

# WACCI

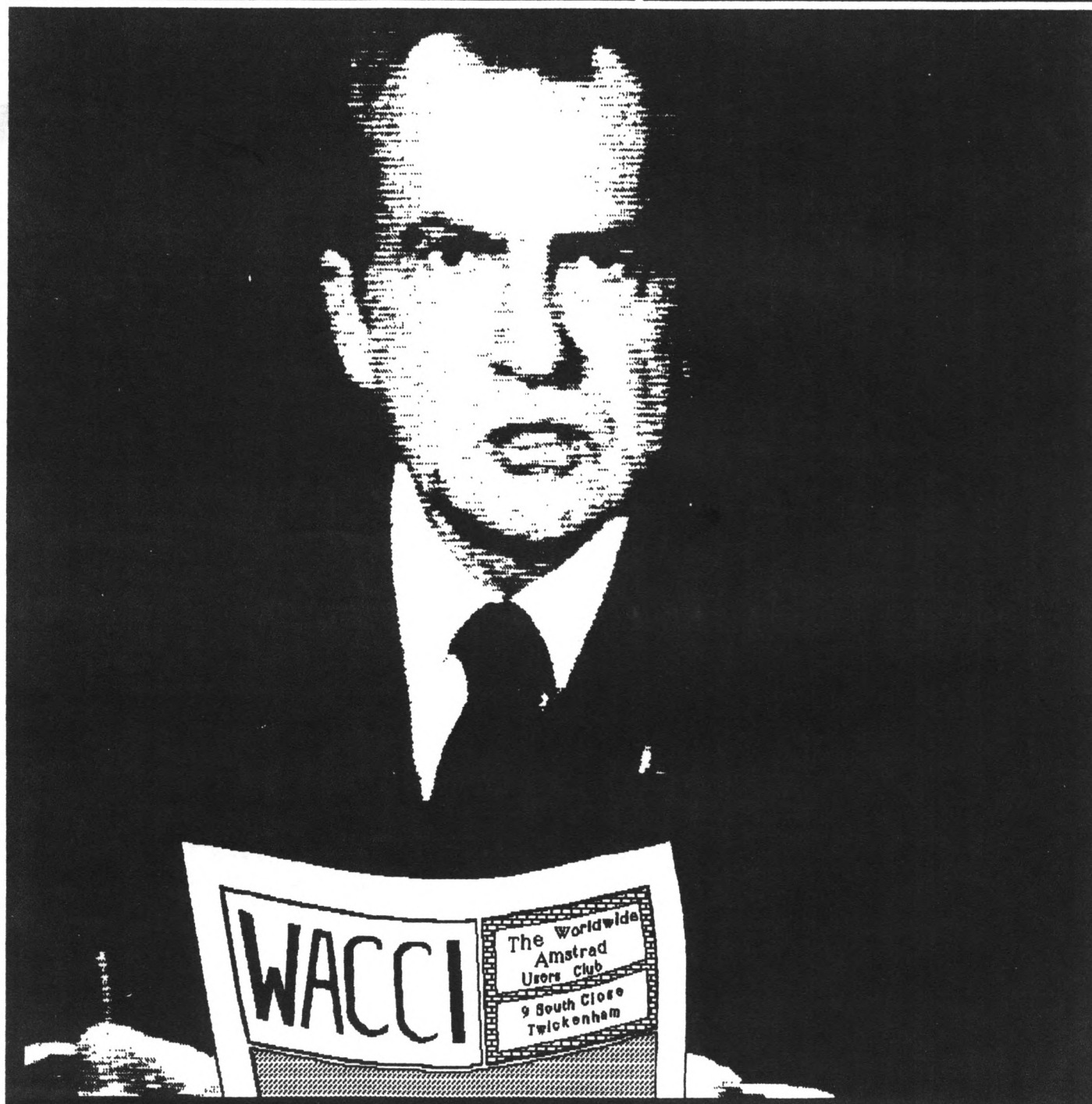
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# WACCI ISSUE 47

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Hi gang! Yes it's that time of the month again and, in true WACCI tradition, we're late as usual. This time the reasons for the delay are good ones. Is that a contradiction in terms? Let me explain what's been happening since we last met...

## The learning curve

Since your last issue of WACCI, Peter Ceresole and I have changed over from good old fashioned cut-and-pasting, to producing WACCI using a pagemaker package called MicroDesign 2 (yes MD2 is a relative of the program that Peter Campbell reviewed in the last issue.)

The thinking behind this change was to employ the new technology to speed up the production of the magazine. Unfortunately MD2 is a whopping great program induces a steep (and unexpected) increase in the learning curve. Yes it can indeed turn out pages faster and more elegantly than the cut-and-paste method but you have to know how to use it first.

So out came the black coffee, the cigarettes, the perspiration and the long phone calls between WACCI HQ and Chez Ceresole in the endless quest for the elusive one per cent of inspiration.

One of the problems I encountered was that I couldn't transfer the Art Studio files, that were used in the magazine, over to the MD2 set up. That's not to say that it isn't possible to do, it's just that I haven't a clue how to go about it (well I never claimed to be a programmer.) If anyone knows how to transform an AMSDOS screen file into a CP/M+ MD2 screen file... HELP!!

I eventually overcame the dilemma by using a hand-scanner to scan the

pictures into MD2. Unfortunately this reduced them by a factor of 70%, never mind, I dug out the calculator and ruler and enlarged them back to their original size. The trouble is that if you enlarge a screen you find that straight lines become jagged and that fill-patterns become distorted. Never mind, your intrepid handsome young Editor (yes I do mean me!) poured himself another cup of black coffee and cheerily (ho-ho) started to work at pixel-resolution, repairing the situation. A couple of days and a few dark mutterings later, most of the regular artwork had been transferred to MD2.

## Yet more sweat...

Even printing out the final pages was not without a delaying factor. On average it takes half an hour for MicroDesign 2 to send one page of WACCI to the Star LC24-10 printer. So it doesn't take an Einstein to work out that I had to stay up all night to get this issue printed out. There's no doubt about it, I'm going to have to invest in a Hewlett Packard Deskjet but that of course means finding the necessary dosh (sigh!) Still if every WACCI member ordered a couple of the new FSW discs and a back-issue each, I might just be able to afford it (yes that was a subtle hint in case you were wondering.)

Having said how much work was involved in producing this issue, I've got to say that it was worth it because it's forced me to take a fresh look at every section of the magazine. I must admit that some areas were getting a little bit stale, for example The FSW Library list not only needed updating but a change of format as well. Hey-ho...



## New Discs

Another spin-off of all this activity was that I started trawling through a lot of the discs that I rarely get the time to look at these days. Lo and Behold I found lots of software that had been sent in for inclusion in The WACCI FSW that I hadn't gotten around to sorting out. In a fit of religion (and while the WACCI pages were being printed out) I decided to put together some more WACCI Discs.

So this month there are three new discs for your perusal, CP/M Disc 11 and WACCI Discs. Have a look at the 'Pick-a-Disc' page at the back of the magazine to find out what's on them.

## Old Mags...

Last month I explained why WACCI back-issues would not be available in future. Having said all that, I went away and

counted up the numbers and issue numbers of the back-issues that we still have available, here in the WACCI HQ vaults (see I told you I haven't been wasting my time.) So here is a list of what's available, use the order form if you want a particular copy. If the list says that there is less than say, ten copies left of a particular issue then please call us up and reserve a copy before you send any money. If an issue is listed as having 100+ copies in stock, it means that we still have a good number left and you can order without checking first. Here's the list:-

Issue No.	Issue No.
6 4	24 9
13 3	25 2
14 8	31 5
15 5	32 33
16 7	40 100+
17 8	41 100+
18 9	42 100+
19 7	43 100+
20 30	44 6
21 29	46 100+

Get in quick if you want some of the early issues, as you can see there are very few of them left.

## Show Time!

I've recently been putting in some time and effort in learning the gentle art of "running a stand at a computer show." Under the guidance of WACCI's former Editor, Jeff Walker, who is now producing the Just Amiga Monthly magazine, WACCI and JAM had a stand at the last "Computer Shopper Show" held at the Wembley Conference centre. I also helped out on the JAM stand at the "16 bit Computer Fair," in February Jeff and I also had a stall at the one-day "All Computer Formats Fair." All three events turned out to be a great success and I learnt a lot. More than that it was genuinely nice to meet so many club members, have a chat, swap ideas and talk about new features for the magazine.

The idea of regional WACCI meetings never really took off in the past but it strikes me that this could be the next best thing, a sort of WACCI Roadshow. So here are the details of the next three computer shows that WACCI will be appearing at:-

WACCI along with JAM will have a stand at the next "All Computer Formats Fair" held at the New Hall of the Royal Horticultural Society, Greycoat and Elverton Street, Westminster, London, on Saturday the 23rd of March 10am-5pm. The nearest tube stations are:- Victoria, Pimlico and St James Park and admission will cost you three whole pounds.

For all you who say that there's

# The Telephone Help-Line

## Peter Campbell

(041) 5544735 (Glasgow)  
OCP Art Studio, Vidi and Basic.  
<<A Comms Guru as well -Ed.>>

## Frank Frost

(0983) 882197 (Isle of Wight)  
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 only.)  
<<A total nutter to be avoided at all costs -Ed.>>

## Tony Walker

(0772) 651698 (Preston) 10am-10pm.  
Comms, Protext, Prospell, Tape to disc transfer, CP/M on ROM.  
<<A MEX expert, a good chatter -Ed.>>

## Clive Bellaby

(0602) 725108 (Notttingham)  
Basic, Cobol, CP/M, Dominoes and VDE problems.

## Robert Heaton

(0902) 753623 (Wolverhampton)  
Basic and m/code, printing and anything else worth a good chat.

## Stewart Peppiat

(0245) 353903 (Chelmsford)  
Basic and m/code programming,  
DMP2000, VDE, Scrivener.  
<<A Tech-Head -Ed.>>

## Norman Buxton

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

## Steve Leader

(0689) 73633 (Orpington) 4.30pm-9pm.  
Adventure games, general help and electrical projects.

## Paul Dwerryhouse

(0244) 534942 (Deeside, Clwyd)  
Basic, Bank Manager and a very sympathetic ear  
<<The author of WACCIWORD and WACCISPELL, errmmm... -Ed.>>

## Ray Barrow

(021) 4294233 (Birmingham)  
MasterFile or MasterCalc (the original versions) and Teaword.  
<<Another Looney -Ed.>>

## Bill Lawson

(0239) 820212 (Newport)  
Minor problems with m/code,  
Basic and hardware generally.

<<This WACCI Helpline Service is provided, on a purely voluntary basis, by these fearless WACCI members for the benefit of other WACCI members. Please use it as the FIRST option for a CHAT, HELP, or PANIC STATIONS! rather than calling our very busy WACCI HQ. If you do call a HelpLine, on this list, please do it (unless specified otherwise) ONLY between 7pm to 9pm.

In addition, if I get any reports of this helpline being abused by software pirates I will scrap it without any further discussion - Ed.>>



the Birmingham 'All Computer Formats Fair' which is going to be held at the National Motorcycle Museum, Coventry Road, Solihull on Sunday the 21st of April from 10am-4pm.

And finally the big one. The Computer Shopper Show will be held at Alexandra Palace from the 10th to the 12th of May. WACCI and JAM will be on stand E03 near the main entrance.

## No loose PD

Here's a plea from the heart [yes I do have one.] Six months ago, in 'Thanx and Stuff' I said that the facility for ordering programs individually [Loose PD] was being withdrawn. This was because it was taking too much time to copy single programs, much quicker for us at WACCI HQ if you ordered a WACCI Disc with the program on instead and get loads of other wonderful software at the same time.

Being realistic I knew that as soon as I withdrew the facility there would be a load of Loose PD orders from people who wanted to get in "one last order." I didn't mind that because I knew that if I had been on the other side of the fence, I'd have probably done the same. However it's now six months on and the Loose PD orders are still coming in. So it's time for me to really call a halt and ask members not to use old FSW forms to order single programs, I haven't got enough hours in the day to complete them. No more, pretty please.

One last plea (I promise) when ordering ANYTHING from the club, could you ONLY use the latest order form. There have been a few people who have used old forms to try and order items that we no longer deal with and it nearly always ends in tears. Go on, only current order forms, you know it makes sense, ta.

OK, you can come out from under the table now, the lecture's over.

## The pluglettes

This section is for the use of WACCI members for small ads, pleas for help, offers or just for information. If you wish to make use of it either give me a phone call or drop me a line at WACCI HQ.

IAN SWEETING: Is an avid Discology user who wants to get hold of the most recent English version (not the French one) of this program but can't find anyone who is selling one. If you have a recent

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English version or you can help Ian find one then give him a call on:- 0724 875285 between 7-10pm in the evening.

DAVID CARTER: Runs the Penguin Software PD Library for CPC and Amiga software. David has taken the first step

becomes.

If you want a copy send fifty pence PLUS a 9x4 inch SAE to PS News, Ruxley House, 28 Mont Hermon Road, Woking, Surrey, GU22 7UH. Remember the SAE envelope, it is important. PS News is being run on a shoestring and having to pay out postage will mean that Dave will be running it at a personal loss.

TONY WALKER: Has started up his own CPC/Plus/PCW Bulletin Board which runs every night from 10pm till 6am the following morning. It is a scrolling board with the usual protocols (300/300 up to 2400, 8,N,1.) Much to my shame I have to admit that, as yet, I haven't had time to log on and see what it's like but I have heard good reports about it. I don't even know what it's called (if indeed it does have a name yet!) Never mind, give it a call and find out for yourself on (0772) 651698 (that's a Preston number) between 10pm and 6am.



in becoming a publisher and has produced a twelve page, A5, quarterly catalogue called PS news. Not only does it have details of the discs you can order from Penguin Software but it also contains, news, comment, competitions, a top ten software popularity chart and free screen photographs.

As I said before, this is David's first issue and if there is enough support shown he plans to go ahead with issue two. Remember that the more publications, like this one, appear and succeed, the healthier the CPC/Plus support scene

## Ooops!

I'm fast running out of space but here's a quick tip from Frank Frost concerning Jess Harpur's Romload program we published in the last issue. If you are having trouble in getting it to work Frank suggests removing line 10 (GOSUB 90) and also line 90 to 140 inclusive. He's not sure why this fix works but it does for him. That's all for this issue. See you in the next one. Terra.

# Fair Comment

## Fair Comment

9 South Close, Twickenham  
Middlesex TW2 5JE

### An old friend?

Dear Lovely chubby WACCI people. It's Morleyman winging to your rescue since I am now a DOS(ser) person PC owner and all that. I have a surfeit of dead WACCI magazines half way en route to the great recycler in the Council tip blocking the light out of my bedroom window.

I wonder after your recent bruising with life's unpleasanties if I may offer salvation in the shape of prolific used WACCIs for the princely sum of 75p a job and a little discount for bulk purchases. Otherwise I'm afraid that the Binman will have his wicked way with them and a tear will come to Morleyman's eye. Any interested WACCI types may send a SAE for a list of titles and their contents. You may publish my address. I'd also like to say that I never read the hate mail I am sent. Yours with a new ribbon.

Phil Morley  
11 Kingfisher Road  
Whittlesey  
Peterborough  
PE7 1YF  
Tel: 0733 204534

*//A new ribbon? It looks like a blotting pad from here... Nice to hear from you at last, Phil. Thank for the kind offer, I'm sure there are a lot of WACCI members out there who will be getting in touch with you about the back-issues.*

*Who could have guessed, four years ago, that old issues of WACCI would become a collector's item? -Joolz.//*

### A bad girl?

Dear Joolz. Thank you for sending me a copy of your magazine. Most of it is above my head but I like its style, so here is my cheque for six issues. Just one criticism - I don't much care for Saffron Trevasakis. The porn I can take, if that's what your readers want. But the spelling?

J D South  
Poole

*//Ah now, don't go blaming Saffron for the spellink mistakes, it's the job of our wonderful editor (I'm joking but he is, HE IS!) to weed them out with the aid of his trusty spell checker. Obviously in this case it was more 'rusty' than 'trusty.'*

*Having said that, I've just had a quick look at the at the column and I have to confess that I couldn't spot any glaring errors; you must have been reading it very thoroughly.*

*Glad you like the mag J D but if you are finding it above your head why not lower your arms a little and bring it down to eye-level -Joolz.//*

### Trig' or treat?

The programs on this disc are written by myself and, as I'm an oldie and still trying to get to grips with programming, they may well be found wanting in technique. I am a toolmaker and made the programs to make life easier for my own job. They have been used for over a year now and I feel they do work successfully and error free. The engineering aspect of my job does not mean they are restricted to this category however.

The trigonometry programs may well appeal to school and college students, who may well point out some better ways to write the same programs. If they do I would like to hear their suggestions.

Also to make a more general base I have included a wage program which is also accurate but will only work until April or the budget change as I'm sure changes will occur. Maybe if you wish I could make an update one for those changes in April. There may be a very small difference in the tax deducted due to firms working from tables to calculate tax as opposed to the prog calculating it precisely. The difference is made up eventually by the tables over the year.

The new 6128+ is not very compatible at least not as much as one was led to believe initially. Could you compile the information on this subject as I'm sure you will have members who have purchased the new one as I have?

One thing I have been told on trying to purchase a new lead for my second drive is that the first drive will be permanently damaged and consequently been refused the lead until the problem is understood.

This information came from Phil Craven at Microstyle who experienced three such occurrences including their own computer.

Hope this is useful as its my first attempt to send a letter in on a disc.

William Gamble  
Warley  
West Mids

*//And it's easier than printing it out, isn't it William? Well it certainly is for me and my poor bleeding fingers.*

*Thank you for the programs. OMG is getting some new discs together and he's including new programs on them.*

*Compatibility of the Plusses is indeed a thorny question. Thanks for your report; we don't have a 6128+ at WACCI Towers but we'd like to hear from wealthy members (like Pete Campbell) who already have one. Eventually we hope to do a thorough survey, but right now it does seem that there are problems with MultiFace, which doesn't work even though Amstrad are said to have tested and cleared it... Apparently, there are different batches of the Plusses that behave differently. There's a nasty rumour that Protex on ROM (in a Rambo Rombox) sometimes hiccups and sometimes, it seems, it doesn't.*

*We'll keep you updated as the info arrives at WACCI HQ -Joolz.//*

### Zzzzz... Basic?

Dear Joolz, Your correspondent Al Cooper regrets the absence of the COPYCHR\$ command in the CPC464. It can easily be replaced by the firmware call to &BB60. The machine code to initiate the required substitution, taken from Gifford & Vincent, "Mastering Machine Code on your Amstrad 464/664/6128" has been incorporated in the label-printing program "AMSLABEL.464" recorded on this disc. It is, of course, for use with 464's with added disc drive.

John Shaw wants to play with large numbers; he does not say just how large. I presume he is using the methods given by W Johnson in "Powerful Programming for Amstrads."

If he is content with up to 54 figure accuracy and is really serious in his requirement, I would recommend the use of ZBASIC (from Hisoft.) It can be programmed to operate on three different levels of accuracy/speed and the "Double Precision" level allows calculations with numbers of up to 54 digits.

I enclose a print-out of two programs produced by Zbasic; one calculates and prints to screen or printer all factorials from 2 up to any number less than 50, the other is an example of division. Enter any numbers up to 54 digits as dividend and divisor and the result of the division appears instantly on the screen.

The speed of print-out of the factorial program is limited by the speed of the printer. In draft font mine takes six seconds to calculate and print out the list of factorials. Of course, in this case, the calculations are very simple.

I have recorded both the source and machine code programs on the disc. The former are in ASCII and are useful only

to show how the ZBASIC syntax compares with that of the Amstrad. The others can be run using CP/M.

I was sorry to read of all the upsets that delayed the last issue of WACCI. It was a real delight to see it waiting on the mat one cold morning.

E F Priestley  
1 The Chase  
Honiton  
Devon  
EX14 8QB

(And we were glad to be back sir! Thank for the programs Mr Priestley. I had a look at the ZBasic ones and I must confess that I didn't understand what was happening on the screen but all those numbers whizzing around did look pretty impressive.

If any other WACCI readers are interested, ZBasic was once distributed by Hisoft who can be contacted at:-

The Old School  
Greenfield  
Bedford  
MK45 5DE  
Tel:- 0525 718181

but beware, they no longer sell it themselves. It was an American program that Hisoft imported to the UK. Even so, they may be able to put you onto someone in the States might still have copies available. Try them and see -Joolz.))

## If it can go wrong...

Dear Joolz and Steve (Iwho?) Murphy has certainly been working overtime at WACCI HQ hasn't he? And he's still not finished. On 25 September I sent my cheque off to you for twelve months' subs, PICCY DISC 1 and AJ's TWILIGHT ZONE, total 31. PICCY DISC 1 arrived a few weeks later (minus the help sheet) but I'm still waiting to enter the TWILIGHT ZONE. Sorry, couldn't resist that. (Dee-da dee-da, you mean like that?)

Anyway, being a considerate little WACCIite and realising that you were having problems in getting issue 46 out, I restrained from pestering you. However, as almost four months has passed by, I am now pestering. Pester, pester, pester.

We all know what will happen now, don't we? I'll get this letter off to you tomorrow and guess what will plop through the letter box first post Monday? UGH!

Murphy must have got into the printing machine too. In issue 46, pages 7,8,37,38 had got mixed up somehow but after some clever DIY with the works copier (and a bit of head scratching) I finally managed to get them in the right order. A few staples later - et voila: one repaired ish 46.

By the way, isn't it possible for you or someone to reproduce the back issues

from a normal copy?

I'm having slight problems with my 3" drive - at least I think it's the drive. As a rule I don't buy games but I just had to get Monty Python. I couldn't get it to load so I sent it back and got a replacement which again wouldn't load.

Cleaning the drive head made no difference, however just before I packed it off for the second time, for some unknown reason (probably out of sheer desperation) I tilted the back of the disc upwards slightly as it was attempting to load. You can imagine my amazement when suddenly the screen went black and the game began to load. Anyone any ideas why this piece of technical wizardry should work? It could just be that Virgin use cruddy discs or maybe the fancy protection is causing the problem.

While on the subject, is there any disc head-alignment software available similar to the tape alignment prog or is it strictly a job for Dr Mender? I seem to recall something but it may just be my mind playing tricks on me again. Mutter, mutter, murmur, mumble...

Steve Provost  
15 Hillingdon Road  
BURNLEY  
Lancs  
BB10 2EG

(Sorry about forgetting to send your Twilight Zone disc along with the rest of your order Steve. By the time you read this reply you should have received a copy.

No, it wasn't Murphy that messed up the running order of the pages, it was the printers who managed to get it wrong this time. Just to explain a little further:- We set out the final master copies of the pages (with the numbers at the bottom) here at Schloss WACCI and then send them off to the printers. They then tape the master copies together in the correct (?) order ready for photocopying and then printing. After this they collate, saddle stitch and mail them back to us.

Obviously someone down at RPM must have had a lapse of concentration because when the magazines came back to us we found that the running order of the pages was out of sync.

The mistake wasn't even confined to a few copies either, it happened to all two thousand of them (ouch!) OMG was grinding his teeth all right.

As to your disc, if you are tilting the back of the disc 'up' then you are moving the the magnetic surface slightly with respect to the head and this could be compensating for some slight dodginess in either the head alignment or the disc. If that's the only disc giving trouble, I'd suspect Virgin. Well, at least that lets out Saffron.

If it persists, especially with other discs, it may be alignment but I don't think

there's a simple fix as there is for tape heads. In that case yes, I'm afraid that you should contact Dr Kildare or, as we call him, Phil Craven -Joolz.))

## Serious stuff

Dear Joolz, firstly let me apologise for the nonsense I wrote about Small C in my last letter saying that it does not work with floats and that it only runs on PCW machines (WACCI 46.) Small C works well with floats, except when running under CP/M2.2 in 'FAST' mode. But there are two bugs in the IOLIB library:-

- 1) the function avail() does not work, it causes a crash when called.
- 2) the function getb() does not work properly. Sometimes it returns EOF even when EOF is not reached.

Please find on the enclosed disk a bug-free and improved Version of Small C. What are the improvements?

- 1) I have implemented the standard C function fprintf() which performs formatted output to a file or to the printer.
- 2) The function upper(c) now checks for c3) Avail() and getb() are working correctly now.

This 'new' version of Small C will handle source code written for the 'old' WACCI CPM-017 with no problems. So I would suggest to replace all files of CPM-017 by their equivalents on this disk. The remaining files on this disk are:-

- 1) SMALLIB.\* Some more or less useful C functions.
- 2) STRLIB.\* C functions mainly for character and string handling.
- 3) FIRMCALL.\* C functions to access the CPC firmware under CP/M2.2 AND CP/M plus.
- 4) CDEMO.\* A little program to show some of the power of 'FIRMCALL', it is tested under CP/M2.2 but it should run under CP/M plus as well. I am sure this will kill those 'yawn' remarks about CP/M for ever.
- 4) DU22.\* DU to run under CP/M2.2.

I was very impressed by Peter Ceresole's article about DU. Unfortunately it needs CP/M plus, which I cannot run on my computer. So I wrote my own one in Small C. It hasn't got an accompanying DOcumentation file yet, maybe Peter as a DU expert would volunteer for the job? In case of any problems when testing the program he may contact me.

A few words about Small C. C is a language which gets its power from its libraries. Small C is a version with some restrictions but it is 'small' only when compared with other C compilers. Compared with Locomotive Basic (Yawn) it



is mighty. You really can do anything in Small C what you can do in Basic but not vice versa. DU in Basic? - impossible!

The restrictions of Small C? Have You ever missed structs or unions in Basic? Handling of multi-dimensional arrays in Small C is possible. Although not included the FOR, DO WHILE, switch, case instructions all can be substituted by 'while.' There is really no need for GOTO in C. Small C programs always run much faster than equivalent programs in Basic. See CDEMO, there are some delay loops in this program to make it easier to follow what happens on the screen. In other words:- Small is Great.

Bye for now. You will get a disk with FIRMCALL and other programs for Hisoft C soon. Best wishes.

Dietmar Langenohl  
Hussitenstr.4-5/A8  
1000 Berlin 65

!!Terrific, Dietmar. Thank you for the SmallC. OMG is replacing the existing CPM-017 files right now. I think that Clive Belleby is getting ready to lay into C when he has wrung the neck of Forth in his mega-series that starts this month...

You've got little Peter C all pink and embarrassed now. You know, he's got himself a big noisy PC (very appropriate of course) but he still hangs about waiting for jobs to do. Touching really. Anyway, he's promised to look at your implementation of DU, even though he says he's never touched CP/M 2.2.

Do you know, he chose one of his PC programs (Professional Master Key) because he thought it was 'like DU with menus' -Joolz.))

## Cure for all ills

Dear Joolz, Surprised and delighted to see my December WACCI waiting for me when I got home from work a couple of days ago. Always turns up eventually. Do you think we will ever get straight? Still, as long as it does keep turning up, that's the main thing.

Had to buy copies of Amstrad Action and Computer Shopper to see me over the Christmas holidays. Glad I got AA as a readers letter told me how to take apart my DMP 3160 ribbon for re-inking - I could never see the join. Then of course you gave the same information in a reply to Jess Harpur in December's WACCI so, I suppose, if it had arrived on time, WACCI would have been first again as usual. (Or as once was usual!!)

OMG is really living up to his initials these days, 'Thanx and Stuff' is as miserable as sin of late - full of his tales

of woe.

Will you tell the moaning old sod that his readers are the most patient people in the world and if he feels that he must have a holiday and leave me with nothing to read, then so be it? You won't hear me complaining. Well, not much. It is a proven medical fact that a sunshine holiday works wonders for people with glandular fever. (They have even been known to smile on their return.)

You could mention to him that Yugoslavia is a nice place for a holiday but not to go in the first two weeks in June. I'll be there and I don't want him depressing me on my hols! Hope the January edition is out on time - I like to have a little holiday reading. Oops! That was a bit sarcastic, wasn't it? Sorry.

Very interested to read Jess Harpur's letter/article on Stop Press, Advanced Art Studio and ROMDOS. It's always annoyed me to have to use AMSDOS format discs on my 3 1/2" second drive with these two programs. Sadly, his loaders are still no help to me as I don't have any ROMs but use RAMDOS on disc for my big format. Any hope of a loader for use with RAMDOS, Jess? (Or anybody.) I'm afraid my ability as a programmer is less than hopeless and although I have tried to adapt his loader for RAMDOS I have had no success at all.

While I'm on the subject of 3 1/2" second drives, can anyone help me with a boob that I've made. They say everyone does it sometime and my time is now! I have accidentally erased a disc full of Advanced Art files on my second drive. Using NewsWeeP, I was being tidy and copying files to use all available space on my 3 1/2" discs. I meant to erase one file but I pushed the wrong key and erased all the other files on the disc instead. Thick, I am. Moral, always ask NewsWeeP for a prompt when erasing.

Never mind, I thought, this will give me the chance to try out the 'un-erase' prog which I long ago purchased from WACCI for this very mishap. Hours later I gave up in despair. None of them will work on the 'B' drive unless I know the name of the file. I've tried LOOK, RESCUE and UNERA with no success at all. Disc Menagerie is great on the 'A' drive but wont use the 'B' drive at all.

I think I probably need DU as recommended by the famous Peter Ceresole but don't know which CP/M disc it is on. (if any.) I will put the messed up disc to one side for now to avoid overwriting the directory in the hope of a future rescue. Any ideas?

Sorry to hear of Alex Airs predicament but, (selfishly) even sorrier to hear of the demise of the back issues

of WACCI. This (very patient) reader has been waiting for some for a long time. Anybody out there willing to sell any copies prior to October 1988? No? Just as I thought, neither would I!

Pleased to read that Mike Lyons is addicted to FOURTRIS, it's the only game that has ever got a grip on me. Wish I could break loose from it, daft these games aren't they. It's no wonder that I don't know a lot about real computing.

Enough for now, just like to add that I'm pleased to see that we have at last become a magazine in the AA advert. Best wishes,

Bob Houston  
Runcorn

!!Thanks for the support, Bob. OMG does feel the weight of deadlines on him but I must say there's so much to do... What with little Peter C being off doing his day job so much this winter...

Yes, I think you do need DU from the sound of it. Here's Peter:- ((Yup, you need DU. Unerasers are truly a pain in the butt, like playing the piano with boxing gloves. But there is a snagette; DU's not on a disc yet. Steve is getting round to making up more CP/M discs, with strong prodding from me- I mean, fancy not having DU! In the mean time, keep the disc safe and give me a call on my help-line number -Peter.))

Yes, Bob, we all feel the lack of back issues here too. It's a a real problem, especially now that we don't have reasonable access to a photocopier. We have the original files but printing the issues again is simply too expensive and time consuming even to think about.

Anyway, of course games are addictive. What do you think OMG does all day- OOPS!

Exit scene left pursued by a magazine Editor -Joolz.))

## Another late letter

Hi All, ((just me, Mike, the others are playing with the cats.)) Here I am again, fresh, (yawn) bursting with energy, (groan) ready to tackle all those wonderful children from 3WY, (Oh no!) Well, there you go. Life's a teach... Now to some business after all that waffle.

ADLAN. I bought ADLAN after reading your review but I'm a bit disappointed.

I have version 4.14 and it does not do half the things your reviewer claims for it. It ignores extra memory, (I have the 256K expansion as you know) and only allows a maximum file size of about 34K for the final adventure.

Although text for descriptions can be saved onto disc I had hoped that I could

write a small, (80 rooms) adventure and keep it all in memory with a minimum of disc accesses. But not so.

The 65535 messages are purely theoretical as are the maxima of status markers, rooms, objects etc. As you approach the maximum file size various problems start to occur with pictures, (I have used 5 or 6 to heighten the atmosphere) and the fonts don't always load properly.

Do you know if Graduate are going to enhance the program to allow full use by 6128, (or expansion) owners of their extra memory? It would be wonderful as, even with it's, (rather severe) limitations and misleading documentation it's a damn sight better than GAC.

AMX MOUSE. This creature has caused me severe problems, due mostly to the large size of the interface, which has meant that I was unable to use the stereo sound output socket without unplugging the damned thing - a rather dangerous practice.

I've solved this by buying a 9 pin "D" socket and plug from Maplin with a short length of IDC cable, (16 way is the smallest they do) and using this to connect the mouse, (or indeed my joystick) to the computer socket.

Just remove seven of the wires from the cable. Fix the socket on one end of the cable and the plug on the other, making sure that pin 1 is connected to pin 1. Trim any excess wire off close to the new bits. Plug the joystick/mouse into the plug and the socket into the computer and away you go.

Needless to say, don't connect or disconnect anything to the joystick port while the machine's switched on - fatalities are quite likely to occur - usually to the sound chip.

I'm in the process of reviewing X-Press and will send it in ASAP (but don't hold your breath.)

Please feel free to publish my name, address and telephone number at the end of my letter(s) - especially if I'm selling/giving something away. Phone calls are always appreciated.

QUESTIONS. (Questions, questions...) Does anyone out there know how to alter the Dk'tronics Speech Synth to act as another ROM number? Mine sets up as ROM 3, which is very unfortunate as that's the number I have Promerge+ in and I don't have any more room on my lower board. It doesn't matter if it means opening it up as it's well past the warranty date. It will need to become 13, 14 or 15, (everything else is full).

Atari ST. At school we have an Atari STE. It's wonderful, (or at least the commercial music software is). Protext v4 is absolutely huggable. But, can I read and write to ST format discs with ROMDOS? Does anyone know the important disc sector information to set up ROMDOS to read and write ST discs?

(PETER C?)

The reason I ask is that it would be humongously helpful if I could write worksheets/ test papers/RoA's at home/work and keep another copy at work/home without having to type them all in again, (one of my current sets of notes runs to some 15 pages of close typed A4).

I've tried but with little success. The bits of files I have read are just that - bits - and the process is laborious and the ST won't read any format I've tried to create on my discs. Love and kisses to Joolz.

Mike Lyons  
21 Ashmore Street  
Tyldesley  
M29 8WW  
TEL:- 061 799 8504

(Love and kisses eh? That'll get you a long way but mostly with Saffron.

Well, Mike, I've asked OMC about ADLAN and I don't think that it's going to change in a hurry. What you need is a very fast disc drive. I suppose the solution to almost everything now has to be the CPC hard disc. I say "suppose" because here at the Schloss it's a little out of our reach right now. Has anybody tried it?

Thanks for the mouse/joystick solution. I know that Peter C, for one, had problems getting at the cassette port (eh-why?) with the AMX mouse in.

He's also got an idea about your Atari - here he is:- (Hi Mike. The Atari uses CPM-86 which is very similar to MSDOS, especially in its disk format. It will read and write to MSDOS DSDD disks directly and PCs will read what the Atari has written, although due to a quirk they won't read disks that have been formatted in the Atari. This is all relevant, as it means that ROMDOS, being a CP/M format, won't read an Atari 3.5" disk.

However, it's very likely MFU will read Atari disks as IBM ones. In that case you can transfer back and forth from the OPC. The other way is to see if there is an Atari PD program that will cope with CP/M discs. This would be the simplest solution, almost certainly the quickest. I have a MSDOS utility which reads and writes CP/M discs which is lightning fast. Hope this helps -Peter.))

So that's it, Mike. As you will have realised, Peter has gone to fatter and more expensive machines but having had to transfer all his files has made him quite useful in an IBMish kind of way. Hmmf... -Joolz.))

## Two in one

Dear Joolz, by the time you receive this letter, it is just about feasible you will also have received something else for both you and Saffron Trevaskis.

I knew Saffron in the late, unlamented days of that toy magazine, AMTIX and I found her to be a very refreshing young lady. Quite a bit of correspondence passed between us. Also, I am sure, I unwittingly managed to offend her. Hence the small gift as a token of my humble penitence. Will she forgive me?

Also included with this disc is a photograph taken on my 67th birthday last June. The inclusion is not for egotistical reasons; I just happen to think it is nice if one can picture one's correspondent. On the other hand, once you have looked at it, you and Saffron will probably wish I had not bothered - and I will not blame you in the least.

Oh, yes! You wanted to know my names. Well, here goes. William Archdale Coleman Colchester. No, please, there is no need to curtsy. Plain Bill Smith provides the bread but it is the filling in the sandwich that counts. In this particular instance, family names with a history practically as old as Time, itself. Now, what about yours, as offered? Yours sincerely,

Wm. A. C. C. Smith.  
Windsor

(Dear William, on behalf of Saffron and myself, thank you for the chocolates. Ah yes, there's a lot of choccy that's flowed under the bridge since Saffron was working for Amtix (she still has her broolly though!) I can't say whether or not Saffy was offended or even if she has forgiven you (even if you offended her in the first place) because (at the time of me writing this) she is currently off on a working holiday in Florida (and yes, I am green with envy.) I see that you've sent another letter, on disc, for Saffy's attention. I can't publish it here but I'll make sure she gets it upon her return from the USA.

Thank for the piccy, you look good for your age (and a lot happier than Old Misery Guts, even though he is only a couple of years younger than you!)

Yes I like bread in my plain sandwiches, even with Coleman's mustard but what is it that you want to know about mine and can we discuss it here in Fair Comment??

I've confused myself into a corner now so I'll let 'His Miseryness' answer the letter you've sent him on this self same disc. Thank again for the choccies -Joolz.))

## Part two

Dear Steve. Thank you for the latest disc, recently received, together with the current(!) issue of the magazine. I note, with some interest, two of my letters were published, plus a modified version of your personal reply. However, you omitted my subsequent response in which I offered some friendly advice based on thirty years' business experience. I also gave an affective answer (backed up with

proof) to your adverse remarks concerning Recorded Delivery. I challenge you to print it -in toto.

Regarding the BANKMAN files, they do not appear on my CP/M disc for the simple reason my machine is the CPC464, not 6128 (mind you, I do have the 6128 chip on a Romboard Xtra, supplied by Phil Craven, so I have the best of both worlds.) I also now have the files in question.

On a separate file on this disc, you will find ILLUSION.STO. It is a very short fantasy story (approximately 500 words) involving an Amstrad computer and is set up in the 38-column format, should you wish to print it. Whether you do, or not, I hope you enjoy it. Yours sincerely,

William, A. C. C. Smith,  
(or Bill if you prefer)  
Windsor

((Hi Bill. Yup I told Joolz to lift out the third reply because I thought the saga had probably run its span of interest. Three letters in one Fair Comment is a bit over the (Yawn) top.

I'm not going to print your answer concerning Recorded Delivery because it's not really relevant to computing. The reason that Recorded Delivery takes longer to reach WACCI HQ than normal mail is that our local postman waits for approximately 104 nano-seconds after ringing our door-bell before deciding that no-one is at home and then leaving a collection note. Since the sorting office is right on the other side of Twickenham, I sometimes leave it till I have to collect a few of these packages before I bother traipsing all the way across town (my time is too precious.) As you can now see, sending packages by Recorded Delivery may ensure that they arrive at WACCI HQ but it may mean an extra delay in it actually arriving here.

I'm glad you sorted out your BANKMAN problems although it must have been a bit of drag having to shell out twenty pounds for a legitimate copy of such a small program. Still, at least you can take advantage of CP/M Plus now.

Thank for the story file Bill, I may use it in a future issue. As you may have already read in Thank 'n' Stuff, there's no need to send letters in on 38 column mode because we've gone over to using a Desk Top Publishing package -Ed.}}

## WACCI on-line?

Dear Joolz, I thought that it was time I wrote again, my last letter disc was way back in September 1990. I shan't start by making the obvious comment about 'Where was my WACCI in October to December.' Steve's good excuses er... reasons in issue 46 (Dec 1990 admittedly received on 11/1/91) should cancel any letters you have received on the subject. Some people will complain about anything,

I liked Richard Burton's WACCI Archives column which started last month. Having only been a member for a couple of years, it's nice to know exactly how WACCI started.

A few issues back, Auntie John did a mini series on assembler, basically (no pun) an AMSDOS machine code bit, is it too much trouble for someone to do a series based around CP/M assembler (obviously Z80 based) using CP/M specific routines. I would attempt it myself but I'm not really an expert and only really dabble. That nice German chappie Dietmar Langenohl looks the obvious choice looking at his letters about using firmware routines from CP/M. How did he find out what certain routines did? Was it by disassembling the memory?

How about having a WACCI Bulletin Board? Perhaps if the cost is too much, then what about 'borrowing' a section of an existing BBS, where only WACCI members were able to access. This could be achieved by entering our name and WACCI membership number. This would then let us able to upload messages and files for inclusion into the WACCI program library. Similarly a selection of the WACCI FSW library could be available for download. The message section would be good, as ideas and questions could be quickly seen to and answered without the possible delays inherent in a magazine. The best of the bunch could then perhaps be taken off and printed in WACCI. This could also serve as cheap advertising for the club.

I've found out that the Gnome at Home has a WACCI subsection but it is Viewdata and only 12/75 baud and I'm not sure how up-to-date it is.

Oh... by the way on this disc is an update of my ANDYBASE database program. Please replace the version you have on CP/M disc 10 with this one. I have improved the menus slightly, altered the keys used and rewrote the sorting routines. I'm not sure, therefore, if it works with PCWs as the previous version did but a 6128 is fine. The version you have will not sort numeric fields correctly and will 'hang' occasionally, rather remis of me, even though I couldn't figure out why it didn't work. Still, this one does work all right.

I call this new version PUBWARE, a mixture of Public Domain and Shareware. That is, if people wish to send me a little bit of cash if they find it useful, then I'll be happy to accept it and head straight down the boozier or maybe even use it for improvements.

If existing users do in fact have a copy of the original, then if they would like to send me a disc containing that version and a return stamp, I will gladly send back this new version. My address is in the ANDYBASE document file.

Also on this disc I have put ZIP.COM and UNZIP.COM, two files normally called

CRUNCH and UNCRUNCH but I prefer ZIP and UNZIP as they are the names used on PC's. I believe you do have them in your library but here they are again anyway as version 2.4. They are a public domain file compressor/uncompressor and are very easy to use and are better at squeezing files than NSWEEP. For example on this disc are the NSWEEPed and ZIPed versions of ANDYBASE.DOC. ZIP took 13.7 seconds and reduced the file from 14k to 7k, NSWEEP took 29.3 seconds and reduced the file from 14k to 9k. On larger files, bigger savings can be made. UNZIP by the way can in fact unsqueeze NSWEEPed files.

Using ZIP can be a faster and smaller way of archiving little used software and on a single disc machine is a boon, since NSWEEP when squeezing across the same drive but as A: and B: does need an enormous amount of disc swapping, whereas ZIP makes better use of memory and very much less disc hammering.

Andrew R. Norris

79 Farm View  
Taunton  
Somerset  
TA2 7RB

((Glad you like the WACCI Archives column Andy, there's lots more of the same to come in future issues. Yes, we haven't a deeply deep column concerning the intertingly fluffy bits of CP/M for a while, any CP/M buff out there care to give it a try?

The trouble with having a WACCI Bulletin Board is that someone has to maintain and update it regularly. That's how His Nibs started with WACCI, he set up and ran the WACCI area on The Gnome at Home BB. When he began writing for WACCI (and then shortly afterwards running it) Rob O'Donnell took over running it. Due to the demands of paid work Rob couldn't keep the updates going so it's very much out of date these days. Don't despair though, if you want to keep in touch with other members of WACCI who have modems then try using your local node of the FidoNet system. You can usually find people like Clive Belleby, Peter caresole, Tony Walker, Bob Garbutt, OMG et al. on the CP/M and Amstrad messaging sections. The good thing about using FidoNet is that there is no registration fee and also there's usually a participating BB within range of a local phone-call.

Thanks for the latest copy of Andybase, I'll get 'you-know-who' to test it on the PCW to see if it works OK (there shouldn't be any problems really.)

Whooaa there Andy. Don't be so eager to go renaming files. ZIP.COM all ready exists, it's not the same as UN/CRUNCH.COM. Beware because ZIP, CRUNCH and SQUEEZE (as used in NewsWeep) all use different compression algorithms. I do agree with you though, I



prefer CRUNCH if I need maximum compression and a pretty display but I prefer SQUEEZE when using NewsWeep because of all the extra facilities it provides within one program. Now if only someone could update NewsWeep so that it used the UN/CRUNCH algorithm instead of the UN/SQUEEZE one. Hmmm... delicious. Hows about it someone? -Joolz.))

## An amazing offer

Dear Ms Joolz, many thanks for forwarding my letter to Mike Lyons. As a result he kindly sent me a copy of SOFT111. I have now worked through this. I can offer it to another of your readers on the same terms as Mike did:- "free to a good home." Yours Sincerely

P.W.Clark  
34 Alton Road  
Perkstone, POOLE  
Dorset, BH14 8SN  
Tel:- 0202-744871

((Thanks Mr Clark. I don't think it will be long before someone calls you up and offers it a good home -Joolz.))

## A frame-up

Dear Joolz, I returned a disc to you at the beginning of September and now, over

a month later, I still haven't heard a thing. It was one I bought off you and you put some software on it. There seemed to be some bad sectors on it; WACCspell2 wouldn't run even when Benkman was present on the disc and when listed it got to somewhere around line 250 then repeated lines 100-250. Only the first three or four lines of Spell2.doc would load into Protex. I hope you will look into this and sort things out for me.

While waiting in vain for the postman to deliver the goods I've started wondering if I sent it to the old address. If this is the case-Sorry. It won't happen again. Promise.

To show that I haven't lost faith in you I have included a program for your consideration for inclusion in the software library. It prints out a calendar one month per page with room to scribble a note by each date. The program is not entirely original; I took a listing which originally appeared in Amstrad Action a couple of years ago and altered, adapted and added to it. The original printed out a whole year on one page. AA say that all their type-ins are Public Domain and I have fully acknowledged the source and author. If however, you feel that you cannot use it or even that its just not good enough-fair enough. I enjoyed experimenting with the printer codes.

I have also included an ad if you don't mind putting it in the next issue of WACCI. Its in a file called 'for sale.'

Love to all at WACCI Towers and don't forget to peek before you poke. Roll on the next issue. Keep away from black holes. Were we once promised an article on NULU? Has it gone down a black hole? After finishing night shift the other day I saw a few seconds of 'Countdown' I think it was a championship knockout. There was a Steve Williams on it. Any relation? I think he lost. Love.

Andy Frame  
6 Yardside Road  
Barrow in Furness  
Cumbria LA13 0ER  
Tel:- (0229) 835601

((No it wasn't His Nibs (although he is a bit of loser.) The NULU piece did indeed disappear down a black hole (anyone care to take up the torch and write an article.) Your advert will appear on these very pages Andy, keep 'em peeled. The calendar program will be included in The FSW Library. OMG says that it's so different to the original that it merits some publicity of its own.

We haven't seen your disc yet Andy, you must have sent it to the old address. Strange though, because even mail that gets posted to there still manages to



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This Ad. was set using Stop Press and X-Press.

## Fair Comment

9 South Close, Twickenham  
Middlesex TW2 5JE

reach us here most of the time (well there aren't many people called WACCI in Twickenham.) Never mind I've included the programs you mentioned on another disc and included it with your returned letter disc -Joolz.))

## Introducing...

Dear Joolz and Steve, please may I say how much I enjoyed reading the introductory issue of WACCI. There's a lot of useful snippets of information in these pages that could probably be found elsewhere but in WACCI the information from many sources is brought together in one place, making it a useful addition to my library. I have enclosed a cheque for a subscription.

Whilst writing to you, may I take this opportunity to introduce myself. I am a BT engineer in my late thirties and have a wife, Roberta, and four children. (FOUR you say...well we're not having any more 'cos we've found out what's causing them.) The kids have an Amstrad 464

with DDII and colour monitor and I have a 664 with green screen. I enjoy programming in basic and machine code and building my own add-ons. I've made a ROM board, eprom programmer, PIO board and a 3.5 inch second drive. Well, at least a power supply and box for a 3.5 inch drive which is now up and running. My latest creation is an RS232 board that I will be using to access BBS.

I would like to build a 64K rampack to hang on the back of the machine and have drawn a diagram that could work, or maybe not. I need to experiment with this one. I know that such a device is available at forty something pounds but would rather make one if I can as I have the RAM chips from elsewhere. I did consider placing the extra RAM inside the computer as it would solve some problems but am wary of opening the beast. We have a saying on BT, "if it ain't broke, don't mend it." The RAMpack has, I've been told (cos I haven't seen one) two high speed transistors inside and I guess that these disable the internal RAM by accessing the control lines. Or maybe they control the two high address lines? Maybe someone can suggest what they do.

One of the things that I will need soon is a large format DOS and had considered Rodos to be the best 'til I saw a letter saying that it isn't too good. Perhaps

Romdos is better?

On the software side, I like to hack the protection systems of the kids games and list the code. Not using a 'black box' though, that's cheating. 'Tetris' took 140 hours to crack. I've learnt a lot about programming by doing this. One trick to annoy my sons is to fill the highscore table with my name and put the protection back on. If they want to change it, they've got to hack it themselves.

I've placed some progettes on the disc, maybe you can add them to your library. They include a copier that will deprotect the program as it copies. I'm not sure of your reaction to this one with its hint of piracy. I believe that taking a personal back-up is Ok but the original and the copy, must not be passed on to a third party. Anyway, you can use it or lose it as you decide. The other progs are a memory mapper (memmap) print the contents of memory (memprint, start addr, end, addr) and extracat. This last one may cause some confusion until you get used to it so I will explain. The object is to save a string and embed it in the header of a file. When the disc is cat'ed the normal 8 byte name is shown with the extra string alongside it. This is used to give further info about the program as 8 bytes isn't enough sometimes. The string

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can be up to 35 chars long and the procedure is as follows:-

```
a$="reading the disc is easier now"
ISTORE,@a$ I is the bar command
      (shift @)
ISAVEON
save'extracat'

ICATON
cat
```

ISAVEOFF and ICATOFF restore the routines to normal. Normal cat, save and load are unaffected by extracat. All of the programs above work in Amstrad and are accessed by RSX commands.

If anyone needs advice or help or just a chat then please feel free to call me at home (0724 862592) or leave a message on Tug II BBS (0905 775191.) I'm not a great expert but I am very interested in the Amstrads and always willing to help in any way I can. Keep up the good work, BFN

Peter Dalton  
95 Baysdale Road  
Ashby, Scunthorpe  
Lincs, DN16 2QF

[[FOUR children Peter? Don't you have a television or something? Seriously though, I'm glad you like WACCI and I'm sure that there will be a lot of people getting in contact with you (do you want us to stick your name up on the WACCI Helpline section?)

My view about 'pirating' is that it is illegal, however 'copying' or 'backing-up' is not the same as 'pirating.' I believe that with expensive, serious, commercial programs such as MasterFile, MasterCalc, Protext, Art Studio etc etc... you are paying for the manual, not the disc, because unless you have the manual you cannot use most of the program properly. Working copies are essential and most serious programs include a routine to allow you to make a 'start of the day' copy.' Considering that commercial games, on disc, can cost up to 17 pounds a time, I think that it is always wise to make a back-up copy. So, yes, your copier will be included on the next WACCI Homegrown Disc -Joolz.))

## AZERTY v QWERTY

Dear Steve 'n' Joolz. A letter from beyond the far end of the Channel Tunnel where, believe me, things are a little different. Two requests for help, please, both the results of those differences.

The most important of those petites differences is the keyboard on the CPCs sold ci-Manche. They come with an incomplete set of French accents I'll spell 'em out, just in case Steve's printer isn't up to it! a grave, c cedilla, e acute and grave and u grave. The rest I've never been able to find.

Frankly, from the point of view of using the GPC for word-processing and translating that's pretty useless. Half the accents are missing and although the AZERTY keyboard is used in Italy, Portugal and Spain, the special characters used in the languages of those countries (remember the n tilde in Viva Espana! and that dear little upside-down exclamation-mark?) are likewise absent.

The other problem's the layout of the AZERTY keyboard itself. I'm getting too old to change the hqbits of q lifetime, qnd qs I touch-type on a Wang PC at the office, with a QWERTY keyboard, it plays hell zith, my spelling zhen I come home in the evening (if you see zhtq I ,eqn.)

So, does anyone know of a way of reconfiguring the 6128 to its original keyboard layout and preferably of being able to toggle it between AZERTY and QWERTY? And can anybody suggest of way of creating screen images of the dozen or so special characters needed for French, Spanish, Italian and Portuguese? Yours confusedly

Qndy Evqns  
I Promenade des Quatre Seigneurs  
57330 Volmerange-les-Mines  
France

[[Hi Andy. Hehe, Peter and Steve have just rushed out of the office after finding something 'much more important to sort out' than your problem. I guess that means they don't know the answer.

Never mind, I'm currently on my third glass of a particularly nice bottle of Bordeaux refreshment and consequently I feel quite relaxed about the idea of throwing your question out to the WACCI readers and asking if any of them can help you. Look out for Fair Comment, issue 48, Andy -Joolz.))

## Bemused of Oundle

Dear Joolz. Back in November last year I sent off to you for my first taste of WACCI software and was so impressed to receive the disc in less than a week from ordering and before my cheque was presented I work in a bank so I know! that I persuaded my wife to invest in further WACCI goodies for a Christmas present. Imagine her (and my) dismay therefore when all that turned up was a battered envelope containing some rather battered disc cases - 3 1/2' too not 3' which was what I wanted. Never mind though 'cos that was all sorted out very efficiently by a very pleasant young lady (not you by any chance?) a weekend or two ago as a result of which I'm enclosing a cheque for a further 4 to get my ozone friendly ribbon reinker which will then be the last of my (wife's) order.

However, I'm a bit bemused by the software you put on the discs for me as, having asked for games software, all I got was Space Invaders and then a load of

utilities. Not to worry though as it was all good stuff which I can use and of course I don't really play games (it's my daughter who does that, she's too young to know better) and so I'm enclosing another order, keeping my fingers crossed that this time...

I've had my GPC 6128 for about four years now and have struggled along with 'PIP' et al all this time. Having seen some of what NewsWeep can do I've already cleared a lot of space on my discs. Thank you.

The main purpose of my letter apart from sending you another order is say that having bought your CP/M Disc 9 full of 'Comms' goodies I had expected in my pitiful ignorance to just be able to fire up my Voyager 7 (that's a modem not something out of StarTrek) and talk to Bulletin Boards world wide. Truth to tell, I've come unstuck 'cos I can't - HELP please. My modem is a Modem House Voyager 7 (soon to be heading into outer space if it don't work) with a little box of tricks between it and the expansion port that just says 'Modem House' on it. Could you or one of your readers please just tell me in words of one syllable, what to do - please? Preferably, other than buying a new modem! The modem house software works after a fashion but user friendly it isn't and I've no instruction booklet.

Secondly, disc drives. I desperately need a second disc drive and have been saving my pocket money hard and think I've got enough now but would appreciate any guidance you or your readers can give as to what variety is best - preferably 3 1/2' so that I can then use the disc cases you sent me! No, seriously, my piano uses 3 1/2' discs so it makes sense in that respect. But would the next size up be better and no, I can't afford 400 for one of these new German hard disks.

Finally, I consider myself a bit of an expert (and we all know what they are) on MasterFile III but I am stuck on how to get it to use another letter set as one of the things I use it for is testing myself on German vocabulary and getting it to print umlauts - that's the little dots you may have noticed on some vowels or the double 's' sign is beyond me. Any ideas?

Brian Norris  
27 Wentworth Drive  
Oundle, Peterborough  
Tel:- 0832 273973

[[Hello Brian, yes it was me who answered your call and sorted out the problem. Your can of Re-Ink has been sent out and should be with you by the time you are reading this (if not, give me another call.)

'Old Frog Face' is our resident in-house expert on matters concerning comms so I'll just lean over and stick this disc up his disc-drive and perhaps he'll be able to help you with your Voyager problems. ((Ouch! Hi Brian, I'm in the middle of



writing summat for AA so I'll keep this brief. Modem house was an outfit run by a conman called Keith Rose who is currently serving a life sentence for murder (I kid you not.) Anyway the Voyager 7, also known as the Kirk, is a very 'non-standard' modem. The version of MEX that is included on Side A of CP/M Disc 9 is the one that you can 'insert-and-go' using Hayes compatible modems, Pace interfaces and CP/M+ software. On the B-Side of the disc I've included versions of MEX which work with non-standard modems. It's a case of using NewsWeep to un-suck them and see!

By the way, it's no disgrace to admit that you've been had. I bought my first modem and interface from Keith Rose/Modem House after reading an advert in MicroMart. The interface was crap but I'm not complaining because the modem (a Prism1000) kept me on-line for two years before it turned its toes up. I then upgraded to the PACE Linnet, which I'm still using but considering upgrading to a 2400/2400 model. First things first... I'd better get this issue of WACCI finished. Hang on Brian, I'm just going to save this to disc, stretch over to Joolz's desk and then stick it 'where the LED don't shine' -Ed.)

Hehe.. he missed! It ended up in my A: drive after all. Now where were we? Oh yes, B drives. Well (and this is my opinion after reading lots of other clever people discuss the subject) go for a 3.5" disc-drive from Siren Software with ROMDOS (if you have a ROM box) or RAMDOS (if you don't.) You can contact Siren on 061-228-1831 -Joolz.)

## An old letter

Dear Joolz, it is now less than twenty-four hours to LMFP (last minute for posting) and last night I reached the letter 'W' in my alphabetical list of contacts where "WACCI" popped up. To my horror I realised that nothing had been received from the Schloss since the September issue of the magazine.

Knowing the problems of magazine production at the amateur level, and bearing in mind Steve's description of his problems, I was not surprised to miss October and even November, but having passed the half way point in December, I thought there was real cause for alarm, and decided to contact your answerphone to hear of the final demise of WACCI.

You may imagine my relief when I heard the message that issue number forty-six was on the way to the printers. Owing to the joy at the news, I thought that a quick home-grown Xmas card was in order. Unfortunately I cannot perform such miracles on the CPC, and so the enclosed offering is "thrown together" (as stated on the back cover) on the PC, which I have just upgraded, thanks to an unexpected ginormous present, to a 3286,

in order to eliminate 'watching the paint dry' when using Deskpress on a PC 2086.

As Steve said in the last issue, it is birthday time for WACCI, and so I am enclosing my cheque for the coming year, although with the recent problems, I may have a month or so to run on my last subscription. (Forget it).

It is unfortunate that people such as B H Rowley of Bradford on Avon, (Fair Comment, September) don't seem to want to join in the club spirit and accept with good grace the inevitable problems of trying to run such an organisation on a 'part time' (ah! voluntary basis. Surely these diversions are all part of the fun.

I can't add any more at the moment as I have to complete my Christmas chores, as detailed by 'her indoors' who is at work at the moment, or I wouldn't be able to write even this (being many years younger than me, she has a while to go before retirement).

Perhaps there is just time to explain why I'm known as Don when my initial is G for Gordon. As a member of a Lancaster crew in the later nineteen forties we were gathered inebriated in a pub in Scotland when it occurred to the other crew members that I was the only one in the crew with a two-syllable Christian name, it was therefore decided that I should be re-christened (with more whisky and chasers). They decided that the first syllable would be too much like Gawd, as in "Oh Gawd!", so the unanimous decision was the second syllable, Don, which remained with me during the next thirty-odd years in the RAF, and much to my mother's annoyance, ever since. Keep up the good work. Yours,

'Don' Salter  
14, Courtlands Road  
Shipton-u-Wychwood  
OXFORD, OX7 6DF  
Tel:- (0993) 830558

(I thank you for the Xmas card Don and I apologise for the delay in responding to this letter. Hope you and 'Her indoors' had a good Christmas and you managed to get all your 'chores' done. For some strange reason I'm reminded of the Max Miller joke about two spinsters sitting next to the open fire on Xmas Eve. The first one said to the other "Would a stocking hold all you want for Xmas?" "No," said the other "but a pair of socks would!" I'm sorry, I'm not a Max Miller fan but 'His Nibs' is and Max Miller jokes are the one thing guaranteed to make him smile.

Thank you for your kind words about the delays Don. Yes it is difficult producing a quality magazine like WACCI every month. Steve and Peter pay a lot of attention to detail and 'getting it right' which unfortunately takes time. Issue 46 took a lot of time to produce because a lot of other, unrelated, problems seemed to get in the way. PC

and OMG decided that the way to speed up the production time for issue 47 (this one) was to bite the bullet and switch over to a DTP package. Unfortunately the new techniques required involved quite a bit of learning and ironically delayed the current issue.

Never mind, the boys assure me that the groundwork has now been done and that future issues should be much easier to produce (yes, I know what your thinking and I'm making no comment.)

Anyway, we do appreciate the understanding that you and the silent majority of WACCI readers give us but we also appreciate that we will have to try harder to get these magazines out on a regular basis *WITHOUT* letting WACCI's high standards drop.

Ahh.. The Lancs. Where did you sit Don? Hopefully not 'tail-gunner' because that's supposed to have been the worst position to be in. Night-raids over Germany operating at half the height that the American bombers operated during the day, it must have been frightening, to say the least. I've heard what it must've been like because my family is steeped in RAF tradition.

My Grandad was a member of the WWI Air Force before the RAF was conceived (I think it was called the AAC) and he was a member of the support crew for the Vickers Supermarine plane (the fore-runner to the Spitfire) that won the 'Schnieder Trophy' for the third and final time before the outbreak of war. My Mum was a fitter (first class) on Spits and Dad was an engineer on Lancs during the last war. Dad got a chance to go up in a Lancaster in the bombing of Monte Casino and took some amazing pictures.

The Spitfire and Lancaster were two beautiful WWII birds along, of course, with the Mosquito and Hurricane. The Harrier is the best thing we've developed since WWII. Mitch Mitchell was a genius! Ah... I'm beginning to ramble about one of my favourite subjects. Let's get back to some computer-orientated stuff -Joolz.)

## A swift kick

Dearest Joolz, No doubt some of my fellow WACCI readers have noticed the similarity between Ms Trevaskis's "Simply Saffron" and my old column "Glenn At Large". This is because all my spare time is currently taken up writing a new series of articles on Basic program presentation called "Finishing Touches". And so I reluctantly lent her my trivia files, which she has proceeded to corrupt via one mug of coffee and a swift elbow movement. Thank you Trevaskis.

By the way, Steve took the credit for two of my news stories in Properganda last month. Obviously I'm not very happy about this. However, the situation can be revenged with one swift kick to his ankle (that's ANKLE - not UNCLE). If you could

oblige my wish this would not only satisfy me but also anyone else who has endured his recent rude message on the office answerphone. Honestly, on what other number could you be told to speak after the raspberry? On second thoughts, I don't want to know. Take care.

Glenn Carey  
Cornwallshire

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## Helpful Line

Dear Joolz, I felt I had to write to you to acknowledge the fantastic response from a member of your Help-line, Stewart Peppiatt.

I had sent you a letter asking for help with a high-precision division program six months ago. Although it was on disc, it was not published and I wondered if it had got lost in the mail (actually it was printed in the December 1990 issue.)

I got tired of waiting and rang Stewart one Friday evening. On Sunday he rang back to say he'd written a program for me and it works perfectly. The only snag, which he mentioned and I had expected, is that it is a bit slow as it is written in Basic. It takes half-an-hour to divide one 100-digit by another one. Maybe some day I'll find a program in Machine Code

I enjoy playing about with large numbers for interest. I have simple programs, e.g. factorisation, to handle numbers up to one billion (1,000,000,000) which is the limit for Amstrad 'normal' arithmetic but larger numbers are much more complicated.

One practical application involving factorisation of large numbers is in Public-key Cryptography. The sender of a message operates on his text with some algorithm using the intended recipient's published code numbers to generate a cipher-text which can then be transmitted over any public communication system such as radio or telex but only the intended recipient can decode the message. The basis of the coding system involves very large prime numbers which are multiplied together. It

is very difficult, if not impossible in real time, to factorise this product.

Once again, many thanks to Stewart Peppiatt for his very prompt response to my enquiry.

John Shaw,  
12 Watermans Way,  
Wargrave, Berks.

[[Good old Stewart comes to the rescue again eh? Nice one. But have a look at the letter from Mr Priestley a couple of pages back John. It seems that it might be worth your while hunting down a copy of ZBasic, the figures really do whizz round -Joolz.]]

### NEWSFLASH...

FROM OUR MAN WITH THE COMPOUND EYES AND A PAIR OF BINOCULARS MICRODESIGN RUNS WITH NO ALTERATION FROM 3.5 DRIVES UNDER ROMDOS. MANY THANKS TO COLIN FAULKNER OF ROMBO PRODUCTIONS FOR HIS HELP | PROGRAM | TO SOLVE MD INK INVERSION PROBLEM. M/D CLIPART LIBRARY ( 200 PIECES ) NOW AVAILABLE FROM WACCI.INCLUDES CONVERTED DIGITISED IMAGES - STOP - MANY THANKS TO JESS HARPUR FOR HIS 3.5 LOADERS FOR ART STUDIO & STOP PRESS - STOP - MANY THANKS TO ALAN DONALDSON FOR ORIGINAL STOP PRESS CUTOUTS - STOP - RECENTLY PURCHASED 6128 PLUS, ANY MEMBER WISHING INFORMATION ON THIS MACHINE PLEASE CONTACT AFTER 7.00 PM - ON (041) 5544735 STOP - TIME = 12.21 PM FRIDAY 26.1.91, UTTERLY KNACKERED, GOODNIGHT - STOP

PETER CAMPBELL  
BULLETIN ENDS

[[Hmmm... sometimes I worry about you Peter. If anyone wants to get in touch with him I know that he is very eager to find out about compatibility problems with the new 6128 Plus machines. He's found that he can't get his Rombo Rombox, Vidi or his teletext unit to work with his Plus. Has anyone else had similar experience? -Joolz.]]

## CALLing you

Dear WACCI. Some time back you stated that anyone wishing to submit an article for publishing may do so. Well I would like to take up your offer and have appended three files to this letter, viz: CALLTUT1.TXT, CALLTUT2.TXT and CALLEXP.ASC. The first two are text files in the form of a mini-tutorial, describing the use of the CALL command in Basic with respect to calling Machine-coded routines. The last file is a Basic program to demonstrate the various types of parameters referred to in the tutorial.

I do hope the standard is up to the

level expected the writes tongue in cheek!) and if published will be useful to other inquisitive souls.

I also have other 'noddy' progs such as an RSX finder, it displays the ROM number and Address for RSXs like IERA and those useful disc RSXs like Kctrl D>. Also a targetting program for MUD players. But perhaps you must be inundated with such home-brew stuff for you PD Library, so I will hang on to them subject to your request for them.

Finally I do enjoy reading WACCI but find Saffron T. a bit too vulgar and feminist for my taste. For example, she didn't mention the case of the gross American lady that killed her hubby by sitting on him just because the poor sod disagreed with her. I think she was over 30 stone heavy. Nevertheless Saffron provides alternative reading that titillates those parts WACCI would otherwise fail to reach. I think! Regards George.

Mr George Ho-Yow  
6 Monmouth Road  
Hayes  
Middx UB3 4JQ

[[Thank you for the text George. I passed it on to His Nibs and he made appreciative grunting noises so I gather that it's going to appear in a future issue of WACCI.

Just as we are always open to members submitting articles for publication we are always ready to include programs in the Homegrown Library (although it sometimes takes OMG a while to get round to updating the FSW List.)

Yes Saffron seems to make a habit titillating those parts others fail to reach, must be something in the genes -Joolz.]]

## A final quickie

Dear Joolz, just a short query. I and two fellow CPC owners want to type in a very-very long program listing. We are wondering if it's possible to divide it up into three parts, type them in individually and then join the three parts together. Do you know of a program or utility which will allow us to do this?

Stan Davis  
Doncaster

[[Hi Stan. No need for a program simply turn to Chapter 3, Page 44 of your 6128 manual, or Chapter 8, Page 27 of your 464 manual and read-up about how to use the CPC's built-in MERGE command. Clever stuff eh?

Better still, if you have Protect, save the three parts of the Basic type-ins as ASCII files by typing:-

```
SAVE "FILENAME".a
```

Boot-up Protect, merge the three ASCII files and then save the file as a Basic one by adding a .BAS extension -Joolz.]]

# VERY

# basic

Written by  
Alan Tilling

Letters to:-

Very Basic Basic  
65 Lawrence Rd  
Altrincham  
Cheshire  
WA14 4EL

## This month Alan Tilling goes loopy and requests your help.

*Hello everyone, 'tis I.* For the benefit of the newcomers amongst us, the idea of this column is that any Basic keywords or ideas in general that give problems are discussed. If there are any difficulties to be aired, let me know either to my address at the top of the page or to Steve at WACCI HQ. If you have any problems or ideas for topics, please write soon because I am rapidly running out of ideas and when I have finally run out, VBB will of course stop.

## Nested loops

To me the phrase Nested Loops conjures up a picture of a mother bird perching on the rim of her nest with a worm looping round her beak. I don't know why, it is probably because I am ..err ...err, I am ...!barmy? Ed.!!

## Teacher's pet

Let's go back to school for a example that we all knew and loved-multiplication tables. Have a look at Fig 1.

```
10 CLS
20 REM tables-1
30 FOR number=1 TO 12
40 PRINT number;
50 NEXT number
60 END
```

*Fig. 1*

Well that's a single loop that prints out the numbers 1 to 12 on a single line but what is wanted is 1 two is 2, 2 twos are 4, 3 twos etc. Clearly this is calculated

using a loop but we want to do it for 2 times, 3 times ... 12 times.

One possibility is to get the CPC to ask which table is wanted. So put:-

```
INPUT "Which table is required?";t
```

as line 25 and edit line 40 to:-

```
? t*number
```

This will give number ascending by the value given at line 25 but still not all the tables.

What is needed is to make the computer start with the 2x table then automatically index itself on to the 3x table then the 4x and so on. Have a look at the program shown in Fig 2.

Yes, that got them all but they were not quite as expected. So now have a look at Fig 3.

## Figure it out

This gives a better answer. (Notice how each program makes use of the previous attempt. The line numbers start at 100 only because it makes the indentation of the loops clearer.) All that's needed now is to decide on the presentation. My idea of tables is:-

```
1x2=2
2x2=4
3x2=6 etc.
```

The CPC screen size of 25 lines is convenient because it allows two rows of tables on the screen. So if 1 to 6X on the top, 7X to 12X will be on the bottom row and since a lot of columns will be required, mode 2's 80 column mode is needed, hence line 140.

To brighten things up a bit, the title is placed on the screen right in the middle (lines 110 & 120.) Line 100 clears the screen and at the same time sets up the 40 column mode for the title. Line 130 is only there to hold the title on the screen long enough for it to be read.

## Deep thought

The best place to start analysing this program is to start at the most deeply nested (or the innermost) loop.

Line 190 says print, in window No. 1 the value of the (number) variable called mult, an X, the value of the (number) variable called numb, an equals sign and finally the product of the contents of mult times numb.

That sounds complex but a glance at 180 will reveal that (well, first time round anyway) the value of mult (1).

Another look back this time to 160 gives the value of numb (2) and so 190 says print in window No. one 1 X 2 = 2 which of course is the first line of the display. Notice that although no spaces are programmed, Basic puts them there automatically before each number variable. So the action is that line 190 is acted on and then Basic encounters the NEXT at 200 and goes back to 180, increments mult to 2 and prints line 190 leaving numb still at, by coincidence, 2 and then finds the NEXT at 200 and repeats until mult reaches 12 which causes the "mult" loop to be exited and 210 to be encountered.

## Steamy windows

Earlier it was said that the tables would automatically index across the screen. This infers that windows would be used and since there are to be a few the parameters must be changed a few times, hence the use of variables a,b,c and d in line 170. Before 170 can be acted upon a,b,c and d must contain sensible values and so line 150 sets up the window size of 14 across by 12 down.

Now 210 says that IF (the contents of) numb are less than 6 THEN add 13 to both (a) and (b). Variables c and d are not mentioned, so they stay as they were. Hence the window moves to the right by 13 spaces each time. The tests in 220 and 230 fail at the moment because



numb only equals 2. The next at 240 sends control back to 160 which increments numb to 3. 170 reallocates the window and the process repeats.

Eventually numb becomes greater than 5 which causes a and b to be reset to the original values and c and d to be altered to give the second row. 230 is similar to 210 but is used only when the tables are in the bottom rows of the screen.

## Under the table

Well that all sounds most clearly thought-out and quite logical but when it is run it will be found that it is not too good after the 6X table. Notice 10 X 7 = 70 is OK but then there is a blank line, 11 X 7 = 77, a blank line then, finally 12 X 7 = 84. Also the window had to scroll upwards to get to the end. The subsequent tables really are indescribable. These effects are caused by two things.

The first is that the window size is too

narrow and so when a line is filled, a new line is thrown automatically - hence the blank lines.

The other is line 220 which each and every time numb is greater than 5, resets the window parameters thus causing the subsequent windows and hence the further tables to be printed in the same place.

## Born three

With these points in mind the final, corrected version was born (shown in Fig 4.)

To make enough room, the 7X table has been moved up to the top row and the window size of the lower ranks has been increased (b=16 in line 190.)

Lines 210, 220 and 230 have been amended such that IF numb is less than 8 (don't forget, numb starts at 2 not 1) the window moves across but when numb=7 (and only 7) THEN reset the window

parameters. 230 says that IF numb is greater than or equal to 8 then move the window. Finally 250 means that a (any) key must be pressed before the CPC will do anything else, which in a nutshell, stops the display being all messed up by Basic's Ready prompt.

## Exit left

So that shows the development of the program from beginning to end. As you know, the variable names started out as number and multiplier. Because of constraints of the 38 column mode they were shortened which only goes to show that any name or letter can be used. If variable names are altered in a program using IF/THEN loops, ensure that if the NEXT term is identified, the identifier is altered accordingly.

Until next month,

Alan.

```
10 CLS
20 PRINT "Multiplication Tables."
30 FOR number=2 TO 12
40 FOR multiplier=1 TO 12
50 PRINT number * multiplier
60 NEXT multiplier
70 PRINT
80 NEXT number
90 END
```

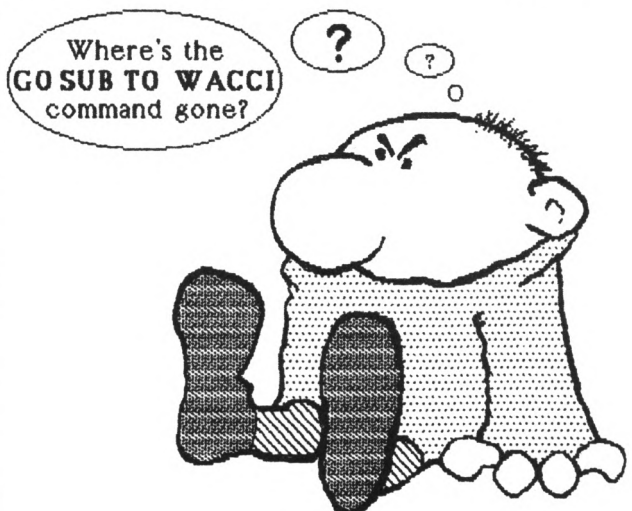
Fig 2.

```
100 MODE 1
110 LOCATE 14,12
120 PRINT "TIMES TABLES"
130 FOR delay=0 TO 1000:NEXT delay
140 MODE 2
150 a=1:b=14:c=1:d=12
160 FOR numb=2 TO 12
170 WINDOW #1,a,b,c,d
180 FOR mult=1 TO 12
190 PRINT#1,mult"X"numb"="mult*numb
200 NEXT mult
210 IF numb <6 THEN a=a+13:b=b+13
220 IF numb >5 THEN a=1:b=13:
    c=13:d=25
230 IF numb 240 NEXT numb
250 END
```

Fig 3.

```
100 MODE 1
110 LOCATE 14,12
120 PRINT "TIMES TABLES"
130 FOR delay=0 TO 1000:NEXT delay
140 MODE 2
150 a=1:b=14:c=1:d=12
160 FOR numb=2 TO 12
170 WINDOW #1,a,b,c,d
180 FOR mult=1 TO 12
190 PRINT#1,mult"X"numb"="mult*numb
200 NEXT mult
210 IF numb<8 THEN a=a+13:b=b+13
220 IF numb=7 THEN a=1:b=16:c=14:d=25
230 IF numb 240 NEXT numb
250 CALL &BB18
```

Fig 4.



# The WACCI archives

## The column where Richard Burton takes a nostalgic look back at the early issues of WACCI.

November 1986 and the second issue of the WACCI newsletter proudly described itself as a Europe-wide User's Club. WACCI was still being distributed on tape, disc and paper.

Unlike the present WACCI format issue number two contained no fancy graphics, headings or fonts (as you may be able to make out in the picture shown opposite.)

The founder and first Editor, Jeff Walker, started his column 'Thanx and Stuff' off with a sentence which has become a WACCI tradition... "First and foremost let me point out a couple of changes in the system." These words (or variations upon the theme) seem to have appeared in every issue since then (no time to rest upon your laurels, always trying to improve upon the last magazine.) I see that this issue is no exception.

The changes were:- an increase in the annual subscription, raised to twelve pounds, a new style subscription form, a new format for the tape version of the newsletter and changes to the WACCI software library.

Finally Jeff announced a "Recruit-A-Friend" drive, offering a month's extension of membership to anyone who introduced a friend to the wonderful delights of the thirty-five page newsletter.

The second issue also saw the arrival of no-less than five new columns:- Billy The Bookworm's Bookshelf, Dr Loco, Soap Box, another machine code column and The WACCI Competition. More about them later.

## Hot gossip

Stephen 'Scoop' Grainger came back from the 5th Amstrad Computer User Show raving, amongst other things, about VIDI - the Video Image Digitiser which digitises TV pictures on to the computer screen. Strangely he couldn't think of a use for it, adding "no doubt some bright spark will come up with a useful application." Unknown to Scoop that "bright spark" was to be John Kennedy (Auntie John) who produced a Star Trek comic strip using the gadget for issue four.

Scoop also brought home news of WACCI's first review. We were reliably informed that it appeared in the Teeside Evening Gazette and was written by someone called Eric Whitfield, who praised the first issue for its "high standard of content and value for money."

And while WACCI was still in the process of

getting its face known to the computer industry Amstrad announced record profits of seventy-five million pounds - six hundred and fifty thousand of it coming from the sale of the CPC range.

## All that glitters...

The power of retrospect gave us a laugh in Scoop's other column, Blast From The Past. In November 1985 software house US Gold said of their forthcoming game Impossible Mission:- "it's due for release on November 8th and we do not expect it to be significantly delayed." As Scoop said a year on, "US Gold obviously don't class TEN MONTHS as significant." Just goes to prove the wisdom of the old saying "any programmers estimate of a release date for a product should of course be taken with the entire annual output of all the Greater Siberian salt mines put together."

## Fair comment?

Although the Teeside Evening News liked the first issue of WACCI, the letters pages saw some pretty venomous criticisms of it from SD Glover. Amongst general slagging off he described the title screen as a hurried job and John Kennedy as a silly young man that incited children to put chocolate digestives in to disc drives.

However, the main criticism levelled around George Fontanini's games review column:- "How long has this guy owned an Amstrad? Has he got a 'phone? Why doesn't he ring up the software houses? The games reviews editor has got to get his act together or move aside. At the rate he's going he wants a bargepole!"

In his reply George Fontanini had some very crude suggestions for Mr Glover, such as:- "If you think the review column was rubbish, why don't you remove your finger from your \*\*\*CENSORED\*\*\* and send some in of your own?" The Editor was slightly more cool about the whole thing, merely stating "My initial reaction is one of utter indignation. Indignation not so much at your comments but at your tone." He then went on to answer the criticisms as calmly as possible but I think both his and George's anger could be summed up in another question George put to Mr Glover in his reply:- "Where did you develop your personality? In a car crash?"

## The WACCI compo

As I said earlier, issue two saw five new columns and one of them was the WACCI competition page. There were three questions:-

- 1) What was the title of Samantha Fox's first record?
- 2) What is the Latin for Fox?
- 3) To what family of plants do Foxgloves belong?

The first prize was a copy of Sam Fox Strip Poker. We were left to presume the runner-up got two copies of the software porn.

## The soap box

Another new column, Soap Box was designed so that members could discuss any computer related issue. Unfortunately no-one did. But then, it was only the first in the series.

## The dim-wit bit

Steve Anderson's gem of a series on machine code began in the second issue. It was a sort of 'Machine code for beginners' article and explained the purpose of the CPC microprocessor and how it counts. All very interesting stuff and written so that dim-wits like me can understand it.

## Auntie John

John Kennedy had seven (yes, SEVEN!) whole pages to himself in issue two. In 'Auntie John's Problems Page' he gave advice on cheap disc drives, rigging up headphones to your CPC, getting rid of scrolling messages in CP/M and the difference between blue and red Amsoft discs. It was also the issue in which he began to get worried about the amount of time he spent on his computer...

I stay indoors all the time with my computer and I'm a perfectly normal chap... sometimes. Well, okay, so using the computer all the time turns you into an anti-social code junky. But I'm not worried... I could give it up any time I want. Couldn't I? KIDS - JUST SAY NO! Z80 SCREWS YOU UP."

John answered a letter sent to him from a new club member. It read:- "Dear Auntie John, I really want a disc-drive for my computer but I can't afford one. What can I do? Yours, A.Poorperson."

Ever willing to help John replied:- "Dear A, Simple. Sell your computer and buy one. Of course, there are problems (like what to connect the disc-drive to) but you didn't say you wanted to USE a disc-drive." John then went on to explain how you could build your own disc-drive in order to save money.

And if that wasn't enough John also let his mate "Green" in on his column, to write two short stories. One was about space aliens and the other was about Ian Paisley... Errr... no, I won't (can't) even begin to try to explain it to you.

By the way, you can stop those horrible scrolling messages in CP/M by pressing the ESC key, followed by the O key and then the RETURN key. To switch them back on it's ESC I RETURN. You can even change mode by pressing ESC 3 0/1/2 then RETURN where 0/1/2 is the mode you require.

## The doctor's surgery

In a sort of fore-runner to Very Basic Basic, Dr Loco, alias Gary Burns, announced he would help anyone with their Basic programs. He started off by showing us how to draw

WACCI The Amstrad CPC Europe-wide User's Club

Newsletter No.2 for November 1986

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### THANK & STUFF

Hello again! First and foremost let me point out a couple of changes in the system. To avoid further confusion, subscriptions and requests for further information should be sent direct to WACCI HQ instead of to the Club Secretary, irrespective of what you may read at some later date in any magazine. Also, there is a change in subscription rates. This affects the printed copy only, the price of which I have had to increase to £12.00 per annum due, simply, to the unexpected size of it. Please see the enclosed subscription form for details of the new rates. And now we've GOT a newsletter, I can offer prospective new members one-offs so they can see what they're subscribing to. Once again, see the new subscription form for details.

Next, in response to a few grumbles about the time it takes the tape copy to load, I have saved this month's issue for you all at the faster speed, and split the newsletter into 7 parts instead of 3. Please let me know if you have any problems, if you think this is a better idea, or if you think I should split it still further. If anyone has a better idea for presenting the newsletter on tape/disc, I would be pleased to hear it.

I've made a few changes to the software library, too, this month. It's growing so quickly that I've had to condense the FSM pages and bundle some of the programs into logical packages. These count as one program as far as the copying charge is concerned. From time to time I say do this again to programs that are listed singly at the moment, and for the moment I'm using FSM-100 to FSM-109 as temporary homes for these orphans whilst they are waiting to be adopted. If you see one disappear suddenly, you'll find it under a later FSM number in a package, and if you've already got one or two of the programs in any of these bundles it won't matter as the copying charge is still 29p.

And finally, I'm making November National Recruit-A-Friend Month. To give you a little incentive, I'll extend your membership by one month for every new 12-month or 6-month subscriber you introduce before the 31st Nov. Just get them to mention your name with their subscription.

And now for something completely different....

complete circles in five seconds. Not only was that three times faster than the example given in the CPC manual but it didn't become dotted (like the example did) when large circles were drawn.

## The worm turns

The final article in the second edition of WACCI was supposedly written by a bookworm who lived on a shelf in the Editor's front room.

To kick off the series Billy reviewed five books that listed type-ins of various sorts. Comments ranged from "I wish publishers would stop using superlatives" to "Even the paper it's printed on is poor quality."

My favorite quote is:- "If you like spaghetti and enjoy typing in long-winded and confusing listings, then this is the book for you!"

## Alex Aird says...

Or rather, Alex Aird SAID... that "Deprotection is easy." The article was about removing protection from Basic program files and he went on to tell you how to do it in machine code.

## Outro

And that was how WACCI looked 45 issues ago. In the next 'WACCI archive' I'll be taking a look at the third issue. It was to be the end of an era - the last time that WACCI would be distributed either on tape or disc.

THE WACCI ARCHIVES



# Finishing Touches

## Part One of Glenn Carey's new series on spicing up your Basic programs

### Get set...

Right, first things first. If you've got any sort of hardware plugged into the back of your Amstrad type...

**IRONON,7**

before you start programming, if you don't then chances are you won't be able to type in the line shown in Fig 1.

This programs the F9 key to automatically set the mode to 2, the paper and pen back to normal, the colours back to default (CALL &BO2) and then Lists your program. All at the touch of a button. Handy, isn't it?

### Let's GO!

This month let's take a look at text and how you can muck around with it in Basic....

### Big text

To enlarge text for headings or loading screens try typing in the listing shown in Fig 2.

What this program does is to print the message at the bottom of the screen in PEN 3 (line 30) which is set at the same colour as the background (line 10), then it's scanned pixel by pixel (lines 40 to 60).

If a pixel is in PEN 3 then it is reproduced further up the screen, except bigger.

Here are some alterations you can make to the program to produce different effects, make sure you use them in order:-

For solid text alter line 50 to read as shown in Fig 3, shown on the page opposite.

A shadow can be created by inserting the extra line (55) shown in Fig 4, also shown on the page opposite.

If you want to convert the program to run in Mode 0, change lines 10, 40 and 50 to those shown across the page in Fig 5, (yes you've guessed... on the opposite page again.)

Text that slopes up the screen can be achieved by adding the following short instruction:-

**i=i+2**

in between the two FOR statements in line 40 and changing the PLOT statement in line 50 to read:-

**PLOT X\*2,200+(Y\*2)+i,1**

I get bored very easily and I've already had enough of all this shadow stuff, so let's move on a bit. Try deleting line 55 and go for split colours by changing line 10 to:-

**10 MODE 0:BORDER 0:INK 0,0:  
INK 1,6:INK 2,15:INK 3,0**

Try inserting a new line:-

**45 IF Y>6 THEN C=2 ELSE C=1**

And finally changing the plot statement in line 50 to read:-

**PLOT X\*2,200+(Y\*2)+I,C**

I'll leave any further alterations to your own imagination. Let me know if you come up with any good ones, I'll credit



any good suggestions that make it into print. Meantime type NEW followed by RETURN to get rid of the current program from memory and then you can have a bash at the following type-ins...

### TELETYPE

```
10 MODE 1
20 M$="NEWSFLASH! TELETYPE
NOW WORKING"
30 PRINT " ";
40 FOR X=1 TO LEN(M$)
50 PEN 1:PRINT CHR$(8);
MID$(M$,X,1);
60 PEN 3:PRINT CHR$(143);
70 FOR T=1 TO 50:NEXT T
80 NEXT X
90 PRINT CHR$(8);" "
100 PEN 1
```

## Teletype

This routine prints text character by character with a cursor. Let's concentrate on the meat of this one.

The main loop starts at line 40, then line 50 sets the pen to 1 and prints a backspace followed by a character taken from the string in line 20. Line 60 sets the pen to 3 and prints the cursor. Line 70 is a delay loop, and line 80 closes the main loop.

After this we're still left with a cursor, so line 90 deletes it, and line 100 sets the pen back to 1.

## Squashed text

With this routine you can add an extra thirteen characters to a line in Mode 1.

```
10 MODE 1
20 M$="SO THIS IS THE
  MESSAGE. YES, IT'S 53
  CHARACTERS LONG!"
30 FOR X=1 TO LEN(M$)
40 MOVE (X*12)-12,300
50 TAG:PRINT MID$(M$,X,1);
  TAGOFF
60 NEXT X
```

To be fair the result isn't so much squashed as spliced. That's because this program cuts the last four pixels off the width of each character. It does this by using the TAG command, which enables you to print at the graphics cursor instead of the usual text one. It's useful to fit a large sentence on to one line, or to simply give a different look.

## Text over graphics

Printing text over graphics usually results in horrible background blocks because the Paper setting is included, but you can get rid of this by typing:

```
PRINT CHR$(22);CHR$(1)
```

...to turn on overwriting in Basic, and:

```
PRINT CHR$(22);CHR$(0)
```

...to turn it off. An example program is shown in Fig 6. Lines 20 to 80 create a pretty graphic background. Line 90 switches overwrite on. Line 100 is a delay loop. Line 110 prints a message in Pen 2 and line 120 lists the program in Pen 3.

## Next month

I'll be scrolling and animating all over the place courtesy of the INK statement. Until then keep bashing away at Basic. Oh, and let me know if you've come up with any other Finishing Touches. Until again then... Cheerio.

```
KEY 9,"MODE 2:PAPER 0:PEN 1:CALL &BC02:LIST"+CHR$(13)
```

Fig 1.

```
10 MODE 1:BORDER 2:INK 0,2:INK 1,26:INK 2,0:INK 3,2
20 A$="MESSAGE"
30 PEN 3:LOCATE 1,25:PRINT A$;
40 FOR X=0 TO LEN(A$)*16 STEP 2:FOR Y=0 TO 16 STEP 2
50 IF TEST(X,Y)=3 THEN PLOT X*2,200+(Y*2),1
60 NEXT Y
70 NEXT X
```

Fig 2. BIG TEXT

```
50 IF TEST(X,Y)=3 THEN PLOT X*2,200+(Y*2),1:DRAWR 0,2:MOVER
  2,0:DRAWR 0,-2
```

Fig 3.

```
55 IF TEST(X,Y)=3 THEN PLOT 10+(X*2),190+(Y*2),2:DRAWR 0,2;
  MOVER 2,0:DRAWR 0,-2
```

Fig 4.

```
40 FOR X=0 TO LEN(A$)*32 STEP 4:FOR Y=0 TO 16 STEP 2
50 IF TEST(X,Y)=3 THEN PLOT X*2,200+(Y*2),1:DRAWR 0,2:DRAWR
  2,0:DRAWR 0,-2:MOVER 2,0:DRAWR 0,2
```

Fig 5.

```
10 MODE 1:BORDER 0:INK 0,0:INK 0,3:INK 1,1:INK 2,26:INK 3,24
20 A=20
30 FOR y=399 TO 0 STEP -20
40 A=A-1
50 FOR B=0 TO A STEP 2
60 PLOT 0,Y+B,1:DRAWR 639,0
70 NEXT B
80 NEXT Y
90 PRINT CHR$(22);CHR$(1)
100 FOR P=0 TO 2000:NEXT P
110 PEN 2:PRINT "Glenn Carey's":PRINT "THE FINISHING
  TOUCHES"
120 PEN 3:LOCATE 1,5:LIST
```

Fig 6.

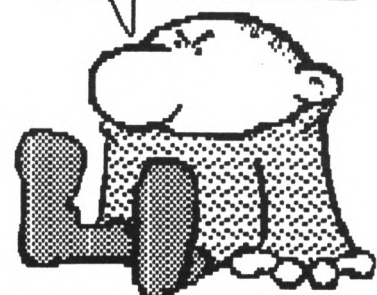
Life....

by Steve, John and Andy.

I think I'm slightly  
more than unlucky...



...my swimming pool's  
just been burnt down.



# A Passing Thought

## The truth, the whole truth and nothing but the truth from the pen of John Ridge

It is not my intention to poach upon the preserve of Mr Tilling. If he has not already done so by the time you read this, I am sure he will eventually discuss Boolean operators in one of his articles on elementary Basic, no doubt with greater clarity and authority than I could ever aspire to achieve.

However, the propositional (or sentential) calculus is, in my view, rather a neglected subject despite it being well worth exploring by anyone with an interest in programming. So if Mr Tilling will forgive me, I will just run quickly through a few of the ground rules. In the sort of logic we will discuss, an assertion or proposition will be either TRUE or FALSE. There will be no place for intermediate degrees of truthfulness or for qualification.

We will start by seeing how the CPC handles truth values. I imagine the Basic supplied with the PCW range will behave similarly but frankly I don't care. Try the following:-

```
IF 0 THEN PRINT "False"
ELSE PRINT "True"
```

It would seem that the computer indicates FALSE by 0 (zero). Now try:-

```
IF 2 THEN PRINT "True"
ELSE PRINT "False"
```

The computer indicates TRUE by 2. If the number 2 is replaced by any non-zero number, positive or negative, integer or not, the computer will still indicate TRUE. The meaning and use of the relational operators:-

```
=, <, <=, >, >= and >=
```

are known to most people and need no discussion here. However, a word or two might be in place regarding truth-functional connectives or, as the manual calls them, Boolean operators. Our

Amstrad Basic supports four, namely, NOT, AND, OR and XOR. The absence of IMP (implication) and EQV (equivalence) found in some other dialects, for instance Microsoft's Quick Basic, will seldom be noticed by most, although they will be discussed later.

Starting with AND (conjunction) it will be found that if every connected statement (conjunct) is TRUE and thus the whole is TRUE, the computer will return -1. For example, how about:-

```
PRINT (2=2) AND (3=3)
PRINT (2=2) AND (3=3)
AND (4=4)
```

In both cases -1 (TRUE) will be returned. But if AND is replaced by a logical multiplier, the normal rules of arithmetic will apply. Multiplying an even number of negative values will produce a positive value. Try:-

```
PRINT (2=2) * (3=3)
PRINT (2=2) * (3=3) * (4=4)
```

The first will return 1 and the second will return a value of -1. The logical evaluation is not affected, for as we know, any non-zero number indicates TRUE but the change of sign might be significant in certain circumstances.

An example would be if we chose to use +1 in place of NOT (negation) which is perfectly in order when we use AND but could produce an erroneous result if we used the logical multiplier. As an illustration, try:-

```
PRINT NOT (2=2)
PRINT (2=2)+1
```

The result is 0 (FALSE) in both, which is expected. But:-

```
PRINT NOT ((2=2) AND (3=3))
PRINT ((2=2) * (3=3))+1
```

The first returns 0 (FALSE) but the second 2 (TRUE). Therein lies the danger,



which in this instance is obvious but I have been caught out myself when trying to condense several program lines of convoluted logic into a single line in order to baffle copiers and impress the peasants. Nowadays I realise that my programs are not worth copying and impress no one and am a lot better off for the knowledge, I dare say.

One purpose for which +1 is suitable is to create the NAND operator (NOT AND). NAND is much favoured as a logic-gate by people who design chips. I am told, although not quite of such interest to we lesser mortals.

Incidentally, I am well aware that many but by no means all, of the parentheses in my examples are redundant. They are there to add clarity of meaning. At least, that is my intention.

OR (inclusive disjunction) can be replaced by a logical adder if desired. Once again, though, caution is required.



Compare the following two examples:-

```
PRINT (1=2) OR (3=3) OR (4=4) OR (5=5)
PRINT (1=2) + (3=3) + (4=4) + (5=5)
```

The first returns -1 and the second -3, both of which mean TRUE, of course. Similarly, XOR (exclusive disjunction) can be replaced by subtraction provided it is realised that the results will be logically the same but possibly numerically different.

The use of division is not really feasible as it will, in some cases, lead the computer to attempt division by zero. Normally, the computer will report an error but internally it approaches as nearly as it can to infinity, namely 1.70141E+39. We could force it to bypass the error message and continue, which is occasionally useful with such things as the tangent of angles approaching 90 degrees but to do so with a truth value would be a little risky perhaps.

IMP (material implication, conditional) is familiar enough to us in the form IF...THEN... which we know as a command in Amstrad Basic. The assumption is that if A is TRUE then B is also TRUE and if A is FALSE then it is irrelevant whether B is TRUE or FALSE. The problem arises if A is TRUE, in which case it matters a great deal whether B is TRUE or FALSE. Yet we do not test the truth value of B.

Suppose we put it in verbal form and say "IF Tokyo is in Japan THEN pigs have wings." As Tokyo is known to be in Japan, the implication must be that pigs do indeed have wings, which is patently FALSE. In a program, this could be:-

```
IF a=6 THEN b=7
```



However, even though the antecedent (a=6) of the conditional may be TRUE, it may well be that the consequent statement (b=7) is FALSE, although then again it could be TRUE for all we know. It is sometimes said that examples of implication such as:-

```
IF (2=3) THEN (4<>4)
IF (2=3) THEN (4=4)
```

or their equivalents:-

```
(2=3) IMP (4<>4)
(2=3) IMP (4=4)
```

are trivially true but I cannot see that saying so is very helpful. As meticulously careful programmers we always make sure that when we use IF...THEN... the conclusion is TRUE, so



problems are unlikely to arise.

Possibly as a result of having led a very sheltered life, I have not come across an accepted abbreviation for strict implication, although I know of symbols. Perhaps some logician amongst you could let me know if one exists.

STRICT IMPLICATION (conditional) does not depend wholly on the truth values of A and B, so unlike material implication it is not a truth-functional connective. The aim is to avoid paradoxes and leaps in logic of the type:- IF old Ridge eats sausages THEN snow is white.

We are straying into the domain of modal logic here and perhaps digital computers are not really ideal judges of necessity and possibility. Someone who has explored such matters with his computer might care to write a short



piece on the subject. I for one would be most interested in his findings.

EQV (material equivalence, biconditional) is the relationship "if and only if" holding between two propositions or statements only when both are TRUE or both are FALSE.

```
a EQV b
```

is defined, therefore, in the form:-

```
IF (a IMP b) AND (b IMP a)
```

As we lack both IMP and EQV in Amstrad Basic we have to cope with them rather inelegantly. They can be helpful, though, when planning a program on the back of an old envelope.

The foregoing diatribe doubtless falls between two stools, being confusing to beginners and irritatingly uninformative to experts. If so, then I hope it will provoke both into a discussion of what I have explained badly, inadequately or not at all. That way computer logic and its uses will get an airing, which is something I feel is long overdue. So sharpen your weapons of criticism, start up your word-processor and begin:- "Ridge's piece, as always, was a load of codswallop, this time because..."

```
JOHN RIDGE
Sofies Gate 14
OSLO 1
NORWAY
```

# FORTH

Not so much a program,  
more a way of life....

How to survive the nineties by Alan Tilling and Clive Bellaby.

## First off

Here we are again, trembling on the starting blocks at the start of a brand new series. This one has the additional magic ingredient; yes, it comes complete with two authors.

Dangerous though it may seem, two of WACCI's regular writers Alan Tilling & Clive Bellaby have got together to introduce you to a new programming language, Forth.

You are probably wondering why this series needs two writers. Well, Brian, let's go straight over to Nottingham for a direct quote from Uncle Clive.

*"Well you know Steve we've been having a lean spell recently and we thought, you know, well it seemed a good idea, you know blah blah..."*

Maybe you didn't want to know after all...

## The learning curve

The real reason is very simple. Alan and I came together to learn how to program in FORTH as well as to write this series. If you want to place the blame anywhere for this series, hit Graham Fletcher in Northampton. It was his letter which started it all.

Not only does this series have two authors but it will feature additional material from Graham, the one and only Paul Derryhouse and anybody else we can con into helping- err, sorry, anyone else from a galaxy of stars...

## A History lesson

FORTH was written By Charles Moore in the late sixties. Charles Moore was responsible for writing programs to control the giant radio telescope at Kitt Peak in Arizona and he got fed up with writing programs in FORTRAN and ALGOL because of the problems involved in debugging his work.

Charles was not one to take these problems lying down, so over a period of about five years he developed a new computer language to make his work easier. He couldn't have known at the time how widespread and popular his language was to become.

Charles wanted to call the language Fourth, because he thought of it as a

fourth generation computer language. However his IBM 1130 only allowed him to use a maximum of 5 characters for a program name, so he settled for FORTH. His original program written in 1968 is still in use today, controlling the same radio telescope.

## It's a language

FORTH is a high level language which sits somewhere between a compiled language such as COBOL and an interpretative language such as Basic.

FORTH is interactive; ie a newly entered line will be declared as error free (or not) by the interpreter as it is entered.

FORTH runs its object program about ten times faster than Basic. How does it achieve this contradiction? It checks each line as it is entered and immediately compiles it. If it is happy with the line it gives the thumbs up sign in the form of the OK prompt.

There is a sting in the tail though, in fact there are two. One is that FORTH uses reverse Polish notation and the other is that a program is built up from a data dictionary which itself is built up from a kernel of Basic (with a small 'b') FORTH words (in a manner not unlike LOGO.)

Another point which should be borne in mind is that FORTH is a "stack" oriented language.

## It's a stack-up

This parameter stack, usually called, in FORTH, the data or computation stack but mostly just "the stack", can be likened to piles of many things, dinner plates, playing cards or Pink Floyd albums, but I am going to use the bill spike analogy.

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

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

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

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

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

## Polish in reverse?

RPN (reverse Polish notation) is a grandiose name for what seems at first to be a complicated way of doing arithmetic.

But it isn't complicated at all. Strange as it may seem it is the way you were taught to add up when you were in the infants school. In the junior school no doubt you learned the method you use today ie 1+2=3 but RPN was taught first. Remember this?

$$\begin{array}{r} 1 \\ 2+ \\ \hline ? \end{array}$$

or if you put it on a single line:-

$$1+2 = ?$$

It goes:- take the number one. Take the number two. Add it. That's all there is to RPN.

Reverse Polish notation becomes easier to understand if the computer is used to demonstrate as FORTH is explored.

Now over to our resident CP/M 'guru' Uncle Clive for a summary of the Forth language structure.

## Forth Structure

Why should you want or even need to learn another language? What can Forth do that Basic or Cobol can't?

Basic gives you good screen handling speed, Cobol gives good file handling speed,

so what do you get from Forth?

Forth has been written to give good data handling speed. It is a half-way house on the road towards learning the highly structured languages like C & Pascal.

There are two main variations of the Forth language, FORTH-79 and fig-FORTH. We will be using the CP/M v2.2 version of fig-FORTH. This is the original PD version of the language and was based on the 8080 chip which, as any CP/M fan knows, is the original CP/M chip. It's now been superseded by the Z80.

As well as the two main variations of Forth, many other versions of the language exist, including polyFORTH, FORTH83 and a ROM based version for the ZX81, so if you're considering buying a book, make sure that it is for your version of Forth.

The 'fig' in fig-FORTH stands for the Forth Interest Group, who promote the use of the Forth language world-wide.

The two main variants of Forth are very similar, the main difference between them being the range of base words that you start with in the dictionary.

## Setting forth

So how does Forth work? You start with a dictionary of key words, each of which calls a sub-program. You use the original key words to build new words, or programs, which you then add to your dictionary.

The new words are then combined to form more new words and eventually you will define one word which contains the whole of your program.

Forth has one other unusual feature. Although it uses the disc to store its data, the data is not stored using filenames; Forth saves data to disc in 1k blocks (screens) and all you need to do is to select which 1k block you wish to use. Forth does the rest automatically.

This method uses all the 170k disc space, which means that you have to reserve a disc which must be used only for Forth.

Over the next few months we will be covering all these points in greater detail.

## The golden spires

Over the years, members have written to WACCI asking how they can use the PD version of Forth. The simple reply to that question is, you can't.

The original version does not work. Why? What on Earth is going on? How dare you! Thanks Peter that's enough of that!

Even as I write this bit, I can hear these cries ringing through WACCI's golden towers as the faithful trudge their way past the guards hoping for that long awaited glimpse of Joolz.

Before I am lynched by an angry mob of *OMG* fans I had better explain, even

though her indoors would prefer the insurance money.

WACCI's original version consisted of three programs:-

```
FORTH .DOC 4k (DOCument file)
FORTH16K.COM 8k (COMmand file)
FORTHV1 .ASM 42k (ASseMbler code)
```

What nobody realised was that you had to write your own 'editor' commands and add them to Forth's dictionary and that FORTH16K.COM had been corrupted. These limitations can be overcome, if you know what to do and you have plenty of time to spare.

I should know: it took me *that* long to sort out the problems. If you would like to know how to upgrade the original version then feel free to give me (Clive) a ring and I will explain, but be prepared to pay for a long phone call.

I could now ramble on for pages of boring text explaining what to do but instead we decided that...

## The free offer

(Well it won't cost you much.) If you send either of us your original version of Forth on a disc, complete with a stamped self-addressed envelope and a jiffy bag, we will send you the updated version of Forth along with detailed document files which now fill one side of a 3 inch disc.

The revised version comes complete with an 'editor' and has been fully tested on the 6128 using CP/M v2.2.

To avoid problems with this offer please follow these instructions carefully.

A. Write your name and address on your disc.

B. Ensure that The disc contains only the original corrupted copies of Forth.

C. Do not send us any of those cheap imported discs.

## Buy it from WACCI

If you do not possess a copy of Forth and you would like to obtain it, then the new improved error free version can be purchased from WACCI. Ask *OMG* for details.

## Making a work disc

Why make yourself a work disc? There's a simple answer to that question. If your work disc is damaged then you can always make another work disc. If your original program is damaged, then it's out with the cheque book to buy another copy of the program.

The first stage in making your work disc is easy. Get hold of a blank disc and format it as a CP/M v 2.2 system disc.

The second stage is just as easy. Copy FORTH.COM onto both sides of the disc using PIP, FILECOPY, NSWP or any

program copier that you have near at hand. Done that? Okay, then you are ready to start programming in Forth.

Now it's back to Alan for your first Very Basic Forth program.

## Warning

Let me repeat ourselves, (good bit of syntax that.) Do not, repeat, do not under any circumstances copy any other programs onto your Forth disc. If you do you will corrupt the program.

## Loading forth

Reset your computer, put your newly created work disc in the disc drive, then invoke CP/M v2.2 by entering ICPM from Basic.

You will be surprised how quickly CP/M v2.2 loads in comparison with CP/M+. FORTH is loaded by typing at the A>

```
FORTH [CR]
```

The program will load and display the message:-

```
8080 figFORTH 1.20
```

Before we go any further let me raise two points:-

- (1) All the key words must be entered in UPPERCASE so press the CAPS LOCK key.
- (2) [CR] means press the Return key.

## Are you a square?

The first example program instructs Forth to find the square of a number. So if you'll be so kind as to type in the following:-

```
10 [CR]
```

This stores the value 10 on the stack. When you have correctly entered a command, Forth will respond an 'OK' prompt. If you make a mistake Forth responds with an error message. Next:-

```
DUP [CR]
```

This word duplicates the number on the stack, so the stack now contains two values of 10.

```
* [CR]
```

\* is a word and it does what you'd expect. It removes the top two values from the stack, multiplies the two values, then stores the answer on the top of the stack.

```
. [CR]
```

Surprising as it may seem, the full stop, too, is a word used by Forth.



It instructs Forth to remove the value from the top of the stack and display it on your VDU, rather like '?' for 'PRINT' in Basic.

The last value added to the stack is 100, which was created and added to the stack by the '\*' command.

So if all has gone well, your VDU will now display 100 immediately after the full stop.

## Error

The stack is now empty; you can check this out by entering once more:-

```
. [CR]
```

Forth will respond with:-

```
. 46. ? MSG # 1
```

What's this? That's right, it's your first ever error message. Ok, so it isn't that helpful.

There is *no* list of error messages, so as you learn Forth you'll need to write your own error message list. This is as fine an example of user hostility as you'll find.

This error message is advising you that the stack is empty, so you can't take a value off it to display on your VDU.

## Multiple commands

Multiple instructions can be entered; try the following:-

```
10 DUP * . [CR]
```

These are all the instructions that you entered earlier, but in one go, and they produce the same result of 100. You can even enter . [CR] again to produce the same error message.

## It's a dictionary

As we said earlier, the Forth language contains a dictionary of key words, so how do you find out which words have been defined?

Before we do that, let's delve one stage deeper by explaining that the dictionary is divided into different vocabularies.

At this stage your version of Forth has two vocabularies, FORTH & EDITOR. To find out the words contained in each vocabulary enter the following.

```
FORTH [CR]  
VLIST [CR]
```

The screen will fill with the words in the FORTH vocabulary. There's a lot of them, isn't there? *(at the last count I made it over 400 -Clive.)* Now lets try the following:-

```
EDITOR [CR]
```

```
VLIST [CR]
```

The screen will fill again, but this time it contains the words associated with the EDITOR vocabulary, followed by the words associated with the FORTH vocabulary.

## Making a new word

Before you define a new word, you need to decide which vocabulary you wish to add your new word to. You select the vocabulary by entering either FORTH or EDITOR and then pressing [CR].

Our first new word is going to be added to the FORTH vocabulary, so we need to select the FORTH vocabulary by entering:-

```
FORTH [CR]
```

How do you tell Forth that you wish to define a new word and how do you tell it when you have finished defining your new word?

All new word definitions must start with a colon ':' followed by a space, followed by the name of the word, the instructions associated with the word, and finish with a space and a semi-colon ';'.  
:

Our first new word is called SQUARE and, as its name suggests, it squares a number.

The way it does it is by duplicating the top value on the stack, then removing the top two values from the stack, multiplying them together and placing the answer back on the stack. It then removes the answer from the stack and, finally, displays it on your VDU.

It sounds very complicated but all you need to do is enter:-

```
: SQUARE DUP * . ;
```

The word has been defined and added to the FORTH vocabulary. You can check this by entering.

```
FORTH [CR]  
VLIST [CR]
```

And there it is at the start of the list of words in your FORTH vocabulary. Let's check it out, by entering:-

```
10 SQUARE [CR]  
8 SQUARE [CR]  
25 SQUARE [CR]
```

Did you get the right answers of, 100, 64 and 625? Yes? Whizzo!

## Goodbye to all that

When you have had enough of Forth you exit Forth by entering:-

```
BYE [CR]
```

And with a quick wish, there you are,

back at the A> CP/M v2.2.

## A dirty trick

Now I should have told you that the word you just defined has now been lost; you didn't save it. Perhaps you'll remember to do so in future.

OK, so it's mean to do this to you but you should always remember the lesson:- *SAVE YOUR WORK BEFORE YOU USE THE BYE COMMAND.*

## Saving your work

Lets save a new word, so load Forth, at the A>

```
FORTH [CR]
```

Select the FORTH vocabulary:-

```
FORTH [CR]
```

Yes, I know that entering Forth twice seems a bit silly, but then again, so is life. Define your word (again):-

```
: SQUARE DUP * . ;
```

Check the word exists:-

```
FORTH [CR]  
VLIST [CR]
```

And now, save the word:-

```
FORTH [CR]  
SAVE [CR]
```

This is a nice word, obvious too; it tells Forth to save any new words that you have defined and displays a message telling you all about what you have saved. Have a good gander at the message, it should be self explanatory.

Before we go any further, did you know that CP/M can 'save' programs to disc? No?

Well it can; the command SAVE does just that. It saves programs to disc, and at the A> of CP/M v2.2 you can enter, "SAVE n filename.ext

Here, 'n' is the length of the program measured in 256 byte blocks. How do you find out how many 256 byte blocks you wish to save? Don't worry, the SAVE command does all that for you.

Back now to our example. Now exit back to CP/M by entering:-

```
BYE [CR]
```

This returns you to CP/M, so save your updated copy of Forth by entering,

```
SAVE n FORTH.COM
```

Where n is the total number of 256 byte blocks to be saved and with a quick buzz of your disc drive your updated version of Forth has been saved to disc.

## Check it out

Lets check that this has worked, at A> type

FORTH [CR]

which loads Forth.

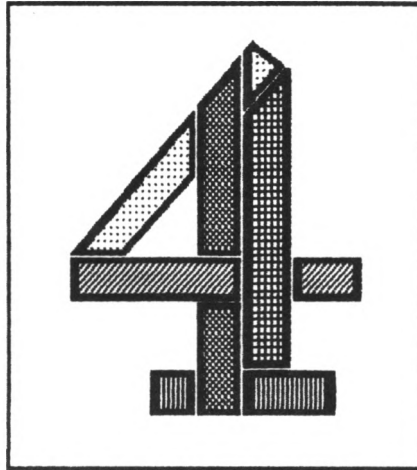
FORTH [CR]

to select the FORTH vocabulary.

VLIST [CR]

list the contents of the vocabulary. And there at the start of the list is your new word SQUARE. VLIST fills the screen and the scrolls off the top so you may find that it is difficult to spot the new word. VLIST can be stopped by pressing [CR], which gives you time to study the list.

SQUARE is the first word listed to the screen because the dictionary works on a 'first in last out' principle. You should



check that SQUARE still works correctly by entering:-

10 SQUARE [CR]

Check that the answer is 100. If it is then phone WACCI and ask for your spot

prize of two used stamps and a 1987/88 London phone directory (with not a word about 071 or 081.) Now enter:-

BYE [CR]

And you are back at CP/M's A>. Let me make one point quite clear, you only need to run the 'SAVE' command and use CP/M's, "SAVE n filename.ext" if you have defined some new words that you need to save as part of Forth's dictionary.

## Bye-bye

Ok, that's it for this month, Happy Forthing.  
Alan & Clive.

Clive Bellaby  
12 Trafalgar Terrace  
Long Eaton  
Nottinghamshire  
NG10 1QP  
0602 725108

Alan Tilling  
65 Lawrence Road  
Altrincham  
Cheshire  
WA14 4E1

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# The WACCI FSW Library

## The WACCI CP/M Public Domain software programs

These CP/M programs have been tested by WACCI on an Amstrad CPC6128 and PCW8512 computer. Although the programs have been tested, they are supplied on an as-is basis. WACCI accepts no liability for faults or non-operation. Refer to the *'Pick-a-disc page'* to find out which disc a particular program is on.

CPM-001: BINCALC .... On-screen calculator	CPM-051: INVENT .... Inventory database
CPM-002: COMPARE .... Compares two files for differences	CPM-052: VDE ..... Fast, powerful word processor
CPM-003: LOOK ..... Views and Edits ascii and binary files	CPM-053: SPELL ..... Spelling checker with dictionary
CPM-004: NDDT ..... Improved version of DDT	CPM-054: SCRIVENER .. Relational spreadsheet/database
CPM-005: NSWP ..... Disc and file management utility	CPM-055: JRT PASCAL . Floating-point, standard version
CPM-006: BK20 ..... Assigns character strings to keys	CPM-056: JRT MANUAL . Manual on disc for the above language
CPM-007: RASMB ..... Z80 reverse assembler	CPM-057: COBOL ..... NPS Micro-Cobol v2.1
CPM-008: UNERA ..... Unerases erased files	CPM-058: FORTH ..... 16K version, can be enlarged easily
CPM-009: XIZI ..... BOBO to Z80 to BOBO code translator	CPM-059: STDIC ..... A version of the language
CPM-010: ZMAC+ZLINK . Z80 assembler and linker	CPM-060: EXPERTB6 ... A very good expert system
CPM-011: CONV2 ..... Converts CP/M 2.2 files to CP/M Plus	CPM-061: MEX ..... Modem Executive comms utility
CPM-012: LASM ..... Improved version of ASM	CPM-062: KERMIT ..... Comms utility for little green frogs
CPM-013: LDHD ..... Improved version of LOAD	CPM-063: LUCKY13 .... Lottery number generator and checker
CPM-014: Z80ASM ..... Z80 assembler	CPM-064: LOBAN ..... LOBic ANALyser and frequency counter
CPM-015: Z8E ..... Z80 debugging monitor and assembler	CPM-065: WSCLEAN .... Clears the high bits from text files
CPM-016: ZDEBUB ..... Non-symbolic Z80 debugging tool	CPM-066: DPT ..... Three Pass Optimiser for Small C
CPM-017: SMALL-C .... Floating-point version of the language	CPM-067: STARTREK ... Beam me up Scotty
CPM-018: SCI ..... Small-C-Interpreter	CPM-068: HEXTD .. ... Make DATA loaders from HEX files
CPM-019: EBASIC ..... Compiles a subset of Basic to m/code	CPM-069: MAXELCAT ... Print out a catalogue of all your files
CPM-020: LISP ..... The essence of a Lisp interpreter	CPM-070: MAKEASM .... Converts ZMAC files to JRTASM
CPM-021: EPRD ..... A version of the Prolog language	CPM-071: BOTRK ..... Stick a 5.25" drive on your CPC
CPM-022: CHEK ..... Checks disc quality	CPM-072: ZSM ..... PD assembler
CPM-023: D ..... Directory utility	CPM-073: DISZ80 ..... Z80 op-codes into Zylog, 696 mnemonics
CPM-024: DISKDOC .... Disc doctor (not sure how it works)	CPM-074: CPM2TD3 .... Run 2.2 programs under CP/M Plus
CPM-025: DISPLAY .... Displays text files f/wards or b/wards	CPM-075: XRAS..... Scrolling bulletin board host program
CPM-026: ED.DOC ..... Instruction file for ED.COM	CPM-076: MFT ..... Easy one-drive Multi File Transfer
CPM-027: FDRM3 ..... Allows CPC owners to read PCW discs	CPM-077: CRUNCH ..... User-friendly file squeeze/unsqueeze
CPM-028: GREP ..... Emulates the UNIX grep command	CPM-078: SIDWAYS ... Prints spreadsheets sideways
CPM-029: LOOKAT ..... Dumps files in ascii format	CPM-079: DISCKITA ... General purpose disk formatter +
CPM-030: RPIP ..... Improved version of PIP	CPM-080: CLEANUP .... Slicker file erasing and typing
CPM-031: SD ..... Directory utility	CPM-081: SUPERZAP ... A full screen interactive disc utility
CPM-032: SETCOLOUR .. CP/M 2.2 easy colour-change command	CPM-082: PASSWRD ... Protect your programs from prying eyes
CPM-033: SORT ..... Sorts the contents of text files	CPM-083: SCRAMBLE ... Similar to PASSWORD but trickier
CPM-034: VLIST ..... Controls text file scrolling speed	CPM-084: DISPLAY .... A smart text reader
CPM-035: WCDUNT ..... Counts the words in text files	CPM-085: FILECHOP ... Breaks down ANY program
CPM-036: LBRDISK .... A library utility	CPM-086: LIST ..... Improve the appearance of listings
CPM-037: DU ..... Powerful disc sector editor	CPM-087: MAKE ..... Simplifies area user changes
CPM-038: NULU15 ..... Improved version of Library Utility (LU)	CPM-088: NEWCCP ..... Adds extra commands to CP/M
CPM-039: WRDCOUNT ... Another word-counter	CPM-089: PCW ..... Read AND write to PCW formatted discs
CPM-040: ADVENT ..... Big text-only adventure	CPM-090: EPSETUP .... Config program for Epson printers
CPM-041: TEAM-BEN ... Scoresheet generator	CPM-091: B29 ..... NSWP workalike, views COM files as well
CPM-042: UBERFUNC ... A small library of Basic DEF FNs	CPM-092: MFT+ ..... Multi File Transfer with two drives
CPM-043: BID ..... Biorhythma chart generator	CPM-093: PRINT ..... Text file printing aid
CPM-044: CAL ..... Calendar generator	CPM-094: RESCUE ..... rescues corrupted discs
CPM-045: CHESS ..... CP/M 2.2 version of the board game	CPM-095: CRCBUILD ... Catalogue your discs. (CP/M 2.2)
CPM-046: BOLF ..... A text-only swipe round the golf course	CPM-096: HCAT ..... Catalogue your discs. (CP/M +)
CPM-047: MAZE ..... Maze generator	CPM-097: EDIT ..... A text editor
CPM-048: NEWPUZ ..... Wordsearch generator	CPM-098: FINBT ..... Cardbox filer program
CPM-049: DTHELLO .... Version of the board game	CPM-099: SHELL ..... CP/M menu driven environment
CPM-050: UKM7 ..... Comms utility adapted from MODEM7	CPM-100: BD04 ..... Checks discs for bad sectors and files



CPM-101: ALLDIR ..... (2.2) All User Area DIRs  
 CPM-102: UDIR ..... CP/M+ All User Area DIRs  
 CPM-103: VIEW ..... Prints ANY file to the screen  
 CPM-104: OSBZAMS .... Run Osbourne CP/M programs on the CPC  
 CPM-105: ANDYBASE.... Powerful database program  
 CPM-106: VDE266 ..... The ultimate version of CPM-052  
 CPM-107: XDX ..... Pascal version of noughts and crosses  
 CPM-108: RDMS ..... Read MS-DOS files  
 CPM-109: UNERA ..... Recover erased files

CPM-110: STATUS ..... Displays the current status of your CPC  
 CPM-111: PACMAN ..... CP/M version of the arcade game  
 CPM-112: MAKEBATCH .. Easy creation of submit files  
 CPM-113: ANDYBASE ... Powerful database  
 CPM-114: TORADD .... Graphics, colour and sound under CP/M2.2  
 CPM-115: CLB ..... Clear screen under CP/M.  
 CPM-116: INBTALL .... A guide to installing VDE on the CPC  
 CPM-117: TUTOR ..... Pascal tutorial (whole disc)

## The WACCI Homegrown software programs

These AMSDOS programs have been tested by WACCI on an Amstrad CPC6128 computer. Although the programs have been tested, they are supplied on an 'as-is' basis. WACCI accepts no liability for faults or non-operation.

Please note that these programs are not in the Public Domain, they are copyrighted by WACCI and their authors. Refer to the 'Pick-a-disc page' to find out which WACCI Disc a particular program is on.

AMS-001: MIDWRDL ..... Graphical adventure  
 AMS-002: MINIMON ..... Mini machine-code monitor  
 AMS-003: CHARDES ..... Big-character designer  
 AMS-004: HEADER READER .... Colourful tape header reader  
 AMS-005: FRUIT WORM ..... The old caterpillar/fly type game  
 AMS-006: OTHELLO ..... Reversi simulation  
 AMS-007: FOUR IN A ROW .... Version of Connect 4 board game  
 AMS-008: THE WORLD ..... Graphics demo of Earth spinning  
 AMS-009: CHAT ..... Based on the famous Eliza  
 AMS-010: JIGSAW-1 ..... Educational jigsaw  
 AMS-011: EDDY ..... Good text editor for all CPCs  
 AMS-012: XDX ..... Two player noughts and crosses  
 AMS-013: PONTODN ..... You against the computer  
 AMS-014: PROBDCC ..... Programmer's utility  
 AMS-015: HELPING HAND ..... Decision aid  
 AMS-016: BOMBER ..... Bomb the town & land your plane  
 AMS-017: LIFE ..... The Game of Life  
 AMS-018: LOCK'N'KEY ..... Maze game  
 AMS-019: TUNNEL DIVE ..... Freefall game  
 AMS-020: HEAD ..... Tape or disc header reader RSX  
 AMS-021: MEMDATA+ ..... M/code into data statements  
 AMS-022: KEYDEF ..... Single keypress command typing  
 AMS-023: DARTS ..... Bonk... Bonk... Bonk... 180!  
 AMS-024: GRID WARRIOR ..... Another caterpillar/fly game  
 AMS-025: JIGSAW-2 ..... Educational jigsaw  
 AMS-026: STAR CHASE ..... Space shoot-em-up  
 AMS-027: UFO ESCAPE ..... Maze game  
 AMS-028: HEADLESS ..... Headerless file tape to disc  
 AMS-029: BEETLEMANIA ..... Machine-code game  
 AMS-030: DISC ..... Intelligent disc menu  
 AMS-031: SDUMP ..... Five mode 1 & 2 screen dumps  
 AMS-032: ENLEBERT ..... Bert game  
 AMS-033: GLOBE ..... View Earth from space  
 AMS-034: MULTIPROB ..... Holds 4 Basic progs in a 2nd 64K  
 AMS-035: PIXELPLOTTER ..... 612B Etch-a-Sketch program  
 AMS-036: STORY ..... Zany program that invents stories  
 AMS-037: FUNCTDR ..... Plots graphs of matha functions  
 AMS-038: FUNCTBOL ..... Solves quadratic equations  
 AMS-039: FORMULAE ..... Mixes chemicals  
 AMS-041: CBEN ..... Icon-driven character generator  
 AMS-042: EXCAT ..... Extended cat to screen/printer  
 AMS-043: EXPRINT ..... Prints ascii chars  
 AMS-044: PROFDRMA ..... Cassette filing sheets to a DMP1  
 AMS-045: NEATLIST ..... Emulates the BBC's LISTO command  
 AMS-046: ROMREAD ..... Tells you about your ROMs  
 AMS-047: SYMPHONY ..... Kalaedoscope pattern generator  
 AMS-048: AMSIB ..... Mandelbrot Set Generator  
 AMS-049: DRIPZONE ..... Addictive machine-code game  
 AMS-050: DISCED ..... Disc sector editor RSX  
 AMS-051: STARFIRE ..... Machine code zap-em-up game  
 AMS-052: SCANNER ..... Scans lots of ASCII files  
 AMS-053: BOUNCER ..... A version of Breakout  
 AMS-054: BASIC+ ..... Adds 45 new commands to Basic  
 AMS-055: LABEL PRINTER .... Single address labels  
 AMS-056: MISSILE ..... A version of Missile Command  
 AMS-057: SKETCH & PROGRAM . Turns sketches into prog lines  
 AMS-058: SYNTH ..... 3-channel keyboard sound  
 AMS-059: HOTRODS ..... Race game

AMS-060: BREAKOUT ..... Yawn  
 AMS-061: DEPRD ..... Load and list protected Basic  
 AMS-062: DIS ..... A good Z80 disassembler  
 AMS-063: PAIRS ..... A version of Pelmanisa  
 AMS-064: XREF ..... A basic cross-reference utility  
 AMS-065: WACMON ..... Versatile machine-code monitor  
 AMS-066: MUSIC COMPOSER ... Compose one-channel melodies  
 AMS-067: LOBOPOLIS ..... Version of Logo  
 AMS-068: MATHS MAGIC ..... For numerical freaks  
 AMS-069: BREAKER ..... Dumps screens to disc  
 AMS-070: DISC MENABERIE ... Good disc utility  
 AMS-071: NOSEY ..... Edit memory and banks, view ROMs  
 AMS-072: SPRITES ..... Mode 0 sprite designer  
 AMS-073: SQUEEZER ..... Squeezes ABCII files  
 AMS-074: CAVERNS ..... Multi-coloured maze game  
 AMS-075: ZENER CARDS ..... ESP test  
 AMS-076: SUM-VADERS ..... Educational maths game  
 AMS-077: ASTROSUITE ..... Find out about space  
 AMS-078: TEXT & PROGRAM ... Text screens into program lines  
 AMS-079: WORDY ..... Advanced text editor  
 AMS-080: TRIVIA QUIZ ..... 2 to 4 player quiz  
 AMS-081: PROTO ..... Good Z80 assembler  
 AMS-082: CHESS CLOCK ..... For chess freaks  
 AMS-083: DEFFONT ..... Excellent character generator  
 AMS-084: CALENDAR ..... Calendar generator  
 AMS-085: SCOREBOARD ..... A snooker scoreboard  
 AMS-086: PATIENCE ..... The soitaire card game  
 AMS-087: AUTOLINE ..... Intelligent graphics demo  
 AMS-089: CRUNCH ..... Educational Pacman  
 AMS-090: CALCULADR ..... Scientific calculator  
 AMS-091: FONT ..... 40-column text in Mode 0  
 AMS-092: EXPLORER ..... Firmware explorer like Regiload  
 AMS-093: BOMOKU ..... Hybrid of Othello & Connect Four  
 AMS-094: MENU ..... Intelligent disc menu  
 AMS-095: OTHELLO ..... Another version of Reversi  
 AMS-096: UDGRRAB ..... Grab user-defined graphics  
 AMS-097: STYLE ..... Analyses documents  
 AMS-098: DISCMAP ..... Maps sectors on any format disc  
 AMS-099: TAPE RSXS ..... Quick save and load screens  
 AMS-100: VIEWFAX ..... A Teletext type system  
 AMS-101: GO ..... Ancient Chinese strategy game  
 AMS-102: DI-SYMM ..... A colourful pattern generator  
 AMS-103: ABE ..... BEM type windows generator  
 AMS-104: SNAKES ..... A game (I think)  
 AMS-105: OZ ..... Addictive peg-and-holes game  
 AMS-106: FRACTAL ..... CPC conversion of Macfractal  
 AMS-107: TEE-OFF ..... Golf game  
 AMS-108: PRIMES ..... Calculates prime numbers  
 AMS-109: SOUNDFX ..... Explode, Ping, Bang, Zap RSXs  
 AMS-110: PHARADH ..... Maze and beasties game  
 AMS-111: SHIFTY ..... Educational jigsaw type game  
 AMS-112: DIAMOND MINER .... Underground hunt for jewels  
 AMS-113: CRAZY MAZE ..... Maze game  
 AMS-114: PATHFINDER ..... Confuzion type game  
 AMS-115: SPELLBOUND ..... Educational spelling tug-of-war  
 AMS-116: GRAPHIC MAGIC .... Mode 0 screen designer  
 AMS-117: JIGSAW-3 ..... Jigsaw game (includes 5 jigsaws)  
 AMS-118: WRITE IT RIGHT ... Educational word game

AMS-119:	SHEEPDOG .....	One man and his computerised dog	AMS-174:	DWERRYBASE .....	Label printer with database
AMS-120:	NOMDPOLY .....	Variant on the board game	AMS-175:	DISPLAY .....	Magic Lantern Picture show
AMS-121:	BACKGAMMON .....	Plays a hard game, but addictive	AMS-176:	CHESSE GAMES .....	Three chess puzzles
AMS-122:	DOMINOES .....	Fives and Threes	AMS-177:	M-FILE .....	Masterfile tutorial and examples
AMS-123:	DYS-SYMMII .....	Colourful pattern generator	AMS-178:	WILD .....	An educational wildlife quiz
AMS-124:	PRINTER .....	Printer setup utility	AMS-179:	GENERAL.DR .....	MicroDesign clip art files
AMS-125:	SOM .....	D.S. for Bigscreen Programs	AMS-180:	CASS.DR .....	MicroDesign clip art files
AMS-126:	DRRERY .....	Watch the world go round the sun	AMS-181:	ORBANISER .....	A Personal Organiser
AMS-127:	MUSIC .....	Easy music creator	AMS-182:	CONVERT .....	Swap screens from & to mode 1 & 0
AMS-128:	ENVELOPE .....	Fiddle with ENT and ENV commands	AMS-183:	NPC .....	Roleplayer's character generator
AMS-129:	POSTER .....	For use with Siren's Print Master	AMS-184:	TANDY DUMP .....	Tandy Printer Dump
AMS-130:	CONTOURS .....	16 colour mathematical contour map	AMS-185:	M-FILE II .....	Now included with AMS-177
AMS-131:	COMPLEX .....	Electrical engineers toolkit	AMS-186:	TIDY .....	Clever Disc Maintenance Utility
AMS-132:	DIABOLO .....	Multi format Solitaire game	AMS-187:	INVADERS .....	AJ's classic space invaders game
AMS-133:	ADAM .....	Prints out A.D.A.M. text files	AMS-188:	BRAPHO .....	Psychadelic screen display
AMS-134:	BANNER .....	Print 10" high lettered banners	AMS-189:	WACCISPPELL .....	Spell checker
AMS-135:	GLOBE II .....	Much enhanced of the original	AMS-190:	WACCIWORD 3 .....	Speedier version of AMS-159
AMS-136:	SYNTH2 .....	Another Synthesiser program	AMS-191:	XDRAW .....	Crossword grid plotter
AMS-137:	QUIZ .....	Trivia quiz and speech synth	AMS-192:	XWORD .....	Crossword generator program
AMS-138:	SDUMP V.3 .....	Sdump suite+ helpful front-end	AMS-193:	FRUITRUN .....	Multi-feature fruit machine game
AMS-139:	STATS .....	Statistics program	AMS-194:	KEYCARD .....	Prints 4 colour user key reminders
AMS-140:	COLPRINT .....	Prints out text in columns	AMS-195:	MPCGRAPH .....	Tandy 4 colour plotter graphs
AMS-141:	SPREAD .....	A spreadsheet program	AMS-196:	PCBDRAFT .....	Printed Circuit Board designer
AMS-142:	DM II .....	Much enhanced version of AMS-70	AMS-197:	TRANSFER .....	Music System tape to disc utility
AMS-144:	BIO .....	Hi-res Biorthya generator	AMS-198:	DISPLAY II .....	Magic Lantern Picture show mark II
AMS-145:	NUMERD .....	The Cabbala made easy	AMS-199:	NO-ND.RSX .....	Does illegal things with upper ROM
AMS-146:	3D MAZE .....	Can you find the exit?	AMS-200:	WAR .....	Wargame Program
AMS-147:	PHI .....	Answers on a postcard please	AMS-201:	ASCII2 .....	ASCII files to MOII format
AMS-148:	S-LIGHT .....	Sound to light generator	AMS-202:	EXAMPLE .....	Bellaby's Cobol example files
AMS-149:	DOMINOES II .....	The normal dominoes game	AMS-203:	CBP115 .....	Colour Dump for the Tandy CBP115
AMS-150:	STRAIGHT .....	Generates straight line graphs	AMS-204:	CAUTD .....	Bawd knows!
AMS-151:	REBLOAD II .....	Regiload re-visited	AMS-205:	PROBDOOC4 .....	Much enhanced version of AMS-14
AMS-152:	HARDCAT .....	Printed disc catalogues.(612B)	AMS-206:	WACCISPPELL2 .....	Much faster than the original
AMS-153:	PACPLANT .....	Auntie John's version of Pacman	AMS-207:	MORSE .....	Morse code translator
AMS-154:	SDUMP V.4 .....	Now with added AGE enhancements	AMS-208:	CRAIG .....	Children's word recognition prog
AMS-155:	BIDMORPH .....	Tinker with genetics (612B)	AMS-209:	XSUM .....	Arithmetical noughts and crosses
AMS-156:	BANK+ .....	Manipulates banked memory (612B)	AMS-210:	ESCAPE .....	AJ's animated adventure program
AMS-157:	DECOMP .....	Load compressed Art Studio files	AMS-211:	HEXTOBAS .....	Convert Hex files to Amsdos binary
AMS-158:	EZMUSIC .....	Frequency tables become redundant	AMS-212:	DRAUGHTS .....	A draughts tutor program
AMS-159:	WACCIWORD v2.0....	WACCI's very own word processor	AMS-213:	MCODER .....	M/Code tutorial with example files
AMS-160:	INVGEN .....	Send other people an invoice	AMS-214:	DSKD .....	On Screen Key Definer
AMS-161:	KEYBOARD .....	A comprehensive sound generator	AMS-215:	DHM .....	Calculates Ohm's law for you
AMS-162:	BRAFPLDT .....	Plots graphs I think?	AMS-216:	RESID .....	Electrical RESistance IDentifier
AMS-163:	DCHEAT .....	A cheat loader for DRIPZONE v3	AMS-217:	XWORD II.....	Massive enhancement of AMS-192
AMS-164:	SPX .....	A Stock Market analyzer	AMS-218:	DAVART .....	A slick art package
AMS-165:	SDXOX .....	3D noughts and crosses	AMS-219:	DIR-SORT .....	Directory sorter for all formats
AMS-166:	LNA .....	A Logic Network Analyser from AJ	AMS-220:	HEXENTER .....	Aid for entering hexadecimal data
AMS-167:	PDB .....	The Prisoner's Dilemma Game	AMS-221:	KNOCKOUT .....	Tennis fixture generator
AMS-168:	ABE12B .....	BEM type windows generator (612B)	AMS-222:	PCHANDLER .....	Print code handler for WACCIword
AMS-169:	STROBE .....	Flashy pattern generator	AMS-223:	SCRNSRZ .....	Screen squeezer and unsqueezer
AMS-170:	MAGIC SQUARES ....	A bit of a puzzle	AMS-224:	SYS-DATA .....	System to data disc converter
AMS-171:	TYPING TUTOR .....	Improvov yur typing accccuracy	AMS-225:	COPY256K .....	Fast disc copier for 256K memory
AMS-172:	FOOTBALL .....	A football pools predictor	AMS-226:	BANKER .....	Cheque-book reconciliation prog
AMS-173:	THE KIRK EDITOR ..	A very comprhensive WP	AMS-227:	WACCIWORD4 .....	Latest version of WACCIword

#### GAMES DISC 1

Space Invaders, The Prisoner's Dilemma Game, XDraw, Loot, Trivia Quiz, Zener Cards, Pairs, Jigsaw1, XOX, Breakout, Dripzone, The Dripzone Cheat, Sheepdog, Othello, Starfire, Edbutt, Tee-off, Three Dimensional Maze, Path Finder, Lock'n'Key and Magic Squares.

#### GAMES DISC 2.

Bomber, Pontoon, NPC, Snakes, Diamond Miner, Pacplant, The Pacplant Cheat, Star Chase, Grid Warrior, Quiz, Jigsaw2, UFO Escape Gomoku, Tunnel Dive, Hotrods, Nomopoly and Sketch.

#### GAMES DISC 3

Caverns of Skeletor, XSum, Go, Wild, Fruitrun, Darts, Jigsaw3, Backgammon, Beetlemania, Masters of Midworld, Championship darts, War and Draughts tutor.

#### GAMES DISC 4

Three Dimensional Noughts and Crosses, Escape from WACCI HQ, Life, Shifty, Four in a Row, Missile Command, Write it Right, Dominoes 1, Dominoes 2, Othello, Oz, Patience, Fruit Worm, Pharaoh, Chess Games, Spellbound, Crazy Maze, Englebert, Diabolo, XWord.

# Pick-a-Disc Page

## The WACCI CP/M PD Discs

### CP/M Disc 1

Z80 AND 8080 assemblers, Z80 to 8080 to Z80 code translator, debugging monitor and assembler, reverse assembler, binary file comparer, plus NewsWeeP and more.

### CP/M Disc 2

Small-C (floating-point), Small-C interpreter, Prolog, Lisp, EBasic plus NewsWeeP.

### CP/M Disc 3

Library utilities, disc quality checker, Unix grep command, PCW disc reader, disc sector editor, text file sorter, word counter, MFT, plus NewsWeeP and more.

### CP/M Disc 4

Cave adventure, chess, othello, golf, word search, biorhythms, maze generator, on-screen calculator, prolog, comms utility, plus NewsWeeP and more.

### CP/M Disc 5

Scrivener (spreadsheet, inventory database with macros, VDE text editor, spell checker with dictionary, sorter, word counter, comms utility, plus NewsWeeP and more.

### CP/M Discs 6 & 7

JRT Pascal, Sci, Cobol, EBasic, VDE text editor, plus NewsWeeP.

### CP/M Disc 8

Expert86, Forth (16K version), Stoic, Cobol, VDE text editor, plus NewsWeeP

### CP/M Disc 9

Mex, Kermit, Kermode, Easymex, D, Hmodem7, NeWSweeP, XMCP2, KDSMex, CircuitMex, MX0-SM14.

### CP/M Disc 10

Andybase, VDE266, Sideways, Print, Edit, Filer, New CCP and NeWSweeP.

### CP/M Disc 11 (NEW)

The Pascal tutorial disc (342K.)

## The WACCI Homegrown software discs

### WACCI Disc 1

Masters of Midworld, Minimon, Chardes, Header reader, Fruitworm, Othello, Four in a row, The World, Chat, Jigsaw-1, Eddy, XOX, Pontoon, Progdoc, Helping hand, Bomber, Life, Lock'n'key, Tunnel dive, Head, Memdata+, Keydef, Darts, Grid warrior, Jigsaw-2, Star chase, UFO escape.

### WACCI Disc 2

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

### WACCI Disc 3

Bouncer, Basic+, Label printer, Missile, S&P, Synth, Hotrods, Breakout, Depro, Dis, Pairs, XRef, Wacmon, Music composer, Logopolis, Maths magic, Breaker, Disc menagerie, Nosey, Sprites, Squeezer, Caverns of Skeletor, Zener cards, Sum-vaders, Astrosuite, T&P, Wordy.

### WACCI Disc 4

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

### WACCI Disc 5

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

### WACCI Disc 6

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

### WACCI Disc 7

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

### WACCI Disc 8

The Kirk editor, Football Pools predictor, Dwerrybase.

### WACCI Disc 9

Chess, Mode, Display, Organise, Display, Read, Grapho, MFile, Tandy, Edbutt, Tidy, FSWform, Inlays, NPC, Invaders, WACCISpell.

### WACCI Disc 10

ASCII-to-Mini Office II, Fruitrun, XWORD, MCPgraph, Xdraw, K1, K2, K3, Keyword, Loot, Cassdisc.DR, Example1, Frame, General.DR, PCBdraft, Progdoc V4.

### WACCI Disc 11

Display2, 120D, Biglabel, Gauto, CGP115, Popt120D, Wacciword3, War.

### WACCI Disc 12 (NEW)

HEX to BAS, Hextobin, HP, OHM, OSKD, RESID, Draughts, Example2, Xword2, Machine Code tutorial, Print and Dotman.

### WACCI Disc 13 (NEW)

Hex-enter, Davart, Morse tutor, Copy256, Knockout, System-to-data format, No-no RSXs, Banker, Screen squeezer, Craig, Dir-sort, PCHandle, Donald, Xsum, and WACCIword version 4.

### AJ's Concept disc

Green's strip pontoon (128K), Dripzone plus (128k), Englebert, Saucer attack, Three dimensional maze, Beetlemania, Globe, Juggie.

### AJ's Twilight Zone

Escape from WACCI HQ, Starfire, 3DXOX, Chat, Space Invaders, Starchase and Pacplant.

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