

WACCI

BRITAINS ONLY SERIOUS CPC MAG

Issue 48 £1.50

Two Exclusive Reviews!

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And..



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The WACCI Telephone Help-Line Service

TONY WALKER
(0772) 651698 (Preston, Lancs) 10am - 10pm.
Comms (esp MEX and ZMP), Protexit, Prospell, Tape to disc transfer, CP/M on ROM.

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

NORMAN BUXTON
(0260) 223257 (Macclesfield)
Basic programming, control codes and farming?

STEWART PEPIATT
(0245) 353903 (Chelmsford)
Basic, m/code programming, VDE, Scrivener.

PETER CAMPBELL
(041) 5544735 (Glasgow)
OCP Art Studio, Vidi, MicroDesign and Basic.

FRANK FROST
(0983) 882197 (Isle of Wight)
4pm-10pm
VDE, CP/M, Protexit and general help.

PETER CERESOLE
(081) 878 0391 (London)
Protexit, Promerge, Utopia and nukes (amateur status only.)

CLIVE BELLABY
(0602) 725108 (Nottingham)
Basic, Cobol, CP/M, Dominoes, comms and VDE problems.

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

PAUL DWERRYHOUSE
(0244) 534942 (Deeside, Clwyd)
Basic, Bank Manager, WACCIWORD, WACCISPELL and a very sympathetic ear.

RAY BARROW
(021) 4294233 (Birmingham)
MasterFile or MasterCalc (the original versions) and Tasword.

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

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

MIKE LYONS
(061) 799 8504 (Manchester)
Basic, Stop Press, Dk'tronics Speech synth, Rodos and general help.



<<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 Help-Liner, on this list, please do it (unless specified otherwise) ONLY between 7pm to 9pm.

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

Hi Gang! And welcome to a slightly new-look WACCI magazine. I thought that it was about time WACCI was updated for the nineties, I hope you like it. As you can see, part of the shake up involves me having only one page of 'Thanx and Stuff' in which to waffle. So let's get on with it before I run out of space...

Thanx

As usual there are a lot of people that I must thank this month and as usual I know there's lots I'm going to miss out but there's one person that I mustn't miss out. Unfortunately I can't name him because even I don't know his name and he wants to keep it that way. All I know is that he will probably be reading this along with the rest of you. So, Mr Anon, I respect your wish not to be traced but I'd like to shake your hand for the way you stepped in and helped the club in a big way just recently. Please get in touch again and at least let me say a big thanx in person.

Also, thanx to all of the WACCI contributors, including all the 'behind the scenes' people who don't necessarily get a mention but play a large part in keeping the club running. Your help and continuing support is much appreciated

Thanx go to Richard Burton (no, not that one) for various things but mainly because he complained that he never sees the name 'Richard Burton' enough in this column. So there you are Richard Burton you've now seen the name 'Richard Burton' four times in one paragraph, that's your lot for another six months.

New stuff?

Bah! Murphy's Law strikes again. There are actually five new discs ready to go into The FSW Library lists but (you know what's coming next, don't you?) thanks to a severe lack of time, I've been unable to update the FSW pages for this issue. They'll be on the list in time for the next issue but just to whet your appetite... two of the new discs contain the first three issues of WACCI (remember the mag used to appear in



tape, disc and printed form) and some of the screen files that were used in the early issues of the magazine.

In addition there are three new WACCI Discs and an extra couple of CP/M Discs. Ah! and Oh yes! While I remember. If you've sent in a disc with programs for inclusion in The FSW Library and the disc hasn't been returned yet... SORRY, I will be sending them all back in the next couple of weeks (err, somehow the name 'Mr Freestone' springs to mind.)

Showtime

Thanx to all of you WACClites who turned up to the various computer shows that WACCI has been at recently. It was great fun to meet you all and have a good old fashioned chin-wag. In particular the Birmingham 'All Formats' show was a great success and our very own 'Uncle' Clive Bellaby was in his element.

On the strength of the response at these venues, WACCI will be present at the following four shows:-

The Computer Shopper Show, which will be held at Alexandra Palace on the 10th to the 12th May (stand E03.)

The All Formats Show, at the New Horticultural Hall, Westminster, Saturday 18th May, AND Saturday 22nd of June, 10am-5pm (both shows.)

The All Formats Show, Sunday 9th June, at The National Motorcycle Museum, Solihull, 10am-4pm.

So make a note in your diary and try to come along and meet us. I can't say too much at the moment but you may find a little incentive to attend one of the shows in the next issue... 'nuff said, nod's as good as a wink... SAY NO MORE!

Touch wood

Space is fast running out but there's just enough to tell you that the next issue will (probably) see the return of 'Poking in the Library' by Joolz, timed to appear along with all the updated FSW list. That's all from me for this issue, see you in the next one. Stay pure till we meet again. Tarra.

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The guilty parties

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Fair Comment

Fair Comment
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Middlesex TW2 5JE

Maxi success

Dear Joolz. My heart bled for Bob Houston (WACCI No 47) when he described how he lost the contents of his 3 1/2" disc using NSWP to erase a file. I did exactly the same a few weeks ago. Neither could I unerase the thirty odd files because I no longer knew their names.

I had given them up for lost when along came Maxidos. This suite of utilities contains Cat and Unerase. Cat lists all the files in the disc including erased files and "Unerase" works.

Ten minutes typing in the erased file names and I had recovered all but the overwritten ones. Maxidos is worth its weight in gold. Best wishes,

Ron Hobday
Bedford

((Thanks Bob, yes, we've heard a lot of good things said about Maxidos. Of course, as little Peter has just sniffily pointed out, with DU you see the file names too but he agrees that it's not as simple as with a dedicated uneraser like Maxidos. Does anybody want to do us a review? Would you care to do one, Bob? I'm sure His Effulgence would be really grateful and anything that keeps him quiet gets my vote- Joolz.))

Artistry in code

Dear WACCI, thanx for the Xmas WACCI. It's not April already is it?... Only joking... Anyway I hope everyone had a good Christmas etc...

Down to business.. Can I first say thanks to Bob Moffatt and the others who offered advice on my printing problem. I sussed out that the reason my DMP2160 wouldn't print a User defined box was it wouldn't accept the binary notation as per manual but would if I used decimal numbers. The other problem (screen dumps) was solved by receiving SDUMP4... brilliant. (Where's all the ink gone off my ribbon??...)

Also thanks to Dietmar Langenohl for the snippets on the firmware calls for CPM 2.2 in issue 46. A few months ago I tried disassembling the LOGO2 program to try and find out how to use them. It drove me mad and I gave up in sheer frustration. Dietmar... GIVE ME MORE...

Anyway, from the info gleaned I have had a bit of a go at it and seem to be getting somewhere. I have included a source file for a sprite program on this disc, SPRITE.ASM, print it in WACCI if you wish. It's in 8080 code (Urghhhh.)

Also on this disc is PICCY.COM, which doesn't do much but proves that my sprite program works. It prints a picture on the screen in CPM2.2. Don't believe me? Try it. When I got it to work I nearly fell off my chair. Graphics in CPM? B***** me???

Joolz, the last time I wrote I sent in a little art program, DAVART. Bin it.. It was written quite a while ago and wasn't really that good. On this disc is DAVART II. It sings, dances, etc.. Features include Shrink, Expand, Copy, Fill, User defined pattern fill, text (up to *9) flip, sprays, all 3 modes etc, etc. Bung it in the library if you wish. There's a text file included on the disc. It was harder to write than the program but I tried my best... hope it's legible. By the way Joolz, ANDART sounded a bit rude...

Jeez, 10 past 4 already, best go to bed... zzzzzz... Yours,

Andrew DAVID Ford
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W.Yorks WF12 0AU

((Oh that's why you called it that. But I ANDART doesn't sound the slightest bit rude to me...))

Anyway andrew, thanks for the programs. As usual, OMG is labouring to assemble some new discs and there is going to have to be a CP/M 2.2 disc some time... As OMG says yes, CP/M 2.2 uses CPC graphics; it's the advantage of having a crippled version...

And thanks for the revision to ANDART-err, sorry, DAVART.

Now if I can just get my boys working, I think we might get the Christmas number out on time. If they work very hard- Joolz.))

Protest plus

Hi All, Oh No! NO, NO, NO... NO! And no apologies for the screamers either. ((Come on, Mike, don't hold back, say what you mean.))

After going cross-eyed by page two, burning a hole in the page by trying to use a magnifying glass on page three and wondering what the hell was going on I finally decided that this was definitely a non-starter. What on earth happened to the really readable WACCI?

Your body font needs changing I think - especially as each line seems to be a different size, alternating between only just legible and well nigh impossible.

I must admit that most of the graphics, headlines and inserts look fine - a big

improvement on some of the earlier efforts - but I like to read the words (I'm a big boy now and the pictures don't interest me as much - apart from the ones of Joolz of course.)

DTP, nothing to beat STOP PRESS with X-PRESS. Best thing since sliced mushrooms. It only takes about five to ten minutes to print out a FULL A4 page with X-PRESS with neat legible writing and super clear pictures on my Star LC24-10.

I see I'm still not on the help line, though thanks for printing my name, address and phone number after my (truncated) letter. Thanks for the tip about STE-CPC reads. Expect a cheque soon.

Bob Houston needs no DU. All he needs is to POKE &A701,229 and CAT. All his missing files will be displayed on screen - even on the B Drive - and he can recall them by "REName-ing to O:filename.ext (or some other user number.) I know this isn't 'automated' but it is fairly safe. I've done it loads of times.

Hi to Saffron. I remember her from the heady days of Amtix! She seems to have become a bit more rude (or have I become more prudish) but her ineffable style is still familiar. I hope she contributes regularly (but keeps the language fairly clean) 'cos I often need a gratuitous and unforced laugh these days (3WY are a nightmare - as are their parents - When you see the parents you realise why...)

Why can't logic be logical and simple. I know nothing about logic (I have to teach in the real world after all) but having read John Ridge's article I feel I now know less than I didn't?

Part of the confusion stems from John forgetting that some of us are born stupid and need a detailed explanation of the terms of reference which others, who are well versed in the particular jargon of their discourse, would understand before attempting to make sense of it.

It is well over five years since I had to make any but the most basic use of Unions (apart from the NAS/UWT) conjunctions (apart from "but headmaster but... but...") antecedents (your elder brother was also a lazy sod) or consequent statements (you've not done your homework therefore you will be on detention for the next 75 years.)

I know it's only a passing thought but could it not have been better prepared by the laying out of some ground rules? I wish it had been, because - confused though I am - I am fascinated by it.

Go FORTH and multiply (in RPN of course.) I await the next instalment of this series with anticipation and eagerness. I gave up on FORTH several months ago because I lack the time to play with it properly. Could you ask uncles Clive and Alan to recommend some titles of books which might give a fair grounding (along with their ISBN numbers if possible) so I can renew my interest in this language?

Enough of my ramblings! I still have one copy of SOFT III to go to a deserving home for FREE. Thanks to Peter Clark for taking one of them off my hands, even though it turned out to be not quite what he wanted. An interesting question which Peter raised is this: - Is there a book out there which tells you what you CAN'T do rather than what you CAN do with a CPC? I'd be interested to find out.

This paragraph is being inserted at 9.15 on the date above. This letter was originally written two days earlier but I wish to make it known that Tony Walker is a deeply wonderful person.

Why? Because an unsolicited 'phone call from him earlier this evening has opened up a whole new ball-game for me. The last time I wrote I mentioned a little problem with the dk't speech synth ROM. Well, here is Tony's suggestion. Take the silly thing out and stick it into a spare slot on one's ROM board. Did I do it...? Yes I did. Does it Work...? Yes it does! Here's how:-

1) Disconnect from computer and remove both knobs (calm down Saffron.)

2) Undo all screws and keep them safe.

3) Break the seal along the top (a Stanley knife is best) and GENTLY separate the two halves.

4) The hardest bit. GENTLY AND CAREFULLY prise out the circuit board from the box. It is hard to remove without causing damage. Some of the components are barely soldered in - especially the sockets for the speaker plugs and if you're no good with a soldering iron, hard luck.

5) At this point I found it useful to brutalise the box by extending all holes to the open edge to avoid damage when you put the pcb back in (a hot soldering iron or a very sharp knife will do.)

6) Now, turn the board over. The chip you want is the second biggest. It has a window in it: I don't know what the other chip does but don't touch - especially not the rather tatty-looking link across the top.

7) Remove the chip from its socket with a removal tool (I used a screw driver but only 'cos I'm used to it) and put it somewhere safe (and grounded.) DO NOT touch the legs with your fingers (Calm down Saffron.)

8) Now put the PCB back into its half of the box, again being VERY, careful and put it back together with the screws you put safely away and the two little knobs (OK, where did you have them last?.) DO NOT THROW THE PCB AND BOX AWAY.

9) Replace the box on your expansion port after giving the edge connectors a clean while you have it off (Saffron put the broly away.)

10) Find the ROM again. You will probably need to cover the window with some sticky paper (NOT cello tape - sticky label paper will do) so that the ROM isn't erased by all the wonderful sunshine we're going to get this summer.

11) Put the ROM in your board (the lower bank is preferable if you've got two (like me, boast, boast).)

12) Switch on. If something goes wrong IT'S NOT MY FAULT but switch off quick. This is especially so if you smell smoke, see sparks or hear a bang (no comment.) You should see the sign on message 'SPEECH ROM VER.1.1' or somesuch.

13) Switch off again and connect the speakers (it took me almost half an hour to remember to do this.) Type [SPEAK (CR) and see the words of the prophet. If you hear nowt then use the volume/balance controls until you do, or use the usual checks to make sure all is as it should be. If it isn't then get a competent electro to look it over for you. One thing to be careful of is the three variable resistors behind the two little knobs. The turning mechanism is what might be politely called primitive (a metal rod pushed through a hole in the middle.) As these are not fixed in, there is nothing to prevent you pushing the rods all the way though when you try to put the knobs back on. It took me five or six attempts to get it right-ish (I also ended up soldering the blasted speaker socket back on several times.)

The biggest and most earth shattering result of all this is that I have now consigned my RODOS 2.17 to the big anti static box in the sky (erm... cupboard, actually) as it was just sitting there doing nowt anyway but I didn't have the heart to put it away before. Anybody want it?

Hope all's well. Love and Kisses to Joolz.

Mike Lyons

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(Hi there Mike. Hmm... Love and kisses, eh? Flattery will get you everywhere. And now, over to the boys who chose the fonts (if girlies get the tea, there's no reason for them to carry the can.)

(Hi Mike. Yes, you saw our little problem. It comes from the fact that Microdesign2 was originally written for use with a nine-pin printer. The 24-pin drivers get into trouble with the calculations required to map the pixels on the page and you get the creeping text height that you saw.

It made us a bit sea-sick too, at first we thought it was a problem with the tractor-feed mechanism but a quick phone-call to 'Creative Technology' means

that the next issue problems should be sorted out by going back to using the trusty old Citizen 120D printer.

As for the text size, well, we've had letters and phone calls. In general people said they preferred the new layout and almost all (with some notable exceptions, Mike) have said they found the print size OK or even better than the old one.

We had long discussions about it some time ago before we made the decision to use the '10-point' font-size. The main advantage is that you can get more words into fewer pages (for example, The FSW Library listings in issue 46 took up four pages, the same listings in issue 47 took only three pages AND it had some other information included as well.

The other factor is that the next largest 'point-size' font that I currently have is 'Times 12' which is the size used in text books, real Janet and John stuff. If we used '12 point' text we would end up having to lose 20 percent of the number of words that we usually include.

You never know, perhaps someone will invent a 'Times 11 point' font (or even a 10.5 point??) in the meantime we'll see what the members say after we get some more letters and calls- Steve.)

Mike, while OMG was doing his editorial bit, I had a philosophical thought. Isn't what you can't do with the CPC defined by what you can do?

Thanks for all the other info. I know little Peter C has taken all the ROMs out of the various boxes and put them into his bunch of Rombos. He says that way he can mess them about. I think he means assign them to different ROM numbers but he's only a journalist - GO AWAY! - and a beast, too. He also says that nobody seems to use RODOS any more. We get discs in RAMDOS D20 format and that's about all nowadays.

Thanks- and I'll pass on your regards to Saffron when she comes back from the Unix colony. She says she goes there to discharge her batteries. I'm sure I don't know what she means.- Joolz.)

A nice letter?

All Hail to you, O bounteous distributors of non-perishable goods. (I mean Joolz & Steve.)

Some time has passed (break not into a cold sweat, dear reader, this is not a where's-my-bleeding-disc letter) since I wrote to you about how I should go about sending you progs to include, or otherwise, in the FSW library. Being a bit new to this PD scene I didn't realise that what I should have done was send you the progs.

Anyway, here they reside, on this very disc, along with the appropriate confusing .DOC file. As I may have mentioned before (on paper, unfortunately) they're both crap (I can't say that in WACCI, Richard,) but quite pretty I think and on the whole badly coded and generally 'C-', could do better."

HNEFAT is a conversion of that well-known Viking board game, Hnefatafl (dead easy and a good laugh after a spot of rape and pillage) and NINEMANS is a very, very dire version of Nine-Men's-Morris which I never got around to totally finishing. The 'extra' files, with the .FON extension, I am quite pleased with - they're character sets of the appropriate style designed using DEFFONT, which are probably better than the games...

While I've got your attention, I'd like to draw it to my new address. As far as I know, I don't have a membership number but I'm sure your system is efficient enough to cope with it (Indeed.)

I haven't really got much to say, keep up the good work etc. but remember always when I'm gone, to check your zip when you've been to the john, walk tall, keep your eye on the ball, stick your chest out and always carry a torch.

Richard Phillips
Ilford
Essex

(A torch, Richard? I mean, I need one in the office but that's for self defence. Saffron gave it to me. I think she's given up defending herself. But you? And the programs aren't that bad. Nope, I can't fathom it out.

Our address system is a whopping Protex file which is used as a data file in Promerge and it will handle your new address with but a flick of its mighty code. And you're right, I couldn't possibly think of my boys as numbers - Joolz.)

A long cry for help

Help! Since our original telephone conversation way back in 1990 you sent me my 'goodie bag': Rombo box, Promerge plus, Prospell and Vidi.

I have also received my first issue of WACCI but how you intend to produce ten issues in the year when March is here already I do not know; my crude calculations seem to indicate an issue of WACCI should be expected every month from now on!! Now try as I might I seem to be having great difficulty in developing what most computer users seem to possess as an inborn ability (and therefore do not bother talking about) which is the quite simple concept of being able to fully utilise these advanced pieces of software in conjunction with each other. I appear to have a mental block (or is it something even worse?) towards such utilities and this is all the more frustrating when I am a relatively competent programmer (although very untidy.) But maybe this is where it all starts? For example my greatest achievement to date is to have written a 32k program to assist in adjudicating a postal football game that I run; however this program employs no sound, graphics or colours; they leave me for dead!

Recently I undertook to start a small

company whose sole product was the printing of promotional items from metal badges, plaques and coasters to T-shirts, splash patches, caps etc. It therefore made sense that my 6128 would now be utilised to a far greater degree than ever before and indeed in a different direction to my normal 'dabbings.' What I need is to be able to write mailshots, store customer/prospect names and addresses and merge them, design and print a small A4 promotional publication, produce designs and more importantly lettering in various styles and sizes. Surely this is not asking too much of my Amstrad, although it might well be beyond the capacity of me!

What software am I missing? Should I have Stop Press to complement my existing set up? What is X-Press advertised by Medway King in WACCI? Why is it that the Vidi pictures when produced through my Star LC24-10 printer are not really that good? I have attempted to reload the picture though my Art Studio program with a view to 'shrinking' the picture for greater clarity with no success. How clear should I be able to get the lettering? What software do you use to produce WACCI? Do you really have to be an art student to make half way decent pictures with Art Studio? I thought the AMX mouse would allow me to draw pictures with alarming accuracy but the picture that appears on screen is nothing like my mouse was doing! As you can see I am a man with more than a minor problem. Can you help or am I past rescuing?

The difficulty no doubt is where does one start when quite clearly I seem to be missing out on some vital basics. Maybe it would help if I could understand what governs how many program utilities can be held in the computer memory at any one time. For example Art Studio is on disc and let's assume that I have actually managed to use the the program to create a picture that is recognisable and that I then wish to incorporate it in a letter via Protex which is on ROM. My approach would be to save the picture to disc, CTRL-SHIFT-ESC to exit Art Studio and then sit there for a very long time scratching my head and musing over how to recall the picture to Protex. Is this possible? God knows what I would do when I had finally worked out a way of doing this only to find that the picture was too big and I needed to return to Art Studio.

Does this example clarify the point at which I seem to get lost? I have experimented with 'merge' both in relation to Protex and with a Basic program with a reasonable success rate but is this the way to do everything or can I for example have Art Studio and my Basic program both 'live' in the computer? I have always thought that this was impossible with such programs being mutually exclusive.

Finally the 'Pick a Disc' listing looks very interesting, not for all the games which are no doubt great fun but for things like editorial and spreadsheet programs (yawn.) How do these discs relate to the WACCI FSW library and how are any of the library programs supplied ie. can one choose any permutation and at what cost? I will just order a disc box and some 're-ink' until I know a little more about the suitability of WACCI programs and how to use your library.

Well, this is a very long letter but I hope you can find the time to give me some guidance to see my way past this frustrating state of 'impasse' that I have reached with my infernal 6128! Oh, by the way, does 're-ink' cure sticking printer ribbons because if not I fear it will not get used for a while as I am going to need to replace the ribbon as a result of this problem rather than though a lack of ink. Thanks for listening.

Kevin Waygood-West
Sudbrooke
Lincoln

(You're welcome, Kevin. So what's the answer to your problems? I'm tempted to say - 42. But maybe there's a bit more to it than that.

First, programs running together; you're right, they can't. Protex Promerge and Prospell can do it because they're in effect one program, along with Utopia if you have it. Otherwise, programs will not run together and all you can do is pass files from one to the other via disc, so that you can take the output of your Vidi and put it into Art Studio. You can also take an Art Studio file and display it in a Basic program, or print it out using Utopia's (or any other) screen dump, or get a high quality version using SDump4 from WACCI Disc 7.

WACCI programs are available on compilation discs only, as it was getting to be too expensive to make up individual orders. See if the program you want is on a disc and get that.

Now for another of your problems; all these programs will print better using a nine-pin printer rather than your 24 pin Star. This sounds crazy I know, as the 24 pin printers give much better results with text but all the graphics programs you mention have 9-pin printer drivers and their results with the much smaller pins of the 24-pin printers are rather washed out. I'm afraid that 24-pin screen drivers for the CPC are few and far between. Actually that's not quite true - I've never seen one. And your attempt to get a clearer picture by reducing it in Advanced Art Studio was doomed too - reduced pictures lose a lot of detail due to the limitations of definition of the program. It comes to a lot of diddly little details and effectively gives up. A bit like OMG and Peter really - No! Gerroff!

More bad news too; you can't import graphics files into Protex - or any other

word processor on the CPC. It's simply beyond the capabilities of the machine, poor thing. Not until you get to fat and expensive 16 bit programs like WordPerfect 5 can you put pictures into your printouts. This is, however, where programs like Microdesign2 come into their own.

OMG uses it to produce WACCI. The text is prepared, spell checked and finalised with Protext, then imported to Microdesign2. There it is combined with pictures on the final page. I must say, watching His Miseryness produce the last number (the first using MDesign2) I would also recommend the alternative way, which is to print your graphics, cut them out and paste them onto the page with the text. If you are going to print your catalogue, or photocopy it, the final result will look much the same.

Finally (last chapter of this encyclopaedia?) yes, the Ribbon Refresh does include a lubricant but if your ribbon is jamming it sounds like some component in the ribbon cassette might be broken.

Oh wow! Kevin, what a lot of questions, what a long reply. But, as the Ed sez, keep it rolling in, it's all copy... Ow! Beast!

You'll never believe what he did, so I won't tell you... Joolz.!!

Deeply wounded

Dear Joolz, I was very upset by the letter from Mike Lyons (Issue 47), where he accused me of writing a review of ADLAN that was only 50% correct. I have used ADLAN constantly since writing that review and I stand by every word.

My initial reaction was to suggest into which part of his anatomy Mike should stuff his ROM but remembering just in time, that that isn't the WACCI way of doing things, I've decided to try and be helpful instead.

I noticed that he couldn't get a larger program than 34K before he ran out of memory. I feel that this is more the fault of all his peripherals grabbing chunks of memory, rather than a problem with ADLAN itself. I also kept running out of memory until I removed everything that was not needed to compile the adventure.

With only the PROTEXT and ADLAN ROMs switched on, I am able to save compiled stand alone games of 40K. You can write a lot of extra messages with another 6K to play with. Also, avoid the fancy fonts and stick to the AMSDOS character set, as these also greatly reduce the available memory. The compression by ADLAN is quite good, as the text files totalled over 55K before compiling. I can't speak about graphics as I never use them.

The point about expanded memory or your reply about hard drives is not

really relevant. If like me, the reason for writing an adventure in the first place is to sell it, then you need to make it available to every CPC user. This means that it needs to be compatible with the lowest common denominator ie, an un-expanded tape driven 464. ADLAN suits this environment perfectly. It seems to me a crazy idea, to offer for sale an adventure for 1.99 but then inform the prospective buyer that he will need a 400 hard disk before he can play it.

In order to obtain the last possible byte of memory, I did try converting my text files to ASCII by using PROTEXT CPM+, merging them into one large file and then compiling it from BASIC. This did achieve a slightly larger adventure but having an ASCII file of 46K, made bug hunting and simple alterations a nightmare.

Talking of CPM+, this is the only way of achieving a larger adventure than AMSDOS will allow, as used by the P.A.W adventure system. However, as this means that the finished games are not available to tape users, that fact makes this system a non-starter for me. I'll stick with ADLAN (and my review!) Kind regards,

Bob Adams
81 Uplands
Welwyn Garden City
Herts AL8 7EH
Tel:- 0707 323403

((Thank you for responding in such a reasoned and reasonable manner to Mike's letter Bob. The reason that we asked you to have a look and a 'play-around' with the ADLAN ROM in the first place was that we knew that not only were you an adventure-games creator/player of many years standing but also that you are something of a Protext Guru. Give him his due... OMG doesn't farm out programs for review unless he is really sure that the reviewer has the ability to push the program to its limits (which, it seems, you have managed to do.) Can we stick your name and telephone number up on the WACCI Telephone Helpline for help with adventures - ADLAN and P.A.W?? Right-ho then.

I suspect that you could be right about the fact that the more you use a program the more you can squeeze out of it. For example, when OMG started to use MicroDesign2 the air used to be thick with 'less-than-complimentary-comments about it. It couldn't do this, it couldn't do that, why on earth does it do that? etc. etc. However, after a lot of heartache, hard graft and a few long phone-calls... Hey presto MD2 is his pride and joy.

Any plans to write an ADLAN adventure for inclusion in the WACCI FSW Library Bob? Ah well, I thought it was worth asking - Joolz.!!

Clean up your act

Dear Joolz, can you recommend anything to clean the grime from my computer keys. After a few years of constant use the key legends are pretty near buried under a layer of dirt. I've tried using a spray-on furniture polish but it only makes it worse. Any suggestions would be appreciated. Love to you and the cats.

Frank Wood
Faversham

((As it happens we have discovered something to clean not only the computer keys but also the rest of the set-up. It's a spray-on liquid called Dettol and is made by the same people that make Dettol antiseptic, Reckitts. I use it to clean everything except the VDU screen -Joolz!))



Remember Ribble!

VERY

basics

Written by
Alan Tilling

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

This month our very own secret agent Tilling gets cryptic.

Hello everyone, 'tis I. First off I must correct a couple of mistakes that crept into the VBB listings last month, brought to you courtesy of our glorious WACCI Editor. Figures 1 and 2 managed to escape error free but in Fig 3, lines 230 and 240 should have read:-

```
230 IF numb >6 THEN a=a+13:b=b+13
240 NEXT numb
```

and in Fig 4, the same lines should have read:-

```
230 IF numb >=8 THEN a=a+15:b=b+15
240 NEXT numb
```

Right that's enough about issue 47's mistakes, let's see if his lordship can get it right this time.

I spy

A few of months ago, we discussed passwords and I thought that led us on quite neatly to espionage ..err ..espee..err.. spying. I believe that during the last war there was a glorified typewriter for encoding and decoding messages. We can do the same with the CPC but since the name "Enigma" has already been used we will have to settle for a similar name. We need a name that will convey the right sort of idea from the first. I have it - "Enema." I've no idea to what use the program can be put, other than the obvious use by our younger friends but it does illustrate how to enliven an ordinary

humdrum program with delays and on-screen messages.

The method the program uses to encode (and decode) is simply to swap around the first and the second characters, then the 3rd and 4th and so on up to the end of the message. Since the CPC swaps *characters* around, spaces and full stops seem to get flung in almost at random which helps to make the "coded" message look even more confused.

How does it work Alan? I'm glad you've asked me that. (Steve, please cancel that member's subscription.) Have a look at fig 1, but please notice the line numbering - the reason for the omissions will become clearer later.

A titled program

The first three lines are simply the title. If you write anything other than a personal letter, you would put some sort of title at the top and so it is with computer programs.

The input in line 50 makes "Enter message" be printed and causes your response to be stored away in a variable called *message*\$.

Now, if the characters are to be swapped about in pairs, it infers that there must be an even number of characters. The easiest way to check this is to divide the quantity by two and see if there is a remainder. If there isn't, then we are laughing but if there is then all that needs to be done is to add one space and then *mes*\$. *mes*\$. must contain an even number of *characters*. $m = \text{LEN}(\text{mes}\$)$ means "count up the number of characters in *mes*\$. and store the quantity in a variable called *m* and line 70 says divide this number by 2 and ignore any halves ($\text{INT}(m/2)$). $\langle \rangle$ is computerease for "is not equal to." The next piece is $m/2$ or half the quantity of characters. Imagine the word WACCI as *mes*\$. $m=5$ so $\text{INT}(m/2) = 2$ but $m/2 = 2.5$ therefore the THEN part of the statement is enacted and a space is added so *mes*\$. now holds an even number of

characters and control goes to line 80.

If Alan had been *mes*\$, then *m* would have equalled 4 and $\text{INT}(m/2)$ would have equalled 2 as would have $m/2$ and so control would have gone straight to line 80 which is the start of a FOR /TO loop. Notice that the exit count is not *m* as might be thought but $\text{LEN}(\text{mes}\$)$. This is because *mes*\$. may (or may not) be longer than the *mes*\$. in line 60 so it has to be recalculated. The STEP2 means that we're working in pairs.

Self expression

Still with me? Good. When the keyword RUN was executed, all the variables were automatically set to zero (or empty) so we know that *temp*\$. (temporary) in line 90 is empty to start with. $\text{MID}(\text{mes}\$, \text{char}+1,1)$ means "look at the counter called *char*, add one to it (for now) and go to that one character of *mes*\$. " First time round *char* will equal 1, so the line 90 expression means go to the *second* character of *mes*\$. and store this in the variable *temp*\$. Now the first *temp*\$. in line 100 holds a letter as defined above and it now stores (in the first case) the first letter *after* the second. The NEXT sends BASIC back to repeat the process until all the letters, sorry *characters* are used up, like this:-

```
Enter Steve
150 mes$ ="Steve"
160 m =5
170 mes$ ="Steve "
190 temp$ =t ....
[next time round temp$ =v]
1100 temp$ =tS ...
[next time round temp$ =tSve]
1170 temp$ =tSve e .... and that is
what's printed.
```

Well it works but the screen looks a mess and the operation isn't very inspiring is it? Let's see how it can be jazzed up.

Have a look at fig 2, but don't type it in until you've read about line 40, which starts with MODE 1. This clears the screen and sets up the 40 column mode. INK 0,P won't work because P must be changed into the colour number *you chose* for the colour of the Paper. Likewise the I in INK I,I must be changed to the number of the colour *you prefer* for the ink and I think that the border needs to be the same colour as the paper. (When I wrote the program I used INK 0,0: INK I,21: BORDER 0) but you look up the colours in your handbook (that's the thing under the table leg) and see how you go but don't make the ink and the paper the same number.

Lines 120 and 130 cause the Code systems... message to be printed and everything to pause for 500 time periods. The net effect is that, since the CPC is taking a long time, some extremely deep calculations must be taking place. Line 140 and 150 reinforce this effect.

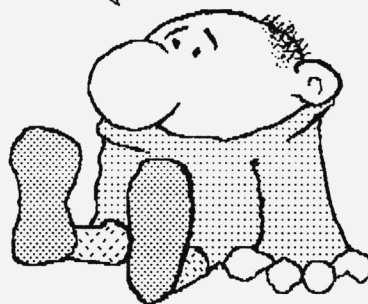
Line 180 is another message which the older... err... sorry: more mature members will remember from a television programme. Line 200 says GOTO 200 which means that when the programme gets to line 200 it must obey the instruction there which sends it directly to line 200 where it must obey... In other words it loops back on itself and sticks there. Now line 190 says AFTER 250 GOSUB 1000 which means we are in the giddy heights of interrupts and after 250, 1/50ths of a second (in other words 5 seconds) the after keyword interrupts, snatches control and forces it to GO to the SUBroutine at line 1000.

Lines 1000, 1010 and 1020 are the subtitle of this routine. 1030 and 1040 are straight forward whereas 1050 is a

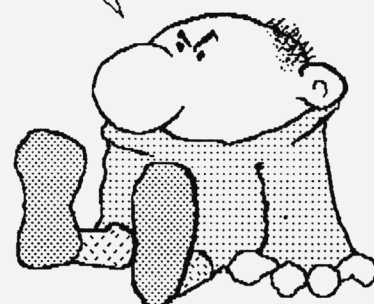
Life

By Steve and Andy.

My dentist is painless...



...HE doesn't feel a thing!



strange looking one. All it says is INTERrogate the KEYboard and put whatever is there into a variable called x\$ and 1060 says, in effect, that if nothing has happened (x\$="") then loop back and have another look.

Now when x\$ does contain something say P, 1070 tests to see if y or Y has been pressed. The test fails and so control is passed to the next line where n and N is checked. This also fails of course and so 1090 makes control to go back to 1050. Now let's suppose N is pressed. The tests of 1060 & 1070 fail but the THEN part of 1080 is executed and so the screen clears and the program ends.

If y (or Y) is pressed then the program is re RUN. Run is used because it causes all variables (m\$, m, mes\$ etc) to be zeroed.

The RETURN is there because BASIC requires that when a GOSUB is used, it

must be accompanied by a RETURN. It plays no part in the proceedings other than to keep BASIC happy. Try leaving it out.

No limits

There are many ways to liven up a program, the only limits are your imagination and the size of the computer's memory.

For instance in line 1040 a response of Y or N was asked for. Lines 1070 and 1080 could be modified to make the computer seem rude ie. if y or n is pressed, it could be made to print "I said Y or N, stupid...try again." Another mod could be to introduce a random term at 130 and cause it to print "This is a difficult one, it will take a bit longer" etc.

That's all for this issue, till the next one... Bye for now. *Alan.*

```

10 REM *****
20 REM  Coded Message - WACCI 1991
30 REM *****
50 INPUT"Enter message ",mes$
60 m=LEN(mes$)
70 IF INT(m/2)>m/2 THEN mes$=mes$+" "
80 FOR char=1 TO LEN(mes$) STEP 2
90 temp$=temp$+MID$(mes$,char+1,1)
100 temp$=temp$+MID$(mes$,char,1)
110 NEXT char
170 LOCATE 1,9:?"Your message is ";;PRINT temp$

```

fig 1.

```

40 MODE 1:INK 0,P:INK 1,I:BORDER 0:' ink 0 =
   paper and ink 1 = ink
120 ?::?"Code systems working, please wait."
130 FOR delay=1 TO 500:NEXT
140 PRINT:PRINT:PRINT"nearly there..."

```

```

150 FOR delay=1 TO 250:NEXT
160 CLS
180 LOCATE 2,15:?"Message will self-destruct in
   5 seconds"
190 AFTER 250 GOSUB 1000:REM *** 5 second
   timer *****
200 GOTO 200
1000 REM *****
1010 REM  next go sub-routine
1020 REM *****
1030 CLS
1040 PRINT"Another message? Y/N"
1050 x$=INKEY$
1060 IF x$="" THEN 1050
1070 IF x$="y" OR x$="Y" THEN RUN
1080 IF x$="n" OR x$="N" THEN CLS:END
1090 RETURN

```

fig 2.

Online - Offline

Saving money? Getting it right? Peter Ceresole investigates CRR.

Once you start logging onto bulletin boards (BBSs) you quickly discover that the most fun is just browsing, finding out what other people have to say about life, the universe and all that.

BBSs have many message areas covering various topics; comms, politics, computers of all descriptions, religion, small ads, TV, CP/M and even virtual reality. There's all manner of opinions and advice but how do you get at all this stuff? There's a lot of dross, obviously and it's hard to know what to look at. When you're logged on you can select an area and go through it message by message. This takes a very long time indeed and if you want to contribute it takes even longer.

You have to download the messages that interest you and compose your reply. Then you log back on and upload. More simply you can type it in on line but the thought of the phone charges piling up don't make either for clear thought, or for accurate typing.

How about if you could Hoover this stuff up somehow; choose your areas(s) and suck up all the new messages and read them at leisure. You should be able to reply calmly and then squirt the stuff back.

Mind you, the answers should stay related to the original messages somehow and there would have to be a standard format so the message went to the right area, addressed to the right person.

A tall order? Yup. But it's been done. The programs, for obvious reasons, are called off line readers.

CP/M Read & Reply

CRR is the CP/M off line reader; as far as I'm concerned it's completely wonderful and has made accessing the world comms affordable, all on its own.

It needs a (large) piece of software on the bulletin board, called QMX or Quick Message eXchange. QBBS, RemoteAccess,

Maximus, XBBS and Opus bulletin boards will run QMX. If your local board doesn't run it, ask the sysop; they are usually keen because it hugely increases their throughput and curiously, they like people to use their boards. Why else do they run them, eh?

CRR arrives as a 37K Library file, CRR040.LBR. It contains a number of files. To extract them you will need the 8k version of LT29.COM. NULU won't do the job.

CRR is share ware, you can use it for a month for free but if you want to go on using it, you should pay 15 for the privilege. This is important. Also, you'll save that much on your first phone bill. There's only one thing to be said about this:- REGISTER.

The works

The way it goes is this:- First get your CRR disc set up. It must include CRR.COM and CRR.OO0. Although it's not essential, it's best to make a file called DEFAULTS.CRR. It's a text file which you can make up in a word processor. It tells CRR where all your other files are. The .DOC file contains an example and I made mine by lifting that from the file and modifying it. Here it is:-

```
SCREEN
23
SOFTCR
DRIVE
B:
PACKER
C:ARC
EDITOR
C:VDE266    fig 1.
```

Starting from the top, it sets the screen depth to 23 lines, tells it that you're using the word wrap feature on VDE, then specifies the drive on which you will put the files from the BBS- B: in this case.

Next it tells CRR where you have put your packing program and what you have called it (ARC.COM on drive C:) and finally the name of your chosen text editor and its drive.

Looking at that, you can see that you'll need some extra programs, all of them in the Public Domain.

The most important choice is of a text editor. It must run under CP/M and it

must be able to take a file name as an argument. In other words, you must be able to load the editor and the file you want to edit in one command. As an example, the command "VDE266 oddstuff" will run VDE266 and have "oddstuff" loaded into it ready for editing.

Protex won't do and neither will, for example, Tasword. It must be CP/M. If you were an absolute masochist you could use ED.COM but nobody does- everyone uses some version of VDE or its successor ZDE. They are very good and using SETKEYS I've made mine behave like a snail version of Protex so it all feels very homely.

But I'm getting ahead of the story... You'll also need a packing program. ARC.COM or ARK.COM (the names seem interchangeable) will do fine.

Not apparent from the DEFAULTS file is that you need an unpacking program. Again, UNARC.COM will do fine.

I run CRR from a Silicon Disc, the C: drive, because it's much, much faster this way. You can easily run it from drive A: if you have a second drive but running CRR on a single drive CPC, although possible, is severely limited by the small capacity of the discs.

You'll see why when you see how it works in practice.

In the mean time, I'm including the .sub file (shown in fig 2.) I use to run CRR from drive C: as it might prove useful. The original files are all on drive A: and you have to be in CP/M, obviously.

Note that I've only allowed up to four upload files a day which seems reasonable. If you need more, add more lines to the file. Obviously, too, you need PIP on the disc.

The real thing

Now to use it. You don't start with CRR, you start with your Comms program.

First you log onto a BBS that has a QMX area. Follow the prompts to get into it, then you'll be offered a choice of areas to download. There are thousands upon thousands of messages available in total, so choose a few areas you feel could be interesting.

The program then asks you what transfer protocol you want to use; if you can, choose Z-modem. It's a little faster than the others and it's very easy indeed to operate. X-modem will do though.

So far so good. If it sounds a little fearsome on the page, in real life its easy enough- at least, as easy as anything you're doing for the first time.

```
setkeys keys6128.vde
pip
<c:=a:vde266.com
<c:=a:crr.*          fig 2.
<c:=a:arc.com
<c:=a:*.crr
<
c:
crr  -----crr runs
a:pip -----on quitting crr this
<a:=c:*.crr  lot happens.
<a:=c:*.??1 --this is the format
<a:=c:*.??2 --of file crr produces
<a:=c:*.??3 --for you to upload to
<a:=c:*.??4 --the BBS
<
```

Batmail and Robin

The BBS will pack the messages- which will also include any mail directly addressed to you, whether or not you chose that area and then send you the packed file. You can choose to have the files Zipped or Archived.

The file is always called BATIMAIL with either .ARC or .ZIP as extension. And look out, the first one may be a bit of monster. 80K or 90K files aren't uncommon as you scoop up the backlog. Later, as you do regular downloads, 35K or 40K is more usual.

Do watch out, however. My local sysop (Roger Seaward on Jolly Roger) kindly kept a load of files for me when I was away for a week. The compressed download file was 444K. I killed the transfer at once, eliminated the Common Room area and it came down to 165K.

That gives you an idea of how fast the stuff builds up. Jolly Roger is on Fidonet, which means that messages generated all over Britain and abroad, find their way onto my local BBS. Messages for me, posted on Aspects in Manchester find their way to Chiswick and Roger Seaward's board.

Anyway, you now have a large BATIMAIL.ARC sitting on your drive like a cuckoo on steroids.

Unscramble

You UNARC the file- it will break down into a standard set of files. This was one day's download:-

```
BATIMAIL.ARC 28k
became -
AREASI.XRS   1K
BATIMAIL.XRS 44K
MAILIDX.XRS  1K
SUMMARY1.XRS 8K
USER1.XRS    1K
XORIGIN.XRS  1K
```

SUMMARY1.XRS is a summary of what's available on the board and what's in your message packet. The files are used by CRR and if it doesn't find them it won't run.

BATIMAIL.XRS is a text file that contains all the messages in the package. You can also read it directly in a word processor. That's especially useful if something's gone wrong and you can go in and see if there's something strange in there...

At last

Now you run CRR. It's a big old thing and it chunters along. You can hear it looking for the .XRS files. If it doesn't find all those it expects to find, on the drive where it expects to find them, then it will chuck you back to the A Next it asks you for the date and time. If you have a real time clock on your machine, or you've entered date and time earlier in the session, CRR will use that data and go straight on to present you with a menu.

It gives you the options to look at all the messages, or just one area, or messages to you. You can send a message, or Netmail. You can select a numbered message to read. Finally you can pack your messages for sending, or simply quit.

If you start to look at messages in a given area, they come up in their proper format, with origins, dates, who to and who from and the area they're in. There's a menu along the bottom to tell you what to do next.

If you want to go to the next message you go 'N' and you get the next one along. Press 'P' and go back to the previous one. You can print the message (Y) or look at it again (V).

The real beauty comes when you want to reply. You press 'R' and you're offered the opportunity to quote the message. Then the screen goes blank and then there's a ruler line at the top. Suddenly you realise that you're in VDE and the original message is there, properly quoted with each line indented and marked with the initials of the person who originated them. If there were quotes in the original message, they're properly identified as second generation quotes with double indentation. The top of the message already has an origin and address; everything is ready to go.

It's a piece of cake then, editing the original message for quoting, putting your own stuff in and, when you're happy, going ESC-X (remember this is VDE) which exits the word processor. Automatically, CRR fires up, busily looking for its files. This is the moment when you really want CRR on a RAM drive.

Your text is taken and processed into a message for uploading. It's given a name

which is M*.CRR where the * stands for a series of numbers and letters that identify the message. CRR 0.40 also creates a file called MIN*.CRR which is a message index file; in 0.47 and above, it's called MOO*.* .

You can create any number of messages and they will be indexed properly. You can see them appearing on the disc directory; within CRR you can view the titles of your replies and either edit them or delete them.

If you quit CRR you need to preserve those files; if on drive C: you have to get them back onto a floppy automatically; my .sub file copies all .CRR files back to the A: drive on terminating CRR.COM. When you fire up again, CRR will look for those files automatically and carry on where it left off.

Why do we do this?

Now for the purpose of the whole thing. You have an option (P) to pack the messages. It uses ARC.COM without human intervention and produces a file of the form *.SUI for the first file on sunday, *.SU2 for the second etc... The * is a number unique to you.

At the same time it erases all the message and message index files, leaving everything clean and ready to go again.

Next you fire up your comms program, log onto your board (if you can get through) and smash through to the QMX area. Don't pause to read your mail, the messages will be in your next download package. Just get in there, follow the prompts, upload your package (*.SUI), download your new BATIMAIL.ARC and get the hell out.

You can easily send ten messages and receive 50 in some eight minutes on line, maybe a bit longer if you're at 1200 baud, quite a bit longer at 300 but in any case infinitely less time than reading the stuff on line.

Paul Martin, who's creation this is, is a friendly and helpful bloke. He's bringing out new and improved versions all the time and responds to suggestions. You'll certainly see his messages if you take the CP/M area. Message him if you have a problem. You'll get a reply.

Get it

There's only one message here:- get CRR. There are plans afoot to include it on a new WACCI CP/M comms disc (along with ZMP) if that's happened by the time you are reading this then - get it. CRR is quite wonderful, makes comms fun and affordable. Download it or get it from WACCI. Register it. Use it.



A Passing Thought

Part one of John Ridge's series about teaching by computer.

Something is very wrong in the schools. Why else should a girl in her early twenties with a bunch of O- or A-levels, or whatever it is they use in place of the old School Certificate these days, write to tell me that she will "proberbly go to colage" next year to take a secretarial course?

The three R's

Lest it be thought the fault is the result of some inadequacy peculiar to the English education system, I saw a recent example in Norway where a young man who boasted of having graduated from High School wrote "orntlig" instead of "ordentlig" and was unaware of there being any error. Articles in American magazines complain about the low standards of young people leaving schools in the USA. Perhaps the same problem exists in many other countries, too.

It is not just that so many young people being turned out by the schools seem unable to write in their own language and seldom read a book, their standard of numeracy is not one whit better. In short, they are not being grounded properly in what our grandfathers jokingly referred to as the three R's: Reading, 'Riting and 'Rithmetic.

I don't think we should point an accusing finger at the teaching profession alone, although it does seem to have attracted a large number of people whose main aim appears to be to fill children's heads with trendy notions rather than to teach them anything useful. And it is all too simple to blame television, lack of government spending on education and so on. There are no doubt many contributory factors, not all of which may be very obvious. Wholesale and sweeping reforms would do more harm than good by being disruptive and could lead to many perfectly healthy babies being thrown out with the bathwater.

There may well be a great deal wrong in the schools but that is a far cry from saying that everything is wrong.

That said and despite a few dissenting voices, the consensus of opinion amongst parents and employers taking on school-leavers is that the schools are not doing a very good job and that the standards have been steadily deteriorating for some time. I heard somewhere or other that a few years ago the universities of Oxford and Cambridge had to lower the standards of education required by entrants. It could well be so. In my day it was impossible to get into any university whatsoever without Latin and it helped to have Greek. That was true even for those who intended reading science subjects rather than any of the arts.

Once, when I mentioned something of the sort to one of my sons, he sprang to the defence of his honours degree by retorting that at his university, at least, the standard remained high. It seemed impolitic to continue the discussion but I suspect that he had missed the point. It was not the qualifications of graduates I was talking about but the fact that in many cases first-year students are having to be crammed in subjects they should have mastered at school, thus delaying the start of their courses proper. And these students, one presumes, are taken from the ranks of brightest school-leavers, so it is hardly surprising that the performance of the vast majority is not always very impressive.

It would be instructive to know why the same son, even though he has gained a second degree in another subject, is unable to spell anything like so well as an



elderly relative who left school at 14 and spent most of his life working as a dock-labourer. The ability to express oneself accurately depends quite largely on the ability to spell. Without it one may have to resort to avoiding words one cannot spell in favour of less apt words one can. The only alternative would be to throw caution to the wind and expose one's ignorance.

Does doth doeth?

Bad spelling, too, is usually associated with bad grammar. At least, it has been since the great dictionary-writers established conventional spelling. Shakespeare had far greater freedom than we moderns because there was no standard to which he could refer. We may find it odd that his surviving signatures show his own name spelt in two different

ways, just as we find his occasional use of the double negative strange, or his uncertainty whether to use the 's' ending of verbs (DOES) of Northern English, or the 'th' ending (DOTH or DOETH) of the Southern dialects. Those slap-happy days are, alas, long past. We disobey the strict rules at our peril, for no one is likely to take seriously the ideas of a person who is too ignorant to write his own language correctly.

It is also possible for a pretty innumerate person to get by after a fashion in these days of pocket calculators and cash registers which display the correct change. In the absence of such aids, though, is not such a person at a severe disadvantage in the marketplace, counting-house and workshop? I believe so.

Most parents, I think, care about their children's future and would willingly sacrifice time, effort and money in making good any deficiencies in their children's schooling. A home computer might be of some help and this short series of articles is intended to suggest how I think computers might best be employed for the purpose and to draw attention to some of their limitations.

Exposition is not my strongest point, which is why I usually confine myself to expressing opinions. Also, my memories have faded and many changes taken place since my own children's school careers began in 1960. I would therefore welcome any help, suggestions and criticisms you might care to offer.

The look

In planning to write a teaching program, I think it necessary to consider the appearance on the screen separately from the actual content of the program. The two things are interrelated, of course. A book intended as a First Reader for young children would fail in its purpose if it were produced in the fine print of a pocket Bible, just as it would be rather inappropriate for a book on mathematics to be printed in large letters with hyphens between each syllable in long words. "Advanced Concepts in Numerical Analysis" is probably intended for a different readership from "Bruin the Bear" and one would expect this to be reflected in the presentation and layout.

Similarly, a program written to help a child of seven wrestle with decimal fractions may require a different sort of screen design than one written for an older child tackling organic chemistry. In the case of older children, the sort of screen they would find attractive and easy to work from will be very much in accord with the taste of adults, so there

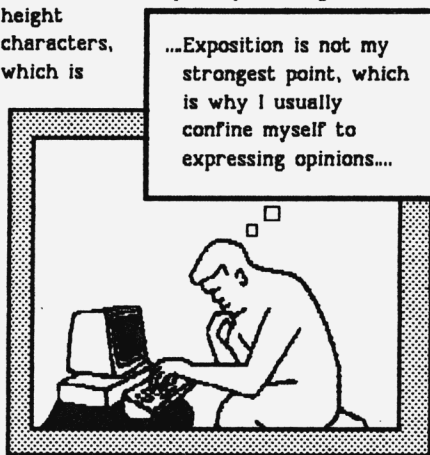
is no problem there. It is the requirements of younger children we will be considering here.

Character building

The same Amstrad character set is used in all three screen modes but there can be little doubt that the letters and numerals are more legible in Mode 1 than in Modes 0 and 2. In Mode 2 the characters are too "squashed up" for small children to decipher easily. In Mode 0 they have an unfortunate "toytown" appearance which in no way improves their legibility and makes them a bad model for children who are still struggling to perfect their own script.

Nevertheless, the temptation will be to choose Mode 0 if for no other reason than it gives a larger palette of colours (provided you have a colour monitor, that is.) There are ways of producing double-height

characters, which is



some improvement but leaving aside the question of colour for now, my choice would still be Mode 1 even for quite young children.

It is peculiar that people talking to foreigners tend to shout, presumably on the grounds that failure to understand English is a symptom of deafness. Similarly, when something proves difficult to read, many people try to improve matters by using larger letters. It is the visual equivalent of shouting at foreigners and is just about as helpful.

Small children may have difficulties in reading at times but that does not automatically mean that they are half blind. The size of the characters in Mode 1 is ample for any child with normal eyesight. Print of the same size in a children's book would be considered quite large enough by most people and a screen is normally viewed from a distance that is not all that much greater.

If the child is being asked to read a single word, then the word should stand by itself, with nothing to distract concentration. The child will not only be

trying to combine the sound values of the letters but also to discover what sort of distinguishing pattern, if any, they form. That is the way words are recognised on sight and is the basis of fluidity in reading. So make sure the pattern is uncluttered by extraneous irrelevancies which could lead the eye astray.

When adults read a phrase or sentence, long practice allows their eye to jump ahead at frequent intervals in order to spot clues which will clarify meaning. Indeed, the eye movements trace a complicated path of advance and return which often allows clusters of words to be taken in at a glance.

Small children are not so fortunate. They have to plod on word by word and, if unfamiliar or difficult words are encountered, even syllable by painful syllable. To help them it is essential that each line of words be isolated from the others, with ample space between. Again, the fewer distractions, the better.

Mod' yer set

If you confine yourself to using Mode 1, which I highly recommend you do, the Amstrad character set should present no difficulties to children who have had some practice at reading printed books. But it has its burden of eccentricities, which could be improved, even if we stick to Mode 1. Modifications to the style could prove helpful for younger children. It means a bit of work with SYMBOL and SYMBOL AFTER but this could be saved as a subroutine and merged with any number of later programs, so it need only be tackled once.

I would suggest that all serifs be removed for a start. Some letters in the character set have them, others do not, but with the possible exception of the capital 'I' children's own script does not include them. If what they see on the screen is to serve as a model, or if it is intended that they should copy from the screen to paper, then it is better to redesign the character set accordingly.

Another improvement would be to alter the lower-case 'a' so that it is in the form of a "stick" joined to a "ball." Fortunately the small 'g' needs no modification - not a squiggle or serif in sight. Above all else, though, remove the slash from the zero symbol (ASCII 48). Children will not meet the slashed zero normally and it could be confused with a "crossing out" or even with the number 8. It might be thought worth the trouble of altering the '9' from an inverted '6' to a ball and stick, but I don't think I would bother. Children will see the curly-tailed '9' so often in print that they will be quite familiar with it.

Finishing Touches

Part two of Glenn Carey's Basic routines. This month: Animation.

First things first. If you have any sort of hardware plugged into the back of your machine type `!ROMON,7` to switch out any ROMs that might interfere with the program examples I'm going to use.

In Basic the best way that I've found to animate something is by using ink swapping. What's ink swapping? Try typing the listing shown in fig 1. Lines 30 to 60 draw a fifteen stripes, each in a separate Pen. Lines 70 to 110 highlight each stripe bright white in turn; line 80 changing the ink to bright white, line 90 pausing the program and line 100 changing the ink back to black.

Hardly spectacular but it does demonstrate how the process of ink-swapping works; something is drawn again and again in different pens and then the colours are highlighted one by one.

As your computer does this you may find it flickers slightly. If you've got a 664 or 6128 then this can be cured using the `FRAME` command - see your manual for details, because being a 464 owner I haven't got the foggiest idea on how to use it.

Now we've got the grasp of ink swapping let's go for something a little more complex... like a flying seagull. Get the fingers tapping and have a go at typing in the listing shown in fig 2.

The program draws fifteen different seagulls in the fifteen different pens (lines 20 to 60). Line 70 swaps the inks to give the impression of wings going up and line 80 the same, except down. Line 90 then instructs the computer to go back and start swapping inks again. Oh and by the way - don't ask me why I got the computer to draw seagulls - it just, well,

sort of happened.

Ink swapping is quite versatile and in my time I've created a program that animates spirals, searchlights and squares. It can all get a bit hypnotic if the lights are off. See for yourself - the program is in WACCI's Homegrown library, and it's called "Nightshow" (it's on the new WACCI DISC 14 -Ed.)

Ups and downs

We all know that in Basic you can scroll a screen up by printing extra lines at the bottom of the screen but by printing the delete character - `CHR$(8)` - twice at the top of the screen the effect is a downward scroll.

"Hang on a minute, he's on about scrolling - this is supposed to be about animation." - Yes, all right, I was coming to that... Combine the two and you get an up and down motion. See fig 3. for the listing. All right, all right, so the graphic's not up to much - but I've proved my point. Lines 110 to 130 scroll the screen down and lines 140 to 160 scroll it up, with delay loops in lines 120 and 150.

A moving message

The program shown in fig 4. produces a moving message across the bottom of the screen. Line 20 asks you to type in your message. You can replace this with a simple `M$="Your message"`. Lines 40 to 60 contain the main program, which moves the text from right to left across the screen. Remember to insert at least thirty spaces either side of your message.

Wired for sound

This bit has nothing to do with animation but I thought I'd let you know what's going on behind my back (is this man paranoid? -Ed.) As I'm typing this I'm listening to the radio. So what? Well, usually placing a radio near your CPC means you'll be subjected to some



horrible noises. What I've done to combat this is to fix up two car-speakers on either side of the back of my chair and drag the lead to the other end of the room, where they're plugged in to my tape recorder. Pretty cool it is too but here comes the finishing touch - if the program I'm using incorporates a lot of sound then I place the radio back by my chair. I then plug a different lead into the I/O port in the back of my CPC and connect that to the MIC socket of my tape recorder. Volia. Stereo sound around my lug'oles without having to wear girllie headphones.

In the next issue...

Ermm, I'm not telling but (that means he doesn't know himself yet - Ed.) but it'll obviously involve some some Finishing Touches. Until again then, Cheerio.

```

10 MODE 0:BORDER 0
20 FOR C=15 TO 0 STEP -1:INK C,0:NEXT
30 FOR X=1 TO 60 STEP 4
40 C=C+1
50 PLOT X,0,C:DRAWR 0,399
60 NEXT X
70 FOR S=1 TO 15
80 INK S,26
90 FOR P=0 TO 50:NEXT
100 INK S,0
110 NEXT
120 GOTO 60

```

fig 1.

```

10 MODE 0:INK 0,2:BORDER 2
20 FOR C=11 TO 0 STEP -1
30 FOR X=0 TO 639 STEP 12:DEG:MOVE 300,200
40 DRAWR X+(C*10)*SIN(X/2),X/2+(C*10)*COS(X/2),C
50 NEXT X
60 NEXT C
70 FOR M=1 TO 10:INK M,26:FOR P=1 TO 33:NEXT
  P:INK M,2:NEXT M
80 FOR M=11 TO 2 STEP -1:INK M,26:FOR P=1 TO
  33:NEXT P:INK M,2:NEXT M
90 GOTO 70

```

fig 2.

```

10 MODE 0:INK 0,0:BORDER 0:INK 1,2:INK 2,26
20 PAPER 1:PEN 2
30 LOCATE 6,7:PRINT "*****"
40 LOCATE 6,8:PRINT "*   *"
50 LOCATE 6,9:PRINT "* @ @ *"
60 LOCATE 6,10:PRINT "*   *"
70 LOCATE 6,11:PRINT "* ++++ *"
80 LOCATE 6,12:PRINT "*   *"
90 LOCATE 6,13:PRINT "*****"
100 PAPER 0
110 FOR A=1 TO 5: LOCATE 1,1:PRINT CHR$(8);
  CHR$(8);
120 FOR P=1 TO 20:NEXT P
130 NEXT A
140 FOR A=1 TO 5:LOCATE 1,25:PRINT:PRINT
150 FOR P=1 TO 20:NEXT P
160 NEXT A
170 GOTO 110

```

fig 3.

```

10 MODE 1
20 LINE INPUT "MESSAGE: ";M$
30 CLS
40 FOR X=1 TO LEN(M$)
50 LOCATE 5,25:PRINT MID$(M$,X,30)
60 NEXT X

```

fig 4.



View : Stop Press or Crammed Pages can be Viewed : combined Altered and Swapped.



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Prototype

There's a new release from Arnor. Steve Williams investigates...

Remember the good old days? When men were men, knights were bold and serious programs for the CPC were plentiful.

Those days have long since passed and nowadays the release of serious piece of software is as rare as a good joke in the Little and Large show. Yes the 'make a bob quick' programmers have long since departed to richer pastures leaving Amstrad owners, who want to do something other than play games, largely unsupported.

One company who have stayed loyal to the CPC as well as catering for other machines is Arnor. To prove the point they have released a new product for Arnold - Prototype.

Prototype is a versatile print enhancer designed to squeeze the maximum print quality from low cost nine and twenty four pin printers. But Prototype doesn't just stop at being a print enhancer, it carries on to do lots of wonderful things with your printer (a couple of which, initially, seem pointless.)

Klassik .626 Medium upright serif
Lucca .636 Medium italic cursive
Mikron .427 Small medium upright serif
skyLite .606 Light upright sanserif
skyKite .626 Medium upright sanserif
skyMite .407 Small light upright sanserif
skybold .646 Bold upright sanserif

Fig 1. Some of the new fonts

System requirements

The program works with the CPC6128, and Plus The CPC464 and 464 Plus with 64K memory expansion and disc drive.

It works in conjunction with either the ROM and disc version of Protex or almost any other program which produces printer output (this includes any word processors or databases that are capable of producing pure ASCII text files.)

Prototype in its most basic form only takes up 350 bytes of computer memory (so there's lots of room left for BASIC programs to play with) but since it makes extensive use of the second 64K bank of memory it cannot be used with programs which also use this area of memory. Unfortunately this means that Prototype cannot be used in conjunction with any programs that run under CP/M Plus.

It is not necessary to have an eight-bit printer port, Prototype is quite happy to bang the whole thing through the seven-bit port.

In operation

If you are using Prototype with Protex, et al, on ROM then running the program is simplicity itself. Stick it in the drive, RUN'DISC and Prototype gracefully whirrs into action, looks around at your system, configures your version of Protex with it's own printer driver, loads the first three fonts and then tells you it's ready to play.

You now have an extra set of RSXs to call up, either from Basic using the bar command or directly from Protex's command line. The thirteen new RSX commands are ADJUST, FREE, TABLE, GAP, LFEEED, CPI, CPCM, MIRROR, INFO, PROTOTYPE, DRAFT, NLQ and FONT but more about these goodies later.

If you don't want to use the program specifically in conjunction with Protex then there is an unconfigured version of Prototype included on the B side of the disc.

The fonts

When Prototype is initialised, three print fonts are taken from the disc and shoved into the computer's memory.

The seven starter fonts included with Prototype are shown in fig 1.

These can be switched in and out by either using embedded control codes (CNTRL K, L and M) in the text or stored commands.

The latter method is especially handy if the text you are printing out is destined to have more than three changes of font. If you have ever used the stored commands in Promerge Plus for, say mail-merging, then Prototype's command system will seem vaguely familiar.

For example to print out the fonts as shown in fig 1, I typed the following text into the Protex file.

```
>EX FONT L KLASSIK.626
Klassik .626 Medium upright serif
>EX FONT L LUCCA.636
Lucca .636 Medium italic cursive
>EX FONT L MIKRON.427
Mikron .427 Small medium upright serif
>EX FONT L SKYLITE.606
skyLite .606 Light upright sanserif
>EX FONT L SKYKITE.626
skyKite .626 Medium upright sanserif
>EX FONT L SKYMITE.407
skyMite .407 Small light upright sanserif
>EX FONT L SKYBOLD.646
skybold .646 Bold upright sanserif
```

The ">EX FONT L" part is the stored command that tells Prototype to load in a particular font from the disc.

RSXs et al.

Once you bounce Prototype into your computer there are some additional commands available which can be called up by Protex directly or via Basic using the | (bar) command.

IPROTYPE	Switches Prototype in or out.
IINFO	Displays the Prototype status line.
IDRAFT	Selects the fast printout.
INLQ	Selects the high-quality printout.
IFONT	Loads in a font from disc.
IADJUST	Formatting modes
IFREE	
ITABLE	
IGAP,n	Adjusts inter-character spacing by n/120th of an inch.
ILFEED,n	Set line feed in n/216 inch (9-pin printers) n/180 inch for (24-pin printers.)
ICPI,n	Set nominal pitch to n characters per inch.
ICPCM,n	Set nominal pitch to n characters per centimetre
IMIRROR	Switches mirror imaging on (or off)

Super and subscripts

Any section of text may be raised or lowered with respect to the baseline using the printer control codes CNTRL X or CNTRL Y. By using this facility and by swapping fonts you can achieve some interesting results (see fig 2.)

Text 'n' graphics

Prototype also provides line graphics characters which means that text, boxes and ruled tables can be produced and mixed in any formatting mode (see fig 3. for my crude examples.)

This is truly amazing stuff because up until now CPC owners have been hampered by the fact that they only have a seven-bit printer port. CPC users had to buy an extra eight-bit printer port in order to access the printer

characters available above ASCII 128.

Prototype doesn't cover the complete IBM character set (up to ASCII 255) but it does have a load of characters that do not appear. In addition it's worth remembering that the eight-bit widget costs in excess of twenty pounds.

The density of ethanol (CH₂H₅OH) at STP 789 kg m⁻³.

fig 2.

The manual

In the past Arnor gained a reputation not only for the the quality of their software but also for the excellent manuals which accompanied the programs. I am happy to report that the Prototype manual is no exception to this rule. It is clear, concise and well structured. It is written for the beginner as well as the 'Techno-buff.' There are some nice touches for the beginner, like a hexadecimal to decimal conversion chart, right through to some advanced information for machine coders who want to incorporate Prototype into their own programs.

Double Dutch

I must admit, right from the start, that I'm one of those Euro-Persons that doesn't know his omlaut from his elbow but evidently diacritics are those extra little characters above letters sometimes found in other alphabets (you know cedillas, graves, circumflexes, acutes, umlauts etc etc.) Prototype can produce a range of them. The list of European languages catered for is most impressive. Albanian, Anglo-Saxon, Czech, Danish, Estonian, Finnish, French, German, Hungarian, Icelandic, Irish Gaelic, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Scots Gaelic, Serbo-Croat, Slovak, Slovene, Spanish, Swedish, Turkish and Welsh. You can even produce a complete Latin font.

The characters are accessed by pressing combinations of keys. For example by pressing F2 on the keypad an omlau is produced. Pressing SHIFT and F0 gives an upside down question mark. Typing F3 followed by a small c brings up a copyright symbol.

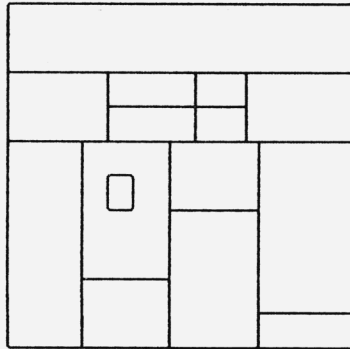
The number of combinations of potential is potentially quite bewildering even with the quick reference charts. Because of this Prototype comes complete with a set of stick-on legends for the keys.

Output to paper

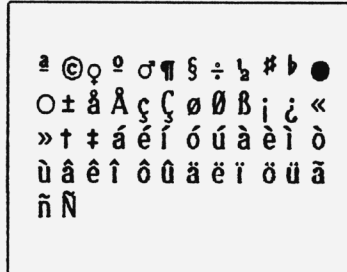
Printing with Prototype is slowww... but then what did you expect? In order to obtain the high quality printout, the print head has to make twelve passes over each line of text. If you do want to

speed things up you can use the IDRAFT command which increases the printout time by a factor of six (but of course the quality suffers.)

Horizontally, nine pin printers usually manage 120 contiguous dots per inch. However 240 dot positions are available, the print head just doesn't have sufficient speed of response to print them. By making the print head pass over each line of text twelve times Prototype manages to raise the dot resolution to 1/216 inch vertically and 1/240 inch horizontally. Compare that with a typical laser printer has a resolution of 1/300 inch in both directions and you can see that Prototype really does squeeze out the most from a nine pin printer.



Boxes are made easy using Prototype.



Just some of the extra characters available

fig 3.

Promerge Plus

When used with Protex both Prototype and Arnor's Promerge Plus ROM work by intercepting Protex vectors. With other print enhancers, in the past, this has proved to be a bit of a problem. I remember reviewing Qualitas Plus three years ago and in order to get the program to work I had to physically switch out the Promerge ROM. Yup, even doing a IROMON.7 command wasn't able to satisfy Qualitas Plus.

Prototype is smarter. It's been told that there is a ROM floating around in Arnoldland called Promerge Plus, not only that but it knows all about it (well this is an Arnor product after all.) When

Prototype is initialised it looks around your set-up and checks for Promerge Plus, if it finds the ROM it switches it out and quietly but confidently takes over its place. You are, however, left with the extended command entry features of Promerge Plus (copy cursor editing, last command recall etc.) are still available from Protex.

If you have Utopia AND Promerge Plus in the back of your machine then you find that the keypad F0 command (INK 0, 13:INK 1,0:BORDER 10) is disabled (no great loss.) All the extra commands from F1 through to F9 are left unchanged.

Pointless?

OK, I started this review by saying that there were a couple of things that Prototype could do that 'initially' seemed pointless. One of these is the MIRROR function. This prints out the high-quality text as if seen when reflected in a mirror (surprise surprise!) When I first used the command, to print out a line of text, I had a good chuckle and thought "but what's the point?" Delving into the manual to find out more about 'MIRROR' I fell off my seat when I read the line that said "This will be of use in future developments where, for instance, an Arabic or Hebrew script output is required." Apart from the idea of someone writing a program which could print out text in Arabic or Hebrew, I was more stunned by the words "future developments." Good for Arnor, I was beginning to get the impression that the words "CPC6128/464, serious software and future developments" were all mutually exclusive. It's nice to see that there is at least one big company that hasn't written off our beloved Arnold.

Price

Yes it's time for a sharp intake of breath. Prototype costs thirty pounds... Yes, your initial reaction is the same as mine was "Wow, that's a bit steep!" I think that's fair comment but having used the program for the last three months and having found out just how much it can do... thirty biggys doesn't seem unfair. I've spoken to Arnor and initially the price was going to be twenty-five washers but then they decided to include the stick-on legends and the chancellor decided to increase the VAT rate to 17.5 percent. Push came to shove and Arnor fixed the price at a straight thirty sobs.

Conclusions

Arnor began its life way back in 1985 'developing' Maxam for the CPC464, they pioneered the 'development' of 'ROM software.' Protex, Promerge, ProSpell, Utopia, Promerge Plus, Maxam 1.5 have all been carefully researched mega-hits for the serious CPC user.

The development of the first 1A
 and the subsequent 2A and 3A
 versions of the software
 were all done in the
 early days of the
 development of the
 software.

Go on... Hold it up to the mirror

Arnor then went on to successfully 'develop' these programs for the PCW, PC, Atari ST, Archie and the Amiga (and probably a couple of others that I've forgotten to mention).

In the impressive list of CPC programs that Arnor have marketed since the machine first appeared (Maxam, Protex, Maxam 2, Promerge, BCPL, ARNOR C, Promerge Plus, Prospell, Utopia, Pocket Protex, Maxam 1.5, CP/M Plus Protex, CP/M Plus BCPL, Protex Office and Protex Filer) I've only seen them release one program that was slightly less than wonderful... Model Universe. It wasn't a bad program in itself, a 3D modelling designer, but I think the advertising slogan 'Its uses are only limited by the scope of your imagination' said it all... "Yes, we can't think of a use for it either." Only one 'iffy' CPC program in a string of some sixteen or seventeen releases is a success rate that lots of other companies would like to try to copy.

Unlike many other large companies who found their initial fortune on the back of the CPC range of computers and then when the profit margin dipped below the slightly less than 'marvellous' threshold, Arnor have never forgotten the machine that started their success story and have always continued to support it. Protex has spent three years in the development stage and it has been well worth the wait.

Part of the perverted fun I get from reviewing new software is trying to push it till it 'falls over' or crashes. Protex is rock-steady and if there are any 'undocumented features' (which is industry-speak for something that you or I would call a 'bug'), in the program then I couldn't find any.

The final verdict

OK, here it is then, the bottom line. You are either deeply 'into' print enhancers or you're not, I have to confess that, up until the time I came to review Protex, I wasn't that interested in them. My previous experience of them, as being fiddly to use for very little improvement in the output quality, meant that I usually gave them a wide berth. Protex hasn't exactly changed my life... but I shall be using it in conjunction with my 24-pin printer to produce really high quality text for my personal letters.

So if you are someone who uses a print enhancer, then Protex is the one for

you. It's so much easier to use than any other previous 'print enhancer' I've used before and it has lots of extra features that ordinary enhancers do not.

h H d' £ ¢ B o a æ Æ
 Œ α S a ° ø Ø ↓ ð þ Ð
 þ ß ; ð ú ó ð † ‡ (X) [A]

some more Protex characters

The only program that comes anywhere close to presenting any competition to protex is Qualitas Plus which I reviewed for WACCI just over three years ago. Looking back at that experience, Protex is a doddle to use. For example Qualitas Plus objected to Promerge Plus so violently that I had to physically switch out the ROM before I could get it to print anything out. Not the ideal situation but at least my ROM-board had a switch in order to switch out the ROM with. In addition, in order to get the best from Qualitas you had to have the eight-bit printer port. Lastly, Qualitas Plus could only deal with only three fonts at any one time, Protex's ability to load in fonts from disc is a major advantage.

Thirty pounds seems a lot to cough-up during these dark days of the recession...

but you will be getting a lot of program for your money. If you want to produce high-quality text from either your own Basic program or directly from Protex then Protex is the one for you.

How to get it?

Arnor have changed their marketing policy for the launch of this new program and have dipped their toes into the world of mail-order. If you want to buy a copy of Protex then (for the moment) it's only available from Arnor at:

611 Lincoln Road
 Peterborough
 PE1 3HA

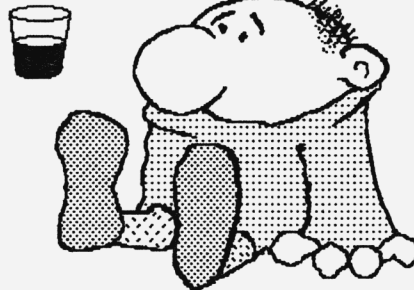
Or if you want more details phone Arnor on (0733)-69609. If you do decide to send for a copy, don't forget to mention to them that you are ordering Protex because you read the review in WACCI (we might even manage to get them to place an advert in the magazine.)

Outro

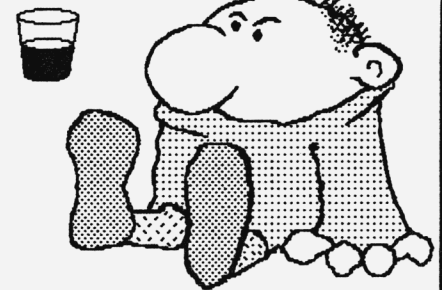
Just in case you were wondering, the printouts used to illustrate this review were all produced using my trusty four-year old Citizen 120D nine-pin printer.

Life (The four basic personality types) By Steve

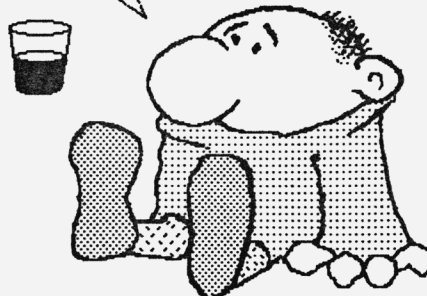
That glass is half full.



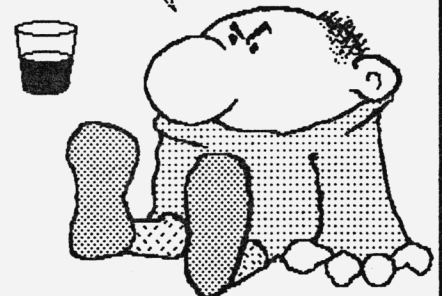
That glass is half empty



Half full... No! Wait... err half empty... No half.. err What was the question???



HEY! I ordered a cheeseburger



FORTH

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

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

The second in Uncle Clive and Cousin Alan's series on Forth programming.

It's an Introduction

Hi there, welcome back to the fun filled world of FORTH programming, this series is a joint effort. Alan has done all the work and I supplied the spelling mistakes.

We have come to the conclusion that we have the most travelled disc in the history of WacCI; this series has been written using one of Alan's discs which has now made about 30 journeys from Altrincham to Long Eaton. God bless the GPO and can we have a discount, please.

Question time

The first question is from Clive who asks 'what does Alan Tilling look like?'. The best description I can think of is a cross between Alan Alda & Christopher Reeves. Alan is often mistaken for a film star - usually Lassie.

Graham Fletcher wants to know why we are using CP/M v2.2 and not using CP/M+ for Forth. Well, Graham, most of the members have CP/M v2.2, in fact all members with a CPC and a disc drive have CP/M v2.2, whereas only those with a 6128 have CP/M+. But Alan sez that there will be a CP/M+ version available in the near future.

The third question comes from Joolz who would like to know where a certain S Williams goes on a Tuesday evening, Hi Joolz, George O'Donnell knows.

Hence FORTH...

Lets get on with this month's work. Its time to reset your computer, place the work disc in the drive, type in "cpm from BASIC, and we're off. Load FORTH by entering at CP/M's A) prompt:-

```
FORTH [CR]
```

You should have remembered that bit

From last month, along with the fact that [CR] means press the Return key. Forth will now load and welcome you with the heart-warming message:-

```
8080 figFORTH 1.20
```

Constants et al.

We'll start by describing what's meant by CONSTANTS & VARIABLES. We may want to use a value within a program on more than one occasion. Rather than remember what the value is, we can define either a VARIABLE or a CONSTANT to hold the value.

Values defined as *Constants* are very difficult to alter so we use these to hold fixed values. And yes, you've guessed it, *Variables* are used to hold values that vary within a program. Isn't this terrific?

Variable and Constant names can be a maximum of 32 characters in length, so you can give them meaningful names.

FigFORTH requires you to declare all your Constants and Variables; some of the other variations of Forth do not have this restriction.

The universe etc.

Let's look at Constants in detail by using some examples. The format for setting up Constants is:-

```
n CONSTANT name
```

where n is the value of the Constant and name is the name assigned to the Constant. Type in the following:-

```
10 CONSTANT A [CR]
15 CONSTANT B [CR]
11 CONSTANT C [CR]
```

We have now defined three Constants, A, B and C and simultaneously given them values of 10, 15 & 11. Let's test them out by typing:-

```
A B * . [CR]
```

If the line is entered correctly FORTH will compile it and indicate it is correct with the OK prompt.

What we have instructed Forth to do is to place the value held in Constant A on the data stack, place the value held in Constant B on the data stack. Then the '*' command instructs Forth to remove

the two values from the data stack, multiply them and place the answer on the data stack. The '.' then instructs Forth to remove the top value from the data stack and display it on your VDU.

So we told Forth to multiply 10*15 and display the answer of err... 150, did it get it right?

Checkout

At this stage lets make sure that our Constants still hold their original values by entering:-

```
A . [CR]
B . [CR]
C . [CR]
```

As you can see the values have not altered. Let's try another example:-

```
A C * [CR]
```

Nothing appears to have happened apart from the OK prompt appearing on the VDU. Where's the answer gone?

It's gone onto the data stack. If you miss out the full stop the answer is not displayed on the VDU but is stored on the data stack for future use.

If you type:-

```
. [CR]
```

the answer of 110 appears on the VDU, the full stop (which is a legitimate Forth word) removes the value from the stack and displayed it on the VDU. Let's continue by typing in:-

```
A [CR]
B [CR]
C [CR]
```

This places the values held in the CONSTANTS A, B and C to the data stack. So if you now type in:-

```
. [CR]
. [CR]
. [CR]
```

The values are taken from the data stack and displayed on your VDU. It is worth noting here that the values are recalled on the First In, Last Out basis. If you type in the following little bit of prose... you may understand it a bit more (many

apologies for the fact we've flipped on to the next page, it's not up to us... it's OMG's domain.) Anyway where did we get to? Oh yes, Out basis:-

A B C (CR)

followed by:-

. . . (CR)

You have given FORTH the same commands as before, so you get the same results. If you type in:-

DECIMAL B HEX . (CR)

The value displayed on the screen is still 15 but it has been converted to its hexadecimal equivalent 'F'. Quite a neat trick, huh?

DECIMAL & HEX are Forth words which are used to change the number base used by Forth. They do what they say; DECIMAL gives you base 10 and HEX gives base 16. You can use any number base but more about that later on in the series.

Forth will tell you which number base you are using; all you need to do is type:-

BASE? (CR)

and Forth displays the current base value on your VDU.

Before we move, on reset Forth's number base to decimal by entering:-

DECIMAL (CR)

Vary balls

Variables can be defined as for Constants, using the format:-

n VARIABLE 'name'

This initialises the named Variable to to value 'n'. Now enter the following:-

50 VARIABLE SCORE (CR)

This defines the Variable called SCORE and gives it a value of 50. Variable names are added to the dictionary.

SCORE @ (CR)

fetches the value held in the variable SCORE and stores it on the data stack.

. (CR)

removes the last number from the data stack and displays it on the VDU. These commands can be combined using:-

SCORE @ .

This gets the value held in SCORE, stores it on the stack, removes the value from the stack and displays it on the VDU.

90 SCORE !

changes the value of SCORE to the new value of 90.

SCORE ?

Does exactly the same as SCORE @ . it finds the value held in the variable SCORE, places the value on the stack, then removes the value from the stack and displays it on the VDU.

5 SCORE +!

increases the value of SCORE by 5.

SCORE ?

confirms that the value has been increased.

20 SCORE -!

deducts 20 from the value of SCORE.

SCORE ?

checks the new value of SCORE. Super Variables and Arrays can also be used and we will be looking at these in detail later in the series.

Stack handling

If you want, you can work with words and numbers direct. These are known as LITERALS, and of course Reverse Polish Notation (remember?) is used, like this:-

1 1 + . Is the same as PRINT 1+1

1 2 + 6 * PRINT (1+2)*6

1 2 3 * - PRINT 1-(2*3)

The words '-' and '*' (minus and multiply) are known as stack operators and the '.' is the FORTH equivalent of the Basic PRINT. Notice, though, how the syntax is the reverse of what you might expected. That's RPN.

The parameter stack can be shown diagrammatically as shown below. By convention, the top of the stack is always on the right:-

1 2 3 * - . (CR)

will cause the following to happen on the stack:-

Forth Command	Stack Contents
1	1
2	1 2
3	1 2 3
*	1 6
-	-5
.	{empty}

Let's look at this in detail. We see that 1 is pushed onto the stack, then the 2 followed by the 3.

The stack operator '*' takes the top two items from the stack, multiplies them together and pushes the answer of '6' back onto the stack.

The '-' then takes the (new) two top items and subtracts the top from the second and pushes the difference of '-5' back on to the stack.

Finally, the '.' removes the (now) top item and displays it on the screen leaving the stack empty.

Another useful stack operator is DUPLICATE, which as its name implies, duplicates the top item of the stack.

Forth Command	Stack Contents
6 (CR)	6
3 (CR)	6 3
/ (CR)	2
DUP (CR)	2 2
DUP (CR)	2 2 2
* (CR)	2 4
* (CR)	8
. (CR)	{{empty}}

This could also be entered as:-

6 3 / DUP DUP * * . (CR)

This saves the RETURN key from lots of unnecessary wear and tear.

REMOVING UNWANTED WORDS

Last issue we added a new word, SQUARE, to Forth's dictionary and then saved a new version of Forth to disc. We have now decided that we no longer need this word, so we need to delete (forget) it from the dictionary.

Before we go any further, here's a useful point; the last word added to your dictionary is always displayed first when you use VLIST.

Or if you prefer a more technical description, a dictionary is organised on a Last In, First Out (LIFO) basis.

So when you enter VLIST (CR) the words in the dictionary are displayed on your VDU, like so:-

Top of the VDU

WORD1 WORD2 WORD3 WORD4
WORD5 WORD6 WORD7 WORD8
WORD9

and so on....

In this case WORD1 was the last word added to the dictionary so it is displayed first.

The method used to remove unwanted words is to FORGET them by entering:-

FORGET 'word' (CR)

Before you Forget a word, here's a tip...

Look out! FORGET is more powerful than it appears. FORTH doesn't just FORGET the word you specify but it removes *all* the words, starting at the last word added to the dictionary, up to and including your specified word. Do be careful how you use this command.

Let me use a short example to show this point in more detail. Suppose that you dictionary starts with these words:-

```
WORD1 WORD2 WORD3 WORD4 WORD5
```

and bearing in mind that WORD1 was the last word added to the dictionary, we instruct Forth to Forget WORD4 by entering:-

```
FORGET WORD4 (CR)
```

Forth will Forget all the words from the start of the dictionary up to and including WORD4. So it will Forget WORD1 WORD2 WORD3 and WORD4 because it has to Forget WORD1 to get at WORD2, WORD2 to get at WORD3 and WORD3 to get at WORD4, which is the word we wanted to Forget in the first place.

It's not that bad, though. The potential horror involved in this command is mitigated by another command, FENCE.

Fence me in

Forth protects its dictionary by using the FENCE address; you are not allowed to FORGET words which lie below this address. If you cast your mind back to last month, when we used the SAVE command, you will remember that this set a new FENCE address before the program was saved to disc.

The FENCE address can be reset by entering:-

```
'word' FENCE ! (CR)
```

This resets the FENCE address to the memory address of the specified 'word' and by doing so it now allows us to Forget just that word.

Forget what??

Now remember that Forth uses the FENCE address to protect the words in your dictionary.

So, if you reset your FENCE address you are now able to Forget words from your dictionary by mistake; as we said, look out.

Having said all that, we will now Forget the word we defined last month. Okay, enter:-

```
FORTH (CR)
```

to select the Forth vocabulary. Reset the FENCE address with:-

```
' SQUARE FENCE ! (CR)
```

Now Forget the word:-

```
FORGET SQUARE (CR)
```

Then check the dictionary contents:-

```
VLIST (CR)
```

and sure enough the word has gone.

Errrm... what?

If you have made a dreadful mistake and forgotten the wrong word what can you do about it?

No problem, all you have to do is type in **BYE** to exit to CP/M (do not use the **SAVE** command) and your words are back. Breathe a huge sigh of relief and relax.

If you correct a mistake straight away then no damage is done; however if you save a new version of Forth to disc then the only method of getting your word back is to re-define it.

Tick-tock

You can check if a word is your dictionary by using the **'** command which, not totally surprisingly, is known as a Tick. If you enter the following:-

```
'word' (CR)
```

the command either stores the address of the word on the stack if it exists, or displays an error message if the word does not exist in the specified dictionary.

Saved again

Before we go any further let's save the revised version to disc, using the same method as last month:-

```
SAVE (CR)
```

Then at the CP/M A) prompt enter:-

```
SAVE n filename.ext (CR)
```

where n is the number of 256 byte blocks that you need to save.

New words

We used one method of defining a word in a previous article, that involved entering the word directly into the dictionary. This method is easy to use for short definitions; but what about longer definitions and how do you alter a word definition?

The best way of defining new words is to use the **EDITOR** commands. These allow you to store your definitions on your work disc.

The **EDITOR** works by loading a 1k area of disc into memory, which you can then edit and save.

The 1k area loaded from the disc is called a screen and Forth can access 170

different screens (1k areas).

Although Forth can handle up to 170 different screens, you can't actually use that many; here's why.

Forth starts at the edge of the disc and counts off the 1k screen blocks.

Now, the first 9k of a system disc contain the reserved tracks so you cannot use these. Then the next nine screens contain your Forth program. So you cannot use the first 18 screens. You should also allow for Forth to grow in size as you add new word definitions, so let's allow for growth and reserve the first 40 screens for Forth and the reserved tracks. Which leaves 130 screens free for use.

The screens are split into 16 lines each containing a maximum of 64 bytes or characters of data.

Screen editing

Rather than list or discuss the editor commands, let us work through a screen editing exercise. At the A) prompt enter:-

```
FORTH (CR)
```

Then select the **EDITOR** vocabulary:-

```
EDITOR (CR)
```

You select the screen you wish to edit by entering **n EDIT**, where n is the screen number. Let's try it by entering:-

```
50 EDIT (CR)
```

This loads the 50th 1k block from your disc, prepares it for editing and displays it on your VDU.

You will now be looking at the screen editor *wot* we wrote (with help from Paul Derryhouse). It was written in Forth and contains all the commands you should need.

You move around the screen by pressing the cursor control (arrow) keys to move the cursor, the current line and column number are displayed in the top right hand side of the screen.

A list of the available options is displayed on the right hand edge of the VDU.

At present the screen contains lots of 'e's which were put there by **DISCKIT** when the disc was formatted. The screen can be cleared of these by pressing:-

```
Ctrl/K (Control & K)
```

This clears the screen and replaces the contents with spaces so we are now ready to enter our first program....

Next month

We'll start with a simple example program which defines a word called **CUBE** which, as its name suggests, calculates the cube of a number.

The call to arms

Basic's CALL command made easy by George Ho-Yow

If you look up the CALL command in the Amstrad CPC user manual you'll see that very little information about its use is proffered. This is understandable because the results of using CALL could turn out to be surprising to say the least. After spending some time experimenting with simple Basic programs and using CALL to interface with an ad hoc machine-code (m/code) routine, I would like to share my discoveries with you.

As you know, Basic as a language is relatively easy to write and maintain. However it runs rather slowly and for this reason m/code is used where speed is necessary. The CALL command is used to access the coded routine. The syntax is:-

```
CALL (address),[parameter 1 up to 32]
```

The parameters are optional, so for small programs which require little maintenance, it might be easier to exercise the option and ignore parameters altogether. The programmer can ascribe definite locations in memory for use as data, buffers, pointers, flags and the like. (Using peek and poke in Basic to access the known locations in memory.) A typical memory map of Basic and m/code program might appear as shown in Fig 1. What about parameters? OK! Let's have some examples.

```
10 MEMORY &3FFF: integer%=78:var=3.142:
varexp=213
20 CALL &4000,integer%,var,varexp
```

When the CALL is executed, the routine is entered at &4000, the accumulator (A-Register) contains the number of parameters passed (three in this case.) The parameters are passed in reverse order via the index register. Thus IX+0, IX+1 = 8,0 (varexp), IX+2,IX+3 = 3,0 (var) and IX+4,IX+5 = 78,0 (integer%). Note that parameters of these formats are passed as two-byte integers.

```
30 CALL &4000,78,3.142,213 :REM
effectively the same as line 20.
```

And now it starts to get a bit difficult.

```
40 a$="Testing 12345"
50 CALL &4000,a$
60 CALL &4000,@a$:REM lines 50 and 60
are effectively the same.
```

The A-Register will hold 1 and IX+0,IX+1 will hold the address of a string descriptor for 'a\$', the descriptor is three bytes long eg. IX+0,IX+1 might evaluate to &1416. In &1416 will be the byte containing the length of the string and &1417,&1418 is the two-byte address of the location where the first character of the string resides in memory. I told you it was getting difficult, think of an address/pointer to a address/pointer!

Change of address

In line 60 you may have noticed I used '@a\$' and you may be wondering what the '@' was used for. The '@' means get the address of the variable or whatever that's attached to '@'. However, as far as parameters are concerned, the use of 'a\$' is the same as '@a\$'. This is not a general rule, for example in:-

```
70 CALL &4000,@var:REM floating point
80 CALL &4000,var :REM integer
```

Lines 70 and 80 are not the same. We saw previously that in Line 20, 'var' was passed as a two-byte integer. In Line 70 '@var' is an address or pointer to another address. IX+0, IX+1 hold the address of the address where a five-byte floating point representation of the contents of 'var' is located. If IX+0 and IX+1 were to evaluate to 1234, then at 1234 to 1238 will be 5 bytes containing the floating point equivalent of 'var'. For example the number 1.0 is stored as 0,0,0,0,129; while 3.0 is stored as 0,0,0,64,130. For this reason it is not easy to carry out calculations on floating-point formatted numbers directly. The use of '@var' as a parameter is somewhat dubious for this reason. But I digressed a bit! You remember our friend 'a\$' and '@a\$'? Well passing array elements are processed in the same fashion eg:-

```
90 DIM b$(49):b$(0)="Hello":b$(2)="12345":
b$(1)="Testing"
100 CALL &4000,b$(0)
110 CALL &4000,@b$(0)
```

&Axxx	Area used by Basic Interpreter
&4FFF	The storage area for use by your BASIC and coded programs.
&3FFF	Your Machine coded prog/routines
&170	Your BASIC program

Fig 1.

Lines 100 and 110 are effectively the same as far as parameters are concerned. An array element passed as a parameter with the CALL command, is treated the same way as the 'a\$' was handled. IX+0, IX+1 hold the address, the contents of which points to a 3- byte descriptor containing the length and start address of the array string.

The addresses must be evaluated in the coded-routine, after the return to BASIC takes place. '@b\$(0)' will no longer be pointing to the array string address, which confused me no end at first! '@a\$' appears to be consistent in value however.

When parameters are of the form '@intarray(n)' and '@vararray(n)', IX+0 and IX+1 will hold the address of the address where a 2-byte value of the integer array element and 5-byte value of the variable array element respectively.

Outro

You have now seen how various types of parameter can be passed with the CALL command and how the routine will interpret the relevant parameter(s.) Remember that the IX+n locations are passed in reversed order, parameter-wise.

All the examples used in this article have been developed and tested on an AMSTRAD CPC6128 and I hope that there have been no errors, the last thing I would wish is to generate 'duff gen!' This article is based on pragmatic observation and from ideas taken from the book "The Anatomy of the CPC's." I do not agree with the book's statement that you can change the variable '@A' directly however, as this is in 5-byte format. You will find it easier to work with the 2-byte '@integer%', on the other hand. The method of using '@' as a pillion passenger is quite useful, as it provides access from both Basic and m/c routine to the same 'variable'.

You can experiment with the CALL command using the short program CALLEXP.BAS listed opposite. If you don't want to type it all in by hand then I'm told it will appear on one of the latest WACCI Discs. Bye and have fun!

```

10 REM NAME - callexp.bas - George Ho-Yow
20 REM A program to demonstrate the technique
  of using the CALL command
30 MODE 2: MEMORY &3777
50 KEY 141,"goto 1000"+CHR$(13) 'function key f0
  to evaluate 2-byte address
60 KEY DEF 15,0,141
70 KEY 142,"goto 1020"+CHR$(13) 'f-key f1 to peek
  ten consecutive locations
80 KEY DEF 13,0,142
90 KEY 143,"CONT"+CHR$(13) 'f-key f2 = 'continue'
100 KEY DEF 14,0,143
110 KEY 144,"EDIT 310"+CHR$(13) 'fn-key f3 to edit
  call &4000,var,@var
120 KEY DEF 5,0,144
130 GOSUB 540 'load machine code
140 a$="abcd efgh"
150 integer%=78:var=3.1:varexp=2+3
160 DIM b$(99),i%(40):b$(0)="A":i%(0)=1:i%(1)=-2:
  i%(2)=3:i%(3)=4
170 b$(1)="ab":DIM v(20):v(0)=1.11:v(1)=2.22:v(2)=3.33:
  v(3)=4.4
180 b$(6)="7654231":b$(2)="123":b$(3)="efgh":b$(4)=
  "aaaaa":b$(5)="bbbbbb"
190 'adr=@b$(0):leng=PEEK(adr+12):adrs=PEEK(adr+
  25)+PEEK(adr+26)*256:PRINT leng;adr;adrs
200 PRINT"This is: CALL &4000,integer%,var,
  varexp,2+3 to show the effect of using
  different types of variables":PRINT
210 CALL &4000,integer%,var,varexp,2+3
220 GOSUB 500
230 PRINT"*** Press fn-key f2 to CONTINUE ***":
  PRINT
240 STOP
250 PRINT"This is: CALL &4000,78,3.142,2+3,varexp
  to show the effect of passing numbers
  directly": PRINT
260 CALL &4000,78,3.141,2+3,varexp
270 GOSUB 500
280 PRINT"*** Press fn-key f2 to CONTINUE ***":
  PRINT
290 STOP
300 PRINT:PRINT "This is to show that the
  difference between 'var' and '@var'
  in CALL &4000,var,@var ":PRINT
310 CALL &4000,var,@var
320 GOSUB 500
330 PRINT"*** Press fn-key f2 to CONTINUE ***":
  PRINT
340 STOP
350 PRINT:PRINT"This is to show how CALL

```

```

  &4000,i%(0),i%(1),v(0),v(1) is effected":PRINT
360 CALL &4000,i%(0),i%(1),v(0),v(1)
370 GOSUB 500
380 PRINT"*** Press fn-key f2 to CONTINUE ***":
  PRINT
390 STOP
400 CLS:FOR cnt = 0 TO 4
410 PRINT "CALL &4000,b$(cnt) .... b$(",cnt;")= ";
  b$(cnt)
420 CALL &4000,b$(cnt)
430 PRINT"Here are the parameters passed to
  the routine: ";:FOR xx=&5100 TO &5102:
  PRINT PEEK(xx);:NEXT:PRINT
440 PRINT"And using the parameters, here's a
  'print' of the string: ";
450 adr=PEEK(&5101)+PEEK(&5102)*256:FOR nos=
  adr TO adr+PEEK(&5100)-1:PRINT
  CHR$(PEEK(nos));:NEXT:PRINT
460 PRINT
470 NEXT cnt
480 END
490 PRINT:PRINT"End of Program; Back to
  Start....":PRINT:GOTO 200
500 leng=PEEK(&5000):PRINT"No of params= ";leng
510 PRINT "IX values: ";:FOR x=&5001 TO &5000+
  leng*2:PRINT PEEK(x);:NEXT:PRINT:PRINT
520 RETURN
530 END
540 DATA 32,00,50,dd,6e,00,dd,66,01
550 DATA 22,01,50,7e,32,00,51,23,7e,32,01,51,23,7e
560 DATA 32,02,51,dd,6e,02,dd,66,03,22,03,50,dd,6e,
  04,dd,66,05
570 DATA 22,05,50,dd,6e,06,dd,66,07
580 DATA 22,7,50,c9,finito
590 REM code at &4000 will store A-reg in
  &5000, and up to 4 parameters from &5001
600 xsum=0: cadr=&4000
610 READ d$: WHILE d$ <> "finito" : code=
  VAL("&"+d$):POKE cadr,code:xsum=
  xsum+code:cadr=cadr+1: READ d$
620 WEND
630 IF xsum <> 4291 THEN PRINT "Data Error":
  STOP ELSE RETURN
1000 PRINT:INPUT"Enter... 'ad1 <comma> ad2' to
  evaluate address: ",ad1,ad2: ad=ad1
  +256*ad2:PRINT "address = ";ad:PRINT
1010 STOP
1020 PRINT:INPUT"First of ten nos. to peek: ",num
1030 FOR qno= num TO num+9:PRINT PEEK(qno);:
  NEXT:PRINT
1040 STOP

```

The WACCI archives

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

Ahh the WACCI archives - Hello WACCI lovers. Float back in time with me to WACCI issue three, which first appeared way back in December 1986.

Thanx and Stuff brought the first news of the demise of WACCI... [it's happened so many times since issue three that it's not trying to eke a joke out of it.] Thankfully it was only in the tape and disc format that were under threat. WACCI [issue three - tape, disc and hardcopy] was to be the last in the line. From now on the Newsletter was going print only. Jeff Walker (the Editor) outlined the main reason was because it took up to thirty or forty minutes to copy a single issue of the Newsletter to tape and with a growing membership it was taking forever to copy the current issue for every member. Even disc users had been sending in tapes.

The answer? Expansion into print only. Alex Aird and Jeff planned to get WACCI like a "professional looking magazine" by using the latest Desk Top Publishing package. The only drawback was that WACCI would have to solicit for advertisers, an aspect of other magazines Jeff particularly wanted to keep out of WACCI.

Thanx and Stuff also introduced the first ever WACCI discount. Mikro-Gen had kindly got in touch and offered a few quid off their latest games. Not bad for only the third issue.

Club news

The latest WACCI Progress Report told of three new and important members. Firstly, Ken Walker. After reading the WACCI review in the Teeside Evening Gazette (was he the only person?) he decided to get in touch and Simspot was then born - more later. Another new arrival in WACCI Maternity Ward Five was Glenn Carey. After losing all street cred after appearing in the Amtix challenge (he lost) Glenn decided to get some dignity back by starting a general interest column beginning with the SID Awards. That's all to come in issue four. Finally, Wilfred Claus and his brother Santa helped stretch WACCI even further across Europe with the founding of WACCI's German Branch. Let's hear it for the lads.

Hot gossip

Scoop came clean this month and remarked on the lack of decent news floating around the world of the CPC. With a bit of imagination (ie. a made up story) and a few press releases on new games Scoop did manage to get Hot Gossip published. One news item concerned the Business Idea of the Year 1986. What won it?... a piece of bent plastic with a bit of velcro at one end

and a paper clip at the other. Yeah, well worth eight pounds a throw.

The highlight of Hot Gossip was a story about the Amstrad's I/O port. Apparently, Showreel, a prog for budding film makers on the Beeb, was supposed to have shown a Sci-Fi animation film of lumps of coloured putty blobbing their way around half a cornflake packet and a bit of poorly painted chip board. Unbeknown to them a scientific research film featuring startling revelations that the Amstrad I/O port could revitalise comatosed alien beings by means of an ET-RS232 lead, was accidentally shown. Panic followed. This story has since appeared on six separate occasions in the Sunday Sport.

Looking back

Next up was Scoop's Blast From The Past with a look back at December 1985. Details of Amstrad's record annual profits for the year were announced. Profits were up 122% to 20.1 million pounds. Incidentally, profits were up the following year by 75 million pounds. A bit of a come down with recent results just published.

Top games for the month were Amsoft's 3D Grand Prix and Gargoyle's Marsport and Dynamite Dan. Bottom of the pile was another Amsoft title, the phenomenon known only as 3D Boxing. Nuff said.

Fair comment?

Hahahaaharr! Fair Comment (also known as The S D Glover Monthly) sprung up yet more anti-Gloverites. Stephen Scoop Grainger defended George Fontanini over Glover's attacks on him about not contacting software companies for free software. Scoop retorted, "It's easier to cancel a Reader's Digest subscription than it is to get anything free off most software houses!" How true, I must have written to at least ninety companies and got replies from about twenty-five and actually got software, books or similar from just ten. A one in nine hit rate.

Now prepare yourself, tied down firmly? No breakable objects around? OK, here's goes. The first sentence from a letter by a Mr S D Glover of Staffordshire. It reads, "First of all may I say how much I enjoyed the second newsletter." Had this guy turned over a new leaf (make that a tree) or what? On with the letter, "If the reviews editor would stop moaning about me and get on with the job he's got, we might just see more good reviews [I'm no creep - I just tell the truth.]" Arrggggghhh... why does he do it? WHY? The letter continues yet further, "I must say he did a good job." Now call me a bit of a thicke <<You're a bit of a thicke Rich -Ed.>> but doesn't that slightly contradict what he just said? Anyway maybe he's swung to the side of good at last. Read on... "Do not think I have been tamed by WACCI High Command - I haven't." Nope, I thought not.

The letter was rounded off with another little gem from Jeff, "Confucius say, Mr S D Glover like bamboo shoot, he bend to wind."

S D could've saved himself a lot of time and just written "Lick, moan, lick, moan."

The Soap Box

Scoop wasn't the only anti-Glover fan-club member, Soap Box's Bryan John Parry was also having his few words of slander. Referring to Glover's previous letters BJP pointed out that they themselves were hardly fascinating reading or as he put it they, "had the interest and content of an uncleaned pig-sty." Didn't like them then Bryan?

Jeff also broke the bad news that Glover was currently working on a series of articles to do with add-ons.

Back to normality now with a letter from Martin Cooper, he of BBC Ceefax. He wrote to HQ praising WACCI through the roof. WACCI then had a regularly place on the Ceefax computer pages called Next. Fame and fortune at last. Well, one out of two ain't to bad.

Other bits

The next three pages of WACCI were taken up with a guide entitled Everything You Ever Wanted To Know About Writing For WACCI (but were afraid to ask.) If you want to write for WACCI and haven't read this article then send off for the special WACCI disc with the first three issues when it comes out. It really is very helpful.

Richard Burton's Foul Play (ho hum blush) featured a lot of adventure game hints this month. There was also a guest contributor in the form of Tony Beckwith, a programmer from the Firebird stable. Billy Bookshelf featured books for the advanced users. First off was Amstrad graphics:- The Advanced Users Guide. It managed to poll a huge zero out of twenty. The author, Robert Ransom, had some comical comparison's to make between the results of his programs and other existing sources.

For example, a fractal program that would rival the computer graphics in Star Wars, or how about a jet plane and a decapitated map of Britain drawn with the aid of his Sketch program compared to a twenty thousand pound digitiser. Riveting chapters include, Chapter three - Sketch Program, Chapter eight - Sketch Program, Chapter nine - Drawing Molecules. All pretty mind numbing stuff. The other three books faired a lot better... they got read.

George Fontanini's games reviews consisted of one by himself, two by Stephen Grainger and one by Alex Aird. The games covered were Lightforce, Virgin Atlantic Nutters In A Bag Of Hot Air Challenge, Avenger and Danger Mouse in Making Whoopee. I wonder whatever happened to DM, Penfold and Silas Greenback?

Stimulating simulations

As mentioned earlier Ken Walker was a simulations freak. This brought about the column known as Simspot. For the first ever Simpot Ken decided to give you all a potted tour of the world of simulations; what kinds there are and points to look out for when buying one. There was also a mini review of a 1930's steam locomotive simulation, Hewson Consultant's SouthernBelle. Ken's verdict? Rewarding and recommended at the then price of six pounds.

Hardware got a look in this month with a

review of the Multiface Two from Romantic Robot. Backing up your software or converting tape to disc are the obvious uses for this little box Alex Aird also told us about the uses a machine code programmer could find for it. He wasn't too impressed with the comprehensive instruction manual, mainly because there wasn't one, only a piece of card with tiny small print on it. The outcome was that Alex liked it and said that it was well worth buying.

The WACCI Compo reappeared unexpectedly after nobody entered the first competition. So I decided to make the question easy to answer each month. This month's brain numbing effort was, when is my birthday? OK, probability stacked against with a one in 365 chance but at least a few people sent in answers. The prize was still the same, a rejected copy of Sam Fox Strip Poker.

Poor old Bryan John Parry. Nobody ever wrote to him on his Soapbox and this month was no different. He brought up the topic of violence and war in software and nobody replied. Jeff decided to break the bad streak and wrote half a page on war, nuclear warheads etc, mainly because, in the words of Jeff, "Bryan's sent me yet another miniscule article."

Auntie John

Flags out. It's AJ time. This month's three page dose started with a page on what AJ did when he bought an AMX mouse. Basically he bought a mouse, it was broken, he mended it, the software was wrong, he used some home-made programs, they worked and he described what the whole package consisted of. Sounds a bit like a review to me.

So what were the advantages? - Fun, easy peasy to use, all the Big Boys use them. And the disadvantages? - 69.99 washers is a lot of Big Drinks if you catch my drift. And overall - Recommend getting one. He is talking about a mouse isn't he? Thank God for that. After all that is the AMX Mouse value for money? "Don't ask me because I'm only a student and don't know the real value of money."

He also mentioned possible (expensive) presents for Crimbo. For instance, there's the mouse, or what about a Rombo Vidi Digitiser. AJ has already thought of a use for it before he's even got one. It's a new game called Terry Wogan's Strip Poker. Every time you win he puts more clothes on.

AJ wrote, "OK. What can you do if Santa didn't leave any toys like those above? Well, if you have a disc drive you could use, yes wait for it, CP/M! So what the heck is CP/M? What does it even stand for?" From then on AJ was entangled in a history of CP/M from 1973, Gary Kildall and his eight inch floppies to present day.

He/she or it also mentioned the infamous Fiona for the first time in WACCI. The paragraph read, "I really must say hello to Fiona. I really must. Perhaps next week sometime. I'll just swagger casually up and say 'Hi, you little colour blind midget. I'm Auntie John, do you want to know about CP/M? Hah! Who said I can't be interesting! Shut up Green or I'll tell them about the chair-leg and the half a pound of margarine."

THE WACCI ARCHIVES

Programming

Steve Anderson got down to some Elementary Machine Code in his regular dose of programming. This month he taught you all how to write your first machine code program which would take two numbers, add them together and put the result in the memory. He also talked a lot about Accumulators or A registers and why you stick numbers in there and what to do with them once you inserted them inside the Accumulator.

Dr Gary 'Loco' Burns Basic Surgery was also open for business. The entire column consisted of a very useful double height character printer. The listing also had a break down of each line so people who don't know anything about programming still really don't know anything about programming - like me for instance.

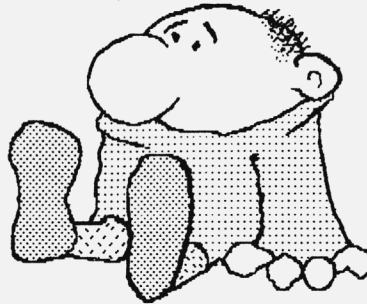
To complete a hat-trick of programming columns Alex Aird weighed in with his regular 'Alex Aird Says.' This month it dealt with headerless files. Alex wrote about using CAS WRITE (&BC9E) and CAS READ (&BCA1.)

Also featured was a small machine code proglet to save your screen into a headerless file and also details of how to load a headerless file into the screen memory, both of which were accompanied with there BASIC equivalents. And to round the whole lot off there was a small BASIC program allowing you to

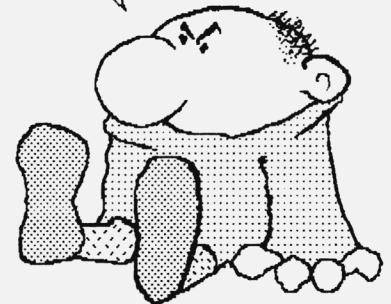
Life

By Steve and Andy.

Never hit a man
when he's down...



... he might get up again!



view your tape versions of WACCI in any order you liked. There was, naturally, a disc version as well.

The rebel MMC

MMC stood for 'Mad Moonies Club' - a totally irrelevant column for show-offs. Yes that's right, a high score table. Eight games had been submitted with their scores. Jeff, George and myself were the sole members of the Mad Moonies Club. Jeff's claim to fame was that he had scored 55,786 wonga on Pontoon, a program he wrote himself. The small ads section known as 'The

Market Stall' opened for business and for the first time it had somebody selling something. George Fontanini and Ken (Walker?) were flogging their software from 50p a throw. Meanwhile Scoop was trying to off-load a joyball... and the offer still stands girls. And that's it, the history of WACCI's third issue.

Next month...

Issue Four and a new look for the magazine, Glenn Carey, bad taste tombstones, more from S D Glover, Star Trek - Captains Log: Stardate 1312.4 and a dog with a doctors bag.

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Simply Saffron



This Month



Saffron Trevaskis puts her finger on- Real Men!

PRETTY PROTEXT

Oooh! What a party ...but my head? It's killing me! So here's a tip that hasn't been mentioned in Glenn's FINISHING TOUCHES - When you've got a hangover, set the colours on your word processor to soft blue and magenta. Without that I'd have never finished this Simply Saffron.

SNOG A DOG

Yes my petals, I went to a beach party last night here in Cornwall and had a bit too much Newquay Steam. My old school chum and now fellow Wacci person Glenn Carey was there, got totally drunk and disappeared in to the hedge with someone who shall remain anonymous. I rang him this morning to see whether he's still alive or if that "two-ton mega-mamma" (as we fondly call her) suffocated him. The poor thing sounded gruff as a dog and was terribly embarrassed. As I reminded him of the dreadful night before every other reply was: "I didn't ... Did I?"

Oh but he did, although I think I'll spare you the gory details, besides which I promised him I wouldn't tell a soul - especially his girlfriend, who's an avid reader of Wacci ...oops! Oh well, they weren't that well suited anyway...

THE BARE FACTS

Never mind sleeping next to the fire on the beach all night, according to top psychologist Dr Douglas La Bier what you wear in bed at home reveals a lot about your personality. How does he know? I think I've got a good idea. When in America I knew a psychologist - and let me tell you, what they don't get up to in the name of research just isn't worth doing.

I mean, *my* psychologist was an absolute hoot. He used to run "encounter groups". When we met, in a bar in Chinatown, he asked me if I came there often. I *ask* you! But he was quite cuddly, so I explained about my Unix colony, and how we had GREP sessions. I think he got the wrong idea, or maybe he didn't know about Unix (surely not) but he invited me to visit his group. "You'll love it, they climb up the curtains." So we had some therapeutic sessions together. But enough of fond memories; this particular Doc La Bier reckons that women who, like me,

sleep in a large T-shirt are generous (true), warm (Yeh!), make friends easily (Uh-huh), playful in all of their relationships (Mmmm...) and that most people confide in them, knowing they won't spread gossip (Ha ha ha!). That's enough of that - let's see what he's got to say about MEN...

PYJAMAS

Dr La Bier: A no-nonsense guy, very committed to relationships and enjoys outdoor activities. Saffron: Old fashioned and can be boring, but good for a cuddle - like I imagine Ali Cooper to be.

BOXER SHORTS

Dr La Bier: Good at details and like order in life, warm, friendly and you always remember people's birthdays and other important dates. Saffron: Rubbish Doc! The editor of this organ tells me he wears boxer shorts in bed - but did I get a birthday prezzy off him this year? I think you know the answer to that one.

LONG JOHNS

Dr La Bier: Practical, not a trend-setter, mellow. Saffron: Oh come on - you must be kidding! No comment.

IN THE NUDE

Dr La Bier: Creative, high-spirited, confidence. Saffron: A real man!

So you see, my little munchkins, Saffron fearlessly researches the parts of life that no other girl can reach. At least, not while I'm around.

R.I.P

It's a bit of a sad subject, but trivia knows no boundaries of taste. It's such a taboo there's loads of euphemisms for it: "Kicked the bucket", "Gone to a better place", "Left his mortal coil", "Pushing up the daisies"... Yep, I'm talking about death, which is this month's trivia subject....

GOTCHA!

According to a top international news agency (so it must be true, mustn't it?) a Polish man came

home from work in Warsaw to give his wife one hell of a shock - he was leaving her, didn't love her any more and was going away with his mistress, never to return. Then the swine simply turned his back on her and walked out. Shell-shocked, the poor betrayed wife decided to end it all and threw herself from the balcony of their tenth-floor flat. She didn't die though ...but her husband did, as she landed on him as he was leaving the building. Serves him right!

UNDERGROUND

Walter Murphy was a drug addict. One day, under the influence of a hallucinogenic he died in a 'burrow' he was digging under a concrete slab, in the belief that he was a mole. Strangely it came as little surprise to his mother: "Last July they dug him out of the same hole. I know he was depressed. He couldn't get a job."

NO HURRY

Two men in America were driving in a pickup truck, sucking on a couple of beers, when they accidentally ran over and killed their 'buddy'. Intoxicated, they were feeling rather peckish - so instead of rushing their mate straight to hospital they stopped off for a 'burger while the dead friend stayed in the car. He was pronounced dead on arrival. Talk about accepting reality.

BIG SLEEP

A man in Australia liked his afternoon nap outdoors, and prided himself in having a hammock. Unluckily for him he went in to an even bigger sleep when one of the trees his hammock was tied to fell on to him.

OUTRO

I feel quite wicked talking about all these ill-timed deaths, so I think I'll hold it there for another month. Don't forget to write to me 'cos I lurve the mail.

Yours in V-necked trousers,

Your fearless reporter from the front line of the struggle against bright screens:-

Saffron Trevaskis

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: QK20 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 8080 to Z80 to 8080 code translator	CPM-059: STOIC A version of the language
CPM-010: ZMAC+ZLINK . Z80 assembler and linker	CPM-060: EXPERT86 ... 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: LOHD Improved version of LOAD	CPM-063: LUCKY13 Lottery number generator and checker
CPM-014: Z8OASM Z80 assembler	CPM-064: LOGAN LOGic ANalyser and frequency counter
CPM-015: ZBE 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: OPT 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: HEXTO 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: EPRO 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: CPM2T03 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: FORM3 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: SIDEWAYS ... Prints spreadsheets sideways
CPM-029: LOOKAT Duaps 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: PASSWORD ... 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: WCOUNT 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-GEN ... Scoresheet generator	CPM-091: B29 NSWP workalike, views COM files as well
CPM-042: USERFUNC ... A small library of Basic DEF FNs	CPM-092: MFT+ Multi File Transfer with two drives
CPM-043: BIO 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: MCAT Catalogue your discs. (CP/M +)
CPM-047: MAZE Maze generator	CPM-097: EDIT A text editor
CPM-048: NEWPUZ Wordsearch generator	CPM-098: FINST Cardbox filer program
CPM-049: OTHELLO Version of the board game	CPM-099: SHELL CP/M menu driven environment
CPM-050: UKM7 Comms utility adapted from MODEN7	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: XOX 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: TORNADO Graphics, colour and sound under CP/M2.2
 CPM-115: CLS Clear screen under CP/M.
 CPM-116: INSTALL 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: MIDWORLD	Graphical adventure	AMS-060: BREAKOUT	Yawn
AMS-002: MINIMON	Mini machine-code monitor	AMS-061: DEPRD	Load and list protected Basic
AMS-003: CHARDES	Big-character designer	AMS-062: DIS	A good Z80 disassembler
AMS-004: HEADER READER	Colourful tape header reader	AMS-063: PAIRS	A version of Pelanisa
AMS-005: FRUIT WORM	The old caterpillar/fly type game	AMS-064: XREF	A Basic cross-reference utility
AMS-006: OTHELLO	Reversi simulation	AMS-065: WACHON	Versatile machine-code monitor
AMS-007: FOUR IN A ROW	Version of Connect 4 board game	AMS-066: MUSIC COMPOSER ...	Compose one-channel melodies
AMS-008: THE WORLD	Graphics demo of Earth spinning	AMS-067: LOGOPOLIS	Version of Logo
AMS-009: CHAT	Based on the famous Eliza	AMS-068: MATHS MAGIC	For numerical freaks
AMS-010: JIGSAW-1	Educational jigsaw	AMS-069: BREAKER	Dumps screens to disc
AMS-011: EDDY	Good text editor for all CPCs	AMS-070: DISC MENAGERIE ...	Good disc utility
AMS-012: XOX	Two player noughts and crosses	AMS-071: NOSEY	Edit memory and banks, view ROMs
AMS-013: PONTOON	You against the computer	AMS-072: SPRITES	Mode 0 sprite designer
AMS-014: PROGDDC	Programmer's utility	AMS-073: SQUEEZER	Squeezes ASCII files
AMS-015: HELPING HAND	Decision aid	AMS-074: CAVERNS	Multi-coloured maze game
AMS-016: BOMBER	Bomb the town & land your plane	AMS-075: ZENER CARDS	ESP test
AMS-017: LIFE	The Game of Life	AMS-076: SUM-VADERS	Educational maths game
AMS-018: LOCK'n'KEY	Maze game	AMS-077: ASTROSUITE	Find out about space
AMS-019: TUNNEL DIVE	Freefall game	AMS-078: TEXT & PROGRAM ...	Text screens into program lines
AMS-020: HEAD	Tape or disc header reader RSX	AMS-079: WORDY	Advanced text editor
AMS-021: MEMDATA+	M/code into data statements	AMS-080: TRIVIA QUIZ	2 to 4 player quiz
AMS-022: KEYDEF	Single keypress command typing	AMS-081: PROTO	Good Z80 assembler
AMS-023: DARTS	Bonk... Bonk... Bonk... 180!	AMS-082: CHESS CLOCK	For chess freaks
AMS-024: BRID WARRIOR	Another caterpillar/fly game	AMS-083: DEFFONT	Excellent character generator
AMS-025: JIGSAW-2	Educational jigsaw	AMS-084: CALENDAR	Calendar generator
AMS-026: STAR CHASE	Space shoot-em-up	AMS-085: SCOREBOARD	A snooker scoreboard
AMS-027: UFO ESCAPE	Maze game	AMS-086: PATIENCE	The soitaire card game
AMS-028: HEADLESS	Headerless file tape to disc	AMS-087: AUTOLINE	Intelligent graphics demo
AMS-029: BEETLEMANIA	Machine-code game	AMS-089: CRUNCH	Educational Pacman
AMS-030: DISC	Intelligent disc menu	AMS-090: CALCULATOR	Scientific calculator
AMS-031: SDUMP	Five mode 1 & 2 screen dumps	AMS-091: FONT	40-column text in Mode 0
AMS-032: ENGLEBERT	Bert game	AMS-092: EXPLORER	Firmware explorer like Regiload
AMS-033: GLOBE	View Earth from space	AMS-093: GOMOKU	Hybrid of Othello & Connect Four
AMS-034: MULTIPROG	Holds 4 Basic progs in a 2nd 64K	AMS-094: MENU	Intelligent disc menu
AMS-035: PIXELPLOTTER	6128 Etch-a-Sketch program	AMS-095: OTHELLO	Another version of Reversi
AMS-036: STORY	Zany program that invents stories	AMS-096: UDRAB	Grab user-defined graphics
AMS-037: FUNCTDR	Plots graphs of matha functions	AMS-097: STYLE	Analyses documents
AMS-038: FUNCTSQL	Solves quadratic equations	AMS-098: DISCMAP	Maps sectors on any format disc
AMS-039: FORMULAE	Mixes chemicals	AMS-099: TAPE RSXS	Quick save and load screens
AMS-041: CBEN	Icon-driven character generator	AMS-100: VIEWFAX	A Teletext type system
AMS-042: EXCAT	Extended cat to screen/printer	AMS-101: GO	Ancient Chinese strategy game
AMS-043: EXPRINT	Prints ascii chars	AMS-102: DI-SYMM	A colourful pattern generator
AMS-044: PROFORMA	Cassette filing sheets to a DMP1	AMS-103: AGE	GEM type windows generator
AMS-045: NEATLIST	Emulates the BBC's LISTO command	AMS-104: SNAKES	A game (I think)
AMS-046: ROMREAD	Tells you about your ROMs	AMS-105: OZ	Addictive peg-and-holes game
AMS-047: SYMPHONY	Kalaedoscope pattern generator	AMS-106: FRACTAL	CPC conversion of Macfractal
AMS-048: AMSIG	Mandelbrot Set Generator	AMS-107: TEE-OFF	Golf game
AMS-049: DRIPZONE	Addictive machine-code game	AMS-108: PRIMES	Calculates prime numbers
AMS-050: DISCED	Disc sector editor RSX	AMS-109: SOUNDFX	Explode, Ping, Bang, Zap RSXs
AMS-051: STARFIRE	Machine code zap-em-up game	AMS-110: PHARAOH	Maze and beasties game
AMS-052: SCANNER	Scans lots of ASCII files	AMS-111: SHIFTY	Educational jigsaw type game
AMS-053: BOUNCER	A version of Breakout	AMS-112: DIAMND MINER	Underground hunt for jewels
AMS-054: BASIC+	Adds 45 new commands to Basic	AMS-113: CRAZY MAZE	Maze game
AMS-055: LABEL PRINTER	Single address labels	AMS-114: PATHFINDER	Confuzion type game
AMS-056: MISSILE	A version of Missile Command	AMS-115: SPELLBOUND	Educational spelling tug-of-war
AMS-057: SKETCH & PROGRAM .	Turns sketches into prog lines	AMS-116: GRAPHIC MAGIC	Mode 0 screen designer
AMS-058: SYNTH	3-channel keyboard sound	AMS-117: JIGSAW-3	Jigsaw game (includes 5 jigsaws)
AMS-059: HOTRODS	Race game	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: NOMOPOLY	Variant on the board game	AMS-175: DISPLAY	Magic Lantern Picture show
AMS-121: BACKGAMMON	Plays a hard game, but addictive	AMS-176: CHESS 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: SDM	D.S. for Bigscreen Programs	AMS-180: CASS.DR	MicroDesign clip art files
AMS-126: ORRERY	Watch the world go round the sun	AMS-181: ORGANISER	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: GRAPHO	Psychadelic screen display
AMS-134: BANNER	Print 10" high lettered banners	AMS-189: WACCISPELL	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 quizand speech synth	AMS-192: XWORD	Crossword generator program
AMS-138: SDUMP V.3	Sduap suite+ helpful front-end	AMS-193: FRUITRUM	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 coluans	AMS-195: MPCGRAPH	Tandy 4 colour plotter graphs
AMS-141: SPREAD	A spreadsheet program	AMS-196: PCBRAFT	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: NUMERO	The Cabbala made easy	AMS-199: NO-NO.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: C6P115	Colour Dump for the Tandy C6P115
AMS-150: STRAIGHT	Generates straight line graphs	AMS-204: CAUTO	Gawd knows!
AMS-151: REGILOAD II	Regiload re-visited	AMS-205: PROGDDC4	Much enhanced version of AMS-14
AMS-152: HARDCAT	Printed disc catalogues.(612B)	AMS-206: WACCISPELL2	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: BIOMORPH	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: MCDER	M/Code tutorial with example files
AMS-160: INVGEN	Send other people an invoice	AMS-214: OSKD	On Screen Key Definer
AMS-161: KEYBOARD	A comprehensive sound generator	AMS-215: OHM	Calculates Ohm's law for you
AMS-162: GRAFPLLOT	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: 3DXOX	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: PDG	The Prisoner's Dilemma Game	AMS-221: KNOCKOUT	Tennis fixture generator
AMS-168: AGE12B	GEM type windows generator (612B)	AMS-222: PCHANDLER	Print code handler for WACCIword
AMS-169: STROBE	Flashy pattern generator	AMS-223: SCRNSQZ	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	Improv yur typping 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 coaprhenhensive 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, XMCPC2, KDSMex, CircitMex, MXO-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, Formulae, 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,) 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, Keycard, Loot, Cassdisc.DR, Example1, Frame, General.DR, PCBdraft, Progdoc V4.

WACCI Disc 11

Display2, I20D, Biglabel, Cauto, CGP115, PoptI20D, 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, Juggle.

AJ's Twilight Zone

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

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