

The Fortieth

WACEI

February 1990 Vol 5 No 2

£1.50

Europe £2.25
Overseas £3.00

THE WORLDWIDE
WACCI AMSTRAD WACCI
CPC USERS CLUB

9 SOUTH CLOSE
TWICKENHAM
TW2 5JE



Rivers of Blood? The PCW debate continues . . .

Your answer to . . .

- ☐ PRINTING
- ☐ TYPESETTING
- ☐ PLAN PRINTING
- ☐ STATIONERY
- ☐ FINISHING
- ☐ ARTWORK AND DESIGN
- ☐ DRAWING OFFICE SUPPLIES
- ☐ REPROGRAPHICS
- ☐ DESK TOP PUBLISHING
- ☐ FULL COLOUR COPYING
- ☐ ENCAPSULATION
- ☐ ENLARGING AND REDUCING
- ☐ MICROFILMING
- ☐ MUSIC ENGRAVING AND MUSIC PRINTING

at



*Call in between 9 and 5.30
Monday to Friday*



REPROGRAPHICS GROUP

46 CALEDONIAN ROAD, CHICHESTER, WEST SUSSEX PO19 2FB
Telephone: Chichester 0243-787077 Fax: 0243-780012

WACCI IS PRODUCED AND EDITED BY

STEVE WILLIAMS

Conceived and Founded by

JEFF WALKER

REGULARS

THANX & STUFF	1
FAIR COMMENT	4
AUNTIE JOHN'S DIARY	24
PROPERGANDER	14
A PASSING THOUGHT	26
THE FSW LIBRARY	33

PROGRAMMING

FOLLOW THE COUNTRY CODE	18
VERY BASIC BASIC	22
BASIC MACHINE CODE	20
THE BELLABY FILE	30

FEATURES

MUCH ADO ABOUT NOTHING	28
------------------------------	----

REVIEWS

DOING THE MAXAMUM	16
-------------------------	----

EDITOR Steve Williams
DEPUTY EDITOR Peter Ceresole
ASSISTANT EDITOR Joolz
GUEST EDITOR Jeff Walker
CP/M ADVICE Clive R Bellaby
ADDITIONAL HELP Willing Hands
PRINTED BY RPM Reprographics
DISTRIBUTED BY Accident

No material may be reproduced in whole or part without the written consent of the copyright holders. WACCI cannot undertake to return any unsolicited material unless accompanied by a suitably stamped addressed envelope. No payment whatsoever can be offered or made for any material selected for publication.

WACCI (c) 1990 The Contributors



WELCOME

Hi gang, how about this? A WACCI that actually arrives in the month that it's supposed to. Wow, this hasn't happened since last October...

Arghh, what a twit I am. Given my bad track record when tempting fate, I don't believe that I have been dumb enough to say that. Something dreadful is bound to happen now and you won't get this issue till June.

Okay, forget I ever said it, forget it completely. In fact go and get some Tippex and wipe out that first paragraph completely. In the meantime I think I'd better start again...

WELCOME

Hi gang, errr... how are you all? I'm fine... Umm... It's been a bit windy lately hasn't it? Well, gosh... Here we are again (Damn, shouldn't say that either, forget I said it.) Hah! yes, Joolz is fine as well... she's a bit miffed with Peter and I about last month's front cover but she's calmed down a bit now and with any luck she should let us back into the office in the next week or so... Well... Yes...

Oh sod this for a game of soldiers, trying to play it safe is impossible. I think we'd better start again...

WELCOME

Hi gang, here we are again and back on schedule to boot. What a nightmare the last few months have been. Never mind, we are 97% back to normal.

Now I've only got to catch up on the backlog of loose software orders and get the back issues of the mag sorted out and then we can start putting the March issue together...

SOMETHING DIFFERENT?

Yup, I bet you've already spotted something different (starting around page 28) about this issue. Go on then if you must, have a look now... Yup different isn't it? What's going on? Well Auntie John visited WACCI HQ several months ago, with an idea.

Shovel in hand, this handsome young genius (his words not mine) went out into the back-garden and did a bit of digging. Several electrodes and a passing thunderstorm later... Lo and behold he had managed to resurrect WACCI's former editor "Jiffy Walker."

Unfortunately, having spent such a long time "underground" seemed to have altered his good-judgement and he went off to buy an Amiga.

A couple of weeks ago he returned to WACCI towers offering to produce a few

pages of WACCI on his new toy, an Amiga A500 using PageSetter II and a Star Laser Printer 811. Well we felt sorry for the old boy and decided to humour him so...

But seriously, Jeff has done five

pages of this month's magazine, as you can see. It's a one off experiment just to see what a Laser Printer, when used with a sophisticated desk top publishing package, could make WACCI look seriously sophisticated.

THE WACCI TELEPHONIC CHATTER HELPLINE SERVICE

STEWART PEPIATT (0245) 353903
(Chelmsford)

Basic and m/code programming,
DMP2000, VDE, Scrivener.

<<A Tech-Head -Ed.>>

PETER CAMPBELL (041) 5544735
(Glasgow)

OCF Art Studio, Vidi and Basic.

<<A Comms Guru as well -Ed.>>

FRANK FROST (0983) 882197
(Isle of Wight)

VDE, CP/M and Protex.

<<He LOVES a chat but nobody seems
to call him up -Ed.>>

PETER CERESOLE (01) 878 0391
(London)

Protex, Promerge, Utopia and
nukes (amateur status only.)

<<A total nutter to be avoided
at all costs -Ed.>>

TONY WALKER (0772) 700440
(Preston, Lancs) 10am - 10pm.

Comms, Protex, Prospell, Tape
to disc transfer, CP/M on ROM.

<<A MEX expert, a good chatter>>

CLIVE BELLABY (0602) 725108
(Nottingham)

Basic, Cobol, CP/M, Dominoes
and VDE problems.

JOHN HILTON (0272) 696015
(Bristol)

Protex, OCF Art Studio and a
sympathetic ear.

<<A good chatterer -Ed.>>

NORMAN BUXTON (0260) 223257
(Macclesfield)

Basic programming and farming?

<<Control codes a speciality - Ed.>>

STEVE LEADER (0689) 73633
(Orpington) 4.30pm - 9pm.

Adventure games and general help.

PAUL DWERRYHOUSE (0244) 534942
(Deeside, Clwyd)

Basic, Bank Manager and a very
sympathetic ear

<<The author of WACCIWORD and
WACCI SPELL, errmm... -Ed.>>

RAY BARROW (021) 4294233
(Birmingham)

MasterFile or MasterCalc (the
original versions) and Tasword.

<<Another Looney -Ed.>>

BILL LAWSON (0239) 820212
(Newport)

Basic, m/code and hardware and
someone to talk to generally.

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

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

There's no danger that, given WACCI's shoe-string budget, we could afford to buy a system that would allow us to produce pages of this ilk but it does raise an interesting point or two. Would you prefer to read a mag that was produced using the technology that you've already got sitting on your desk or would you prefer to read a magazine produced on a set-up that you and I could probably never afford?

Interesting huh? I must admit I don't know the answer. I think Peter Ceresole has a point when he says that when you read WACCI you know that it's all done with a CPC, Protex, Promerge Plus, Prospell, Utopia (all on ROM) SDump4, Art Studio, a bit of cut and pasting and a helluva lot of sweat.

Then again, I think Jeff Walker has a point when he says that the CPC glossies aren't produced on a CPC set-up and does it really matter which machine is used as long as the finished product looks good?

If you want to express an opinion, drop us a line in Fair Comment.

SUBSCRIPTION RATES

RPM, the people who print WACCI every month, have informed us that due to inflation and an increase in wood pulp prices, they will have to increase the cost of printing WACCI up by 10%. This coupled with the increases in postal charges over the last year or so means that, from this month, the cover price of the magazine has had to go up by 25p an issue to £1.50.

This means that the new subscription rates will be:-

6 months -	UK + BFPO	£9.00
	Europe	£13.50
	Overseas	£18.00

12 months -	UK + BFPO	£18.00
	Europe	£27.00
	Overseas	£36.00

I know that this means that an issue of WACCI will now cost 5p more than Amstrad Action but the reason for this is because you are paying for the real cost of the magazine.

Yes I DO mean the real cost. WACCI does not have pages and pages of games adverts to subsidise the cost of producing the magazine. Why? Well you don't want to read pages and pages of games reviews do you? No, of course not, but unfortunately that's what WACCI would have to include before the "Big boys" (like Ocean etc.) decide to take out double page advertisements.

Since, I'm sure that we all want this to continue to be a quality magazine that is aimed at the "more serious user," I'm equally sure that most subscribers will feel that another 25p per issue is worth the increase.

BACK ISSUES

Please... don't order any of these beasties for the moment. I've taken the whole "Back Issues" section out of this month's Subs and Orders form.

Don't panic! I'm getting some more done but at the moment the demand is so overwhelming that I think it's unfair to take your dosh unless I can actually tell you when you'll get the magazines delivered.

A BRAVE MOVE

A big Thanx must go to Amstrad Action this month. Yes, not only are they currently running a series about PD Software but they are also saying nice things about the WACCI FSW Library. On top of this they are also saying the WACCI "Fanzine" is a good read and even giving out the correct contact address. Brave stuff indeed. Ten out of ten to AA's new editor, Rod Lawton, who has the foresight to realise that the future of the CPC relies upon the presence of more than one CPC mag on the market.

But half marks go to ACU who, in a recent issue, answered a reader's letter by suggesting they contact WACCI. Unfortunately ACU didn't give WACCI's address. So it's "slap on the wrist time" for the ACU-crew. Take it on board boys. Yes, I mean you lot! Common, we're not daft. We know for a fact that you read WACCI every month. Why don't you do the decent thing and take out a WACCI subscription, like Amstrad Action has?

FOR SALE

1. Tape player to run tape software, will also play music as normal (£15)
 2. Book: 'The Amazing Amstrad Omnibus' masses of programs for your CPC, 415 pages (£5)
- Total value=£20, will sell all together for £10.

- 1 Masterfile III (£20)
 - 2 Graphic Adventure Creator (£8)
 - 3 Software speech synthesiser (£5)
 - 4 Disc Master - Disc management utility (£8)
 - 5 Transmat - transfer Utility (£8) (all on disc.)
- Total value=£49, will sell all five together for £20.

All the following games are on tape and are 25p each:-
Ninja Master, Thrust, Hyperbowl, Xcel, Star Firebirds, Molecule Man, Tir Na Nog.
Total value=£1.75, sell the seven together for £1.

All the following games are on tape and are £1.50 each:-
We are the Champions (Barbarian, IK+, Super Sprint, Renegade, Rampage), Starglider, Bounder, Commando, Everyones a Wally, Herbert's Dummy Run, Ikari Warriors, Thing on a Spring, Secret Diary of Adrian Mole, Druid, Doomdarks Revenge, Arkanoid, Elite 6 Pak (Scooby Doo, Fighting Warrior, 1942, Antirad, Jet Set Willy 2, Split Personalities, Duet), Star Games 2 (Highway Encounter, Knight Games, Avenger, Ballblazer, The Eidolon, Trailblazer), Head over Heels, 4 Soccer Simulators, Buggy Boy, Paperboy, Short Circuit, Batman, Lightforce, Mercenary, ATF.
Total value=£34.50, will sell all twenty three together for £20.

All the following games are on disc and are £2.50 each:-

Rampage, Revolution, Yie Ar Kung Fu, Cauldron 2, Working Backwards, Avenger, Dan Dare, Metrocross, Escape from Singes Castle, Nodes of Yesod, Glider Rider, Bombjack 2 (Bombjack 1 included), Jack the Nipper, Spindizzy, Pacific, Gauntlet, Spy vs. Spy Trilogy, Tomahawk, Konamis Coin-op Hits, Winter Games, 3D Starstrike 2, Tempest, Sorcery+, Get Dexter, Room 10.

Total value=£62.50, will sell all twenty-five together for £30.

Total value=£730+ Grand selling value if all bought singly=£166.25
I will sell anything singly, or in any combination, with discounts if more than one item bought at a time, eg. the '£30 for all 25' offer above. Or I will sell everything together for £80. That's a saving of £650 over buying them all in the shops.

CONTACT DANIEL ON (0280) 812915

NEARLY THERE

I've got twenty three lines left in which to tell you some vital stuff AND try to finish off the best joke that I know... (last month's?)

ORDERS

Listen, I know I tend to go on about this a bit but putting your name and address on the order forms is reeleey reeleey humungously important. Yes you have guessed it, last month we had quite a few anonymous orders.

What happens with these orders is that they lie around WACCI HQ until their owners get very angry and write snotty letters in to Fair Comment. So make sure you write ALL your details on every bit of paper available.

OUTRO

Oh Sugar! I've run out of space again. Tell you the joke next month. Tarra.

FAIR COMMENT

FAIR COMMENT
9 SOUTH CLOSE, TWICKENHAM
MIDDLESEX TW2 5JE

BRING ON THE EMPTY JOYCES

Dear Joolz, hmmm. Steve sneaked in a rather important concept last month, didn't he? A WACCI which catered for computers other than CPCs... although the PCW range only just counts as a new machine, because internally it is practically identical. But it's the idea that counts, isn't it?

It is certainly a topic that has been in offing from the very first days of WACCI and I hope will promote some serious thought (not just panic) amongst fellow WACCIites.

For me, what makes WACCI such a success is its own style, not the fact that it is based around CPCs. Any machine would have done, the CPC just happened to be the best computer around when WACCI started. Plus it just happened to be the machine that Jeff Walker owned.

The average WACCI reader is a very different individual from that of most 'professional' computer magazines, which have to sell in vast numbers to survive. To sell in large numbers means catering for the majority.

Majorities mean advertising. Advertising means money. Money is why the magazines exist in the first place. This is why most magazines place a large emphasise on computer games; there are a lot of people who play games and want to see nice colour pictures about new ones. Computer games equal money.

WACCI started out, not as a profit-making organisation but as a hobby. At least that's the way it felt, which was the important part. It tried doing games' reviews but stopped very quickly. No-one was interested. WACCI readers were not part of the 'majority.' They knew how to program, or more likely wanted to be taught how. They were interested in the computer as a useful machine, not as toys.

If WACCI is to survive it is essential that it expands and

expansion means looking at other markets. There is no need to fear a takeover by strange groups. No matter what machine WACCI would cater for in the future, it would always appeal to the same type of people. Not the games players and perhaps not even the total programming hackheads.

WACCI readers are and will be, the type of people who think computing is fun. Who enjoy it. Who have a sense of humour. Who like to learn things, explore new techniques. Perhaps not taking everything totally seriously. Perhaps liking 'Dark Side of the Moon' and juggling. People like you and me.

Personally, I would like to see WACCI catering for as many machines as possible. Of course, this is not possible, because to spread over such a market would mean that content on each machine would be too thin. Or would it? How much totally machine specific material is in a typical WACCI? Less than you might think. But that is argument for another time.

Some other points. First off:- House Style. Yes, I agree a house style is a necessary evil in a professional publication. Avoiding conspicuous words suddenly appearing in CAPITALS certainly improves the aesthetic appeal. However, I never was one for aesthetic appeal. I like things to be functional and to look functional. Bit of a Bauhaus fan, me. That's why I'll never be an editor.

I can live with house style but only if it is done properly, which requires a great deal of time and effort. Otherwise it looks unfinished and amateurish. *Nuff said.*

Secondly, at 4p per K I think that the 'FSW' label is getting a bit dubious, especially if a program is over 100K long. How about setting a fixed rate of about 20p per program, regardless of length? The payment, as I understand, is to cover the copying charges and help with the club but copying a 2K program takes only a few

seconds less than a 100K one so the effort is negligible and not worth the £3.92 difference. Why not even things out a bit?

Phew, I feel better after that.

AJ
Wanstead

<<Hmmm. Starting at the end, OMG tells me that size *does* make a difference, John. Mind you he was laughing when he said that, I can't imagine why. Anyway, he says that large programs tend to come in many files, too. It all takes longer and size, although a little arbitrary, still seems the best basis for charging. Remember, if you get the compilation discs, it's all still veddy veddy cheap...

House style? The guys in the Bauhaus expended years and huge amounts of vitriol on arguing about the aesthetics of things they made.

As for getting PCWs into WACCI, the debate starts here... -Joolz.>>

NO JOYce

Dear Steve and Joolz. The PCW? Where would that lead the club?

1. No machine is eternal, so Amstrad will pull the plug on the PCW but if the plug is pulled on the CPC first I assume you will drop the CPC?
2. As time marches on we must do our best to ensure that the CPC continues to be supported in a proper fashion.
3. The more members that WACCI has, the better the future stability but only if those members are CPC owners. As ACU and AA fold, so our base will get bigger.
4. To substantially increase the membership we don't need to extend our user base, this will only drive CPC users away.
5. The PCW has nothing in common with the CPC, it is a business machine. I could state that the Speccy +3 is

more suited to your argument but who wants anything to do with that machine?

6. If over a million PCW sales have been achieved, then there may well be room for a WACCI style mag out there but not at our club's demise.
7. The bias of the club has recently shifted over to CP/M, a little softening up, eh? Something to do with Peter Ceresole? In the November column "A Passing Thought" Peter said "a PCW into the shops. That's the real CP/M machine."
8. The club is under your control, so take it which way you choose but be very careful.

These are, of course, my feelings on the matter, having given a couple of days thought to the issue. If they are not what you want to hear, then I am sorry.

Paul Dwerryhouse
Hawarden

<<Dear Paul, your feelings are exactly what we want to hear, whatever they might be.

1. No, we want to go on supporting the CPC come what may.
2. Yes
3. Yes but... do you really think CPC owners will stay away if we also cover PCWs?
4. Maybe. What do others think?
5. See AJ's letter above. Who's right?
6. But would it be to WACCI's cost? That's the whole question.
7. No, that's just Peter's enthusiasm. He thinks CP/M is fun but I notice his articles still come in on Amigos Protext files...
8. Well, I hope it's under your control, as much as possible.

So there you are. Everybody write in. We need to hear from you. And Paul, I've just finished typing this one out and you the writer of Wacciword? I'm shocked -love from Joolz.>>

NO NO

Dear all at WACCI, just thought I would put printer to paper regarding the the introduction of another machine to the WACCI fold... don't do it. Having gone into print and lost

some of your profit in the process, you are now attracted to run on costs, fair enough; however there are certainly thousands of would-be WACCI subscribers out there who've never heard of, much less seen, a copy of the magazine.

Introducing a new machine will cause you to editorialise the mag and you'll do two things badly. It happens all the time.

Just because a machine goes out of production doesn't mean it goes out of use and the sort of people who subscribe to WACCI, if I'm correct, aren't going to ditch their machines just to buy the latest model. The CPCs are rather unique in the market and will continue to be so.

Right, enough of this. Why I am really writing is to ask if anybody has organised a data transfer from the Cambridge Computers Z88 to the 6128 and vice versa? I just want to back up files to disc to release space in the machine. Perhaps you would print my address and if anybody can help could they drop me a line? I would be very grateful.

Steve Elkins
14 Albion Road
Fordingbridge
Hants SP6 1EL

<<Thank you for your thoughts, Steve. In fact OMG started to think about the PCW Option (sounds good?) before changing to print. I know, because he kept on looking at one in the window at Dixons.... He's just been looking over my shoulder. Hmm.

He says that the point of the PCW is that in real life (what's that?) it has a lot in common with the CPC and he tells me that a lot of our members use a PCW already and keep on about it in their letters and articles. Anyway, keep on telling us what you think (and see later letters by Ray Barrow and Stuart Munro.)

As for transferring your files from Z88 to 6128, you will need a serial port. Under CP/M, there's a program to transfer files to the PCW (aha) which is supported by Cambridge Computers. If you reach a conclusion, please let us know -Joolz.>>

CPC PILOT OF THE FUTURE

Dear Steve <<ugh>> and Joolz. Thank you very much for my Christmas present of Dan Dare II, my Dad told me that he spent a long time looking for it but could not find it.

I have Dan Dare but this game is really wicked and not as easy.

I did not get a lot of games for my computer but I hope to get some for my birthday in January. But I did get an AMX mouse and Stop Press and Dad has asked me not to go into competition with WACCI. Thanks a lot.

Darren Mells
Ashford

<<I've not shown this one to OMG. He has a pathological fear of competition (fear of being shown up, I'd say OUCH oh, you're there.) Keep at the publishing business, I'd say your Dad had the right idea -Joolz.>>

NICE CRAWLING LETTER

Thank you for my recent sample copies. I was so impressed (platitude, platitude) that I enclose a cheque for a 6 month subscription and a copy of Masterfile III.

I am also interested in "The WACCI Homegrown Discs" and the "WACCI Picture Discs." Please tell me what is on these discs and you could receive yet another cheque.

Keep up the good work. Magazines like AA and ACU are all very well with their glossy adverts and cover to cover games reviews but for the continuing success and support of a computer range, magazines like your need to prosper.

PS. Why do I see CP/M (yawn) everywhere? I feel really left out... What's the joke?

Ian Joseph
Acton

<<CP/M (yawn) was a millennial joke by Jeff Walker, who started WACCI. As we are very British, we keep up the traditions. Now he's at Amiga Computing can you imagine what he must be saying about AmigaDos? As for the discs, you'll find a listing of the contents in this issue -Joolz.>>

PETER IS SORRY

Terrific to get the Decemb... errr, November issue so sharp and clear. With photocopying it made a big difference how much toner there was left when your copy went through. This printing business should catch on.

Didja see my not deliberate mistake in November? I said that there was a hard disc for the PCW at below £200. Wrong. I'd read a misprinted advert and I did so want it to be true. PCW hard discs are over £400, like Am(EEK)ga discs. Drat. Sorry.

Aha. Protext things. First the simple bit:- Prospell dictionary discs. Mine says 86% full at 34,631 words but it did once say the disc was full when I tried to add a word. I think it was the sector that was full but it didn't happen again.

Now on to the other things... like James Brown's paper size. Using my Epson compatible (NEC P2200) with continuous paper, it happily believes that the paper is any length that Protext tells it but there's a distinction to be made here.

>oc 27 67 70 sets the printer directly to 70 line page length. If you then send it a form feed (OC) it will move on 70 lines, or the balance. But that's not the way Protext works. When it wants to complete a page, it sends a series of carriage return and line feeds. You can see this by putting the printer into hex dump mode and printing a short page. The dump of:

```
<<>pl 4
>tm 0
>bm 0
```

See this.>>
goes like this:

```
1C 40 20 20 20 20 20 53 65 65 20 74 68
69 73 2E 0D 0A 0A 0D 0A 0D 0A
```

"1C 40" is the reset code (1B 40 for the normal soft reset on an Epson). Then five spaces (left margin), "See this." and then a carriage return "0D" and line feed "0A" then two more <<LF+CR>> and a final <<LF>> to get to the start of the next page. Not a form feed in sight.

>pl 70 is an instruction, not to the printer but to Protext itself, to send the right number of <<LF>>s. Now why

it doesn't work for James, I don't know. Maybe he's using Protext to set the printer for some other use?

As to getting the word count into a BASIC variable, I don't know how to do it. I guess that Promerge+ must send the number somewhere before it prints it to the screen and there should be a way to grab it and store it in a variable but I can't work out a simple way of doing it.

AJ likes to fiddle with this sort of thing but OPCODES bring on my anxiety. If you have Utopia, you could use "SPOOL" to send the results of the word count (and all the other incidental garbage that comes up) to a disc file. If you wished to, you could write a BASIC program that went round and round till you had counted the words in all your files and you could get the entire output in a file that you could then examine at leisure and totalise. If there were more than about three files, I suspect that by the time the process was over they would have rebuilt the Berlin Wall.

And now... a little bit more of DU.COM. One of the irritations in this otherwise totally wonderful program (see December's WACCI) is that, once you have typed something in at the command line, that's it. You can't alter it. Neither, according to the instructions, can you cancel it.

All you can do is type so much garbage that it goes "?" Well, wrong. If you enter Ctrl-U, it neatly cancels the line you have typed and you can start again. This is not in the .DOC file (it ought to be) and I found it out only by messing about. I still couldn't find a way of actually editing the command line. Anybody got any further on this?

And NULU.COM. I did an enthusiastic piece for Steve about NULU but I've just had a nasty experience with it. I have a library from which I just tried to recover some squeezed files.

For the first time, I had a lot of trouble. Squeezed files have a checksum and all the long files had incorrect checksums. This is a drag, because NULU won't then unsqueeze them at all. What I had to do was export them in their squeezed form, then

FAIR COMMENT

9 SOUTH CLOSE, TWICKENHAM
MIDDLESEX TW2 5JE

unsqueeze them with NEWSWEEP. The difference here is that, although NEWSWEEP tells you there's a checksum error, it still unsqueezes as much as it can. The files were almost entirely recoverable but each one had a bit of garbage in the middle. This doesn't feel good at all. It hasn't happened before. I've checked it's not the disc. I'm not sure what's wrong but I'm slowing down on NULU for a bit.

Peter Ceresole
Richmond

<<That enthusiastic NULU piece is in the pipeline. Check back before we use it, won't you Peter -Joolz.>>

FAIR REPLY?

Dear Steve. I read with interest Mr England's letter in a recent issue of WACCI in which he "warned" your readers about dealing with Microstyle and I would like to make the following comments.

Firstly, the 3rd Drive Switching Cable which Mr England purchased was in no way "flimsy" as he put it. It consisted of a simple switch firmly mounted onto the disc drive cable. This gave it an unstable feel but was nevertheless so reliable that I have not yet had any returned to me after going wrong.

What was "flimsy" was the £8.50 price. To mount the switch on a board and to box it would have almost doubled the price and, as the cable mounting was so reliable, it was decided to produce them that way.

Mr England's worst complaint was that he returned the cable for a refund as it didn't work with his set-up but has not yet heard anything from me. There are times when all businesses let people down.

Sometimes it is due to oversight or the pressure of work but usually it is due to outside influences which are beyond our control. Even now a huge

delay in despatching orders for 6128 ROMs is being caused by Amstrad's sudden decision to stop selling the ROMs and so prevent people from upgrading their 464s. It is being dealt with but not without customers feeling let down in the meantime. Also all businesses receive complaints which are totally unjustified. Mr England's falls into this category.

I have searched but cannot find any trace of his returned cable so I must assume that it hasn't yet reached me. Obviously I cannot be responsible for things I know nothing about. I understand that he has tried to phone me but not during the afternoons when I am usually available. Perhaps he would like to contact me.

Phil Craven
Microstyle

<<Okay, that's the right of reply and yes, I know that running a business is no bed of roses. Now does anybody else have anything to contribute to the Microstyle debate? -Joolz.>>

THE MEANING OF LIFE

Dear Joolz, who are you? Is this 38 column ASCII? I've been away from WACCI for a while. I must have missed something. Does Steve have an easy life now you are doing most of the work? At least I've put it on disc this time. Now to the point:-

1. With regard to Martin Dew's letter re MP2. My original set up was with a green screen and I then bought the MP2 with colour TV-hopeless. I now have a Taxan Vision EX colour monitor and use the MP2 to supply the power to the computer, with excellent results.

I did have quite a problem at the time getting the correct monitor cable made up but supplying the wiring diagrams for the computer and the monitor to R.S.D. Connections soon solved the problem and they supplied me with a fully working lead.

2. With regard to Philip Cox's letter on the subject of a second large capacity drive. I have the KDS 700/800k drive with ROMDOS (chosen

FAIR COMMENT 9 SOUTH CLOSE, TWICKENHAM MIDDLESEX TW2 5JE

because it works with CP/M).

Firstly I have no trouble at all with ROMDOS unlike the experiences several people seem to be having with its rival RODOS. I also have Utopia on ROM and the two exist perfectly happy together although some of the Utopia commands will not work with the large format discs. This is only a small problem as I also have NSWP, so for some of the things that Utopia will not handle I use NSWP, which is a smashing piece of software for disc management.

With the large format discs I have had the following successes:-

- a) Tasword - makes you very lazy about deleting old letter/documents though as it holds so many.
- b) Masterfile III
- c) Money Manager - I have, however, had to transfer the program and data on to one disc and then work from the B drive.
- It does however save swapping discs in the A drive as used to be the case pre large drive.
- d) Supercalc 2 (CP/M) - designed for it. First class.
- e) NSWP (CP/M) - no problems, in fact I would rather use this than anything else for most of my disc management.
- f) SD Microsystems:

- i) General Ledger
- ii) Small Traders Pack programs. A vote of thanks to Steve Denson.

Now for the problem programs:-

- a) Mini Office II - works perfectly happily with the 3.5 inch drive as long as you format the discs to standard Amstrad i.e. 178k. I think MOII is a very good suite of programs for the undemanding but, because of the uncompromising way in which it has been constructed and its disc handling facilities it is not really of much use to me.
- b) Advanced Art Studio - first class art program except for the silly

"look at the manual protection system" every time you load up. As with MOII it works perfectly well with the 3.5 inch discs as long as you use standard Amstrad format.

This is rather a shame really because of the size of the picture and palette files. You very soon run out of space, which is very annoying because you know that the disc itself is capable of holding another 500k of storage.

If anyone wants to have a natter about any of the above please feel free to contact me. I had better stop now because there won't be any space left for anyone else.

I'm glad to be back, I have really missed WACCI a lot. Cheers for now.

Tony Buncher
Bideford

<<It's nice to know you've missed us, Tony. Yes, I'm me (see last month's cover for details) and yes, that's 38 column ASCII except that somehow you had a two column left margin but never mind, I love you for sending it on disc. And thanks for your account of using ROMDOS.

Now would anybody feel brave enough to give us a run-down on which of the all alternative operating systems does what? Under what DOS? And with whom? You know the old rhyme:- Would you like to sin/with Elinor Glynn/on a tiger skin/Or would you prefer/to err/with her/on some other fur? I'm sure I don't know what that means but see in Stuart's letter below -Joolz.>>

THE SAGA ENDS

Dear Joolz, on the disc you'll find the long awaited screen dump for the Tandy CGP-115 plotter. Its not quite as elegant as I would have liked but it works.

I suppose I'd better bring the Datal saga to its conclusion. After I left the story last time, Datal sent me another disc drive, of course it was the wrong one, so being yet again more than a little peeved, I went to my local Consumer and Trading Standards Office. It took two phone calls from them and I believe a letter from Visa,

to persuade Datel to give me my money back. But I did get it back and bought a drive from Siren, who in stark contrast to Datel, rushed it to me at the speed of light (slight exaggeration.)

After reading John Hawkin's letter on RODOS, I can offer my sympathy as I too have experienced all the problems that he has. It was even convinced that my memory expansion was 512K rather than 256K, which messed up using the silicon disc facility. The only way to solve that was to poke the variables used by RODOS every time the machine was reset. Eventually, I had to resort to fitting my Panda Electronics rombox with switches to disable the roms, as programs such as Purple Saturn Day refused to load let alone run.

I can see no harm in expanding WACCI to include the PCW as long as a fair balance is maintained between the two. No one who owns only a CPC will want to read a magazine that's 90% PCW and vice versa.

If you're still looking for volunteers I wouldn't mind typing in letters and though I can't claim to be an expert, I could always have a go at installing CP/M software if you're stuck for someone to do it.

Stuart Munro
Glasgow

<<Terrific, Stuart. OMG will get some CP/M programs to you for fixing and sends his thanks -Joolz.>>

RAY OF SUNSHINE

Dear Joolz, Steve, as you may remember I had trouble with the Masterfile III disc you sent and after speaking to you on the phone I returned to Campbell Software. Just to let you know it was faulty and a new one sent by return of post. Well done Campbell.

Just to recap for anyone with similar problems, I couldn't get it to run. It loaded the "disc.bas" loader but then went into the famous "Read error:- Retry Ignore Cancel."

I tried both sides with similar effect, although it seemed to get further on one side before it

rebelled. I couldn't copy it in total but using "Bonzo" I managed by copying tracks from both sides to get a working copy. The moral is "if at first you don't succeed try something sneaky." Needless to say the replacement runs with no problems. Although I'm still playing with it you could alter my HELPLINE entry to read Masterfile III and Mastercalc 128. I'll learn as I go along, although as you know I'm still waiting for the Mastercalc disc.

I'm sorry to hear that WACCI has been struggling, although to my eternal shame I didn't realise that the November injection was late until I received several phone calls asking me if I'd heard anything. In my defence Brown Owl and I had just returned from Florida and were trying to cope with a temperature drop from a pleasant 75 to 80 degrees to a cold 50s and falling. I haven't received the December issue so I don't as yet know what the problem is. If I can help in any SMALL way let me know.

I was thinking of perhaps reviewing software as our friend Bob Moffat suggested. I say any SMALL way as my time is somewhat restricted having one of these "day jobs" although it pays for my hobbies, woodwork, learning German, badminton, the allotment (if I dare mention it again) and now that the Brownies have a Computer Badge who knows where we'll go next.

For myself I could do with a little guidance. I try to do something a bit special every 10 years, being born in my 0's; passing my 11+ (doesn't that date me) in my teens; my 20's walking the Pennine Way; 30's marrying Brown Owl; 40's was the parachute jump, so having safely survived that I've decided to risk learning a little more about machine code for the 50's (which I must say are someway off yet but like British Rail we're getting there and wondered if WACCI's machine code disc would give me all the assemblers/disassemblers etc (whatever etc is) I'd need to get going or whether the offering from LEAR Software, that you advertise, would be a better buy.

I'm thinking about areas such as

WRITE TO FAIR COMMENT
9 SOUTH CLOSE
TWICKENHAM
MIDDLESEX
TW2 5TU

ease of use, versatility, helpful to machine code morons such as myself. I get by in Basic but this recent series of Machine Code articles tempts me to look for the dark at the beginning of the tunnel. I don't want to spend a lot of money in case I can't manage it but I would want something that was reasonably capable. I think the word is "bargain."

My monitor is playing up at the moment with swirly lines over it like a contour map. In that state it will not load CPM+ it just goes back to the "READY" prompt but will load CPM2.2 and Basic programs. As I don't use CPM that much it's no great handicap at the moment. After some use it suddenly clears itself and everything is OK.

I have 64K Ram Pack, Amstrad Disc Drive, AMX mouse attached to my CPC464 with 6128 Ram chip in place of original. Any suggestions, apart from get it fixed, which I will do when the mood takes me. I just get curious as to what is happening. I've gone through the business of taking all the dangly bits of the back but it makes no difference.

Since writing this I've had thoughts (not dangerous) about the power supply. So this morning I set up the modulator to power the thing and BINGO no wavy lines. All I need now is the power supply fixing, replacing, whatever. Anybody any suggestions?

Thoughts about the future. Well I have this friend, ex-CPC user now uses PCW for business reasons, who reads WACCI secondhand and would be delighted to subscribe if it included PCW info and why not. As you say they are very closely related and I'm sure it would present a challenge to our "boffins" to configure software from one to the other easily.

Incidentally Brown Owl bought me one those dancing plants for Christmas and it likes Julie Driscoll. Now if

someone could rig one of these up to a computer and a speech programme using that delicious voice at WACCI TOWERS (yes I have experienced it as well.)

Ray Barrow
Smethwick

<<Thanks for the offer, Ray. For a start, if you have a favourite program or utility, write an article telling us what you think of it. Machine code at fifty? Golly. Remember, Ray, it's not like parachute jumping. Machine code is hasardous.

If you don't use CP/M much, maybe the WACCI machine code utilities disc isn't for you, (because it's all CP/M.) AJ, along with a lot of others, uses the Maxam ROM. See his review this month (aren't we GOOD?) -Joolz.>>

NO ESCAPE

Dear WACCI, please find the enclosed order forms and cheque for subs and CP/M programs. The enclosed disc is enclosed for you interest and is duff. It refused to format. It is the first dud I have had (pity it came from WACCI.) I was going to put a letter on it about VDE. I could not do the modify and save as on page 27 of the December WACCI until I found that ESC was obtained by by ^[first, no wonder CP/M is unpopular. Best wishes.

L Knight
Neath

<<CP/M, does have its peculiarities. It started in the days when the only things computer keyboards had in common were the QWERTY and symbol keys and a "Control" key, so the primitive Escape is generated by Ctrl and "[and the arrow keys are ^S etc. Sorry we forgot to include ^[in the article. Fortunately, in CP/M+ you hardly ever have to bother with this idiosyncrasy. As for the disc, it's a shame your first dud should come from us but a replacement is on its way to you right now. The no-quibble guarantee is just that -Joolz.>>

WACCI? Phone (01) 898 1090

WHAT A NICE BOY

Dear Joolz, please find enclosed along with this disc an order for a printer ribbon & some FSW. Also a jiffy bag and postage. Aren't I a good boy?

Having wondered where the last couple of WACCI's were, I was very relieved that you hadn't forgotten me. As for the December issue, apart from the poor quality of the cover picture, I thought it was the best one yet. The print seemed just that little bit crisper and having it printed seems a justifiable step forward.

Also, regarding the PCW poser, I think it would be an excellent idea, with one or two reservations.. Although some stuff will happily apply to both machines, some won't and this should be made VERY clear. I know this may sound obvious but, for example, newcomers may be easily confused.

I was also very pleased to read the CP/M stuff. The Bellaby file and the DU article were most impressive. Just one comment to Clive Bellaby. Why did you review VDE23 when VDE266 is a much better WP with many more excellent features? I use it myself and it does me perfectly.

As a result of the DU article by Peter Ceresole I have ordered DU, amongst some others. Keep up these excellent articles, it makes the mag so much more complete. Can anybody help me with:-

1) I can't seem to get my DMP2160 to print out any user defined characters. I have followed the manual closely but to no avail. Using the short program in the manual for example, with Dip DS2/4 on (download), I get a funny looking circle printed 4 times down one side of the page. With the Dip switch off (it should be on) I get the same response with a capital "A" I have included a listing of the prog on this disc.

2) Also with the DMP2160, in the manual there are two Screen dump progs. The Text screen dump works fine but the Graphics dump just covers the paper in ink?

As everything else on the printer works fine, I am totally baffled. In the Nov issue Steve asked for help

in typing in letters etc. If this, or any other help is required I am willingly at your disposal.

Thanks for an excellent (if occasionally late?) magazine.

PS The FSW order form (AMS-188) I ordered way back in the 80's, seems to be in invisible ink. Can I have another copy? Oh, go on, please.

Andrew Ford
Dewsbury

<<Thanks for the stamps Andrew, the jiffy bag, the copying offer and the letter on disc. Glad to see you leaping into DU and see Peter's extra wrinkle for DU in January's Fair Comment. As for your printer problem, our problem is that at WACCI HQ we use the Citizen 120D.

OMG used to have a DMP 2000 but he can't remember anything (ever) except that the user defined character program in the manual did work. I must say it sounds as though your graphic dump is printing an image of a blank screen. Anybody else out there with current experience?

Clive used VDE23 because it's the only version small enough to get onto a compilation disc and we've sold so many more of version 23 that we would have left too many people out if we'd used the bigger program.

Thanks for your thoughts about Joyces, of course you're right and we would be very careful to point out what works (or doesn't work) on what machine. As for your FSW form, I've just kicked OMG in the softies. He does grunt so but finally he said that he'd do you a customised version in a form that should print on the DMP, from VDE. All you have to do is select the UK character set to get pound notes. OMG is groaning again. Why can't they all get Protext? Or eat cake. Look on your disc, I think the ink is visible now -Joolz.>>

JEALOUSY (MINE) BUT THE SAGA GOES ON

I am just returned from a four week holiday of sun sand surf and swimming at one of Australia's gold coast beaches. Ah, that's real sand with grains no larger than refined table sugar and which also makes swishing

sounds as you walk through it. And real surf of eight foot waves, perfect for surfing.

It was also an ideal time to read issues of WACCI that I had neglected due to other commitments. My latest edition is October 89. Because this is the new year and I am missing my monthly WACCI fix, could you please advise if the November and December editions were despatched to my current address as per this letter.

Also, I have some software to purchase as per the attached form. As my order has to travel quite a distance through several postal stages, I didn't fancy my chances of getting a disc through without mishap, so I couldn't use the normal method of putting order and letter on disc.

Paul Thayer
Evatt
Australia

<<Good on you, Paul, the avalanche of WACCIs is on its way from the Costa del Twickers. If the disc gets to you all right, you can start sending discs back to us again. You know what the airline booking clerk said to the man trying to get a place on the Fokker Friendship flight from Alice Springs, "Sorry Okker, the Fokker's chokker." Well, it made OMG laugh, so I have to count it one of life's little victories -Joolz.>>

WRITE TO FAIR COMMENT
9 SOUTH CLOSE
TWICKENHAM
MIDDLESEX
TW2 5TU

PROPORTIONAL PLEA

Dear Sirs, please send me details of the services you offer to CPC users, together with a catalogue of Public Domain Software.

I don't know if you can help me but I am desperately trying to track down a copy of "Taspro" by Seven Stars Publishing. They tell me that owing to low demand they stopped producing this program 18 months ago and yet there is nothing else like it on the market.

The program will produce microspaced and true justified text on my Quendata DWP1120 daisywheel in conjunction with WPs like Tasword. Do you have anything like this, or know where I can get hold of this program?

Philip Jimenez
Norwich

<<Can anybody help? By the way it's Joolz, Philip and the January WACCI is on its way. I hope you find it's so full of goodies that you join the club and then you'll even read this reply. Isn't fate wonderful? -Joolz.>>

UNIVERSAL WACCI

Dear Steve <<Eh?>> have you been able to unearth a copy of "Model Universe" for me? I believe that it is no longer being made but I hoped that you might be able to wave your magic wand and produce one out of your hat.

However, if it does prove impossible to obtain one, perhaps you will be good enough to send me 5 CF2 discs; I should like you to use one of these discs to send me copies of the non-existent BUSBY (35K), AMS-184 (4K) and AMS-185 (35K) programs.

Incidentally, I have been having problems with AMS-141 (SPREAD) I have been unable to print out my completed spreadsheet correctly. I get the data printed all over the place and not in nice neat columns, which rather spoils the whole thing. I don't know if anyone else has had similar trouble but any suggestions (not rude) will be appreciated.

In an oblique reference to Gordon Afflick's letter (Dec) I have just bought an Amstrad MP3 TV tuner from DJ Software of Wigan, whose efficient service I can thoroughly recommend.

It was very easy to get going but as soon as my son, who is an electronics technician, saw it, he volunteered to make some improvements to it as he wanted something to do over Christmas. He brought it back on Boxing Day in a new case incorporating a separate power supply, a bank of pre-tuned switches and an on-off switch also operating a relay alternating between the TV tuner and the computer.

When I asked him he confirmed that the separate power supply wasn't necessary to work the relay and you could use a manual switch instead. He gave me the following information about the components:-

Relay- Continental/Cradle type, 6-pole changeover, 12 volt. RS No:349-153

Relay Socket. RS No:349-210

Switch- Miniature push button, 6 pole changeover. RS No:338-440

Bracket. RS No:338-248

Round button, coloured. RS No:338-563

This is rather long but this is the first time that I may be of some use and I'm trying to work off an inferiority complex.

I'm sorry I haven't sent this letter on disc as I have no empty ones but I shall try to keep a spare in future.

Vic Baldwin
Broadstairs

<<Thanks for the information about the tuner set-up, Vic. Beating OMG over the head with a sand-filled sock has paid off, he's burst into a semblance of activity.

The fathomless resources of WACCI have been combed and he's found a Model Universe for you:- really he has! There's a member with one for sale and it's headed your way. You see, WACCI reaches those parts that other fanzines don't even know exist.

Let me know how you'd like me to handle your software order in this letter. I do hope you get a spare disc soon. yours with (blue) bleeding fingers -Joolz.>>

FATHER AND SON

Dear Joolz or Whoever <<Humph>> many moons ago my wife Jean arranged for a monthly delivery of your excellent fanzine. We have recently been having little reminders that the time has come to renew membership. I am therefore enclosing a cheque. Please use the extra £1.25p to send a sample of WACCI to my son.

I read Steve's comments regarding the possible inclusion of PCW matters in the mag. Seems fair enough. However it seems to me that many CPC fans and PCW users may eventually upgrade to

PCs. I confess that I have already taken that step.

My beloved CPC now lives at my son's and I own an Amstrad PC1640. I am still very interested in the CPCs, each of my adult sons owns one but the occasional article on PCs could be interesting. Perhaps that would be going too far? I would certainly, for obvious reasons, be interested in ways of transferring suitable files between my PC and the CPCs. When I find a way, I will be able to supply a copy of any letter I may send you on disc again.

Derek Proctor
Brixham

<<Dear Derek, I'm delighted that you're continuing the family tradition of CPCs to the next generation. I've asked DMG about PCs but he seems to think that including PCs might be a too big a step. It seems likely that just as many people upgrade from CPCs to Amigas.

The point of PCs is that they use the same size discs and they have a lot of CP/M software in common.

Keep the opinions flowing in. Personally, I hope you can find a way of sending in your letters on disc but I'm always glad to get them, however they arrive -Joolz.>>

SPRITES AND SPELL CHECKERS

Dear Joolz, As you may see by reading LETTER.WP and looking at my disc (oooerr.) I'm the mystery programmer whose name has been on everybody's lips. Why, I hear you ask, is it a mystery? Well I confess that I've been keeping these programs away from WACCI as long as possible but many bugs that I had been previously blind to have been ironed out. Furthermore, if I send them all in at once, it should give the impression that I've been working bl***y hard.

Well club members, (especially those going to sleep in front of their old versions of Waccispell) I would like to formally announce the coming of the all new Waccispell, v2.0 to be precise which I've been working on while Paul Dwerryhouse has been improving his Wacciword (the only WP for me.)

Instead of twiddling and twiddling and twiddling your thumbs waiting for the Dictionary to load you can be half way through a document, because the loading time is about half a minute. Plus, you can actually put your Dictionary to good use. For people who do Crosswords there is CROSSWACCI built into the Waccispell program (it's pure coincidence that there has been another X-word program hanging around recently.) The UPDATE program now has an option for re-entering the words you wish to add to the Dictionary as well. No expenses spared. Paul Dwerryhouse has given his sturdy stamp of approval.

I've also included a good disc handling suite which is fast and reliable. It's called MENU MAKER and creates menus that are read in by a separate program allowing programs and discs to have proper titles and enabling programs to be run at a keypress. The program also provides other functions, like an ASCII Catalogue to disc for use on a WP, mass erasing of files and renaming. This program should go down well.

There is also a suite of programs for designing Mode 1 Screens & Sprites. It works very well as it is but I'm going to make lots of improvements. So, it's just a question of whether you're willing to wait or not. It might end up as a PD Games Creator, Shock. Horror. Whatever next?

I'll tell you - I need to borrow, desperately, a Firmware Manual, don't we all. But, I would hope to think that as a future programmer, I might need one otherwise my programs might sort of get lost in the post. This is not Blackmail. So, could some kind soul lend me one for a month or three, or better still give me one. I would be very pleased.

Right now, here's a chance for everyone in the club to help out. Yes, this means you. It doesn't matter if you program Supercomputers or ZX81s, (Oops, sos bout dat der Derogatory remark.) you can help. So, get off your backside and write to me with your ideas for programs that you want. The more letters I receive about a certain type of program, the more

likely it is to get written. Furthermore, any interesting ideas that I can't cope with could be passed on to other fellow programmers. At the moment, I have absolutely no ideas for my next project, so I thought it would be better to let the Club Members to have a say in what programs they get in their PD library.

I would also like to hear from anyone in the Club who owns MIDI Software and what they think of it (I have the "basic" Music Machine)

Going back to m/c, I have CPM 1-16. Is it my imagination or is it impossible to produce straight-forward run of the mill BINary files that can be run from Basic? Unless you write a program to read the relevant bits from a PRN file. I can't seem to find a way of doing it or is it just unheard of to produce a BINary file from within CP/M. Is there another Assembler on the PD library, which does this? If so, could you please send a humble programmer like me a copy.

All Marathon letters must come to an end, so here's my address:-

R E Heaton
3 Greenacres
Tettenhall
Wolverhampton
West Midlands
WV6 8SR

<<Dear Robert, your programs are in the library. Thanks from us all. I should think that there will be WACCIites only too glad to suggest pet schemes for programs. How about it, everyone?

I have consulted the oracle on your behalf. CP/M assemblers produce .COM files which are in Z-80 or 8080 code and are all designed to load at &0100, so they have no headers.

They are also in ASCII format. What you would need is a utility to change the ASCII file into a pure .BIN file, with a header. If you wrote one, I'm told, you could well become mildly famous (or even wildly famous.)

Why not make it the next project? Apparently, an alternative is to load the .COM file into memory at the place you intend and then save the block of

memory containing it as a binary file. You can do that with Utopia (if you have Utopia.) Happy hunting -Joolz.>>

PD DTP?

Dear Sir <<indeed>> I recently sent for your catalogue and I was very impressed with the choice of software available. I found there were a great many programs I'm interested in but unfortunately unable to afford all at once. I am enclosing an order and payment for the CP/M Business disc. I do have a couple of questions:-

Do you have a list of what programs are on the homegrown discs and picture discs? And are there any desk top publishing programs available yet in the public domain?

S Leech
Stockton-on-Tees

<<No, Mr Leech, there are no desk top publishing programs in the public domain yet. We live in hopes.

As for the list of software on the homegrown discs, it's in the January WACCI. But there are so many files on the Piccy discs that we don't list them. Anyway, I suspect that short but accurate picture descriptions are quite beyond He Who Must (not) Be Obeyed... *OUCH!* -Joolz.>>

ROMMING IN THE GLOMMING

Dear Joolz, I would like to comment on Peter Ceresole's article "From here to eternity." I have a 3.5" second drive which I obtained from Siren. The operating system for this is the ROM version of RAMDOS and this seems to work ok with Protext on ROM.

The "Formats" program is used to format the discs and this also works without any trouble. So it seems that the answer may be to have Protext on ROM and/or ROMDOS. Since I have CP/M on ROM I have not been able to patch the System for the new format but this is no real problem as RAMDOS+.COM is added to the boot disc and is called from a PROFILE.SUB file.

I agree that to copy from 3" disc to 3" disc and from 3.5" to 3.5" is a bit of a pain but if you use CP/M's

NewSWEEP to copy from 3" to 3.5" and then back to 3" and vice versa it is not too bad, providing you do not want to do it too often.

Now to the idea that WACCI should cover another computer as well as the CPC. This seems to me to be a good idea. Might I suggest that all the Amstrad range could eventually be covered, starting as Steve suggested with the PCW.

Dick Bowler
Carshalton Beeches

<<Thanks for your ROMDOS info, Dick. I think Peter's worry was that there was no formatting program in CP/M. Isn't "Formats" an Amsdos program? If so, then if you need to format a disc while you're working (I know that I'm always caught out and I have to put up with *OMG's* horrid sniggering for hours) you have to save all your files and reset, then after the format go back into CP/M. Meanwhile, we're working on a review of Multi Format Utility which might do the trick, at a price. I'm glad to hear that ROMDOS works with Protext on ROM. And thank you too for your PCW views -Joolz.>>

WACCI
9 SOUTH CLOSE
TWICKENHAM
TW2 5JE

BIG DISC BIG DOS

Dear Joolz. You shouldn't do it to an old man, delay the publication of WACCI I mean.

Here was I, holding my breath waiting for the November WACCI to see whether I should buy ROMDOS or RODOS. It's a good job I sneaked the odd breath now and again because normality was not restored until December the 27th when the November WACCI arrived.

In all honesty I couldn't wait for replies to my letter, I wanted the 3.5" drive as a Christmas present for myself and so I took the cautious approach and asked Siren Software for ROMDOS. A quick note to Phillip Cox to say thanx for trying to help.

I too cannot use Stop Press

(Pagemaker) or X-Press although the latter does say that 3.5" drives are supported, perhaps I'm doing a Phil Morley. It could be I'm using the wrong format (I use D20.) Anyone out there got any hints, please?

I am also sad to loose some of the handier UTOPIA RSX's, !Copy between the two drives and !Ren and !Era on drive B: in particular.

Another quick thanx to Gerald England because I was just about to write to Microstyle for a switching cable when I read his letter, thinking that I could get round some of the disadvantages of 3.5"/ROMDOS by having the second 3" drive in circuit.

At this stage, rather than be accused of taking more than giving, please offer my services as a letter typer to *OMG*, the postal charges to BFPO 20 are the same as in UK so I don't think that will be a problem.

There's only one condition to this offer, please don't send me any of Dear old Phil's letters otherwise the phrase two finger typing may acquire a new meaning.

Confession time. By Christmas Eve I had become convinced that you two were sunning yourselves in Hawaii on the proceeds of the Alex Aird photocopier restoration fund, sorry to ring so late to wish you Happy Christmas but most re-assuring to find you both slaving away.

Dilemma time. This letter has been on the stocks a few days and now the December edition arrives, outdating a lot of what I have written and raising a real problem. What to comment on, why comment at all?

This brought me round to thinking that perhaps the reason that WACCI is so popular is not the major articles, sorry AJ et al, not the adverts, not even *OP's* excuse page but Fair Comment. There may be many motives for reading Fair Comment ranging from a thrill of seeing your name in print, through identifying fellows with similar interests or problems to reading Joolz' remarks, be they witty or helpful.

Now was *OMG* right to try to catch up with the backlog by rushing out so many editions so soon? Only half

right may I suggest.

I can sympathise with people like *H N Gubby* who have just taken the plunge and are agonising over whether they have invested wisely and perhaps one has to rush out the 'missing editions' to reassure them but it can tend to rip the heart out of the magazine, getting too many editions out too close together makes *Fair Comment* discontinuous, members have not had time to react to one batch of letters before the next arrives.

Personally I rather hope that *OMG* doesn't quite manage to live up to his promise of a January edition in mid January, for heavens sake get him to wind up his calendar, the December *WACCI* arrived here today (10th of January.) Should you choose to publish this letter it will not appear before the February edition and I fear that much of the interaction between members could be lost.

In *Fair Comment* December 89 Peter Ceresole sought some feedback and you told us to use this column (well almost told us) so here goes...

Peter, I have enjoyed your articles in both *WACCI* and *An Alternative* publication. To start with I could not not understand some of your obsessions such as booting into the B: drive and writing articles on DU. Now I think I am beginning to see the light, I share your enthusiasm for *Protext*, *Prospell*, *Promerge Plus* and *Utopia*. They represent the core of my set-up and it is hard to consider serious text work without them.

I have had enough problems with *Lotus 1-2-3*, **Word* and friends (on other machines) to last me a lifetime. My only regret is my present inability to pass files to colleagues running IBM type machines.

Your articles are very set-up specific, wait for the deluge of letters from readers of the *Amstrad Alternative* who have used *!TOKENS*, 250 only to be told 'Unknown Command in 14' - (and I have typed it in very carefully.)

I now begin to suspect that you use a 3.5" drive as your second drive and knowing your liking of *Protext*, I can only surmise that that you use *ROMDOS*.

TO ADVERTISE IN WACCI
RING (01) 898 1090

Could this be why the super *!DEDIT* function found in *Utopia* is not enough for you? Certainly *NSWeeP* and other (no yawn) utilities can get at bits on the B drive that *UTOPIA* cannot reach.

End of message to Peter. Joolz please ask *OMG* to rush me DU as per enclosed order. Please put it on this disc.

Elizabeth Janson - Hello, thanx for thanx. Are the boys out there a club or your own family? Did CPC get you a keyboard membrane? Can I call you Liz from now on?

John Hawkins - Thanx John, I didn't read your advice before I dashed out to buy a *ROMDOS/3.5"* from Siren, this is entirely the fault of *She Who Thinks She Is Obeyed*, *He Who Thinks He Might Be Obeyed* and *AJ* (well why not - anyone driving a motor-cycle in Brentwood must be guilty.) I could blame *Alex Aird* as well but that would be most ungrateful.

Alex, I am sure that the editorial staff of *WACCI* have made plain their appreciation of your efforts, may I add my Thanx.

Everyone out there reading this letter please say 'Thanx' to Alex for all that he has done for *WACCI*,

Bob Moffatt
BFPO 20

<<How lovely to get such an interesting letter, Bob. I've shown it to Peter Ceresole and here's what he has to say:-

"Hullo Bob, thanks for the comments. I've had exactly the same kind of experience with multo *expensivo* software on other machines, although I must say that *Protext* runs even better on 16-bit machines. You're right, my stuff is very set-up specific, although I try to make it clear what I'm using each time (I even did a bit of a commercial for *Utopia* in AA.) My reason for logging onto B: is that I keep my WP utilities and the *Prospell* dictionary on the two sides of the disc in A:. I don't use a 3.5

inch drive, although now that *Dick Bowler* has confirmed that *Amsdos Protext* works with *ROMDOS* I'd seriously consider it.

I presume that the *Protext* disc housekeeping (*REN* and *ERA*) will work on B: as they do with *CP/M* and a 3.5" drive. No, my reason for liking DU so much is that it maps the disc and shows you where all the files live. For directory fiddling, *!DEDIT* is certainly the fastest there is but actually finding a file with *!DEDIT* is quite difficult, as I hate having to work out which track and sector number corresponds to which group number. DU does it for you. It also has a useful string search function and a bunch of other goodies such as reading the sectors to memory and saving them to a file. Wow. One of the more amazing tricks DU has done lately is to read a *MSDOS 3.5"* disc on a CPC. Anyway, have a wonderful time with it."

Golly, he does go on a bit doesn't he? But he does try hard, poor dear.

As it happened the January issue went out later than planned so the continuity of *Fair Comment* shouldn't have suffered too much. Never mind, the crisis has passed and we are back on schedule now (touch wood.)

He Who Must Be Defied tells me that he's planning to put together the "definitive" list of which programs will run on which of the alternative operating systems but he says it may take some time as there's "so little time and so many programs." -Joolz.>>

VOICE BOX

Joolz, tried to call you today but all I got was the answering machine. I don't mind that because I know how busy you've been. What I must find out is:- who's voice is that used on the answering machine tape?

Graham Baker
Maidstone

<<It isn't a tape Graham, the message is produced by a chip. Unfortunately we can't change the message, so everyone ends up thinking we will "get back to them" even though we can't always manage it -Joolz.>>

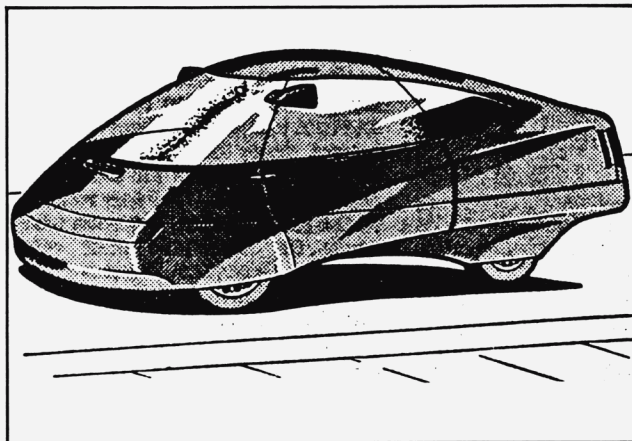
ERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGAN
DER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ..
.. PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PR
OPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERG
ANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER ... PROPERGANDER

STEVE WILLIAMS TAKES A LOOK AT THE NEWS AND GOSSIP

CLIVE ALIVE?

True to form, Sir Clive Sinclair has displayed an astounding disregard for public opinion and common sense by announcing his plans for a follow-up to the C5. The C15 will be more powerful than the C5 and will have a range of two hundred miles.

Hoover were unavailable for comment at the time of WACCI going to press.



Juliet Rowe, 42, at her home in Budleigh, Salterton, Devon eight years ago.

...Now can someone please tell me, is this particular Keith Rose the same Keith Rose that used to run *Modem House*, purveyors of useless modems? Is it the same man that used to sell pirated copies of *Commsoft's* communications software package? Is he the same person that has been alledged (case pending) to

THE ANTI-HACK PACK

The strong Tory anti-hacking lobby, headed up by *Ms Emma Nicholson* have had a double set-back recently.

Firstly they had a shock over a glaring omission from the Government's proposed legislation for the coming year. Three new criminal offences recommended by the Law Commission in October were expected to be brought in during this parliamentary term but the Queen's speech at the state opening contained no mention of the new laws to curb hacking.

The second set-back is that *Michael Colvin's* Computer Misuse Bill to outlaw hacking is in danger of collapse because of a clash between Colvin and *Ms Nicholson*.

Colvin's Bill calls for fines of up to £2000 and and prison sentences of up to five years for certain hacking offences. It has a total of nineteen clauses (which is nearly a record for a private member's Bill.)

The problem is that *Nicholson* wants Colvin's Bill to contain even more clauses than there are already, including ones to cover the acceptance of computer evidence in court, electronic eaves-dropping and

wider police powers.

"Any attempt to add another clause to widen the Bill's scope will lead us into a minefield from which it can only emerge in tatters," says *Colvin*. "I know she wants to put some amendments forward and I've said 'by all means put a marker down for them for Christ's sake don't try to latch them onto my Bill before the committee stage.' Legislating against electronic eaves-dropping is a legal minefield because it involves intellectual property rights, a very controversial area. *Nicholson* should use the committee stage to air her views, not make my Bill her vehicle."

All the signs are, however, that *Nicholson* is set to seize her chance to expand the bill, thereby shooting herself in the foot.

BETWEEN TWO THORNS?

The following story was seen on page five of the *Daily Mail* on Saturday the 3rd of February...

MURDER CHARGE

Company director Keith Rose, 40, from Exeter, was remanded by Exmouth magistrates accused of murdering

have kidnapped the son of *Sainsbury's* supermarkets boss?

It couldn't possibly be, could it? Send your answers in on a postcard please, to reach WACCI Towers no later than last Friday.

HOOKED ON COMPUTERS?

Following the recent showing of the controversial QED programme "*My best friend is a computer*" a recent study at *Nottingham University* has scotched the hypothesis that computer addicts suffer stunted social and psychological development.

Research has shown that computer dependency can actually be therapeutic for those who find it hard to relate to other people. The findings have been published in a book "*Computer Addiction?*" written by *Dr Margaret Shotton* of the university's Department of Production Engineering and Production Management.

The report's findings will be reassuring news for the nation's current generation of five year-olds who will soon be doing computer work in school when the recommendations of the *National Curriculum Council*

(NCC) are implemented by the government.

The importance of early computer learning is stressed but the NCC report also lays emphasis on computers being integrated with other subjects rather than being in isolation.

HOLY SMOKE!

Educational Software writer John Lyons (no relation to Joe) has followed up his programs for hairdressing and catering students by filling what he considers is another gap in the educational computing field:- Religious Education.

His latest offering is Multiple Choice Quiz for Christians which includes 120 questions mainly on the New Testament. Initially it has been designed for use on BBC Micros, the package costs £9.95 and has been developed for both open and closed learning situations.

It is not clear, at this stage, whether there will be a conversion (*religious or otherwise*) for the CPC range of computers.

THE LAST ADVENTURE

It's sad but true, the author of more than fifteen top selling adventure games, *Level 9 Computing* has announced that it is to pull out of the adventure market.

The latest release *Scapeghost* will be the last adventure from Level 9 which is moving on to produce arcade style games and conversions using its programming system *H.U.G.E.* (Wolly Universal Games Engine.)

THE BOOK OF SECRETS

The adventure and role-playing club *Official Secrets* (0279 726585) has released solution books for the entire Magnetic Scrolls range of adventures.

Each book in the series, covers every part of the game in detail including three tiered questions and answers, full easy-to-understand maps and a natty code system so that a quick browse will not yield any unwanted text.

CITIZEN'S TEARS

Citizen has split its operation into two distinct sections following a market survey which underlined the different needs of first-time and experienced printer users.

It has brought in a two-tiered system with products and marketing polarising on a standard range and a professional range.

The standard range includes entry level printers from the 9 pin 120D up to the 24 pin Citizen Swift 24. Newly launched is the ProRange which starts with three dot matrix models, the ProDot 24, 9 and 9X.

NO MALE MEMBERS?

As *OASIS*, the Organisation Against Sexism in Software, celebrated its first birthday recently, leading light Sandra Vogel vowed it is here to stay and said it will escalate its action against sexism. Founder of the organisation, Sandra enlists the help of her Atari ST to keep watch for offensive material.

She is against stereotypes of women or men being used in games. Membership of Oasis costs £3. Members receive six magazines a year plus lists of recommended software to which they are invited to add. Sandra can be contacted at 3 Alden Court, Stanley Road, Wimbledon, London SW19 8RD.

IT'S A STICK-UP

You know the story. When discs are re-used, labels have to be scribbled over or peeled off. Both solutions cause problems but *BlackStuff* (0737 833015) is now selling a useful package to overcome them.

Pollylabels are erasable labels which come in packs of fifty with marker pen, eraser pen, cotton wipes, erasing fluid and colour coding stickers for £11.95.

A STICKY SOLUTION

It's nothing new but its certainly useful. *Access Keyboards* (on 0734 663333) has introduced another solution to the problem of altering wording on special function keys. The clear topped replacement keys

hold appropriately printed labels which can be replaced when the function of the key is changed and do away with biro scribble on scraps of sticky paper. Prices vary with quantity from £1 each for ten to 63p each for a hundred.

DRIVING LIGHT

Epson claims its latest drives could herald the dawn of a new generation of lighter and more portable computers. It has knocked 395 grams off the weight of its SMD340 and SMD380 drives by using rigid plastic for the main chassis. The 80 track drives have a transfer rate of 250K and 500K bits per second.

THE SPOKEN WORD

Attracting a great deal of interest at the recent Micros for Special Needs Exhibition in Oldham was a speaking version of *Arnor's* word processing package, *Protext*.

Designed for use by the blind or sight impaired, a trial version was being demonstrated on the Commodore stand using an Amiga 500.

It is unlikely that CPC owners will ever see the day when they will not only be Playing with *Protext* but also Listening with *Protext* as well.

PIRACY DRIVE

The Federation Against Software Theft (FAST) and the European Leisure Software Publishers Association (ELSPA) are to launch a follow-up to their £100,000 pre-Christmas anti-piracy drive. The campaign includes a telephone hotline and rewards of up to £1000 for information leading to a conviction of someone for software theft.

AND FINALLY...

Michael Graham, a 24 year-old electrician from Dover-by-Cockermouth, Cumbria, carried off a £500 video recorder as his award <<There must be some missprint here. Surely they mean compensation not award? -Ed.>> from being the purchaser of the 500,000th copy of *Mini Office*, the small business package from *Database Software*.

Doing the Maxamum

JOHN KENNEDY TAKES ANOTHER LOOK AT THE ULTIMATE CPC ASSEMBLER

Welcome to another in our series of WACCI repeats. This month it's another look at MAXAM. A warning- this gets a bit serious; it's hard to be simple about machine code at this level, so I'll be taking no prisoners.

A while back, I was looking for a good assembler, preferably on ROM, when Jeff Walker said to me, "Psst, Arnor are releasing an updated version of MAXAM. It's a goodie - wait for it before you buy anything."

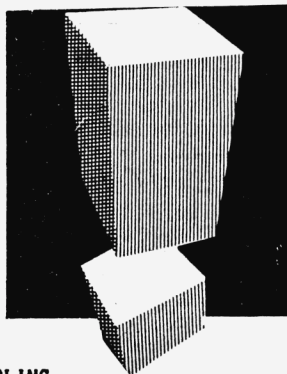
So I waited and got MAXAM 1.5 as soon as it came out. It was at this point that I realised MAXAM 1.5 was similar to MAXAM except it had the editor part removed. This was a major problem at the time, because I didn't actually have an editor.

The problem was soon resolved by plugging Protext into the socket next door, which is the way things are supposed to be. Of course, you can get by without an editor because M1.5 will quite happily assemble code from REM statements in your BASIC programs. It will also read in source code from disc, so you even use a CP/M editor like VDE if you were completely stuck. However, the only sensible approach is to make sure Protext is sitting next door in another ROM socket.

DOWN AMONG THE OPCODES

My typical session will start with typing !P to get Protext running and then loading in my usual machine code library to print numbers, graphics etc. I put these routines as files in Protext's second file. Using Protext's Cut and Paste commands plus the Swap facility of Promerge Plus, shifting

blocks of Assembler around is a blink of the eye job. Entering code is as simple as writing a letter (which says something about my code or my letters - couldn't say which) and labels rarely give problems. If they do, bung a full stop in front of them and they're OK. Writing some code and an article at the same time is a painless experience and good for the wallet.



ASSEMBLING

When it comes to assembling, a TASM command at the Protext prompt will test assemble and check the code for any silly typing mistakes. The NOLIST command at the top of the source stops the assembler being echoed to the screen. After a few seconds, the error and warning count will appear.

Time for some coffee, striking of the forehead, editing and a repeat performance with TASM. Soon both counts are zero and it's time to try Calling the code. Of course, that is after a quick save to a wholemeal chocolate digestive, with S for save and two taps of the Return key. If the assembled code tries to overwrite something important in the CPC's memory, Maxam chucks an error message at me. I apologise and try again. The

LIMIT directive will over-ride this facility and permit assembling over the jumpblocks and suchlike.

RUN (GULP)

Then it's ASM to assemble and cross fingers for a J (jump to start of code.) If you've got it wrong, this is where it all goes phut (or was that crash?) Never mind, it's all safely saved isn't it? Of course, my code always works first time so I can put a WRITE statement just after the ORG and the ready-to-run object .BIN file is sent to disk. WRITE is wonderful. No calculations of lengths, addressed, or this, that and the other:- bliss. WRITE can also be used to create code that is assembled to run at an awkward address:- a ROM for example.

BUGGY-POOS

If the code seems to have a bug, then I put a breakpoint in it and find exactly what's what. It's usually me doing something silly, like trying to read screen memory with the upper ROM still in place or putting sound data under the lower ROM, silly me.

When things get really tough, then I might use the menu-driven utilities to disassemble the code or even list it to the printer. That bug hasn't a chance.

EXOTICA

When experimenting with more exotic uses of the assembler, the READ command is invaluable. I have used it to create my own compiler for my personal computer language. All you have to do is get your BASIC program to process some commands and open a

file to disc with some pre-tested lumps of assembler. Wee buns, as they say round these parts.

The more adventurous can use GET and PUT to pass parameters into the code as it assembles. The conditional statements can be used to use the same source to general code for different versions of the CPC.

THANKS FOR THE MEMORY

I have very, very rarely found lack of memory a problem. With small programs, storing object and source code in RAM is perfectly normal. With medium to large programs, sending the object code out to disk is but a minor inconvenience. Larger programs means using multiple source files and that READ command again. If you get this far, you'll know exactly what you're doing and MAXAM 1.5 will happily

oblige. If you feel lucky, you can even send the code out to disc under the impression that it is a CP/M file,

SEE HOW THEY RUN

The documentation supplied is quite adequate. In the time honoured tradition, it doesn't attempt (quite rightly) to teach Z80 machine code. There are many ways to learn assembler (even WACCI has been known to offer help.) The manual gives some good examples and lists all the facilities in detail. Could do with some more jokes, though. The one about Tolkien is wearing a bit thin...

After using it for a long time, only a few very minor and quibbly bugs have come to light. It also seems a shame not to really use the extra memory on a 6128 and the lack of single-stepping is a nuisance but until a better ROM

based assembler comes along (which it won't now) MAXAM remains the ultimate system on the CPC. Some professional programmers I know complain that it's a bit on the slow side and prefer to use an Einstein for developing games. However, if you can't learn assembler with a good self-teaching course and a copy of MAXAM then it's unlikely you ever will...

THE EDITH PIAF BIT

My only real regret is that I never got commissioned to write the advertising copy. It's always nice to be making money with the good guys.

John Kennedy, News at Ten, from the little Rombox at the back of your computer.

:ROMOFF,AJ

Simply the best . . .

. . . Bonzo

**NEMESIS (WCI), 10 CARLOW ROAD
RINGSTEAD, KETTERING, NORTHANTS NN14 4DW**

*  * ACCESS ORDERS PHONE (0433) 623967 *

Get more from your PROTEXT

FOR PROTEXT USERS ON AMSTRAD CPC, PCW, PC & IBM
COMPATIBLE, ATARI ST & COMMODORE AMIGA

TUTORIALS

Tutorials are disc based and require Protext.

MAIL MERGE Shows you how to use a list of names and addresses in your 'standard' letter as well as selective mail merging, using data from Database and Spreadsheet programs and much more.

USING PROTEXT Shows you how to use two file editing, different ruler lines, phrases, exec files and much more.

APPLICATIONS

Applications are written using the mail merge commands
THOMPSON'S EASY ACCOUNTS ROUTINE A single entry book keeping system designed for the small business. Keeps records of Credits, Debits, VAT, Standing Orders. Will print Monthly/Quarterly/Yearly details of Credits, debits and VAT.
STOCK CONTROL Will allow you to keep track of your stock, keep stock in groups, print re-order lists, print stock lists, work out value of stock held etc.

Will not work with AmsDos Protext or Pocket Protext.

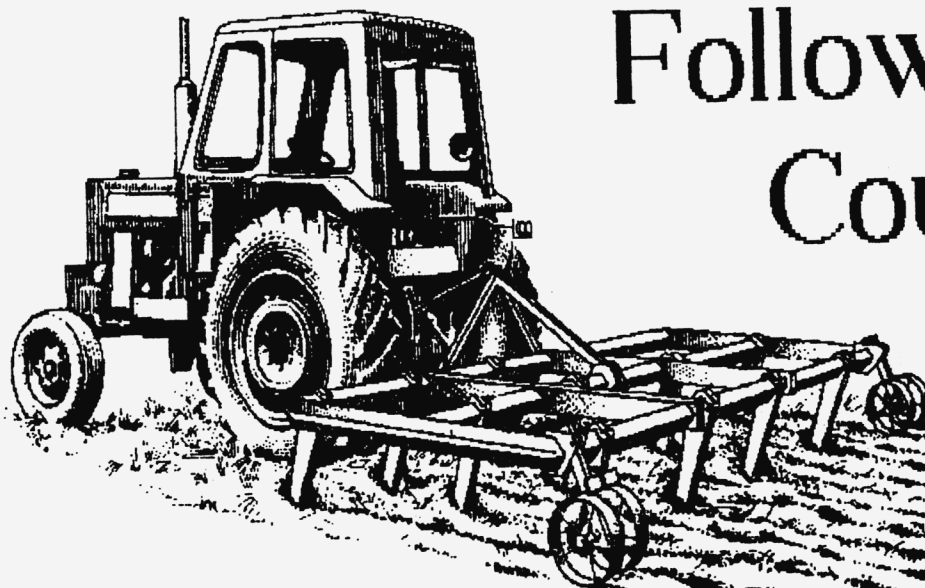
PRICES

Mail Merge Tutorial	£15.00	Easy Accounts Routine	£15.00
Using Protext Tutorial	£15.00	Stock Control	£15.00

Cheques to Thompson Computers. SAE for details.

THOMPSON COMPUTERS

8 Hyholmes, Bretton, Peterborough, PE3 8LG
Tel. (0733) 331796



Follow the Country Code

"NORMAL" NORMAN BUXTON TAKES US DOWN ONTO THE FARM

A PEASANT EXPERIENCE

(Some notes from one living in this green and peasant land)

THE STORY SO FAR...

WACCI HQ has determined the need to suss out further detailed information on secret codes seen only briefly. Our intrepid secret agent, Norm, has been trained in survival techniques and equipped with green wellies before being sent deep into enemy territory disguised as a peasant.

His reports are flashed back to HQ cunningly encrypted as information on control codes, where they are reprocessed and the real secrets revealed. Unfortunately we cannot print the state secrets revealed by our agent but you can read Norm's first message printed here in its encrypted form.

ooo00ooo

DEEP JUNGLE - DAY 1

Now for those of you unfamiliar with my scribings, namely all of you, I think I should issue a warning that the rest of this article may bear little or no resemblance to reality.

At least, that's what I think about articles on the countryside written by non-countryfolk and so I suppose there is no reason to expect the converse to be any different.

ooo00ooo

Whatever you read amongst these ramblings, I can guarantee that all the information herein contained is a result of my own experience and traumas. I guess that there are many people out there who will be able to tell that I am doing something wrong or that I'm missing some vital use but I feel that the most important thing is to open the discussion.

Like anyone leading a charge, I bet I'll be the first one to be shot down.

ooo00ooo

So it is with absolutely no fear or hesitation that I broach the subject of control codes.

No, not the secrets of the infra-red remote control set for your television or codes to hack into GCHQ with but codes embedded in your program to enhance screen handling.

CONTROL CODES

Of course, everybody understands the use of control codes embedded in a text file to control your printer.

Yup, no problem. Well, it is less well known that you can incorporate control codes for screen handling in much the same way.

Now I should say at this point that there are a number of reasons why these codes, if not actually frowned upon, tend to be ignored by the more popular press:-

- (1) They cannot be shown in normal listings.
- (2) If you list a program with control codes to your printer, it will drive it bananas, with expanded prints, page breaks and spacing changes all over the place.
- (3) Any self-respecting masochist would be into machine code anyway.

But fear not. Let us cast some light upon the subject...

The best way of illustrating the subject is by use of a little listing that we can manipulate. You could save the program after typing it in, as we shall be using several times.

```

10 CLS
20 PRINT TAB(9)"CONTROL CODES IN
  ACTION"
30 LOCATE 5,10
40 INPUT "ENTER A FIVE-LETTER
  WORD",a$
50 IF LEN(a$)<>5 THEN 30 ELSE END

```

Now I realise that listings to produce five-letter words are hard to come by but we will use it for the time being, as it took two years to perfect.

When you run this proglette and enter a four-letter word (*careful now*) the program loops and asks again for input. What is misleading though, is that the previous word remains on the screen. Now we could add an extra line to the listing to locate and overprint the word with spaces. Ugh. Very messy. Let's try another way.

ooo00ooo

Type "Edit 30" and then position the cursor over the second inverted comma. Hold down CONTROL and press 'R.' Lo and behold, a strange circle like a squashed clock face appears.

When you run the program now and it loops after your four-letter word entry, Hey presto, the previous input disappears. This particular piece of magic occurs because as the screen is told to write "Enter a five-letter word" it encounters the squashed clockface that you entered by typing in CONTROL and 'R.'

ooo00ooo

GENERAL FEATURES

I don't want to delve too far into the specific action of CONTROL-R at this point, our stroll into the world of control codes will be a gentle one.

Instead we shall concentrate on general features of control codes, there will be time enough to look at the action and interaction of them in due course.

Using CONTROL-R as an example, we can see from the handbook that this is CHR\$(18) and may indeed be used in that format instead of the way we used

in our little program. Although both modes of entry are perfectly permissible, there are important differences between the various modes of use.

ooo00ooo

Firstly, if you use a control-key combination, it can be entered outside inverted commas, to all intents and purposes interchangeable with CHR\$(?) but this will not survive saving and reloading in this form.

Secondly, if control-key combinations are entered inside inverted commas, they are only interpreted when printed on the screen and will be saved and loaded as normal.

Thirdly, if you enter it by typing the character string eg CHR\$(18) this will not upset your printer when printing a listing but of course it must be entered outside inverted commas like any other defined character string, otherwise it will be printed literally without controlling anything. A rather pointless exercise.

ooo00ooo

By now, you must be asking yourself, "What's a farmer doing writing in a computer buffs magazine?" I have wondered this myself. Answers on a postcard, please, to the usual address with a ten-pound note attached as the entry fee.

The last major general <<Pirates of Penzance as well now -Ed.>> point that I wish to make regarding the use of control codes for screen handling is the justification for their use and for the effort of learning their use.

As you have seen from the example we used in our listing, it's possible to perform functions with codes that would be very messy in Basic.

This is especially true in the case of "idiot-proofing" programs where inputs have to be checked before proceeding. This obviously needs the ability to wipe out old input before asking for new. Indeed, situations do crop up in listed entries where it is well nigh impossible to control details in any other way.

ooo00ooo

Program compaction is also possible. One character doing the work of two or more commands has got to help on the overall size of the program, if size is a problem. I have one particular program which makes Arnold bulge at the solder joints even after applying all these techniques to it.

Obviously speed is a factor. As we all know, one command is quicker than two and thus the use of codes can gain the odd lick of speed.

Lastly, the idea of typing a single character at the keyboard to produce effects normally possible only by extra lines of Basic really appeals.

A CODE IN DA NOSE

I am sure there are people out there with knowledge and views on how to use and not to use codes, so come on, write in to Fair Comment and tell us.

Remember next month's call sign:- White And Creamy Cheese impresses. Yours unwittingly.....

Transmission faded from:- The Peasant



basic machine code

PART FOUR OF AUNTIE JOHN'S ABSOLUTE BEGINNERS GUIDE TO MACHINE CODE PROGRAMMING

This months *BMC* article is a good one. It provides scope for lots of silly mental images and almost (but not quite) explains a great fundamental of machine code, how to stop it from crashing at the end.

In the meantime, viewers in Northern Ireland will have their own programme.

---{(BmcBmcBmc)}---

Here is a problem for you. What do you do when you run out of registers? Say you are using the registers in their paired up, two byte, 16 bit form. And say that you need to store another number but you have no more registers to store it in.

Bit of a bummer eh? You could take each single byte register in turn and store it in a memory location but that seems too much effort. There must be a better way.

DON'T PUSH ME

Indeed there is a better way of going about this, it is called a Stack. It is such a fundamental part of computer programming that entire books have been written about stacks (I know, I had to read them at university, please take my word on it, they are the most boring books ever published.)

So what are stacks? And how are they attached to the back of the computer? Do they connect to the cassette interface? What colour are they? Do they have flashy lights on them?

THE TECHNICAL BIT

Normally stacks are explained using analogies with paper plates or playing cards. I don't know why; they just

are. I prefer to explain it using Pink Floyd albums...

MONEY, GET BACK...

Take your collection of Pink Floyd albums and carry them into the kitchen to the kitchen table.

The kitchen table is going to be the computer memory, where we can store the albums. Now you feel that your arms are getting tired holding all these albums, so you put 'Dark Side of the Moon' on the table.

You have *PUSHed* the album onto the stack. Then you put 'Wish You Were Here' on top of it. You have *PUSHed* another object onto the stack.

Suddenly you feel a great desire to listen to 'Money' which is on 'Dark Side of the Moon' as you well know. So you lift 'Wish You Were Here' - POP it off the stack - and then pick up 'Dark Side of the Moon' - POP it as well.

That's what a stack is - an ordered pile. It's called a 'First In Last Out' stack because that is what happens - the first item put in is the last item to be taken out.

The golden rule to remember is that it is impossible to touch any object other than the one on the very top of the stack. You can put more objects on top of it but you can't touch any underneath it without moving the top one first.

I'M ALL RIGHT JACK...

So what does this have to do with machine code? Quite a lot actually. The instructions PUSH and POP will work with the register pairs to store and retrieve items from a stack. For example, in the following box...

```
PUSH HL
;do something else
POP HL
```

will always ensure that the initial value of HL is preserved.

Here is a tricky problem. Look at it carefully and see if you can guess what will happen. Watch VERY carefully - there is a trick.

```
PUSH BC
PUSH DE
;do something
POP BC
POP DE
```

Looks OK does it? Preserves BC and DE does it? Wrong! It doesn't. It actually *SWAPS* the initial values of BC and DE. Think of the stack - first BC is put on it, then DE.

After the 'do something' bit a value is *POPped* and put into the BC: this value is the last value to have been placed on the stack, that of DE. Then another value is *POPped* and placed into DE - the value that was in BC.

KEEP YOUR HANDS OFF OF MY...

The important thing to remember is that the registers used in the POP command only determine where the value on the top of the stack is to be moved to. Once the values are on the stack where they came from is irrelevant. Be very careful with stacks and double check the order of *PUSHes* and *POPs*. You *MUST* also remove all the values

you have PUSHed before your program or routine ends. This is vital - even if you don't think you need the values again, you absolutely must POP them off the stack. The next section has the reason why.

...STACK?

The more cynical of you might wonder what would happen if you were to POP a value of the stack before you had PUSHed one on. The answer is garbage.

The system would probably not crash (immediately that is) but the value returned would be one which you didn't really expect. (This is a plug for the next section - read it or be forever in the dark.) The even more cynical might wonder what would happen if you kept on PUSHing things onto the stack. Would the numbers pile up in side and seep out through cracks in the keyboard? Sorry to disappoint you. If you did stack over twenty thousand numbers then all the spare RAM would be used up and the computer would crash. Not really recommended.

SECTION SUMMARY

Stacks are like piles of Pink Floyd albums - very desirable. The Z80 allows you to store numbers on a stack, as long as you promise to take them off when you finish. There were hardly any listings and next to no jokes. *Bit dull really.*

PACKS OF HACKS FOR SYSTEM STACKS

Now the real reason why most machine code programs crash can be explained. Plus the real reason why stacks are so useful. Plus the machine code equivalent to structured programming. I can hardly wait, *can you?*

---{{BmcBmcBmc}}---

Basic almost achieves a degree of structure by providing the GOSUB command. GOTO SUBroutine will whizz away off to perform some code until it gets to a RETURN command, whence it comes back to where it whizzed off from. *Stirring stuff.* You can even GOSUB from within a GOSUB routine, or GOSUB for within a GOSUBbed GOSUB routine if you really want. You can

even GOSUB from within a GOSUBbed.. well I think you get the idea.

WHEN I'M CALLING YOU

In machine code we use the CALL operation to achieve the same effect. CALL works with an absolute two byte address, like this:-

```
CALL &BD5B
or CALL &9100
```

and control passes to that address. When the flow of control reaches a RET (for RETURN) instruction, it remembers where it was CALled from and hops back there to carry on. To remember where it came from - the Return Addresses - the Z80 stores them all on a First In Last Out stack, which has the bonus of making sure they all come out in the right order. For added flexibility, CALLs can also make use of some flags like the Jumps instructions did;

```
CALL Z,&aabb :Call address if
               :Zero flag SET
CALL NZ,&ccdd :Call address if
               :Zero flag RESET
```

Now, imagine if you will, that you are designing a micro-processor. You need two stacks, one for data and one for Return Address. What do you do? How do you make sure that things will be as incredibly awkward as mind squirmingly possible? How do you add a complete order of magnitude to the usefulness of the stacks?

Finally, how do you guarantee that people will lose their minds over the subtle bugs that will be introduced?

That's *right!* You don't have two separate stacks, you use the same one for both. The data stack and the Return stack are the same stack. Hoopy stuff, eh? A rare stroke of genius.

---{{BmcBmcBmc}}---

Actually, it makes things rather fun and exciting. Look at the next piece of code in the following box.

```
LD HL,&9000
PUSH HL
RET
```

It does the strangest thing, it is exactly the same as a:-

```
JP &9000
```

because the Return address has been lifted off the stack where we just put the contents of HL; &9000. I'm not saying that the above code is useful but it goes to prove that both stacks are one and the same. Don't forget it.

---{{BmcBmcBmc}}---

Now you should be able to see why it is mega-mega important to always POP everything you PUSH and to keep track of what goes where. The slightest mistake - that one forgotten POP - and the system will jump to goodness knows where in memory. This rarely does your programs or patience any good.

A final point - what if you do RET without having done either a PUSH or a CALL? This is clever - the answer is that the computer will stop executing machine code and come straight back to Basic for you.

At last we have explained the extra op-code in our first listings: it was a way back to Basic and sanity. Phew.

SUMMARY

This section showed us how we stop running machine code programs for ever. It also showed us the potential for some really wicked crashes.

THE END

And a big hello to all our Northern Ireland viewers who have just rejoined us, you didn't miss much. Before we go, remember kids don't try any of the things AJ mentioned unless your Mum or Dad is around to supervise you.

AJ is currently appearing in 'Whoops My Trousers Have Fallen Down' at the Public Lavatories, Watford.

VERY basic

BY
ALAN TILLING

Letters to:-

Very basic Basic
65 Lawrence Road
Altrincham
Cheshire
WA14 4EL

ALAN TILLING GETS IN AMONGST THE FRUIT AND VEG

Hello everyone, 'tis I. Last autumn, after we had got the last of the tomatoes off the tomato plants (where else do you expect them to come from?) we came to add up the total weight we had picked. I ought to tell you that each time we cropped the plants, we wrote the weight down on a piece of paper. Because pounds and ounces are counted up in different bases, (ie. pounds counted up in tens and ounces in sixteens) it was not just a matter of straight adding up. Since this was just a simple problem, all that was needed was to add up all the ounces, divide by sixteen and then add all the sixteens up with the pounds. This method *could* be used on a computer but there is an alternative way, which is to add up the lbs and ozs but each time the ounces get up to 16, the ozs variable is reset to zero and the lbs variable is incremented by 1. The necessary line would look something like:-

```
IF ozs=>16 THEN ozs=0:lbs=lbs+1
```

This is all very well but if 14ozs is added to 15ozs then it'll give the answer of 1lb, 0ozs hmm...

```
IF ozs=>16 THEN ozs=ozs-16:lbs=lbs+1
```

will do the job much better.

-(VbbVbb)-

The next thing is to get the weight into the program. For that, you need the INPUT keyword.

```
INPUT "Enter weight in lbs & ozs",  
lbs,ozs
```

The phrase between the quotation marks is printed on the screen but takes no further part in the proceedings. The first comma suppresses the ? that normally appears and the next comma separates the variable (called lbs) which holds the number of pounds from the ozs variable.

-(VbbVbb)-

If you have difficulty with variables, think of a shelf with (in this case) two boxes on it. One box is only large enough to hold (for this program) 16 counters and if this quantity is reached then it must be emptied out and a counter placed in the next box. The small box is labelled ozs and the larger box is labelled lbs. If at any time the program refers to (in this program) either lbs or ozs, it is the contents of these "boxes" which is meant.

A point which is worthy of mention is that if you are inputting data and if you are like me, you will hit the wrong keys and try to input weights like 2lbs,115ozs. The way to prevent this spoiling the program is to use a "mug trap" or, more politely, to use data validation or an error trap: like this

```
IF ozs>16 THEN PRINT"Data error,  
please re-enter":CLS:GOTO  
(the input line)
```

-(VbbVbb)-

This is the time of year when you hear on the news that you can't go to work until the snow plough has been out. This is fair enough but will someone please tell me how does the snow plough driver get to work?

-(VbbVbb)-

The following program is fairly straight forward, so to make it a little more interesting I have placed pretty pictures on the screen in different windows. Different windows were used so that CLS's will only clear the specified window, not the whole screen. I wrote a little about windows back in last May's issue, so I'll get on with the listing.

SUPPORT YOUR CLUB

PLEASE MENTION WACCI WHEN REPLYING TO ADVERTS

Incidentally, the lines from line 1120 are all to do with drawing a frieze of leaves and tomatoes, so if you aren't bothered about the decorative frieze leave out evrything after line 1110. Now this decoration is meant to be leaves, stalks and tomatoes. It takes a little imagination but the effect is reasonable and it gives me a chance to waffle on about *text graphics*. I've not got much room left so I will do the explanation next month. All I will say at the moment is that *text graphics* are long winded and very laborious to type in. So much so that I got fed up and gave up in despair after a few lines as you will see if you go past line 1120.

-(VbbVbb)-

Well that's it for this month but before I go I must warn you that some printers print the hash sign (shifted 3) as a £ sign. So if you see £ signs all over a listing remember you should be using the hash sign and NOT the £ sign.

-(VbbVbb)-

That's it, explanation next month.
Bye for now, Alan

```

1 GOTO 3
2 SAVE"Tomatoes":STOP
3 REM
10 REM -----
20 REM Tomatoes by Alan Tilling WACCI Feb 1990
30 REM -----
40 GOSUB 1000'To initialisation
50 PRINT#2:PRINT#2,SPACE$(18);:PRINT#2,"lbs,ozs
60 cntr=cntr+1
70 PRINT#0,SPACE$(5);:PRINT#0"Pick No."cntr;
80 INPUT#0,"      ",lbs,ozs
90 IF ozs>16 THEN PRINT#0"They're funny ounces,           please re-
enter":PRINT#0"Press any key":CALL &BB18:CLS#0:GOTO 70
100 tlbs=tlbs+lbs:tozs=tozs+ozs
110 IF tozs>16 THEN tozs=tozs-16:tlbs=tlbs+1
120 CLS#3:LOCATE #3,1,18:PRINT#3,"Total weight"tlbs"lbs,"tozs"ozs"
150 GOTO 60
1030 MODE 1:INK 0,14:INK 1,0:INK 2,6:INK 3,9:BORDER 15'Initialisation
1040 WINDOW #1,1,40,1,25:PAPER #1,0:CLS #1
1060 WINDOW #2,5,35,5,8:PAPER #2,0:CLS #2
1080 WINDOW #3,5,35,17,20:PAPER #3,0:CLS #3
1100 WINDOW #0,5,35,9,16:PAPER #0,0:CLS #0
1120 PEN #1,3:'change to GREEN pen
1130 PRINT#1,CHR$(143)CHR$(143)CHR$(143)"  "CHR$(228)CHR$(228)"
"CHR$(228)" "CHR$(228)" "CHR$(228)CHR$(228)CHR$(228)" "CHR$(228)"
"CHR$(228)CHR$(143)CHR$(143)CHR$(143)CHR$(143)" "CHR$(205)" ";
1140 PRINT#1,CHR$(143)CHR$(143)CHR$(143)"      "CHR$(228)"
"CHR$(228)CHR$(228)" "CHR$(228)" "CHR$(228)"
"CHR$(228)CHR$(143)CHR$(143)CHR$(143)CHR$(143)" "CHR$(211)" ";
1150 PRINT #1," "CHR$(199)"      "CHR$(228)" "CHR$(228)"      "CHR$(228)"
"CHR$(228)"      "CHR$(228)"
"CHR$(228)CHR$(143)CHR$(143)CHR$(143)CHR$(143)CHR$(143)" "CHR$(211);
1160 LOCATE #1,10,4:PRINT #1,CHR$(228):LOCATE #1,24,4:PRINT
#1,CHR$(228)CHR$(228)"      "CHR$(228)"      "CHR$(228)" "CHR$(228);
1170 LOCATE #1,37,5:PRINT #1,CHR$(214)
1180 PRINT #1,"      "CHR$(246)
1190 LOCATE #1,36,8:PRINT #1,CHR$(228)CHR$(213)CHR$(245)CHR$(212)
1200 LOCATE #1,38,9:PRINT #1,CHR$(149)
1500 PEN #1,2:'change to RED pen
1510 LOCATE #1,9,1:PRINT#1,CHR$(231)
1520 LOCATE #1,8,2:PRINT#1,CHR$(231)" "CHR$(231):LOCATE #1,13,2:PRINT
#1,CHR$(231):LOCATE #1,23,2:PRINT #1,CHR$(231):LOCATE #1,25,2:PRINT
#1,CHR$(231):LOCATE #1,34,2:PRINT #1,CHR$(231)
1530 LOCATE #1,20,3:PRINT #1,CHR$(231):LOCATE #1,23,3:PRINT
#1,CHR$(227):LOCATE #1,25,3:PRINT #1,CHR$(231):LOCATE #1,34,3:PRINT
#1,CHR$(231)
1540 PRINT #1," "CHR$(231):LOCATE #1,12,4:PRINT #1,CHR$(231):LOCATE
#1,19,4:PRINT #1,CHR$(231):LOCATE #1,23,4:PRINT #1,CHR$(231):LOCATE
#1,38,4:PRINT #1,CHR$(231)CHR$(231)
1550 PRINT #1," "CHR$(231):LOCATE #1,38,5:PRINT #1,CHR$(231)CHR$(231)
1560 LOCATE #1,2,6:PRINT #1,CHR$(227)CHR$(227):LOCATE #1,37,6:PRINT
#1,CHR$(231)CHR$(227)CHR$(231)
1570 LOCATE #1,2,7:PRINT #1,CHR$(227)CHR$(227):LOCATE #1,37,7:PRINT
#1,CHR$(231)CHR$(227)CHR$(231);
1999 RETURN

```



THIS MONTH - A DAY IN THE LIFE OF AN ACE REPORTER

And a top of the morning to ya. AJ here again, this time typing away on company time in Brentwood. Yes, I'm still working for a certain magazine or three and making next to nothing. Anyone want to buy a CG125?

oooo000oooo

At least things have never been dull over the past month. I attended my first Games Launch, last week, and met several exciting and dynamic fellow journalists. Well, Green was there anyway. A Games Launch is where everyone tries to drink as much as possible without insulting the software house. I stuck with orange juice because I made the mistake of thinking that the film we were about to be shown was a cartoon. It wasn't. It was a very violent film instead. I didn't like it. The orange juice was nice though.

oooo000oooo

But enough of me, for a change. I thought you might like to see what life working as an ace Staff Writer is all about. So let me take to a small

damp, dingy, office in Brentwood.

Of course, all characters presented here are totally fictitious and any similarity to persons living or dead is entirely co-incidental. (Will that stand up in court?) For sake of argument, let us call the people involved AJ, GR, JW, SR and DE.

(phone rings, JW answers)

JW: No, we don't have anything to do with Amstrad any more. Goodbye.

GR: Oh great! I have managed to use the word 'cunning' five times in this article.

AJ: How big is the article?

GR: About 100 words.

AJ: So about one word in twenty is 'cunning'?

GR: That's right. And don't forget the Floyd quotes either. Got four of them in there too.

AJ: So how much of the article wasn't 'cunning' or originally written by Roger Waters?

GR: Not a lot. Good, innit?

JW: Can anyone think of a good title for this article about Chaos?

AJ: How about 'Chaos - The Vast Unpredictableness of All Things.'

JW: Naw, that's no good. Is there such a word as 'Vast'?

SR: I'll look it up with Protext's spell checker. Let me see, vest, virus, volkswagen, volcano, vol-au-vent. Nope, not here. Guess we can't use it.

AJ: Ok, what about 'Chaos - The Really Big Unpredictableness of All Things'?

JW: Now THAT'S what I call a good title. Well done, AJ.

(SR's personal phone rings. He answers it.)

SR: (shouting) HELLO? HELLO? NO, I'M SORRY I CAN'T HEAR YOU, YOUR CAR ISN'T EXPENSIVE ENOUGH.

(phone rings. GR answers)

GR: No, I'm sorry we don't have anything to do with Amstrad.

SR: Hmm. That's funny. DE seems to have written the same game review twice; once for us and once for Pop Comp. Well, he's used his two jokes again anyway.

(phone rings. JW answers)

JW: No, go away. You are very stupid and I don't want to talk to you. You can't use CP/M on a 464. Leave me alone.

AJ: Who was that?

JW: Some bloke called Steve Williams.

GR: Hmm. He's always ringing here. Hasn't he got anything better to do?

SR: Oh no! It's two seconds to the deadline and we haven't done a front cover yet. What are we going to do?

AJ: Erm... I have an idea...

SR: What about a picture of a car?

GR: What about a totally black cover, with a glass prism. White light is going in one side and lots of coloured light is coming out of the other. Hm?

JW: No. They're no good. We need something exciting. Something that makes people want to buy the magazine. Something sexy, cool and yet at the same time totally available and well worth £1.95.

AJ: How about a picture of me?

ALL: Perfect!

(the phone rings. No one answers)

oooo000oooo

Recently I was on-line to Caucus, the Bulletin Board System part of Microlink, when I committed a bit of a faux pas. I was trying to send a message to Green, who - strangely enough - has the username 'Green.' I typed in the message but when I tried to post it, the system came back with 'Green' is ambiguous, which Green do you want?' and then listed a few names with Green in them, such as 'Larry Green.' Of course, Green's name (the real Green) was top of the list.

So I typed 'Green,' because that's who I wanted to send the message to. Again the system said, 'Green who?' and listed the names. This time I thought perhaps that it wanted a number, referring to the names in the list, so I typed '1.'

Just at that second, a freak burst of line-noise entered the system and caucus came back with a 'message sent' notice. Unfortunately, it hadn't sent

the message to Green, rather the person who was 'Number 1.'

There is a good chance that this person is the owner of Microlink and also the owner of the computer magazine that I write for. In other words, my boss.

And what did this message say?

'Hello, Ploppy Pants.'

oooo000oooo

As you can see below, I've included some more of the Pascal listing for my 'noughts and crosses' program. Keep typing, you are nearly a third of the way through it.

OK then. I'm away to do some work. No-one has come in yet and, as usual, I'm running the magazine singled handed (always difficult when there are three phone lines.)

If I still have a job, I'll see you next month. Take care!

Your Auntie
John

P.S.

I'd like to wish a, somewhat belated, Happy St Valentines Day to Verona. XXX

```
reply:=(g[3,1]=target) and (g[2,2]=target) and (g[1,3]=target) or (reply);
if reply=true then situation:=win;
end;

procedure randomize (var n:integer;var rand:sequencetype);
{Get a sort of random-ish number from an array}
begin
    with rand do
    begin
        n:=num[pointer];
        pointer:=pointer+1;
        if pointer=22 then pointer:=1
    end
end;

procedure setrandom (var r:sequencetype);
begin
    with r do
    begin
        pointer:=1;
        num[1]:=1;num[2]:=3;num[3]:=2;num[4]:=3;num[5]:=1;num[6]:=2;num[7]:=3;
        num[8]:=1;num[9]:=1;num[10]:=2;num[11]:=3;num[12]:=1;num[13]:=3;
        num[14]:=2;num[15]:=1;num[16]:=3;num[17]:=2;num[18]:=1;num[19]:=2;
        num[20]:=3;num[21]:=2
    end
end;

procedure humanmove(var grid:gridtype;name:nametype;which:integer);
var
    m:1..9;
    x,y:1..3;
    ok:boolean;
begin
    ok:=false;
    repeat
        writeln;
```

A Passing Thought

AUNTIE JOHN WONDERS ABOUT SURVIVAL IN THE NEW WORLD

Home computer magazines have to sell in large numbers to make money. To sell in large numbers they must cater for the majority. The "majority" play games. Games need advertising. Advertising needs magazines.

The "majority," mostly male and under sixteen, therefore buy magazines to see nice colour advertisements and reviews of new games. They might, if bored enough, read a few technical tutorials or look at a article on printers but only after examining the latest games. Games make money for magazines and magazines spread the word on new games. It's the classic set-up, all very neat, cosy and mutually beneficial.

IN THE BEGINNING

But if the success of home micros and the subsequent emergence of computer magazines, was almost entirely due to games, when home computing started life way back in the 80s, computer games were non-existent, or at best laughably crude. The first home computers were ZX80s and Acorn Atoms. Their owners, usually male and over sixteen, were interested in electronics and had probably bought the computer in kit form. They were intrigued with this new micro-computer device as something to experiment with, perhaps even as a useful machine - but never as a toy.

In fact, no-one bought these early machines to play games on - if they did the computers were soon put on top of a wardrobe and forgotten about. They didn't have the power to handle games because they simply were not designed to.

THE COLOURS OF THE SPECTRUM

However within two years, machines such as the Commodore 64 and Spectrum were starting to get rather good at emulating video arcade games, helped by new fangled colour graphics and simple sound synthesizers. They were up against TV game consoles which were limited to variations of tennis or dependant on expensive cartridges for new thrills.

As computers were better at games than consoles, every boy in Britain wanted one. Santa, believing the 'educational' story being spread at the time, bought them by the shipment. The Computer Game market was created.

PUTTING ON A SHOW

Selling games on cassette tape in those days was embarrassingly easy: just sign up a ten-a-penny spotty adolescent to the do all the hard work, place a few advertisements in the fledgeling computer press and watch the money come pouring in. Of course, as they always do, the Big Boys soon caught a whiff of the cash and moved in but bar some minor mishaps, the computer game industry has grown ever since, modelling itself on the 'glamorous' music biz, patting itself on the back and congratulating itself with expensive launches and shows.

GETTING BETTER EVERY DAY?

For years nothing much has changed. Predictably, newer computers have meant better games: a system such as the Commodore Amiga - or its rival the Atari ST - can play games almost as well as purpose built arcade systems.

The games come on floppy disc at about £20-£30 and every month sees at least another dozen, all vying for position in the Top Ten Games chart. Although using the computer to do nothing more than play games is to insult the hardware and software engineers who designed it, the manufacturers don't dwell too hard on the reasons for a purchase. They just say "thank you" and take the money.

USING LIVE AMMUNITION

Now however, the games world is in a state of flux. As though trapped in some vast cyclic system, the games console is staging a come-back from its limited success of several years ago, with one major difference - this time they're playing for real.

The advances in LCD technology which brought us pocket colour TVs (whether we wanted them or not) have combined with a drop in the price of memory chips to make possible hand-held consoles better at games than computers like the Spectrum and as least as good as the newer computers like the Amiga. They have built-in colour screens and sockets for stereo headphones and even communication links to allow two machines to play together. The Nintendo console has already sold in millions and Atari have just launched a competitor. These consoles are just about to be released in this country and should cost less than £200.

TO MARKET

If (and this is the crucial part) the marketing men have judged Britain as well as they have Japan and the

States, hand-holds will quickly supercede the home computer as the main games playing media.

The difficulty is that disposable income in this country is considerably lower than in those other markets but the console promoters remember that, in spite of that, Britain took to video recorders more quickly than any other nation. So soon the shrill stuttering of the nearby personal stereo on your way into work could be replaced by under-the-breath swearing as a pin-striped games addict loses his last life.

FIGHT BACK

For home computers to win back the games players, some pretty amazing hardware is needed, hardware which is simply not available at the moment. Hardware which probably won't be available for at least five years, by which time it will be too late. Perhaps using CD-ROM technology they might gain a breathing space for a year or so but the extra expense involved makes it unlikely.

Even true arcade games will soon feel the strain and will have to come up with some really special gimmicks to get money out of pockets and into slots. Perhaps the licensing agreements for converting arcade games to console formats will include small-print footnotes forbidding the use of certain features, like taking the naughty bits out of feature films, just to keep the arcade game alive.

CONSOLE CHRIMBO

Consoles are just around the corner. Next Christmas (or the Christmas after next at the latest) will be Console Christmas. Already software houses have recognised this and are advertising for programmers.

Here is my advice on making money:- learn how to program consoles. The console game 'Tetris' made a phenomenally huge amount of cash in Japan and I mean huge.

So in the next few years, computing will split into several groups. First the game consoles. Second the business machines, which will remain no matter what. Then, in third place, the

shrinking home computer market. In fact, this third place may vanish altogether, being neatly shared out between the lower-end business machines and the better games consoles.

LAUGHING AT THE FUNERAL

The demise of the home computer will upset only a few people. Software houses will turn to cartridges, complete with programmers, happy to play with specialised games systems for a change. Low priced raw materials, high selling price, next to no piracy (yet) and an exploding market all add up to lots and lots of lovely profit.

The hardware manufacturers will start churning out better and better hand-held games consoles, perhaps retaining some upwards compatibility if they are feeling generous. The next generation of hand-holds will probably have the built-in screens that they have today but also the ability to connect to standard TV sets, hi-fis, joysticks, 3D Glasses and anything else you care to mention- plus quite a few more you may now have trouble imagining. The demise of the game-playing home computer will be complete.

PUBLISH AND BE BLESSED

The sector I'm interested in (because it pays my wages) is the home computer magazine market. As it makes its living mostly by following in the wake of the games industry, it will have to make some dramatic changes.

This will be a difficult transition as the different consoles struggle for supremacy of their market and home computers slowly lose out.

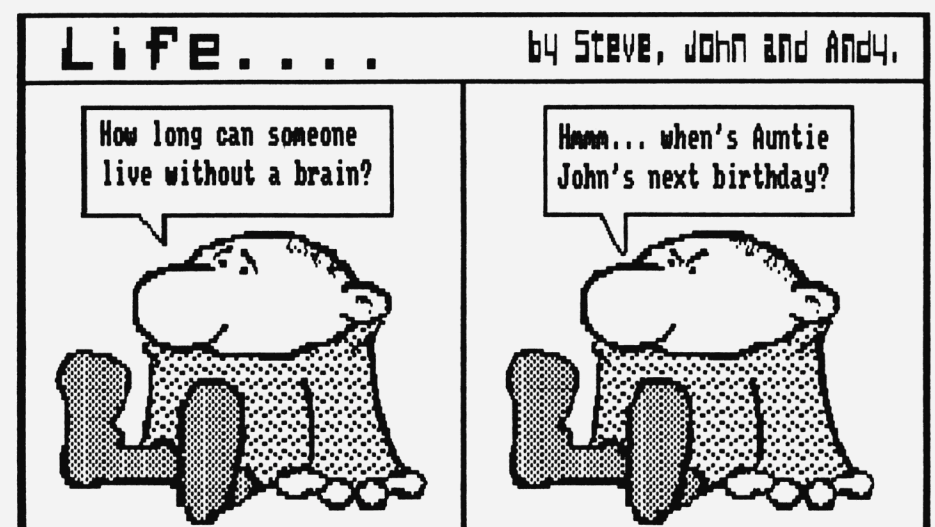
Most computer magazines available now will disappear, or merge and then disappear. Only the strongest titles, those appealing to a more general audience than the games players, will stand any chance of surviving. The remainder - mostly totally games orientated at the moment - will fall over themselves in the change-over to consoles. Those magazines dealing with the business machines will trundle on regardless, typing smug editorials on the transience of market forces into their IBM-compatible 32bit workstations.

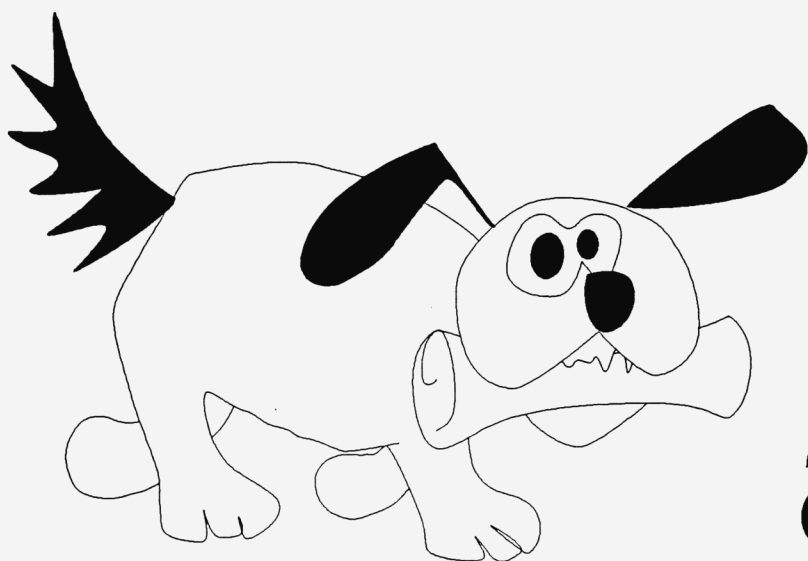
WORRY WART

All quite worrying for those of us in the home computer magazine line of work. Of course, making predictions in this business is a dangerous occupation. Me? Well I've decided to brush up on my COBOL, just in case I need to get a proper job.

THE TRUTH

Auntie John is a depressed journalist pretending to work for Amiga Computing a magazine which, he happily notes, does not solely concentrate on games. He was half-way between a BSc and an Honours Degree in Information Technology at Queen's University Belfast, when he got bored and decided to become famous instead. He is currently living in hope.





Much ado about nothing

Peter Ceresole gives a little insight into the task of getting the monthly fix of mainline magazine through your letterboxes

NOVEMBER'S WACCI was pretty well done, Steve told me when I met him at the PC Show, so by the time of the Computer Shopper show I was asking when it would arrive. He told me, at some length, about the photocopying problems. I tried to be sympathetic.

"Have you got enough stuff for the December issue?" I asked, and when he said yes I said, "Well you're okay then, you can catch up in no time."

He gave me one of those pitying looks that airline pilots give when people say, "Oh it must be such fun chasing round the clouds." Two weeks later Steve had his revenge.

I got a phone call. Could I lend a hand by formatting some articles and helping with the page layout? The Stevoid would show me how? Well, I live next door (half-an-hour away on the same side of London) and I was finishing a programme. It was a wonderful opportunity to stop thinking about it, so I said yes.

Look, it must be an easy task, eh? The stuff comes in ready-written. All lazy old Williams has to do is format it into columns, right? All the thinking is done, right? We do the creative stuff and he does the carpentry. I mean to say, piece of cake. You bet.

I was completely wrong. What I got was a lesson in elementary layout and the industrial use of Protext.

First, the editor reads the piece. He needs to know which particular obsession is on show and which issue it might go into. There's no point in running three reviews in

January and four programming pieces in February, unless they're deliberately related.

Better get a nice balance. Then there's the layout. Layout is about the overall look of the page or pages, and it's where the editor becomes the artist.

THERE'S a look and feel to a nicely laid out page that depends on the articulation of blocks of text and pictures. There's a rhythm produced by text boxes but not by changing fonts, which could easily induce motion sickness and terminal unreadability. It's all about proportion.

The other mind-numbing concept is that the editor not only has to have a mental image of how an article will appear in the magazine before the first sentence has hit the first sheet of paper, but he also has a vision of the overall finished issue, its look,

its feel, how the individual articles dovetail together (or don't) and, in short, the overall concept of the current month's issue.

Look at the issue in front of you. (Not this article, silly - the editor in his unbounded wisdom gave it to Jeff to play with on his Amiga.) Steve lays the print out using Protext in three strips, each 38 characters wide with a gap, or "gutter", of five characters between each strip. So the first job is to format the whole piece to 38 characters, right justified. It starts to look very silly on the screen, long and thin, but that's okay, it'll look fine in the magazine. Still, problems surface straight away.

The worst are paragraph breaks. If there's a short word stuck on the bottom line it makes the end of the paragraph look odd and getting rid of it is a matter of subtle adjustment in the lines above, either to push more words on to the last line to give the orphan some parents, or to delete some words in that paragraph to bring it back into

the line above. As deadlines approach the adjustments become less subtle, and the author wonders why his piece is so strange...

The next step is to check for the WACCI house style, subject of many acrimonious exchanges in Fair Comment.

Using Replace you look for ")". and put all the punctuation inside the brackets. (I hate this but Steve says...) Then look for ", and" and ", but" to remove the commas.

As for exclamation marks, you kill the lot, don't you Steve? Well, okay then, to be fair, he seems to allow each writer one screamer per article, if he feels generous.

Then you have to paragraph it properly, working out where it only needs to be indented and where you need a break. I have been reliably instructed that reader concentration will not span a paragraph that lasts more than about 20 lines.

Does it need subheadings or flash little dividers?

And if sentences have come out so long that by the end nobody, if they are reading in a normal way as people do when they come home and start on their WACCIs after work, looking for some recreation and interest too, because they want stimulation as well as reassurance, will remember what the subject of the sentence was, then you chop it up a bit. Bung in a few full stops. That changes the shape of the article.

SO FAR, so trivial. Now comes the heavy duty stuff. How does it fit on to the page? The answer to that, of course, is seamlessly. But there's a page size that varies according to whether it's the first page of an article or a continuation. Have a look at a December's Passing Thought and you'll see the first page has a header with the title, then two ruled lines between which the "standfirst" is placed.

The space below leaves room for 43 lines of text. But the next page has no title heading - this is the standard page and it has 57 lines. Simspot has a different title page with room for 39 lines, Glenn at Large has 37 and Auntie John gets away with 30.

Okay, so what? So you have to make the article fit. Three strips, remember.

So you count the lines in the raw article. You can switch off Page mode in Protext (Ctrl-P) and if you pop down to the end of the file you get the total line count. It's rough because, unlike in Page mode, it counts ruler lines but it gives you an idea. Say it's 258 lines and it's a review. Now what? Pencil and paper time, or Calc if you have Promerge.

The title page uses $43 \times 3 = 129$ lines of

Editorial licence

STEVE is very thoughtful about changing people's words so that they fit the page. It's not a problem that is confined to print. I remember once making a film for Nationwide about the Common Agricultural Policy. We filmed hundreds of tons of meat labelled with blue dye marks being bought into an intervention store. This was 1973 and Britain had negotiated a transitional deal which let us off this arrangement for five years or so.

Bernie Falk did a piece to camera

explaining this, in the cold store, at -30 centigrade. Two weeks later we phoned in from a village by the Rhine to hear that there'd been a complaint from the Prime Minister's Office because we hadn't said that the UK had a transitional deal.

They were quite right, a bloke in London had cut out our carefully shot piece to save 20 seconds. Now, would Steve get any of us into that kind of trouble? (Answers on a libel writ please.)

that, leaving 129 lines over for the next page - a lousy number, in fact. It leaves a narrow header-shaped gap free, no good for anything. What to do? Well, one trick is to have a small illustration, say a company logo, in the middle of the centre strip of page one. (It's not really a strip but a column, but I don't want to get it confused with columns as in "80 column mode.")

A company logo can be cut out of the manual and pasted into place, 13 lines is about the right height. So now we've got 142 lines for the next page and the title page looks nicer, more varied.

Okay, work out what will happen on the next page. The full height, between the top and bottom page lines, is 57 lines; if one strip runs straight down the page, that leaves 85 lines in two strips, tum-te-tum, call it 43 each, with space for a box of something 14 lines high by two strips wide, which is a much nicer shape than a letter box. There's always a picture that will fit into that.

Steve has template files for all the title pages, with ruled lines on them top and bottom. With the raw review - 38 columns wide and debugged - in one file, you then load the appropriate template into the other and using the rom version of Promerge's Box mode you start pasting the article into the template.

There are some nice tricks, like putting page breaks into the raw article at the top of each section you are going to paste across, so you get an automatic line count of the section from the page break; if there's a problem you can go back and find the start and end of all your sections - where the page breaks are.

Protext has a feature (*Feature? He means bug - Ed.*) in which a printer control code at the start of a line is excluded by the box mode. The solution is to put the printer

control codes in later, but you still need to watch out.

The CPM+ version doesn't have this bug but (huge but) it won't copy boxes from file to file. PC, Amiga and ST versions will do everything and go like the wind, but what use is that to us?

You still need to mess about. In the example above I said that the last 85 lines would go into two strips of 43 each. They won't, of course, but you can always gain or lose a line. Much more worrying is if a break at the bottom of a page comes at a blank line. It won't do.

That's when you do a Little Rapid Rewrite (LRR). This messes up your nice line count but you catch that with another LRR and then you fix that with yet another LRR. And so on into the sunset.

ADDING printer control codes come next, not a trivial task when the finished page is laid out. All paragraph break headings and symbols must go in double strike.

Italics are used for emphasis. You always miss one. Maybe two. Maybe a lot more. Then do a draft print-out. Yeuck! Replace the missing codes. Fiddle the line that's out of place. Do another print-out, then do another print-out...

Then it's just the illustrations.

Believe it or not, The MGT Lifetime Drive review in the December issue of WACCI (wot I wrote) took me six hours to lay out and illustrate. Not to write, just to lay out and illustrate.

Oh, Zowie. Lazy old Williams. But he does have fun. I know I did.

Much Ado About Nothing was set and laid out on an Amiga A500 using PageSetter II, and printed on a Star LaserPrinter 8II.

HERE we are again with the second instalment of my series on programming in Cobol. Several of you have asked why I used VDE and not VDE266 for producing the Cobol source files. Well, although VDE266 is a much improved version, VDE and Cobol come packaged together on CPM Disc 8, so it makes sense to keep them together.

Another popular question is can I use any word processor to produce my Cobol source files? Yes, of course - Protex, Tasword, Pyraword and so on can all be used, but the file must be saved in Ascii format.

Life is easier if you use a word processor which operates under the CP/M environment because this avoids the constant need to keep loading CP/M+ to compile and test your program.

Steve Barker asks: "When I have successfully compiled and run a program, which files do I need to keep?"

Well, Steve, after you have compiled and run your program you will have three files on your disc - *filename.CBL*, *filename.LST* and *filename.CIN*. You need the .CBL and the .CIN files but you can erase the .LST file. Be careful when using the ERA command because you are not asked to confirm your selection. Unerasing may be an art, or it may be carpentry, but in the middle of a programming session it is always a nuisance.

IN LAST month's article we started programming in Cobol with three simple examples which introduced you to the format Cobol programs follow. This month we will continue along the same lines by introducing some new commands, each of which will be illustrated with an example program so that you can see what the command does.

I find that the easiest method of learning a new language is to write simple programs to check the syntax of commands and to see what they do. Let's start with identification division, the format of which can be seen in Figure I. Those commands which are optional have been identified by enclosing them within square brackets. The full stops are essential.

The identification division provides information on the program identity, it is good programming practice to complete this section. If you want to include more detailed comments, you can do so by using an asterisk in column one, which causes the rest of the line to be treated as a comment. See Figure II for an example.

When using asterisks you do not need a full stop at the end of the line. In all other cases a full stop must be used.

The Bellaby File

Part two of Uncle Clive's series on programming in competent Cobol

Program IV prompts you to enter five names, displays the names you have entered and then ends. This program works, but is time consuming to write and debug. Let's look at ways in which it can be improved.

To start with we can set up a counter to count the number of names entered, and we can use a subroutine for the common parts of the program. To do this we need to use three new commands - ADD, MOVE and PERFORM.

ADD does as its name suggests, it adds a value to an identifier (a variable); MOVE is similar to LET in Basic, it moves a value or literal (a string) into an identifier; PERFORM is similar to GOSUB in Basic and allows you to repeat a procedure (a paragraph).

The revised code, Program V, sets up a count routine which will allow the user to enter five names before the program terminates. The MOVE command is used to initialise the value of the identifier count. The PERFORM command instructs the

```
IDENTIFICATION DIVISION.
PROGRAM-ID. [ comments. ]
[AUTHOR.      comments. ]
[DATE-WRITTEN. comments. ]
[SECURITY.    comments. ]
```

Figure I: The format for identification division.

program to complete the procedure called ENTER-NAME until the value of the identifier reaches the specified value - in this case the value is set to 5 - and the ADD command is used to add one to the identifier each time the procedure is performed. This acts as a counter.

In Program VI we use a variation of the PERFORM command to get the same results. This code is very similar to Program V so rather than typing the whole lot in again, use VDE to load the text file, use ESC-N to rename the file, amend the text, and then use ESC-X to save.

The technique we've used here is to get

```
IDENTIFICATION DIVISION.
PROGRAM-ID.    Program Four.
*
* Written By   C R Bellaby
*              12, Trafalgar Terrace
*              Long Eaton
*              Nottingham
*              NG10 1GP
*
* Copyright   CRB Computers Ltd
*              October 1990
```

Figure II: How to place comments in a Cobol program.

```

IDENTIFICATION DIVISION.
PROGRAM-ID. Example Four.
*
* This program prompts you to enter
* five names and then ends.
*
ENVIRONMENT DIVISION.
*
CONFIGURATION SECTION.
SOURCE-COMPUTER. Amstrad 6128.
OBJECT-COMPUTER. Amstrad 6128.
*
DATA DIVISION.
*
WORKING-STORAGE SECTION.
01 NAME PIC X(30).
*
PROCEDURE DIVISION.
*
ENTER-NAME-ONE.
DISPLAY 'Please Enter Name 1'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.
*
ENTER-NAME-TWO.
DISPLAY 'Please Enter Name 2'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.
*
ENTER-NAME-THREE.
DISPLAY 'Please Enter Name 3'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.
*
ENTER-NAME-FOUR.
DISPLAY 'Please Enter Name 4'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.
*
ENTER-NAME-FIVE.
DISPLAY 'Please Enter Name 5'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.
*
THE-END.
STOP RUN.

```

Program IV

```

IDENTIFICATION DIVISION.
PROGRAM-ID. Example Five.
*
* This program allows you to enter
* five names, displays the name
* then ends.
*
ENVIRONMENT DIVISION.
*
CONFIGURATION SECTION.
SOURCE-COMPUTER. Amstrad 6128.
OBJECT-COMPUTER. Amstrad 6128.
*
DATA DIVISION.
WORKING-STORAGE SECTION.
01 NAME PIC X(30).
01 COUNT PIC 9.
*
PROCEDURE DIVISION.
*
START.
MOVE 0 TO COUNT.
DISPLAY 'Please Enter 5 Names'.
DISPLAY ' '.
PERFORM ENTER-NAME
UNTIL COUNT EQUAL 5.
STOP RUN.
*
ENTER-NAME.
ADD 1 TO COUNT.
DISPLAY 'Name ' COUNT.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.

```

Program V

```

01 TOTAL-RECORD.
03 NAME PIC X(30).
03 ADDRESS.
05 LINE-1 PIC X(30).
05 LINE-2 PIC X(30).
05 LINE-3 PIC X(30).
03 POST-CODE PIC X(10).
03 PHONE PIC 9(6).
03 D-OF-B PIC 9(6).
03 AGE PIC 9(3).
03 DATE-START PIC 9(6).

```

Figure III: Using level numbers to sub-divide an identifier.

the PERFORM command to instruct the program to complete the procedure called ENTER-NAME five times. The ADD and MOVE commands are still used, but now have no effect on how many times the procedure is completed.

IN Basic, LEFT\$, RIGHT\$ and MID\$ are used to split string variables. Don't try to use these commands in a Cobol program because they will not work.

An identifier in Cobol is declared and dimensioned in the WORKING-STORAGE SECTION of the program as:

```
01 NAME PIC X(30).
```

```

IDENTIFICATION DIVISION.
PROGRAM-ID. Example Six.
*
* This program allows you to enter
* five names, displays the name
* then ends.
*
ENVIRONMENT DIVISION.
*
CONFIGURATION SECTION.
SOURCE-COMPUTER. Amstrad 6128.
OBJECT-COMPUTER. Amstrad 6128.
*
DATA DIVISION.
WORKING-STORAGE SECTION.
01 NAME PIC X(30).
01 COUNT PIC 9.
*
PROCEDURE DIVISION.
*
START.
MOVE 0 TO COUNT.
DISPLAY 'Please Enter 5 Names'.
DISPLAY ' '.
PERFORM ENTER-NAME 5 TIMES.
STOP RUN.
*
ENTER-NAME.
ADD 1 TO COUNT.
DISPLAY 'Name ' COUNT.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.

```

Program VI

To split the value entered we use different level numbers:

```

01 NAME.
03 NAME-A PIC X(10).
03 NAME-B PIC X(20).

```

where 01 and 03 are the level numbers. We can now use:

```
DISPLAY NAME.
```

This displays all of the contents of the identifier. Or we can use:

```
DISPLAY NAME-A.
```

to display the first 10 bytes of the contents held in the identifier and:

```
DISPLAY NAME-B.
```

to display the contents of the last 20 bytes of the identifier.

We can use 10 different level numbers, and each level number can range from 01 to 99, although in practice I have never used more than five levels to sub-divide an identifier. See Figure III for a typical example.

We can now refer to the individual identifiers or to the whole record by using:

```
DISPLAY TOTAL-RECORD.
```

It is standard practice to use level numbers 01, 03, 05 and so on because this allows you to add new levels at a later date.

The PIC clause is used to dimension the identifier to a specific number of bytes and to declare the variable as either numeric or alphanumeric - PIC 9 is numeric, PIC X is alphanumeric.

There are some shortcuts here. To dimension the identifier to 15 bytes of


```

IDENTIFICATION DIVISION.
PROGRAM-ID. Example Seven.
*
* This program shows how level
* numbers are used.
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER. Amstrad 6128.
OBJECT-COMPUTER. Amstrad 6128.
*
DATA DIVISION.
WORKING-STORAGE SECTION.
01 TOT-REC.
03 NAME PIC X(30).
03 ADDRESS.
05 LINE-1 PIC X(30).
05 LINE-2 PIC X(30).
05 LINE-3 PIC X(30).
*
PROCEDURE DIVISION.
*
ENTER-NAME.
DISPLAY 'Please Enter Your Name'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY ' '.
*
ENTER-ADDRESS.
DISPLAY 'Enter Address Line 1'.
DISPLAY ' '.
ACCEPT LINE-1.
DISPLAY ' '.
*
DISPLAY 'Enter Address Line 2'.
DISPLAY ' '.
ACCEPT LINE-2.
DISPLAY ' '.
*
DISPLAY 'Enter Address Line 3'.
DISPLAY ' '.
ACCEPT LINE-3.
DISPLAY ' '.
*
Display details entered
*
SHOW-DETAILS-ENTERED.
DISPLAY 'Address Line 1; ' LINE-1.
DISPLAY ' Line-2; ' LINE-2.
DISPLAY ' Line-3; ' LINE-3.
DISPLAY ' '.
*
DISPLAY 'All The Details; ' TOT-REC.
DISPLAY ' '.
*
DISPLAY 'Your Name is ; ' NAME.
DISPLAY ' '.
*
STOP RUN.

```

Program VII

alphanumeric data, rather than writing PIC followed by 15 X's, we can use PIC X(15). But look out. There's a documentation error. According to the Cobol doc file you are limited to a maximum PIC size of 30 bytes. This is wrong. The maximum number of bytes you can use in a PIC is limited only by the amount of free memory; a maximum size of 80 bytes is suggested because this matches our 80-column screen width.

Program VII illustrates how level numbers are used. This is not the quickest method of doing it, but the example has been written so that it is easy to follow and understand. Program VIII continues the theme of entering and displaying names but a new concept is used. The identifier

```

IDENTIFICATION DIVISION.
PROGRAM-ID. Example Eight.
*
* This program allows you to enter
* names, displays the name and ends
* when 'END' is entered.
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SOURCE-COMPUTER. Amstrad 6128.
OBJECT-COMPUTER. Amstrad 6128.
*
DATA DIVISION.
WORKING-STORAGE SECTION.
01 NAME.
03 NAME-TEST PIC X(3).
03 REST-NAME PIC X(27).
*
PROCEDURE DIVISION.
*
START.
PERFORM ENTER-NAME
UNTIL NAME-TEST EQUAL 'END'.
STOP RUN.
*
ENTER-NAME.
DISPLAY 'PLEASE Enter A Name Or'.
DISPLAY ' Enter END to Finish.'.
DISPLAY ' '.
ACCEPT NAME.
DISPLAY 'Hello! ' NAME.
DISPLAY ' '.

```

Program VIII

NAME has been split into two new identifiers by using level numbers. The new identifiers are NAME-TEST and REST-NAME.

The PERFORM command has been amended to allow the ENTER-NAME procedure to be repeated until the first three characters entered are "END". The identifier NAME-TEST is used to allow the testing of these characters. Note that "END" must be typed in capital letters. This revised method of using the PERFORM command gives us a fourth way of completing a loop within a Cobol program.

When data is entered from the keyboard and stored in an identifier by using the ACCEPT command, the balance of the identifier is padded out with spaces.

Eh? Let me use this short example to show what I mean:

```
01 NAME PIC X(30).
```

If the name entered is "FRED", this will occupy the first four bytes of the identifier and the remaining 26 bytes will be filled with spaces. This is different from the method Basic uses. Let me use a second example to demonstrate the problems caused.

Amend Program VIII as follows:

```

WORKING-STORAGE SECTION. 01 NAME.
03 NAME-TEST PIC X(4).
03 REST-NAME PIC X(26).

```

then re-compile it. After a while you will be notified of an IT error because the PERFORM command is now trying to

The Bellaby File was set and laid out on an Amiga A500 using PageSetter II. It was printed on a Star LaserPrinter 8II. Typography and page make-up by...



compare a four-byte identifier with the three-byte literal, "END". The compiler is telling you that these will never match when the PERFORM command is testing for a match. The identifier has been packed with a space so it actually contains "END ".

You are stuck in an endless loop, so press CTRL-C to abort.

Now let's correct the error and help your understanding of the situation. Amend the PERFORM command to:

```
PERFORM ENTER-NAME
UNTIL NAME-TEST EQUAL 'END '.
```

and compile the program again. Now the IT error no longer occurs because both the identifier and the literal have the same number of bytes - we are back to the situation where when you type "END" the program ends.

You can't learn a new language just by reading this series. You must use the examples in the Cobol documentation file and the programs in this series to increase your understanding. When you feel you understand a command, use it in your own programs to see if you are correct.

Your homework is to write a series of simple programs to try out the Cobol commands covered to date.

NEXT MONTH: File handling, screen handling and detailed answers to more of your Cobol questions.

the wacc! fsw library

PROBABLY
THE BEST
LITTLE
LIBRARY
IN THE
WORLD

LOOSE PUBLIC DOMAIN SOFTWARE - Copying charge = 4p per K

To obtain loose PD software, fill in the FSW Library order form and send it with a CF2 disc or discs (330K maximum per disc) in a Jiffy bag, plus the correct charge (min £2), to WACCI HQ. The copying charge is 4p per K. (four pence per

Kilobyte). The CP/M 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.

CPM-001: BINCALC	10K - On-screen calculator.	CPM-039: WRDCOUNT	26K - Another word-counter.
CPM-002: COMPARE	10K - Compares two files for differences.	CPM-040: ADVENT	101K - Big text-only adventure.
CPM-003: LOOK	12K - Views and Edits ascii and binary files.	CPM-041: TEAM-GEN	22K - Scoresheet generator.
CPM-004: NDDT	11K - Improved version of DDT.	CPM-042: USERFUNC	12K - A small library of Basic DEF FNs.
CPM-005: NSWP	37K - Disc and file management utility.	CPM-043: BIO	14K - Biorhythm chart generator.
CPM-006: QK20	10K - Assigns character strings to keys.	CPM-044: CAL	6K - Calendar generator.
CPM-007: RASMB	17K - Z80 reverse assembler.	CPM-045: CHESS	26K - CP/M 2.2 version of the board game.
CPM-008: UNERA	2K - Unerases erased files.	CPM-046: GOLF	26K - A text-only swipe round the golf course.
CPM-009: X1Z1	22K - 8080 to Z80 to 8080 code translator.	CPM-047: MAZE	3K - Maze generator.
CPM-010: ZMAC+ZLINK ...	40K - Z80 assembler and linker.	CPM-048: NEWPUZ	25K - Wordsearch generator.
CPM-011: CONV2	3K - Converts CP/M 2.2 files to CP/M Plus.	CPM-049: OTHELLO	22K - Version of the board game.
CPM-012: LASH	10K - Improved version of ASM.	CPM-050: UKM7	26K - Comms utility adapted from MODEN7.
CPM-013: LOHD	2K - Improved version of LOAD.	CPM-051: INVENT	35K - Inventory database.
CPM-014: Z8OASM	15K - Z80 assembler.	CPM-052: VDE	76K - Fast, powerful word processor.
CPM-015: Z8E	190K - Z80 debugging monitor and assembler.	CPM-053: SPELL	33K - Spelling checker with dictionary.
CPM-016: ZDEBUG	31K - Non-symbolic Z80 debugging tool.	CPM-054: SCRIVENER ...	194K - Spreadsheet cum database cum invoicer...
CPM-017: SMALL-C	157K - Floating-point version of the language.	CPM-055: JRT PASCAL ..	208K - Floating-point, standard version.
CPM-018: SCI	59K - Small-C-Interpreter.	CPM-056: JRT MANUAL ..	200K - Manual on disc for the above language.
CPM-019: EBASIC	84K - Compiles a subset of Basic to m/code.	CPM-057: COBOL	97K - NPS Micro-Cobol v2.1.
CPM-020: LISP	81K - The essence of a Lisp interpreter.	CPM-058: FORTH	54K - 16K version, can be enlarged easily.
CPM-021: EPRO	37K - A version of the Prolog language.	CPM-059: STOIC	62K - A version of the language.
CPM-022: CHEK	5K - Checks disc quality.	CPM-060: EXPERT86	52K - A very good expert system.
CPM-023: D	4K - Directory utility.	CPM-061: MEX	141K - Modem EXecutive comms utility.
CPM-024: DISKDOC	11K - Disc doctor (not sure how it works).	CPM-062: KERMIT	28K - Comms utility for little green frogs
CPM-025: DISPLAY	5K - Displays text files f/wards or b/wards.	CPM-063: LUCKY13	11K - Lottery number generator and checker
CPM-026: ED.DOC	22K - Instruction file for ED.COM	CPM-064: LOGAN	15K - LOGic ANalyser and frequency counter
CPM-027: FORM3	3K - Allows CP/M+ owners to read PCW discs.	CPM-065: WSCLEAN	4K - Clears the high bits from text files
CPM-028: GREP	13K - Emulates the UNIX grep command.	CPM-066: OPT	21K - A Three Pass Optimiser for Small C
CPM-029: LOOKAT	3K - Dumps files in ascii format.	CPM-067: STARTREK	11K - Scotty's in there again.
CPM-030: RPIP	8K - Improved version of PIP.	CPM-068: HEXTO ..	17K - Make DATA loaders from HEX files
CPM-031: SD	4K - Directory utility.	CPM-069: MAXELCAT	57K - Print out a catalogue of all your files
CPM-032: SETCOLOUR	12K - CP/M 2.2 easy colour-change command.	CPM-070: MAKEASM	17K - Converts ZMAC files to source for JRTASM
CPM-033: SORT	4K - Sorts the contents of text files.	CPM-071: 80TRK	59K - Stick a 5.25" drive on your CPC
CPM-034: VLIST	2K - Controls text file scrolling speed.	CPM-072: ZSM	24K - PD assembler
CPM-035: WCOUNT	7K - Counts the words in text files.	CPM-073: DISZ80	22K - Z80 op-codes into Zylog, 696 mnemonics
CPM-036: LBRDISK	16K - A library utility.	CPM-074: CPM2T03	7K - Run 2.2 programs under CP/M Plus
CPM-037: DU	44K - Powerful disc sector editor.	CPM-075: XRAS	160K - Scrolling bulletin board host program
CPM-038: NULU15	82K - Improved version of Library Utility (LU).	CPM-076: MFT	3K - Easy one-drive Multi File Transfer.

CPM-077: CRUNCH/UMCR .. 17K - User-friendly file squeezer.
 CPM-078: SIDEWAYS 34K - Prints spreadsheets sideways.
 CPM-079: DISCKITA 31K - General purpose disk formatter +
 CPM-080: CLEANUP 3K - Slicker file erasing and typing.
 CPM-081: SUPERZAP 27K - A full screen interactive disc utility
 CPM-082: PASSWORD 3K - Protect your programs from prying eyes
 CPM-083: SCRAMBLE 2K - Similar to PASSWORD but trickier.
 CPM-084: DISPLAY 5K - A smart text reader.
 CPM-085: FILECHOP 6K - Breaks down ANY program.
 CPM-086: LIST 3K - Improve the appearance of listings.
 CPM-087: MAKE 3K - Simplifies area user changes.
 CPM-088: NEWCCP 9K - Adds extra commands to CP/M.
 CPM-089: PCW 3K - Read AND write to PCW formatted discs.
 CPM-090: EPSETUP 11K - Configuration program for Epson printers
 CPM-091: B29 47K - NSWP workalike, views COM files as well.
 CPM-092: MFT+ 3K - Multi File Transfer with two drives.
 CPM-093: PRINT 7K - Text file printing aid.
 CPM-111: PACMAN 24K - CP/M version of the arcade game.

CPM-112: MAKEBATCH 4K - Easy creation of submit files.
 CPM-094: RESCUE 6K - rescues corrupted discs
 CPM-095: CRCBUILD 3K - Catalogue your discs. (CP/M 2.2)
 CPM-096: MCAT 23K - Catalogue your discs. (CP/M +)
 CPM-097: EDIT 16K - A text editor.
 CPM-098: FINST 40K - Cardbox filer program.
 CPM-099: SHELL 7K - CP/M menu driven environment.
 CPM-100: BD04 6K - Checks discs for bad sectors and files.
 CPM-101: ALLDIR 1K - (2.2) All User Area DIRs.
 CPM-102: UDIR 1K - CP/M+ All User Area DIRs.
 CPM-103: VIEW 6K - Prints ANY file to the screen.
 CPM-104: OSB2AMS 6K - Run Osbourne CP/M programs on the CPC.
 CPM-105: NSWP208 15K - Later version of Newsweep.
 CPM-106: VDE266 161K - The ultimate version of CPM-052
 CPM-107: XOX 9K - Pascal version of noughts and crosses.
 CPM-108: RDMS 55K - Read MS-DOS files.
 CPM-109: UNERA 6K - Recover erased files.
 CPM-110: STATUS 12K - Displays the current status of your CPC.

LOOSE HOMEGROWN SOFTWARE - Copying charge = 4p per K

To obtain loose HG software, fill in the FSW Library order form and send it with a CF2 disc or discs (330K maximum per disc) in a Jiffy bag, plus the correct charge (min £1), to WACCI HQ. The copying charge is 4p per K. (four pence per

Kilobyte). The AMS 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.

AMS-001: MASTERS OF MIDWORLD . 29K - Graphical adventure.
 AMS-002: MINIMON 4K - Mini machine-code monitor.
 AMS-003: CHARDES 3K - Big-character designer.
 AMS-004: HEADER READER 2K - Colourful tape header reader.
 AMS-005: FRUIT WORM 4K - The old caterpillar/fly type game.
 AMS-006: OTHELLO 6K - Reversi simulation.
 AMS-007: FOUR IN A ROW 6K - Version of Connect 4 board game.
 AMS-008: THE WORLD 26K - Graphics demo of Earth spinning.
 AMS-009: CHAT 5K - Based on the famous Eliza.
 AMS-010: JIGSAW-1 34K - Educational jigsaw.
 AMS-011: EDDY 15K - Good text editor for all CPCs.
 AMS-012: XOX 3K - Two player noughts and crosses.
 AMS-013: PONTOON 37K - You against the computer.
 AMS-014: PROGDOC 33K - Programmer's utility.
 AMS-015: HELPING HAND 5K - Decision aid.
 AMS-016: BOMBER 4K - Bomb the town & land your plane.
 AMS-017: LIFE 4K - The Game of Life.
 AMS-018: LOCK'n'KEY 8K - Maze game.
 AMS-019: TUNNEL DIVE 4K - Freefall game.
 AMS-020: HEAD 3K - Tape or disc header reader RSX.
 AMS-021: MEMDATA+ 3K - M/code into data statements.
 AMS-022: KEYDEF 2K - Single keypress command typing.
 AMS-023: CHAMPIONSHIP DARTS .. 12K - Bonk... Bonk... Bonk...
 AMS-024: GRID WARRIOR 4K - Another caterpillar/fly game.

AMS-025: JIGSAW-2 51K - Educational jigsaw.
 AMS-026: STAR CHASE 11K - Space shoot-em-up.
 AMS-027: UFO ESCAPE 18K - Maze game.
 AMS-028: HEADLESS 3K - Headerless file tape to disc.
 AMS-029: BEETLEMANIA 31K - Machine-code game.
 AMS-030: DISC 2K - Intelligent disc menu.
 AMS-031: SDUMP 10K - Five mode 1 & 2 screen dumps.
 AMS-032: ENGLEBERT 8K - Bert game.
 AMS-033: GLOBE 7K - view Earth from space.
 AMS-034: MULTIPROG 2K - Holds 4 Basic progs in a 2nd 64K.
 AMS-035: PIXELPLOTTER 5K - 6128 Etch-a-Sketch program.
 AMS-036: STORY 12K - Zany prog that invents stories.
 AMS-037: FUNCTDR 2K - Plots graphs of matha functions.
 AMS-038: FUNCSOL 2K - Solves quadratic equations.
 AMS-039: FORMULAE 3K - Mixes chemicals.
 AMS-041: CGEN 6K - Icon-driven character generator.
 AMS-042: EXCAT 5K - Extended cat to screen/printer.
 AMS-043: EXPRINT 5K - Prints ascii chars > 127.
 AMS-044: PROFORMA 2K - Cassette filing sheets to a DMP1.
 AMS-045: NEATLIST 4K - Emulates the BBC's LISTO command.
 AMS-046: ROMREAD 3K - Tells you about your roms.
 AMS-047: SYMPHONY 4K - Kalaedoscope pattern generator.
 AMS-048: AMSIG 173K - Mandelbrot Set Generator.
 AMS-049: DRIPZONE 54K - Addictive machine-code game.

AMS-050: DISCED	5K	- Disc sector editor RSX.	AMS-108: PRIMES	2K	- Calculates prime numbers.
AMS-051: STARFIRE	25K	- Machine code zap-em-up game.	AMS-109: SOUNDFX	2K	- Explode, Ping, Bang, Zap RSXs.
AMS-052: SCANNER	2K	- Scans lots of ascii files.	AMS-110: PHARAOH	9K	- Maze and beasties game.
AMS-053: BOUNCER	4K	- A version of Breakout.	AMS-111: SHIFTY	10K	- Educational jigsaw type game.
AMS-054: BASIC+	13K	- 45 new commands to Basic.	AMS-112: DIAMOND MINER	8K	- Underground hunt for jewels.
AMS-055: LABEL PRINTER	6K	- Single address labels.	AMS-113: CRAZY MAZE	5K	- Maze game.
AMS-056: MISSILE	6K	- A version of Missile Command.	AMS-114: PATHFINDER	8K	- Confuzion type game.
AMS-057: SKETCH & PROGRAM	8K	- Turns sketches into prog lines.	AMS-115: SPELLBOUND	17K	- Educational spelling tug-of-war.
AMS-058: SYNTH	3K	- 3-channel keyboard sound.	AMS-116: GRAPHIC MAGIC	9K	- Mode 0 screen designer.
AMS-059: HOTRODS	6K	- Race game.	AMS-117: JIGSAW-3	92K	- Jigsaw game (includes 5 jigsaws).
AMS-060: BREAKOUT	3K	- Yawn.	AMS-118: WRITE IT RIGHT	12K	- Educational word game.
AMS-061: DEPRO	2K	- Load and list protected Basic.	AMS-119: SHEEPDOG	5K	- One man and his computerised dog.
AMS-062: DIS	5K	- Good Z80 disassembler.	AMS-120: NOMPOLY	20K	- Variant on the board game.
AMS-063: PAIRS	4K	- A version of Pelmanism.	AMS-121: BACKGAMMON	40K	- Plays a hard game, but addictive.
AMS-064: XREF	15K	- A Basic cross-reference utility.	AMS-122: DOMINOES	30K	- Fives and Threes.
AMS-065: WACHON	16K	- Versatile machine-code monitor.	AMS-123: DYS-SYMM11	5K	- Colourful pattern generator
AMS-066: MUSIC COMPOSER	14K	- Compose one-channel melodies.	AMS-124: PRINTER	2K	- Printer setup utility.
AMS-067: LOGOPOLIS	15K	- Version of Logo.	AMS-125: SDM	11K	- O.S. for Bigscreen Programs.
AMS-068: MATHS MAGIC	11K	- For numerical freaks.	AMS-126: ORRERY	9K	- Watch the world go round the sun.
AMS-069: BREAKER	3K	- Dumps screens to disc.	AMS-127: MUSIC	13K	- Easy music creator.
AMS-070: DISC MENAGERIE	29K	- Good disc utility.	AMS-128: ENVELOPE	8K	- Fiddle with ENT and ENV commands.
AMS-071: NOSEY	4K	- Edit memory and banks, view rows.	AMS-129: POSTER	6K	- For use with Siren's Print Master.
AMS-072: SPRITES	6K	- Mode 0 sprite designer.	AMS-130: CONTOURS	9K	- 16 colour mathematical contour map
AMS-073: SQUEEZER	4K	- Squeezes ascii files.	AMS-131: COMPLEX	9K	- Electrical engineers toolkit.
AMS-074: CAVERNS OF SKELETOR	14K	- Multi-coloured maze game.	AMS-132: DIABOLO	35K	- Multi format Solitaire game.
AMS-075: ZENER CARDS	23K	- ESP test.	AMS-133: ADAM	6K	- Prints out A.D.A.M. text files.
AMS-076: SUM-VADERS	7K	- Educational maths game.	AMS-134: BANNER	4K	- Print 10" high lettered banners.
AMS-077: ASTROSUITE	35K	- Find out about space.	AMS-135: GLOBE II	45K	- Much enhanced of the original.
AMS-078: TEXT & PROGRAM	3K	- Text screens into program lines.	AMS-136: SYNTH2	17K	- Another Synthesiser program.
AMS-079: WORDY	27K	- Advanced text editor.	AMS-137: QUIZ	96K	- Trivia quiz + speech.
AMS-080: TRIVIA QUIZ	72K	- 2 to 4 player quiz.	AMS-138: SDUMP V.3	7K	- Sdump suite+ helpful front-end.
AMS-081: PROTO	16K	- Good Z80 assembler.	AMS-139: STATS	10K	- Statistics program.
AMS-082: CHESS CLOCK	10K	- For chess freaks.	AMS-140: COLPRINT	1K	- Prints out text in columns
AMS-083: DEFFONT	14K	- Excellent character generator.	AMS-141: SPREAD	45K	- A spreadsheet program
AMS-084: CALENDAR	7K	- Calendar generator.	AMS-142: DISC MENAGERIE II ...	28K	- Much enhanced version DM
AMS-085: SNOOKER SCOREBOARD ..	4K	- For snooker freaks.	AMS-144: BIO	5K	- Hi-res Biorthym generator.
AMS-086: PATIENCE	9K	- The soitaire card game.	AMS-145: NUMERO	12K	- The Cabbala made easy.
AMS-087: AUTOLINE	3K	- Intelligent graphics demo.	AMS-146: 3D MAZE	7K	- Can you find the exit?
AMS-089: CRUNCH	8K	- Educational Pacman.	AMS-147: PHI	8K	- Answers on a postcard please.
AMS-090: CALCULATOR	21K	- Scientific calculator.	AMS-148: S-LIGHT	3K	- Sound to light generator.
AMS-091: FONT	8K	- 40-column text in Mode 0.	AMS-149: DOMINOES II	10K	- The normal dominoes game.
AMS-092: FIRMWARE EXPLORER	5K	- Similar to Regiload.	AMS-150: STRAIGHT	8K	- Generates straight line graphs.
AMS-093: GOMOKU	5K	- Hybrid of Othello & Connect Four.	AMS-151: REGILOAD II	13K	- Regiload re-visited.
AMS-094: MENU	4K	- Intelligent disc menu.	AMS-152: HARDCAT	2K	- Printed disc catalogues. (6128)
AMS-095: OTHELLO	9K	- Another version of Reversi.	AMS-153: PACPLANT	25K	- Auntie John's version of Pacman.
AMS-096: UDGRAB	6K	- Grab user-defined graphics.	AMS-154: SDUMP V.4	29K	- Now with added AGE enhancements.
AMS-097: STYLE	2K	- Analyses documents.	AMS-155: BIOMORPH	9K	- Tinker with genetics (6128).
AMS-098: DISCHAP	3K	- Maps sectors on any format disc.	AMS-156: BANK+	5K	- Manipulates banked memory (6128).
AMS-099: TAPE RSXS	2K	- Quick save and load screens.	AMS-157: DECOMP	7K	- Load compressed Art Studio files.
AMS-100: VIEWFAX	12K	- A Teletext type system.	AMS-158: EZMUSIC	14K	- Frequency tables become redundant.
AMS-101: GO	15K	- Ancient Chinese strategy game.	AMS-159: WACCIWORD v2.0.....	87K	- WACCI's very own word processor.
AMS-102: DI-SYMM	2K	- A colourful pattern generator.	AMS-160: INVGEN	17K	- Send other people an invoice.
AMS-103: AGE	4K	- GEN type windows generator.	AMS-161: KEYBOARD	10K	- A comprehensive sound generator.
AMS-104: SNAKES	5K	- A game (I think).	AMS-162: GRAFFLOT	4K	- Plots graphs I think?
AMS-105: OZ	4K	- Addictive peg-and-holes game.	AMS-163: DCHEAT	1K	- A cheat loader for DRIPZONE v3
AMS-106: FRACTAL	11K	- CPC conversion of Macfractal.	AMS-164: SPX	20K	- A Stock Market analyzer.
AMS-107: TEE-OFF	12K	- Golf game.	AMS-165: 3DXOX	7K	- 3D noughts and crosses.

AMS-166: LNA 7K	- A Logic Network Analyser from AJ.	AMS-186: TIDY 4K	- Clever Disc Maintenance Utility.
AMS-167: PDG 3K	- The Prisoner's Dilemma Game.	AMS-187: INVADERS 35K	- AJ's classic space invaders game.
AMS-168: AGE128 10K	- GEM type windows generator (6128)	AMS-188: GRAPHO 7K	- Psychedelic screen display.
AMS-169: STROBE 16K	- Flashy pattern generator.	AMS-189: WACCISPELL 53K	- Spell checker.
AMS-170: MAGIC SQUARES 4K	- A bit of a puzzle.	AMS-190: FSVFORM 6K	- The FSV Library order form (ASCII)
AMS-171: TYPING TUTOR 9K	- Improv yur typing accccuracy.	AMS-191: XDRAW 24K	- Crossword grid plotter.
AMS-172: FOOTBALL 60K	- A pools predictor (it's a goody.)	AMS-192: XWORD 56K	- Crossword generator program.
AMS-173: KIRK 262K	- A very comprhensive VP.	AMS-193: FRUITRUN 30K	- Multi-feature fruit machine game.
AMS-174: DWERRYBASE 20K	- Label printer with database.	AMS-194: KEYCARD 24K	- Prints 4 colour user key reminders
AMS-175: DISPLAY 139K	- Magic Lantern Picture show.	AMS-195: MPCGRAPH 56K	- Tandy 4 colour plotter graphs.
AMS-176: CHESS GAMES 16K	- Three chess puzzles.	AMS-196: PCBDRAFT 82K	- Printed Circuit Board designer.
AMS-177: M-FILE 41K	- Masterfile tutorial and examples.	AMS-197: TRANSFER 3K	- Music System tape to disc utility.
AMS-178: WILD 15K	- An educational wildlife quiz.	AMS-198: DISPLAY II 170K	- Magic Lantern Picture show mark II
AMS-179: GENERAL.DR 18K	- Temporarily withdrawn	AMS-199: NO-NO.RSX 9K	- Does illegal things with upper ROM
AMS-180: CASS.DR 4K	- Temporarily withdrawn	AMS-200: WAR 13K	- Wargame Program.
AMS-181: ORGANISER 4K	- A Personal Organiser	AMS-201: ASCII2 3K	- ASCII files to MOII format
AMS-182: CONVERT 6K	- Swap screens from & to mode 1 & 0.	AMS-202: EXAMPLE 22K	- Bellaby's Cobol example files.
AMS-183: NPC 36K	- Roleplayer's character generator.	AMS-203: CGP115 8K	- Colour Dump for the Tandy CGP115
AMS-184: TANDY DUMP 8K	- Tandy Printer Dump.	AMS-204: CAUTO 42K	- Gawd knows!
AMS-185: M-FILE II K	- Now included with AMS-177	AMS-205: PROGDOC4 28K	- Much enhanced version of AMS-14

AMSTRAD CPC PUBLIC DOMAIN DISCS

CPM 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.

CPM DISC 2

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

CPM DISC 3

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

CPM DISC 4

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

CPM DISC 5

Scrivener (spreadsheet, inventory database with macros, VDE text editor, spell checker with

dictionary, sorter, word counter, comms utility, plus NewSWeeP and more.

CPM DISC 6 and 7

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

CPM DISC 8

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

CPC HOMEGROWN SOFTWARE DISCS

WACCI DISC 1 (AMS-001 to AMS-027)

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 (AMS-028 to AMS-049)

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 (AMS-050 to AMS-079)

Disced, Starfire, Scanner, 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 (AMS-080 to AMS-115)

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 (AMS-116 to AMS-135)

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

WACCI DISC 6 (AMS-136 to AMS-151)
Quiz, Stats, Colprint, Globe II, SDump3, Straight, Biomorph, Disc menagerie II, PHI, Regiload II, S-light, Spread,Numero, Synth, Dominoes 2.

WACCI DISC 7 (AMS-152 to AMS-171)
WACCIWord, Romread, LNA SDump4, Convert, EZMusic, Keyboard, SPX, Grafplot, Hardcat, AGE128, Bank+, Dcheat, PCheat, 3DIOX, Invoicer, Pacplant, Typing tutor,, Strobe, Magic squares, Wild, Decomp.

WACCI DISC 8 (AMS-172 to AMS-174)
The Kirk editor, Football Pools predictor, Derrybase.

WACCI DISC 9 (AMS-175 onwards)
Chess, Mode, Display, Organise, Display, Read, Grapho, MFile, Tandy, Edbutt, Tidy, FSVform, Inlays, NPC, Invaders, WACCISpell

AUNTIE JOHN'S CONCEPT DISC

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

PRICES AS ON THE ORDER FORMS

PROTEXT Grows!

PROTEXT FILER - New Release!

This invaluable program will keep your address lists or other datafiles in good order. Includes: datafile management from within Protex; extremely flexible file sorting program; label printing and mailmerging using the datafiles. Needs Promerge or Promerge Plus. Send SAE for full details.

WACCI PRICES: Disc £19.50

PROTEXT OFFICE - New Release!

Invoice printing program as used by Arnor. Easily configurable for your own requirements. Works from within Protex. Produces invoices/credit notes/statements. Includes Protex Filer. Needs Promerge or Promerge Plus. Send SAE for full details.

WACCI PRICES: Disc £27.25

PROTEXT

Protex is without doubt the most sophisticated word processor you'll find on any home micro. Its ease of use and advanced range of features are normally only found in business systems costing many times more. Widely praised throughout the Amstrad press, Protex is rightly acclaimed as the No.1 word processor for Amstrad CPC owners.

* Super fast * Works with any printer * Flexible find and replace *

* Layout stored with text; normal & decimal tabs, left & right margins *

* Word count * Versatile print options; incl. headers/footers, page nos. *

"Extremely powerful editing features ... superb search and replace" AA

"I can't emphasise how good it is" PCW

WACCI PRICES: Rom £31 Disc £21 Cass £15

PROSPELL

Typing and spelling errors are simple to make and frustrating to miss. But by using Prospell, you can produce documents that are error-free. Prospell is an spelling checker that points out any odd words or dubious spellings.

* checks Protex text in memory *

* checks file on disc from Protex/Tasword/Amword/NewWord/WordStar *

* over 33000 words * room for thousands more of your own *

* up to 2000 words/min * find words and anagrams - great for crosswords *

"Fast, efficient, easy to use" YC

WACCI PRICES: Rom £27.25 Disc £19.50

PROMERGE

More than just simple mail merging for multiple standard letters!

* integrates perfectly with Protex * read data from keyboard or file *

* conditional printing so you can create your own personalised letters *

* use the built in maths functions to produce invoices etc *

* microspacing - to even out the spaces between words * typewriter mode *

* link files together at print time * Reformat while printing *

WACCI PRICES: Disc £19.50

PROMERGE PLUS

All the features of Promerge, plus:

* Edit two separate files in memory at once; copy blocks between them *

* Background printing - allows you to print and edit at the same time *

* Box mode - cut and paste any rectangle to create newspaper columns *

"You'll have a set-up that can thrash any 8-bit word processor for speed...and even some 16-bit programs for power" PCW

WACCI PRICES: Rom £27.25

ROMBO

All rom software requires a rom expansion system. Its benefits include zero loading time and maximum memory available for text, data, programs etc. Remember; Utopia and the extra commands of Promerge Plus are not available on disc. Fits CPC464/664,6128.

WACCI PRICES: 8 socket rom box £27

New MAXAM rom

MAXAM 1½ - New Release!

At last, due to massive public demand, we have produced an enhanced Maxam ROM especially for Protex users. The editor has been taken out, and you can now assemble your source code simply by typing ASM while it is in Protex's memory. Debugging is now easier with comprehensive diagnostics and the ability to change register contents and resume from breakpoints. Other new features include load/save machine code from Protex/Maxam and extra assembler directives. All the other Maxam features are included.

WACCI PRICES: Rom £23.25

MAXAM

The classic Assembler/Monitor/Editor for developing Z80 machine code.

* Plain English error messages * Disassembler * Memory editor *

* Menu driven full screen editor * load/merge/save/print/find/replace *

* Mix BASIC and machine code * or assemble directly from editor *

* Use the editor to edit BASIC programs saved in ASCII *

"This piece of software should be held up as an example of what can be done by programmers who care ... buy one now!" E & C

WACCI PRICES: Rom £31 Disc £21 Cass £15

BCPL - new low price!

Flexible, fast, easy to learn programming language. Comprehensive I/O libraries including graphics and sound. Example source files supplied, including a space invaders game, full screen editor and all the libraries. 60 page manual covers the language and gives details of the libraries.

"Designed for humans, not computers" CWTA

WACCI PRICES: Rom £23.25 Disc £19.50

UTOPIA

50 new commands available without having to load a program, including:

* Text screen dump * Graphics screen dump to Epson compatible printer *

* disc utilities - disc format, disc copy, copy files, sector editor *

* useful function keys automatically set up; easily define your own *

* BASIC programming utilities * ROM management commands *

"UTOPIA is by far the best utilities rom...it's worth buying

a rom board just to plug it in" AMSCLUB

"Utopia seems to be in a class of its own" AMTIX

WACCI PRICES: Rom £23.25

C (6128,CP/M+)

Integrated C programming system. Full implementation of K&R standard.

* Floating point * 32 and 16 bit arithmetic * Optimising compiler *

* Linker * I/O and maths libraries * Conditional compilation * Macros *

* Editor is program mode of Protex *

"In typical Arnor fashion, they've taken their time and got it right" AU

WACCI PRICES: Disc £39

MAXAM II (6128,CP/M+)

Enhanced version of Maxam for CP/M+. Extras include:

* Single stepping * conditional breakpoints * symbolic debugger *

* Editor is program mode of Protex * Macro assembler *

"Now the best gets even better" CWTA CPC

WACCI PRICES: Disc £39

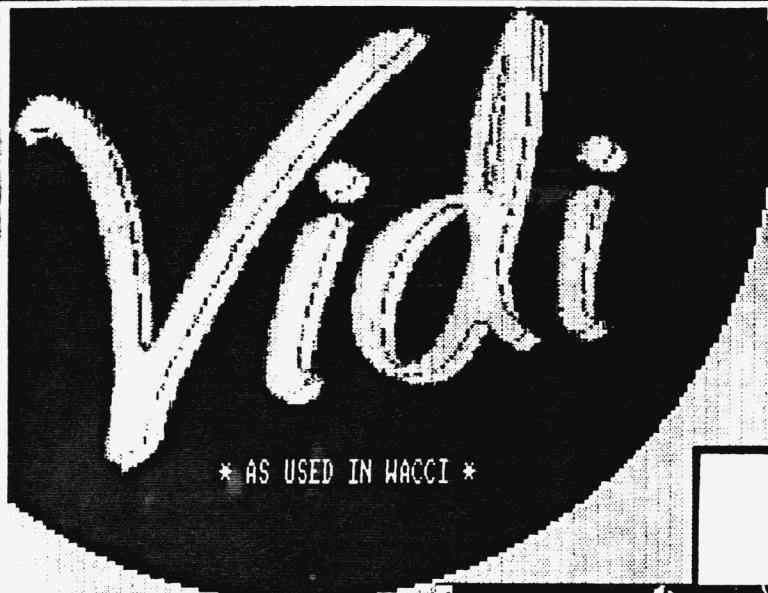
PROTEXT (6128,CP/M+)

Combines all the features of Protex, Promerge Plus and Prospell into one integrated program. German program & dictionary also available (Prowort).

"Protex is just so fast and versatile once you have used it - it is like putting Nigel Mansell against a C5" PYATW

WACCI PRICES: Disc £47

Available from WACCI, 9 South Close, Twickenham, Middlesex, TW2 5JE



The
VIDEO DIGITISER
From
ROMBO
PRODUCTIONS.

For CPC
464/664
6128



Video **I**mage **D**igit**I**ser

EXTRA SPECIAL WACCI PRICE

£59.95

VIDI is a Frame Grabber. You don't need a still picture! – grab 'action shots' from camera or video.

VIDI is Fast. Up to six frames a second.

VIDI is flexible. Brightness or Contrast is keyboard controlled.

VIDI prints superb A4 or A5 size shaded screens to EPSON compatible printers.

VIDI comes complete – with software on Disc. Manual and video lead

ONLY AVAILABLE AT THIS LOW PRICE FROM:

WACCI

9 SOUTH CLOSE
TWICKENHAM
MIDDLESEX TW2 5JE

THE ROMBO ROM BOX
8-SOCKET ROM BOARD

SPECIAL WACCI PRICE

£27

All prices include VAT
and postage & packing

Special WACCI prices
for limited period only