
More MicroDesign format pictures and clip art

PUBLIC DOMAIN DISC 21 - Amsdos
Even more MicroDesign format pictures and clip art

PUBLIC DOMAIN DISC 22 - Amsdos
Forty six screen pictures, for Art Studio, Basic, P-Shop

PUBLIC DOMAIN DISC 23 - Amsdos
Forty nine screen pictures, for Art Studio, Basic, P-Shop

PUBLIC DOMAIN DISC 24 - Amsdos
Forty one screen pictures, for Art Studio, Basic, P-Shop

PUBLIC DOMAIN DISC 25 - Amsdos
Another disc full of MicroDesign pictures & clip art

PUBLIC DOMAIN DISC 26 - Amsdos
Many more MicroDesign pictures & clip art

PUBLIC DOMAIN DISC 27 - Amsdos
Mini Paint Shop: Page header & screen design program.

PUBLIC DOMAIN DISC 28 - Amsdos
Needs some more MicroDesign pictures & clip art ?

PUBLIC DOMAIN DISC 29 - Amsdos
A bit more MicroDesign pictures & clip art.

PUBLIC DOMAIN DISC 30 - Amsdos
G-Paint, a good art program and RSX-LIB.

PUBLIC DOMAIN DISC 31 - Amsdos
Dave Carter's second collection of 47 screen pictures.

PUBLIC DOMAIN DISC 32, 33 & 34 - Amsdos
Three more disc, each crammed full to overflowing with loads of MicroDesign pictures and clip art.

PUBLIC DOMAIN DISC 35 - Amsdos
Another disc crammed full of screen pictures.

PUBLIC DOMAIN DISC 36 - CP/M
A Pascal tutorial disc. Teach yourself the language.

PUBLIC DOMAIN DISC 37 - Amsdos *** NEW ***
The second Amsdos adventure disc contains five superb full length adventures. Includes: 'Blue Raiders','Secrets of UR', 'Ghost House','Adult One' and 'Raiders'.

PUBLIC DOMAIN DISC 38 - Amsdos *** NEW ***
The second Amsdos games disc - Contains loads of super games including: Croco Magneto, DrehDriss, Space Froggy and more!

PUBLIC DOMAIN DISC 39 - Amsdos *** NEW ***
More pictures, includes TV Logo's, Digitised Women & more!

PUBLIC DOMAIN DISC 40 - Amsdos *** NEW ***
The eleventh MicroDesign picture & clip art disc.

PUBLIC DOMAIN DISC 41 - Amsdos *** NEW ***
The third Amsdos adventure disc, top quality adventure at a price you can afford.

PUBLIC DOMAIN DISC 42 - Amsdos *** NEW ***
It's the new improved ISPELL (version 6) with extra words and two pass dictionary. Its been updated and modernised and it now fills a whole disc by itself - Paul's done it again!

IMPORTANT - PLEASE READ

The disc libraries have continued to grow at an (in my opinion) astounding rate ..... This month we have added another six more fully tested public domain discs to the library .... and I once thought that we would reach a maximum of forty discs ... We now have forty two discs in the library and I now predict we'll reach 80 discs by Christmas (although I'm not saying which year - so I'll be right - even if I'm wrong - so there !)

One of my problem was that I was preparing the new discs and with the ever increasing numbers it was taking up to much of my time. As I've said before (and will say again) production of WACCI must come first .....

Chris Smith is going to relieve some of the burden by taking over the preparation of new public domain discs and by preparing the public domain pages for WACCI. So this will help me, help you out. help me to help you and involve three more members in running WACCI. -Clive.

Please order discs numbered 17 to 36 inclusive from:

Mark Riley
8 Readhead Avenue, South Sheilds
Tyne & Wear, NE33 3AW

Please order discs numbered 37 onwards from:

Ian Parker
24 Oxford Drive, West Meads,
Bognor Regis,West Sussex PO21 5QU

Price: £ 3.00 includes disc and p&p or £ 1.00 to borrow the disc. (Please make all cheques payable to WACCI)

** THE WACCI HOMEGROWN DISCS **

(These discs are copyright (c)WACCI and their authors. They must not be distributed to non-club members)

AJ's CONCEPT DISC (128k required)
Green's strip pontoon, Dripzone plus, Beetlemania, Saucer attack, 3D Maze, Englebert, Globe and Juggle.

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

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

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

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

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

** The DEMO disc is in the PD library **

AJ's TWILIGHT ZONE (128k required)
Escape from WACCI HQ, Starfire, 3DXOX, Invaders, Chat, Star Chase, PacPlant.

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

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

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

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

WACCI DISC EIGHT
The kirk Editor, Dwerrybase and the Football pools predictor.

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

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

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

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

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The discs should be ordered from:

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