

WIAWG

THE UK'S ONLY SERIOUS CPC MAGAZINE

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WE WISH
YOU A MERRY
CHRISTMAS



- Programming - Help-Line - Public Domain Software -
- Reviews - Machine Code - Hardware - Basic - Articles -
- Competitions - plus loads and loads of letters -

CONTENTS

- 3 THANK AND STUFF *You've never read it?*
- 4 COMPETITION SPOT *It's just for you.....*
- 5 FAIR COMMENT *Mike writes again!*
- 11 INSPIRATION *Tis I strikes again!*
- 13 C PROGRAMMING *The language*
- 14 CPC NOW *The review.*
- 15 LD A,CODE *Machine code magic*
- 17 CPC ESSENTIALS *A must for all....*
- 19 DRESSING FOR DINNER .. *Ron Irett returns*
- 21 XEXOR *The review*
- 23 WACCI REVISITED *September 1989 returns*
- 26 TREASURY REPORT *Just how much is there?*
- 27 WHO'S WHO *Who and why?*

MIDDLE PAGES - THE PULL OUT SECTION

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PRODUCTION METHOD

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WACCI is distributed by: Russell MacDonald, Luck, and they put the cost of stamps up!

WACCI: The club for Amstrad CPC computer owners.

FRONT COVER: by Historical Facts Inc.

THE TELEPHONE HELP-LINE

TONY WALKER, (0772) 651698, Preston, 10 am - 10 pm, Comms, Protex Family, Tape to disc, CP/M on ROM.

BRIAN NORRIS, (0832) 273973, Peterborough, specialist on MasterFile III, plus general advice

STEWART PEPPIATT, (0245) 353903, Chelmsford, Basic, M/Code, DMP2000, VDE, Scrivener & general problems.

PETER CAMPBELL, (041) 554 4735, Glasgow, OCP Art Studio, Vidi, Basic, MicroDesign & Art Programs, CPC plus m/cs and of course VideoMaster.

FRANK FROST, (0963) 882197, Isle of Wight 4pm to 10pm, VDE, CP/M and Protex.

PETER CERESOLE, (081) 878 0391, London, Protex, Promerge, Utopia and Nukes. (Amateur status. -Ed.)

PAUL DWERRYHOUSE, (0244) 534942, Deeside, Clwyd, Basic, Bankman, PD Planner, Ispell, Accounts, etc

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MIKE LYONS, (0942) 59942, Wigan, Basic, Stop Press, Dk,tronics Speech Synth, Rodos and general help.

STUART GASCOIGNE, (0272) 777828, Bristol, Basic, Machine code and PD Discs 19 to 36.

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DAVID CARTER, (0323) 896443, Seaford (East Sussex) Art Studio, Cherry Paint, The Animator, Tasword, Basic, Graphics and Digitizing and Penguin PD.

MARTIN YOUNG, (0224) 480217, Aberdeen, M/c code, The audio/video chips, Page Setter 64, C and the (by special request) RAM Music Machine.

CHRIS GREEN, (0895) 633641, 5pm - 9pm, Middlesex, MS800, CP/M Protex/Prospell/Promerge, PowerPage, OCP Art Studio, NC100 Notepad Computer, The Plus Computers and DTP.

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

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

WACCI

Edited By: The Management

Owned By: The Club Members

Phone: 0602 725108

Conceived and Founded

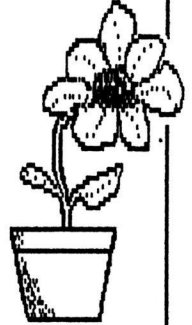
By: Jeff Walker

In: October 1986

Developed and expanded

By: Steve Williams

THANK & STUFF



We wish you a Merry Christmas, we wish you a Merry Christmas, we wish you a Merry Christmas, and a Happy New Year - Yes, once again Christmas has arrived - You can tell it's Christmas because: The shops are full of Easter Eggs and the TV's Full of holiday adverts and re-re-re-repeats of black-and-white movies.

A BIT OF HISTORY

It was two years ago that I sat trying for the first time in my life, to lay out and edit WACCI. How time has flown past! I've now edited 24 magazines and I still haven't learned to spell, or context check, or punctuate.... But I have, within reason, managed to keep to the production deadlines

If I'd sat back and thought about it at the time, I would have decided that it couldn't be done. However I don't think, so we just went ahead and did it, and it can be done!

In the last two years I have edited: 24 issues; that's 768 pages; that's about 614,400 words; and give or take a million, some 4 million characters.

THANK YOU VERY VERY MUCH!

In reality, all those I's should be We's, WACCI can only exist as a direct result of all the hard work put in by members everywhere, let me give a few examples. In this issue:

Paul Dwerryhouse laid out the WACCI Revisited and several other articles, sorted out the subs, paid suppliers and more. Ron Izett wrote an article, as did Chris Green and George Ho-Yow.

Martin Young sent us an introduction to C programming. Mike Lyons typed in, laid out and replied to loads and loads and loads of your letters. Frank Frost has been busy distributing discs and Alternative Firmware Guides.

The PD Disc Librarians have copied and distributed lots of discs. Arthur Cook has been busy with the tape library. Steve Lee not only sent out lots of books, he also arranged for WACCI to feature in his papers Club Call spot (this brought in several enquiries.) Russell MacDonald arranged for the printing and distribution of WACCI. Many of you have distributed WACCI poster in local computer shops, clubs and other suitable places.

I could carry on forever, I haven't mentioned Alan 'Tis I' Tilling, John Bowley, Stamper, Derek Hyland, Chris Smith and many others (all of whom deserve a mention.

And I haven't mentioned all of you, your subscriptions, letters and moral support help make WACCI a success!

IT WAS ME: I WAS WRONG (AGAIN)

So I was wrong last month when I said (wrote) that this issue would be out after Christmas, it took a lot of hard work and luck, but we managed to get it published before the holidays.

I also managed to put Page Setter 64 into the PD Library instead of the HomeGrown library, sincere apologies to Martin Young for this.

Sincere apologies over the very late delivery of WACCI 72.

Finally, my apologies go those of you who have spent ages trying to get me on the phone. It's been busy!

MONEY! MONEY! MONEY!

The results of the annual stocktake are on page 26, along with a complete financial statement. So if you want to know all the facts, get reading.

If you want a brief summary, WACCI has a net value of £2100, and is doing very well, Thank You.

The £2100 is mainly tied up in stock (goods for resale) and assets (goods needed to keep WACCI running, ribbons, printers, paper, master discs, library books and the like.)

ALL FORMATS COMPUTER FAIRS

If you get the chance why not pop along to one of the fairs and have a hunt around for a bargain. We'll be at all of these Fairs:

Dec 19 Glasgow,
Woodside Hall, St Georges Cross
*** Change of Venue ***

Jan 15 Haydock Park Racecourse
16 Bristol, Temple Meads
23 Birmingham, Nat M/Cycle Museum
29 Essex, Brentwood Centre J28 M25
30 London, Tolworth Recreation
Centre, A3, Surbiton.

If you want to bring along items to sell on the stand, please feel free to do so. (If it's a large item, please let us know it's coming, then we can ensure we have room available, cheers!

OUTRO

That's it (for this bit.) I'm off to book my summer holidays and get in an early supply of Easter Eggs

THE COMPETITION SPOT

Hello everybody, it gives me the greatest of pleasure to announce that I am your new competition organiser, taking over from the much over-worked Clive. Who am I you ask? My name is John and I'm married to Carol and we have three sons (the little devils) their names are Christopher, Andrew and Richard and I look forward to the challenge that this role will bring me.

Before I start my first competition, I would like to ask you all, for your very much needed help. I am trying to bring you all something different in the way of Prizes. Why do I need your help? Well I would like to ask you all if there is anything that you can donate in the way of software (of any sort) and hardware that you no longer use and would be of use to your fellow members. The items must work and have all the paper-work belonging to them.

Also if you like, you can set a question. I would be happy to hear from you all.

COMING SOON!

At the moment I have some great Prizes for you which will be on offer in the very near future. Including: ProPrint, Pro-Ext, Tuss, Smart+ and XeXor, some great software I think you'll agree?

Also I'm contacting some of our special friends in the software and hardware world, to see if they would also be able to donate some of their products to us. I shall keep you all informed of my progress.

You can see from the above list of goodies I am doing my very best to give you something that I think you would like and enjoy.

WANTED: A QUESTION NAMED GEORGE...

When sending your answers please would you put on the letter or postcard what Prize that you would like either the prize on offer at the time or, your choice of PD software, this'll enable me to send your prize quickly to you.

The address to send your answers to is: John E Bowley, WACCI Competitions 97 Turrington, Bretton, Peterborough, Cambs, PE3 9XT. Sorry, but I need your support if I am going to make this spot a success for you (and for me.)

On offer this month are the games donated by Adam Shade of Dartsma and WACCI PD software.

This month as Christmas nears once again (where has the year gone!). I've decided to do a Wordsearch to the theme of Christmas.

All you have to do is: Find the words which are listed below, then Cross off the words you find, then Rearrange the letters you have not used to make another Word also related to Christmas.....

.....GOOD LUCK.....

DECORATION, NATIVITY, PRESENTS,
CRACKERS, CHRISTMAS, REINDEER,
PUDDING, TURKEY, ANGEL,
CAKE, SANTA, TREE,
SNOW, BABY, HOLLY,
SLEIGH

D Y S R E K C A R C
E E S S Y Y L I A S
C K T A L B W K E A
O R N N L A E O E M
R U E T O B S T N T
A T S A H G I E L S
T R E E L E G N A I
I M R E E D N I E R
O O P U D D I N G H
N A T I V I T Y T C

Then send me the Hidden Word that you will find to reach me no later than the 20th January 1994. I hope that you enjoy this competition - don't forget

forget to enter and I look forward to hearing from you all soon. One more thing, I would like to wish you (and your families) a very Happy Christmas. Don't forget to leave out a mince pie and a sherry for Santa.

So it's cheerio for now and over to Clive for November's results.

This is the bit you've been waiting for, provided that is, you entered the competition last month, the winners:

First Prize: 3 PD discs or Tapes

E Marsland, Shoeburyness, Essex

Second Prize: 2 PD discs

Jack Butler, Grays, Essex

Third Prize: 1 PD disc

Reg Tabb, North Baddesley, Hants

Congratulations to you all. Reg sent his entry in as a poem, however, he asked me not to tell you this, and not to publish the poem. So I'll get Paul Dwherryhouse to publish it next month!

Now there's plenty of time over Christmas to sit down and enter either last months, or this months compo's.

Come on, have a go, Clive

THE COMPETITION SPONSORS ARE:

DARTSMA COMPUTER SUPPLIES

47 Kidd Place, Charlton
London SE7 8HF
Tel 081 317 1170 (10am to 2pm)

Soundtrakker 128k..... £19.99
Assorted Leads..... £ 5.00
Printer Ribbons..... 2 for £5
15 x 3.5 inch discs..... £ 4.99
10 blank Maxel discs..... £14.99
Ball Bearing, Disc.....£ 5.99
and much much more.

Fair Comment



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



PUBLIC DOMAIN SOFTWARE

* UPDATE * UPDATE * UPDATE *

WACCI PD DISC 88: PAGESSETTER 64

This should have been released as a Homegrown Library disc and not as a PD Disc. My Apologies for this error. So to correct this...

WACCI PD DISC 88: PAGESSETTER 64

is withdrawn and rereleased as:

HOMEGROWN DISC 15: PAGESSETTER 64

Send your orders to Doug Webb.

SMALLER THAN THE AVERAGE PAPER....

Dear Clive, it was nice to meet you at the Leeds All Formats Computer Fair, and to be able to put a face to a name in a book and to a voice on the phone and yes it is a good likeness on the cover of WACCI 71. <<Cheers. -Clive.>>

Many thanks for all your help and assistance with WACCIWORD. Now I have really started getting into it, it is becoming just so easy to use, so again, thanks very much.

Please send me 10 ex-software house discs, I've enclosed a cheque for £6.

You have some A4 stationary for sale at Leeds which was quite a good price. I am looking for some A5 continuous paper, is there any chance of you being able to supply it? Hopefully, I will see you at Leeds again, Cheers,

Alan Booth
Halifax

<<Hiya Alan, nice to hear from you. I'll see if I can find a supply of A5 paper before the Leeds All Format Fair on December 12th. If I can, you will know about it before you read this!

A real problem with paper and other very heavy objects is the high cost of posting them.... So we can only supply them at the All Formats Fairs and then only when we can buy them at a good price. Merry Christmas. -Clive.>>

A LANGUAGE PROBLEM

Dear Clive, I would greatly appreciate it if you would put the following advertisement in the next available space in WACCI.....

* FOR SALE * FOR SALE * FOR SALE

FRENCH TEST (DISC)

By G M F PROGRAMS

Suitable for revising French vocabulary to GCSE level. Also includes "La Guillotine" - The French version of hangman.

Only £10.00

Contact: Marcus Ruegg
8 The Horse Park, Boneybefore
Carrickfergus, County Antrim
Northern Ireland. BT38 7ED

Thanking you in anticipation. Keep up the good work - WACCI is the best CPC Fanzine around. Your Sincerely

Marcus Ruegg
Boneybefore, Carrickfergus

<<Hiya Marcus, it's no problem, We'll put your advert in the next available space. Oh look, quick, there's a space now! Great it's filled.

We welcome adverts from members (and they are free) as it's all part of the members helping members to find what they want club atmosphere.

Whilst on the subject of selling, we are always happy to sell goods on behalf of members at the All Formats Computer Fairs. All you need to do is bring it along and we'll stick it on the stand for you. (Err, if it's large or bulky, or if there are lots of them please let me know before the show.

Alternatively, Paul (it's my money really) Dwerryhouse will negotiate for the club to buy your goods from you for us to sell to members at shows.

Have a Merry Christmas. -Clive.>>

NEW SERVICES - MAGIC!

Dear Clive, congratulations on the launch of the two new WACCI services. What will you be up to next? I wonder!

I would like to take advantage of the second service if I may. I need a tape recorder (with leads) to allow me to transfer some programs from tape to disc. I also need a mouse suitable for use with MicroDesign Plus. I see from Chris Greens article that it should be an AMX mouse.

If you are able to get one I would want the complete thing, with cables, mouse mat, leads and instructions. I have never used a mouse (if fact, I've never seen one) so I'd want something that I could just plug in and use.

Any (and all) help would be greatly appreciated. If either of these items become available then please let me know. I'm (very) sure that you'll be inundated with requests. Kind regards,

Len Edwards
LLanrwst, Gwynedd

<<Hiya Len, your wish is our command and even as I write (or should the be wrote, as by now this will be in the past tense) you tape recorder and AMX mouse are winging there way towards you courtesy of King Brian.

If WACCI the club is going to mean anything then it must provide that which the members want, because, after all the club is owned by the members!

We always strive to provide the best service in the shortest possible time (we may fail occasionally but we say sorry! and we do correct our errors!)

The two new services are going very well. We sold 700 ex-software house discs to members in the first two weeks and have obtained many varied items for club members under the new "Tell us what you want and we'll find it for you scheme."

The real advantage to WACCI is that we don't tie up lots of money buying items that don't sell, thus we are able to buy that which we need when we (we really mean you) need it. (Last week we ordered 2000 ex-software house discs.) Merry Christmas. -Clive.>>

BIRTHDAY WISHES

Dear Mike, Congratulations to WACCI on its seventh birthday. November 23rd. sees another birthday in the shape of Doctor Who's 30th. Anniversary. It's a pity that the CPC version of Dalek Attack was cancelled.

With regard to the PD program Printmaster and the extra graphics discs: it is necessary to copy the SDR file onto side one as well, as it contains the list of graphics. I've tried STS&FRMS and they work, but VARIOUS2 is 79K long. To fit it onto side 2 of a 3" disc you need to erase one of the font files to make room.

However, on trying the program a Printmaster System failure occurs. The original SHP file is 69K, but VARIOUS2's is 79K. Maybe one of your readers can solve this problem? Merry Christmas and best wishes.

Trevor Wells
Forest Fields
Nottingham

<<Hello Trevor. Thank you very much for your kind wishes. Let's hope for many happy returns to us all.

Well, folks, I can't help at all on this one. Let's see what you can do. Somebody must know of a way round Trevor's problem. Write in and tell us the answer. -Mike.>>

SUNK WITHOUT A TRACE

Dear Mr. Lyons, Could one of the WACCI experts help with a memory problem? As I think you are aware, I tend to write programs on wartime convoys. I have a 6128 machine, but prefer to use a 464 because of the better keyboard layout and so I use a machine code routine for reading characters etc. (Maxam, Protext and Utopia ROMs are always on. I could switch them off, but I never know when I might need them.)

Over the years I have written several programs on this theme but, as they all use the same characters for

clouds, ships etc. I am busy collating them into one big program but I intend to change to a different format later.

In the meantime it just grows! It is now 33K long, so after a several-hour session of changes etc. when I wish to save, there is no memory left to do so. I get over this by using Utopia to print out the lines where I have been working and type them in later.

In mode 0, most of the ships are three characters long and are labelled as s1\$, s2\$ or t1\$ and so on.

Generally, if I torpedo, bomb or hit the bow or stern nothing much happens but a hit a-midships blows up.

Would I save on memory by using CHR\$(x)+CHR\$(y)+CHR\$(z) for the ships instead of s1\$? To name them I have to add a suitable line, but the computer has to read the actual character to react as I wish.

As I am constantly messing about I have set up a key to prevent the MEMORY FULL error but I find I have to go to a line before the one where I define the symbols else I get the ASCII characters.

I believe that the symbols are stored immediately below HIMEM and are re-defined each time the computer is run so, at a long session, (as above), they are repeated in memory, thus wasting it. I have read somewhere that the command SYMBOL AFTER 256 stops this happening, so I preface the GOSUB line to set up the symbols with this command. Is this correct? Any comments (and help) would be appreciated.

Yours sincerely,

D. S. Anthes
Bridport, Dorset

<<Dear Mr. Anthes, There are quite a few problems here and I can only make a couple of suggestions as to what I consider a reasonable strategy.

Firstly, it is always good practice to build large programs in more-or-less self-contained modules which can be tested and modified without having to load in the whole program. This means you can forget about the kinds of memory problems which you have been having while you are actually working. I know it's all very well for me to spout off, and I'm one of the worlds worst for writing spaghetti code, (un-structured programs.) However, it is definitely worth considering this approach, especially as your program

* SIREN SOFTWARE * SIREN SOFTWARE * SIREN SOFTWARE * SIREN SOFTWARE *

Wilton House, Bury Road, Radcliffe, Manchester, M26 9UR
Tel: 061-724-7572 Fax: 061724-4893

RS232 SERIAL INTERFACE AND CABLE

On special offer, now *only* £29.99 (was originally on sale at £59.99)

3.5 Inch Discs Now available at a special price of £7.50 for 10.

LOWER PRICED DISC DRIVES

Our famous 3.5" disc drives for the CPC 464/664/6128 have been reduced to a mind numbing £59.99 - These second drives come complete with all the cables, a 16 page manual and our famous Ramdos program. The only program that gives you 800k of on-line disc space. It's fast, efficient and very easy to use. Also included are a formatter, directory editor and sector editor etc.)

ROMDOS XL VERSION 4

The latest version has hit the streets. It's been tidied up and all the bugs have been removed. It gives instant access to 800k per side without the need for troublesome side select switches. It now features auto format detection, file copying, erasing, sector/directory editor, etc, etc, etc ...

Now priced at £19.99 on rom and £24.99 on cartridge (464/664/6128 only.)

A cartridge is a single socket Rombox, with Romdos XL built in - Cartridges cannot be used on the CPC 464+, CPC 6128+ or GX4000.

** For further details, phone Simon Cobb on 061 724 7572 **
** No other discounts are available on these prices. **

is such a long one. It might save an lot of re-typing. If I were using a multi-character 'sprite' I would tend to store it as a single string.

```
ship$=CHR$(x)+CHR$(y)+CHR$(z)
```

Each of your single characters needs 2 bytes to hold its address, plus a length byte, plus itself making a total of 12 bytes. A single 3-character-long string would only need 6 bytes. It is fairly straight-forward to use MID\$() to find which section of the ship has been hit, but I assume that your machine code routine is some form of COPYCHR\$(#n), which reads a character from the screen which should be easier still.

I'm not sure I understand what you mean by 'set up a key to prevent the MEMORY FULL error'. You can help to prevent MEMORY FULL by doing regular 'garbage collections' using x=FREE("") within the program. This will stop, (or reduce), the build up of 'waste variables' if you place it within the main program loop as follows:-

```
10 PRINT "This is the first line"
20 WHILE pigs_fly
30 x%=FREE("")
40 rest of main loop
50 "
55 "
56 FOR a=1 to 10000
57 PRINT "Merry Christmas to you!"
60 PRINT ""
70 NEXT a
80 "
90 "
100 WEND 'end of main loop
```

The screen character definitions are stored just above HIMEM. You can reclaim the space they use by including SYMBOL AFTER 256, (or SYMBOL AFTER 0), at the start of your program. You should only do this once, at the very beginning of the program. Similarly, all of your SYMBOL definitions should also be done at the start, before any other program lines. This will prevent you getting the problem with ASCII default characters appearing.

Can anyone out there write in and let us have their solutions to the kind of problems D is having? Of course you can. -Mike.>>

OUR VERY FIRST CHRISTMAS GREETING

Dear Mike. You may recall my letter to you which appeared in WACCI No69 re the purchase of a printer. My thanks to both you and Clive for the advice.

I purchased PC DIRECT, read through the adverts and after a quick phone call to Clive, settled for an Epson LQ-100 from "Novatech" of Portsmouth.

You hear so many horror stories about Mail Order Companies that I was a bit wary about ordering but, as we don't have a computer shop locally that could offer such a good price as "Novatech", I gave them a ring. The price quoted was £122 plus vat and £8 for next working day delivery. As it was on a Friday that I ordered I was told by a very pleasant member of the sales staff that my order would be delivered on Monday. Sure enough, on Monday it duly arrived and now sits snugly alongside my 6128. Another nice touch from "Novatech" was that my Credit Card account wasn't debited until after I had received the goods. Full marks for an excellent service.

Having got my printer I am now looking for extra bits to hang on the back of the computer such as a Rombox, a 3 1/2" second drive and a KDS 8-Bit port. I have seen adverts for the first two but the only advert I have seen for the 8-Bit port was from MJC Supplies and they've ceased trading. Do you know another supplier?

Finally, the Seasons Greetings to you and yours and to all the other contributors to WACCI. Regards

Ron Boreham
Pembroke Dock, Dyfed

<<Hello Ron. It's always nice when an old friend writes. Congratulations the birth of your new printer. May it give you many happy years of service.

As to the availability of various bits of kit, all you need to do is keep an eye on the small ads sections of various magazines, local newspapers and even within these very pages. There are usually all kinds of things on offer, and now that Santa Clive has read, (I hope), <<I will>> of your needs he will, <<I will! -Clive.>> (as will we all), keep our <<and mine>> eyes open for any supplies.

The only problem we will have is getting Santa to focus properly. Mrs. Clive says that he's an expert at sleeping with both eyes open. -Mike.>>

THANKS, APOLOGIES AND BEGGING

Dear Mike, It has taken me a long time to put my fingers to keys and get this letter off. I'll start with an apology to Paul Dwerryhouse for not keeping him informed on my search for the Genealogy program P.A.F. which used to be available from the Mormon Church but they've stopped making it as sales were slow. However, they have given me permission to have take a copy. If someone out there can make me a copy I'll gladly reimburse all costs. Ring IAN on 081 220 1469.

Secondly I would like to thank Laurence Saunders for his help with part of my problem. Not keeping in touch with Paul was due to a computer failure - namely the 6-pin din plug from the monitor came adrift and left me with no way of knowing which wire went to which pin. I contacted Laurence who proceeded to open up the back of his monitor to trace the wires for me. Stand up Laurence and take your curtain calls.

I have had my 6128 with colour monitor and an Amstrad DMP2160 printer for about 6 years, all of which, through lack of use, is in excellent condition. When I first got it I lived in a flat and did not have the room to leave it all set up. Then we moved in to a wreck, (house), which needed 4 years of work to get it into a reasonable state and let me have a permanent home for my set up.

At the moment I use Tasword and Rambase 3, both on disc, but hope to upgrade to Protext on ROM and get a second disc drive, or a hard drive if I can be persuaded that it is worth it. Anybody got any views.

Caroi, my wife, is deep into Cross Stitching so if anybody knows of a program for working out the design she might stop going on at me to change computers. <<I'm sure there must be one out there. -Clive.>>

Could you include the following for sale list in the next issue, please.

Ian Whaley
Seven Kings, Ilford

<<Hello Ian. Thank you for your thanks and apologies. I'm sure Paul will forgive you, (if you pay him enough), and Laurence is probably blushing pale puce by now, (bowing makes the blood rush to his head.) You can stand up now, Loll - what do you mean stuck?

I would strongly recommend an upgrade to Protext on ROM and a second disc drive. If you get Promerge+ as well you effectively get a database and mailmerge program, (as well as lots of other useful extras) and you will need ROMDOS to run your drive properly. I am half convinced that there was a program for knitters, (or something like that), published as a listing in CwtA or AA some years ago.

I'm not at all sure that there isn't something like it - or something that could be adapted - in the PD or Homegrown library. Just a mo, I'll call in the Prodigious Clive: memory man extraordinaire to see if he knows...<<Err, not off-hand, I'll look into it and let you know. -Ed>> Your advert should be contained herein, somewhere. -Mike.>>

Discs	
Arkanoid	£5.00
Dragon Ninja	£5.00
Amtix Accolades	£5.00
Greyfell, legend of Norman	£5.00
Instant Recall	£5.00
Colossus 4 Chess	£5.00
Cashbook	£5.00
Cassettes	
The Code Machine	£3.00
Ball Breaker	£2.50
Books	
The Working Amstrad by D Lawrence & S Lane	£2.50
Learning With Adventure Programs By Rosetta Mcleod	£2.00
All prices open to offers Plus various ACU AND AA Mags Send SAE or Phone for Details	
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DOS YOU DO OR DOS YOU DON'T

Dear Mike, I was interested to see the review of file-transfer programs, but I note that the review didn't mention the Shareware program DOSCOPY written by the gifted programmer, Facehugger.

I use DOSCOPY, and I thought members might like to know of its capabilities when considering which program to use.

I found the program very easy to use and very neat, (only 8K long.) It runs in AMSDOS from drive A and is designed to facilitate the transfer of files in ASCII or Binary format from CPC to PC, as well as from PC to CPC. It requires a second disc drive, (either 3.5" or 5.25"), which will be recognised as the MSDOS (PC) drive. Basic files can also be transferred as Ascii files if they have been saved using the "a" parameter (ie. SAVE "filename.ext",a) - if they haven't, then it's usually a simple matter to load a program and then save it in this format.

DOSCOPY will also format discs, both CPC and PC, (360k or 720K), curiously enough, I found it easier and quicker to format 3.5" MSDOS discs on the CPC than by using the MSDOS Format command on the PC!

DOSCOPY has the ability to access the sub-directories on PC discs (most similar programs cannot do this.)

As for shortcomings I can only think of two. Firstly, it is limited to CPC and PC formats, so is of no use to MAC/Acorn/Amiga/et al users.

Secondly, the documentation is non-existent. However, this is not as serious as it seems. The program is so simple to use and is largely self-explanatory, although it should really have included an instruction to use <space> to select files for copying.

This program has been designated 'Shareware', i.e. 'try before you buy', and the title page asks for a registration fee of £4.00. Yours ever,
Philip Jimenez
Norwich, Norfolk

<<Hiya Philip. Your letters are always a valuable source of information. I want you to know that your efforts on members' behalfs are appreciated.

Something about shareware in general is that you don't usually get the manual until you've bought the package proper. The idea is that if you like what you see then you will consider it worthwhile to pay the extra for a full-blown package. Unfortunately, we British are a bit conservative, (if you'll excuse the term), about such things and tend to consider our initial purchase as *it*. It's worth noting that when you actually purchase a shareware package, you usually get a fully 'updated' implementation of the program concerned. -Mike.>>

UNDERCOVER AGENT

Dear Mike, May I take up a few of your column inches to say thank you to all the WACCI members who took up my offer of a discount of 10p.

I was overwhelmed by the response that I received and quite a few people wrote back to say how pleased they were with the fanzine. Of course, this thank you extends to WACCI for giving me full-page of coverage. This only underlines the greatness of this club.

Issue 2 of CPC Undercover is out now for those who are interested and, once again, there is a 10p discount. It now has 20 pages filled with reviews, a Debby Howard interview, a report on VR, a look at how, in a way, the CPC is compatible with other computers and the second part of the DTP tutorial.

The coverdisc has Puzznix, clip art, CATEDIT (disc management program), and the Protext demo. I've also written a small but useful program which will convert Multiface screens into normal screens which can be used by all the other applications such as Powerpage, and GPaint, Microdesign and Advanced Art Studio. You simply run it, insert the disc with the screen on and type in the filename. The program will then save it as a normal screen.

Now to something a bit different. A few people wrote to me to ask about the best utilities and where they can get them - So I told them about the Protext demo, Rambase3 etc. What I've decided to do is put together a disc of the best PD applications.

If anybody wants a copy, then I'll only charge £2.20 which is the price of the disc plus postage and packing. Talking of postage and packing, you forgot to mention that CPC Undercover costs 70p plus an SAE or, let's say, 95p. all inclusive.

Back to the disc - I'll put the Protext demo, Rambase 3, PD Planner, a label printer, Crime, Crunch, MagicDOS and anything else which I think is good enough on it.

Sorry about the format of this letter but I haven't got a spare Jiffy bag left for a disc and I want to get this posted right away. Yours,

David Crookes
CPC Undercover
37, Trimmingham Drive
Brandlesholme
Bury
BL8 1JW

P.S. If anybody has any problems with Powerpage 64 or 128, then please get in touch and I'll do my best. David

<<Dear David, you can take up as many inches of my precious columns as you like, any time. Don't even think about how many other readers' letters I could fit into the space. Do you feel guilty? Do you feel the slightest bit of remorse? - No, I suppose you don't. Oh, well, such is life.

Obviously, your fanzine is going to be a great success - especially as you are so keen to be helpful to and to keep in touch with your readers.

Keep up the good work. Your advert is around somewhere. -Mike.>>

FOR SALE

European Super-League (CDS) £5.00
(A footie sim worth £15.00)
Winners Compilation : £10.00
Indiana Jones, Thunderblade, LED
Storm, Blasteroids and Impossible
Mission II (doesn't work)

Both of these are complete with instructions. Cheques payable to David Crookes.

520 INTO 644 WILL GO - BUT HOW?

Dear Mike, I am in need of some advice from your knowledgeable readers. I recently acquired an old Atari 520 STFM to try to satisfy my young sons' yearning for a 16-bit games machine and I was wondering whether I could use the Amstrad CTM 644 colour monitor, (and perhaps also a GT65 green screen monitor), in medium resolution for the Atari.

The Atari uses a diabolical 13-pin DIN plug for their monitor output providing analogue RGB, composite video and audio outputs; I have listed the pinouts for the Atari computer and the Amstrad monitors for ease of reference.

I know I can ignore the audio I/O and the monochrome, (Hi-res), detect and output; what floors me is how to resolve a single sync signal from the separate horizontal and vertical sync signals provided by the Atari. I read that the RGB signals benefit from a series resistance; are the signal levels for the sync also crucial? I have tried a few variations but can

only get rapidly scrolling little square windows with the GEM desktop just discernible in each.

I've also been told that the Atari, unlike the Amiga, is more susceptible to power surges from Amstrad monitors and hence the two should not be used together. Has any other CPC user had such a recommendation? I'll be very grateful if anyone could shed some light on this. Thanks and best wishes,

Oz Dhansay
Hurstpierpoint, West Sussex

<<Hi there, Oz. Nice to hear from you again. I have heard of people using the Amstrad Monitors with Ataris, but I'll leave it up to our technical whizz-kids to advise us of the way to do it. I have been described, from time to time, as the Norman Wisdom of electronics.

Come on folks keep Oz, (and everyone else), informed. -Mike.>>

ATARI COMPUTER:

Pin 1	:	Audio Out
Pin 2	:	Composite Video
Pin 3	:	G/P Output (??)
Pin 4	:	Monochrome Detect
Pin 5	:	Audio In
Pin 6	:	Green
Pin 7	:	Red
Pin 8	:	+ 12v Pullup
Pin 9	:	Horizontal Sync
Pin 10	:	Blue
Pin 11	:	Monochrome
Pin 12	:	Vertical Sync
Pin 13	:	Ground

AMSTRAD MONITOR:

Pin 1	:	Red
Pin 2	:	Green
Pin 3	:	Blue
Pin 4	:	Sync
Pin 5	:	Ground
Pin 6	:	Lum

THERE'S NOTHING QUITE LIKE A MAC..

Dear Mike, I read Andy Gibbons' letter and Clive's reply in WACCI 71. In particular, the bit about PCWs and Apple Macs.

I quite often use files created on my 6128 and convert them to run on the Mac I use at school. I think that the solution to Andy's problem is probably just as straightforward and doesn't need a null-modem cable, (whatever that or they, might be.)

The Mac I use has a program called PC Exchange which allows it to read DOS discs. It also allows the Mac to format discs as 720k DOS discs.

I use 2in1 to convert Protext or Tasword files into MSDOS files and then I save them onto discs formatted on the Mac as DOS. I have found that the Mac will not recognise DOS discs which were created by 2in1.

I open the discs directly into the application software, (Clarisworks 2), and tell the Mac that it is reading a text or Wordperfect file. The files are then converted into Mac format and loaded. They sometimes need to be tweaked, but the system usually works well. I find this works best with Tasword files, but this could be because I'm new to Protext.

Anyway, if Andy's dad can get a program to convert his PCW files into DOS files he should have no problem with this system. As I said, the only thing to make sure of is that you use a DOS disc formatted on the Mac. If the Mac he is using doesn't have a WP which will cope then he could open the files through "Teach Text".

There are a number of programs which will allow a Mac to read DOS discs. I believe that the newer Macs come with one installed. Failing this, he could contact MacWarehouse on 0800 181 332. Hope this is of some use.

Bob Miller
Oldham, Lancashire

<<Hi, Bob. Thank you for the guidance on passing missives from CPC to Mac and back. I'm sure andy, (who has a letter on this page somewhere), is undyingly grateful.

Just for your information, (and peace of mind), A null-modem cable is a simple way of joining two RS232 ports together. A Modem Modulates and Demodulates signals sent down the 'phone line. A null-modem is used when the two computers are in the same room. It's even cheaper than a Mercury 0500 number. -Mike.>>

<<Hiya Bob, Clive here. In my humble (and Oz's as well) opinion, Doscopy is a better file transfer program than 2in1, MFU and the null-modem cable.

However, I should point out that Doscopy only runs on a 6128, (both the 464 and 664 seem to take objection to it. That's life. I've used Doscopy, it is very easy to use. TTFN. -Clive.>>

DISC v DISK

Dear Mike, Thanks for printing my letter in WACCI 71. Since a great many months have passed since I wrote the letter I thought that I'd better send in an update of my situation CPC-wise.

I did buy a ROMbox, as well as Protext and MS800 to go in it. I actually went down to Arnor in person to buy the ROM where I was made very welcome by the good folks therein and had a good look around. What a mess! Boxes up to the ceiling and computers wall to wall, including the odd CPC but mainly PC's. The Protext ROM works a treat though, as does MS800.

If you have the MS800 ROM you might be interested to know that pressing CTRL-ENTER will produce RUN"DISC followed by RETURN. Just think how many times you have typed that in your CPC-owning life!

For some reason though the MS800 initialisation program which is carried on each MS800 formatted disc is called DISK with a K. So what I have done on all of my 3.5" Protext file discs is first of all to edit line 120 of the DISK program so that it performs RUN"DISC in order to autorun my Protext function keys.

Then I have erased the original DISK and saved the new program as DISC. Now all I have to do is type ;b:CTRL-ENTER (run"disc) which sets up MS800 and sorts out Protext. It is necessary to erase the original DISK before you resave it in order not upset the extended format on the disc. I hope that this makes sense.

My enquiries into the Fronrunner WIMP ROM concluded that it was actually written by Amstrad Action's writer, Simon Forrester and that it was err..... not very good and that it was bugged and that it was never going to be released. Oh well.

I had to scrap the Olivetti PC, as my friends' attempts at connecting a keyboard to it had only succeeded in frying it's chips, and in any case the keyboard that I had bought at an auction, turned out to be a dud. My 10 month old son now uses it to exercise his rather large fists, after I had removed the cable of course!

I mentioned in my previous letter about yearning for a hard disc on the back of the CPC, well Peter Campbell told me that it didn't look as though theirs would work with CP/M. But upon

reading a few PCW magazines I saw literally dozens of adverts for PCW hard discs of all sizes which will quite happily work under CP/M, so surely it isn't beyond the realms of impossibility for Campursoft to tweak theirs to do the same.

In my search for a better quality print from within Protext, I have bought both Proprint and Pro-Ext. Proprint is excellent and my only complaint is that, at least as far as I understand, it is not possible to have justified text and proportional printing at the same time. This is a bit of a shame but perhaps there will be an update in the near future?

Pro-Ext is not a print enhancer at all, but a utility which allows the printing of large headline fonts (actually taken from the PD classic CP/M Printmaster) and Clip art from within Protext, both ROM and disc. It does seem to be slightly bugged though as the normal Page and Line numbers at the top of the Protext screen do not work. Otherwise it does what it sets out to do very well and, like Proprint it is well worth the asking price. WACCI and UAUG members get the usual discount on both of these products.

Finally, in WACCI I read a letter from John Bowley also a resident of Bretton, Peterborough. I checked him out in the phone book and less than a week later we were sitting together in front of a CPC screen. So if there are any more WACCI members sitting at home in sunny Peterborough, perhaps they could get in touch with either John or myself and we could all get together.

That's enough from me. All that's left is to say that I hope you had a great holiday and thanks to everyone involved in the production of WACCI every month. Your hard work is greatly appreciated. Finally a big hello to all of the WACCI/UAUG members who were at the UAUG convention in Southampton recently. Regards.

Andy Gibbons

<<Hi again, Andy. I can't understand why we can't use Disc and leave it at that. Some foreign software houses use Disk, but they can't help not being able to spell. I suppose we're lucky that French software houses don't spell it Disque.

Many ROMs besides MS800 provide you with RUN"DISC set on the small enter key. Arnor ROMs in particular have that habit. Are you sure it's not Utopia or Promerge doing it?

I am willing to part with my Prototype disc for a tenner. However, I must warn you that it is excruciatingly slow. You could make, (and eat), an entire 40 course Chinese banquet by the time it has printed an A4 page. Having said this, it is extremely good as a 9-pin print enhancer. It falls down a little on 24-pins though, due to the inevitable long line spacing effect. It also has a limited number of Fonts available at the moment, though you can print in practically any of over 40 languages. It might just be better to get a decent printer and some font cartridges. (e.g. The Star LC24-200.)

Holiday? What holiday...-Mike.>>

FOR SALE * FOR SALE * FOR SALE * FOR SALE * FOR SALE * FOR SALE * FOR SALE

AMSTRAD PCW 9512 (no printer) inc Locoscript 2, CP/M Plus, CTSAM Comms program, Disc Box, Amstrad CPS8256 Serial/Parallel Interface. Little used.
Must be a bargain at £100 or will swap for hardware/software.

I am interested in obtaining the following;
Silicon Disc, Promerge Plus/Prospell ROMS, Prototype disc

Interested in any of the above? Ring me and we'll negotiate a deal!

I also have a second CPS 8256 interface (boxed and probably unused.)
This can be used with the PCW 8256, 8512, 9256 and 9512. £15 only.

Please ring Andy Gibbons on Peterborough (0733) 334246.



Inspiration

George Ho-Yow eats three machine code routines for breakfast

Hello and welcome back to the second instalment of Morse, a long running series about a detect.... No that's not right... Morse, my investigation into the world of dah-dah-ditty-ditty-dah - the language of dots and dashes.

Last month we looked at how a morse code decoder would work and I finished with a state diagram for the project.

We left things at a crucial point. I was explaining the CPC would be hard pushed coping with 12 words per minute because of the slow processing speed and limited memory. Here we go.....

... At 12 words a minute, the CPC will be a bit pushed to decode and print a char during the interval between the end of one char and the start of the next. After all, this interval is just one morse code unit of time, i.e. 1/25 second. I feel that the program will require an input buffer to store the chars received until the display can take place. In fact I can see the need for machine-code routines! argh!

Okay, excuse while I don my hard hat and look at the interface unit for the decoder, see Figure 2.

The diodes are configured as a fullwave bridge rectifier and drives a switching transistor via a pi filter to smooth out the ripples. The rectifier end of the unit is connected to the earphone socket while the transistor end is connected to the CPC joystick port, pins six and eight.

Well, I haven't dragged my soldering iron from under the heap of rubbish as yet. The interface is therefore still a paper design.

Meanwhile, I'm wearing out the fire button on my joystick sending morse to my CPC. First attempts at programming in BASIC reveal unexpected delays.

I started off by buffering the joystick input which was being scanned at 1/50 second. The buffer is a wrap around one. This will allow me to

capture the state of the joystick continuously. However, printing each and every joystick signal stored in the buffer to screen, caused a delay of some 18 seconds to build up. It turned out that printing text to the screen is more time consuming than I thought.....

It was very early in the morning of a late-summer's day. I was bursting to visit the little room but dreading to get out of bed. The sound of rain pattering against the windows seemed never-ending. It was raining when I went to bed and it seemed as if it was raining through the night as well. Was this the start of another flood? Should I get out the sand bags and seal myself in the little room against the deluge? What's do I hear? Someone shouting, "FOREVER! Seal yourself in forever." Oh dear, how unkind some persons can get.

REAL TIME PROGRAMMERS DON'T CRY?

In a previous article I introduced the subject of real time programming. I also wrote about the idea of using a state diagram as a means of "mapping out the stepping stones and paths."

The diagram permits the relationship among inputs and outputs of the program to be readily seen. Since my first attempt, I had to move some of the states around to get the program to work properly. This was easy as all that was required was to alter the relevant "path connections" in the state diagram and alter a few lines in my BASIC program.

Well, I got the program to work, but the problem was that a snail could outrun my program. It was taking about two seconds to process each character received. I think that it's a case of machine code needed for the signal processing bits.

NICE ONE RON!

While I'm working on that, I'd like to tell you about a program I received from Ron Izett. You may recall it was

I suspect that I've got the diodes the wrong way round in the interface. Also I think it would be better to have a relay as in Ron Izett's unit. The interface hasn't left the drawing board, until it does, these questions remain unanswered!

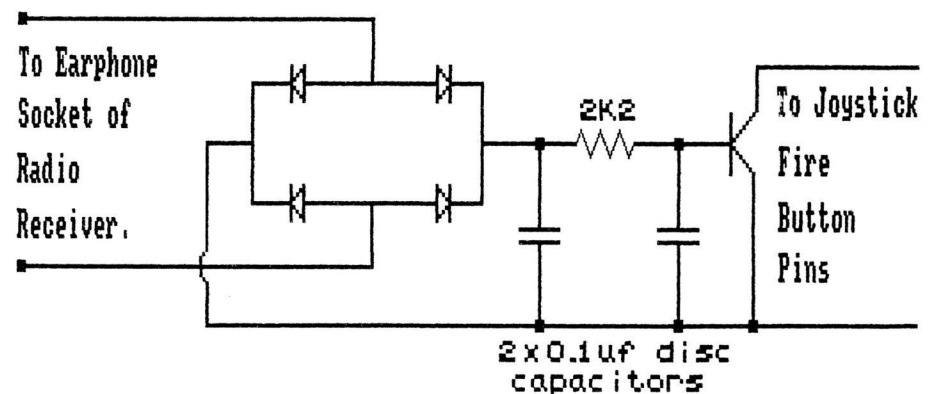


Figure 2: Radio to CPC Interface

from a letter by Ron to WACCI that I became interested in this decoder project. Well Ron had already done some work along these lines.

His program not only decodes Morse, but teaches it as well. When you type the letter 'a' on your CPC's keyboard for example, the program beeps the morse code out and wait for it, a pair of flags are swung around to display the Semaphore code for that letter.

Nice one Ron! I'll recommend Ron's program to anyone wanting a morse and semaphore tutor. The decoder part of the program works well too, but it is meant to work in 'batch mode.' That is to say, you would have to record the morse code on to a tape recorder, then play the tape back a few times so that correct timing for the program can be worked out. I hope I got my facts correct Ron, don't hesitate in correcting me if I'm wrong.

HORSEY! HORSEY!

Let me put the horse before the cart, the heart of most real time programs is the use of interrupt handlers. What's an interrupt handler?

I'm afraid I can't answer that question in a few words; I could say it's a routine that the CPC internal clock calls up at regular intervals, but that won't be helpful. So I'll kick off by discussing interrupts.

KNOCK! KNOCK! WHO'S THERE?

Thinking about it, I haven't seen any programs published in WACCI using interrupts, I wonder why? Is it because WACCI programmers are too polite to interrupt each other? Why would you want to use interrupts anyway? Suppose we needed to get data from an input port as quickly as

possible. One way to ensure we don't miss the data, is to examine the port as frequently as we can. This means we have to write a lot of GOSUBs spread every few lines in the main program to ensure the data at the port is not missed. In the following hypothetical example, GOSUB 400 is used to suck in the status of the printer port as frequently as practically possible:

Okay, so Program 78952 is a trivial example, but hopefully the principle is demonstrated. That is, if you need to see what's going on at an input port quickly, you need lots of GOSUBs to a input routine, to ensure you don't miss the input data.

DOCTOR! DOCTOR WHO? THAT'S RIGHT!

After all, the program can't hang about waiting for an input at the port, it has to press on with other processing. To avoid this business of lots of GOSUBs scattered all over the program, we use, da. dah. INTERRUPTS!

And how is this achieved in BASIC? Easy, peasy, it's the EVERY command. Look at the following example:

```
10 EVERY 50,3 GOSUB 200
20 x%= 0
30 x%= x%+1
40 a= a+ 1.0
50 GOTO 30
200 PRINT "x=";x%;
210 RETURN
```

So what does this little program do? Well, the first line (10), sets up the Interrupt interval and priority. The 50 means that the clock will count 50 ticks before carrying out the GOSUB 200 part of the command. Since each tick is 0.02 second, the GOSUB will be called every one second. When the

interrupt handler is entered at line 200, it will print the value of x%. The next line 210 is then carried out which is a return to Line 20. Line 20 will only be passed through once, after the first GOSUB call.

From then on the program will loop around from Line 30 to 50 and back to 30 continuously. The loop will get interrupted every second to GOSUB 200.

KISS: KEEP IT SIMPLE! STUPID!

In effect we have a simple program that can be used to measure the time for different commands. For example, replace line 40 with a%= a%+1 and notice that integers operate faster than real-numbers as evidenced by the slightly greater number of loops.

Add a comment and notice that there is an overhead as the number of loops is reduced. This makes writing good programs rather awkward, as lack of comments makes maintaining programs a difficult task.

Now try replacing line 40 with: FOR p%= 0 to 10000: NEXT p%; and notice that interrupts are inhibited, as the x%-loop counter remains fixed.

Here's a salutary lesson to be learnt, if you wish to write real-time programs in BASIC, using FOR-NEXT loops is not a good idea. The same applies to WHILE-WEND loop.

GET YOUR PRIORITIES RIGHT!

In Line 10, I didn't say anything about the priority. This is indicated by the number three, which is after the 50. Three is the highest priority. The idea is that you may find that you need other interrupt handlers.

The CPC can't cope with handlers all at the same priority, because the CPC wouldn't know which one of the handlers to call. So each handler has to be given a different priority value between 3 to 0. IE. four altogether.

There's some rules to remember about priorities when using interrupts, however, because of the never-ending approach of the end of the page and the need for more space than I have to explain what going on, I'll interrupt this bit and continue it next week (as a matter of priority!) Promise.

OUTRO

Christmas is coming, the Goose is getting fat, So I've put it on a diet. Merry Christmas. George.

PROGRAM 78952: HYPOTHETICAL INTERRUPTS? BY GEORGE HO-YOW

```
10 GOSUB 400      ' to takein data, first call
20 IF a%= &20 THEN 100
30 GOSUB 200      ' do something that's not more than 1/10 second?
40 x%= x%+1      ' else we may miss the data requested in the next line.
50 GOSUB 400      ' to takein data, second call
60 IF a%= &A THEN 500
70 GOSUB 300      'do something else.
80 GOSUB 400      ' third call
90 'And so on
400 a%= INP(&F500) 'takein port data
410 RETURN
```

ccC PROGRAMMING Cc

BY MARTIN YOUNG

Hello, and welcome to your very first article on C - The programming language for the next century. To start with I thought it might be nice to set down a little of the history of the C language together with some of the more common terms that tend to get thrown about when using it.

THE HISTORY OF C

In the very dim and distant past when knights were bold, and maidens were italic, operating systems were built from hand crafted machine code.

This was not fun. Quite apart from the inherent difficulties of writing an operating system, doing it in assembly was a task to reduce grown programmers to tears.

What was needed was a way of writing the fast code required (Pascal and its friends were way too slow) without being buried up to the ears in obscure mnemonics. Enter BCPL, the Basic Cambridge Programming Language.

Whoopee doo daas for all the OS developers then, but it was too nuts-and-boltsy for most (all) applications development, until it was refined into B, and then C.

The world is still undecided whether the next variation would have been P (from BCPL) or D. As is traditional the commercial suits ducked the question by calling it C++ instead.

Today there are two main flavours of the language: K&R and ANSI. The first, K&R, is named after the authors of the definitive C reference work "The C language", Kernington and Richie (Ken and Dennis to their friends).

ANSI C is that standard laid down by the American National Standards Inst. and is different in interesting and subtle ways. So far as I'm aware, the compilers available for the CPC are K&R, and this is what I'll be using.

Why C?

Why? As far as programming theory is concerned, C is quite similar to Pascal, and some of the newer BASICS in that it is a procedural programming language (works its way through a series of instructions). They all have named procedures and functions, and

are quite strongly typed (ie. strings and numbers are treated differently.)

The benefits of C, are manifold. For starters, it's flexible; whatever you give the compiler, assuming the syntax is correct, it'll compile, and produce an executable that may or may not leave your machine lying on its back, legs in the air and moaning slightly.

It is unlikely that C will stop you doing anything and unlike many other high level languages C lets you (if you really want to) get right at the heart of the machine (of course you don't have to get that involved!)

It is possible, for example, to have an array of procedures. Its handling of variables is excellent, casting (the act of changing a value from one type to another) is simple and the code is usually fast and compact.

There are pitfalls though, all the power must be handled with care, and C is very easy to write illegible code in. Hear's an illustration:

EXAMPLE: DISPLAY THE NUMBERS 0 TO 8 AND THEIR PRODUCT

POOR BASIC:

```
10 FOR a=0 TO 8:PRINT a;"*";a*8:NEXT a:END
```

GOOD C EXAMPLE:

```
main() /* C always begins with main */
{
    int a; /* Make an integer variable called a */

    for( a=0; a<=8; a++ ) /* Equivalent to a for...next */
        printf("%d:%d\n",a,a*8); /* Output the numbers */
}
```

BAD C EXAMPLE:

```
main(){int a=-1;for(;a<8;printf("%d:%d\n",a+++1,a*8));}
```

THE BASIC TECHIE: Mutters "line 143, that's a goto from 857..."

THE FORTH TECHIE: things backwards adding up often seen....

THE C TECHIE: Waves a piece of paper and yells "I bet you can't guess what this does!"

DEFINITIONS

TYPE: the species of data held by a variable. BASIC has integers, reals and strings. C has these and more..

CASTING: the act of changing a value from one type to another. BASIC uses val(), str\$() etc for this. C does it automatically unless the program specifies otherwise.

COMPILER: turns a text file, the source code, into an executable program. Locomotive BASIC on the other hand hacks its way through the source code line by painful line.

PROCEDURE/FUNCTION: A small section of a program that when called or run performs a specific task. In theory a good program is made up from many, small well tested procedures.

A function is a procedure which returns a result to the part of the program that called it.

Thus in BASIC, "a=sin(x)" is a function call, which passes x, and has the answer returned to a, while "mode 2" is a procedure call which passes the constant 2.

OUTRO

The diets must be working? Cheers.

CPC NOW!

PAUL DWERRYHOUSE LOOKS INSIDE CPC NOW!

It is always nice to see anything new for the CPC and the arrival of magazine call CPC NOW! is welcomed with open arms. Here at WACCI we don't consider other CPC magazines to be rivals, we consider them our friends in a big happy family that goes on to make up the CPC scene. All magazines have there strong points and their respective editors take them in many different directions. The magazine is edited by James Hockney who is, as I write, looking for a deputy editor.

FROM NOWHERE TO FOUR

The current issue is number four and the style, layout and content has been steadily improving since issue one. The first three issues utilised an A5 layout but with issue four came the change to A4 just like WACCI.)

The mag is laid out using three columns of unjustified text printed in condense draft on a 9 pin printer. The production method isn't stated but a lot of cut and paste (with glue not a DTP) takes place. Even the columns of text are pasted manually onto each page. However, although you can tell how they do it, it does not distract from the read, which is what you bought it for in the first place.

WHAT'S IN IT

To give you a good idea of its contents figure 1 gives you a page by page blow of what's in it.

As you can see it gives a good wide coverage of topics whilst maintaining a bias towards games. The articles, features, reviews etc are well written making the read a pleasurable one. There is no bad language (who needs it) and the spelting mistooks are few.

One little annoying feature is the lack of a space after a full stop. Just like that, and they do it after commas as well. Anybody out there listening?

NEW FOR THE FUTURE

CPC NOW! are going to open a disc and tape PD library, as well as a book library. This may well be turning them into a user group or club but that's not a bad thing either. Starting these

FIGURE 1 - THE TABLE OF CONTENTS

FC ... front cover
P2 ... Gas Bag Gabble and contents
P3 ... Amsnews
P4 ... Amsnews and Competition
P5 ... Letters
P6 ... Cheats
P7 ... Cheats and more letters
P8 ... Review Citizen 120D printer
P9 ... Review Foot Pedal
P10 .. Adventure
P11 .. PD Plus
P12 .. Review ProPrint
P13 .. Adventure & GVL interview
P14 .. Dartsma advert
P15 .. WACCI review & Need To Know
P16 .. Tim Norris (AA) interview
P17 .. Super Store
P18 .. more Super Store
P19 .. Computer show dates
P20 .. more dates & AVATAR advert
P21 .. Games - Wrestle Mania
P22 .. Games - World of Sports
P23 .. Games - Super Cauldron
P24 .. Games - ditto & type-in
P25 .. Type-in continued
P26 .. Games Scene
P27 .. Next Issue
BP ... Back page adverts

things from scratch can take some time and thought power to get things up and running, so it will be at least issue 6 before anything actually happens. I wish them luck.

JUST BUSINESS

Many of you will have noticed the adverts in Amstrad Action for CPC NOW! The adverts seem to indicate that the magazine is only a small side of a business. James freely admits that this is the case but the magazine only runs a small advert called Super Store and you can judge for yourself from the table of contents that this is the case. James does not intent to let the business spoil the fun of the mag.

This was a worry to me at first, the fact that it could turn into just a vehicle for advertising his wares but after chatting it over with James I feel that the two are separated in his own mind.

SUBSCRIPTION DETAILS

UK: £1.10 Europe and Eire £1.50

RoW: £1.50 surface £1.90 Air mail

SEND TO

James Hockney, 3 St Ethelwolds

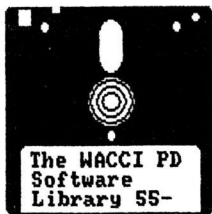
Close, Ely, Cambs, CB6 3EX

Cheques payable to CPC NOW!

OUTRO

I wish him well, the CPC needs supporting by good magazines like CPC NOW! With the quality of the magazine getting better with every issue it could well rival CPC USER in a Short period of time (*sorry lads.*)

STOP PRESS STOP PRESS STOP PRESS STOP
James tells me that he will be using Stop Press to produce the magazine on from now on. *Is that wise James?*



THE WACCI PUBLIC DOMAIN SOFTWARE LIBRARY

PD DISCS 55 ONWARDS FROM:

DOUG WEBB
4 LINDSAY DRIVE, CHORLEY
LANCASHIRE PR7 2QL

PUBLIC DOMAIN DISC 55 - AMSDOS - UTILITIES DISC TWO

SIDE A: The complete Teach Yourself Machine Code series.

SIDE B: 4 Superb Amsdos Utility Programs:

- EPIC Adds extra commands and boxes to Protext on Rom
- VT Video Titler - menu controlled, easy to use.
- TOOLKIT ... Play with the computers memory.
- ED Disc sector editor

PUBLIC DOMAIN DISC 56 - AMSDOS - STARTREK PICCYS, MUSIC

Side A: Startrek Picture Show: Crew, Crew 2, Crew 3, Data, Doctor Crusher, The Enterprise, Ferengi 1, Ferengi 2, Geordi 1, Geordi 2, Picard & Riker, Picard 2, Riker, Troi, Troi 2, Troi 3, Wes Crusher, Wil & Troi and Worf.

Side B: Music Programs

- | | |
|-----------------------|-------------------------|
| 1 JL Digitiser | 6 Maestro |
| 2 Edimusic | 7 Keyboard |
| 3 Sound Effects | 8 Digitiser |
| 4 Music Box | 9 Digiteditor |
| 5 Music FX | 10 Digitiser Demo |

PUBLIC DOMAIN DISC 57 - CP/M - ZDE WP & UTILITIES

SIDE A: The ZDE Word Processor: CP/M 2.2 or 3.1

ZDE contains all of the features you'd expect and more. ZDE will run under both versions of CP/M, v2.2 users are advised to use VDE266 (on PD 10) for the best results. Also included is QTEXT which speeds up text under CP/M 3.1.

SIDE B: CP/M Utilities - CP/M 2.2 or CP/M 3.1 (plus)

- DISC Instructions & disc contents
- B29 Library file and disc utility.
- E86 Expert 86 (Complete expert language system)
- DISZ80 Intelligent Dis-Assembler
- FILER11 Card index style database / filing system

PUBLIC DOMAIN DISC 58 - AMSDOS - OVERSCAN DEMO BY M VIETH

Lots of good quality full screen pictures - Overscan pictures take up the whole of the VDU screen. They cannot be loaded into an Art package - For fun viewing only.

PUBLIC DOMAIN DISC 59 - AMSDOS - DEMO DISC FIVE

Includes lots and lots of superb quality demos. The Face Hugger's Ultimate (stunning) Megademo is to be found here.

PUBLIC DOMAIN DISC 60 - AMSDOS - DIGITAL DREAMS

The disc that contains dreams and nightmares. The music and pictures are good but the screens will not convert to Amsdos standard screens for loading into an Art package.

PUBLIC DOMAIN DISC 61 - AMSDOS - WORD GAMES DISC ONE

- CROSSFIRE ... Two player game playing with letters
- JAM Cram those words into a box if you can
- SET Fast moving trivia to the rules of Tennis
- WORD WARS ... Battleships played with words
- DICCED Create, save, load and merge dictionaries
- DICDUMP Select and load ASCII or binary dictionaries
- DICSORT Check word files and sort into order
- ANAGRAMS Generates anagrams of a chosen word

PUBLIC DOMAIN DISC 62 - AMSDOS - WORD GAMES DISC TWO

- BUSTER A quiz game for word freaks
- NOBBLE Word board game that gets you nobbled
- LOOT Maze game, move the man or the maze
- WARREN Travel around the warren and make words
- ARREST A game of strategy on the board
- WORD DOMS ... Dominoes played with words
- SLIDE Making words by slipping around
- SWAP Board game involving errmmm letters
- DOUBLE X Board game involving errmmm words
- STRAIN Anagram game
- PIECES OF 8 . Mastermind with letters
- WORDWALL A Mega hangman game
- MEGAGRAM Megatastic, anagrammatic, the ultimate

PUBLIC DOMAIN DISC 63 - AMSDOS - ADVENTURES DISC FIVE

The Lost Phirous Trilogy game and story, Caves 90 game and story, Craal, Kidnapped, Revenge.

PUBLIC DOMAIN DISC 64 - AMSDOS - DEMO'S DISC SIX

Logon Revolution, Merlin Demo, Hack Demo, Jupiter, Crash, Zap 'T' Balls, Violin, Desperate Dan Demo, Tom and Jerry and Kreator Demo.

PUBLIC DOMAIN DISC 65 - AMSDOS - GAMES DISC THREE

Crystal Mission, Crazy Snake, Driller, The Space Duel, Give Us A Break Quiz, Give Us A Music Break Quiz. Also included are: Question Editor: Break and Question Editor: Music.

PUBLIC DOMAIN DISC 66 - AMSDOS - OVERSCAN DEMO 3

Superb quality pictures but some are a bit over the top. Whilst they are not as bad as Page 3 of the Sun, the disc is limited to members aged 18 and over - sorry.

PUBLIC DOMAIN DISC 67 - AMSDOS - DEMO'S DISC SEVEN

Croco Passion Demo #2, Explode! from Robot PD, New Wave Crackers PC1512, The Twin Blast Demo, WACCI Demo #2 by Dave Carter, Atland Game Preview, Bart Simpson #19, CS Demo Glenco Basic, CopyParty Demo #1

IT ONLY COSTS:

£3.00 to buy a disc (including disc and p & p) or
£1.00 to borrow a disc.

PUBLIC DOMAIN DISC 68 - AMSDOS - UTILITIES DISC THREE

JL-COPY & CRIME Disc and file copiers
MAGIC DOS for large format discs
IQTEST An IQ test program
CAT3A.ASC etc George Ho-Yow's super CAT database
CVMO2 convert MO2 text files to Protex
GHOST Ghost effect printing on screen
MULTIFAC Run programs saved with a Multifac
WORKTOP Windows style worktop program
CAT CATalogue discs to your printer
MPACK Improved version of BANKMAN.BIN
FINDTEL Convert STD codes into towns/cities

PUBLIC DOMAIN DISC 69 - AMSDOS - FANZINE DISC ONE

CCC fanzine issue number 4 - A french fanzine

PUBLIC DOMAIN DISC 70 - AMSDOS - FANZINE DISC TWO

DiscFull fanzine issue number 6 - A french fanzine that includes a disc verify and format utility.

PUBLIC DOMAIN DISC 71 - AMSDOS - FANZINE DISC THREE

DiscFull fanzine issue number 7 - A french fanzine.

PUBLIC DOMAIN DISC 72 - AMSDOS - DEMO'S DISC EIGHT

Christmas Demo by Paradox, Amstrad Magic Club Demo, Magic Demo #1a by C&F Soft, Tenerife by Blond Soft, Revenge Demo by Wild Thang, Wild's Thang's Demo #3, The Scanline Demo.

PUBLIC DOMAIN DISC 73 - AMSDOS - DEMO'S DISC NINE

AST's Atlantic Demo, AST's No Inspiration Demo, Overflow/Logon Systems Demo, AST's System Production Demo, LogoGryfikks Demo #2.

PUBLIC DOMAIN DISC 74 - AMSDOS - UTILITIES DISC FOUR

SIDE A: Epic v1.1 by Michael Beckett. The new and much improved version. Epic works with the Protex ROM and greatly improves the way Protex will talk to your printer without the need for an eight bit port. The package comes with its own font designer so you can design your own characters or complete fonts. Fully documented and much easier to use, Epic v1.1 is a PD program of superb quality.

SIDE B: Assorted utilities as follows:-

Animator Basic animation program
Ascii View the computers memory contents
Crunch Save space & create runnable crunched files
Datafile Easy to use database
Disctrak Helps you keep track of your disc contents
Drumkit Make and play your own tunes
E-Basic Extra commands with some easy to use RSX's
Format Fast, easy to use disc formatter
Itsmagic Sound sample of Its magic!
Labprint Label printing program
LBase Label printer and database
Ledger Cashbook style ledger system
Notepad Pull down notepad
Overscan Create & display overscan pictures
Phone Keep track of phone numbers etc
Softarc Archive programs easily to tape
Spreadsheet Gosh yes, it's a spreadsheet
Symbol Character designer
Tvsat Calculates the position of TV satellites
WordProcessor .. Errrrmm - a WordPro I guess

PUBLIC DOMAIN DISC 75 - AMSDOS - UTILITIES DISC FIVE

SIDE A: The Allen 'The L Plate' Cooper special
Discndex A disc index utility for all disc drives
Discout A single drive version of the above
Dscout.bin M/c by Stewart Peppiatt for the above two
CPCLabel A disc labeller utilising 160 CPI printers
CPCLabel.ams ... As above but for any printer
Everydos 6128 only labeller for 3/3.5 inch drives
Everydos.ams ... Ditto but for any printer
Manualbl Protex file for overfull discs labels
Manlabel.bin ... The printer driver for the above
Discndex.art ... Explanatory article about these programs
Casscard Cassette inlay for your program cassettes
Alphabet Large style font for use with Protex
CPM.bin Load CP/M, set Drive B to 792K D20 format
Edit Set up the keyboard for Pascal editing
NSWPbook NSWP instructions in book form for Protex
Program.bas BASIC programming aid
Typing.tut Super typing tutorial

SIDE B: Utilities

Hist Histogram creator by Robert Heaton
Font-fix Correct small defects in MD+ fonts
Various IC/DR .. Examples and new MD+ fonts
TT/TT2 Typing tutor
Carnum Car registration number locator
Godwin Large screen dump utility
Tutor Gosh another typing tutor
Wales Explore Wales by Robert Fisk

PUBLIC DOMAIN DISC 76 - AMSDOS - DEMO DISC TEN

The MegaPartyDemo II disc. Contains eleven truly excellent demos under the party banner. A must for demo fans and if you think you don't like them - try this one. One word of warning though - Demo coders like to swear, maybe they will grow up one day but until then we must grin and bear it.

PUBLIC DOMAIN DISC 77 - AMSDOS - TEXT AND PICTURES

SIDE A: Computex

This is a teletext style program that is more fun than real use but you might disagree.

SIDE B: Pictures

A clever viewer for the following screens; 2010, stargrid, Medieval, Advert, City, Fortress and Imperial Shuttle.

UK RATES PD AND HOMEGROWN LIBRARIES

Copy disc £3.00 Loan disc £1.00

EUROPE AND OVERSEAS (COPY DISC ONLY) RATES

1 disc Europe £4.50 Overseas £5.00
2 to 4 Europe £3.50 Overseas £4.00
5 and over Europe £3.00 Overseas £3.00

BLANK DISCS - MAXELL NOTE: Prices per disc/box

2 - 4 UK £1.50 Europe £2.00 Overseas ... £2.50
5 - 9 UK £1.50 Europe £1.75 Overseas ... £2.00
Box 10 UK ... £14.80 Europe ... £16.00 Overseas .. £18.00

THE NEW ALTERNATIVE FIRMWARE MANUAL AND DISC

UK £7.95 Europe £8.95 Overseas £9.95

*Blank discs and The New Alternative Manual/disc from:
FRANK FROST, 4 RECTORY CLOSE, WOOTTON, RYDE, IOW, PO33 4QB*

PUBLIC DOMAIN DISC 78 - AMSDOS - GAMES DISC FOUR

Side A

21orbust Another variation on Pontoon
Addicted Are you a computer addict
Atomic Play with atomic particles
Attack Defend yourself from the alien attack
Cluedo Follow the clues and solve the mystery
Daleks Get Dr Who back to the Tardis to escape
Dotman It's a bit like Pakman
Goldmine Collect all the gold to win
Hangman Guess the word before it's too late
Hunt A treasure hunt
Isotopes Avoid the walls to stay alive
Moonland Land safely on the moon and you survive
Mower Learn how to mow the lawn safely
Oxo Play a game of nought's and Cross's
Pentominoes .. A cross between dominoes and a jigsaw
Racegame Go horse racing and betting
Reflect The piece's shuffle - you put them back
Robotron Robot Ron must crush the Ice Monsters
Stuntbike Calculate the fuel needed to survive
Tiles Take the last tile and you lose
Whackitt Hit the moles to score

Side B

Allout Play Cricket against Australia
Bouncer get the ball though the hole
Dino Guide Dino though the caves to win
ForceField ... Escape the ForceField if you want to win
League Manage a football team
Pontoon The card game
Priz Escape from the planet Priz or all is lost
PowerTetris .. Power Tetris or what?
Rally Guide your car though the tunnel
Scomerge Merges Power Tetris high-score tables
Sequence What comes next
Snake Eat mice and win
SpaceBase Defend the Space Base from Alien attack
Wipeout Knockout the bricks to score and win

PUBLIC DOMAIN DISC 79 - AMSDOS - GAMES DISC FIVE

Side A

Castle Adventure type game
Cedric Two player game were you must match the toys
Dabells Guide Mr Humpy across the screen
Destroy Depth-charge the subs before they get you
Eggblitz Clear the runway of scouts before you land
Isobot Find the crystals and escape
Meltdown Strategy type game
Metro Draws a Metro car
Music Moonlight sonata by Beethoven
MusicDocs Music on the CPC help file
Plumber Reconnect the pipework
Spelling Educational Spelling game
Stars Animation experience
War Fight and win or lose

Side B

3d-ttt 3D Tic Tac Toe
AlleyCat Sort the cats into order
Anno Calculate moveable feasts, moons & calendars
Bio Draws Biorhythms
C4 Connect style game
HTowers Towers of Hanio

PD DISC 79 SIDE B CONTINUED

Jackpot Fruit Machine Simulation
Knight Move the knight around the chess board
Nim Take the last match to win
NineMen Variation of nought's and cross's
Proverbs Complete the proverbs to win
Solitaire The game
Yahtze A game with dice
Bottles Variation of hangman
Flags Flags of the world - well some anyway
Thomas A.I. on the CPC and not a tank engine
Pontoon A very popular card game
Time Enter the correct time to win
BBCemulation . Make your CPC look like a BBC
LunarLanding . Land your craft but don't crash

PUBLIC DOMAIN DISC 80 - CP/M 3.1 - SMALL C

Small C is a complete version of the language that will produce stand alone COM files. Comes with complete documentation.

Small C

Interpreter .. is a cut down version of the language C and it has been designed to assist in the learning of C. Complete with documentation.

PUBLIC DOMAIN DISC 81 - CP/M 3.1 - PRINTMASTER

Printmaster is the CP/M graphics program that is so easy to use and follow. Full instructions are given on how to create a work disc.

PUBLIC DOMAIN DISC 81 - CP/M 3.1 - UTILITIES DISC TWO

Side A

CAT etc A full disc cataloging suite of programs
Einstrad Read and write to Einstein discs
Maxi MaxiSweep review and information
MS MaxiSweep the updated version of NSWP
PS Printer and screen controller utility
UNera Unerases erased files
Video Make and print video tape labels
ZX3 Superb disc utility

Side B

B40-80 Formats discs as 80 tracks, includes notes
Blank Blanks the screen to save wear and tear
CPM2 CP/M 2.2 Emulator for CP/M 3.1
Diskita General purpose disc formatting utility
Maxelcat Easy to use catalog program
Menu Super CP/M Menu program
PCW Allows you to read PCW discs
SC2date Improved date options for SuperCalc 2
Sdump Screen dump RSX for CP/M 3.1
Sideways Prints spreadsheets sideways down the page
Wrdcount Counts the words in text files

PUBLIC DOMAIN DISC 83 - CP/M 3.1 - PRINTMASTER GRAPHICS ONE

These new graphic libraries considerably enhance the graphics available for Printmaster. The graphics come with exact details of how to create new working discs.

PUBLIC DOMAIN DISC 84 - CP/M 3.1 - PRINTMASTER GRAPHICS TWO

Another new graphic library to add to your Printmaster library. Again details of how to set up working copies of Printmaster discs are included.

PUBLIC DOMAIN DISC 85 - AMSDOS - MICRODESIGN DISC 13

This disc contains the five complete fonts sets that are used to design WACCI page headers. The DR files are named firstly after the character height (printed using a 24 pin printer) and, secondly, after the character names eg the 23mm high font containing the first part of the alphabet is called 23-ABC+.DR, the middle of the alphabet 23-KLM+.DR and the end section of the alphabet is called 23-UVW+.DR and that's all there is to it. The disc was reviewed in issue 71, page 24. Also included are ten clip art files made up of smaller pieces of artwork.

PUBLIC DOMAIN DISC 86 - AMSDOS - UTILITIES DISC SIX

Side A:

- DOSCOPY Superb shareware AMSDOS to MS-DOS to AMSDOS file transfer program. It also formats too.
- FIRMWARE An extensive text file with its own viewer which outlines the Firmware commands.
- FM7 File Manager number 7 would you believe.
- JS-DBASE Jim Scott wrote it and this is the latest updated version. The program needs the Arnor ROM Utopia and a printer hooked up to your CPC for it to run.
- LINKPROG This is a 6128 only brainstorming program.
- LOGIFILE Another very good database.
- SIGBASE And yet another database program.
- TABLES Record your school time table.
- TURING A living mathematical pattern generator.
- WISDOM Random wise saying - you will love them!

Side B:

DLAN by Campbell Systems. This was originally a commercial program but Campbell Systems have given permission for it to be released into the Public Domain. DLAN stands for Display LANGUAGE and the results are truly excellent. The package comes complete with full documentation.

PUBLIC DOMAIN DISC 87 - CP/M 3.1 - SCRIVNER

The complete database and spreadsheet program complete with documentation that will ensure endless hours of enjoyable reading and complete mastery of the program.

PUBLIC DOMAIN DISC 88

This disc is unavailable at the time of going to press so watch this space for more details.

PUBLIC DOMAIN DISC 89 - AMSDOS - PICTURE DISC 11

Side A:

Alien, Apple, Bengal, Gulls, Haunted, Honda, Imaginat, Imcruiser, Indian, Its, Jdean01, Jupiter, Kingtut, Kitty, Ladyf, Ladyf1, Ladys, Notang, Oldeagle, Parrot, Straw and last but not least Swimmer.

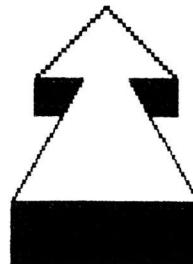
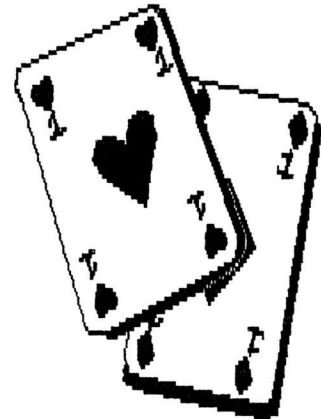
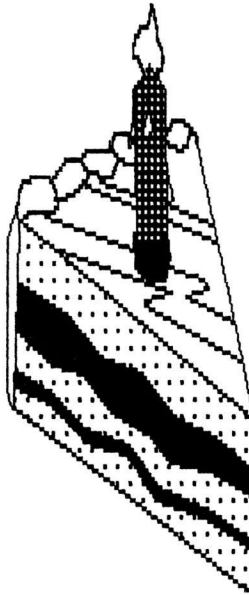
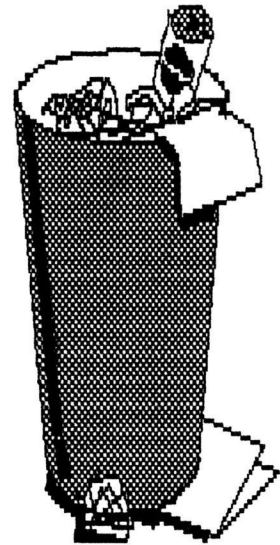
Side B:

Astro3, Blastoff, Coyote, Dione, Dougal, Dragon1, Dragon2, Fish, Goofy, Gravity, Kirk4, Ladyc, Monarch, Saturn, Stooges, Waterfal, Waterfa2, Worldne, Worldnw, Worldse and would you believe Worldsw.

HOMEGROWN DISC FIFTEEN

The excellent PageSetter 64 program. This is a very good quality ex-commercial DTP software package that is NOT Public Domain or shareware and is, therefore, only available to WACCI members.

CLIP ART FROM PD DISC 85



L D A , C O D E

UNCLE CLIVE POKES ABOUT IN MACHINE CODE

I thought that I'd write a simple machine code program that displayed a Santa on the screen whilst playing Jingle Bells and other Christmas style songs and then I thought, why bother, its been done before - so I didn't bother.

GIVE A DOG A BAD NAME....

Instead we will take a look at labels and other more meaningful machine code routines as you sit back and let your Christmas dinner slowly digest.

You can happily go through your life using CALL &BC0E, CALL &BB5A and even CALL &BBFF (however CALL scr_set_mode, CALL txt_output and CALL scr_initial make a lot more sense.)

You can happily go through your life using CALL &8000, JP &6458 and even CALL &12345 (however using CALL start, JP print_character and even using CALL a_routine_that_displays_the_menu makes a lot more sense.)

GIVE A DOG A LABEL AND.....

Labels make life easier for all, they add meaning to programs and they make debugging much easier and above all it makes it a lot easier to understand what has been done, and why!

PROGRAM FIFTEEN EXPLAINED

This program follows my usual method of writing a program - this falls very neatly into three stages.

In the first section I set the ORG (organise) location, give the firmware commands meaningful labels, set up any fixed values - in general I use it as my setting up area.

The second section is the main program, I usually use lots of CALL's (which act in the same way as GOSUBS) to jump to specified subroutines, each of which will carry out a specific task or group of tasks and the return the program control to the next command. This method allows for easy debugging of programs and for the transferability of routines.

The third and final section contains the subroutines and any messages that will be displayed.

THOSE NEW COMMANDS....

I'd better tell you about the new(ish) commands used in program fifteen.

EQU is an abbreviation of Equate and it allows you to directly relate labels to absolute memory addresses.

This means that you can use sensible and meaningful labels instead of a meaningless address. Txt_output means a lot more than CALL &BB5A to most (if

not all) programmers. There are other advantages to be gained - you can EQU to set an address at the start of the program, and then when the program is compiled the label is replaced by the address, so, if you want to change an address, you only have one address to change, the rest are updated as the program is compiled..

Maxam use the semi-colon as a REM statement, so any instructions or text that appear on the program line after a semi-colon are treated as comments when the program is compiled.

PROGRAM 15: LABELS, FIRMWARE CALLS AND PROGRAM STYLE - THE USUAL METHOD

```
ORG &8000 ;address where the finished machine code is stored

.txt_output equ &BB5A ;output a character to the screen. A contains the
;character to output. All registers are preserved
.scr_set_mode equ &BC0E ;sets the screen mode. A register contains the mode
;number. AF, BC, DE & HL are corrupted.

;the main program

CALL set_up_screen ;jump to the subroutine that sets up the screen
CALL print_a_D ;jump to the subroutine that prints a D on the vdu
RET ;end of the program

;subroutines

.set_up_screen ;subroutine - sets the screen mode to 1
ld a,1 ;load A register with the required mode
call scr_set_mode ;set the screen mode
ret ;return back to the next command after the
;call set_up_screen command.

.print_a_D ;subroutine - prints a D on the screen
ld a,68 ;load A register with the ascii code for D
call txt_output ;display the character in the A register
ret ;return back to the next command after the
;call txt-output command.
```

Compile the program and use SAVE "MC5.BIN",8,&8000,&13 to save it.

Finally, use: 10 MEMORY &7FFF:LOAD "MC5.BIN",&8000:CALL &8000 to run it.

As your machine code programs develop and grow they will as a result, become a lot more complex - you are strongly advised to fully document programs.

To get the best from both worlds I have two copies of routine.

A master copy with all my comments and notes - In fact they are very similar to the one page 15 and....

A working copy, this has most of the comments and notes removed (this saves space) and I'll add a title and short description, something like

```
; Print Menu On Screen
; Mode 2 - all registers preserved
; ld a,2 : call &bc0e : ld c,a etc
```

I usually ensure that a routine leaves the registers contents unaltered, thus all is unchanged, apart (of course) from the routine having been actioned.

I use Maxam 1.5, which like Basic, allows more than one command on each line, and like Basic the colon is used to differentiate between commands.

A PUSHING AND A POPPING

If you cast your mind back to page 15 or forward to the next column, you remember (or read - whichever is the case) that the SCR_SET_MODE (&bc0e) firmware call corrupts the AF, BC, DE and HL registers.

Provided you know this is going to happen, you can save the contents of the registers by pushing them onto the stack and then recover the contents by

PROGRAM 16: AND AGAIN FOR THOSE OF YOU WHO DO NOT (AS YET) OWN AN ASSEMBLER

```
10 MEMORY &7FFF
20 MODE 2
30 FOR mem = &8000 TO &8012 : READ num : POKE mem,num : NEXT mem
40 CALL &8000
50 END
60 :                               'Main Program
70 DATA &cd,&07,&80 : 'call subroutine - set up screen
80 DATA &cd,&0d,&80 : 'call subroutine - print_a_D
90 DATA &c9 : 'ret - return control to Basic
100 :                               'Subroutine - call set_up_screen
110 DATA &3e,&01 : 'ld a,1 (select mode number)
120 DATA &cd, &0e,&bc : 'call scr_set_mode (set screen mode)
130 DATA &c9 : 'ret (end of routine)
140 :                               'Subroutine - call print_a_D
150 DATA &3e,&44 : 'ld a,68 (character to print)
160 DATA &cd,&5a,&bb : 'call txt_output (print character)
170 DATA &c9 : 'ret (end of routine)
```

Type in the program and please remember to save it before you run it (just in case it crashes and is lost, this saves hours of lost work *and temper.*)

SCR SET MODE (CALL &BC0E)

Action: sets the screen mode

Entry: the A register must contain the required screen mode. It works in exactly the same as the Mode command in Basic! (Range 0 to 2)

Exit: AF, BC, DE & HL registers are corrupt.

popping them from the stack. However there will be a lot more on this subject in the next article - so don't panic (well not just yet!)

OUTRO

If in doubt, try it out! (But remember to save it before you do!) There's no substitute for a bit of 'hands on and trying it out type of learning!'

If you get stuck, drop me a line or give me a call :- So until next months popping goo issue. TTFN. -Clive

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

SIREN SOFTWARE, WILTON HOUSE, BURY ROAD, RADCLIFFE, MANCHESTER, M26 9UR (TEL: 061 724 7572)

See the advert on Page 6 for details of their, RS232 Serial Interface, 3.5" Disc Drives, Romdos XL, Ramdos and more....

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Alternative A5 size CPC magazine - usually 80p, now only 70p to club members.

CPC ESSENTIALS

CHRIS GREEN INVESTIGATES THE CPCs ESSENTIAL BITS

There's no need to worry about money this month - Christmas is here. So write out a long list of the items you need and then drop lots of hints to friends about how MicroDesign Plus will change your life if only someone cared enough about you to get it as that extra special Christmas present. This approach works best if your aged around ten'ish and you wash the dishes every night.....

I'll carry on where I left off last month, <<that makes sense! -Clive.>> reviewing the serious software that is an essential part of any CPC.

SPREADING IT ON THICK!

PD PLANNER: Spreadsheets are a very dodgy subject for me. I've spent many a year trying to find myself a good PD spreadsheet. As there are only two, I ended up with the better of the two. PD Planner was written by WACCI's very own Paul (I'm sorry it's too much) Dwerryhouse, and is in the same mould as Rambase 2 in terms of quality.

I will not dwell on this for long, only to say that it is the best PD spreadsheet, it's 128K only and can do most things a PC spreadsheet can do.

ACCOUNTING FOR TASTE?

PLAN IT: I do my accounts with Plan It from Database. This program is very good and easy to use. However, it was discontinued years ago and I cannot recommend a replacement as I have used no other accounts program on the CPC.

HERE COMES THE WORD, AND THE WORD IS:

TASWORD 64: I use Tasword 464 as a back up word processor. This program is total rubbish and has the speed of a tortoise carrying a fruit machine (which are very heavy I can tell you).

It is however useful for quick memo writing. Nothing else. The only reason I've got it is because it was on an Amstrad Action cover tape.

A GRAPHIC DESCRIPTION

No serious software collection can be called complete if it does not contain a range of Art (or Graphic) programs. How else can one whittle away the wee small hours of the night?

MICRODESIGN PLUS: I cannot say much about MicroDesign Plus, except that it is a form of graphics package that has been resurrected from the scrap heap and enhanced to make it into the excellent program it should have been and that the print quality is superb.

<<How good is it? Well take a good look at the title on the top of the page for an interesting example of the print quality it can achieve. (I hope its been printed okay!)

MicroDesign is very easy to use and there's loads and loads of great PD clipart available for it. -Clive.>>

OCP ADVANCED ART STUDIO: Thankfully, everyone has heard of this so all I need say is that it is good, very good (enough said.) I thoroughly recommend it to anyone who wishes to draw on a computer (as will nearly every other WACCI member, right Clive?) <<Right.>>

POWERPAGE 64: is a really great PD DTP (desktop publisher) from Robot PD. It will run on all three CPCs and what's more it's Stop Press compatible, which is handy as most clip art is in Stop Press format. (Pagemaker Deluxe is the direct competitor to it. This is a 128K program and needs to convert all clip art. It is all in BASIC and is tediously slow.

I bought both with the intention of using them both to produce my now defunct fanzine "Plus 1". In the end, I did it all on Powerpage.

The fact that I was able to produce a fanzine entirely on a 64K desktop publisher is all the credit it needs. In addition, it's routines are in machine code and move like lightning, and it has every manipulation feature you could possibly need (even a fill

feature for CPC 464 owners. On the down side, all of it's sub sections are stored on disc and the constant accessing can cause crashes and wear out your drive (although the drive is speeded up to ease this problem.)

It's not ROMDOS compatible because all your ROM's need to be disabled.

It's excellent value for people on a small budget (you may have it already on one of your AA cover tapes.)

PAGEMAKER DELUXE: The good thing about Pagemaker Deluxe is it enlarges the screen to 33 lines (instead of the 25) however it's just so slow as all the code is written in BASIC (and much of that was ripped off other programs).

GRAPH MASTER: I do all of my graphs on Graph Master. This is a specialist program which saves files as standard 17k screen files, this in turn allows the user to export them into programs like Stop Press and MicroDesign, or tidy the image up using OCP.

It can do all forms of line, bar and pie chart and it much clearer than the graph option of Mini Office Two (which is well past it's sell by date!)

A PROGRAMMED RESPONSE.....

And now we are on to programming, the final section of my guide.

MAXAM: For my machine code (assembly) programs, invariably I use Maxam. (But for a back up I have Devpac - which is a good implementation of the language and it was free on an AA cover tape.) Maxam is still (and always will be) the very first choice of any (and all) serious CPC user.

GAC: For adventure game programming, I use GAC. Again, it was free on a cover tape, but is well featured and is easy to understand. it does however, have very poor graphics capabilities. For graphic based adventures I heartily recommend ADLAN or P A W.

THE 3D CONSTRUCTION KIT: For Virtual Reality I use the 3D Construction Kit. All CPC owners should have this. It is without doubt the greatest piece of code ever for the CPC and pushes the Z80 to the limits. It allows you to create 3D worlds like those in Driller and Castle Master. The software is also backed up by a user club, which offers a good supply of help.

THE NEW FIRMWARE GUIDE: For additional programming help, I have the firmware guide and firmware guide disc (this is crammed full of interesting and useful programming utilities.) It's cheap but a gold mine in quality and use.

RSX LIB (WACCI PD DISC 30): There is RSX-Lib for compiling RSX information into binary files (it's very good for saving disc space when writing a program using it's own RSX's.)

THE INSIDER: Then there's the Insider, this turns the Multiface into a full blown hacking tool. Only experienced programmers need bother with this, as you need detailed knowledge to use it.

22DISC: For those who are interested. I use 22 Disc for transferring files between the CPC and the PC. This is a PC program that recognises CPC discs on the PC. It's cheaper and easier to use than 2 In 1 and almost as easy to use as Doscopy). In fact, I have even put the program on the PC network at school, which in addition to the Notepad, makes my school work much easier than everyone else's.

OUTRO

I hope these sections have been of some use. they are of course, full of personal opinion, which will not my career much good. This series was intended to allow a long term CPC user (me) to share some of my experience in software and hardware purchase for the CPC. Please bear in mind that this is not necessarily exactly what you may need, but may be most of the way towards it. The lists of software contain several versions of a type of program, you will most likely only ever need one of each. Good luck in your computing.

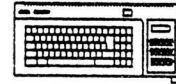
Chris Green D.H.B

THE PRICE LIST	
Product	Price Source
CP/M 2.2	£ 3 WACCI
CP/M Plus	£10 WAVE
Nirvana	£15 ????
CP/M Protext	£40 Arnor Ltd
Rambase 2 (PD) }	£ 3 WACCI, they
PD Planner (PD)}	are all on
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DRESSING for DINNER

By Ron Izett

DOES BIG RON'S PROGRAM SUIT YOUR TASTE?

Way back in 1985 when I bought my 464 nobody seemed much interested in serious computing on such a machine, every magazine going on about this game and that (shades of Roland in the Caves etc.) and an unending stream of zap-bang-shoot'em-up nonsense which seemed about average for the year.

THE NEXT STAGE.....

Then people like Ian Sinclair, the Stevensons and a host of others (to all of whom we raise our hats) began to produce books lifting the 464 out of the games rut and into competition with the ubiquitous BBC which everybody seemed to think was the only "serious" machine to be had.

Now, running through all these books is the ever repeated theme of *Structured Programming*, the need, so it was said, to burn the midnight oil setting out your ideas program-wise on paper, before even thinking about pressing a key in anger. Then to add to the nail biting and head scratching there appeared the dreaded *Flow Chart* (a terrifying array of boxes and diamonds with the odd oval thrown in,) all joined together with lines and arrows and purporting to make clear to the poor bewildered amateur programmer that no program could possibly succeed without constructing one of these symbols of clear and logical thinking.

Let me say here and now that I believe that these two approaches have deterred many first-time programmers than they have helped. My approach has always been "Poke and Hope" (it shows) and I couldn't construct a Flow chart if it arrived as a flat-pack DIY kit.

POUR ENCOURAGER LES AUTRES (Cor!)

What I'm really trying to do here is to give words of encouragement to the newer members of our gallant band of brothers (I got that out of a book too) and to show that all is not lost if you can't get on with the techy bits. Out there among the myriad books

and magazine articles is all you need to write a perfectly viable program. No matter what effect you require the chances are that someone has already thought of a way to do just what you had in mind or which you can tailor to fit <<I prefer ready-made! -Clive.>>

RIGHT ON, DOLL.

Pursuing the tailoring theme still further, why not think of your basic idea as a tailor's dummy surrounded by boxes of clothes representing the operating techniques and data handling sequences necessary to make it work.

Once you have decided on your "dummy", which could be anything from a very interesting algorithm extracted from your local "1001 things you never thought of doing with your Amstrad" to a bit out of a published proggy (watch out for copyright here). If it lights a lamp in the back of your mind, then set it up and see if you can find some "clothes" to fit. From then on it's a matter of dressing the dummy to suit

FIGURE 1: THE "DUMMY"

```
500:
510 RANDOMIZE TIME
520 FOR n=1 to 5
530 READ a$(n)
540 NEXT
550 A$=a$(INT(RND*n)):PRINT A$
560 END
```

```
1000 DATA I1,I2,I3,I4,I5
(Prints any one of the five items)
```

your taste in fashion and there you are, your program, working the way you want, and if its unfashionable and overdressed, well, so what? You can always go back and alter it later.

Sorry if all this is less than proper computer-speak but it indicates my line of thinking.

DRESSING BY NUMBERS

To illustrate the point I'm trying to make I offer some notes on the growth of a program I've just completed. I, like a lot of people of my age (steady on Grandad) am mildly diabetic to say nothing of somewhat overweight, and need to watch my intake of comestibles (cheesy?) rather carefully.

Now, people like us and indeed all you slimming fanatics out there are surrounded by earnest people in white coats all waving cook books and diet

FIGURE 2: "WOOLLY KNICKERS !"

```
100 GOSUB 600:END
500:
510 RANDOMIZE TIME
520 FOR n=1 TO datsum
530 READ a$(n)
540 NEXT
550 A$=a$(INT(RND*n)):PRINT A$
560 RETURN
570:
600 datsum=5:RESTORE 1000:GOSUB 500
610 datsum=3:RESTORE 1010:GOSUB 500
620 RETURN
```

```
1000 DATA I1,I2,I3,I4,I5
1010 DATA I6,I7,I8
```

Can now get random items from two data lines, but datsum has to be altered for additional items.

sheets and adding to the confusion. I stumbled across a game proggy which extracted random answers from a data line, this became the basis of the program to produce random menus from a database of selected foods. (Fig 1.)

A MEAL THAT REPEATS?

However, a meal consists of a number of items so this algorithm had to be repeated for every item in the meal which was patently unsatisfactory to say the least, in fact to pursue the analogy of dressing the dummy it would be like using three pairs of pants and a dozen string vests ! Out with the chalk and scissors, and I came up with the clumsy looking "garment" in Fig 2. Still not very good.

Eventually I finished up with a pair of "Long Johns", the data reading loop which will, when pointed in the right direction read whatever number of items I stuff into the data lines without any further alteration, providing that the last item is always <end>. (See Fig3.) Then all that was needed was the pointers to the various data lines, the "shirt and trousers" of my sartorial masterpiece (Fig 4) and an array to store the data in and my dummy was half-way decent, so my good lady could come in with the cup of tea I'd been dying for.

MATCHING ACCESSORIES

What's missing? One large bugbear of diet management is the pre-occupation with Carbohydrates and Calories so the ratings for each item had to be found and added to the data which meant that the totals had to be calculated and added to the menus otherwise they would be very of little use to the dedicated dieter. Hence the "belt and braces" (Fig.4) which holds everything together and provides the real point of the exercise. After that, of course I needed a smart "jacket", a menu and a set of key presses so that I could choose a meal and/or cancel what I didn't like, a printout routine, and there are a lot to choose from in the box of "clothing", to say nothing of the snappy "hat and coat", the overall presentation once its all together and working, the opening screen, the little beeps and warning messages when the user does something wrong, having in mind that it may not always be me in the driving seat.

FIGURE 3: "LONG JOHNS"

```
100 GOSUB 600:END
500:
510 RANDOMIZE TIME
520 n:=0:WHILE a$(n)<>"end"
530 n=n+1:READ a$(n)
540 WEND
550 k=n
560 A$=a$(INT(RND*k)):IF A$="end"
   OR A$=a$(0)THEN 550 ELSE 570
570 PRINT:PRINT TAB(4)A$
580 RETURN
```

"SHIRT AND TROUSERS"

```
600 RESTORE 1000:GOSUB 500
610 RESTORE 1010:GOSUB 500
620 RESTORE 1020:GOSUB 500
630 RETURN

1000 DATA I1,I2,I3,I4,I5,end
1010 DATA I6,I7,I8,end
1020 DATA I9,I10,I11,I12,I13,I14,
      I16,I17,end
```

This reads anything you put in, up to the capacity of the array a\$, and before the word >end<

Finally, I needed to stand back and take a long hard look at the result. It may be that while the "hat" would keep the rain off quite adequately, it clashes with the "coat" and needs changing and this is the hardest part of all, to go back and re-write something that is working well enough and yet somehow seems at odds with the rest of the program. I now know how my good lady feels when she has to unpick her knitting because it "just doesn't look quite right".

GOING PLACES

Harking back to my earlier remarks about programming, there suddenly appeared in one of the CPC mags some time ago a sort of cult thing which decreed that the use of the GOTO was definitely out! No thinking programmer would dream of using it, and GOSUB rules Okay. This persisted for years and used to cause me all sorts of problems until I started to think for myself and do my own thing. To continue the analogy (I'm stuck with it ain't I ?) a GOSUB is like a zip, there and back with no diversions,

whereas with the humble GOTO the odd button can be left undone with no disasters like a STACK of un-recovered RETURNS. (Gawd, a comedian yet)

I haven't the space to explain each and every twist that worms its way into a prog. I just give thanks to the inventors of BASIC, the magic flexible interface between man and machine that translates your thoughts into action. Finally, always remember to save your program (this should be done often) as

FIGURE 4: "BELT AND BRACES"

```
Add:
570 PRINT:PRINT TAB(4):count$="":
   P$(p)=A$
580 count$=right$(A$,7)carb(p)=VAL
   (LEFT$(count$,3)):cal(p)=VAL
   (RIGHT$(count$,3))
590 p=p+1:RETURN
```

you go along. Alteration, no matter how trivial MUST be recorded or sooner or later you'll find the wonderfully clever bit you've just completed after a couple of hours of head scratching and pencil chewing has vanished into thin air. Tip of the week, set up a function key to do this at a single key press, as follows:

```
10 filename$="YOURPROG"
20 KEY 139,"save filename$"+CHR$(13)
```

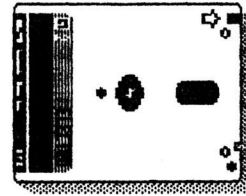
Now once you've RUN the bit of proggy that's been written, pressing the SMALL ENTER Key (464) automatically saves the prog. and a lot of bad language! And a final thought, do list your efforts to the printer - It's much easier to find that elusive bug with a pencil than it is to sit there peering at the screen.

CAUTION. If you've UTOPIA on ROM add the following: 5 ;NOKEYS (otherwise you'll get an error message when you try to RUN the program.

OUTRO

I may have confused the issue with my odd analogies, but I make no apologies - that's the way I see it and that's what I'm trying to say to all you would-be program writers out there. Grasp the nettle as they say, and have a go. Dress your ideas up and if they work then you're half-way there....

XEXOR



OR IS THAT JUST A SCRAMBLED PHOTOCOPIER?

IAN PARKER LOOKS INSIDE

What is it? Well on the label it claims that it is The Superior Amstrad Disc Utility. (An aside....) I received a letter a short while ago from a nice chap (a very, very nice chap actually) and in it he highly recommended XEXOR as "a very competent disc handling utility". Now there's a co-incidence, I thought, as I read the letter asking me to review the program. So being a person to respond to omens, I put it to one side. Within a few days I found myself talking to you know who... Yup Paul Dmerryhouse HIMSELF. Cor, I thought, If ever an omen portended an event, that was it.

DIVING IN

Enough of this drivel, I hear you say. *What is it about?* It is about a disc utility that takes you in easy stages through almost every aspect of disc and file handling that you could want.

To start the program up just type RUN "DISC or !CPM - yes both methods work. Before I go any further I should

tell you that I tested this program on a 464 with 64K and two ordinary drives, a small group of ROM's (Romdos, Utopia, Maxam 1.5, Prospell and Protexit) completes the setup. Romdos must be switched off for XEXOR to run. If it works on that it should work on a 6128. (Yes it does -Paul) Sorry but I can't say about the

Plusses (or should that be Plusii? well I'll leave that up to you.)

After a quick glance at a coloured loading screen you are presented with a display described as consisting of five windows. The top window contains the program name (see just over there) The next and largest window contains the prompts to give one that feeling of inner ease which comes with a thoughtfully compiled program. "Type HELP for help" Along with this the message "Type MENUS ON for menus" and an instruction to use the decimal point to invoke the menus. A bit more on the help facility later.

The third window is an indication as to where you are pointed and on which disc. It seems to be a continuous reminder - handy for those that forget things easily. Now, where did I get to? Ah yes, the penultimate window carries the last command entered as well as replies from the program. e.g. "disc missing"

That leaves the last window which acts like an input buffer. This allows you to correct any spelling mistakes. Incidentally, I've found that the input buffer is not active when a menu is on screen.

HELP HELP HELP

The HELP command is truly a strong point in this program. It is almost worth running the program just to see the HELP section in operation for itself. The command almost works on it's own, given the chance. Type the word HELP and add the topic e.g. format. For even more specific help in some areas a sub topic can be added e.g. format + range. At the risk of becoming boring, a help section being as good as this is truly a joy to

~~Electro~~ presents **XEXOR** - the superior disc utility **V2.6**

XEXOR Version 2.6

© 1993 Electro Software for QUANTUM.

Program by Richard Wilson.

Type HELP for help.

To enable or disable menus type **MENUS ON**
or **MENUS OFF**.

To use menus, press "." on numeric keypad.

Drive A:,A: User 0 Track: 0 Sector:00 Size:0000 Mode:HEX File:
Cylinder (C):
Head (H):
Sector (R):
Size (N):

>|

behold in any program but here it is almost taken to an art form. Let's get on with the show - so a press on the decimal point on the numeric keypad and the first menu, called the Main Menu, pops into view from window one (*You can see it on the right.*)

IN DEEPER

From here I could go on to give a dissertation of each of these options including the sub menus and as in some cases the sub - sub menus.

The operation of the program is very smooth and allows for the inexperienced and the faulty fingered. Error recovery seems to be catered for and is flexible. It didn't crash in spite of *ME* using it. In fact it seemed almost tolerant of any errors I entered. Eventually I was consciously looking for a way to try to get it to crash, I managed it in the end of course. Enter "MENUS ON" with the wrong disc in the hole and that will stop it.

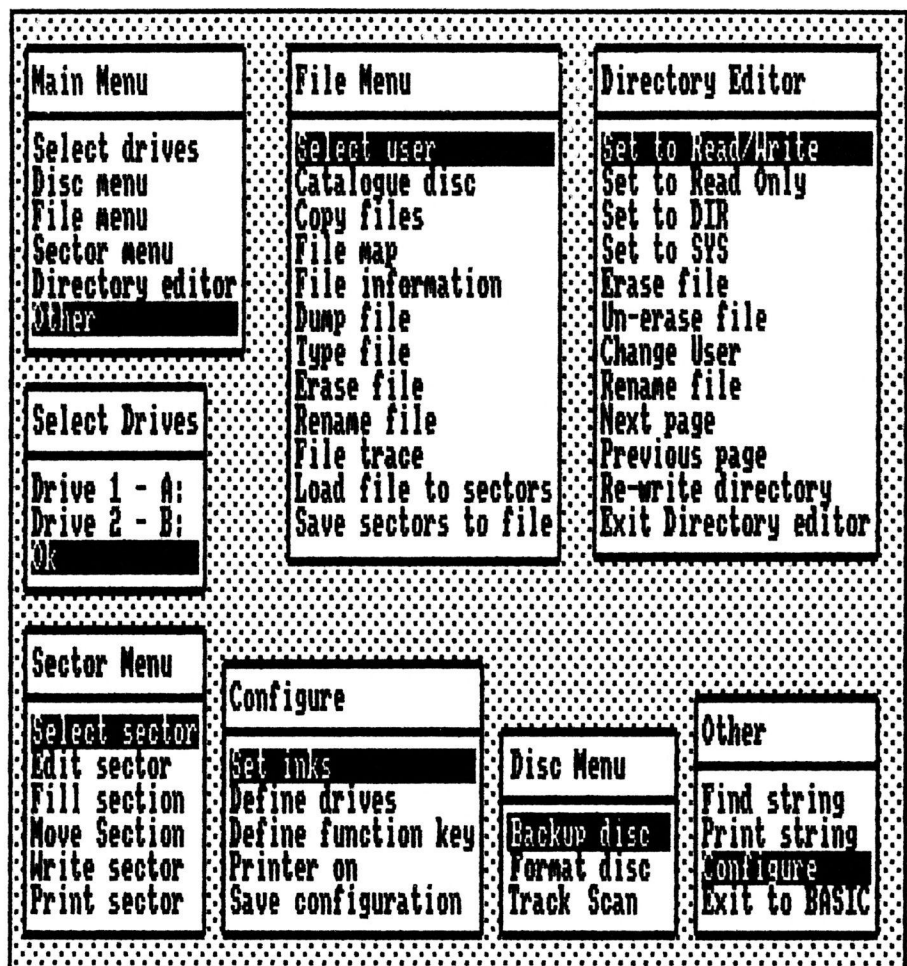
To leave the program "cleanly" was a bit of a puzzle until I found the right way to go about it - via the OTHER option in the menus of course.

AT DEPTH

There is a BACKUP facility available but it did not seem to work on the copy I had. The reason I wanted to try it was that there is another facility to enable one to configure the program. I am loathe to keep using the only copy of a disc as a work disc. As a result I always prefer to use a copy as a work disc rather than risk the master. I never have enabled the write tag on any of my master discs: they are all *virgo intacta* so to speak. Anyone who does write on their master disc is inviting trouble and that is usually of the expensive replacement kind. As a result there are bits of this program that I have not fully investigated.

DOCUMENTATION

The manual leaves a lot to be desired. It is comprised of text, photo-reduced to less than half original size from A4. This gives a six page booklet 12.5 by 13.5 cm of very small print. I am aware that a significant number of our members are not exactly blessed with 20/20 vision. Whilst I am not hard of sight, I found the use of a magnifier



was required to be sure of what I had read. The help facility being as excellent as already mentioned cannot make up for an important part of the package such as this. In all then, the manual is seven pages of minuscule type print with three pages devoted to appendixes.

SURFACING

This now leads me to who might buy this package which, I am told, costs £17.99 to WACCI members. Well, if you have UTOPIA to hand then I feel this package may not be a high requirement on your list of priorities for making life more meaningful. It comes with a sector editor, file manipulation capabilities, directory manipulation and some printer controls that can be added to same - so does UTOPIA. It may be that the disc reading capability is a little more adaptable but I did not see it in operation. Mixed format discs did not seem to give too much trouble for it to read - even itself. But I still couldn't make a working copy though. Perhaps it would have been a good idea to place another copy of the program on side B: *but ...*

AND ON THE OTHER SIDE OF THE DISC?

With the XEXOR program comes another program called BRAINS. This program is intended to copy protected tape programs to disc.

The name SPEEDLOCK is mentioned in manual so presumably it is for those games players who prefer disc mounting their games. Well - it is one of the excuses I have heard for breaking the protection on software. I haven't bothered to try this section of the disc as games playing is not one of my fortes. My thoughts on the subject of computer games is not the reason you are reading this article.

OUTRO

In conclusion then, if you have no disc handling program or suite of programs then this could be a suitable choice for you but I would much rather wait until a better manual is issued first.

I think there is more to this program than first impressions will allow or the book indicates.

XEXOR is available at £17.99 from: Sentinel Software, 41 Enmore Gardens, East Sheen, London SW14 8RF. Ian.

WACCI

SEPTEMBER 1989

REVISITED

CP/M - THE TRUTH ACCORDING TO JOHN KENNEDY

So here we are again and this time we are whizzing back to September 1989 for a doze of AJ writing under the name of John Kennedy. Well I suppose he was entitled to use that name, after all it was his very own. John knew how tall a story and CP/M got the treatment this time. Take it away John.

--zzzzzzLLLLLzzzzz--

What follows is a true story. Only the facts have been changed to protect the innocent. Any similarity between what follows and reality was bound to happen sooner or later.

--zzzzzzLLLLLzzzzz--

CP/M - A BRIEF HISTORY

Gary Kildall was born to Mr and Mrs Zilog Kildall in 1946. It was obvious he was a gifted child and at the age of only *six months* he had constructed his first analogue computer to predict feeding times using nappy-pins.

He graduated from high school several years later and got a job with a large computer cleaning the new and revolutionary eight inch disc drives which had just come onto the market. It was whilst cleaning one of these disc drives that somehow a large quantity of scouring power *somehow* managed to find its way into the mechanism, rendering it useless.

Gary took the machine home and cleaned it in some luke warm water, whereupon it became apparent that the drive was functioning again. After this stroke of luck Gary spent several weeks trying to interface the drive with his 8080 based personal computer, which up to that point had been using cassette tape for storage, like every other personal computer in the world.

Then, on a rainy September morning, with a small puff of scouring power, the drive whirred into life and Gary's *Operating System* was unleashed upon a damp and unsuspecting world.

In fact, GOS worked so well that friends of Gary's who had also obtained some disc drives (also using the *'Whoops I've split some scouring power technique'*) started using it.

Then a small company who was building PC's with disc drives thought it would save time if they used GOS instead of writing their own operating system. More and more people started using GOS and so eventually a standard was born.

GOS became quite popular and Gary got quite wealthy. So wealthy in fact that he was able to indulge in his new found hobby of flying aeroplanes more and more. It is at this point that the company IBM enter our story.

THE BLUES RULE OKAY

IBM had decided it was time for them to take over the world, which they would start doing by selling millions of PC's with disc drives. Having heard about GOS, they called round to visit Gary and make him a proposition. However, Gary was out flying his plane at the time and after an hour or two waiting, the men in the blue suits got bored and left. On their way home, they popped into the new software house *'MicroSoft'* and asked if they had any operating systems for sale. The people who owned MicroSoft said, *"Of course we do"* and so IBM paid them lots of money. The MicroSoft people

then went to the library and looked up *'operating systems'*.

"Hmmm," they thought, *"I'm sure we have seen one of these somewhere."* And then they realised that the computer they were using had one - GOS.

It is alleged, in some quarters, that the boys at MicroSoft then took out a disassembler, changed a few words very slightly and copyright messages and posted the disc off to IBM, who used it in all their machines. Thus *MS-DOS* was created.

Meanwhile, Gary was still flying around in his plane and enjoying every minute of it. In fact, he was enjoying it so much that he changed the name of his operating system after his favourite flying magazine: *Commuter Plane Monthly*.

--zzzzzzLLLLLzzzzz--

CP/M ON THE CPC

The Amstrad CPC's are unique in their price range, because they allow the use of the industry standard operating system CP/M.

Although hardly *state-of-the-art*, CP/M gives the user access to a multitude of professional quality software and a huge library of free or public domain software.

Using CP/M is good preparation for using large computers in the real world. Many mainframe systems operate in a manner that seems very familiar to anyone who has used CP/M.

WHAT IS CP/M?

CP/M is an operating system. The original operating system in fact. When the CPC's are using CP/M they are no longer Amstrad home computers; they

are terminals capable of running programs that were written on entirely different machines.

CP/M machines are characterised by having at least one disc drive, an eighty column display and at least 64K of memory.

CP/M is not a language - you *cannot* write programs using it. What you *can* do is run programs that will allow you to use other languages. Pascal, Lisp, C, Prolog, Fortran, COBOL, FORTH and BCPL are all readily available to the CP/M user, sometimes free of charge.

CP/M provides a range of standard screen, disc and printer routines. Any program that uses these routines and these only, will therefore run on any other machine that supplies them.

--zzzzzzzzzzzzzzzzzz--

HOW DO I USE IT ON THE CPC?

First you need a disc drive: CPC464's will only run CP/M when an external drive is fitted. You must also have the CP/M master discs that were supplied with the machines. These discs are valuable and must be treated with care. We shall see how to copy them in a moment, so you will only have to use the master discs once before putting them somewhere for safe keeping.

BOOTING CP/M

With the CP/M disc side 1 (system/utilities) in the drive (drive A if you have two drives) typing |CPM will 'boot the system.' |CPM is an RSX or 'Resident System extension' (in the same way that |A, |TAPE and |DIR are RSX's that can be used with BASIC) which is stored in the Disc ROM. It reconfigures the way that the memory map of the CPC is laid out, (the system is changed so that RAM exists from 0000 to &FFFF: don't worry about it) and then loads the CP/M 'EMS' or 'Early Morning Startup' system from disc and passes control to it. A copyright message is displayed and the user prompt appears at the bottom of the screen. The prompt means 'Okay, tell me what to do next' and takes the form of a letter (A or B) indicating which disc drive is currently being used and a '>' symbol (ie A> or B>). A 'users number' may also be displayed

TABLE 1 - THE CP/M BUILT-IN COMMANDS

DIR {filename.extension} (the filename is optional)

List the disc directory (similar to BASIC's CAT but without the size of the file indicated and in a slightly different order.)

ERA filename.extension

ERASE a file from the disc.

REN filename.extension = filename.extension

RENAME a file

TYPE filename.extension

Display a file. TYPE will try and display any file but works best with files which contain nothing but characters: an ASCII file. A file produced by a word processor or source program are examples of files which TYPE will display.

USER n

Allows you to change the current user 'number'. Altering the User number allows the disc to be partitioned into several sections or 'users'. Each 'user' is indicated by a number from 0 to 15 - User 0 is the default. Most people don't bother with Users - it's hard enough keeping track of all your files at the best of times. If the User number has been changed, the usual A> prompt will change to An>, where 'n' is the User number.

but this is discussed later, so don't worry about this either.

If this is the first time you have used CP/M, it is a good idea to make a 'back-up' copy of the master disc.

--zzzzzzzzzzzzzzzzzz--

THERE IS ALWAYS A FIRST TIME

This is not illegal - in fact Digital Research (the company who supply CP/M) recommend it. It is illegal to give copies away however and to this end each disc is supplied with a unique identification number. Amstrad have supplied us with a program that makes copying discs very simple: Disckit3. (Treat what happens next as a magic recipe if you like.)

If you have a CPC6128, boot-up CP/M+ and at the prompt type 'DISCKIT3' and return. If you have a 464 or 664, boot-up CP/M 2.2 and type 'DISCKIT2' and return. The program will load up

and present you with several options. Select 'COPY' and indicate that you wish to copy disc A to disc B. Do not worry if you only have one disc drive as CP/M recognises this and will ask you to place the discs into the drive, one after the other. A number, displayed in the left hand corner of the screen, will count up to 39 indicating the current 'track' of the disc being copied. Then the process must be repeated for the other side of the discs.

When you have copied your master discs, put them away somewhere safe and only use them if it is *absolutely* necessary.

--zzzzzzzzzzzzzzzzzz--

USING CP/M - THE BUILT-IN FUNCTIONS

CP/M has several commands 'built-in' which are always readily available. These commands perform basic disc handling functions and are listed out in table one.

To use any of these commands, simply type them in at the 'A>' prompt and hit return. For example, to list the contents of the disc, just type in DIR and return. Most commands require files to be specified.

A 'file' is a collection of data stored on the disc. The data in the file is all stored in a similar manner but the way in which it is treated determines what it does. A file may contain the contents of a letter that you created with your word processor. It may contain 'source code', which is a collection of lines of a program. It may contain a machine code program or it may contain data to be used by another program.

To help you remember what each file does, the name of the file contains two parts; the name and the extension. The name can be up to eight characters long and most characters are allowed.

If you try to use a character that CP/M doesn't like (eg '{') it will tell you. The extension is separated from the name by a full stop and is up to three characters long. There is a convention concerning the use of extensions and they are listed out in table two.

ENTERING FILENAMES

Filenames may be entered immediately at the prompt without an extension. CP/M then tries to load the filename with an extension '.COM' and if it finds one it will load it into memory and executes it as machine code. If such a file doesn't exist, CP/M will get puzzled and give you another go.

With some command (.COM) files and some of the built-in commands, a filename may be required to operate. For example, ERA (erase) requires a filename to be specified. In this case the filename is placed after the command, separated with a space: thus

ERA silly.com

The REN (rename) command requires two filenames, both extensions eg:

REN newname.asm oldname.asm

the file called OLDNAME.ASM is renamed to NEWNAME.ASM. Sometimes ambiguous filenames are allowed. In this case the question mark is used to replace individual characters and the asterisk

TABLE TWO - CP/M EXTENSIONS

.COM

A 'command file'. The file contains a machine code program that will execute immediately when loaded. 'DISCKIT3' is such a program: list the directory and note its extension.

.ASM

An assembly language file. This file is a list of mnemonics that may be assembled by another program (an assembler) into a form that can be executed.

.BAK

A 'back-up file'. There will usually be another file present with the same name but a different extension. The file ending in .BAK is the original file; the other file has been saved in its place.

.HEX .REL .BIN

Files like these are 'binary files'. They contain data that is midway between an assembly file and a command file of executable machine code (.COM)

.ASC

An ASCII or text file.

.*.*.*

A 'temporary' file. Sometimes programs will write data to the disc whilst they are running. These are temporary files and will usually contain nothing of any value to the user.

is used to replace either the filename or the extension.

For example:

PROG?.ASM could mean PROG.ASM
or PROG1.ASM
or PROGY.ASM

Similarly:

PROGY.* could mean PROGY.ASM
or PROGY.COM
or PROGY.BAK

The DIR command may be used with these wildcards eg:

DIR *.COM

means list all the files with the extension COM. DIR on its own is therefore the same as 'DIR *.*'.

ERA may also be used with wildcards

but will ask you if you are sure before complying with a ERA *.* command, which would erase all the files on the disc. The rename command REN cannot cope with wildcards.

--zzzzzzzzzzzzzzzzzz--

THE END BIT

And that's it. Now you know the whole story about the mysterious A> prompt that sometimes appears on the screen. You can now go out to parties and impress your friends with the depth of your knowledge about CP/M. What do you think of that?..... Hello?... Hello... Awww no, come on wake up and start from the beginning again. Try not to fall asleep this time though.

Your Auntie John.

THE TREASURY REPORTS

MONEY MATTERS BY PAUL AND CLIVE

Hello and welcome to second financial breakdown to appear in MACCI. Those of you who are in the know, will already know we completed our second complete stocktake on November 14th 1993 - and you'll be happy to know we've had another good year!

MACCI NET VALUE

At the 14th November MACCI had a net value of £2124. Let me outline how this is calculated. We count all the stock and assets and work out how much they are worth. To this we add the money we have in the bank (and the money we have ready to pay into the bank.) And we add any money that is owed to us by members, customers etc.

From this we deduct the money we owe members in subscriptions and the money we owe to suppliers. Then we deduct the money that we given to MACCI to relaunch MACCI in December 1991.

This gives the club a net value of £2124 - however most of that is tied up as goods and assets (and it is not sitting in a bank account.)

THE STOCK-TAKE RESULTS

MACCI'S NET VALUE

	£
Cash in the bank	2057
Cash in hand	79
Debtors (trade)	84
Creditors (trade)	(-87)
Creditors (subscriptions)	(-1577)
Creditors (gang of 7)	(- 700)
Goods on order (discs)	245
Assets	751
Stock (available for sale)	1272

Net value	2124

In reality we have £2057 in the bank (£1000 is in a high interest account.) We owe members £1577 in subscriptions which leaves £480 of 'free' cash. This figure is forever changing, at the end of September it was £106.

THE VALUATION METHOD

It's always a hard task deciding how much an item is worth, its real value depends on many different factors.

We have valued the stock and assets at the price we would receive if the club was closed down and sold off. (Don't panic, we're not doing it!) So a PD disc is valued at £1 and not £3, the 2000'ish back issues have no value and so on.....

ASSET OR STOCK?

Stocks are those items that have been purchased to resell to customers (like blank discs) and the assets are those items we need to keep MACCI running (like the clubs LQ100 printer.)

CREDITORS OR DEBTORS?

Creditors are those people who the club owes money to (like the members) and debtors are those people who owe money to the club.

MACCI'S ASSETS

	£
LQ100 Printer & Ribbons	125
3" Master discs 483 @ 30p	145
3.5" Master discs @ 10p	40
Stamps	24
Library books	219
Stationery (labels,paper etc)	121
Jiffy bags	24
3.5" Discs (new)	6
Disc Boxes	47

Total Assets	751

I'd always thought that MACCI's assets were truth, honesty and a firm belief in the CPC as a computer.....

MACCI'S STOCK

	£
3" Discs, New, 349 @ £1.20	419
3" Discs, Used, 73 @ 30p	22
PD Discs, 246 @ £1	246
3" Disc Drives new, 2 @ £45	90
3" bare drives, 3 @ £20	60
Firmware guides, 20 @ £6	120
S/hand 464 & 6128 computers	90
S/hand Green Monitors 2 @ £10	20
S/hand Vidi Digitiser	40
S/hand 3.5" disc drive 2 @ £15	30
S/hand Software, on disc	83
S/hand S/ware, tape, 207 @ 20p	41
Asstd hardware	11

Total Stock	1272

And there it is, MACCI's total (as far as we are aware) financial picture. If only governments were as honest! We live in hope! Cheers! -Clive.

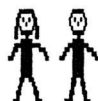
PAUL DWERRYHOUSE SAYS:

MACCI is in great shape, steadily making money and it's looking good for future. The magazine is making around £150 surplus per month and the PD disc libraries and the sale of stock at the All Formats Fairs contribute another £70 per month.

The change to the photocopied format is the main reason why the magazine is making a surplus.

As we move steadily forwards we continue to keep a tight control on expenditure to ensure that your money is not wasted.

Club Membership has remained at a constant level. Ideally we would like to grow, we are doing all we can, are there any good ideas out there? Please let us know. -Paul.



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1994		
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March	6 West	Brunel Centre, Temple Meads, Bristol
	13 London	Tolworth Recreation Centre, A3 Surbiton
	19 North West	Haydock Park Racecourse J23 M6
	20 West Midlands	National Motorcycle Museum J6 M42
	26 North East	Northumbria Centre, Washington, Dist. 12
April	9 Essex	Brentwood Centre, off A12, J28 M25
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	23 North East	Northumbria Centre, Washington, Dist. 12
	24 West Midlands	National Motorcycle Museum J6 M42
May	15 West	Brunel Centre, Temple Meads, Bristol

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