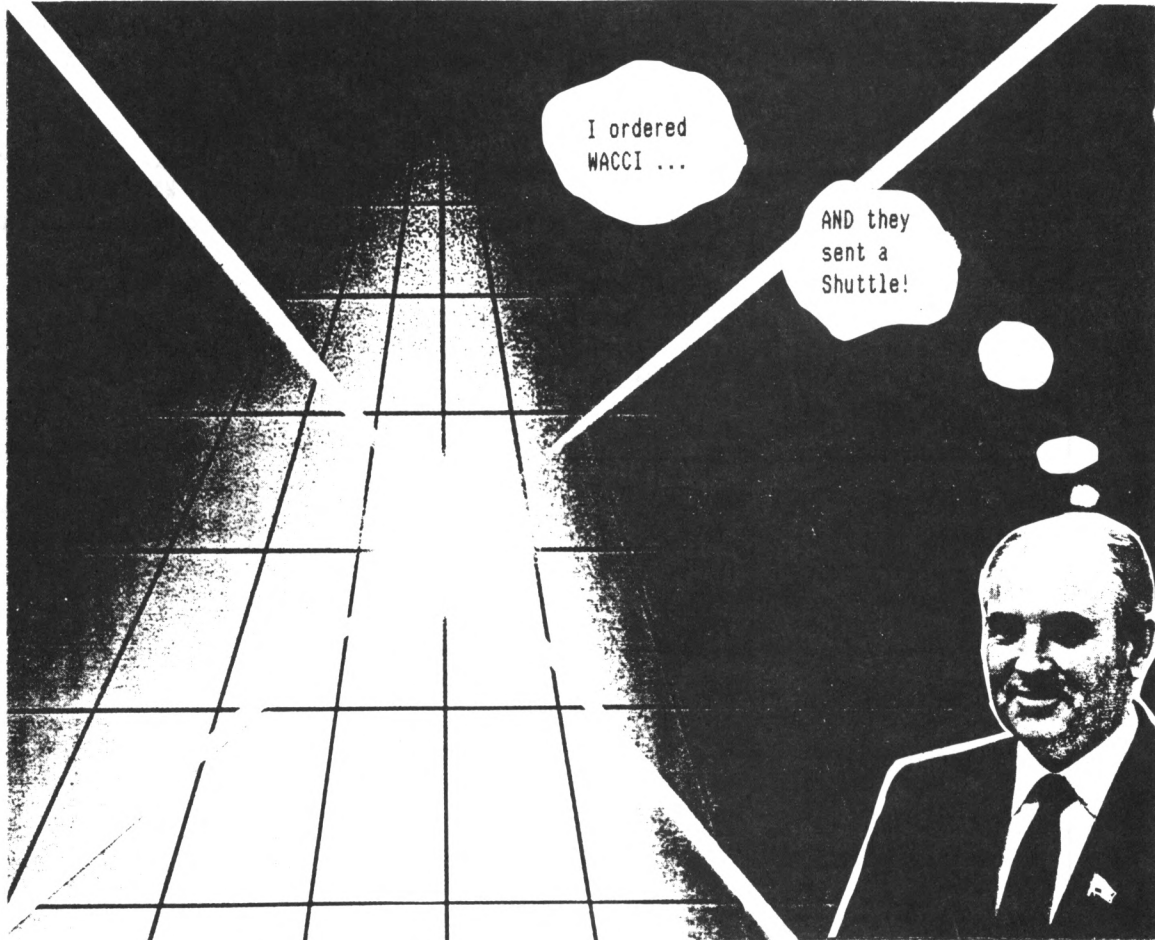
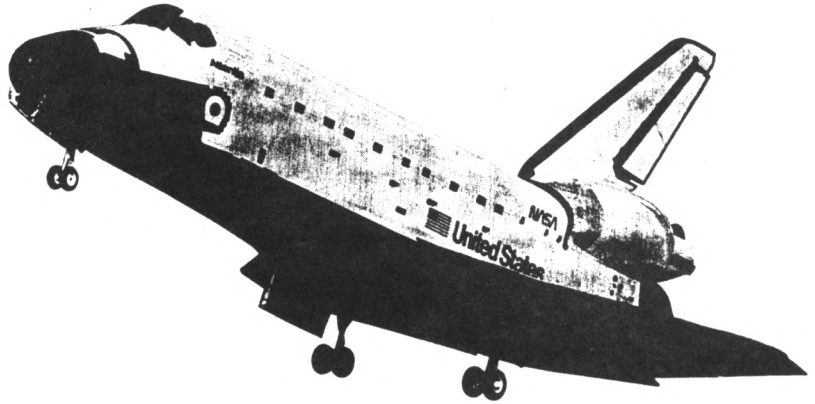


THE UK'S ONLY SERIOUS CPC MAGAZINE

Issue 52 £1.50

LAUNCHED:  
The Tape Library  
The Book Library



I ordered  
WACCI ...

AND they  
sent a  
Shuttle!

**IN THIS ISSUE:**

Beginners Basic, The ABC of PD, Letters, Book Library, Tape Library, Telephone Help-Line, Making of Catlabel, Forth, Adverts, Saffron, WACCI revisited, Show Report, Comms, Public Domain Software and much more .....

WACCI

# CONTENTS

2 Contents & Helpline	<i>If you are stuck ?!?!</i>
3 Thanx And Stuff	<i>More of my ramblings</i>
4 Fair Comment	<i>Your letters answered</i>
11 Forth	<i>The programming language</i>
13 WACCI Revisited	<i>If you missed it in 1986</i>
15 Very basic Basic	<i>'Tis I writes again !</i>
19 Poking In the Library	<i>More new PD discs reviewed</i>
20 The Show Report	<i>'Haydock All Formats Fair'</i>
21 WOLi	<i>The comms page</i>
23 Making Of Catlabel	<i>Part two of Alan's story</i>
25 The ABC of PD	<i>BD04 &amp; PRINT reviewed</i>
26 The Lending Library	<i>The Book and Tape libraries</i>
28 Simply Saffron	<i>Need I say more !</i>
29 The FSW Library	<i>Where's the program you want</i>
31 Who's Who	<i>Who does what at WACCI</i>

Copyright WACCI 1992(c). Material may not be reproduced either in whole or in part without the written consent of the copyright holders. WACCI cannot undertake to return unsolicited material unless it is accompanied by a suitable stamped, self-addressed envelope. No payment whatsoever can be offered or made for any material selected for publication.

Production Method : WACCI is typeset, produced, edited and laid out using, Protext, Promerge, Prospell, OCP Art Studio and Micro Design Plus on the CPC 6128 and printed using an Epson LQ-400 24 pin printer.

Front Cover designed by Clive Bellaby and P Luck.

WACCI is Printed by :

William J Butler & Co Ltd, Town Hall Printing Works,  
Station Road, Bulwell, Nottingham, NG6 9AR, 0602 278929

Lithographic and Letterpress Printers

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

# The Telephone Help-Line

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

Robert Heaton, (0902) 753623, Wolverhampton. Basic, Machine Code, Printing, General problems.

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

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

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

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

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

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

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

Rob Scott, (0372) 377443, Leatherhead, any hardware problems plus tape to disc, disc to disc etc. << An electronics genius, -Ed.>>

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

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

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

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

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

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

# W A C C I

Edited by 'The Management'

0602 725108

---

Owned By

The Club Members

---

Conceived and Founded by

JEFF WALKER

Developed and Expanded by

STEVE WILLIAMS



*The run continues: WACCI, issue fifty two is now with you, it's on time, so I'll have a lager and lime, this verse is quite bad, so you'll be sad ....*

The editorial has been reduced to mere page this month because I needed the extra space for your letters.

## Money, Money, Money !

Subscriptions and re-subscriptions are still arriving daily on Paul's doorstep. The manager at Barclays gets the red carpet out every time Paul pops in there. A check of the current account shows that we still have more money in the bank than we owe in subscriptions.

At the end of February we owed a total of £2776 in future subscriptions and had £3022 in the bank. We also around £200 worth of stock (labels, discs, jiffy bags and so on .....). The current membership is around 350'ish but it's hard to be precise as the figure is increasing daily.

## Discs and things

PD and blank disc sales are continuing to amaze us all. So much so that (*once again*) I must apologise again because we managed to run out of discs on two occasions this month.

I had thought that 200 hundred discs would last us for a month. As things turned out most of those went within the first week of WACCI arriving on your door-mats. There must be an art to this ordering business, (I'll find it eventually.) A second order of 100

discs disappeared just as quickly. It is still possible to buy Amsoft 3 inch discs but supplies are drying up and the trade price is rising.

## Get yer 3 inch blank discs here !

WACCI are still selling 3 inch discs to club members for £14.80 for 10, inc p&p. Delivery 7/10 days after receipt of your order. These are probably the cheapest Amsoft discs in the country!

## New 3 inch disc manufacturer

A new manufacture of 3 inch discs has come on stream, replacing the gap left by Amsoft. I've had a trial batch and they are of good quality. Deliveries are expected around mid-march. There will be more details in issue 53.

However, we expect that these discs will eventually replace Amsoft discs thus ensuring continuity of supply and allow us to continue selling good quality discs at £14.80 per 10.

## News Snippets and other bits

Peter Campbell tells me he's been waiting four months for goods from WAVE and asked me to advise members that there may be a problem.

Steve Lee has launched the WACCI book library, details on page 26, and Arthur Cook has prepared the first two WACCI tapes, the details are also on page 26 in 'The Lending Library'.

If you read the March issue of AA (*which in my opinion was the best AA for some time*) you'll have seen that

they printed details of the re-birth of WACCI. This news item brought in some 130+ enquiries about membership. WACCI will be the featured magazine in the April issue of AA. We expect that this will bring in a bumper crop of potential new members.

## MicroDesign plus upgrade, upgraded !

Campursoft have upgraded this program and are now supplying free clip art with it. If you have already purchased a copy, send it back to Peter Campbell for a free upgrade and free clip art. Although Campursoft's advert does not say so, MicroDesign plus is sold to WACCI members at a discounted price.

The complete MicroDesign program can now be obtained by club members for only £29.99. In my opinion this is the best art program for the CPC.

## Special thanks

John Shawyer who donated a lot a games and books to WACCI. These are being sold at the All Formats Fairs to raise money for WACCI. W.A.C.C.i Smith has donated a number of books for the book library. John Hawkins and Brian Watson for proof-reading WACCI and correcting my errors. And to everybody else who has helped prepare issue 52.

## Missing, presumed late !

Finishing Touches, the WACCI survey and part of Poking in The Library.

Happy reading & best wishes. Uncle C.

# Fair Comment

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

## FROM ALL OF ME TO ALL OF YOU

Hello All, This is your new letters editor Mike Lyons from sunny Wigan. There have been a request or two for information about my good self, (and bad), and this letter to you all is to provide one or two answers, (some of which will be true.)

When I saw mention of WACCI in Phil Craven's Microstyle advert after not having heard anything for a long time, and having just (and only just), renewed my subscription for 12 months I thought "What the hell!" and got in touch with that deeply wonderful person our editor Saint Clive.

Clive told me some of the problems and explained the current situation in great detail. He then told me to wait, so I did. (Actually, 'told' is too strong - 'politely suggested' is much nearer the truth.) After a little while issue 50 appeared on my doorstep, panting slightly and I was hooked again. I immediately offered to help, ('cos that's just the kind of guy I am - rapid halo polishing), and took on this page. That's the recent history, except to say that I was one of the last, (at the cow's tail again), to get in touch with Clive.

What would I like you to do? Well, writing in is usually a good idea. 3" or 3 and a bit discs are fine. These can be sent straight to me at the above address. The 5 and a bits should be sent to Uncle Clive, who will, forthwith, (or even FORTHwithout), transmogrify your files for me to read on 3 and a bit (or 3") discs, which I will then answer.

Don't worry about 38 column format, don't bother too much about your spelling or punctuation, but it would be nice if it was written in English. It does actually save time for me if you stick to *joolz' roolz*, (e.g. no screamers), but don't let these little points hold you back.

Those who prefer can write in on that crinkly stuff that gets put into scrunched-up piles on the floor, you know, *paper*, but it's easier if you send that to Clive too. Someone will put it on disc and then I will answer

your queries, exchange insults, solve problems and generally save the world.

Just one other thing, positively no swear words. These are completely unnecessary to even semi-literate people. Fair Comment will not sink to the childish, (pre-pubescent), level which AA's letters column has sunk to of late. Sermon over.

My set up, if anyone is interested, is a CPC6128 with colour monitor, (age 5), with 256K memory expansion, (only it's not really is it?), dk'Tronics Speech Synthesiser, Romdos, Protext, Promerge plus, Utopia, Prospell, BCPL, Maxam 1.5, Adlan and Micro Music Creator all on ROM, (not all on at the same time), in two Microgenic ROM boards, KDS 8-bit printer port, Star LC24-10, (age 3), and a 3 and a bit inch drive, (which works perfectly), from Microstyle, (which does not).

I also own an anglepoise lamp and a Philips Discman and a partly clapped-out Spectrum tape-recorder.

I work, (sometimes), as a music teacher, play Solo Baritone in a local Brass Band, sing Tenor in a local choir, (honestly it's more like a fiver). I don't drink, (actually I do drink an awful lot, mostly coffee). I'm a non-moral vegetarian and I smoke like the entire black country - well, two out of three isn't bad.

I've just started having driving lessons, so anyone who lives in the Leigh, Atherton or Tyldesley, (Leyth, Bent or Bongs) areas and who normally drives around there on a Thursday night at about seven o'clock watch out. So far my score includes three pedestrians, an ice-cream van, two stationary cars and a lamp post but I've stalled six times in two lessons. I'll be working on buses this week, so other vehicles will be fairly safe.

As you can see, I waffle a lot, (it has been said that I could waffle for Wigan), and the only way to stop me is for you to write in and fill up the space instead. Read on now for some interesting stuff from your good selves. *Tarra fer now.*

Mike Lyons  
Nr Wigan

## WRITE ON, RIGHT ON

Dear Clive, What can I say but:-

*RIGHT ON !!!*

WACCI 50 was almost as good as the preceding 49 which, considering the trials and tribulations you lot must have gone through, was pretty nigh miraculous. I was most impressed, (especially by you printing the meat of my letter in the Mag...), and I have sent my year's subscription off to Paul in order to put my money where my mouth, (or finger), is.

May I also add my thanks to Phil Craven for putting the note in his advert. If he hadn't, I wouldn't have been writing this. It's as simple as that. (His drives are A.O.K. as well.)

As a side issue, if we're a club, how about publishing our accounts annually? I'm looking forward to the next 50 issues. Yours Wacci-ing.

Kit Spackman  
Gloucester

<<Hi Kit, Mike answering. Dear old Uncle Clive has plans to give members an update on club funds every month or so and accounts are also likely to be published so that everyone knows where we are up to. It's better that way...

One little problem-ette is who will do the audit? My vote goes to the firm who looked after the Maxwell Group of Companies' audits. Opinions anyone? (I used to have an opinion but then again, what do you think? -Mike.>>

<<Hi Mike, I am not sure if you have an opinion, although you may have, or not as is the case. -Ed.>>

## NORMAL SERVICE.....

Dear Uncle Clive, Very well done and congratulations for keeping WACCI afloat. I enclose my gift of £18 and request that as a gesture of goodwill you send me the next 12 issues completely free of charge.

Never mind that we sent in a year's subscription in November, we'll just put that down to experience. Have you ever been experienced? Well, I have.

(Thank you Jimmy). You'll notice that you received no letters of complaint from this direction during the recent crisis. Well, there's a good reason for that - we didn't notice that there was a crisis.

It was jolly kind of Phil Craven to broadcast a message for the cause, but in AA and ACU? Call me old fashioned, but after years of extolling the virtues of WACCI over other, so-called, "magazines" would I really turn to them just because WACCI was a bit late? More sensible places to publish an A.P.B. to members would be,

- a) VIZ
- b) Triathlon monthly
- c) Train spotters Summer Special

It's not that WACCI members are a bit strange <<They are. -Ed.>>, they just enjoy variety in their reading.

Please excuse this arriving as ASCII on a PC format disc but I understand that you can perform wonders these days. The reason is long and involved but I shall tell you anyway.

Now that my long classroom course is over, I am being employed as an instructor in the field of information systems. This involves networking and open systems, the nearest it gets to ground level is PCs. <<Aaargh. -Mike>> I therefore needed something which would be compatible.

Meanwhile my wife has started a career as a teacher and required something which would run BBC and Arc software from school. We therefore decided upon the Archimedes with a rather handy PC emulator thrown in for good measure. This is now used for anything either of us bring home from our respective works and we intended to sell the 6128.

But what about WACCI? CP/M? MAXAM? and Microdesign? After realisation dawned we decided that life would be very dull without the 6128 so we have kept it, disguised as a games machine for our 7 year old daughter. A cunning plan as it gives me an excuse to convert her cabin bed into a CPC 6128 work-station. <<????!>> This should result in a tidier arrangement as the Amstrad was becoming very "back heavy" due to all the connected hardware.

So, while all this is going on I am restricted to typing on the Arc- hence the PC disc. Follow me? <<No, but do

continue>> As a result of the re-shuffle I will be selling some of the 6128 bits and pieces so will it be OK to send in an advert in the not too distant future? <<Ah! So>>

Well I must draw to a close at this point. It just remains for me to say I admire what you're doing and the very best of luck. Yours instructingly<<?>>

Philip Cox  
Blandford

<<Dearest Philip, thank you for your hard earned pound notes, (perhaps we should point out to our other faithful members that these are no longer legal tender.) Seriously though, thanks for staying around - even in disguise - I mean that most sincerely folks.

Crisis? What crisis? Just keep taking the intravenous chocolate digestives, everything will be just fine, including your self-abuse problem, (it usually takes less than 10 minutes to read those comics from cover to lurid, glossy cover, but it could permanently affect your life - assuming you have more than one brain cell connected at the time.)

Such is life. Why do people have to 'grow up'? I use my faithful, (word of the month), CPC for all of my typing needs, both at work and at home. I have few crashes, fewer data losses and no horrendously expensive extras to buy just to get the beggar to work properly. I also suffer from the freely-available, reasonably cheap software syndrome. How's your Arc?

I'm happy for you, Philip, that you're keeping your CPC. You'll need it when your expensive Arc stops working for no apparent reason, or you just want to dash off a quick note to Auntie Methyl. I know. I've been there, read the book, seen the film...

To the point, (if you think I ramble tell me - it won't do any good, but still tell me anyway), PC discs are absolutely no problem. As you can see from this. (You can, can't you?) Uncle Clive, he say Yes! Send in the advert. We can do it. We have the technology. Trust us. -Mike.>>

### TAPED AND TRANSFERRED

Dear Clive, I have today sent in a cheque for £9.00 for 6 months subs to WACCI. I left a message on the BB regarding the WACCI tape library. If

you want any help then let me know. I have the capability to transfer any program from Disc to Tape and vice versa. If anyone wanted a particular program for the 464 I could transfer it to tape for them.

I'm not sure how we would go about payment, but that is something we could work out.

Dave Pratt  
Tonbridge

<<Hello, Dave. Mike here. Thanks a bunch for your help. We appreciate everything the members do to help keep the club going. Uncle Clive thanks you even more than I do. He says the production of tapes is well under way. Expect to have received a package for you to try out before you read this. (Does that make sense? I willen have been willen reading the Hitch-Hiker's Guide series again. It always confuses my sense of tense, (Sheer poetry), and makes me want to write in verse - what could be worse? -Mike.>>

### OFF THE LINE

Dear Clive, your letter about "Printer Off-Line" interested me a lot. I had a DMP2000 connected to a CPC464 and used a similar printer-detection line in a program. It sometimes misbehaved. It would say "Printer Off-line" when it wasn't. I used this test line:-

```
10 PRINT INP(&F500);: GOTO 10
```

And then played with the switches and buttons. Most of the time 30 was printed but sometimes, even though the printer was On-line, 62 was printed. I didn't look for why; I just treated the symptom, successfully, with:-

```
10 IF INP(&F500)=30 OR INP(&F500)=62  
THEN .....
```

The DMP2000 is now connected to my CPC 6128, the print program is the same, (but now on disc) and there is no trouble. I have tried the test line on this set up and it gives 30 with the printer On-line and 94 with it Off. No amount of physical violence will drag out any other numbers.

I have sent off my request for 12 more copies of WACCI and a cheque with just a little extra on it for the club's general fund. It isn't as much

extra as it might be because I am not very wealthy. No! That is not true. Only in the money sense is it so. In other ways I am very wealthy; and now this week, more so: I have another WACCI and look forward to many more. Yours faithfully

Tom Betts  
West Wickham, Kent

<<Hello Tom. Since I received this letter I have tried the routine on my printer. I get mostly 94's and an occasional 95 with the printer Off-line and 30 with the occasional 31 with the printer On-line. Why it fluctuates I don't know. Perhaps it's the printer testing the port, or it could be my KDS 8-bit port. I keep trying to see if there is a pattern to the 31's or 95's but if there is it's too deep for me. Uncle Clive says that if pin 14 on your printer cable is disabled, (that's the one that gives the unwanted line-feeds), it changes the results from the INP(&F500) test. I hope this is of some help to you.

Thanks for the cheque. Money isn't everything is it? That's why every subscription helps folks. Keep that cash flowing in.... Was that really a plane ticket to the Bahamas I saw in Clive's vest pocket at the show? No, it couldn't have been...-Mike.>>

## ALL SET UP AND NOWHERE TO GO

Dear Clive, Paul, <<and Mike!>>, What a superb surprise it was to receive issue 50 of WACCI a few days ago. Having been a subscriber for a couple of years, and what with the recent problems, I wasn't sure that WACCI would ever re-appear. I'd like to congratulate those involved in the tremendous effort in co-ordinating the return of WACCI. Although I have lost about half a dozen 'old' WACCI's worth of mags I send, without hesitation, a cheque for £18.00 to cover the next dozen issues.

I hope all the other subscribers also re-subscribe and keep one of the best AMSTRAD publications going. If I can help I'd be willing to help with 'Poking in the Library'. I have the AMSDOS version of Protex, so I would do it on that.

My current set-up is a CPC6128, a 3.5" Microstyle drive and an Epson LX-850 printer. I have the ability to

transfer data to/from a PC disc, (CPC 3" discs, 5.5" or 3.5" PC discs), so I can do the business. All I ask is 50p for any number of discs you send, plus return postage and disc mailers. If someone sends me one disc it's 50p and for 10 discs it's still 50p. I hope all goes well for the future.

Andy Norris  
Taunton

<<Well met, Andy. Thank you for the offers of help and the good wishes - all greatly appreciated.

Uncle Clive wants to know how you transfer your data? I'd probably tell him to mind his own business, but it's up to you. You can tell me instead if you want to. I'm not one to gossip, but...Uncle Clive uses Comms programs and a Null Modem cable. Know what I mean, nudge, nudge...?

About your disc copying charges. I'm all for the entrepreneurial spirit, so how about it, anyone want any transfers done? - Mike.>>

## DISJOINTED OF GLASGOW

Dear Mike, This letter comes in a slightly disjointed manner due to the WACCI crash. I would like to express my warmest thanks to Clive Bellaby for the re-surfacing of WACCI. Were it not for Clive organising the membership WACCI would be history. Thanx Clive.

July 91

Having used my reliable 6128 for the last three years as a WP, Database, Comms machine and (lets be frank) outlet for my more primitive side i.e. killing alien invaders, I can tell you that I'm more than happy with the beast's performance. Except in one area - Video Graphics. An unusual interest you may think and one limited to a very few individuals, but this might not be the case at all.

At present I make my own videos using graphics programs fed through an MP2 modulator with a Compact Disc player as the audio source. This gives me a video of excellent sound quality coupled with a really miserable, low-definition, grainy picture. The kind of picture quality accepted by people who watch dodgy Scandinavian home movies. This problem affects users of green screen machines who purchased an MP2 in the hope of getting a decent

colour picture, Hi suckers! What I, (we?), need is someone with the technical expertise to build an RGB to video converter.

Having spoken to video engineers and hardware enthusiasts I know this can be done but I lack the necessary equipment and training myself. Before a flood of letters descends on WACCI HQ - I know about the W.A.V.E video connector and, having purchased it, I can tell you that it gives a quality picture in *glorious Black and White*. If anyone can help me with this very irritating and long standing problem I would appreciate hearing from you.

Stop Press! 15.1.92

A little birdie has told me that WACCI's own resident electronics genius has cracked the problem. Rob Scott will provide a CPC to TV/Video SCART connector to club members at a special discount of £14.99, saving £5 over the usual price. As soon as this arrives at Campbell manor I will cast my critical eye over it and hopefully a review will appear in issue 52.

WACCI issue 49 featured three of the best articles that I've read in a long time: Jeff Walker, Glenn Carey and John Ridge. Please take a bow. <<ONE bow only, gents - *between* you.>> Conversely, can I be the first to say "Saffron Sucks". WACCI is a computer Mag - if I want to read trivia I'll buy the National Enquirer or Private Eye. Saffron, don't take this too personally, you write in a clear humorous style which is easy to digest and which has even made the rarely seen Campbell smile appear. It is the *content* of your column that I take issue with - please write about computers.

Finally, I'd like to say that I believe that the continued future success of WACCI depends on you, the club members. Or, to put it another way, "Do not ask what WACCI can do for you, ask what you can do for WACCI".

Peter Campbell  
Glasgow

<<Hello, Peter. Let's go backwards. I don't believe the Campbell smile is all that rare. Anyone who listens to little birdies can't be that dour.

Saffron Sucks Eh? WHAT, I wouldn't like to know, does Saffron suck, (no suggestions please, my imagination is

quite, quite vivid enough.) But then that wouldn't be computer oriented either, now would it, even if Saffron would consent to reveal all, (which she might for a very large fee), it wouldn't do to titillate our members with such a sensual overload? As for trivia, they do provide a bit of light relief, honestly. Trust me.

John Ridge, Glenn Carey and the inimitable Jeff Walker, (Get down boys, you've had your bow), are amongst our best scribblers. Right chaps that's a fiver each. No, I can't take any more bribes today, not even a trip to the Bahamas with Uncle C.

Thanks for the info. I'm sure - in fact I'm abso-damn-lutely certain - that you're not the only member with this interest, (it's a bit of a bugger when your graphics are all out of kilter), and a review sounds absolutely delectable. I can't wait. While you're at it Peter, how's about a video graphics article? I've always wanted a video about Scandinavia, even a dodgy one would do.

I definitely think that it's about time Uncle Clive was re-surfaced. He is, in my (not-so) humble opinion, the great Saint of CPC users everywhere. I often, (read occasionally), think of Uncle Clive as the answer to life, the universe and everything - 42, (or 54 if you read the book carefully), often very misunderstood, occasionally well used, getting worn at the edges and probably very angry or embarrassed by now. I had better leave it off. Best wishes and all that. -Mike>>

### DU DU RAM RAM, DU DU RAM

Dear Mike, Regarding Al Cooper's query about the number of disc drives which can be used with the CPC. I understood that the machine is set up to handle only two. Any more than two and the additional ones have to be switched out. A third drive is available but the mind begins to boggle at the switching required to handle more.

If Al is that ambitious, how about converting the CPC into a mainframe? According to Amstrad's official service manual additional RAM of up to 8160K is allowable Yes, that's right, 8160K. <<I wonder how many three inch discs that is? -Ed.>> As to Public Domain programs I welcomed the article on NSWP in the new series 'The ABC of PD' by Chris and

Andrew. How about one on DU? I had a go at DU.DOC but the jargon made me come over funny and I had to give up.

Ron Hobday  
Clapham

<<Hello Ron, Thanks for the info. I guessed that it might be something like that - Microstyle have a third drive switch which does allow swapping over of external drives (but don't order one unless you want to wait months for it.) The CPC's hardware is limited to two drives, probably for cheapness. CP/M plus does cater for up to 15 drives, (A-P), at a time but the CPC just doesn't have the ability: unless anyone knows different?

8160k, phew! I thought 512k was BIG. Well, Al, how do you feel about it? Anyone else want to try? I can't help thinking that on an 8 bit computer it would be pretty difficult to arrange addressing for that much memory. What would you use it for? Any suggestions, (apart from the obvious very large databases that is.)

Hello NSWP, nice to see you. I am almost certain that dear wrinkly Peter Ceresole wrote an article on DU in a previous issue of WACCI. I seem to remember that he was quite proud of it and very enthusiastic about DU itself, (usually a bad sign - he's a CP/M nutter) so I may actually be correct. However, that's no reason for us not to print

another. What do you say Clive? <<If club members want it, then they can have it. I hope that Chris Carter-Bown reads this bit 'cos he's got to do all the work. -Clive.>>

By the way Ron, if you come over all funny again, put your head between your knees, wave your hands about wildly and drink six pints of Theakston's (or is it the other way round?) It may not solve the problem, but it will convince other people that you've come over funny and they'll cart you away to a nice rest home for the deranged, where you can while away the hours reading the words of chairman Ceresole on DU, CP/M and MS-DOS. Alternatively you could go and work for the B.B.C. -Mike>>

### GOLD PLATED CLEVER CLOGS

Dear Clive, Many thanks for the returned disc, very much appreciated. I know computers tend towards gold plated contacts, but I'm beginning to think that 3" discs are going that way too. Also appreciated are your joint efforts to get WACCI back on course and of course, my commiserations to OMG. It was, one must admit, a great burden for one man to carry, especially after the loss of the lovely Joolz to the halls of Academe. However, back to more mundane things.



Mike will discuss your problems and point you in the right direction

I wonder if the 'clever clogs' out there would let some of us computer thickies into the little secrets that make the difference between the lumbering Basic programs that many of us produce and the slick professional efforts that we all envy.

I have a large number of books on Amstrad programming, but most were written in the early days of the 464 and few, if any, seem to get past basic Basic and use techniques and algorithms that I'm sure have been superseded by all the folks given to prying into the dark and intimate corners of computers. I'm sure there are lots of short cuts to everyday usages, odd firmware calls that do clever things, anything in fact that makes basic programs easier to write and which produce elegant results.

For instance, simple things like how do I change the cursor from a blob to a dot? How do I, say on a card type index, produce highlighted boxes to type the answers into? What's the best way to produce pull-down menus etc.

I'm sure that all the answers are out there somewhere, it seems that nobody has written them down all in one place. So how about commissioning some articles from your experts giving us computer illiterates the benefit of their pokings and prying into the CPC cellars. Who knows what goodies may lurk down there?

Just had another thought. <<Ouch>> Does anybody know of a sideways text printer driver for Protex/DMP 2000 so that I can print booklet style hard copy on A4 paper? If it works with Protex so much the better.

I mentioned 464 literature but in fact I've got a 6128 upgrade ROM and CP/M+ which I acquired by chance in a pile of bankrupt stock discs just in case the above request is only solvable in CP/M+. Best wishes on the re-launch of WACCI, you should have my subs for another 6 months by now. All the best.

Ron Izett  
Maidstone

<<Hello, Ron. Nice to hear from you. My gold plated contacts assure me that 3" discs are still available, but be careful where you get them from. I have just learned a bitter lesson - but more of that some other time.>>Hi there, just a word of warning, three

inch discs prices have gone up by just over 20 percent in the last two weeks and the price is still rising.-Ed.>>

Thanks for your thanks. We are doing this, (at least I am), for purely selfish reasons. WACCI is the only really serious magazine for CPC users. ACU and AA are just kiddies comics, and I have grown away from looking at the (not so) pretty pictures.

OMG and Joolz. Well, never have so many owed so much to so few. Steve carried the burden well, I am sure we all agree, for a long time but in the end it just got too much. Dear Uncle Clive stepped into the breach, (or is that breech?), and roped in his other helpers. We, like the hard-working gnomes that we are, are doing the best we can to keep our club going. We need it and it needs us.

Clever clogs eh? Well, (a hole in the ground with water in it), What do you want to know? How to highlight a piece of text - use a control code. In this case, chr\$(24) or [ctrl]x. You will need two, one at each end of the input command. E.G.(^x=[ctrl]x)

```
10 PRINT "^xWho are you?^x";:INPUT;n$
```

which will highlight the question or:

```
10 INPUT "Who are you?^x";n$:"^x"
```

which will highlight the answer. This has the advantage that you don't have to faff about defining and clearing small windows and the highlight will stretch to the length of your input. You can also add other codes to change the pen and paper colours as you go. For example, this little line will change the pen to bright red and the paper to bright blue in mode 1, assuming you have the default colours, and then change it back again:

```
10 INPUT "Who are you?^n^c^o^b^x";  
name$:"^x^o^a^n^d"
```

(The ^d is the same as ^e, but my keyboard won't produce ^e, (chr\$(0), after using Protex.) Control codes are extremely useful little objects, but you need to be careful with them. There are a number of more or less useful control codes which can be introduced into your Basic programs to produce pretty effects, set up windows, clear all or parts of the

screen and so on. Look in your manual for further details of them. Firmware calls are made using:-

CALL address(,p1,p2,p3,,pn)

where the p's are required parameters, (if any), which may be needed:

&BC02 set all inks back to normal

&BC0E,mde to set the screen mode.  
(mde is 0,1 or 2)

&BB18 Waits for a key press

&BB5A Prints a character, (in the A register) to the screen.

&BD19 Same as FRAME in Basic 1.1

The firmware guide lists them all (or most of them - there are some naughty ones which aren't in there.) These few routines are just a snifter to whet your appetite. There are more where they came from. I'm not technical enough to be able to suggest ways of making the cursor into a dot but it's an interesting problem-ette. Answers on a slightly smutty postcard please.

I know the answers are there. I'm almost sure that some of them are contained within the pages of back issues of WACCI, ACU and AA, (before they went 'toy' of course.) I might even be able to find some of them for you. -Mike>>

---

## L PLATED CLEVER CLOGS

Dear Mike, Welcome to the new unpaid job. Those of us who just read WACCI, really appreciate your efforts. Regarding your remark on removing my "L" plates, I have rather got to like the literation (is that the right word), <<No, AL it's Alliteration>>, of that pen name, and I think I will just let it stand. I'm no poet but it reminds me of Gray's "Elegy" with all those L's ringing nicely together. You know the line, "The lowing herd winds slowly o'er the lee", with Al "The L Plate" ambling along behind them; very rural and peaceful and all that.

I was glad to hear that you can take 3.5" discs. I do everything in D20, as they hold more file names. You will



find that the enclosed disc has been labelled with my EVERYDOS program, so that it has my address on it and it has the file names on the label (*which I find is very helpful.*)

I was amused to see my article about HARDCAT and CATLABEL in last month's issue. That was written several years ago and CATLABEL has now been superseded by EVERYDOS, which is much better. Clive has managed to make it into a serial <<Much better than into a cereal>>. Don't miss this month's gripping instalment.

I see that Chris and Andrew have a review of NEWSWeeP in that issue - and very good it is too. It might interest our members to know that I can supply the NSWP.DOC file as a Protext document, which will print out in booklet form. The file was prepared with the help of Promerge+ which makes Protext into a virtual Desk Top Publisher. I thoroughly recommend it to anyone who wants to extend the Protext ROM. I understand that the CP/M version of Protext has all those facilities in a single disc program. One needs a printer which can do at least 130 characters per line to take advantage of NSWPBOOK.LET. Most modern printers can manage this. I enclose a copy for your perusal.

I also have the JRT PASCAL manual, (Users 1 & 2), in a similar format, (two months hard conversion work), but it needs a printer capable of 160 characters per line. The Citizen and Star printers can manage that one. It is a major undertaking of about 200 pages, (50 sheets), for anyone who wants to print it. You end up with a book which is the size of two Reader's Digests on top of each other; and some book-binding is required.

I can also supply a file of instruction called BOOKBIND.ING on how to do that with home made tools. I have some other DOC files prepared in the same way. That should keep you occupied until next issue, and Spot, Goldie and I can curl up and have a wee doze. Good night.

AL "The L Plate" Cooper  
35 Drumard Drive  
Lisburn, County Antrim  
BT28 2HY  
Phone: 0846 674161

PS. If you think that anyone will be interested in the Booklet files, you

can print my address and phone number if you wish; or you can put the files into the PD library if you prefer.

<<Hello again Al. I'm happy to be here and the enormous sum which dear old Uncle Clive pays me every month is going to keep me at it for a while. We all know and love you as "Al the "L" Plate" and know that (like World War II generals) you wouldn't be the same without your medal. I wouldn't be the same without the plate in my head.

If you've got it we can take it. That's what I always say. If I can't handle it on my own I know an Uncle Clive who can. He's been at it longer than I have anyway. As for EVERYDOS and the manuals I'm totally gob-smacked by them. So much so that I have sent your disc off to Uncle Clive for his perusal. I'm sure he will be impressed. The sample you sent with the disc was an impressive piece of work indeed.

I can highly recommend the program, (written in Protext), to anyone who uses Promerge plus, (I do, of course), and the book-binding instructions are clear and superbly illustrated. Many thanks Al. -Mike.>>

### GOING, GOING, (ALMOST GONE)

Dear Clive, Thanks to you and the gang for Wacci 50, I thought I had seen the last of WACCI.

Due to changed circumstances, i.e, early retirement/redundancy, I find myself with a CPC 6128 that gets no use. Before retirement I was coerced into getting a PC so that I could do work at home. The machines at work were all PCs'.

I now have so much PC software that the CPC is unused. Having got my brain used to MSDOS I cannot go back to AMSDOS. Therefore I must reluctantly dispose of the 6128, so could you please insert the following "FOR SALE" list in the next WACCI?

As I am clearing out all CPC gear I shall no longer be looking out for WACCI every month <<We'll be sorry to see you go. -Ed.>> however please accept the enclosed cheque for your funds and my thanks for past enjoyment (and entertainment). I wish you luck for the future.

Fred Southwell  
Brighton

<<Hi there Fred, just to confuse you (*and everybody else*) this is your old Uncle Clive answering. We're sorry to see that you are moving onto 16 bits, you do of course realise, that the extra 8 bits are only there to confuse and serve no real purpose.

It will be a pleasure to publish your advert and I hope that your faithful CPC finds a good home. Thank for the donation. TTFN. -Clive.>>

### FOR SALE

AMSTRAD CPC 6128 & Colour Monitor

WITH

Amstrad FD-1 3inch External Drive.

Pace RS232 Serial Interface with Commstar on Rom.

ROMBO Rom box with Protext, Maxam, Utopia, CAGE (prestel), Discpower Utilities and Toolkit all on Rom.

SUPERPOWER sideways Rom card.

AMX mouse and adaptor.

SOFTWARE ON DISC;  
Microdesign, Cherrypaint, PLAN-IT.  
and 25 discs of PD software.

All manuals and instruction books.

BOOKS;  
"CP/M The Software Bus"  
"Introduction To CP/M Plus On Amstrad Computers"  
"100 Programs For The Amstrad"  
"Assembly Language Programming For The Amstrad"  
"The Amazing Amstrad Omnibus"

Most hardware has original boxes.

ALL IN PERFECT CONDITION.

ALL THIS AND ANYTHING ELSE I CAN FIND! £265.ovno.

Reason for sale:  
Enforced change to a PC so I'm clearing out all Amstrad gear.

Tel 0273 (BRIGHTON) 493079  
(before 8PM any evening)

## IN AND OUT OF THE GUTTER

Dear Joolz II, <<Watch it, sonny>>, It's a delight to see the return of fixed pitch condensed.

Some time ago we were asked what we thought about the new-look pages in WACCI. I wrote to say that I preferred the old style, but my letter didn't find its way to the Fair Comment pages. This is what I said then:-

"What about the typeset page? I did not like the 'new look' pages of the February 1991 WACCI. Proportional typeface should be easier to read, but pages 28 and 29 hurt my eyes. Stick to dotty condensed. Gutter rules can sometimes be used to aid the reader, but if they are not necessary they are a distraction. Boxes help; but why separate two boxes with a gutter rule?"

May I suggest that you try a page or two, or even a whole issue of a future WACCI formatted to the standard 38-column width, but without the columns being justified and no gutter rules, to see what readers think. If they don't like it, then stay as we are. I have tried masking the rules on page 29 of the February issue, which has unjustified columns, but the result is not a good enough example to judge by.

There is another consideration when columns are 'ragged right'. When paragraphs are indented the resulting 'ragged both sides' can look ugly. The remedy is to use an extra line feed between paragraphs and have no indent. Lines are lost, but can be rescued by making a tiny decrease in line feed. Now that there are no wide gaps between words there is less chance of the reader's eye dropping down a line as can happen when inter-word space is more than inter-line space." The unjustified non gutter-rule sample never came, and I considered making my own sample sometime.

This Saturday I'd had a bad morning. It was not a very enjoyable pedal into town for a meeting which went on and on (*despite the chairman's attempts to keep order*) and I got back home too late to see the Scotland-England rugby game on the box. As I sat by the fire, unwinding, it suddenly occurred to me that producing a three column page was not the task I assumed it might be. Use my word processor to re-format text, unjustified, to the new width; save it as an ASCII file (PRINTF on Protex); use the following program:-

```
100 REM Three Column Trick
110 REM by Tom Betts
120 REM WACCI Club, founder member
140 DIM z$(900)
150 CLOSEIN:REM Kills
      error message
160 OPENIN "filename"
170 n=0
180 WHILE NOT EOF
190 n=n+1
200 LINE INPUT #9,z$(n)
210 gutter=43-LEN(z$(n))
220 z$(n)=z$(n)+SPACE$(gutter)
230 WEND
240 CLOSEIN
.
.
.
1000 FOR i = 1 TO 61
1010 PRINT #8,z$(i)
      z$(i+61)z$(i+122)
1020 NEXT
```

prepare the printer for condensed and left margin, and that's it for the first page. Amend the numbers in line 1000 for the following pages. Add 183 to each.

Finally a question: How should we best send our letters to Fair Comment: Hard copy? On disc? Both? If on disc, what format? That'll do.

Tom Betts  
West Wickham

<<Hello again Tom. Keep on writing. Joolz II, indeed - as if I could be compared to the incomparable Joolz. Humpf. (*I'd look absolutely ridiculous in her dresses and her eyes would not match my best handbag - red was never my colour.*)

Disc is the best way to send in your letters - always. Disc letters take a lot less time because they don't have to be typed in and they don't leave one open to errors. (See Jim Scott's letter.) The disc can be practically any format, though if you send them to me direct then 3 or 3 and a bit discs in AMSDOS or RAM/ROMdos formats are the easiest to deal with. Uncle Clive can deal with almost anything from virtually any word processor, (even if we can't load the file directly we can usually hoik the sectors off the disc and sort it out that way. Again, our preference is for straight Protex document files because they take the

least amount of time to deal with. To rule or not to rule, that is the decision. I, personally, like the present column style.

As you say, unjustified text can look ugly on the page, (that's why most newspapers use justified text - even though they occasionally manage to get only two or three words in a line.) I generally use the blocked style, (no indents, full justify, blank between paragraphs), in my personal and official correspondence.

It has taken me a little time to get used to indenting and no blanks, but for a magazine I think I prefer the present style - and Mother does too. As for using smaller line spacings I doubt if my astigmatic eyes could cope with smaller gaps.

I have tried your little program and I must say that it does work well, however I still prefer the original. (*by the way, it also works with justified text in columns.*) What does everyone else think about this? Let us know whether you would prefer WACCI to be ragged-right or full-justified.

Uncle Clive says that if it's practical he'll do a page your way as a sort of free trial <<*I almost did it, read Simply Saffron, Page 28, not yet though.* -Clive>> and members can then vote on it in the Members Survey which *should* appear in issue 52 or Issue 53. (*Where have I heard that phrase before?*)

Have you noticed that bad Saturday mornings are the source of most of the great solutions to the world's problems? No? Neither have I. -Mike>>

<<Hi there Tom, the 'Simply Saffron' layout goes some of the way towards trying out your idea. I've not got it right yet. I'll try a some different variations of the same theme in issue 53. The survey may (or may not) be in issue 52, I'm still waiting for it to arrive. Best wishes. -Uncle C.>>

*Thick am I? How dare they say say that about me! Hmmm.*

*Now where did I put that short plank?*



# FORTH

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

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

Loads of new commands and helpful advice from Alan and Clive

## Introduction

Hi there fellow Forthites, 'Tis us, once again we delve into the wonderful world of Forth. In this issue we have loads of exciting things for you to learn. So without much further ado the Terrible Twins will start delving.

## Printer ON ?

In WACCI revisited, issue 50, page 22 one of Alex Aird's old disc catalogue programs was reprinted. This used the novel idea of switching the jumpblock addresses to redirect screen output to the printer and vice versa.

So we decided that we would do the same in Forth by creating two new words, PRINT-ON and PRINT-OFF. So just to show it can be done, here they are.

The two new words only use two Forth commands, 'C@' and 'C!'. Let's quickly explain what these two words do.

'C@' takes the format 'address C@' and it copies the ascii value (range 0 to 255) from the specified address onto the data stack.

'C!' takes the format 'address C!' and it removes the ascii value (range 0 to 255) from the top of the data stack and stores it at the specified memory address. The '@' is usually called fetch and the '!' called store.

## The Two New Words

FORTH DEFINITION HEX

```

: PRINT-ON
  BD2C C@ BD2D C@ BB5B C@ BB5C C@
  BD2D C! BD2C C@ BB5C C! BB5B C!
;

: PRINT-OFF
  PRINT-ON
;

```

DECIMAL

Fig 1

PRINT-ON swaps the firmware jumpblock addresses over. To swap the addresses back to their original values we could use PRINT-ON. However this does not appear to make sense. So we preferred to define a second word, PRINT-OFF. This makes understanding what they are used for a lot easier.

## Print and be merry !

You must ensure that the new words you have defined work correctly. So it's onto the testing stage. Let's quickly define another new word that will test our two new words.

## The Test Word

```

: TEMP
  PRINT-ON
  ." Hello Dear Printer "
  CR
  PRINT-OFF
;

```

Fig 2

The next stage is to compile the three words and when they have been compiled we enter:

TEMP [CR] (CR means press Return)

and your printer will burst into life and *Hello Dear Printer* will appear on the paper. Provided (of course!) you have a printer, that it is switched on and loaded with paper ready to print.

The Forth word 'CR' sends a carriage return to the screen, or in this case to the printer. If you miss out the CR the printer will not burst into life, it will just sit there and do nothing until the printer buffer is full. Then it will print the whole of the printer buffer contents.

Screen output is defined as a string which is enclosed by a '.' at the start and a '' at the end.

## Machine Code Definitions

Forth does not just limit you to using the existing words to build up new words. You can define your own machine code routines as well. We used a machine code routine to define the printer commands we added to Forth.

At the heart of all the printer commands are two Forth words. PRINT and PRINT1. PRINT1 is the machine code word definition and it is controlled by PRINT which is a Forth word.

## Create a Word

Machine code definitions are started with the Forth word CREATE. This tells the compiler that it is dealing with a machine code definition. Machine code definitions can go *horribly* wrong so it is *very* important that you plan what you are going to do. This will avoid all those *nasty crashes* that are caused by the lack of planning.

## Smudge the ending

Machine code definitions end with the Forth word SMUDGE. This, in our humble opinions, is one of our favourite word names. SMUDGE sets the last character bit in a word name high, by adding 127 decimal to the value. Forth uses this high bit as an end of word marker.

If you use the DUMP command to dump part of Forth's dictionary to the screen you will see what we mean, try,

2000 500 DUMP [CR]

The contents of the dictionary are dumped to the screen, starting at address 2000, and finishing 500 bytes later on. The ascii code values are on the left and the ascii characters are on the right hand side.

PRINT-ON 2000 500 DUMP PRINT-OFF [CR]

Dumps the contents of the Forth's memory to the printer. I knew that the

new word definitions would come in handy. <<however I never thought that I would use them so quickly. -Clive.>>

### The way it was !

We decided <<Clive chose! -Alan.>> the easiest way to tackle the problem was to define a simple machine code routine that printed out a single character and then poked the character we wanted to print into the routine.

So we needed to define two new words, the print routine word and the poke the character into print routine word. It's at this point we reached for the trusty Soft 968 Firmware guide to find the commands we wanted. As well as all the entry and exit conditions and other worthwhile notes. We needed to outline the new words and find the relevant commands.

### The outline for PRINT1

PRINT1 is the name we gave the machine code routine that was going to print a character. The outline is:

```
save register values
wait until the printer is ready
print a character
restore register values
jump to the next word
```

### The Cheat !

As you are all well aware, CP/M 2.2 and Amdos share the same memory layout, the screen is in the same place, the firmware jumpblock are in the same place and so on ..... So we used MAXAM and PROTEXT to write and test the machine code routine.

### The Actual Machine Code Routine

```
push BC      ;Save BC register
push DE      ;Save DE register
push HL      ;Save HL register
push AF      ;Save AF register

print_1
call &BD2E   ;if printer busy
;           carry flag = true
jp C,print_1 ;if true jump back
ld A,2A     ;load A with a '*'
call &BD2B   ;print char in A
pop AF      ;restore AF
pop HL      ;restore HL
pop DE      ;restore DE
pop BC      ;restore BC
```

MAXAM being the user friendly program that it is compiled this routine and gave us all the hex values we needed to complete the task, except one.

### Jump (Dump) to it !

We still needed to find the address to jump to after the routine had been completed. This is where the DUMP command came in very handy. We dumped a copy of the dictionary onto the screen. Then we looked through the dump until we found the jump address we were looking for.

Sure enough, there it was in the middle of the dump, JP &0145, the address we needed. This jump address takes Forth back to the correct place to start the next command from.

The next stage was to convert the assembler code into hex. This was a very easy task, MAXAM lists the hex values as it compiles a program. The hardest bit was writing them down on a scrap of paper.

### The Hex Codes

Assembler	Hex values
push BC	; C5
push DE	; D5
push HL	; E5
push AF	; F5
print_1	
call &BD2E	; CD BD2E
jp C,print_1	; 38 FB
ld A,2A	; 3E 2A
call &BD2B	; CD BD2B
pop AF	; F1
pop HL	; E1
pop DE	; D1
pop BC	; C1
jp next	; C3 0145

We covered the 'C!' and 'C!' commands earlier in the article, these store and fetch single character values in the range 0 to 255 inclusive.

When you assemble machine code words in Forth you use two new words which are similar 'C,' and ',,'.

The 'C,' word defines a single character value in the range 0 to 255 decimal that is going to be compiled and ',,' defines a value in the range 0 to 32767 decimal that it be compiled.

We now have all the facts and details

we need. So we can now compile our first definition. So without a seconds hesitation, here is the definition:

### PRINT1 Definition

FORTH DEFINITIONS HEX

```
CREATE PRINT1
C5 C, D5 C, E5 C, F5 C, ;push regs
CD C, BD2E ,           ;call BD2E
38 C, FB C,           ;jump back
3E C, 2A C,           ;ld a,"*"
CD C, BD2B ,           ;call BD2B
F1 C, E1 C, D1 C, C1 C, ;pop regs
C3 C, 0145 ,           ;jump next
SMUDGE
```

We have now completed the first part of our task, defining PRINT1. We now need to find a way of poking the value to print into the PRINT1 routine.

### TICK, It almost done !

We mentioned in a previous issue that the "' (tick) command returns the address of a word in the dictionary. It uses the format:

```
' word_to_be_checked
```

We can use this to find the memory address of PRINT1. We then use this known starting point and add an offset to this address to give us the address of the character that is loaded into the A register ready to be printed. In this case the offset is ten (0A hex).

We also know that 'C!' is used to remove a character (range 0 to 255 decimal) from the data stack into memory. we have all the facts so lets define the word PRINT.

### PRINT Definition

```
: PRINT      ( n PRINT )
' PRINT1    ( get address )
OA +        ( add offset )
C!          ( store value )
PRINT1     ( print value )
;
```

The value to be printed must be on the data stack before we use PRINT. Almost out of room so. That's it for now. So it's go Forth from him and multiply fr

# WACCI

## revisited

In 1986 Alex Aird said "Headerless files aren't a problem"

### INTRO

Headerless files are a useful way of saving large chunks of memory to tape in one go rather than as a lot of individual blocks. This can be very useful when saving screens etc.

### FOLLOW THE LEADER

Headerless files do have a header (or leader) of sorts but it's just a small leader. All tape programs have this leader so the computer can tell the difference between programs and taped music, for example.

Most of the leader is of no concern to us, we need only worry about one byte, the SYNC byte. Recommended SYNC bytes are &2C for headers and &16 for the main part of the block.

You can, of course, use other values for the SYNC byte, but they must be the same when saving and loading. If you forget the SYNC byte, you won't be able to load the program. The sync byte forms the basis of a common protection system.

### READ THAT CASSETTE

By using CAS WRITE (&BC9E) you can write a unique save routine of your own. Then read saved files back in using CAS READ (&BCA1). There isn't much to it, just a very short piece of code. The following is an example of how to save, then load back a screen. Use a WACCI screen, or a screen from a game if you like.

These machine code routines only work on tape drives. You cannot save headerless programs to disc.

The machine code routine (Fig 1) saves a screen picture to tape. Screen pictures start at memory address &C000 and are &4000 bytes long. The second

## THE HEADERLESS PROGRAMS (by Alex Aird)

Fig 1: SAVE a screen as a headerless file.

Hex Code	Assembler Mnemonics	Remarks
	ORG &A000	Program will be loaded to &A000
21 00 C0	LD HL,&C000	Address from which to start saving screen
11 00 40	LD DE,&4000	Amount of memory (in bytes) to save.
3E 16	LD A,&16	The SYNC byte.
CD 9E BC	CALL &BC9E	CALL CAS WRITE
C9	RET	Return (to Basic)

in Basic this becomes: 100 DATA 21,00,C0,11,00,40,3E,16,CD,9E,BC,C9

Fig 2: LOAD a headerless file into the screen memory.

Hex Code	Assembler Mnemonics	Remarks
21 00 C0	LD HL,&C000	Address to load the program to.
11 00 40	LD DE,&4000	The file length. There's no need to load all of it. You can load less if you want.
3E 16	LD A,&16	The SYNC byte.
CD A1 BC	CALL &BCA1	CALL CAS READ
C9	RET	Return (to Basic)

In Basic this becomes: 200 DATA 21,00,C0,11,00,40,3E,16,CD,A1,BC,C9

Fig 3: The complete program.

```
10 MEMORY &9FFF: FOR a=&A000 to &A017: READ b$
20 POKE a,VAL("&"+b$): NEXT
100 DATA 21,00,C0,11,00,40,3E,16,CD,9E,BC,C9
200 DATA 21,00,C0,11,00,40,3E,16,CD,A1,BC,C9
```

Save the program. Then type 'NEW' after the Basic program has been saved to tape or disc. The Basic loader disappears, however the machine code remains in memory. Machine code routines are not affected by the 'NEW' command. To remove the machine code routine use the "Control-Shift-Escape" reset.

machine code routine (Fig 2) loads a screen picture from tape and displays it on the VDU screen.

Those of you who *do not* possess an assembler such as Maxam, need to use the complete program (Fig 3) to load the machine code into memory.

## SAVING AND LOADING

After you have successfully installed the machine code routine you'll need to write two short Basic programs. These use the machine code to load and save screens. Although the examples refer to screen pictures any program can be saved using this method.

All you need to do is: enter, save and then run the save program (Fig 4) to save a screen or program to disc. Then do the same with the load from tape program (Fig 5.) This recalls the screen or program from tape.

After the screen or program has been saved to tape, you must remember to rewind the tape before loading the data back into the computer.

## MOVED ADDRESS

The screen load and save program does not have to be loaded to &A000 you can load it somewhere else if you want. Just change all the references to &A000 and the calls to suit yourself. Easy this machine code, *isn't it!*

## TEXT FILES

For those of you who have some of the very early tape versions of WACCI we have a program which will read in the text files a screen at a time. This program can be used to read any text file, provided the text file contains a last line which reads "STOP". Disc users should add an extra line to the text file reader:

```
90 !TAPE.IN
```

All you do is: enter, save and finally run the text file reader (Fig 6) and then place a tape containing the file you wish to read into the tape drive.

Finally we come to the last program (Fig 7) in this series, this reads a text file from a disc, one screen at a time, without using tapes at all.

## GOODBYE !

That's all there's room for this month so I'll have to go (*sniff sniff*). Next month, we have RSX's and other things.

## MORE HEADERLESS PROGRAMS

Fig 4: File SAVE program. Save a headerless file or screen to tape.

```
10 LOAD"!WAC-8611.SCN",&C000 'load a screen picture (alter the name to suit)
20 CALL &BB18 'wait for any key to be pressed
30 CALL &A000 'call the save screen (or program) routine
```

### PLEASE NOTE:

1. When using CAS READ and CAS WRITE to load and save screens or programs there are no prompts so you must work blind.
2. If you are loading a screen or program from tape, then you should change tapes after the screen has loaded, otherwise you'll overwrite whatever is on the original tape.
3. If you are loading the screen or program from disc, then you should have a tape recorder connected. Press REC and PLAY after the picture has loaded from disc and before you press a key to continue.
4. Disc users needn't bother about !DISC and !TAPE. CAS READ and CAS WRITE only work with tapes. They cannot be used with a disc drive.

Fig 5: File LOAD program. Load a headerless file or screen from tape.

Now rewind the tape and run this program to load the screen back. Don't reset the computer though or the machine code at &A000 will vanish!

```
10 BORDER 21: INK 0,11: INK 2,25: INK 3,10: INK 4,26: INK 5,0
20 INK 9,9: INK 14,15: MODE 0 'or whatever...
30 PRINT "Press PLAY then any key"
40 CALL &BB18 'wait for any key to be pressed
50 CALL &A000 'call the load routine.
60 GOTO 60 'prevent the Ready message appearing
```

Fig 6: WACCI text file reader.

```
100 OPENIN"! "
110 WHILE a$<>"STOP"
120 IF a=20 THEN GOSUB 140 ELSE LINE INPUT#9,a$:PRINT a$
130 a=a+1: WEND: CLOSEIN: GOTO 100
140 a=0: PRINT"Press a key for more": CALL &BB18: RETURN
```

### PROGRAM NOTES

The counter (a) displays 20 lines at a time then pauses until you press a key. Blocks will be fetched from tape constantly as you are reading WACCI, so leave the PLAY key pressed.

Fig 7: TEXT file reader. DISC users only.

```
10 MODE 2:CAT
20 INPUT"Enter the name of the file you wish to view : ";file$
30 OPENIN file$
40 a=0:CLS
50 WHILE NOT EOF
60 LINE INPUT #9,a$:PRINT a$
70 a=a+1:IF a=20 THEN PRINT:PRINT"press any key":CALL &BB18:a=0:CLS
80 WEND
90 CLOSEIN
```

For printed output, change line 60 to: LINE INPUT #9,a\$:PRINT #8,a\$

# VERY BASIC

# basic

Written by  
Alan Tilling

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

THIS ISSUE ALAN ENSURES YOU ALWAYS GET A RELIABLE DATE

Hello again everyone, 'tis I

### For Newcomers

To help out all you newcomers to Basic I am going to devote a couple of paragraphs specially to you. If you're not too sure about the use of the Basic keywords don't worry. You cannot damage the computer by inputting an incorrect program. The only thing that will damage your trusty computer is spilling a drink into the keyboard, using it out-of-doors, hitting it with an axe or something similar.

### Go on, try it out

Type in any non-Basic word, go on.... any word, you can even use four-letter words (eg. *work, cash, debt, etc.*) <<etc's not a four letter word. -Ed.>> The worst that will happen is that the computer will respond with "Syntax Error" which simply means that the computer has searched through its bank of preprogrammed keywords and has not found your word. In other words it's saying: "I don't understand."

In short, all this means is when you think up a simple program, say, to print your name in the middle of the screen, then have a go. You might get it right first time or you may not.

If you get it wrong, try to analyse where you went wrong and try, try again, eventually you'll do it.

### For everyone

Right, this month's offering. It's a program which, when you enter a date as, say, 25/12/91 the computer will write out the month for you and add the century eg. December 25, 1991. The

one proviso is that it will only work for the 1900's so if in ten years time you enter 6/5/01 it will reply with May 5, 1901. I can't think of any practical use for it, but it does demonstrate some interesting ideas.

### The Program

Let's see fig.1. Line 10 clears the screen and sets up the 40 column mode. I'm using green (9) ink on black (0) paper with a black (0) border, The other two inks are not being used. Line 20 looks like a comment on my intelligence but no, it's short for DIMENSION.

The keyword DIMENSION sets up the size of an array to hold the months of the year which will be used later and since there are 12 months the size required is 12. An array is just a crafty way of putting more than one item in a single variable.

Well, it is a multiple variable really but with a single name and the way each item is recognised is by giving it a number (*known as a subscript.*) I'll explain more about this later.

### Get yer input here!

The next line is a standard input line which places the response into a variable called *date\$*. (you need a \$ because although the date is numeric the /obliques/ are

not.) The lines 40, 50, and 60 are the title lines for the subroutine which starts: *cntr=cntr+1 (cntr=counter).*

When the keyword RUN is executed Locomotive (Amstrad) Basic resets all variables so, *cntr* counts from 0 in

```
10 MODE 1:INK 0,0:INK 1,9:BORDER 0
20 DIM m$(12)
30 INPUT "Please enter date (d/m/yy)",date$
40 :
50 REM ----- Get day -----
60 :
70 cntr=cntr+1
80 day$=LEFT$(date$,cntr)
90 IF RIGHT$(day$,1) <> "/" THEN 70
100 day$=LEFT$(date$,2)
110 IF RIGHT$(day$,1)="/" THEN 111 ELSE 112
111 day$=LEFT$(day$,1):GOTO 140
112 day$=LEFT$(date$,2)
140 :
150 REM ----- Get month ----
160 :
170 cntr=cntr+1
200 month$=MID$(date$,cntr,2)
210 IF RIGHT$(month$,1)="/" THEN 211 ELSE 212
211 month$=LEFT$(month$,1):GOTO 240
212 month$=LEFT$(month$,2)
240 :
250 REM ----- Get year ----
260 :
270 year$=RIGHT$(date$,2)
280 month=VAL(month$)
290 DATA January,February,March,April
300 DATA May,June,July,August,September
305 DATA October,November,December
310 FOR loop=1 TO 12:READ m$(loop):NEXT
320 PRINT m$(month) " " day$, " " year$
330 '
340 END
```

fig 1

# PROTYPE – THE RETURN OF ARNOR!

## Did you think Arnor had developed their last CPC product?

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

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

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

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

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

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

Replace operation	Delete 17k block
<i>Program A</i> - 94 secs	<i>Program A</i> - 17 secs
<i>Program B</i> - 74 secs	<i>Program B</i> - 15 secs
<i>Prottext</i> - 5 secs	<i>Prottext</i> - 1 sec

### Prices

<i>Protype</i>	£30	(disc, <i>Prottext</i> not required)
<i>Prottext</i> + <i>Protype</i>	£45	(disc)
Rombo ROM box	£20	(when at least one ROM is purchased)

### ROM prices

<i>Prottext</i>	£25	Promerge Plus	£20
Maxam	£25	Utopia	£20
Prospell	£20	Maxam 1½	£20
		BCPL	£20

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

Liquid <sup>293K</sup>	$c_p / J \text{ kg}^{-1} \text{ K}^{-1}$
① Acetic acid ( $\text{C}_2\text{H}_4\text{O}_2$ )	$1.96 \times 10^3$
② Acetone ( $\text{C}_3\text{H}_6\text{O}$ )	$2.21 \times 10^3$
③ Water <sub>sea</sub> ( $\text{H}_2\text{O}$ , salts)	$3.90 \times 10^3$

supports over 40 European languages including:

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

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

**B** just some of the non-ASCII symbols:  
 « » „ “ ” ¡ ¢ £ ¤ ¥ ¦ § ¨ © ª « » ² ³ ´ µ ¶ · ¸ ¹ º »  
 ← → # ¢ ß ð Ð þ Þ ø Ø  
 å Å æ Æ œ Œ † ‡ † ‡ † ‡  
 ←line graphics too→

**Protype** (disc only) works on:  
 ○ Amstrad CPC6128 [+]  
 ○ CPC664 & 64K expansion  
 ○ CPC464 & 64K expansion & disc drive  
 Uses less than 350 bytes of the main 64K.

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

### PROTYPE IS VERSATILE:

- multiple diacritics (accents) with any letter (è ñ ÿ Å)
- tabulates proportional text / micro-justifies spaces
- 240 DPI × 216 DPI resolution on a 9-pin printer!
- works with all 9-pin or 24-pin Epson-compatible printers
- use from *Prottext*, Basic or machine code
- includes the seven fonts used in this demonstration
- choice of character designs within a font (page or page)
- !xs1 ñ onil d ñ pñipomi rorrim
- superscript, sub script, underline, **b** box, **e** encircle
- kerning (spacing of 'difficult' character pairs (AV))

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

Releasing your micro's potential...

# ARNOR

Arnor Ltd (AA), 611 Lincoln Road, Peterborough PE1 3HA. Tel: 0733 68909 (24 hr) Fax: 0733 67299

All prices include VAT, postage and packing. Credit card orders will be despatched by return of post. If paying by cheque please allow 10-14 days for delivery.



increments of 1 every time line 70 is passed. At 80 the variable called `day$` is made equal to a number of characters from the left hand end of `date$`. The quantity of characters is set by the value of `cntr`. Similarly, the next line looks at the one character of `day$` starting from the right hand end and checks to see if it is a "/" thus revealing the end of the day number section of the date.

### Here it comes !

Let's go through that again slowly and imagine the date entered was bonfire night (19)56. Line 70 `cntr=1` (80) `day$=1st character (5)`.

Line 90 asks "is the first character counting from the right a /?" No? then go back to Old Kent Road. Sorry, go back to line 70.

`Cntr` is now 2. And in line 80 `day$` now equals two characters (5/) but line 90 says if the right-most character of `day$` is not equal to a / ... Well it is so the rest of the line is ignored. Line 100 says take the first two characters of `date$` and put them into `day$` overwriting what is already there.

### The clever bit

Line 110 says take `day$` and look at the single right-most character. If it is a / then take the first character from the left and insert it in `day$`.

In our case `day$ = 5/` and so the right-most character is a / and the first character from the left is what we want. However, line 110 goes on to say that if the target is not a / then

`day$` is the first two characters. if we imagine the 25th has been entered as the day count. Now go through the routine again and you will find that the `day$` value will be correct.

The months are found in a similar manner. But lines 70, 80 and 90 keep count of where the program is up to in the original date (`date$`) but line 100 totally ignores the counter and takes the first two characters of `date$`.

However, the Get Month sub-routine uses the counter to find out where the month is. Another variation is that the month number is in the middle of the date so the keyword `MID$` is used in line 200 which says "Set the contents of `month$` to the two characters starting at character number (`cntr` value)". Assume that the date is 10/5/91 and `cntr` is at 3 then `month$` will be set to 5/

```
1 0 / 5 / 9 1
1 2 3 1 2
```

The year is extracted as the right-most pair of characters of `date$`, whatever they are. No check is made so your trusting little Amstrad will assume that you are being honest and will accept anything here, even punctuation marks.

### Flavour of the month

A statement new to Vb8 is met at line 270, `VAL`. This isn't short for Valerie but is short for `VALue` and in effect it converts a string variable into a number variable.

If an ordinary variable name is used then the computer will only put numbers into it, so if you want to put strings of characters in to it, then a dollar sign (usually pronounced string) must be appended as has been done, because at one stage `month$` contained a "/".

Whip along to 310 and a `READ` statement is found. This read is to go around a loop 12 times and fill up `m$` with the months of the year (remember `m$` being `DIMensioned` in line 20?).

### Hello Val !

Now comes the reason for needing the `VALue` of `month$` and the whole point of the program. At line 320 is found the `PRINT` instruction which says, among other things, print `m$`. But `m$` is a subscripted variable and, as such,

requires a number as a subscript. So 320 is `PRINT` the contents of (one of the twelve pigeon holes of) `m$`, a space (marked by quotes), the contents of `day$`, a comma, a space, 19 and then the contents of `year$`.

Notice `day$` is not enclosed in quotes, whereas the space and , 19 is. If `day$` was enclosed in quotes then the word `day$` would be printed, not its contents. The 19 gives away the reason why this program can't be used next century. If you do want to use it in ten years time just change the 19 to 20. I wonder if you changed it to 17 you could con somebody into thinking your computer was an antique Georgian model... Hmmmmmm.

### Improvements

Most programs can stand a little bit of tidying up and improving and this one is no different, so have a look at fig.2 (it's on the next page.) These lines will add to, or modify, the fig.1 program already in memory.

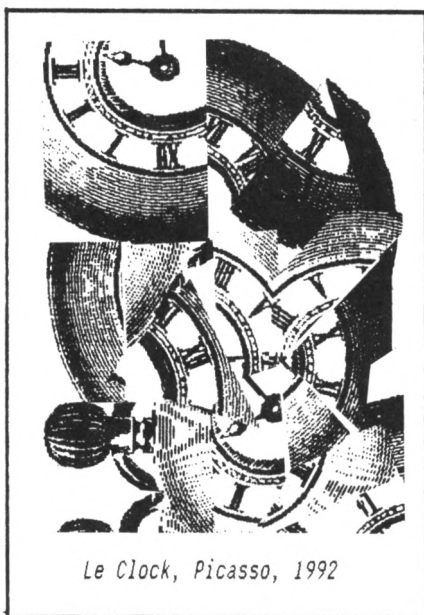
The first change is that line 70 is now `cntr=2` and 80 and 90 have been deleted. All that lines 70, 80, and 90 did, was to go round until `cntr` was at least 2. (`cntr` can only hold either 2 or 3 characters). Line 110 has been changed to combine lines 111 and 112 and say that if the `ELSE` section has been actioned then `cntr` must equal 3.

The main improvement to this program is the inclusion of "day validation". Have a look at 286 which is in effect "If any month has more than 31 days say so, then go to line 70 and start again. 287 does the same thing for September, April, June... February of course is a pain in the neck because leap years need to be taken into account. To see if the year entered is a leap year it is divided by four and compared with the `INTEger` of the year divided by four. If they are the same then the year is a leap year. This works like this...

### Here it comes, again !

Assume 1992 is entered then the `year$=1992` and so `year$/4=498` and the `INTEger` of `year$/4=498`, which means that 1992 is a leap year so February will have no more than 29 days.

If 1991 was entered then `year$/4=497.75` but the integer of `year$` would be 497, they would not be equal and so line 289 says that there can be up to



Le Clock, Picasso, 1992

28 days. Strictly speaking, since there can never (*never, say never!*) be more than 29 days in February, line 288 could be shortened to...

IF month=2 AND VAL(day\$)>29 THEN 340

but I have left the longer version to

assist with the explanation. All these validation lines end with GOTO 340 which not only sends the program back to (near) the start but it tells why it has done so.

Long live user friendliness. Before I go, another refinement is that the computer could check for a birthday or

a similar event. Easily done, add this between line 289 and 290 (you'll need to do a RENUM first.)

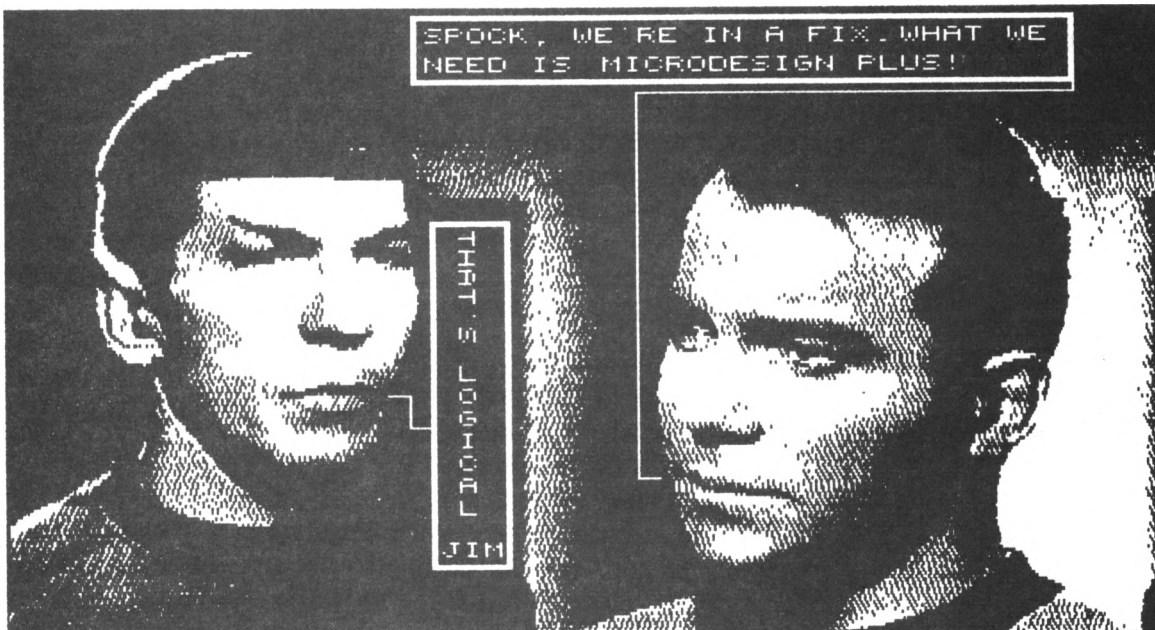
IF month=12 AND day=25  
THEN PRINT "Happy Christmas"

*'Till the next issue, Bye for nowwww.*

### THE AMENDMENTS TO PROGRAM ONE

Action	New Line
(amend line)	70 cntr=2
(delete line)	80
(delete line)	90
(amend line)	110 IF RIGHT\$(day\$,1)="/" THEN day\$=LEFT\$(day\$,1) ELSE day\$=LEFT\$(date\$,2):cntr=3
(delete line)	111
(delete line)	112
(add line)	275 day=VAL(day\$)
(add line)	285 year=VAL(year\$)
(add line)	286 IF day>31 THEN 340
(add line)	287 IF day=31 AND month=9 OR day=31 AND month=4 OR day=31 AND month=6 OR day=31 AND month=11 THEN 340
(add line)	288 IF month=2 AND VAL(year\$)/4=INT(VAL(year\$)/4) AND VAL(day\$)>29 THEN 340
(add line)	289 IF month=2 AND year/4<>INT(year/4) AND day>28 THEN 340
(amend line)	320 PRINT:PRINT m\$(month) " " day\$, 19"year\$:PRINT
(amend line)	340 PRINT:PRINT"Day count too great. Please re-enter.":PRINT:PRINT:GOTO 70

fig 2



Printed on the Star LC-10  
9 pin dot matrix printer.



**THE  
ENHANCED  
PROGRAM CAN  
NOW FOR THE FIRST  
TIME CONVERT & IMPORT:**

- \* ASCII FILES FROM PROTEXT, TASWORD, M.O. 2 AND OTHER WORD-PROCESSORS
- \* ALL AMSDOS SCREEN FILES
- \* STOP PRESS PAGE AND CUTOFF FILES

**OTHER ENHANCEMENTS INCLUDE:**

- \* 2ND DRIVE ACCESS, 3" OR 3.5" ( Inc. ROMDOS ), WITH 10 USER AREAS PER DISC
- \* NEW USER FRIENDLY PRINTER AND INK COLOUR CUSTOMISATION MENU
- \* FASTER LOADING TIME - 14 SECONDS
- \* UPWARD FILE COMPATIBILITY WITH PCW MICRODESIGN
- \* NEW " RE-SCALE " OPTION
- \* NEW COMPLETE DR FILE INVERTER
- \* NEW QUIT ( SOFT RE-SET TO BASIC ) OPTION

CAMPUSOFT  
16 SLATEFIELD ST  
GALLOWGATE  
GLASGOW G3 1UA

MICRODESIGN PLUS - 11.99

ORIGINAL MICRODESIGN AND MICRODESIGN PLUS - 29.99



# Poking in the Library

With 'Uncle' Clive

UNCLE CLIVE RETURNS WITH MORE PD DISCS FOR YOU TO ENJOY

*This could well be the shortest column ever to appear in WACCI. The proposed article was late. We've four PD discs to cover, so I've done a quick review.*

## WACCI PD Disc Four

Contains four of the best ever serious Amsdos application programs. Three of them were featured in March's AA's PD buyers guide.

POWERPAGE is the excellent Desk Top Publishing program, written by Richard Fairhurst. It works on all three CPC's and has all the features you need to produce your own magazine. (Richard uses it to write Robot's Artificial Intelligence magazine.)

PD PLANNER is the Spreadsheet for the CPC, written by Paul Dwerryhouse, it needs 128k of memory, but it's fast and packed with useful functions.

RAMBASE 3 is a superb fully featured database. Written by John Fairlie it needs 128k of memory, but it's fast and as good as many commercial products.

RAMDISC turns your spare memory into a direct access Ramdrive, which can be used for storing and running programs. This gives a vastly improved loading speeds and you can store more than one program in the Ramdrive.

## WACCI PD Disc Eight

The comms disc. We have the two best CPC comms programs and loads of useful text files which tell you all you ever wanted to know about comms.

ZMP is a full featured comms program that operates under CP/M 3.1 only. It is easy to use and features, ZModem file transfers, easy access options

and much much more. TERM504b is the best Amsdos comms program around. It features XModem-1k file transfers and a very easy to use pull down menus.

## WACCI PD Disc Ten

The Word processing and spell checking disc. Contains VDE266 (probably the best PD Word processor) and ISPELL v5 (written by Paul Dwerryhouse) which is probably the best PD spell checker. (ISPELL was originally released under WACCISPELL as a home grown program.)

## WACCI PD Disc Thirteen

Amsdos, the CPC demos disc. These programs have to be seen to be believed, however some of them do contain bad language, so be warned.

OUTRO *I told you it was a short!*

\* Adverts \* \* Adverts \* \* Adverts \* \* Adverts \* \* Adverts \*

WANTED : ROMDOS, RAMDOS & MAXIDOS

Good price paid, phone:  
Stamper Metcalf, 0742 461743

### ORIGINAL SOFTWARE FOR SALE

Tasword 6128 + manual	£ 9
The Sentinel (Firebird)	£ 4
Blasteroids (Image)	£ 4
Mini Office II+ manual	£ 7
* Scrabble (Leisure Genius)	£ 3
Dynamite Dan 2 ('soft)	£ 4
* Minder (Dk'tronics)	£ 3

All on disc except those marked by an [\*], there on tape.

Philip Jimenez, 65 Muriel Road,  
Norwich, Norfolk NR2 3NY.

\* FOR SALE \* FOR SALE \* FOR SALE \* FOR SALE \* FOR SALE \* FOR SALE \* FOR SALE \*

Brunword Elite, Infoscrypt, Headline, Qualitas, 100 letters disc, Printer Port and printer Lead, RRP £150+, only £65

256k Memory Pack: £ 35, KDS 8 bit printer port and printer lead: £7

Protext, Prospell, Promerge and Utopia Roms in a 4 slot Rom board: £65

AMX Stop Press DTP, includes mouse and picture discs: £40

CP/M Roms(2) & Instructions: £20, Supercalc 2: £16, 2 in 1 file transfer: £15

BSM, Blitz, DooDah, Prococy, Maxidos, Flash Pack, Big Batch, News Letters: £60

KDS 51/4 disc drive & ROMDOS (ROM, disc & Romboard) : £70

Loads of games on disc, tape and magazines (from 1986 to 1990)

Phill MacKay, 12 Lydstep Road, Barry, South Glam. CF6 3EB Phone 0446 721289

# THE SHOW REPORT

## The Haydock Park All Formats Fair

By Alan Tilling

### In the beginning

The lights were dimmed; the crowds spoke in reverent whispers when the wondrous expectancy was pierced by the dulcet tone of an itinerant purchaser, "Oi. Yes you there. Are you from the computer auction?"

Fortunately Clive knew where this chap wanted to be and told him so. (I knew where he ought to have been but didn't tell him.)

So started the second of the great WACCI computer shows. This one at the Haydock racecourse. I think Bruce Everiss thought that it was one of their 'All Formats Computer Fairs' but he can believe what he likes.

### Standing room only

What was there? Well there were three halls all packed with computing type goodies. Unfortunately not all for the CPC but I think the days of the machine specific shows are now over.

Probably, there wasn't any grand design to it but the first hall seemed to house a lot of electronic parts, disc drives, other add-ons etc. The third hall seemed (to me) to have books and systems generally plus a smattering of components etc.

But in the second hall situated centrally to the vast wonderment of all who surveyed its splendour was the huge expo setup and no expense spared, (the A4 paper signs were inscribed in no less than four, yes four, different coloured felt tips) was the great vista of the WACCI stand manned by the Grand Wizard (Clive) and myself.

### The turn around the paddock

We both took it in turns to tour the exhibition and see what was there. There were most things you would expect at a computer fair. Things like disc drives, components, discs of all sizes and types with one exception. There was only one stall selling 3inch

discs. These were remarkably cheap - £20 for 50. I say cheap not low priced for these were the type with little concentric circles on them and as such are not to be recommended, all reports tell that they have a tendency to fall to pieces while they are in your disc drive, whilst making a vast array of interesting sounds. This is not a pretty sight (or listen.)

It is becoming obvious that our beloved 3" discs are becoming scarce and yours truly had the task of going boldly and searching out £100 worth of discs for the club but alas and alack I couldn't <<Search? Find the discs? Or spend the money? -Ed.>>

For anyone brave enough to have ago at making their own disc drive there were plenty of uncased drives around. Five and a quarter drives cost as little as £12 and three and a half inch ones sold at £29.

These were without power supplies or leads of course they would cost extra. Power cannot be taken from the CPC because there is only just enough for the computer as it is.

Don't forget any size disc greater than 3 inch can be used and Ramdos or Rodos etc. isn't necessary <<from what I've heard Rodos isn't necessary - full stop. -Ed>> The computer will think it is talking to a 3 inch drive no matter what size it really is. The sting in the tail is that only portion of a large disc will be used, but if they're cheaper, what the heck.

One stall was selling CPC464s sold "as seen" for as little as £30, if you needed spare parts and were good at diagnostic and repair work then there was a possible bargain.

### The great WACCI caper

What was the action at the WACCI stand like? Well the stand itself was covered in games that had been donated and back issues that sold for a pound,

or if membership was taken out there and then and some where, one was given free. In the corner was Clive's trusty 6128 doing us proud with screens of wonderful stuff <<David Carter's Amiga Graphics. -Ed>> and allowing Clive to illustrate his answers to the various questions asked. It also doubled up as the Public Domain disc copier allowing copied discs to be sold "hot off the press" as it were. Behind our stand was a stand selling sound generators for the SAM COUPE. We were constantly harassed by the strains of "In The Hall Of The Mountain King". I used to like that but not any more.

### Friends, I've met a few

In front of our stand came a parade of old friends we had never met before. The apparent contradiction is caused by talking to lots of disembodied voices on the phone and then finding out that they were real people. It was great to finally meet the folk who were just voices or names in the magazine. Isn't it funny though both Clive and I said that so-and-so wasn't a bit like we imagined.

Among the members we met, some new, some established were in no particular order were: Mike (more letters please) Lyons, Tony (Comms) Walker, Andy Frame and many, many more .....

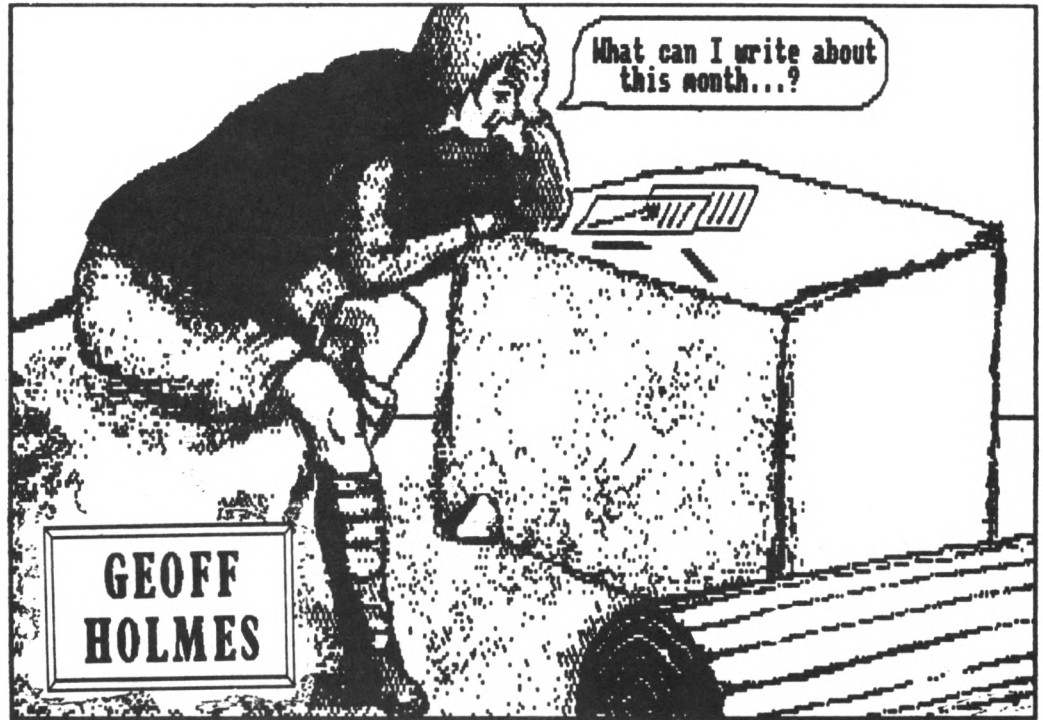
All too soon came the time to pack up. this we did with the memory of all our friends, some completely new and some new old friends. So if there is a computer show in your vicinity give Clive a ring or just go along and meet up with other WACCIites... you know it makes sense.

WACCI will be at these  
"All Formats Computer Fairs"

Glasgow	8th March
Donington Park	21st March
Leeds	22nd March

Why not call in and see us!

# FOR



In the beginning was the WORD.

*Communications (comms) is as essential for our personal survival as much as eating or sleeping are. Even when we are alone, we communicate with ourselves. Well don't you? Of course there are many forms of comms. The particular one I would like to draw your attention to is on-line comms.*

## INTRO

Before I get down to brass tacks though, just think about the turn around time involved with you reading this article. Writing in to the Editor saying how super this article is and then reading an appreciative response to your comment. Would you agree to a average figure of two months? *Good!*

## FASTER ! FASTER !

For faster comms we use the phone. Not all comms can be discussed over the phone. I wouldn't dream of dictating a Basic program to you over the phone, line by line. You wouldn't be happy with that either I should imagine.

Obviously a letter or a floppy disc through the post is better.

Introducing on-line comms, *Da! Dahh!* You can send messages or programs to someone else over the phone. Any data that can be accessed by your computer can be sent or received within a few minutes normally. You need the right equipment and knowledge to do this of

course. Perhaps a simple Question and Answer session will be helpful to your understanding at this point? Yes? Okay then here we go:

q. What is on-line comms?

A. A method of exchanging digital data over a standard telephone line, generally between two Users.

q. What is a Bulletin Board?

A. A Bulletin Board is called BB or BBS for short, the S is for System. Some persons are very serious about comms. So much so that they go to both the trouble and expense of providing the Computer, equipment and software needed for the storage, receipt and transmission of messages and files for the benefit of any valid User.

You and me the general User log on to their BB and have access to messages and files. BBs are on the whole well organised and it doesn't take long to find the area of interest that suits your taste.

There are normally two areas: messages and files. These are further sub-divided into sections relevant to a particular topic, things about Computing usually.

q. Who or what is a Sysop?

A. Sysop is an abbreviation of SYStem OPerator. These are the serious comms people I mentioned earlier,

who provide the Computer for public access, they are called SYSOPs.

They spend a small fortune on equipment. For example a good PC with hard-drive, an all singing all dancing Modem, a receive-only phone line so as to provide a 24-hour service. All this is out of their pockets. On top of this they spend hours tidying and archiving message areas. Checking files for viruses, responding to queries, oiling the wheels. Ooops! Wrong machine.

q. What does one need to go on-line?

A. A computer (you must surely own one already.) Next a serial interface. A modem to change digital data to analogue data. In common parlance, musical tones. Well nearly musical, it sounds awful. And finally a telephone line. It helps if you have a PD socket. You then unplug your phone, plug the modem into your PD socket, then plug the phone into the modem's socket. The Pace SIO comes with software on ROM. But alternative software can be got from Public Domain (PD) sources.

q. How much does all this cost?

A. Not a lot if you shop around. I've been offered an SIO interface for £15 and a second-hand modem can be purchased for around £25. Making cheap rate calls (6:00pm to 8:00am) keeps your phone bills down.

q. Why should I go on-line?

A. No special reason other than comms is a hobby like any other hobby. It beats collecting butterflies. If you like chatting about computers, you can't beat comms for swapping ideas. Correction! There are BBs that cover almost any topic. From "love is all embracing" to "ZMP is better on a two-drive machine." IF there isn't, you can always start a new topic for conversation.

q. Tell me about International comms?

A. I don't know a lot about this as yet. But FIDO is the answer. When I find out more about FIDO I'll tell you about it. It's becoming popular and no self-respecting Sysop should be without it. FIDO permits BBs with FIDO nodes to pass packages of messages among themselves. Packages are sent internationally as well.

So all you have to do is to send your message to a local BB and later on it could be sent overseas.

But you only pay for the normal local phone charge. *Aren't Sysops wonderful?* They pay for the onward transmission of messages out of their own pockets.

q. Do BBs only do messages and files?

A. Well, as hinted previously, there are BBs that are internationally networked. Also there are BBs run on a commercial basis. These larger ones offer more facilities such as booking Hotel reservations. Buying and selling goods. Checking airline flight details.

You have to pay a joining fee and you pay for time used on the BB. Expensive. Then there's Multi User Games (MUGs). These are like a computerised Adventure game, but many players can share the same game at any time. So everyone on the game has an equal opportunity to get some piece of Treasure. This means that you are pitting your wits against other players as well

as solving the puzzles found in the game. A word of caution here, MUGs can be very addictive so you will need to watch that phone bill.

q. What else is there about comms?

A. A lot depends on your own interests and abilities. Comms is used by a number of skilled persons to carry out their work at home. (*I think it's called Telecommuting.*)

You could even write programs for comms purposes. Understanding the underlying mechanism behind the exchange of data between computers is interesting. Well, if you like that sort of thing. I do, so there!

The End Of The Beginning ?

Here's hoping you have found this intro to comms of some interest. My next one will be an exploration around the bits and pieces of equipment that are used for comms. Until then, don't talk to yourself too much, get on-line and talk to me. Cheerio!

\* Adverts \* \* Adverts \* \* Adverts \* \* Adverts \* \* Adverts \*

### WACCI BB

On-Line 24 hours, 7 days a week

On : 0252 318557  
Sysop : Chris Smith

Speeds: 300/1200/2400  
Format: 8N1

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

PCW 9512 Printer Ribbons, Ref 2476MS, £2.00 each including post & packing. We still have 15 left in stock. Orders to WACCI, at the address below.

Why not make a friend happy, give them a years subscription for WACCI as that extra-special present they have always wanted. Hours of happy reading for all the family. Only £18 for 12 issues.

### STOP PRESS!!

The RED ROSE Bulletin Board

24 hours 7 days a week  
On 0772-652212

Speeds: 300, 1200, 1200/75, 2400  
4800, 9600, 14400, 19200

8 Data Bits, 1 Stop Bit, No Parity  
Scrolling Format, Full/Half Duplex

- CPC/PCW/AMIGA Machines Supported  
- 50 MegaBytes of Download Files  
- FidoNet and Local Mail Areas

Give us a call today! Okay?

3" Discs: Only £14.80 per 10 inc p&p. Amsoft or Maxel. Brand New. Probably the cheapest price anywhere. Available to WACCI club members only. Send your order to WACCI. 7/10 days delivery.

### FOR SALE: AMSTRAD 6128

Amstrad 464 converted to a CPC6128.

- 3 inch first drive  
- 3.5 inch second drive  
- Ramdos & Romdos  
- Loads of god quality serious software including:

- Protex - Masterfile  
- Mastercalc - Brunword  
- MFU - Art Studio

- Mouse, Joystick & Modulator  
- Loads of PD & WACCI software

Would love to sell the lot for:

Only £ 3 0 0

But I may consider splitting.

Phone Ray on 021 422 2684

Send your Adverts to: WACCI, 12 Trafalgar Terrace, Long Eaton, Nottingham, NG10 1GP (Adverts are free to WACCI members)

---

# THE WRECKING OF HARDCAT AND THE MAKING OF CATLABEL

---

Alan Cooper's Story Of Program Development : Part Two "The Recovery"

---

Still recovering from the "accident", Alan has spent a couple of days in bed reading about the USING command and is now ready to complete his story.

## TRIAL AND ERRORS

One thing that I have always found is that reading about a command only gives me an outline to what it does.

I need to *play* with commands to get a true understanding of how they work. So it was out with a work disc and using the USING command and loads of patience I begin to understand how the command works. Practice soon showed me the *correct* way.

## BACK TO THE TITLE LINES

I needed to tidy them up and now I understood the USING command I could do it. I might have up to a hundred discs eventually so I needed to provide room for a maximum of three numbers and a space.

I wanted to print NO: (for number) followed by the disc number. Then the disc side letter (A or B) some more spaces, followed by TITLE: and finally the actual disc title. Since I was using strings (I'd rather use a bow,) we can employ the same routine twice; and the strings can have a different content in each case. So I enter the following line:-

```
PRINT#8,USING"\ \";e$;b$;c$;
```

and three slots of four spaces each are provided for the strings e\$, b\$ and c\$. The e\$ string has been given the value "NO: ". The b\$ string contains the disc number input and the c\$ string contains the disc side letter "A" or "B". (This will have a known length of 12 characters, no matter what the string values are.) The final semi-colon ensures that I

continue on the same line. I now revert to the usual system of PRINT#8,"TITLE: "; and use up seven more character spaces. I use another semi-colon to continue printing on the same line. I have used 19 characters (12 + 7) so I have a maximum of 21 characters left for the title.

## MIAOW--MIAOW--MIAOW

Being as I said, at heart, *lazy*, I do not like the idea of counting up to 21 characters; so I use another,

```
PRINT#8,USING"\ \"
```

window of 21 spaces length and then find that I sometimes put in too many characters (so some of them do not get printed.) This won't do at all, so I put a line above the INPUT line, which then tells me to use *upper case* and indicates the position of the 21st character. This whole disc label is in subscript and if I use lower case letters, they are not very clear; but upper case is quite legible.

## PUT YOUR SPECS ON PUSSY

With such small letters, I can put the lines closer together and  $\frac{6}{72}$ " is very suitable. With this spacing one can get 30 files printed on a side, but with  $\frac{5}{72}$ " spacing you can get almost 40. Many discs don't have that many files, although some have the maximum 64 permitted files. However the format is a bit cramped at  $\frac{5}{72}$  and legibility suffers. If you have many crammed discs, edit the line and change the 6 to a 5 and save the program as "CATLABL5".

## GREEDY PUSSY

Where on earth do you get suitable sticky labels? *I have no idea*. I use plain paper and stick it on with PRIT

STICK. I glue the disc, rather than the paper, line up the top edge with the title lines and then fold over on to the front and back. This seems to give excellent adhesion, for the last thing I wanted was a label coming off inside the disc drive.

## DIG YOUR CLAWS IN KITTY

One irritating bug remained. It was in HARDCAT before I started. So it was no surprise to find it still there. At the end of each line in HARDCAT, there would be the first letter of the next line. This now occurred on alternate lines of CATLABEL. It would appear that the CAT command uses 79 columns, whereas HARDCAT uses 80 columns. The next available character was therefore the first character in the next line. On starting the next line, the program returned to the first character, so it appears twice. I wasn't having that so it was back to the listing.

## TWIN KITTEN

Back to debugging CATLABEL and an inspection of the listing took me back to the program line with the 80 in it, *hurriedly returned after a blunder last month*. I was not the only one to blunder here for because changing the 80 to 79 produces perfect results.

To fix HARDCAT I had three lines to edit; 110, change TAB(72) to TAB(70); 120 and 170, change 80 to 79.

## HOUSE TRAINED CAT

This final program is so easy to use, that I can update a label frequently; the only problem being the excellent adhesion that PRIT STICK gives the labels. I have to scrape them off sometimes. However this a small price to pay for the handiest label printer ever. If someone out there can develop the "COPYCHR\$" command into a simple

# THE CATLABEL LISTING

```

10 'Original Program : HARDCAT
20 'By J N MACKLIN, Amstrad Action, 1986
30 'Amended By T.WALKER
40 'Revised Program : CATLABEL
50 'Wrecked & Renamed by "AL the L plate" Cooper
60 'Note: CPC 6128 ONLY and Epson compatible printer
70 '    with compressed, subscripts, margin and line
80 '    altering commands.
90 'Revisions: Turns a CAT into a LABEL for a disc. I
100 '    use plain paper and stick them on with
110 '    PRITT STICK; (easy to use and strong)
120 '
130 'Set Up The Printer
140 '
150 PRINT#8,CHR$(27)"S1"; : 'Subscripts "Wee Print"
160 PRINT#8,CHR$(15); : 'Condensed type face
170 'Right Margin 40 "Half a line, & Half a line"
180 PRINT#8,CHR$(27)"Q"CHR$(40);
190 '6/72 line spacing. Try (5) for more lines, but it
200 'doesn't look as good.
210 PRINT#8,CHR$(27)"A"CHR$(6);
220 '
230 'Quotes
240 '
250 'You shouldn't have let Al Drive it, J Macklin
260 'Look at the mess he's made of it, T Walker
270 'I didn't know it would shrink in the rain, A Cooper
280 '
290 'Opening Screen
300 '
310 MODE 2
320 LOCATE 32,1:PRINT CHR$(24) " * CATLABEL * " CHR$(24)
330 WINDOW 1,79,2,25
340 LOCATE 5,12
350 PRINT"Please insert disc, with side 'A' up, ";
360 PRINT"into drive [A], and press any key"
370 '
380 CALL &BB06
390 CLS:z=3:p$="":CAT
400 GOSUB 420
410 GOTO 480
420 WHILE p$<>" ":z=z+1:LOCATE 1,z:GOSUB 580:WEND
430 FOR x=1 TO 16:LOCATE x,2:GOSUB 580:t$=t$+p$:NEXT
440 FOR x=1 TO 9:LOCATE x,z+1:GOSUB 580:u$=u$+p$:NEXT
450 LOCATE 1,17

```

```

460 PRINT"Use UPPER CASE, It looks better.";
470 PRINT" Last char.";CHR$(241):RETURN
480 LOCATE 1,18
490 INPUT"Title Of Side 'A' (Max 21 chars)";a$
500 c$="A":e$="NO:"
510 INPUT"No Of Disc";b$
520 FOR y=4 TO z-1:FOR x=1 TO 79
530 LOCATE x,y:GOSUB 580:v$=v$+p$:NEXT
540 PRINT#8,v$:v$="":NEXT
550 GOSUB 590:PRINT #8,CHR$(27);"E";
560 GOSUB 870:PRINT #8,CHR$(27);"F";
570 GOTO 600
580 p$=COPYCHR$(#0):RETURN
590 PRINT#8,STRING$(40,"_"):RETURN
600 CLS:LOCATE 5,12
610 PRINT"Please insert disc, with side 'B' up, ";
620 PRINT"into drive [A], and press any key"
630 CALL &BB06
640 CLS:z=3:p$="":CAT
650 GOSUB 420
660 GOTO 790
670 CLEAR:CLS:LOCATE 31,10:PRINT"Another disc ? [Y/N]"
680 e$=INKEY$:IF e$=" " THEN 680
690 IF LOWER$(e$)="y" THEN 750 ELSE 710
700 'RESETS THE PRINTER. I usually forget to do so
710 PRINT#8,CHR$(27)"e"
720 'RESETS THE COMPUTER and ends the program
730 CALL 0
740 PRINT
750 LOCATE 5,12
760 PRINT"Please insert disc, with side 'A' up, ";
770 PRINT"into drive [A], and press any key"
780 CALL &BB06:GOTO 390
790 LOCATE 1,18
795 INPUT"Title Of Side 'B' (Max 21 chars)";a$
800 c$="B":e$="NO:"
810 PRINT #8,CHR$(27);"E";CHR$(27)"-1";
820 GOSUB 870:PRINT #8,CHR$(27);"F";CHR$(27)"-0"
830 FOR y=4 TO z-1:FOR x=1 TO 79
840 LOCATE x,y:GOSUB 580:v$=v$+p$:NEXT
850 PRINT#8,v$:v$="":NEXT
860 GOSUB 590:GOTO 670
870 PRINT#8, USING"\ \";e$;b$;c$;
880 PRINT#8,"TITLE: ";
890 PRINT#8, USING"\ \";a$
900 RETURN

```

End Of Listing

routine for the CPC 464, then we might be able to make it do cassette inlay cards. I already have such a program but I have to type it in myself.

## ALMOST THERE

I thought that I'd finished a super program that was never going to be beaten. Then along comes old Uncle Clive with Issue 51 of WACCI and what's in it? That's right a different version of CATLABEL that will work on

all three versions of the CPC. No I am not angry (*Go get him Spot!*) It proves what I have always said, *you are never to old to learn.*

## AH! POOR OVERWORKED KITTY

That about wraps it up, so I shall rush off and CATLABEL all my discs, before the *Kitty Kat* tea time comes round. *Catterwall* .....  
*Miaoww* ..... *Spitz* .....  
*Goodnight and God Bless*

BBAD	.	2K	IBC	.DB	8K
LOCOTIME	.ART	9K	HONEY	.B	4K
DISC	.BAS	1K	KEYS	.ART	9K
MAIL	.	3K	ORDER	.	2K
DISC	.PTR	1K	LET	.1	2K
HONEY	.A	3K	VBB-52	.	12K

NO: 52	A	TITLE: WACCI MASTER DISC
NO: 52	B	TITLE: WACCI MASTER DISC

ABC-52	.P25	7K	DISC	.PTR	1K
PORTH52A	.P11	8K	SAPP-52	.P28	6K
ALL-FORM	.DC	3K	EDIT-52	.P3	4K
PORTH52B	.P12	9K	WOLI-52A	.P21	6K
CAT-52A	.P23	8K	PAIB-52A	.P4	9K

An example of a completed label



---

# THE A B C OF A O

## Chris Carter-Bown Reviews BD04.COM and PRINT.COM

---

Hi there folks. I trust you got on OK with NSWP. Before getting stuck in to this months reviews I'd like to take a moment just to echo the comment that Uncle Clive made at the end of last months column. "This is a needs driven section." If you need it, I'll drive it and write the low down on it.

### INTRO

This month I am taking a look at two programs, BD04 and PRINT. The programs are on WACCI PD Disc Two and run under either CP/M 2.2 or CP/M plus.

### BANISH BAD SECTORS

BD04 is a super little program, which I first used some three years when I really was stuck. What does it do? It recovers bad discs. Easy peasy! Not on your life. It's a very difficult trick to make a disc well again. We have Irv Hoff to thank for this little gem.

The program will read the records on the disc and find those which are corrupt. It then makes a file called [LOCKED].OUT containing all of these files or blocks. This prevents them being used in another file and thus allows the disc to be used again. It will also show up defective files.

### USING BD04

To use BD04 from the A> prompt of CP/M you normally enter:

```
BD04 <CR>
```

After a few seconds the program will activate and two messages appear:

```
"BD v04 Bad disk blocks/files."  
"Check drive:"
```

You must now enter the drive letter (usually A or B). Change the disc in the drive to be checked (if necessary)

before entering A or B 'cos you don't need to press the Return key. Another message now appears on the screen:

```
"5"
```

This is the count of the track numbers that are currently being checked. The count increases in jumps of '5' until the complete disc has been checked. If everything is OK the program displays,

```
"Bad blocks on A: 0"  
"Bad files on A: 0"  
"A>"
```

If your disc has a problem the display will alter only slightly, listing the bad blocks or files. The [LOCKED.OUT] file is very difficult to erase, which is just as well really!

You can alter the command to instruct BD04 to automatically check a drive by entering:

```
BD04 A <CR> (checks drive A)  
BD04 A: <CR> (ditto )  
  
BD04 B <CR> (checks drive B)  
BD04 B: <CR> (ditto )
```

The DOC file is very comprehensive and needs no further comment from me.

```
abCba - abCba - PD - abCba - abCba
```

### PRETTY PRINTING

PRINT is a superb utility which will print out a ascii text file with a page number and title on each page. It is very easy to use.

PRINT can be used either with or without a variety of print options. The options can be extremely useful: for example allowing printing of one page from a very long text file. It is the extensive options which make this

a highly versatile program. PRINT runs by entering at the A> prompt of CP/M:

```
PRINT filename.ext [options]
```

If no options are specified the whole of the selected file is printed with the file name and page numbers at the top of each page. Press Control & C to abort the program.

### PRINTER OPTIONS

There are seven print options, two are reserved for Wordstar files, leaving five print options for us to use.

@mm : Start printing at page mm. If the page length is higher than the file length then nothing will print.

#nn : Print from the file start up to page nn. nn must not exceed 255.

"comment" - Puts the text between quotes (up to 50 characters) at the top of each page, after the file name and page number. Useful for dates etc.

- : Suppresses the page header. This increases the number of lines per page from 54 to 58.

? : display the file on the screen. This enables you to check the file or find the page(s) you wish to print.

The extensive document file gives all the information you'll need. Including information on user-patches. So you are able to fine tune PRINT.COM to your individual requirements. PRINT is superb and highly recommended by me.

Well, that's it for this month. I'll take a look at NULU next month. (There is an interesting program.) Please let me know the programs you would like explaining. Tatty Byeeeeeee.

# The Lending Library

## The BOOK and TAPE Library Rules

Book Librarian: *Steve Lee* Tape Librarian: *Arthur Cook*

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

1. The books and tapes in the library will be available to WACCI subscribers only. The service will not be run for profit. It is run to benefit members.
2. The maximum loan period will be 4 weeks.
3. Members are expected to treat the books and tapes in their possession with great care and to return them at the end of the loan period in the same condition as they are received in.
4. There will be no hire charge as such. Members wishing to borrow books or tapes should send stamps, a cheque or a postal order for the correct value.
5. Books and tapes will be sent out in a jiffy bag along with a self addressed return envelope.

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

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

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

6. Should a book or tape not be available when a member requests it we will notify them of this fact, and advise them how long the wait will be.
7. Should any book or tape prove to be tremendously popular, then the loan period for that book or tape will be reduced to two weeks, to avoid any member waiting too long.

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

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

## LIBRARY BOOK LIST

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

## LIBRARY BOOK LIST

No	Title	Contents	Cost
17	AMSTRAD CPC 464 Whole Memory Guide.	Machine Code, ROM & RAM routines, programs.	0.72
18	Machine Code Routines for your AMSTRAD.	Assembler, Hex. utility listings and info.	0.72
19	Master Machine Code on your 464 & 664	Machine Code introduction.	0.72
20	CP/M - The Software Bus.	A CP/M programmers companion, inc. CP/M Plus.	1.20
21	The Digital Research CP/M Plus Manual for CPC 6128 & PCW 8256.	An operator's and Programmer's Guide. (SOFT 971)	2.40
22	AMSTRAD Micro Guide.	A reference guide to BASIC and Systems Operations.	0.48
23	An Introduction to Programming the 464	Basic programming introduction.	0.48
24	AMSTRADS and A.I.	Introduction to Artificial Intelligence.	0.96
25	The Amazing AMSTRAD Omnibus.	Asstd BASIC programmes Graphics, AI, Music, Logo etc (The programs can be supplied on disc.)	2.40
26	Subroutines for the AMSTRAD CPC 464 & 664.	Applications listings and explanations.	1.20
27	AMSTRAD Computing with the CPC 464.	General introduction to BASIC programming.	1.20
28	BASIC & FORTH in parallel.	Uses BASIC as a model to intro. FORTH programming (Listings in Spectrum BASIC.)	0.48
29	LOGO for Micros.	A non-machine specific intro to LOGO programming.	0.72
30	Simple applications of the AMSTRAD CPC's for Writers.	BASIC word processing with particular reference to the DMP 2000 printer.	0.48
31	How to get your programs running	General guide to 'de-bugging' BASIC.	0.48
32	Easy add-on projects for the AMSTRAD CPC's	Interfacing the computer to electronic devices.	0.48
33	Getting the most from your printer.	How to 'drive' your d.m. printer to its full ability.	0.48
34	Using your AMSTRAD CPC disc drives.	Disc drive usage, disc care, reading & writing etc.	0.48

## TAPE LIBRARY LIST

The first two tapes sets are now ready, so if you want to borrow them send your order off to Arthur Cook. Each tape set will consists of two C60 (60 minute) tapes.

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

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

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

### TAPE SET ONE

0.72p

Utilities: Head, Header, Keydef, Memdata+, Progdoc, Minimon, Helphand, Romread, Exprint, Formulea, Functdr, CGen, Functsol, Globe, Neatlist and Regiload

Games: 4inarow - Computerised connect four  
 Bomber - Bomb the buildings to land safely  
 Pontoon - the card game  
 Jigsaw - two complete computerised jigsaws  
 Masters - A complete adventure game

Plus: Chardes, Chat, Fworm, Gridwar, Engle, Starchas, Locknkey, UFO, Life, Othello, Tunnel, World and Xor

### TAPE SET TWO

0.72p

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

Please report any loading problems to Arthur Cook.

Tape requests should be sent to:

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

Book requests should be sent to:

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

The full tape and book lists will be published every two to three months. Updates to the list will be published every month. There will also be reviews of books and tapes in 'Poking in the Library'.

# Simply Saffron

Not loose, just User Friendly



SIMPLY SAFFRON - AND A LITTLE BIT OF NEWS TRIVIA TOO ...

## INTRO

*It had to happen didn't it? Here I am with disc upon disc of trivia filed neatly away ready to be turned in to columns for WACCI and in stumbles my boy-friend and spills his black coffee over all of them. Somewhere up there Babbage is laughing his stomach sore.*

*And as for he who shalt remain nameless, well he's cowering in the corner sipping the sugary bit left at the bottom of the mug. Just goes to show it's worth keeping back up files ...errr, um, preferably print-outs.*

## CORNY LINK

It isn't just dumb males who make mistakes though, everyone has at one time or the other: Clive Sinclair (The C5), Oliver Reed (for going on Wogan), Liz Taylor (getting married so many times) and Jeremy Beedle (for living) to name but a few famous ones.

Then there's the Lincolnshire man who complained about speeding drivers going past his house ...just before becoming the first victim of a police radar trap.

Not to mention the pensioner who came out of the talk he gave at a residents' meeting on how to keep teenagers out of mischief ...to find that vandals had wrecked his car. Here's some more...

## UP THE POLE

American weirdo Frank Perkins wanted to beat a world record. The easiest way he thought he could do it was to squat on top of a pole for four hundred days. Whilst up there life on the ground changed dramatically. First

of all the business sponsoring him went broke, then his girl-friend left him for another man. Eventually Frank came down to earth to discover his 'phone and electric cut off. What was worse was that he was two days short of the record. Suddenly the sound of Roy Castle's trumpet isn't so appealing is it?

## BUNGLED

In North London burglaries are fairly common, however in this particular case the offender framed himself. Once inside the house the man took off his mask to see what he was stealing. His vision can't have been that good though because on grabbing a Polaroid camera he accidentally pressed the button. Startled, he fled with the rest of his swag, forgetting to take the virtual self-made indentikit with him. He was caught within the week.

## AMERICAN TOMBSTONE TRIBUTE:

Erected in memory of JOHN PHILIPS

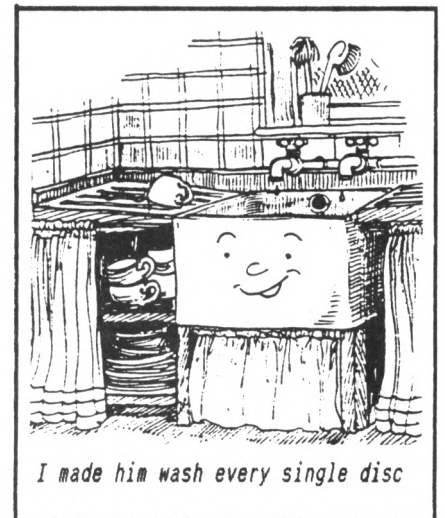
- accidentally shot dead -

as a mark of affection by  
his brother

## HOT AIR

Picture this. You're a confused old lady at a motorway service station in Exeter trying to dry her hands under the machine next to the wash basin. No matter how hard you pull or push the knob the thing refuses to blow out hot

air. Got the picture? Ok, now put yourself in the shoes of a passer-by as the woman complains, "Thems aren't for drying hands" when you know that "Thems" are condom dispensers. Ahem!



## MORE HOT AIR

Someone who shares my passion for Minis is car engine expert Peter Latham of Derbyshire. He thought curing his Mini's starting trouble would be a doddle. But! - Three months and ffffs worth of new batteries, chargers, plugs and points later he discovered that instead of pulling at the choke control he was turning on the heater. Oops.

## EVEN MORE HOT AIR

Yes, well I suppose that's one way of describing the OUTRO. Take care my petals and I will catch you next month for more back page nonsense. Love & moist bits,

Saffron

# The WACCI FSW Library

## THE WACCI PUBLIC DOMAIN SOFTWARE PROGRAMS

All the programs in this library have been fully tested on an Amstrad CPC 6128. Although the programs have been checked they are supplied on an as-is basis. WACCI cannot accept liability for faults or non-operation. All the programs should be true Public Domain programs. Please advise WACCI of any problems encountered or if you need assistance in running a program.

### WACCI PD DISC ONE : CP/M 2.2 Only

The complete FORTH programming disc. The disc contains both the original and updated versions of Forth. A complete guide to Forth and an introduction to Forth programming. This disc replaces CP/M DISC TWELVE.

### WACCI PD DISC TWO : CP/M 2.2 & CP/M+

Utilities disc containing: NSWP, Bincalc, Print, Look, BD04, Unload, Compare, Print, Unload, NDDT, SD, ED, Rasmb, Rasmta, Lohd, Lasm, XIZI, Z80asm, Zmac, Zlink, D, WC, Display, MDir, DS, XDir, Eraql6 and LU.

### WACCI PD DISC THREE : CP/M 2.2 & CP/M+

The complete MBASIC programming disc. This disc contains the MBasic language, MBasic compiler and full instructions. It also includes example programs and compiled files. There are three complete programs, Startrek, Convert and MPG. This disc replaces CP/M DISC TWELVE.

### WACCI PD DISC FOUR : AMSDOS \* NEW \*

The AMSDOS utilities disc, contains four top rated programs.

- POWERPAGE: excellent, user-friendly DTP program by Richard Fairhurst of Robot PD. Works on all CPC computers.
- PD PLANNER: Paul Dwerryhouse's super Spreadsheet. The easy to learn and use Lotus 123 clone. 128k CPC's only.
- RAMBASE 3: Super Database by John Fairlie. It's as good as many of the commercial alternatives. 128k CPC's only.
- RAMDISC: 128k CPC's only. Turn the spare 64k into a direct access RAM drive. Simplicity itself to use.

### WACCI PD DISC FIVE : CP/M 2.2 & CP/M +

The CP/M games and adventure disc. Contains three very good adventures: Base, Island and Colossal Caves. Plus several good games: Golf, Pressup, Cube, Othello and Mastermind.

### WACCI PD DISC SEVEN : CP/M+ ONLY

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

### WACCI PD DISC FOURTEEN : AMSDOS

David Carter's super collection of 49 screen pictures. These pictures have been transferred from an Amiga to the CPC. The disc also contains a neat picture display program.

### WACCI PD DISC EIGHT : AMSDOS and CP/M plus \* NEW \*

The Comms disc. If you're into comms then this disc contains all that you'll need:

- ZMP: CP/M plus only. Super, bug free, ZModem file transfer comms program. Easy to use and install.
- TERM5048: Amsdos, with XModem-1k file transfers, pull-down menus and Ansi graphics. Easy to use. Ideal for beginners.
- HELP FILES: loads of assorted help files in ascii format. (all you ever wanted to know about comms and more ....)

### WACCI PD DISC NINE : CP/M 2.2 & CP/M+

CP/M Utilities disc containing: Cleanup, Acopy21a, Filechop, Dirchk, Display, Lrun23, LT29, NC, Nulul5, Unzip, MFT, Grep, Du, List, Lookat, Rescue, Rpip, Sort, Vlist and Wsclean.

### WACCI PD DISC TEN : CP/M and AMSDOS \* NEW \*

The word processing and spell checking disc.

- VDE266: Probably the best CP/M PD word processor. Contains all the features you'll ever need and more besides ....
- ISPELL v5: Superb, fast and user-friendly Spell checker by Paul Dwerryhouse of WACCI. The latest version. Comes with a full dictionary. Checks 475 wpm. 128k CPC's only. Was originally released as 'WACCISPELL', now fully updated and released as a PD program. It's not up to the PROSPELL standard yet, but it's getting there, fast!

### WACCI PD DISC THIRTEEN : AMSDOS

The Demo's disc. Containing lots of graphically superb demo programs. They have to be seen to be believed.

**Please Note:** Some of the programs contain swear words. I am trying to get them cleaned up. You have been warned!

### WACCI PD DISC TWELVE : CP/M & CP/M+

The complete COBOL programming disc. This disc contains the NPS Micro-Cobol compiler, version 2.1 and execution program, the full Cobol programming series (published in WACCI) and twenty three example programs. Also includes two complete programs and loads of hints and tips.

Send your order to:  
Chris Smith, 16 Ayling lane, Aldershot, Hants, GU11 3LZ

# THE WACCI HOMEGROWN DISCS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**WACCI DISC THIRTEEN**  
Hex-enter, Davart, Morse tutor, Craig, Knockout, PCHandle, Screen squeezer, Dirsort, Xmas card, Adult Quiz, Xsum, WACCIword(V4), Banker, Donald, No-No, Copy256, and SYSTEM to DATA format.

**WACCI DISC FOURTEEN**  
Ahem, Clock, Amslabel, Copier, Clock1, BioSpheres, Regiload 2, Extracat, DFI, Snakes-N-Ladders, NiteShow, Ringmenu, Self Destruct, ID, Memprint, Monthly, Memmap, DFI and Escape from WACCI HQ.

The discs should be ordered from:

**W A C C I**  
12 Trafalgar Terrace,  
Long Eaton, Nottm, NG10 1GP

Discs cost £3.00 each.

*Or you can borrow a disc for a £1 copy the programs you want to keep and then return the disc.*

SUBSCRIPTION RATES		SUBSCRIPTION RATES		SUBSCRIPTION RATES		Send your subscriptions to:
UNITED KINGDOM		EUROPE		OVERSEAS		
1 Issue	£ 1.50	1 Issue	£ 2.00	1 Issue	£ 2.50	<b>WACCI SUBSCRIPTIONS</b>  Paul Dwerryhouse 7 Brunswood Green Hawarden Deeside CLWYD CH5 3JA
2 Issues	£ 3.00	2 Issues	£ 4.00	2 Issues	£ 5.00	
4 Issues	£ 6.00	4 Issues	£ 8.00	4 Issues	£ 10.00	
6 Issues	£ 9.00	6 Issues	£ 12.00	6 Issues	£ 15.00	
8 Issues	£ 12.00	8 Issues	£ 16.00	8 Issues	£ 20.00	
10 Issues	£ 15.00	10 Issues	£ 20.00	10 Issues	£ 25.00	
12 Issues	£ 18.00	12 Issues	£ 24.00	12 Issues	£ 30.00	



# Who's Who

EDITOR : CLIVE BELLABY

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



### SUBSCRIPTIONS & TREASURER

Paul Dwerryhouse 0244 534942  
7 Brunswood Green, Hawarden, Deeside,  
Clwyd CH5 3JA.

### FAIR COMMENT

Mike Lyons 0942 59942  
85 Leigh Road, Hindley Green, Nr Wigan  
WN2 4XF <<A man of letters>>

### POKING IN THE LIBRARY

Gwynn Hopkins  
Albion House, Llandre, Aberystwyth,  
Dyfed, SY24 5BS

### FORTH AND COBOL PROGRAMMING

Alan Tilling & Clive Bellaby  
<<The gruesome twosome>>

### WACCI BB

0252 318557  
Chris Smith, Voice 0252 24721  
v21/v22/v22bis, 24 hrs, 8N1

### THE NEW WACCI PD DISCS

Chris Smith, 16 Ayling Lane, Aldershot  
Hants GU11 3LZ. Only £3 per disc, send  
your order to Chris.

### CLUB SECRETARY

Wanted a club secretary to deal with  
the day to day problems of running  
WACCI. Apply to WACCI if interested.

### SIMPLY SAFFRON

Saffron. Send in the marriage proposal  
to WACCI.

### FINISHING TOUCHES

Glenn Carey 0326 280586  
The Haven, Coverack, Cornwall TR12 6SY

### BOOK LIBRARY

Steve Lee 0487 81403  
48 Field Road, Ramsey, Huntingdon,  
Cambs, PE17 1JP

### RED ROSE BB

0772 652212  
Tony Walker Voice 0772 651698  
v21/v22/v22bis/v23/v24, 24 hrs, 8N1  
<<Used to be called Preston Ros>>

### ORIGINAL CP/M PD DISCS & WACCI DISCS

Clive Bellaby, send in your orders for  
the original disc to Clive at WACCI.  
Now only £3 per disc.

### VERY BASIC BASIC

Alan Tilling no phone  
65 Lawrence Road, Altrincham, Cheshire  
WA14 4EL

### WACCI REVISITED

Steve Lee 0487 81403  
48 Field Road, Ramsey, Huntingdon,  
Cambs, PE17 1JP

### WACCI ON-LINE

C/o WACCI.  
Are you into comms? Then why don't you  
write this column.

### TAPE LIBRARY

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

### DISCOUNTS

Wanted, a discounts manager who will  
obtain discounts for club members. Why  
not you? contact WACCI for details.

### THE ABC OF PD

Chris Carter-Bown,  
1 Hallot Close, New Oscott  
Birmingham, B23 5YW



## SUBSCRIPTION FORM

UK \_\_\_\_\_ ISSUES @ £ 1.50 each = £ \_\_\_\_\_ TOTAL

EUROPE \_\_\_\_\_ ISSUES @ £ 2.00 each = £ \_\_\_\_\_ TOTAL

OVERSEAS \_\_\_\_\_ ISSUES @ £ 2.50 each = £ \_\_\_\_\_ TOTAL

Name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_ Postcode \_\_\_\_\_

Signed \_\_\_\_\_

● I enclose a cheque / postal order for £ \_\_\_\_\_ inc p&p, ( Please make cheques payable to WACCI ) ●

● If you would like a receipt then please enclose a stamped, self addressed envelope with your subscription. ●

**WACCI, 7 Brunswood Green, Hawarden, Deeside, CLWYD CH5 3JA**

# ALL FORMATS COMPUTER FAIR



Thousands of bargains! Computers, Printers, games, shareware, business software, monitors, public domain, keyboards, media, disk drives, user groups, joysticks, modems, memory, books, magazines and lots more. *Huge savings for all computer users.*

## 1992 DATES

- |       |    |  |                              |
|-------|----|--|------------------------------|
| March | 14 | NOVOTEL  | <b>** CHANGE OF VENUE **</b> |
|       |    | Novotel, Hammersmith, couple of mins from Hammersmith tube station. Near to M4, M3 and North & South Circular Roads. |                              |
| March | 15 | BRUNEL CENTRE  |                              |
|       |    | Temple Meads, Bristol, M4-M32  |                              |
| March | 21 | EAST MIDLANDS  |                              |
|       |    | Donington Park Race Circuit, J24-M1  |                              |
|       |    | * WACCI will be there !  |                              |
| March | 22 | UNIVERSITY SPORTS & EXHIBITION CENTRE  |                              |
|       |    | Calverly Street, Leeds, J47-M1   |                              |
|       |    | * WACCI will be there !  |                              |
| April | 12 | NORTH EAST   |                              |
|       |    | Northumbria Centre, Washington, A194(M)  |                              |
| April | 26 | THE NATIONAL MOTOR CYCLE MUSEUM  |                              |
|       |    | Solihull, Birmingham, J6-M42   |                              |
|       |    | * WACCI will be there !  |                              |

Show Times: 10.00am to 5.00pm

Tickets: **£4.00** (or £3.00 with the £1.00 off voucher)  
or in advance from John Riding, JRMH Media,  
12 Rickfield, Bradford on Avon, BA15 1PP