THE AMSTRAD USER

Issue No. 66 $4.50

July 1990

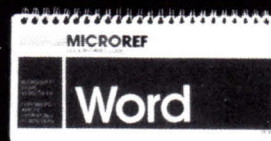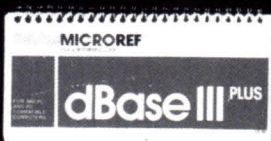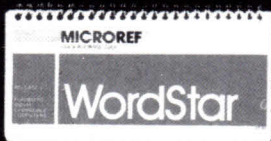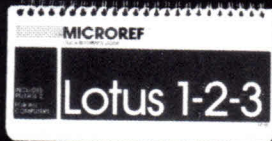- **Thirteen games reviewed in the "Entertainment Centre" + Jousting game and Bug-tracing utility CPC type-ins**
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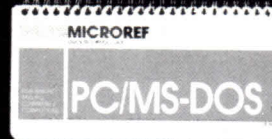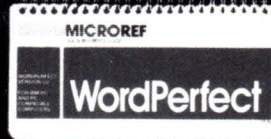
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Formatting Text

Default settings for future documents . . . . . . Shift F1
Create and use style sheets . . . . Alt F8
Change line format . . . . Shift F8 1
(Tabs, margins, spacing, hyphenation, alignment)
Change page format . . . . Shift F8 2
(Page length/numbers, top margin, header/footer)
Change document summary/defaults . . . . . . Shift F8 3
Change other format settings . . . . Shift F8 4
Display tab ruler . . . . Ctrl F3 1
Respond to hyphenation prompt:
Word wrap entire word F1
Insert a hyphen . . . . arrow keys Esc
Reveal or hide codes . . . . Alt F3

Using Format Codes

1. To reveal codes, press
2. If desired, type new text or delete codes
3. When finished, press Alt F3

Searching and Replacing Text or Codes

Search forward F2
Search backward . . . . Shift F2
Replace forward . . . . Alt F2
Specify text . . . . text
Specify code . . . . formatting key
Begin search F2
Extended search forward . . . . Home F2

Special Effects

Align on tab . . . .
Bold . . . .
Center . . . .
Change font . . . .
Hard hyphen (no break) . . Home –
Hard space . . . . . Home Spacebar
Hyphen (allows break) . . . .
Right align . . . . Alt F6
Superscript character . Ctrl F8 1 1
Subscript character . . Ctrl F8 1 2
Underline F8
Delete an effect–See *Using Format Codes*

Create a header/footer . . . . . . Shift F8 2
Number page in header/footer . . Ctrl B
End header/footer F7
Create a footnote/endnote . . . . . Ctrl F7
End footnote/endnote F7
Script or news columns . . . . . . Alt F7
Draw with cursor . . . . Ctrl F3 2
Insert graphics figure . . . . Alt F9

Define macro
Name macro
or 1-8
Name temp.
macro .
End macro .
Execute macro
or Al

	F1	F2	F3	F4		F5	F6	F7	F8		F9	F10	F11
CTRL = C	Go to DOS/Shell	Spell Check	Screen Options	Move/Copy	C	Text In/Out	Align Tab	Footnote	Font	C	Merge/Sort	Define Macro	
ALT = A	Thesaurus	Replace	Reveal Codes	Block Options	A	Marking Options	Flush Right	Math/Columns	Style	A	Graphics	Start Macro	
SHIFT = S	Setup	Search Backward	Switch Doc.	Indent L/R	S	Date/Outline	Center Text	Print Options	Format	S	Merge Codes	Retrieve	Reveal Codes
UNSHIFT = U	Cancel/Undelete	Search Forward	Help	Indent Left	U	List Files	Bold	Exit	Underline	U	Merge Field	Save	

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11

51 HYPHENATE
53 SET PAGE FORMAT
45 INDENT AND CENTER
47 INDENT AND CENTER
49 SET LI SPACIN

FORMATTING PAGES

SETTING PAGE FORMAT

GUIDELINES
• Use page format settings to indicate the size and type of paper and to change the size of the top and bottom margins.
• When you change a page format setting, you insert a code in a document at the cursor position. You change the page format of a document from the cursor position to the end of the document or to next page format setting.
w or delete page format codes on the des screen (see USING RDPERFECT CODES section.
hen you specify the paper size and width f margins, WordPerfect automatically determines the amount of text on each

page. If you specify page numbering, headers, or footers for a document, WordPerfect will print them within the top or bottom margins and adjust the amount of text on each page.

SPECIFY PAPER SIZE
(DEFAULT = 8.5 in. by 11 in.)
1. Position cursor at top of page where new paper size will begin
2. Hold down **SHIFT** and press **F8** (Format)
3. Press **2** (Page Format)
4. Press **8** (Paper Size)
5. When size options appear:
• To select a listed paper size, press the appropriate number, or
• Enter a different paper size. WordPerfect uses this size to reformat your document and find the appropriate form in the selected printer's definition to match the paper size.
a. Press **O** (letter o (Other))

b. Type paper width and press **ENT**
c. Type paper length and press **EN**
6. To return to document, press **F7** (Exit
NOTES:
New paper size must have a width within margins indicated on the [ALL OTHERS] form. To change maximum width allowed [ALL OTHERS] form, follow DEFINE A PRINTER procedure.
Modify paper size as many times as you r in a document.
If you change paper size, WordPerfect automatically adjusts the text length and width within the current margins.

SPECIFY PAPER TYPE
(DEFAULT = Standard)
Use this procedure to select a paper type that indicates a change in any of the following:
orientation, initial presence (must type G (Go) from Printer Control screen to begin printing), sheet feeder bin/manual feed/continuous feed, and page offsets. Paper type cha are useful when

6. At Paper Type menu, select a paper type. WordPerfect uses this type to find an appropriate form (in the selected printer definition) that contains necessary pa. paper feeding method, page offset, and font orientation instructions.
• To select a li

NOTES:
Select a different paper type as many times as you need in a document. For example, you may want to use different sheet f and page

THE AMSTRAD USER

Issue No. 66 - July 1990

FRONT COVER: *Why bend the rules when you can break them? From the cover of Electronic Arts' "Low Blow" boxing game with a built-in cheat mode!*

For tape subscribers, CPC programs appearing in this month's magazine can be found at the following positions:

Side 1: JOUST - 010

Side 2: TRACEBACK - 010

mailbag

Letters to the Editor

A monthly selection of your comments, hints and tips, advice and news - all shared for the benefit of Australasian Amstrad users.

I was searching through my firmware guide for a character and in doing so an interesting item caught my eye. It was:

INS #E1 Insert/overwrite toggle key.

Through trial and error I found that the key in question is [CTRL][TAB]. I went through the BASIC manual and looked up [TAB]. It said (in essence): the [TAB] key has no real use in BASIC. Well, now it has.

Pressing [CTRL][TAB] well result in an overwrite mode, and pressing [CTRL][TAB] again will result in the normal insert mode. And I just finished complaining that the Amstrad has no overwrite key. Oh well, I can't be right every time.

J.M. Hood, N Rockhampton, Qld.

I was wondering if any of your readers can perhaps help me. I have an Amstrad 464 which I would like to up-grade to a 6128 with either a 64k memory expansion or a 256k memory expansion.

I am told I also need an extra ROM board. I have asked around several outlets but no one seems to be able to help me.

When I find someone who tries to help, I get conflicting information. So if there is someone out there that has already upgraded theirs, could they please help me with the information.

I was told you had a letter in your mailbag, and I think it must have been the Febuary 90' issue as my newsagent didn't keep it for me and I have looked through all my others that I have with no success.

Thanks for the great mag, hope someone out there can help me, keep up the good work.

Olive Cotter, Queanbeyan, NSW.

If you want to run 128k software on your 464, you can upgrade it easily with a Dk'tronics 64k memory expansion. But for a complete 6128 upgrade, you will have to replace the operating rom's which frankly isn't worth the effort.

I own an Amstrad CPC 6128 disk drive and am interested in the 'Genny' program as advertised in an earlier magazine.

If you have any copies of 'Genny' could you please advise me so I can purchase a copy.

I am interested in the following software; Absconded Convicts, Convict Ships and First Fleet, could you advise me if Satchel Software has produced any other software suitable for general purposes.

Mark Smith, N Rockhampton, Qld.

The "Genny" program was removed from our stock list years ago. We published a letter from John Harris (JUN 90) informing us that the "Personal Ancestral File" program (reviewed MAY 90) has been converted for the CPC. He can be contacted through us. As far as Satchel Software goes, we published a comprehensive catalogue of their products in our January edition.

We have recently purchased the ADLIB MUSIC SYSTEM (v1.51) and would be grateful if you could answer some of our questions regarding the application of a Midi Interface. The interface is a Roland MPU-IPC, and we have a Roland D-10 Synthesizer. Our computer is an Amstrad PC1640DD.

From the information received from ADLIB and from reading the article regarding this system in your May edition (Issue 64), it would appear that we would find composing musical pieces easy. However, this is not the case.

When the system is loaded with the Midi Interface connected to the Synthesizer, and the Midi Input selected from the options list, we don't hear a metronome. When the synth is played, we get output (sound through a connecting speaker) from the computer, but no recording of the notes appears on the screen.

We would be very grateful if you could help us in this area or if you could refer us to someone else.

Mark & Kay Flynn, Warradale.

Welcome to the big, bad world of

Midi sequencing. I remember experiencing many headaches in setting up a five keyboard system on another brand of computer.

Assuming that the interface is working properly, I would say the problem lies in the Midi parameters of your D-10. Are you transmitting/ receiving on the right channel? Are you using Omni mode? There are many possibilites.

Hello. Just finished reading TAU 64 what's the significance of the BLUE ANGELS on the cover - the game wasn't even mentioned!

Um. Probably a silly question. But what's so great and new about your gee-whiz-bang-pop Entertainment Centre? Its the same as its always been! I agree with Evan Bottcher (mail-TAU 64), let's have some sort of points system and rate the graphics, sound, appeal seperately. YES - just like Amstrad Action - why not?

I like the idea of giving a few lines to the penpals section. Maybe even just a few bits of info. like age, computer type, interests etc.

Finally. What's the chance of you guys doing a special by re-printing all of your game reviews en-mass? Either as a special supplement or a seperate book? You needn't include the whole review, just a quick summary.

Michael Quinn, Kingsford, NSW.

"Blue Angels" earned an appearance on the front cover simply because it looked good. The Entertainment Centre is new because it is featured on the centre eight pages of the magazine, and now includes PC reviews as standard.

A ratings system has been the topic of much debate in our office lately, and is still undecided, but possible. We ran a review summary in our Nov 89' edition, and may repeat this exercise later.

I am writing this letter in the hope that you maybe able to help me out in a project that I would like to get under way. I am interested in starting a form of computer library for the Amstrad CPC 464 and 6128 containing discs and documentation including associated magazines. Such a library would be totally nonprofitable and would be available to any interested parties.

I have exhausted the information supplied in your user club section in Townsville and have discovered that it has disbanded, as such I am without help except for a friendly gentleman in Pimlico. Because of this I place a request with yourself or the readers of this invaluable magazine, if anyone would like to help please get in contact with me at PO Box 39 Aitkenvale Townsville 4814. Your help will be greatly appreciated. Keep up the great

work with the magazine.
Marc Robertson, Townsville, Qld.

Nice idea Marc, just be sure that you don't break any copyright laws.

I am considering a subscription to your magazine, but I am doubtful because of the number of CPC games reviews, type-ins and just general articles compared to that of the PC. I am well aware that you must please the majority of your customers, but I am sure that it would be better to keep both your CPC and PC customers rather than lose all your PC customers.

I own a PC1640 myself, and have talked to a number of fellow students who own Amstrad PCs. All agreed that they would take more notice of your magazine if it had just as much on PCs as it did on CPCs, especially the type-ins. Despite this shortcoming, I find the majority of the articles in your publication interesting and informative.

I would also like to know if using Shareware puts you at risk

of picking up a virus etc.
Brett Whalan, Wagga, NSW.

1. Although Amstrad Australia stopped importing CPCs over a year ago, we have continued to support the machine in the magazine and our retail outlet (at least 50% of the wall space is devoted to CPC software). We will continue to support CPCs as long as there is a demand.

However, it is commercial suicide to ignore the impact the Amstrad PCs are having on the market. It is inevitable that as the CPCs and PCWs become less dominant and are replaced by PCs, our magazine will reflect the change. There used to be six UK magazines covering CPCs - now there are only two, and one of those is suspect - which gives some indication of what's happening abroad.

The wind of change is blowing, but at the moment it's just a gentle breeze.
2. Most reputable Shareware distributors will check for viruses before releasing the software. Copies from "friends" is the major source.

In my capacity as a club president of the Northern Tasmainan user group, I have had several enquiries from members regarding suppliers of the Amstrad TV converter MP3. As the CPC range is not stocked by local retailers, I have been unable to find out if this item is still available in Australia.

I understand that The Amstrad User was selling the MP3 as of last Christmas, and while I realise that these stocks are now gone, I would appreciate any information you could give me on mainland retailers who may still sell them.
David Double, King Meadows,Tas.

As far as we know, there are no MP3 Modulators left in the country. Amstrad, in their wisdom, decided to send their remaining stock back to the UK just before Christmas.

H.G. PINER

We have been advised that Mr. H. Piner, author of Colour Tester (May '90) and previous contributions for CPC users, has passed away. We knew him as an enthusiastic computer hobbyist and our condolences are extended to his surviving family.

PEN PALS   If you want to join, write to "Pen Pals" care of The Amstrad User

News Break

Our monthly update on the gossip, news, releases and the general Amstrad scene from both home and abroad.

PACTRONICS PUBLICATIONS

At least six new publications have been released by Pactronics. (To be accurate, the books are published by Abacus and imported by Pactronics.) They further strengthen the list of computer publications already held by Pactronics.

Excel for beginners - $36.95: its aim is to have the reader creating worksheets, graphics and databases - all running under Micro-Soft Windows - in the shortest possible time.

PC Tools Companion - $36.95: a hardback quick reference manual which explains the individual menus and functions of PC Tools.

PC Tools Complete - $49.95: 400 pages of logically-structured plain-English information condensing the three volumes supplied with the package. Contains information on version 5.1 and 5.5 and plenty of examples.

The Laptop User's Guide - $36.95: concerns itself mainly with laptops without hard drives, in fact much of what is presented can be achieved on one 3.5" disk. An invaluable source of information.

MS-DOS Tips and Tricks - $36.95: a book full of good ideas, also containing a few tricks dealing with printers, screens and keyboards.

Tips and Tricks for your PC Printer - $69.96: written with productivity in mind and supplied with a 5.25" disk which contains a number of useful printer utilities. Teaches how to use 'built-in' features, printer drivers and character sets. Covers 9 and 24 pin printers as well as daisy wheel and thermal printers.

A detailed run-down of these new titles will be published in next month's magazine.

BLAZING A TRAIL

Multicoin Amusements, well known for their enormously popular and robust "Starcursor" joystick, are about to release an addition to the "Star" range of Australian made joysticks. Called the "Starblazer", the new joystick will offer a welcome alternative to imported joysticks in the same price range of $35 to $40.

Michael Lynch, Sales Director for Multicoin, promises that this new release will be another winner. "Although it does not have every feature of the Starcursor, it uses the same proven coin machine mechanism and sturdy manufacture."

The Starblazer should be available in the stores towards the end of the month (July).

ULTIMA CELEBRATES

Origin, creators of the impressive Ultima series of graphic adventures, are celebrating 10 years of production with the release of Ultima VI. Seasoned Ultima fans will know all about Brittania, the land of magic and adventure, and will be pleasantly surprised at the stunning full colour graphics, vivid animations and captivating original musical scores.

Dataflow who import the product from the States, have managed to get hold of just six copies of a limited edition Ultima VI and have made one available to The Amstrad User. This special edition has been autographed by both the author (Lord British) and chief artist (Denis Loubet). It contains a special audio recording in which the author speaks about Ultima VI, an 'Orb of the Moon' gemstone specially selected by the author and a certificate congratulating the owner of this limited edition.

Whilst the normal Ultima VI will be available for $84.95 (on 5.25" with 3.5" upgrade coupon enclosed), you will not be able to purchase this limited edition. Instead, we will give you the chance to win the copy next month. Being one of only six owners of the limited edition Ultima VI in Australia could make the copy a 'collectors item'. Make sure you don't miss next month's magazine.

COMPUTER COPYRIGHT CLAN

Four major software importers - Mindscape, Questor, Dataflow and Ozisoft - have joined forces to form the Australian Software Distributors Association (ASDA). Their principle concern is the numerous breaches of copyright in the computer industry.

Their first broadside was a circular to software dealers warning them that their legal advisers had isolated the two most common infringements of the Federal Copyright Act as being:

1) A copy of the software is made without the permission of the copyright owner either for internal use within an organisation or by a "pirate" who then sells that infringing copy.

2) Copies imported into this country without the permission of

the copyright owner.

The first area is pretty obvious and clearly aimed at the "pirates". The second, however, is slightly more complex. It is aimed at importers who knowingly import titles for which existing importers have exclusive licences from the copyright holder. These copies become 'infringing copies' which means that no one, except the copyright owner or the exclusive licencee, has the right to possess those copies.

The upshot of that is if you buy one of these copies you risk the chance of it being re-possessed if the dealer from who it was purchased has illegally imported it in the first place.

This last point poses two questions: first, how is 'the man/

woman on the street' going to be sure that the copy being bought is a legal one and second, how is an importer going to know that someone else has a licence for a product that does not appear in their catalogue? Taken to its logical conclusion, if someone purchases a single copy direct from, say, the UK, then sells it later, is this legal? According to the above it is not, but as it is impossible to police and makes little or no impact on sales within Australia that kind of purchase is probably safe.

Of course, the whole thing seems to be open to interpretation by barristers and the like, and may not become clear until someone is dragged through the courts.

DATAFLOW REPORT

Over the past month **Publish It!**, from Timeworks, has received some great press for the MS-DOS version. Robert Kendall, from PC Week writes, "Anyone who thinks that power and sophistication are exclusively the domain of high priced products should take a look at Publish It!

This remarkable $299.00 package from Dataflow lets budget conscious users venture down the road of serious desktop publishing without banging their shins on program limitations at every step". This acceptance of Publish It! by the computer press confirms its value to both beginner and professional desktop publishers.

Math Blaster Mystery, already an award winning program from Davidson, is perfect for users who have already advanced through Math Blaster Plus.

Math Blaster Mystery has four learning activities that help students use the basic maths facts learned in Math Blaster Plus to master such skills as logical thinking, problem solving and

word problems. It bridges the gap between Math Blaster Plus and Alge Blaster Plus and features a detective theme that makes learning fun.

Alge Blaster Plus is a tremendous product for early secondary students ready for algebra and includes an asteroid game to help students learn graphing skills.

Two new products from Brøderbund to be announced by Dataflow for PCs are Shufflepuck Cafe and Prince of Persia. In **Shufflepuck Cafe** you stumble into the Galaxy's last den of Air Hockey enthusiasts.

These goons take their shufflepuck seriously - if you lose you will deserve their contempt, win - and you will earn their resentment. It could be the sports massacre of the 25th century. **Prince of Persia** is an arcade style adventure game featuring fluent animation, non-stop action and quick response of controls combined with exploration and puzzle solving challenges.

PC GLOBE UPGRADE

PC Globe Inc. (based in Arizona) have recently released PC Globe 3.0, a much enhanced version of their top selling product PC Globe+. It is a simple to use computerised atlas that provides instant profiles of 177 countries with detailed maps, graphics, fact and figures. Apart from an updated database, the new version includes enhanced graphics (supporting CGA, EGA or VGA), and 'point and shoot' capabilities.

The database provides a wealth of socio-economic and cultural information for trending purposes, currency exchange rates, international dialling codes, travel information and so on. For the student it provides colourful maps, charts, overlays, country fills and comparisons. Much of the information can be exported to other software packages.

PC Globe 3.0 is distributed in Australia by Reckon Software. It is available from your local dealer or by Mail Order from The Amstrad User on either 5.25" or 3.5" disks and costs $125.00. A full review (deadlines permitting) should appear in next month's magazine.

Troubleshooting assembly

Joseph Elkhorne explains some solutions to problems encountered in assembly language listings.

For this month's main topic, I'm indebted to Mr. Fred Petchell of Blackburn South. He wrote concerning a problem he had with the RESTORE program, which appeared some time ago.

Fred was going through back issues of TAU, looking at material that seemed completely bewildering when he was a new user of a PCW 8512. He's developed his BASIC programming skills but admits,"that is where my expertise ends".

As his wife is a skilled typist, he cleverly got her to key the .ASM listing in, using Locoscript. He then made a simple text ASCII file, and ran it through MAC and HEXCOM. When he tried to run the RESTORE program, nothing happened.

Fortunately, he included a copy of the .PRN file in his letter asking for help. The majority of lines in the hard copy began with error codes. Now, I don't know Locoscript, but I do know that many word processors do strange things internally to the text.

If you type a WordStar file for example, you're likely to see the end letters of the words look like a foreign language. The high order bit of the character is set to assist the program in word wrap and formatting. However, WordStar does have a 'nondocument' mode for writing program listings.

I telephoned Fred and discussed the probability that the LocoScript program may well have invisible characters of a similar nature. Prior to the call, I'd kicked the 6128 into life and tried to duplicate the errors with the various techniques in ED and Tasword.

Naturally, I first verified that the file I'd submitted to the magazine did not itself have a fundamental error, by reassembling the program.

When you process a listing through MAC, it first announces its version number, there's a bit of disk grinding, and if all goes well, a hex number appears on the screen, followed by a 'use factor' and then END OF ASSEMBLY.

If, on the other hand, there is a problem, the screen display lists the offending lines.

Each crook line on the screen and in the .PRN file will begin with an error code letter. One need not continue past this point, because HEXCOM will simply respond to the GIGO syndrome (garbage in, garbage out).

For example, Fred's .PRN listing showed the first two lines were correct. They were comments, those starting with the semi-colon character. The very first EQUate, as well as most of the others, showed the S error, which is Syntax. One, curiously, had the V symbol, which stands for Value.

Other error codes which peppered the copy, were the U for Undefined label; L for label; and P for Phase error.

He might also have had the E for Expression, I for Invalid character, or O for Overflow. There's a few more, but we need not go into them.

A further diagnostic proof of performance (or lack of it) is to type the .SYM file produced. This holds all labels and other symbolic references in an alphabetically sorted list with the values/addresses prefixed. If you intended BEAST EQU 666 and got an error code, the .SYM file will probably show 0000 BEAST.

Obviously, if your program starts with an initialisation subroutine which has defaulted to 0000, a CALL INITL would be the same as a call to address 0000, which is a system reset.

It's possible to have a line deeply embedded in the program, relating to one of the first EQUates, producing an error code in both lines. I managed to produce such an effect, with a P error in the EQUate line and an L on a line with a Jump instruction.

Stephen Leacock once wrote of a man who flung himself upon his horse, and rode madly off in all directions. Don't emulate him when you run into a problem with assembly language. Take things a step at a time.

You need not run a four page listing through the entire process once you've been advised of a problem at the very beginning. You can work with a truncated copy of the original file. If need be, cut it down to only the group of EQUates, then add a few lines at a time.

Naturally, if an instruction uses a label that's not been included in the listing, you will create a YAFU. That's BBS parlance for Yet Another Fowl Up (polite form). Therefore, if you have the line SHLD OLDSP, be sure to add the OLDSP DS 2 line.

If there's still no joy in Mudville, try DUMPing the .ASM file with the CP/M utility. Valid characters would be the alphanumerics, 09 for the Tab, and 20 for the space character. Anything from 80 hex on will be likely to cause grief, as will those below 20.

Sure, you might know that Control-G is the bell, but MAC isn't that smart. Use 7, or 07, or 07h instead of ^G.

Finally, there's always the possibility of typographical errors in a magazine column. No matter how carefully a writer prepares his material, that gent named Murphy is always likely to be on hand to help something go wrong. When you refer to DOS redirection, and use the > (greater than) sign and it appears on the printed page as a full stop (.), You naturally check your copy to see if you goofed. If you

didn't, someone else missed the shift key, and so it goes.

WORD COUNT

Since I started using the PC-20 as my 'first' machine, I've been grizzling at the lack of a word count option on the version of PC-Write that I use. Now, that may have been rectified on the latest release, but I know some of the upmarket WP's don't have the facility either. And they cost a lot more.

Using the old trick of dividing the file size by six simply wasn't good enough. I sat down one day and hacked some CP/M code to make the attached listing. It's not elegant code, but it works for me.

The little utility uses the redirect process to read a file, checking character by character. It's not clever enough to recognise hyphenation, so will not be absolutely 100% accurate.

I used CHASM, the shareware cheap assembler, to do the deed. Some minor alterations would be necessary if you run the expensive program. Enjoy! ∎

```
; ----------------------------------------------
; PROGRAM   count.asm
; to do a word count on PC-Write and other text files
; J. L. Elkhorne  (c) 1990
; Syntax:   count < infile
; ----------------------------------------------
                            ; FUNCTIONS
@read    equ   3FH          ; read file/device
@pchr    equ   02H          ; pring character
@prnstr  equ   09H          ; print string

cr       equ   0DH          ; carriage return character
lf       equ   0AH          ; line feed character
space    equ   20H          ; space character
stdin    equ   0000H        ; standard input

bufsiz        equ    8192    ; size of input buffer

; ----------------------------------------
main     proc   far
         call   process      ; count words from std i/o
         call   disply       ; print to screen
         int    20H          ; and return to dos
         endp
; ----------------------------------------------
; SUBROUTINE PROCESS
;   1. load input buffer
;   2. check by char=racter for space/etc.
;            between words
;   3. repeat until EOF, total to screen
; ----------------------------------------------
process  proc   near

buf1     mov    ah, @read    ; read
         mov    bx, stdin    ; from stdin
         mov    cx, bufsiz   ; one buffer's worth
         mov    dx, offset(buffer)
         int    21H
         cmp    ax, 00H      ; test for EOF
         jz     exit         ; if so, done

         mov    cx, ax       ; cx <== number chars read
         mov    si, offset(buffer) ; source is input buffer

buf2     lodsb               ; al <== next char from buffer
         cmp    al, space    ; look for separator
         jbe    null

gotwd    movb   isword, 1    ; now reading chars in word
         jmps   more

null     cmpb   isword, 01h  ; was it set?
         jne    more
         incw   numwd        ; word finished, add to count
         movb   isword, 0    ; clear status
```

```
more     loop   buf2         ; loop until input buffer empty

         jmps   buf1         ; and loop until EOF

exit     cmpb   isword, 01h  ; set when done?
         jne    away
         incw   numwd

away     ret
         endp
; --------------------
disply   proc   near         ; convert NUMWD and print
         mov    ax, numwd    ; is total in hex
         mov    temp, ax     ; save for decimal processing
         movw   factor, -10000 ; could be 65K
         call   parse
         movw   factor, -1000
         call   parse
         movw   factor, -100
         call   parse
         movw   factor, -10
         call   parse
         movw   factor, -1
         call   parse

         mov    dx, offset(sayit)
         mov    ah, @prnstr
         int    21h
         ret
         endp
; --------------------
parse    proc   near

         mov    dl, 0
         mov    ax, temp
p1       mov    temp, ax
         add    ax, factor   ; really a subtraction
         inc    dl
         jc     p1
         add    dl, 2fh      ; correct to ASCII

         mov    ah, @pchr    ; and print chr. to screen
         int    21h

         ret
         endp
; ----------------------------------------------
isword   db     0
numwd    dw     0
temp     dw     0
factor   dw     0
sayit    db     ' words in file ...' cr lf '$'
buffer                       ; input buffer
```

Just jousting!

Geoff Camp has produced a very fast and playable type-in that will keep two players busy for ages.

Joust is a simple but fun program which bears more than a passing resemblance to the Light-Cycle routine from Tron, which in turn was inspired from the ancient coin-op "Block-out". The aim of the game is to guide your Knight around the jousting arena, leaving a trail as you go.

While you move, try to leave a trail around your opponent and block his path. The game will end when you or your opponent hits the edge of the arena or get's forced into a trail. Joust is fast and very playable, but keep another person nearby as the game is for two players only, control is by keyboard.

Note: Once run, Joust will create two files ("J.BAS" and "JOUST.BIN"), and save them to disk or tape. The program can then be loaded by running J.BAS.

```
100 REM
110 REM      *********
120 REM      *       *
130 REM      * JOUST *
140 REM      *       *
150 REM      *********
160 REM
170 REM THE AMSTRAD USER, JULY 1990
180 REM
190 REM
200 REM
210 REM
220 REM  A 2 player game for CPC's. Instructions includ
ed in program.
230 REM  This program will produce 2 files:
240 REM      J.BAS     - a loader.
250 REM      JOUST.BIN - The machine code.
260 REM
270 MODE 1:INK 0,0:INK 1,26:INK 2,6:INK 3,24:BORDER 0:P
EN 1:PAPER 0:MEMORY &7FFF
280 PRINT TAB(10);"**** JOUST ****"
290 PEN 2:PRINT:PRINT"POKING DATA (1000 - 2230)......"
300 a=&8000
310 PEN 3:FOR L=1000 TO 2230 STEP 10:LOCATE 31,3:PRINT
L
320 c=0:FOR x=0 TO 19:READ a$:b=VAL("&"+a$):c=c+b:POKE
a+x,b:NEXT
330 READ a$:b=VAL("&"+a$):IF b<>c THEN PEN 2:PRINT"ERRO
R IN LINE ";L:END
340 a=a+20:NEXT
350 PRINT:PRINT".....COMPLETED":PRINT:PRINT"INSERT FORM
ATTED DISC\TAPE AND PRESS [S]TO SAVE DATA..."
360 IF UPPER$(INKEY$)="S" THEN 370 ELSE 360
370 PEN 2:PRINT:PRINT"SAVING LOADER  -  J.BAS"
380 OPENOUT"J.BAS"
390 PRINT#9,"10 INK 0,0: INK 1,24,13: INK 2,21:BORDER 0:M
ODE 1"
400 PRINT#9,"20 ON BREAK GOSUB 50"
410 PRINT#9,"30 IF PEEK(&8000)<>&CD AND PEEK(&8001)<>&1
7 AND PEEK(&8002)<>&82 THEN GOSUB 70"
420 PRINT#9,"40 CALL &8000"
430 PRINT#9,"50 PEN 1:CLS:PRINT ";CHR$(34);"Thanks for
playing.";CHR$(34);":LOCATE 1,13:INK 3,15,0:PEN 2:PRINT
 ";CHR$(34);"Type '";CHR$(34);";:PEN 3:PRINT ";CHR$(34)
;"RUN";CHR$(34);";:PEN 2:PRINT ";CHR$(34);"' to play ag
ain.";CHR$(34)
440 PRINT#9,"60 LOCATE 1,20:PEN 1:END"
450 PRINT#9,"70 PEN 1:LOCATE 18,12:PRINT ";CHR$(34);"JO
UST";CHR$(34)
460 PRINT#9,"80 LOCATE 13,15:PEN 2:PRINT ";CHR$(34);"is
 now loading.";CHR$(34)
470 PRINT#9,"90 MEMORY &7FFF:LOAD ";CHR$(34);"!JOUST";C
HR$(34);",&8000:RETURN"
480 CLOSEOUT
490 PRINT:PRINT"SAVING DATA    - JOUST.BIN":SAVE"JOUST
",B,&8000,&A00,&8000
500 PEN 1:PRINT:PRINT"TO RUN JOUST TYPE ";:PEN 3:PRINT"
RUN"CHR$(34)"J"CHR$(34):PEN 1:PRINT"AND PRESS [ENTER]."
510 END
```

```
1000 DATA CD,0D,82,ED,5B,BE,83,2A,C0,83,CD,F0,BB,FE,00,
CA,1A,80,3A,EF,B55
1010 DATA 85,C6,01,32,EF,85,3E,01,CD,DE,BB,ED,5B,BE,83,
2A,C0,83,CD,EA,B44
1020 DATA BB,ED,5B,C6,83,2A,C8,83,CD,F0,BB,FE,00,CA,40,
80,3A,EF,85,C6,C35
1030 DATA 02,32,EF,85,3E,02,CD,DE,BB,ED,5B,C6,83,2A,C8,
83,CD,EA,BB,3A,B00
1040 DATA EF,85,FE,00,C2,3D,81,CD,63,80,CD,D0,80,CD,03,
82,C3,03,80,3E,A95
1050 DATA 43,CD,1E,BB,28,0F,01,02,00,ED,43,C4,83,0B,0B,
ED,43,C2,83,18,73D
1060 DATA 40,3E,45,CD,1E,BB,28,0F,01,FE,FF,ED,43,C4,83,
03,03,ED,43,C2,90D
1070 DATA 83,18,2A,3E,3F,CD,1E,BB,28,0F,01,FE,FF,ED,43,
C2,83,03,03,ED,885
1080 DATA 43,C4,83,18,14,3E,3E,CD,1E,BB,28,0D,01,02,00,
ED,43,C2,83,0B,690
1090 DATA 0B,ED,43,C4,83,2A,BE,83,ED,4B,C2,83,09,22,BE,
83,2A,C0,83,ED,A30
1100 DATA 4B,C4,83,09,22,C0,83,C9,3E,03,CD,1E,BB,28,0F,
01,02,00,ED,43,71A
1110 DATA CA,83,0B,0B,ED,43,CC,83,18,40,3E,04,CD,1E,BB,
28,0F,01,FE,FF,857
1120 DATA ED,43,CA,83,03,03,ED,43,CC,83,18,2A,3E,0F,CD,
1E,BB,28,0F,01,76F
1130 DATA FE,FF,ED,43,CC,83,03,03,ED,43,CA,83,18,14,3E,
07,CD,1E,BB,28,93E
1140 DATA 0D,01,02,00,ED,43,CC,83,0B,0B,ED,43,CA,83,2A,
C6,83,ED,4B,CC,899
1150 DATA 83,09,22,C6,83,2A,C8,83,ED,4B,CA,83,09,22,C8,
83,C9,21,F2,85,9C8
1160 DATA CD,AA,BC,DD,21,82,86,3A,EF,85,FE,01,28,1B,FE,
02,28,39,CD,C5,A1C
1170 DATA 81,21,D8,85,CD,F9,81,21,AA,86,CD,AA,BC,21,B3,
86,CD,AA,BC,18,B6F
1180 DATA 42,CD,C5,81,21,C6,85,CD,F9,81,21,E1,83,CD,D1,
81,21,01,23,CD,ABE
1190 DATA 75,BB,3E,02,CD,90,BB,21,DD,83,CD,F9,81,18,20,
CD,C5,81,21,B5,A71
1200 DATA 85,CD,F9,81,21,DB,83,CD,D1,81,21,01,02,CD,75,
BB,3E,01,CD,90,A27
1210 DATA BB,21,D7,83,CD,F9,81,CD,02,86,21,17,08,CD,75,
BB,3E,03,CD,90,9AD
1220 DATA BB,21,79,85,CD,F9,81,CD,A8,82,C3,03,80,3E,03,
CD,90,BB,21,01,9D9
1230 DATA 0C,CD,75,BB,C9,7E,3C,FE,3A,28,02,77,C9,36,30,
2B,18,F3,4A,4F,863
1240 DATA 55,53,54,24,42,79,20,47,65,6F,66,66,20,43,61,
6D,70,24,A4,20,66B
1250 DATA 31,39,38,38,24,7E,FE,24,C8,CD,5A,BB,23,18,F6,
ED,4B,F0,85,0B,931
1260 DATA 78,B1,C8,18,FA,CD,00,BB,CD,4E,BB,CD,BA,BB,CD,
FF,BB,01,00,00,B2B
1270 DATA CD,38,BC,3E,00,01,00,00,CD,32,BC,3E,01,01,0F,
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0F,CD,32,BC,3E,612
1280 DATA 02,01,0B,0B,CD,32,BC,3E,03,01,07,07,CD,32,BC,
3E,01,CD,0E,BC,5B5
1290 DATA 3E,00,CD,96,BB,3E,01,CD,90,BB,26,12,2E,08,CD,
75,BB,21,DE,81,89E
1300 DATA CD,F9,81,3E,02,CD,90,BB,26,0E,2E,0C,CD,75,BB,
21,E4,81,CD,F9,A56
1310 DATA 81,3E,03,CD,90,BB,26,11,2E,0E,CD,75,BB,21,F2,
81,CD,F9,81,3E,963
1320 DATA 01,21,FB,85,CD,BC,BC,3E,03,21,D8,86,CD,BC,BC,
3E,06,21,BC,86,993
1330 DATA CD,BC,BC,3E,03,CD,90,BB,21,16,08,CD,75,BB,21,
79,85,CD,F9,81,A40
1340 DATA CD,CE,83,FE,FC,20,02,E1,C9,FE,49,28,04,FE,69,
20,35,3E,01,CD,A1F
1350 DATA 0E,BC,21,4B,87,CD,F9,81,CD,CE,83,FE,20,20,F9,
3E,01,CD,0E,BC,A2F
1360 DATA 21,E3,83,CD,F9,81,11,D7,83,21,EA,85,01,05,00,
ED,B0,11,DD,83,9DD
1370 DATA 21,EA,85,01,05,00,ED,B0,18,BA,FE,31,28,19,FE,
81,28,15,FE,32,861
1380 DATA 28,16,FE,82,28,12,FE,33,28,04,FE,83,20,A2,21,
00,05,18,08,21,5FF
1390 DATA 01,00,18,03,21,00,03,22,F0,85,3E,01,CD,0E,BC,
3E,03,CD,DE,BB,654
1400 DATA 11,00,00,21,00,00,CD,EA,BB,11,7F,02,21,00,00,
CD,F6,BB,11,7F,665
1410 DATA 02,21,7F,01,CD,F6,BB,11,00,00,21,7F,01,CD,F6,
BB,11,00,00,21,683
1420 DATA 00,00,CD,F6,BB,3E,03,CD,90,BB,21,01,12,CD,75,
BB,21,DE,81,CD,955
1430 DATA F9,81,3E,01,CD,90,BB,21,01,02,CD,75,BB,21,D7,
83,CD,F9,81,3E,9F2
1440 DATA 02,CD,90,BB,21,01,23,CD,75,BB,21,DD,83,CD,F9,
81,01,02,00,ED,914
1450 DATA 43,BE,83,01,C7,00,ED,43,C0,83,01,02,00,ED,43,
C2,83,01,00,00,738
1460 DATA ED,43,C4,83,01,7D,02,ED,43,C6,83,01,C7,00,ED,
43,C8,83,01,FE,9B2
1470 DATA FF,ED,43,CC,83,01,00,00,ED,43,CA,83,3E,00,32,
EF,85,C9,00,00,8A9
1480 DATA 00,00,00,00,00,00,00,00,00,00,00,00,00,00,CD,
1B,BB,38,FB,CD,3A3
1490 DATA 18,BB,C9,30,30,30,30,30,24,30,30,30,30,30,24,
0F,03,20,20,20,436
1500 DATA 20,20,20,20,20,20,20,20,20,20,20,49,4E,53,54,
52,55,43,54,49,425
1510 DATA 4F,4E,53,0A,0D,20,20,20,20,20,20,20,20,20,20,
20,20,20,20,2D,2F4
1520 DATA 2D,2D,2D,2D,2D,2D,2D,2D,2D,2D,2D,0A,0D,0A,0A,
0A,0F,01,20,20,274
1530 DATA 20,20,20,20,50,4C,41,59,45,52,20,5B,31,5D,20,
20,20,20,20,20,416
1540 DATA 20,20,0F,02,50,4C,41,59,45,52,20,5B,32,5D,0D,
0A,0A,0A,0F,03,365
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1550 DATA 55,50,20,20,20,20,20,20,20,0F,01,5B,51,5D,20,
20,20,20,20,20,20,35E
1560 DATA 20,20,20,20,20,20,20,20,20,0F,02,5B,39,5D,0D,
0A,0A,0F,03,44,299
1570 DATA 4F,57,4E,20,20,20,20,20,0F,01,5B,41,5D,20,20,
20,20,20,20,20,37D
1580 DATA 20,20,20,20,20,20,20,20,0F,02,5B,36,5D,0D,0A,
0A,0F,03,4C,45,2C3
1590 DATA 46,54,20,20,20,20,20,0F,01,5B,58,5D,20,20,20,
20,20,20,20,20,35A
1600 DATA 20,20,20,20,20,20,20,0F,02,5B,30,5D,0D,0A,0A,
0F,03,52,49,47,2EE
1610 DATA 48,54,20,20,20,20,0F,01,5B,43,5D,20,20,20,20,
20,20,20,20,20,347
1620 DATA 20,20,20,20,20,20,0F,02,5B,2E,5D,0D,0A,0A,20,
20,20,20,20,20,298
1630 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,
20,20,28,6E,75,32B
1640 DATA 6D,65,72,69,63,20,70,61,64,29,0A,0D,0A,0A,0A,
0A,0F,03,53,65,497
1650 DATA 6C,65,63,74,20,5B,49,5D,6E,73,74,72,75,63,74,
69,6F,6E,73,20,7B5
1660 DATA 74,6F,20,7A,65,72,6F,20,73,63,6F,72,65,73,0A,
0D,20,20,20,20,609
1670 DATA 20,20,20,5B,45,53,43,5D,20,74,6F,20,72,65,74,
75,72,6E,20,74,64A
1680 DATA 6F,20,62,61,73,69,63,0D,0A,0A,20,20,20,20,53,
65,6C,65,63,74,592
1690 DATA 20,73,70,65,65,64,20,5B,31,2D,33,5D,20,74,6F,
20,70,6C,61,79,673
1700 DATA 24,50,72,65,73,73,20,5B,49,5D,20,66,6F,72,20,
49,6E,73,74,72,6E9
1710 DATA 75,63,74,69,6F,6E,73,0A,0D,09,09,09,09,09,09,
09,09,09,6F,72,44E
1720 DATA 20,73,70,65,65,64,20,5B,31,2D,33,5D,20,74,6F,
20,70,6C,61,79,673
1730 DATA 24,4C,45,46,54,20,50,4C,41,59,45,52,20,57,49,
4E,53,24,52,49,55C
1740 DATA 47,48,54,20,50,4C,41,59,45,52,20,57,49,4E,53,
24,54,48,49,53,58D
1750 DATA 20,52,4F,55,4E,44,20,41,20,44,52,41,57,24,30,
30,30,30,30,00,46B
1760 DATA 00,00,04,01,00,00,00,0F,0F,00,00,02,01,00,23,
0E,FF,07,06,0A,16D
1770 DATA C5,CD,49,86,21,08,00,CD,05,BC,01,18,18,CD,38,
BC,3E,00,01,18,661
1780 DATA 18,CD,32,BC,01,00,08,CD,07,82,01,00,00,CD,38,
BC,3E,00,01,00,533
1790 DATA 00,CD,32,BC,21,00,00,CD,05,BC,01,00,08,CD,07,
82,C1,10,C5,3A,699
1800 DATA EF,85,FE,03,C8,CD,C3,86,C9,3E,03,CD,DE,BB,3A,
EF,85,FE,01,28,B98
1810 DATA 05,FE,02,28,0A,C9,ED,5B,BE,83,2A,C0,83,18,07,
ED,5B,C6,83,2A,8D0
1820 DATA C8,83,CD,EA,BB,DD,56,00,DD,5E,01,DD,66,02,DD,
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6E,03,CD,F9,BB,B40
1830 DATA 01,04,00,DD,09,C9,FF,F6,00,03,FF,F6,00,0F,FF,
F2,00,1A,00,08,7C3
1840 DATA 00,0A,00,0F,00,06,00,0A,00,02,00,0A,FF,FF,00,
02,FF,F5,FF,F4,61C
1850 DATA FF,EC,FF,FF,FF,FE,01,06,00,64,00,00,0E,00,00,
02,06,00,62,00,6C9
1860 DATA 00,0E,00,00,02,01,01,0A,0F,FF,0C,21,DF,86,06,
0C,C5,E5,CD,AA,5EF
1870 DATA BC,30,FB,11,09,00,E1,19,C1,10,F1,C9,02,05,FF,
01,64,00,64,07,75C
1880 DATA 03,00,77,00,00,0F,14,00,07,03,00,77,00,00,0F,
0A,00,07,03,00,141
1890 DATA 77,00,00,0F,0A,00,07,03,00,77,00,00,0F,14,00,
07,03,00,5F,00,19D
1900 DATA 00,0F,14,00,07,03,00,5F,00,00,0F,0A,00,07,03,
00,5F,00,00,0F,11D
1910 DATA 0A,00,07,03,00,5F,00,00,0F,14,00,07,03,00,50,
00,00,0F,14,00,113
1920 DATA 07,03,00,50,00,00,0F,14,00,07,03,00,50,00,00,
0F,14,00,07,03,104
1930 DATA 00,3C,00,00,0F,3C,00,0F,01,20,20,20,20,20,20,
20,20,20,20,20,1F7
1940 DATA 20,20,49,4E,53,54,52,55,43,54,49,4F,4E,53,0A,
0D,20,20,20,20,48C
1950 DATA 20,20,20,20,20,20,20,20,20,2D,2D,2D,2D,2D,2D,
2D,2D,2D,2D,2D,30F
1960 DATA 2D,0A,0D,0A,0F,02,47,75,69,64,65,20,79,6F,75,
72,20,6B,6E,69,59E
1970 DATA 67,68,74,20,61,72,6F,75,6E,64,20,74,68,65,20,
6A,6F,75,73,74,7A2
1980 DATA 69,6E,67,20,20,20,61,72,65,6E,61,2E,0A,0D,0A,
59,6F,75,20,77,5C8
1990 DATA 69,6C,6C,20,6C,6F,73,65,20,61,20,72,6F,75,6E,
64,20,69,66,20,6EC
2000 DATA 79,6F,75,20,72,75,6E,20,69,6E,74,6F,3A,0A,0D,
20,20,20,20,20,59D
2010 DATA 20,54,68,65,20,61,72,65,6E,61,27,73,20,65,64,
67,65,2E,0A,0D,5FC
2020 DATA 20,20,20,20,20,20,59,6F,75,72,20,74,72,61,69,
6C,2E,0D,0A,20,510
2030 DATA 20,20,20,20,20,59,6F,75,72,20,6F,70,70,6F,73,
69,74,69,6F,6E,6C3
2040 DATA 27,73,20,74,72,61,69,6C,2E,0A,0D,0A,55,73,65,
20,61,6C,6C,20,5CB
2050 DATA 74,68,65,20,6C,6F,67,69,63,20,61,6E,64,20,74,
72,69,63,6B,65,764
2060 DATA 72,79,20,79,6F,75,20,63,61,6E,0D,0A,6D,75,73,
74,65,72,20,74,705
2070 DATA 6F,20,66,6F,72,63,65,20,79,6F,75,72,20,6F,70,
70,6F,73,69,74,7BB
2080 DATA 69,6F,6E,20,69,6E,74,6F,0A,0D,61,20,63,6F,72,
6E,65,72,20,74,6D5
2090 DATA 68,61,74,20,68,65,20,63,61,6E,27,74,20,65,73,
63,61,70,65,20,6C8
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2100 DATA 66,72,6F,6D,2E,0A,0D,0A,59,6F,75,72,20,73,63,
6F,72,65,20,69,677
2110 DATA 6E,63,72,65,61,73,65,73,20,62,79,20,6F,6E,65,
20,66,6F,72,20,738
2120 DATA 65,61,63,68,0A,0D,72,6F,75,6E,64,20,77,6F,6E,
2E,20,54,68,65,6B3
2130 DATA 72,65,20,69,73,20,6E,6F,20,77,69,6E,6E,69,6E,
67,20,73,63,6F,74F
2140 DATA 72,65,21,0A,0D,59,6F,75,20,64,65,63,69,64,65,
20,77,68,65,6E,69C
2150 DATA 20,61,20,70,6C,61,79,65,72,20,68,61,73,20,73,
63,6F,72,65,64,72A
2160 DATA 0A,0D,65,6E,6F,75,67,68,20,74,6F,20,62,65,20,
64,65,63,6C,61,6A0
```

```
2170 DATA 72,65,64,20,74,68,65,20,77,69,6E,6E,65,72,2E,
0A,0D,0A,53,63,654
2180 DATA 6F,72,65,73,20,63,61,6E,20,62,65,20,7A,65,72,
6F,65,64,20,62,71D
2190 DATA 79,20,73,65,6C,65,63,74,69,6E,67,20,74,68,65,
73,65,0A,0D,69,710
2200 DATA 6E,73,74,72,75,63,74,69,6F,6E,73,20,62,65,74,
77,65,65,6E,20,7F6
2210 DATA 72,6F,75,6E,64,73,2E,0A,0D,0A,0F,03,20,20,20,
20,20,20,20,20,3FC
2220 DATA 20,50,72,65,73,73,20,5B,53,50,41,43,45,5D,20,
66,6F,72,20,6D,665
2230 DATA 6F,72,65,2E,24,00,00,00,00,00,00,00,00,00,00,
00,00,00,00,00,198
```

Tracking programs

▶ ▶ ▶ *An alternative to the TRON command and arguably more useful if the 464 traceback routine from Tony Jordan.*

Suppose you have just written a Basic program and you are now ready to try it out. You type RUN and hit the enter key. For a while the program runs normally then suddenly it crashes with an error message. You discover it has stopped in the middle of a sub-routine which should not yet have been reached. How on earth did the program enter that sub-routine?

You could, of course, turn on trace with TRON at the 'Ready' prompt and rerun the program, but this is usually a slow and frustrating method of debugging. There is now a better solution with the Traceback routine.

OPERATION

Traceback provides a post-mortem summary of what a program was doing before it crashed. It does this by (mainly) analysing Basic's run-time stack. The stack is used, amongst other things, for keeping track of program flow during use of the following control structures:

```
FOR/NEXT
WHILE/WEND
[ON] GOSUB/RETURN
AFTER GOSUB/RETURN
EVERY GOSUB/RETURN
ON SQ GOSUB/RETURN
ON BREAK GOSUB/RETURN
```

When a control structure is invoked, usually causing a jump to a sub-routine, details are pushed onto the run-time stack; subsequent termination of the control structure (eg. executing a Return) causes these details to be unstacked.

Traceback uses the stacked details to determine the line number of the statement which was executing when the control structure was invoked. There are three main possibilities:

1. The control structure was invoked in the normal course of program execution. Traceback displays the

type of control structure and the line number of its invocation.
2. The control structure was invoked from the keyboard (eg. by typing GOSUB 2000 from the Ready prompt). Traceback displays the type of control structure together with the word "Keybd".
3. The control structure was invoked abnormally as a result of an interrupt (eg. periodically as a result of an EVERY statement). Traceback displays the word "Interrupted" and the line number to which control will be passed when the interrupt sub-routine returns. It is unable to describe the type of interruption (ie. the type of control structure) as this information is not stacked.

As a bonus, Traceback also identifies where Basic's READ/RESTORE data pointer is pointing. If Traceback displayed "40 Data byte n" this would indicate the pointer was positioned in the nth position of line 40. For example:

'40 Data byte 0' *would indicate* 40 DATA up,down,left

'40 Data byte 8' *would indicate* 40 DATA up,down,left

'0 Data byte 0' *would indicate* Data exhausted.

The data items following the indicated byte would have been retrieved by a subsequent READ statement. As an example consider this trivial program:

```
10 REM Test Program    80 NEXT i
20 FOR i=1 TO 7        90 GOSUB 120
30 FOR j=1 TO 3        100 END
40 WHILE m=4           110 DATA 0,1,2
50 WEND                120 REM S/R
60 GOSUB 120           130 READ n:m=1\n
70 NEXT j              140 RETURN
```

When run, it aborts "Division by zero in 130". Line 130 is seen to be within the subroutine starting at line 120. This subroutine is called from lines 60 and 90. Which of these calls resulted in the program

aborting?

To find out, execute Traceback by typing GOSUB 50000. The program will display the following:

```
110 Data byte 2

Keybd  Gosub   (latest stacked item)
   60  Gosub
   30  For
   20  For     (earliest stacked item)
*No more*
```

This display shows:

1. The next DATA item to be read is the "1" on line 110.

2. A GOSUB was typed from the keyboard. In this case we simply ignore it as it happens to be the GOSUB 50000 used to run Traceback. This line could have been suppressed by using GOTO 50000 instead as GOTO information is not stacked.

3. The current subroutine (starting at line 120) was called from line 60 (answering the question posed earlier) which is inside the FOR/NEXT loop starting at line 30, which in turn is inside a FOR/ NEXT loop starting at line 20.

4. The fact that the WHILE/WEND loop is not mentioned indicates that it has been completed.

WARNINGS

Traceback is a program development tool and as such should be a permanent part of a Basic program until it is debugged. This is because tape operations such as LOAD and MERGE destroy the run-time stack; if a program crashes and you then try to load and run Traceback you will always get a "Stack Empty" message. **As written, Traceback is only suitable for use with the CPC464.** For other CPCs it may be necessary to change the values of d.%, p.% and b.%. I do not know what these changes should be and if anyone does, please write in. *Note: The command in line 50010 is* **DI** *(disable interrupt).*

XREF OF TRACEBACK

48 References to 12 Symbols using 28 out of 600 nodes.

50100	50060	
50120	50240	
50220	50180	50200

b.%	50040	50110	50240			
c.%	50120	50140	50150	50160	50170	50230	50240
d.%	50020	50050	50070			
L.!	50070	50080	50190	50200	50210	
o.!	50050	50060	50070			
o.%	50070	50090	50130	50150	50160	50170	50180
	50190					
p.%	50030	50100				
s.%	50010	50110	50120	50150	50190	50230	50240
t.$	50130	50140	50150	50160	50170	50220	

```
50000 '      TRACEBACK (c)1987 Tony Jordan

50010 DI:PRINT

50020 d.%=&AE2E ' Data pointer

50030 p.%=&B08B ' Stack top

50040 b.%=&AE8B ' Stack bottom

50050 o.!=PEEK(d.%+2)+256*PEEK(d.%+3)

50060 IF o.!<&170 THEN 50100

50070 IF PEEK(o.!)THEN L.!=PEEK(d.%)+256*PEEK(d.%+1):o.%
=o.!-L.!-3 ELSE L.!=o.!+3:o.%=0

50080 PRINT USING"#####";PEEK(L.!)+256*PEEK(L.!+1);

50090 PRINT" Data byte";o.%:PRINT

50100 s.%=UNT(PEEK(p.%)+256*PEEK(p.%+1)-1) 'Stack top

50110 IF s.%<=b.% THEN PRINT"Stack empty":END

50120 c.%=PEEK(s.%) ' Stack entry code & length

50130 t.$="*Stack error*"+CHR$(7):o.%=0

50140 IF c.%=0 THEN t.$="*No more*"

50150 IF c.%=6 THEN o.%=2:IF PEEK(s.%-5) THEN t.$="Inter
rupted" ELSE t.$="Gosub"

50160 IF c.%=7 THEN t.$="While":o.%=6

50170 IF c.%=16 OR c.%=22 THEN t.$="For":o.%=6

50180 IF o.%=0 THEN 50220

50190 L.!=PEEK(s.%-o.%)+256*PEEK(s.%-o.%+1)

50200 IF L.!=0 THEN PRINT"Keybd";:GOTO 50220

50210 PRINT USING"#####";PEEK(L.!)+256*PEEK(L.!+1);

50220 PRINT TAB(7);t.$ ' Statement type

50230 s.%=s.%-c.% ' Previous stack entry

50240 IF c.%<>0 AND s.%>=b.% THEN 50120

50250 RETURN ' Could be replaced by END
```

A bit of bother

Why should a program work on an English CPC but not on the same model in Australia? Peter Campbell explains.

Recently I was shown a program, written in Basic, which functioned correctly on CPC6128s in England, but not in Australia, improbable as it sounds! The program had been carefully tested in England and behaved perfectly. However, when asked to do a printout in Australia, the program responded that the printer was not on line, even though it was!

Examination of the program showed that the following test had been used to verify that the printer was on line:

```
IF INP(&F500)<>30 THEN …
```

If the condition wasn't met, it was assumed that the printer was off line and a message was printed to that effect. The program then aborted the printout.

IN SEARCH OF A SOLUTION

When the author of the program was asked why it wouldn't work, he was mystified and said that the test was a standard one and widely used in English software. Intrigued, I set out to find, first, a solution to the problem and, second, an explanation of why my test worked and his didn't.

I tested the input port using INP(&F500) and found that my Panasonic printer returned '24' and not '30' when ready. When off line it returned '88'. A test of an Epson printer gave the same values. Surely our printers are the same as those in the UK? In a Newsletter, issued in March 1987 by the Southside Amstrad Club (now the Amstrad and PC User Group of Logan), I found a program which used a different test:

```
IF (INP(&F500) AND 64)<>0 THEN …
```

I tried substituting this test and, sure enough, it worked, but what did it mean? ANDing '24' or '30' with '64' gives a result of '0', while '88' AND '64' gives a result '64'. Which means that a '0' result means the printer is on line and '64' means it is not. It still doesn't really explain what is going on though.

ELUSIVE EXPLANATION

In searching for why different results were obtained in different countries, when CPC6128s were connected to identical printers, I consulted The Ins and Outs of the Amstrad CPC 464 (Don Thomasson, Melbourne House Publishers, 1984) and found that the test was reading Port B of the parallel peripheral interface (p.18). Further information was obtained from the firmware manual (Soft 158, Amsoft, 1984, App 12.7).

In Basic, the state of the printer can be determined by reading this input port, using the expression INP(&F500). However, the byte read from this port contains considerably more information than

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

'0' if link LK1 fitted
'0' if link LK2 fitted
'0' if link LK# fitted
'0' if link LK4 fitted (60Hz frame scan)
'0' if expansion port active
'1' if printer busy
Cassette read data
Frame flyback pulse

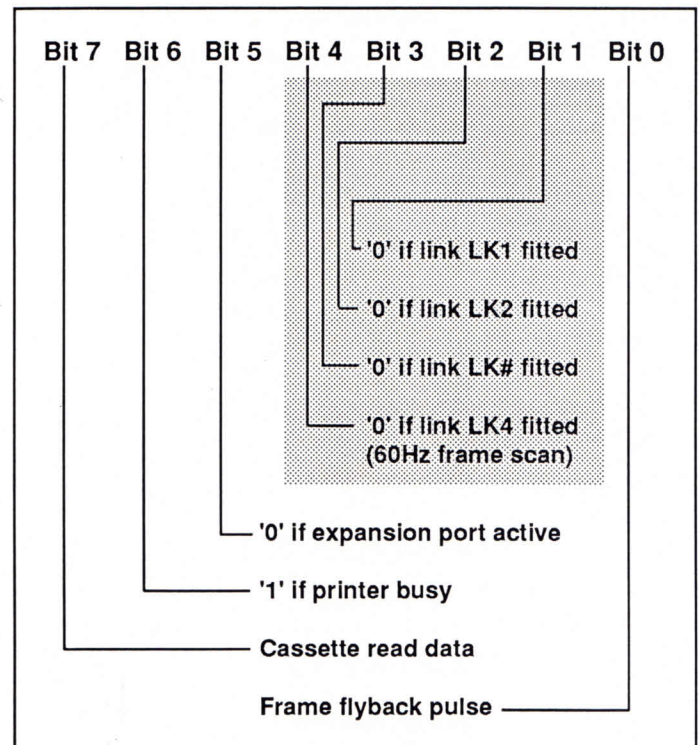*Fig 1.*

just the state of the printer. Let's look at what makes it up. The eight bits are used as shown in Figure 1.

The shaded area of the diagram provides the answer to the mystery. A combination of four links is used to tailor the CPC computers for specific markets. If 60Hz television standard applies, then LK4 is

```
Bit 7  Bit 6  Bit 5  Bit 4  Bit 3  Bit 2  Bit 1  Bit 0
  |      |      |      |      |      |      |      |
         1      0      1      1      0      0      0

Printer not                                     LK1 fitted
ready

Expansion port                          LK2 fitted
active

LK4 not fitted                          LK3 not fitted
```
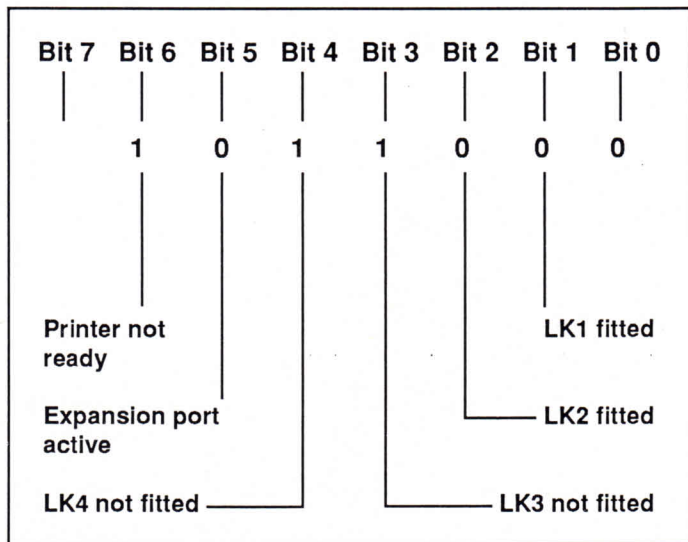
Fig 2.

fitted. The operating system ROM contains eight possible names (not including 'Arnold'). These are 'Amstrad', 'Orion', 'Schneider', 'Awa', 'Solavox', 'Saisho', 'Triumph', and 'Isp'. Just which the computer uses when it signs on depends on what combination of LK1, LK2 and LK3 links are fitted.

When the CPCs were first marketed in Australia, they were handled by AWA-Thorn, who gave some consideration to marketing them under the AWA label, and I have seen a photo of a prototype machine wearing AWA livery on its case. However, they eventually settled for Amstrad badging with the name AWA (mis-spelled 'Awa') being shown on the screen when the computer was turned on. The 'Awa' name was retained by Mitsubishi Electric AWA, but was changed to 'Amstrad' when the company took over the distribution of Amstrad products in Australia. This involved leaving out LK1 and LK2, which had been fitted to bring up the 'Awa' name.

The information on which links are fitted in 'Awa' CPCs can be read from the '24' which was obtained by the test. Here's how. '24' when converted to a binary number is 11000 (or 00011000 if we show all eight bits). The bits are numbered 0-7 from right to left. Thus:

```
bit 0 = 0
bit 1 = 0
bit 2 = 0
bit 3 = 1
bit 4 = 1
bit 5 = 0
bit 6 = 0
bit 7 = 0
```

From Figure 1, we can see that the bits 1 and 2 being 0, LK1 and LK2 must be fitted. Figure 2 shows how the '88' (binary 1011000) can be analysed. Note how bit 6 is now 1, indicating that the printer is not ready. The value '30' (binary 11110) shows that no links are fitted (bits 1-3 all have the value '1'). All of which means that the test used in the English program only works with CPC computers which sign on with the name 'Amstrad'. All others, such as our 'Awa' machines and the German 'Schneider' ones will conclude that the printer is not on line.

So now you know. Programs known to be affected include 'Master Disc' and some programs from SD Microsystems. Naturally, Cue Three Software (who asked me to look into the matter) are making arrangements to have the problem rectified. If you have experienced this problem and the program you have is unprotected Basic, simply substituting the corrected test will afford a cure. Otherwise you may need to ask your dealer for an update. ∎

This article was reproduced from May 1990 Newsletter of the Southern Tasmanian Amstrad Club and surely proves the advantages of belonging to a club with knowlegable members!

Return to Doom...

Return to Doom by Topologika has been around for a while now, but we think it's worth a good look.

The blurb on the back of the box reads - "The planet Doomawangra (Doom for short) is a dangerous place. As the only explorer ever to survive it, you should know. An unexpected distress call sends you flying to Doom in a mission to rescue the Ambassador".

This is the second game in the Doom trilogy, and if the sequel is as good as the first, it will be a necessary addition to an adventurers inventory.

For those who remember right back to the original "Colossal Cave Adventure" from the mainframe computers of the seventies, this will be a rude kick in the game protocols department. All those little hints and tricks culled from staring blankly at the WHAT NOW? prompt can be assigned to the bin in a game that absolutely guarantees that to get the full hundred points, you must do things that would have made you victim of the goblin's axe in times past.

I must be getting boring in my old age, because come hell or high water (or hint sheets), I always go for the traditional solution in an adventure. That tactic proved to be a bad decision in this one. After playing trampoline on the bouncing ground, and generally getting nowhere, I found that the logical approach does not work.

A pair of stone jaws that need to be confused, a dual purpose pyrotechnic rod that bears no crystal bridge and so on. In the early stages, a collection of all the available objects causes a time problem, a sort of negative reward for all the hard work.

The obligatory underground sortie is disbarred by a "Grobbler beastie", unless of course he's gone swimming, a very stupid thing to do with an allergy like his. I spent some time trying to find a use for the magic word that I found in one location, but in retrospect it seems to be more decorative than useful. Throwing rocks can be a lifting experience if one remembers that for every action... Anyway, I don't know why I'm being so helpful, the game certainly wasn't. To say it requires lateral thinking is an understatement. To go through this game, your brain must be so lateral, that it even makes lifts go along as well as up.

As you go into the main game, you'll need your wit as well as your wits. Beware of getting your second wind, as it could amaze you for longer than you want. *(Stop giving clues and get on with it -Ed)*

I thought that we'd seen everything possible in the adventure dept. Not a brilliant parser, not a huge playing area, but a well thought out economy of space and side splitting humor culminating in canine cavorting at the penultimate move make it well worth a bag of my doubloons.
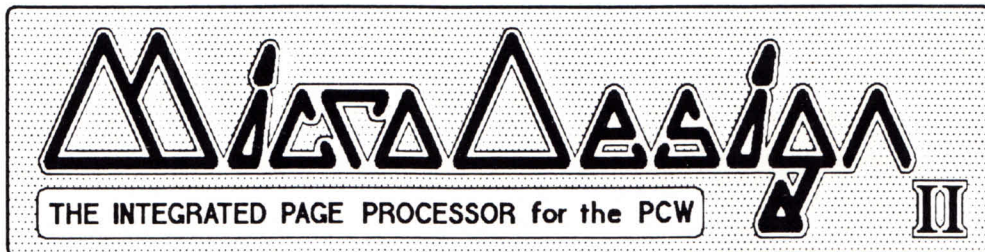
Return to Doom is available to all PCW owners through The Amstrad User for $54.95 plus postage.

Return to Doom

Something dBasing about Protext

Organisation is the secret to the efficient use of files.
John Barlow demonstrates using Protext as a database.

Whether it was the old exercise book that was used to record the knowledge imparted by our teacher in the classroom, or one of the more sophisticated, computerised information storage systems available today, we have all, at one time or another, used a database. Even our memory is a database; albeit, a somewhat unreliable one.

And it is that lack of reliability which prompts us to keep records. We take in so much information each day, it is difficult for us to remember all the details.

Simply by making a note of something we want to remember, however, we are telling ourselves that we consider something important enough to remember. That note acts as a prompt, which tells our minds to recall the details surrounding it.

The classic example of this, of course, is the noting down of the 'punch-line' of a joke to remind us of its lead-in.

To a writer, whose livelihood depends largely upon his ability to recall details, a database is as important as his typewriter or wordprocessor. Without it he would be lost.

Around the 'Batcave' I have a number of databases. They range from the various scraps of paper scattered about my desk, through the notes scribbled hurriedly on my blotting pad and the micro-cassette tapes and notebooks in which I record interviews, to the cardbox in which I store details gleaned during research visits to libraries around the country and the various computerised information storage programs in my disc box.

Some, such as the scraps of paper, blotting pads and tapes, are used for temporary storage. Others, such as the notebooks, cardfiles and computer discs are of a more permanent nature.

But all of them are useful. And all help me to create order out of chaos.

And that is of primary importance to the writer - particularly the freelance writer - if he ever hopes to make a living as a wordsmith. Because we tend to work alone, we must be organised. Databases in their various forms help us to be just that; organised.

To be of any use, though, those databases must be accessible. The information is of no use to man nor beast if it is locked away.

Such was the case when I first bought (adopted) 'Joyce'.

Although I found LocoScript to be an extremely user-friendly wordprocessor, there was no way I could get at the information stored in a dedicated database file without major interruptions to the flow of creative juices. LocoScript1 operated in its own little world while all the dedicated databases available at the time were only accessible through CP/M; as useless to me as having Madam Chancellor sew hip-pockets into my singlets.

Things have changed during the ensuing years. Locomotive Software have come up with a variety of programs to make LocoScript more self-sufficient. But, as I have explained before, the changes came too late for me, I had already become a PROTEXT addict.

DIY DATABASES

Before building up the nerve to swindle Madam Chancellor out of the money to invest in PROTEXT, however, I did build a series of primitive freeform databases within the LocoScript operating environment.

Those databases, which consisted of an Address List (see figure 1), a Diary, a Memo Pad, an Ideas File and a Notepad, were stored as Template.Std files, each in its own group on the Start Of Day (SOD) disc. Each was thus automatically loaded across to the RAM disc on bootup (see figure 2).

The major problem with this system was that, although these databases operated from within LocoScript, I would have to exit from the file I was working on before I could gain access to them; an improvement on the original problem but still a nuisance.

The change to PROTEXT - with its two file editing facility - not only meant that I could now access

```
A:ADDRESS/TEMPLATE.STD  Editing text.          Printer idle.  Using A
-Layout       -Pi12   -LS1   -LF6                       Page  1 line  1 of 54
f1=Show  f2=Layout  f3=Emphasis  f4=Style  f5=Lines  f6=Pages  f7=Modes  f8=Blocks EXIT

(†Pitch12†)(†Bold†)A.(-Bold)(-Pitch)↵
Name:    (+Bold)ANGUS & ROBERTSON PUBLISHERS,(-Bold)↵
Address: Unit 4, Eden Park,↵
       : 31 Waterloo Road,↵
       : NORTH RYDE N.S.W.  2113↵
       : ↵
Telephone 1 (Work): ↵
Telephone 2 (Home): ↵
Comments: ↵
↵
Name:    ↵
Address: ↵
       : ↵
       : ↵
       : ↵
Telephone 1 (Work): ↵
Telephone 2 (Home): ↵
Comments: ↵
↵
↓
(†Pitch12†)(†Bold†)B.(-Bold)(-Pitch)↵
Name:    (†Bold)BERNARDI(-Bold), Noel & Dawne↵
Address 1: P.O. Box 284,↵
         : MAROOCHYDORE  QLD  4558↵
         : ↵
```

Fig 1.

databases which operated in a CP/M environment, but also meant that I could continue to operate my replacement freeform databases (rebuilt to suit PRO-TEXT, or course) without having to exit from the file I was working on. Simply by pressing ALT-Y, followed by a Load command, I could jump from a


```
                    Disc management          Printer idle.  Using none
C=Create new document  E=Edit existing document  P=Print document  D=Direct printing
f1=Disc change  f2=Inspect  f3=Copy  f4=Move  f5=Rename  f6=Erase  f7=Modes  f8=Options
Drive A:       LOCOSCRP.SOD │Drive B:     not fitted │Drive M:       LOCOSCRP.SOD
114k used  59k free  10 files│0k used  0k free  0 files│32k used 324k free   5 files
SYSTEM    8k│ IDEAS      1k │                          │SYSTEM    0k│ IDEAS     2k
ADDRESS  21k│ NOTEPAD    1k │                          │ADDRESS  22k│ NOTEPAD   2k
DIARY     3k│ group 6    0k │                          │DIARY     4k│ group 6   0k
MEMOS     1k│ group 7    0k │                          │MEMOS     2k│ group 7   0k
A:SYSTEM    5  files│A:ADDRESS    1 files│A:DIARY     1 files│A:MEMOS    1 files
3 limbo files      │5 limbo files      │1 limbo files     │14 limbo files
PHRASES.STD   1k│TEMPLATE.STD 21k│TEMPLATE.STD  3k│TEMPLATE.STD  1k
4 hidden   86k │
```

Fig 2.

wordproessing file to any of my memory-resident database files and either update that file or mark a portion of it for transfer, then jump back to the current working file without having to close either.

An alternative method of carrying out this function, I found, is to first change from Edit Mode to Command Mode, then use the command SWAP (or SW) before Loading the required database file.

Let's assume that, while working on the manuscript for our 'Great Australian Novel', we remember that we'd promised to ring our publisher to advise him of its progress.

With the ADDRESS file resident on our working disk, it's simply a matter of typing Alt-Y followed by Exit (or, if using the alternative method, Exit followed by the command SW), Load ADDRESS, Return, Exit. This will switch to a blank file, jump to Command Mode, Load the Address file, which is resident on the

working disc, and return to Edit Mode. It is simply then a matter of scrolling through the file to find the publisher's telephone number, which is stored under the relevant alphabetic heading.

SWAPPING ADDRESSES

For those of you who have been following this series, this is another procedure that may be simplified by storing the switching string under a single key designation in the PHRASES.STD file on your Start Of Day disc (see figure 3).


```
PROTEXT  Program  phrases        1K   STOP for command mode        ALT-H for Help
Ch 1    Line 1   Col 1              No markers set                  Insert
KEY A "†254↑swap†13↑↑253↑"                   ; SWap and Load ADDRESS file↵
KEY B "†42↑basic†13↑"                         ; Switch to BASIC↵
KEY D "†13↑↑32↑↑24↑↑108↑↑14↑↑45↑↑24↑↑108↑↑14↑↑32↑" ; non-break space, long DASH,
KEY E "†13↑↑19↑↑9↑↑9↑↑9↑↑24↑↑98↑ENDS†24↑↑98↑↑13↑"  ; ENDS↵
KEY F "†42↑mf8000†13↑"                        ; Switch to MASTERFILE 8000↵
KEY H "†14↑↑45↑"                              ; non-break HYPHEN↵
KEY M "†13↑↑19↑↑9↑↑9↑↑9↑↑24↑↑98↑mf:†24↑↑98↑↑13↑)PA†13↑↑13↑" ; MORE FOLLOWS, return, page
KEY N "†42↑nswp†13↑"                          ; switch to NSWP↵
KEY O "EXEC OM†13↑"                           ; Open PROTEXT OFFICE↵
KEY P ">PA†13↑"                               ; PAGE BREAK↵
KEY R "†254↑SW†13↑Load RESEARCH.NTS†13↑↑253↑" ; SWap and Load RESEARCH.NTS↵
KEY S "†14↑↑32↑"                              ; non-break SPACE↵

PROTEXT v2.23 (c) Arnor 1986      Type HELP for command info      Printer: PCW
a>
```

3.

Depending upon which of the two file swapping methods you prefer to use, the phrase to be stored would read either:

$$↑25↑↑254↑Load\ ADDRESS↑13↑↑253↑;\ or$$
$$↑254↑SWap↑13↑Load\ ADDRESS↑13↑253↑.$$

(The upward arrow, by the way, can be obtained by pressing Extra-:/; (colon/semi-colon) or, more simply, Extra-U). The preferred phrase can then be saved under the letter A (for ADDRESS, of course).

This process can be taken one step further with the use of the FIND function. Once you have gained access to the ADDRESS file, it is a simple matter to press the find key, enter the name of the person you are looking for and ask for a global search.

But FIND is not restricted to the searching for addresses and telephone numbers. It can also be used to find data stored in a RESEARCH file, reference notes stored is a file called NOTEBOOK, appointments stored in a DIARY or any other information file (database) you might have created.

The secret to the efficient use of these files, however, is organisation.

Information stored in a reseach file created to hold material relevant to a particular subject or project might well contain numerous references to the same key-word or phrase. Thus, during a global search, the cursor will automatically stop at each occurrence of that key-word. But, as an old bushman once told me: There are no such things as problems; only solutions waiting to be found.

During the course of building up this series I have created a file, entitled NOTES.TAU, in which I store such things as research notes, phrase strings, snippets of information that I may or may not use when writing these articles and reference data on

other wordprocessing packages an other types of computers.

Although this information is stored under subject headings in that file, some words- such as PROTEXT and LOCOSCRIPT, for example - show up repeatedly, which makes a search for the subject heading, PROTEXT, say, a time-consuming and laborious exercise.

ASTERISK - NOT JUST A WILDCARD
To reduce the time taken to search these simple database files, therefore, I have developed the habit of preceding key subject headings - whether they be

```
PROTEXT Document address    3K    Justify Off      Word-Wrap   ALT-H for Help
Page 1  Line 27  Col 1            No markers set                    Insert
L----|---------|---------|---------|---------|---------|---------R
)CE
)CE                           )ADDRESS FILE
                              PUBLISHERS
*A
*AMSTRAD USER, THE
641 High Street Road
GLEN WAVERLEY  VIC  3149

Tel: (03) 233 9661, 003 9661
Contact: Brian Jones (Editor)
Comments: See also THE AMSTRAD USER; and JONES, Mr Brian


*ANGUS & ROBERTSON, PUBLISHERS
Unit 4, 'Eden Park'
31 Waterloo Road
NORTH RYDE  NSW  2113

Tel:
Contact:


*B


*C
```

Fig 4.

contained in a research file or an address file - with an asterisk, * (see figure 4).

When searching for information on PROTEXT wordprocessing held on the NOTES.TAU file, I call up FIND and at the FIND string: prompt, type *Protext. During a global search, the FIND function will only recognise the key subject headings (i.e. those words containing an asterisk as the first letter in the string).

Once I have found the particular item I want, all I have to do is use PROTEXT'S Shift-+ facility to mark the block I want exported, then press Alt-Y to return to the original text file. After positioning the cursor at the place I want to insert the imported data, it is simply a matter of pressing Alt-O.

These types of databases are termed primitive sequential files. Primitive, because, unless we physically store the data in numeric or alphabetical order, the information they contain is stored at random. But, while they lack any real sense of order, they do beat notes scrawled on scraps of paper. At least they give us a single file envelope in which to keep the notes and addresses we might otherwise have scattered all over the place.

They are sequential files because, to find anything in them, we must search through each piece of information in sequence to find any item we are looking for.

In these terms, then, they are really no better than

the address book or notepad; except that the information is stored in the one place and can be accessed without having to leave the keyboard.

To be effective, however, a database should be relational. In other words, the performing of one function should be able to have a conditional relationship to another.

If I want to contact the editor of a publication to explain why my manuscript for next month's column is late, for example, I have had three logical alternatives in my simple address file. The first is THE AMSTRAD USER, the second is AMSTRAD USER, THE, and the third is to refer to him by name. In this case that would be stored as JEANS, Barry - or the more formal, JEANS, Mr. Barry.

In the case of my ADDRESS file, I have all three; although the last two would probably suffice. The first is only in there because I sometimes use it as a source for addresses used in letters and for printing out envelopes - both of which require the recipient's name and address to be printed out in its correct order.

GONE FISHING
The only relationship in this case is the fact that I am able to differentiate between the various conditional factors when looking for the data. If I want to talk to the editor over the phone, I can simply call up the record for *JEANS, Mr. Barry. If I want to write him a letter to tell him I won't be able to meet a deadline because I will be fishing for Barramundi up in the Northern Territory, I call up the record for either *THE AMSTRAD USER or *AMSTRAD USER, THE.

In a truly relational database, however, I would only have to have the one record. When I wanted to contact Mr. Jeans, I could tell 'Joyce' why I wanted the details and she would only search for them based on the conditions I have set. But even then, the search is more conditional than relational.

The relational part comes into it when I want to write the letter and I want to use information stored in ADDRESS.DAT and one or two other files to fill in some of the gaps. Mail merging, as the operation is called, is making use of a relational database in its simplest form.

We'll take a closer look at relational databases next month when we'll draft out a letter to a number of publishers telling them I've 'Gone Fishing'. ∎
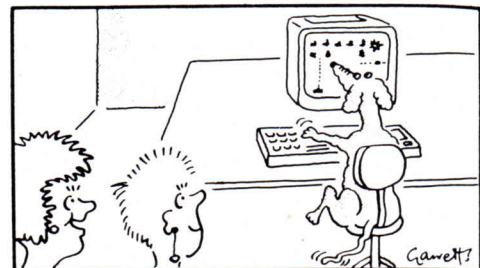
" OH, HE'S NOT REALLY THAT HOT— I CAN USUALLY BEAT HIM... "

A New Powerful Combination for your PCW8256/8512

LocoFile with LocoMail
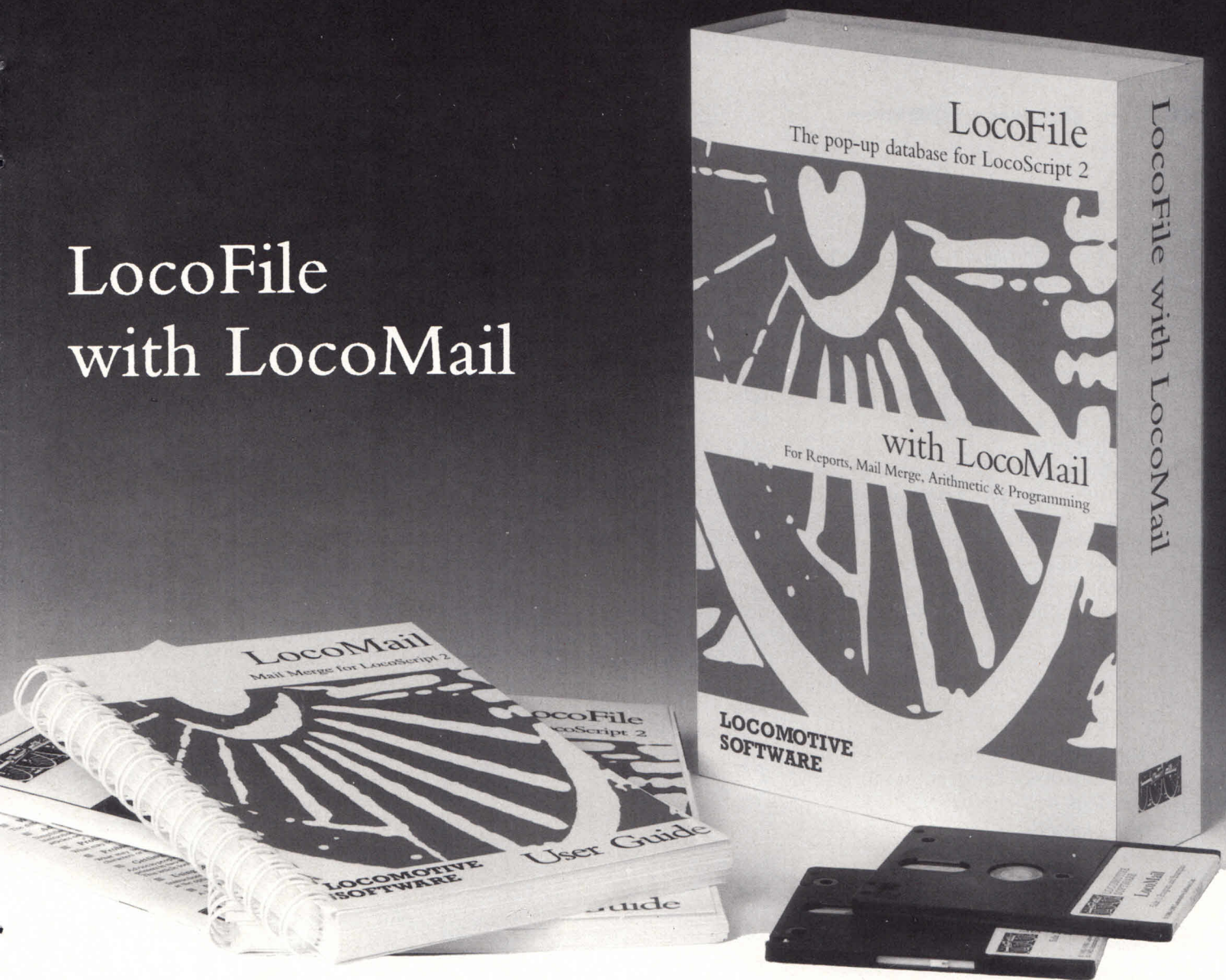
LocoFile is a pop-up database that organises and maintains everything from names and addresses to books and sales orders. From data stored and sorted on your LocoFile cards, LocoMail lets you create reports, letters and labels.

Together they make a powerful combination to use with LocoScript 2.

Splitting datafiles

▶ ▶ ▶ *Splitting datafiles can be a risky business, but with the right selections, Locofile users can split files with ease.*

A common need amongst LocoFile users is to split up one datafile into many different datafiles. You might, for example, want to split a datafile such as a subscription list into resubscribers and non-resubscribers. Or you might simply want to split up a large datafile into two smaller ones.

This article shows you a simple technique to split a datafile and also looks at how to make more sophisticated selections.

The basic principle behind combining datafiles can be used to split datafiles. It's a matter of extracting records from a LocoFile datafile, saving them as a LocoMail datafile and inserting them into a new datafile.

ADAPTING THE PRINCIPLE

The difference between splitting datafiles and combining datafiles is that combining datafiles is a matter of extracting **all** the records from one datafile and inserting them into another datafile. When splitting a datafile, only a selection of the records are extracted into a LocoMail datafile and then the operation is repeated one or more times for different groups of records.

For example, you might want to divide up a subscription list into a number of datafiles according to the last subscription year recorded for the customer. In other words, separate those who last subscribed for 1988 from those who did so for 1989 and again from those subscribing for 1990.

This can be done by picking out a group of records for one subscription year, saving them as a LocoMail datafile and then inserting the LocoMail datafile into a suitable empty LocoFile datafile. The operation is repeated to pull out all the records for the next subscription year and put them into a separate LocoFile datafile and so on.

The LocoMail application needed to do this is very like the one used to combine datafiles. What's different about this application is that we add instructions to extract a selection of records.

Our example is a name and address datafile with details of subscriptions to a magazine.

```
┌─Record:1─────────────────────┐
│█                             │
│   Name ..................... │
│                              │
│   Address .................. │
│           .................. │
│           .................. │
│           .................. │
│           .................. │
│           .................. │
│   Year .... │
│                              │
└──────────────────────────────┘
```
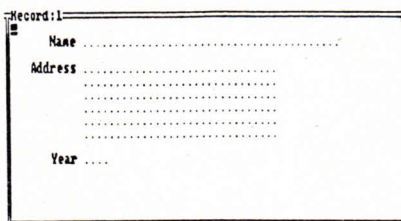
The steps to take are as follows:
1. Arrange that the records are sorted in such a way as to extract them easily.
2. Create the LocoMail master document with suitable instructions.
3. Merge it with the LocoFile datafile and save the result to disk as a number of separate LocoMail datafiles.

4. Insert each of these LocoMail datafiles into a new LocoFile datafile.

What makes this scheme a bit different to the one used to combine datafiles is that you go through different parts of the datafile in separate passes - in fact, as many passes as there are different subscription years in the datafiles. For example, if there are records where the last subscription year is 1988 and some where the year is 1989 and others where the customers have already resubscribed for 1990, the master document will produce three separate datafiles.

This doesn't mean that you need many LocoMail master documents or even that you need to do lots of separate merge operations. It can be done by using one master document and allowing LocoMail to continue through the datafile as necessary to pick out all the groups of records.

We'll see how this works later on, but first we'll look at how to organise the LocoFile datafile.

GROUPING RECORDS TOGETHER

The key to selecting records is LocoFile's system of indexes.

For example, all we need for our subscription datafile is a numeric index on the item year. This automatically sorts the records in year order. So the '1988' records are grouped together, followed by the '1989'

records which in turn come before the '1990' records. Selecting the 'year' index in the LocoMail master document makes the job of extracting the records in the required groups a simple one.

For the purposes of this example, we'll assume that the datafile just contains last year's subscribers (the 1989 records) and the current subscribers (the 1990 records).

We'll start by going through the steps to extract the records with different subscription years into separate datafiles. After that we'll look at how to make more sophisticated selections. The first thing to do is arrange that LocoMail picks out the records in year order. This is done by selecting the 'year' index with the command $="year".

The next thing to consider is the program unit needed to fetch the records and insert them into the new LocoMail datafile. The basic program unit and the loop we'll use to repeat this program unit look like this:

```
fetch_record="↵
name:sep:address:sep:year:unit:$+↵
"↵
%fetch_record@control↵
```

EXTRACTING THE 1989 RECORDS
When we use the master document to extract the 1989 records, we want to arrange that it stops fetching further records once it has picked out the last 1989 record.

We can stop the program unit which fetches the records by testing each record and quitting the program unit when the value in year is no longer 1989.

To carry out this test, we store 1989 as the item current_year and then compare this value with year in each record. If the values are the same, you want to carry on fetching the records.

When the value changes from 1989 to 1990 you want to stop repeating the program unit. This can be done by adding a conditional instruction to the program

```
#year#current_year:<:control=0:...>
```

(If you're not familiar with techniques for quitting program units, you can find further information in Chapter 9 of the LocoMail User Guide).

When you merge the LocoMail master document with the datafile, LocoMail will work through the datafile, fetching records in the order they appear in the 'year' index. Once it's reached the first record with a different year, it will stop and display the Exit menu. You simply select the 'Save result' option to save the records as a LocoMail datafile.

```
Edit result
Print result
▶ Save result
Save and Print result
Discard result
Abandon LocoMail
```
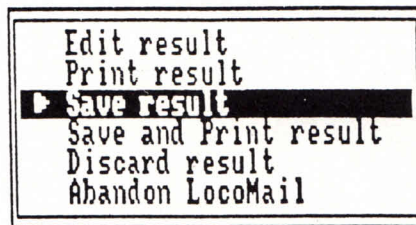
PICKING THE 1990 RECORDS
A Merge only stops once LocoFile has stepped on from the last record in the current index.

The Year index picks out the '1989' records before the '1990' records, so once you've fetched the '1989' records, LocoFile will be positioned on the first '1990' records. Assuming that there are a number of '1990' records in the

datafile, the Merge won't have finished yet so LocoMail returns to the master document and starts to work through the instructions again.

It's this action which allows you to create two (or more) datafiles from one Merge.

LocoMail's normal action when returning to the master document is to pick out the next record. As it fetched the first 1990 record on the last pass, this would pick out the second 1990 record on the next pass.

But we want to fetch the first 1990 record. So we stop LocoMail from moving on to the next record by adding a $- command.

Once the necessary instructions such as item-names for the separators have been added, the complete master document looks like this:

```
(+Mail)control=1↵
sep="§":unit="(UniT)
"↵
$="year"↵
current_year=year↵
fetch_record="↵
name:sep:address:sep:year:unit:$+↵
#year#current_year.↵
<:control=0:$-:>↵
"↵
%fetch_record@control↵
(-Mail)
```

Splitting the datafile

One LocoFile datafile — Original subscription list

Extract records by year into separate LocoMail datafiles

Two LocoMail datafiles — 1989 subscribers | 1990 subscribers

Insert LocoMail datafiles into new LocoFile datafiles

Two LocoFile datafiles — 1989 subscription list | 1990 subscription list
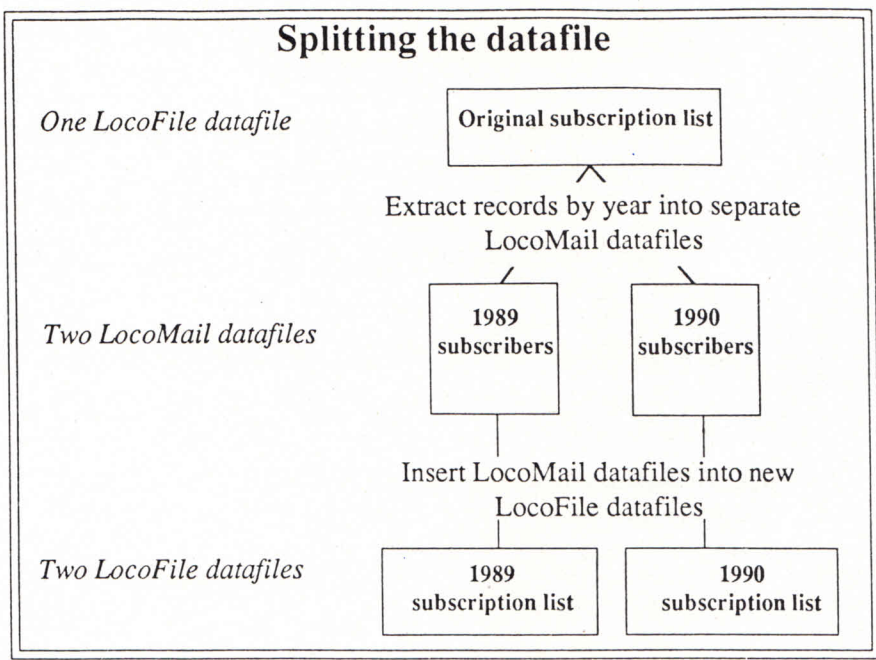
CREATING THE NEW DATAFILES

After you've saved the extracted records as separate LocoMail datafiles, there are two things to do.

The first is to create a record pattern which matches the Lo-coFile datafile you're inserting into. This can be slotted in at the top of the LocoMail master document.

The second task is to insert each LocoMail datafile into an empty LocoFile datafile with matching item names. This is a straightforward matter of using the 'Insert data' option on the f1 Actions menu and then picking out the LocoMail datafile on the disk Manager screen.

Chapter 8 of the LocoFile User Guide gives the precise keystroking.

Remember to set up an empty datafile first and use a **copy** to insert the data. This means you don't have to set up the datafile again for the other inserts.

MORE SPECIFIC SELECTIONS

So far we've seen how to pick groups of records and save them as a datafile using a simple scheme for selecting the records. But what if you just want to extract one specific group of records, perhaps just those who have resubscribed for 1990?

In fact, the master document we've described here can easily be adapted to do this.

The first change is to select the 1990 records by using the $$ command. Its function is to tell LocoMail to jump directly to a particular record. Adding the command $$"1990" tells LocoMail to jump directly to the first 1990 record, bypassing the 1989 records.

The other change we need to make concerns the way LocoMail jumps out of the program unit. When just picking out 1990 records, we don't want to move onto the 1991 records (if there are any) so we need a different technique to end the merge.

To ensure that the program unit finishes at the last 1990 record, we've added the further instruction:

```
#year#"1990":<:$="":$$9999999:>⏎
```

This tells LocoMail to select the record number index (which has a blank name) and move to a very high record number (the end of the datafile in effect) as soon as the value in year is no longer 1990.

The technique of selecting the record number index and jumping to the end of the datafile means that the program extracts one group of records and then finishes.

The instruction to perform the program units also changes.

In our first example, we used %fetch_record@control to repeat the program unit. In the current instance, we just need the master document to repeat the program unit over and over again - if necessary, until it runs out of records.

Instead of using the special control item as the test of where to stop the program unit, we use an item in the datafile which will only become null when all the records have been exhausted. So we've replaced control by the LocoFile item name.

This is the changed master document:

```
(+Mail)null="":this_year="1990"⏎
sep="§":unit="(UniT)
"⏎
$="year":$$this_year⏎
fetch_record="⏎
name:sep:address:sep:year:unit:$+⏎
#year#this_year:<:$=null:$$9999999:>⏎
"⏎
%fetch_record@name⏎
(-Mail)
```

In addition to combining and splitting datafiles, you may need to change a datafile so that it can be used for a particular purpose. For example, to use the program for n-across labels in the LocoMail User Guide you need a datafile where the address is made up of several items such as street, town, county etc.

If your datafile has the address as a single item, what you need is a LocoMail program to convert the structure into the one required by your application. ∎

ENTERTAINMENT

Reviewed this month:

- **Double Dragon II**
- **Scapeghost**
- **Australian Rules Football**
- **Maze Mania**
- **Buffalo Bills' Rodeo Games**
- **Dragon Spirit**
- **After the War**

- **Dizzy III**
- **Gunboat**
- **Low Blow**
- **Ski or Die!**
- **Neuromancer**
- **Day of The Pharaoh**

DOUBLE DRAGON II
Billy and Jimmy seek their revenge in a great sequel!

CPC 6128 Disk - $42.95
PC Dual - $59.95

The fight is on! The Shadow Boss and his gang "The Black Warriors" have been brought back from the dead by ancient oriental magic, and have murdered Marian. Billy and Jimmy Lee are

• Things get tough in Yellowstone.

sworn to have their revenge. Double Dragon II is a vast improvement over the original. The small, jerky characters of it's predecessor have been replaced by BIG PUNCH-THROWING DUDES, and the speed and playability shares no comparison. THIS GAME IS MEAN!

As with the original, Billy can slug it out alone or fight side-to-side with Jimmy (second player)

• Send that grunt plummeting.

as they make tracks towards the secret fortress.

The action starts in the city's heliport, with a variety of gang members on the offensive. Normal thugs can be disposed of with a few well-aimed punches, while the tougher guys need more calculated moves. Large thugs require repeated punch-power before they drop, which isn't easy

as some wear body armour! It also pays to look out for chain-wielding punkette's who can also deliver a pretty nasty blow. Weapons such as chains, shovels, knives and grenades can be collected off attackers, as well as any other objects you can lift off the ground.

These thugs continue on through a warehouse, countryside, cliff-tops and finally the fortress (tastefully decorated), where they are joined by Ninja warriors and the Boss himself (clad in designer body-armour and wielding a machine gun). Kill them and will have to defeat your own tormented souls. Complete this and Marian will be ressurected by your Shinto powers

• Not far to go now.

(after all, Billy and Jimmy are the twin seventh-sons of a seventh-son).

The graphics throughout are great. The CPC's are colourful and surprisingly detailed, while the VGA graphics of the PC speak for themselves. Both games are also really playable, specially the CPC. The enemy characters don't fall victim to timed blows as most computerised "punching bags" do, which is a welcome surprise (*you really have to fight these guys*). The sound is also good, but nothing spectacular.

Like it's coin-op counterpart, Double Dragon II is the definitive beat-em-up. Well worth the wait.

SCAPEGHOST
Level 9's final offering to adventure freaks

CPC 6128, PCW Disk - $49.95
PC Dual - $49.95

LEVEL 9 (L9) has been responsible for some great text adventures over the last few years. Gnome Ranger, Ingrid's Back, Lancelot, and Time and Magik are the previous offerings. Well, that's all about to change, as L9 have announced that they are going to quit the text adventure arena, and have now released their last product. It's an entry into the spirit world, with you enlisting the aid of ghosts in order to catch a gang of crooks.

Upon opening Scapeghost, the first thing that you will notice is the lack of a novella, extensive instructions or long story line. All that is contained in this package is a disk (or cassette) and a poster with the instructions printed on the back. This is a bit of a change from the usual L9 offering, but not a great failing I think.

The plot for Scapeghost is original and clever. You play the ghost of a detective, who has been set up to be a scapeghost, um scapegoat, by a gang of drug pushers. They have murdered you and kidnapped your partner, and left you facing the blame. You have three nights to gain the use of your spiritual powers, foil the gang's attempted escape, rescue your partner and get the police to arrest the gang. Each night is a separate part that can be played in any order, but it's best to follow the original plot.

Night one sees you waking up at your funeral, From listening to the mourners, you learn what happened and the purpose of your quest. You also discover that there is a bent copper on the drug squad, and that the pickup is that night. Armed with this, you must find a way to stop the pickup, which isn't easy as you can't even pick up a pebble. Don't worry. Your ghostly neighbour shows up and volun-

teers to show you around, and here you meet the other inhabitants of the graveyard. By helping them overcome their problems, and gradually increasing your powers, you complete the first section by disrupting the efforts of the gang to remove their drugs from the church grounds.

Night two sees you locating the gang's old hideout. Once there, you must discover the evidence that will lead you, and the police, to the new hideout, so that your partner can be rescued and the gang arrested. The evidence is all here, it's just a matter of finding it. If you've got the time, find the dead body hidden in the attic. With the evidence spread out for the police to find, you must work out how to make them come to the house. Having done that, it's onto the final part of your quest.

Night three has you awaken by a priest about to exorcise you. Get out quick and follow the gang boss back to the hideout, and disrupt the gang's plans until the police show up. If the gang sees the police coming, they'll destroy the evidence, so it's up to you to keep them occupied. But your partner is being held hostage, so be careful out there. Your spiritual powers are at their peak, so get down and spook them.

Scapeghost has all the standard L9 elements. Good atmospheric graphics on the disk version, with the same powerful parser that supports RAMSAVE, UNDO and RESTORE, amongst the other commands.

All in All, it's a good addition to the impressive games that L9 have produced. It's sad about L9's decision to quit the text adventure scene, but this is a great adventure to go out on.

Well done L9, it's sad to see you go, but at least it's on a high note.

AUSTRALIAN RULES FOOTBALL
Real Australian footy from Again Again

CPC Tape - $29.95

1990 saw the birth on a new phenomenon on the Australian Football scene. The old, much loved VFL competition has been officially replaced by the new AFL. To coincide (un-intentionally I'm sure) with the launch of the AFL season comes the launch of the home computer version.

The first ever computer version of Australian Rules Football comes from the land that currently has a plethora of soccer simulations on the market. The big question that must be asked is, could a game that was programmed in a country that has had limited exposure to this code of football, produce a computer game that faithfully captures the true spirit of Australian Rules?

The game comes in two versions. There's the beginners level, or Outback Football League, and the expert level, called the Victorian Football League. The cassette has one version on each side of the cassette, and there is no way to move between versions once you start.

Your team, the BAGABAGA F.C (called the Koalas or Hawks depending on the version) commences the season ninth on the ladder. There are 13 other teams in the league and your aim is to try to become league leaders, which automatically makes you the premiers. Your team climbs one place in the ladder for a win, or drops a place for a loss, so to win the flag, just keep winning. Before the first bounce, you can
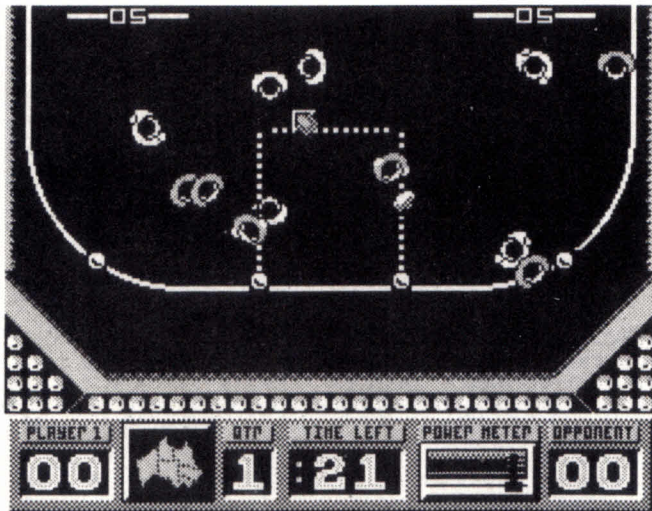
• Real Australians wouldn't give a XXXX for any other computer game.

choose the level of sound effects that you require, ranging from silence to full sound. At the end of a game you get the choice of continuing with the current league or starting again.

One feature that would have been of benefit here is a save game option. As it takes at least nine games to finish a season, it only seems fair to be given a break and not have to continue through.

Both versions play the same, with the expert version being harder. You view the game from above, and the field is broken into three screen areas; from the goal square to the 50 metre line, between the two 50 metre lines and from the second 50 metre line to the other goal.

The player that you control is indicated by an arrow, and if your player is in the wrong third of the ground, an arrow shows you where the ball is. The program makes some use of colour, with your team being dressed in white while the opposition colour changes with each game. The ball is passed by kicking, and a power meter at the bottom of the screen shows you when your kick will cover the greatest distance. If the ball goes to another member of your team, it is ruled a mark. The game pauses momentarily, all the opposition players retreat towards their goal and you can move a player down field to receive the ball. Come the call to play on and the ball is kicked up field, hopefully to one of your players.

As you would expect, you get six points for a goal and one for a behind, and your score is shown as a total at the bottom of the screen.

Australian Rules Football plays fine, but there are a number of aspects of the program which are not correct. When the ball goes out of bounds, the game restarts from the centre. Scoring a behind also results in a centre bounce, rather than a kick out by the full back.

Both of these features could have been included in the program, as they have similar occurrences in soccer and all soccer simulations include throw-ins and goal kicks. Another problem with the interpretation of the game is that the ball can rebound back into play on striking the goal post, rather than registering a behind. The inclusion of this would have made it a much more realistic adaptation of the game.

The names of the teams don't change between levels, and I think it's a great shame that the programmers haven't put the proper VFL teams in the expert level of the game.

Australian Rules Football is not the best sports simulation produced, but it is certainly not the worst I have seen. There are areas that could have been included, and these would have increased the realism level.

The levels are appropriately set, with the beginners level being quite easy. Graphics are alright, but the colour of the ball (white) means that it can at times get lost.

There is a novel in game score update service that, unfortunately, can't be bypassed. Not a bad game, so give it a go.

games reviews

SHORT 'n' SWEET
A quick look at some new CPC releases

AFTER THE WAR
CPC: TAPE $29.95

The year 2019. Manhattan, after a nuclear war. From the ashes rises a hero, Jonathan Rogers, better known as "Jungle Rogers", master of the asphalt jungle. His only hope of survival is to reach the XV-238 launching platform, and escape to the outer colonies.

To get there, you will have to fight your way through the dangerous streets of Manhattan plagued with Radio Gladiators, Manhattan Punkies, R.A.D Bulls, PPS Torretas and Kangaroo Fighters. The horizontally scrolling graphics of the Manhattan skyline are really good, right down to the glowing red sky. The sprites are large and fast moving, but the action soon becomes repedetive. It's also too difficult, you can beat your way through a whole level of punks, only to be sent back to the beginning when you lose a life. A great game to look at, but for hardened beat-em-up fans only.
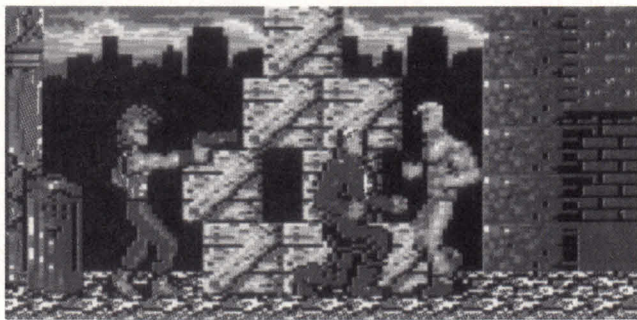
DIZZY III (FANTASY WORLD)
CPC: TAPE $9.95

Join in the adventures of Dizzy the egg and his family, "The Yolkfolk" in their latest adventure. Daisy has been eggnapped and imprisoned in Wizard Weird's tallest tower, while Dizzy has also been caught in an attempt to rescue her. Dizzy must escape and find a way to rescue Daisy by exploring the strange and unpredictable land of Fantasy World.

Dizzy III is a classic arcade/adventure game with plenty of objects to be collected and many characters to be confronted. The platform screens are a joy to look at, and Dizzy's running and jumping antics are as smooth as glass. Although the graphics and sound in Dizzy III are spot on, it's the sheer playability of these little games that put them out in front, putting most full price releases to shame. With a load of puzzles to solve, and over fifty screens to explore, you'd be mad not to buy this.
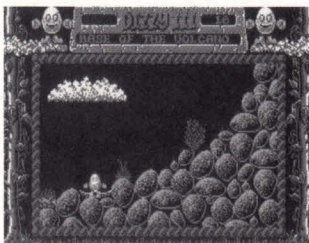
MAZE MANIA
CPC : DISK $29.95 - TAPE $24.95

In this strange game you must guide "Flippo" (Pacman on legs) through the mazes of the upper plane, avoiding the deadly inhabitants that roam throughout. The floor consists of tiles which all must be flipped over by walking across them, thus changing their colour. Once all the tiles have been flipped, you then progress to the next level. While travelling the maze, you will come across some tiles that don't turn over to the required colour the first time you walk over them, so they will have to be walked over twice. The game is fast and playable, the sound is ok, and the graphics are nicely defined, if not a bit bland. A fun game, but I doubt that it will have any lasting appeal.
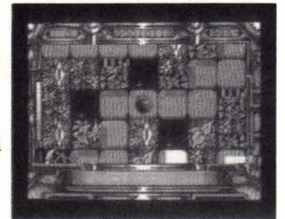
BUFFALO BILL'S RODEO GAMES
CPC: DISK $29.95 PC: DUAL $59.95

Buffalo Bill's lets you compete in six outrageous wild-west rodeo games.
Knife Throwing - Throw knives at your assistant as she spins on a revolving target, but be careful!
Trick Shooting - Shoot bad-guy targets as they pop up for big points. After that, your assistant throws bottles that must be shot before they reach the ground.
Calf Roping - Charge after your calf, lasso it, and bring it to a halt in the quickest possible time.
Bronco Riding - Ride a mean bucking bronco, and stay seated as long as you can.
Stagecoach Rescue - An Indian has captured a coach! Persue it on your horse, climb aboard, and fight with the Indian until you seize control.

The graphics, sound and playability on all the games are great. Even if the wild west isn't your thing, you'll have plenty of fun here!

DRAGON SPIRIT
CPC: DISK $39.95 - TAPE $29.95

Dragon Spirit is a conversion of the obscure coin-op shoot-em-up. Fly your dragon over the vertically scrolling landscape, battling strange and ancient beasts as you go. Flying monsters and winged serpents guard the sky, while huge dinosaurs spit fire from below. The usual shoot-em-up fare applies, with extra weapon pods and a guardian monster at the end of each level. The graphics are pretty mediocre, and are cramped into a small play area. The CPC isn't the best at scrolling shoot-em-up's, and you can certainly buy a lot better than this.

GUNBOAT
River combat simulation from Accolade

Throughout its 200 year history, the U.S. Navy has focused on big boats - enormous ocean going vessels with tremendous range and firepower; free-floating cities capable of supporting vast military operations by land, sea and air. Because of this emphasis on dominating the world's oceans, the navy arrived in Vietnam with virtually no experience of riverine warfare.

To save time and money, the Navy bypassed the usual development process, and went shopping for an existing commercial boat that might do the job. At United Boatbuilders of Bellingham, WA, they found what they were looking for: a slick little jet-driven cutter with a big GM-built engine, and no propellers to get tangled up in sandbars and seaweed. A military contract was issued in 1965, and by March 1966 the first 120 PBR Mark I boats arrived in Vietnam.

Ten years later, the PBR Mark III was developed. Powered by two awesome 450 horsepower engines, these craft can reach speeds of up to 50 knots and turn 180 degrees in a single boat length, while crammed with enough firepower to level an entire settlement. Your mission is to pilot the Mk III through the narrow waterways of the world's trouble-spots.

For your first several missions, you will be assigned to Vietnam - the birthplace of modern riverine warfare. Once you're promoted to Second Lieutenant, you have the opportunity to battle vicious drug lords and cocaine smugglers in Colombia. Only the elite PBR captains - those who've reached the rank of Lieutenant Commander or above - are entrusted with the politically sensitive missions that keep clear the Panama Canal Zone.

Your mission will usually start and finish at an offshore LST (Landing Ship Tank) vessel where the boat is stored and maintained.

• What lies beyond that bridge?

Your boat is manned with a crew of four: The Captain (serves as pilot), The Bow Gunner (operates twin M2HB .50 caliber guns at front of boat), The Engineman/Midship Gunner (handles grenade launcher or mid-mounted machine gun) and The Stern Gunner (who controls the rear-mounted gun).

From the options screen, you can practise any of these roles, and when on a mission - you can swap between all four positions (whilst the computer takes care of the other three crew members).

The waterways of Vietnam look easy enough to begin with, but as they begin to narrow and branch out, the fighting can get pretty intense. At any bend in the river, VC troops can

• VC troops attacking!

ambush you in a hail of gunfire and mortar blasts. They also have a range of Soviet weaponry available like tanks, missile launchers and helicopters. The Colombian drug lords are even more imaginative in the weaponry they use.

As your gunboat is a pretty awesome fighting machine, most enemies can be dealt with, but some large soviet tanks are best left alone (as you will find out). Your mission will end if you finally reach your objective, or get blown to bits.

The VGA graphics are a real treat, with some neat introductory screens showing the "brown water Navy" in action. The filled polygon graphics of the river-banks look solid, and move quickly. The enemy are also quite detailed, and there's also plenty of scenery dotting the landscape (even though the screen-shots look a bit barren).

Overall, Gunboat is another excellent combat simulation from Accolade that provides a lot more action and staying-power than your average, yawn-inducing flight sim.

LOW BLOW
Brutal but fun boxing from Electronic Arts

PC 5.25" or 3.5" - $49.95

Welcome to the Low Blow club. A group of boxers known for their punches aimed south of the Everlast border.

While these boxers have never been mistaken for Sunday school teachers or other paragons of gentility, it seems that certain recent activities in the squared circle have been indistinguishable from your average street brawl. Apart from the infamous "low blows", many fighters are now adding special tricks (known as "signature moves" in the trade) to gain the winning edge. The craftier moves are sometimes hard for the referee to detect, while some aren't. Nobody is very surprised that suddenly tart is looking smart.

As you've probably guessed, Low Blow is boxing with a twist, and a painful one at that. Apart from yourself, there are seven other boxers who must be faced, they are: Jack "Knuckles" Sullivan, Tom "The Bullet" Burns, Magnificent Mike, Steamroller Moe, Randy "The Poet" Dali, Al "The Rock" Wojolinski and the

• "Steam Roller" Moe is now a tenor.

champion, Tyke Bison (who refuses to answer questions about marriage or commercial endorsements). Your own player can also become a number of equally weird characters.

Before starting each fight, you have the option of training with your sparring partner to develop your technique for each opponent. Good clean jabs and uppercut's make a good fight, but developing the right punch combination will be a key to your success.

• Coward Headswell gives us the lowdown.

The fights are displayed in the usual time/round fashion, and control is simple with either the joystick or cursor keys being used. The graphics (EGA) and animation used throughout are quite impressive, and a bustling crowd jeers and cheers the large boxers as they slug it out.

An excellent boxing game that will keep gamesters happy for ages.

SKI OR DIE!
Radical snow-sports at Rodney's

PC 5.25" or 3.5" - $49.95

Remember Skate or Die, the radical skateboard game? Well, this time Rodney has shut his California skate-shop and set himself up in the snow for some totally tubular winter sports. All would-be dudes have the choice of competing in five events.

SNOWBALL BLAST - Fire snowballs at a bevy of belligerent brats as they make their way across the screen, while picking up bonus points. Take too many hits and you'll end up looking like a snowman. A bit like Operation Wolf with snowballs!

DOWNHILL BLITZ - Ski down the awesome alpine slopes to earn mondo points. You can blaze your own trails but watch out for trees and cliff-edges!

ACRO AERIALS - Scale the ozone on a radical ski-jump. Perform spectacular mid-air moves and gyrate your way to glory. Amazing stunts will earn you high points from the judges.

• Select your event in the village square.

INNERTUBE THRASH - Ride a truck innertube down the treacherous mountain slopes at full speed. Jump cliffs and bounce off anything that get's in your way!

SNOWBOARD HALF-PIPE - Perform mondo moves while snowboarding down a lightning-fast half-pipe. Running over punk-penguins earns you big points!

COMPETE ALL - Sign Rodney's register for some serious alpine activity!

All the games are of Electronic Arts usual high standard, with neat and colourful graphics

• Screamin' the slopes in the Downhill Blitz.

(EGA) and some really wicked sound (no beeps here pal).

The animation is also very impressive. The screen scrolls quickly and smoothly, while your "dude" moves nicely, right down to the sway of his pink mohawk hair-do.

Overall, Ski or Die is a great game. It's full of neat touches, and is as playable as anything I have seen on a PC.

NEUROMANCER
The Cyberpunk cult reaches the PC

PC 5.25" - $49.95

"The sky above the port was the colour of television, tuned to a dead channel."

So begins the remarkable first novel by William Gibson, not only creating a distinctive and depressing picture of the mid-21st century, but spawning a whole sub-genre in science fiction. This is the "Cyberpunk" world, a gritty high-tech mix of multinational corporations and free-lance computer crims.

NEUROMANCER, the game, is a role-playing graphic adventure. It faithfully captures the unique feel of the Gibson universe, from the characters through the settings, to the mysterious area known as cyberspace.

In the representation of the worldwide computer network, future hackers interface mind-to-net. These cybernetic cowboys use hardware and softwarez, not only to invade corporate databases in cyberspace, but also for garnering information and profit in the "real world", Chiba City, a techno-suburb of Tokyo, 2058.

You begin your quest knowing that some of your friends have disappeared in cyberspace. Yes, it's a dangerous place, all right.

ICE - Intrusion Countermeasure Electronics - is the security barrier around databases. Not only does it protect the valuable information, it can fight back. And, it can kill.

If you break the ICE, you'll probably meet the ultimate threat, the AI. Artificial Intelligences have personalities, often not very nice - and mental skills superior to those who created them.

They do have weaknesses. Finding those flaws enables the skillful player to win the game of NEUROMANCER.

Before you can risk cyberspace, you need equipment and knowledge. This is gained by asking questions of other characters, solving little puzzles, and using the facilities that exist in Chiba City.

First of all, there's PAX, the public access system. This combines ATM, an electronic newspaper, and a bulletin board. Shades of Captain Midnight! You use a codewheel to determine the PAX access number. Every time.

You don't need a deck to access PAX, but a cyberpunk won't get far without one. That's the first problem, you see - your character awakes with a hangover, not quite remembering where he pawned his deck. Various clues help your progress in the game; you'll need to note down a lot of information - some of it is even useful!

Asking the wrong question or giving the wrong answer can get you into real strife. You could even find yourself quickly dead. But that's not a problem in the cyberpunk world. You come back to life easier than Lazarus; all it takes is money.

Money makes the world go round, even in Chiba City. If you haven't got enough, you can always sell a body part or two. You'll survive without them, as you get free plastic replacements. They're not as reliable...

If you can't get all the answers in Chiba City, try a trip to the space colonies: Freeside and Zion Cluster. You might need more skills than are naturally yours to get along. Fortunately, you have the option of getting or buying skill chips. Just plug them in to enhance your abilities.

• Conversing with the barman (C64 screen-shot, sorry).

There's a Cryptography chip for example, which enables you to decode secret passwords. You'll need those to access certain databases.

Some of the bases have more than one level of access. Better access sometimes allows you to download better software, so you can proceed further. You start out with a broken deck and no comms softwarez.

To get to cyberspace, you'll need the highest available level. That is number... no, no hints. You'll just have to figure it out for yourself!

My son Christopher completed the game inside a week, in several extended playing sessions. A normal person will find solving all the problems will span enough time to make the purchase value for money.

On the plus side, this is one of the best adaptations I've seen. It's faithful to the source material to a high degree.

Adversely, however, there are a few bugs. The "easy to use icon and window interface" can sometimes be frustrating, and I can cite at least one instance of going through a doorway to the DOS prompt level.

In closing, I'd say that the Egos at Interplay Productions have made a fine computer game. But I think it's faintly reprehensible that their big, bold credits page makes no mention of William Gibson.

DAY OF THE PHARAOH
Walk like an Egyptian, if you can.

PC 5.25" - $49.95

Approximately 4000 years ago a wonderful civilisation, ruled by the mighty Pharaohs, stretched itself along the banks of the great river Nile. But one quiet evening during the Nile flood season, the prevailing Egyptian Pharaoh passed away, encircled by his relatives, after a long reign of peace and prosperity. Osiris, god of the dead, led him to his final resting place in the great pyramid.

Alas, a great rivalry was born between the gods, showing itself in the form of hate, jealousy and discord. Seth, King of desert and powerful god of evil decided that the Egyptian throne should be in the hands of the powerful men of Egypt. Influential and dominant Egyptians were ordered by Seth to kill all the heirs of the last Pharaoh. In return they themselves would be given the throne.

But Amon-Re, the sun god, watched over the Egyptians and saved one young heir from death. He was raised as a normal man and lived a happy life. One night Osiris (enemy of Seth) appeared before him. Providing him with silver and a merchant ship, he was persuaded to ascend socially and prove to the god's that he was worthy of the Pharaoh's throne.

At the beginning of the game, you must choose a name for your character, and the name of your village. Then you will be given a store where you can keep any goods you accumulate in the future. The main screen is divided into four parts, consisting of a series of icons which determine the action your character will take.
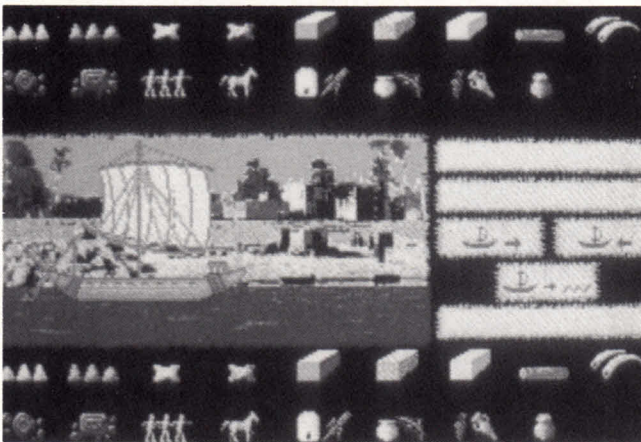
• Trading at a nearby port.

In the economic menu you can:
1. Build a ship, and set it's course and trading locations.
2. Go to the camel races where you can bet your goods.
3. Construct a chariot of war for battle.
4. Confer with business consultants whom you can employ.

5. Inspect your stores.

In the social menu you can:
1. Construct monuments and temples for the protective god's.
2. Make sacrifices to the gods.
3. Select a harem where you can gain power by
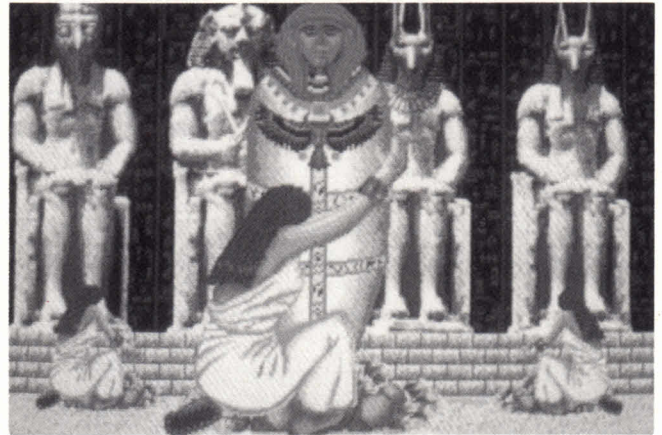
• The god's are unhappy with your progress.

joining other families.
4. Defend your territories from attackers.

Most of these options will be of no use until you gain significant power, as peasant's are generally ignored. To gain social ranks, you must expand your income by trading with neighbouring ports. Many items like gold, jewels, wine and slaves can be traded successfully.

With a high income, you can buy more properties and rely less and less on other people, until you deal only with officials of the royal court. Once your power has reached it's peak, you will be summoned before the gods of Egypt for a final assessment. If you prove a worthy heir, you will gain the throne and rule all Egypt.

Day of the Pharaoh has a very similar feel to Cinemaware's "Defender of The Crown" (reviewed Jun 90), although Pharaoh seems to concentrate more on the menu selection systems rather than arcade sequences.

The graphics are great (EGA), with plenty of piccies to be seen, including some digitised screens. The sound is also good, with some atmospheric Egyptian samples thrown in.

Overall, Day of the Pharaoh is big. Technically, it's a better game than Defender of The Crown, but not as much fun to play. But if you're bored with arcade games and simulations, you should get a kick out of this.

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Hopping Mad   Ikari Warriors

* Please include post and packaging

Three-into-one System 3

► ► ►   *Sales Invoicing, Stock Control and Cashflow Controlling all rolled into one neat package for PCW and PC owners.*

Pactronics have a knack of sourcing useful and sensibly priced software. System 3 from the UK company Digita International is no exception. It's essentially a suite of tools to provide instant management accounts, invoices, statements and so on, at the same time running an effective stock control system. The package is presented in three modules on one 5.25" disk, any or all of the modules can be used independently or together. Naturally, using the modules together makes the package more powerful as it provides integration between them. For example, raising an invoice for a customer (Invoice module) will automatically update the stock on hand (Stock Control module) and generate an entry to the Sales Ledger (Cashflow Controller module.)

INVOICING/STOCK CONTROL

The first thing to create (after a back-up has been made of the master disc) is a file to hold customer and stock details. This is done automatically when selecting the 'Create new file' option and will write a file of about 300k to a newly formatted disk. If you have a dual drive system, the path can be altered to drive B (or presumably drive C if you have a hard drive.) Any file created in this module has an extension of .ETC and will be the only files offered for selection later on when using the 'Open file' option. In normal circumstances though, you will only need one file from which to invoice.

Customer file creation allows for an account number, name and address (and delivery address if different), telephone and fax number, credit limit, current balance and a comment line. Mistakes are corrected by moving the cursor around and re-typing the field entry. There's also a help key from which you can browse the file, delete or print records as you go along. Indeed, when the file is set up these editing facilities are still available.

The stock records are set up in much the same way with a stock code, description, quantity, unit cost, selling price, minimum stock level, re-order quantity and supplier. A 'Stock in/out' option is

available to adjust stock quantities and 'Zero stock levels' to reset all stock quantities to zero.

Your own company information also has to be logged and saved, and these are the details to appear on invoices and statements. They include your company name and address, telephone and fax number, sales tax number and a space for two messages; one to appear on invoices and the other on statements. They could be used a credit control reminders or seasonal greetings.

You can also set up the invoice number you wish to start from (and/or credit note), a default quantity (set to '1' if you sell a lot of singles) and tax rate if applicable.

Before invoicing can commence, a set of preferences can be entered. If set on they will provide prompts on any or all of:

- *when a customer has exceeded his/her credit limit*
- *the item is out of stock*
- *item has fallen below minimum level*
- *item is being sold at less than cost*

Now you are ready to raise an invoice. The customer is selected by entering the account number followed by an optional order number. The stock item is entered by using the stock code. This automatically shows the description, selling price and default quantity. You have the option at this point to enter a discount percentage and a tax rate if applicable. The extension or line calculation is carried out automatically and, if you have chosen to use full integration, the stock file will be updated.

On completion of the invoice, you can enter an additional comment line or make amendments as necessary then print it.

Your company name automatically centres on the page and appears in expanded bold type. The layout is simple, easy to understand and is quite acceptable as a business invoice, removing the need for specialised pre-printed stationery.

Credit Notes are handled in much the same way

except that the stock is not effected (put back). This may be seen as a useful feature as the reason for issuing a credit is generally due to the return of a faulty item, and as such should not be returned to stock. If a stock adjustment is necessary, then the 'Stock in/out' option would put it right.

Payments too can be entered in this module by merely selecting the correct option, and entering the

```
               SYSTEM  THREE  SUPPLIES

OFFICE 2. CENTRE PLAZA
WIDGETON                      INVOICE
VIC 3500
                              Number - 30

Telephone  : 03 456 9876
Fax Number : 03 555 8888
Tax Number : 246 135 468 357

Invoice To:          Deliver To:        Account No: VI01
VIKING SUPPLIES      146 HIGH STREET ROAD
641 HIGH STREET ROAD MOUNT WAVERLEY     Date: 22/10/89
MOUNT WAVERLEY       VIC 3149
VIC 3149                                Order No: 123/456


Code         Description      Price  Qty  Disc  Tax  Total Cost

B1002    BROOM HANDLE         12.00   3   5.00   0      34.20
C1002    CAULDRON 36"         75.00   1   5.00   0      71.25




COMMENT LINE GOES HERE                  Total Goods   105.45
PAYMENT DUE WITHIN 30 DAYS              Total Tax       0.00

                                        Total         105.45
```

• *Example invoice.*

account number and amount. Statements can be printed, either individually or over a range of account numbers. A Debtors summary can be produced showing all the customers with an outstanding balance plus a total figure for all debtors.

Finally, an end-of-month routine is provided. This would normally be run after all listings had been produced as it clears off all transactions and rolls over (carries forward) a single current balance figure into the next month statement.

CASHFLOW CONTROLLER

If you are using System 3 for the first time, a new Cashflow Controller file has to be created. Again, this is done automatically when selecting the 'Create new file' option and gives the file a .CFC extension. At this point you can stipulate at which month you wish your financial year to start.

If you operate a manual Cashbook and Profit & Loss account, you can set up General Ledger codes (called Nominal Account codes) for each heading and a flag to identify whether tax is paid or not. You can also set up Bank and Cash accounts.

The Bank accounts hold a code to identify the bank account, minimum limit/overdraft amount, maximum limit (to enable you to invest surplus amounts), an opening balance and a couple of comment lines. The minimum and maximum limits can be flagged for prompts if required. The format of the Cash accounts are the same. From a preferences option, up to three sales tax percentages can be entered.

If you've opted for full integration with the Invoicing/Stock Control module, the gross sales value and gross payments received will be automatically loaded from the appropriate files. If not, it is necessary to enter these figures manually.

Cash receipts/payments, Credit purchases/payments and Bank receipts/payments can be entered with full editing facilities. This takes care of Petty Cash and Bank account movements and records your purchases and payments.

Full reporting facilities are available and include a list reporting all the ledger codes you are currently using and an account summary showing the current balances of each.

A powerful Manual Transactions Report is used to analyse and summarise any of the transactions entered during the year either by single account or the entire file and over a particular period. It can also check on a category or even a string within a description. Then there's a Year-to-date Summary providing monthly totals for receipts, sales and purchases - the key areas of a business; an Income and Expenditure Summary showing the debits and credits for one or all accounts, effectively giving a cashflow analysis; and a Tax summary for any month.

SUMMARY

There are many more expensive packages around

SUMMARY FEATURES

Stock Control	Up to 999 stock records
	Price lists
	Stocktaking sheets
	Minimum stock reports
	Evaluation lists
	Re-order reports
	Screen enquiry
Invoicing	Integrates with stock control
	Stores names and addresses
	99 transactions per month per account
	Invoices/Credits/Statements
	No pre-printed stationery
Cashflow Control	Debit/Credit ledger system
	Sales (from Invoicing)
	Credit Purchases
	Cash Sales/Purchases
	Interactive Bank/Cash accounts
	General Ledger routines
	Account Balances
	Income/Expenditure reports
	Year to date summary
	Bank/Cash statements
	99 General ledger accounts
	2 Bank accounts
	2 Cash accounts

which will do much the same as System 3 and in many cases more. There are equally many small businesses which don't need the sophistication of the larger packages and are galled at having to pay big bucks.

The arrival of System 3 at $129 will certainly please them. It's user-friendly and menu-driven too which help the non-computer expert no end. It's available in 3" format for PCWs and 5.25" for PCs, but no doubt Pactronics will transfer it to 3.5" if you send them your original disk. As Digita themselves put it, System 3 is "serious software at a sensible price". Couldn't agree more!

System 3 is distributed by Pactronics (02) 748 4700, and available from most dealers nationwide or The Amstrad User on (03) 803 9661.
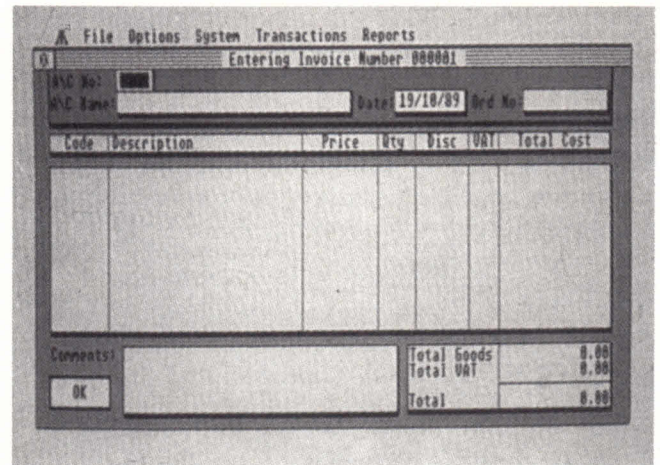
• Stock control module.

A SECOND OPINION
from Joseph Elkhorne

Essentially, System 3 is a computerised approach to small business accounting, allowing the little entrepreneur to better manage his affairs, without having to become a specialist in accounting. It is designed to run alongside an existing accounting system.

As I'm more easily confused by money matters than Keating, I took the time to plod through the Tutorial. To reach the goal of generating an invoice, you are taken by the hand and told how to create a file, and to set up some customer accounts and stock records. I followed the instructions step by step and – reaching this point in my writing, I saved the file and exited to run up System 3 again – it bombed out.

I was able to successfully enter customer records, stock items, and preferences (your business details, actually). On trying to follow on with the first sample invoice, I didn't get a hard copy. What I did get was a "system error has occurred" on the bottom line. Only a Ctrl-Alt-Del would get me running again. The second time through, I found, of course, that the data files were corrupted. I DELeted them and started again.

Everything seemed to be running normally, but now – perhaps in a bad frame of mind – I found various annoyances.

For example, if you key 'one, zero, return', the cursor moves to the next field and leaves the Discount value at 00.00 instead. But 'one, zero, full stop, return' leaves you with 10.00 in the field. The manual cautions you on this point. Even worse, if one realises that the 10.00 should have been seven, the natural tendency is to move the cursor left a field, type 7 in and continue on. No! What happens here is that the field looks like 7..0

and you cannot go further until you manually correct it. This is fuzzy minded programming; it expects the human to adapt to its dumb literalness. Another example of sheer stupidity is the inability to enter a hyphen (dash) in the customer's order number field. Yet it accepts the '/' character as well as various shifted numerics.

I made a data entry error, hit the escape key to abort that record, and ended up with a column of figures beside the menu. Another attempt generated what was supposed to be a correct sample. I then expected a prompt to appear on the screen, as the next statement in the tutorial is 'Select Yes to print the invoice.' Instead the disk ground away, presumably saving the invoice record – but no hard copy. I found there is apparently no way to retrieve a 'completed' invoice, but did prove that the particular record would generate a statement. If you realise you've made a mistake, how do you edit and correct it afterwards. The manual only refers to the case of mistakes made whilst within the specific entry, no going back later.

Now it could be that my copy of the program was corrupted. The gentle reader will know that my PC-20 is quite recent, and has not evidenced any problems with the 3.25" drive. The third time I got a system lock-up, I stopped trying to consummate the product review. Whether my copy is corrupted or there's a bug, I cannot say. Maybe it's a compatibility problem.

Indeed there could be – the 5.25" version used in the previous article did not present as many problems. It was checked out on a PC2086 with a Star LC10-11 dot matrix printer attached. The sample invoice shown is evidence. The data entry ambiguities were the same but at no time was a system error reported.

MASTERFILE PC *VERSION 3*

Integrated Data filing, Document filing, Word-Processing, Mail-Merge

Every business has two kinds of filing requirement: data field-oriented which we call Data filing and free text which we call Document filing The traditional approach was to have one program for each - a database (DB) and a word-processor (WP). MASTERFILE PC has already established its reputation as a high-power relational DB at a popular price, but now with the version 3 we have added a powerful WP function. And since both DB and WP functions are managed by the one program, only one system of menus and dialogue need be learned, and there is a natural data-merge function to combine data with text into a mail-merge operation.

MASTERFILE-DB

Address lists • Sales Ledger •Bought Ledger • Inventories • Stock Control • Patient files • Job progress • Price lists • Bank analysis • Shares Portfolio • Photographic index • Property Details • Invoices

There are two main kinds of DB system on the market; those that require time and programming skills to set up and those that have virtually instant usability. MASTERFILE with its totally menu-driven approach is of the latter variety; and yet it offers huge flexibility in data presentation and manipulation.

MASTERFILE Data Filing is unusual in that it offers variable-length records within a direct-access file with a capacity of up to 16Mb or 32,768 records. There can be up to 80 data fields per record, each variable-length up to 254 characters, and data can be character, numeric, or date. Up to 32 user-designed screen/print formats can be used, so that from one data file you can present data as a summary index, and index card, mailing label, whatever, and add such effects as heading, boxes, panels. The relational aspect means that any record being displayed can pick up data from up to four other data files on a key-match basis.

An essential ingredient of a DB system is to be able to search the file and pick out records which match a given set of criteria. MASTERFILE's search functions are impressive and it can search on multiple criteria on any data (not just key fields), with speed and ease.

Arithmetic operations can be defined to operate on and derive numeric data e.g. taxes, percentages, price mark-ups. You can even perform date-arithmetic such as is required for ageing of accounts and subscription renewals. The logic can include IF/THEN/GOTO constructs for the sophisticated user.

Printing is buffered, so that up to 5 pages of printing can be stacked while you use the program to get on with other tasks. Printer controls can be set to control style and pagination.

We could also mention sorting, import, export, encryption, passwords, date-stamping, serialising, and host of other features - but we don't wish to bore you; if you wish to know more, just ask us!

MASTERFILE-WP

•Letters • Reports • Memos • Journal Extracts • Bibliographic references •Your Next Novel.

Just about every PC user already has some kind of WP system, but the chances are that yours is the kind where each document is a separate DOS file. With MASTERFILE, you can keep all your documents in one large DOS file (up to 16Mb), and manage all your letters, memos, journal extracts as individual documents on a private directory basis; except that our directory (we call in an Index) lets you have useful 30-character names and you can search on the basis of document name, date of last change, or on the text contents themselves. In effect MASTERFILE combines the searching power of DB with the free-format text handling of WP.

MASTERFILE WP Document file has its own selective back-up/restore system, and you can also import and export text files from and to other text systems.

MASTERFILE WP allows up to 6 documents to be open at a time, using the same window or different windows, any of which can be adjusted for size, position, style and colour. The basic WP functions are all there, and some novel ones too - such as 'spot' colour to highlight your text. You can tailor your own printer driver and expansion keys simply by editing two specially-named documents. Maximum document size is 64K, about 20 pages.

Printing options include multi-copy, partial print, pagination, headers and footers, left margin, system date/day/time stamps, serial numbering. And you can arrange selective text insertion from a MASTERFILE DB file for a mail-merge and several-across label operations. Printing uses the same buffer system as DB, leaving you free to do other tasks while a document is being printed.

HELP AND LEARN

The detailed manual is augmented with tutorial and several demonstration files. And, for the new (or the forgetful) user, HELP can be summoned at the press of a key to augment whatever menu you are looking at. There is even a facility for customising your own HELP frames using the WP function. MASTERFILE can learn too! To program a function key, you just press the 'LEARN' key then use the system normally, then press the function key. Or, you can store the function key in the file for long-term use.

How can MASTERFILE combined DB and WP program run in only a 256K MS-DOS environment? The answer is because it is compact, being totally coded in Assembler - unlike most other commercial software. If you have 512K or more, then MASTER-FILE will make even better use of the available RAM. And the minimum disc configuration? Just one floppy. But users with hard discs can take fullest advantage of the large capacity. And what about the monitor? Any type from monochrome to VGA, and yes of course you can customise your preferred colour scheme.

MASTERFILE PC will run any PC-compatible, including any Amstrad PC/PPC, and is available on 3.5" or 5.25" formats in two editions:

Standard: DB only, but with read-only/demonstration WP functions.
Full: DB + WP

You can start with Standard and upgrade to Full later. Campbell Systems in the U.K. also offer upgrades to registered users of MASTERFILE PC version 2 or earlier.

Prices, (excl P&P) are **$199.00** (Standard) or **$269.00** (Full). All mail order enquiries to:

The Amstrad User
1/641 High Street Road
Mount Waverley 3149
Phone **(03) 803 9661**

or in Melbourne call at The Amstrad User computer shop, also at the above address.

A breath of Sierra -2

▶ ▶ ▶   *Sierra move into Arthurian Legend with their latest 3-D adventure game "Conquests of Camelot 1"*

Sierra's latest release is "Conquests of Camelot 1: The Search for the Holy Grail" and once again, by appending a number at the end of the main title we are to assume that if we like the game, there will be more where that came from! I hope so, but from where did this first CC1 emanate? Yet another talented husband and wife team are responsible. Christy Marx and Peter Ledger joined Sierra in 1988 and have been working on CC1 ever since.

It was Christy who designed and wrote the game after painstaking research into British legends. But as she wanted to develop a story around King Arthur himself, a departure from the well known tales was required. Having written episodes for Teenage Mutant Ninja Turtles, GI Joe and Dino Riders, Christy's experience and imagination was able to weave together various elements from the old stories. Inspiration also came from the artwork put together by her

• *King Arthur ponders the quest that lies ahead.*

husband Peter, a well qualified artist who's work includes comics such as The Hulk, Spiderman and feature film design and illustration. Both, however, are best known for their work on The Sisterhood of Steel comics. With such fine credentials, it is little wonder that CC1 continues the fine tradition of

Sierra 3-D adventures.

BACKGROUND

The plot of Conquests of Camelot 1 is simple. Three brave knights of the Round Table - Sir Galahad, Sir Gawaine and Sir Launcelot (better known to me as Lancelot) had ventured from Camelot in a quest for the Grail - the elixir of life. A long time has passed and they had not returned. King Arthur took it upon himself to search for his knights and perhaps in the process, discover the whereabouts of the grail. If it was brought to Camelot, all his kingdom's problems would be solved.

Before any major expedition can commence, as all good adventurer's know, one must first prepare. Hence, the initial play takes place in the castle of Camelot. There are a number of chambers or rooms to visit containing vital equipment and the like for the journey ahead. You'll also discover a few useful people who can give a lot of guidance and advice. Merlin the Magician is one such fellow, and whose help can be called upon most times during the game.

Once you leave the castle on your trusty steed with a pack mule carrying the provisions following behind (á la Gold Rush?), a map of the southern part of Britain (Britannia Australis 800AD) is presented. At this point you really should know where you are going - if you don't, you haven't prepared well enough! (No, I am not going to use this series of articles to present well informed hints, even though some may accidentally slip out.)

THE FIRST QUEST

There are essentially three separate quests within CC1, each with the objective of releasing one of the knights. The first location I chose to visit provided my first taste of action. Fighting a wild boar without the benefits of modern day armarments is more difficult than one would think. Thank goodness for the Save and Restore functions of the game.

The next major obstacle is a "joust to the death" with the Black Knight for the life of Sir Gawaine. This

is great fun, and again quite difficult. The object is to defeat the Black Knight by knocking him off his horse three times, but if he knocks you off three times first, you lose, and in consequence so does Sir Gawaine. The screen shows your shield and lance on the right of a hedge. Facing you on the other side of
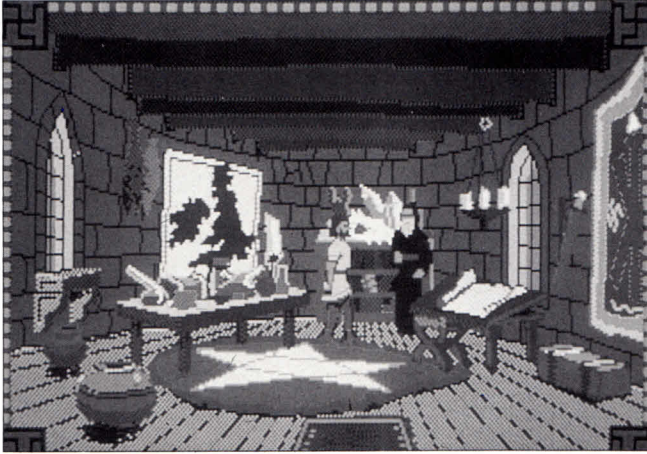
• King Arthur seeks advice from Merlin.

the hedge is the fully armoured Black Knight. As he gallops towards you, pressing certain keys and/or using a joystick will position your shield and lance to fend off any thrust and strike the knight respectively. You must make your lance hit the knight in the right place to unsaddle him. The first time we (my sons and I) managed to unseat the Black Knight, we thought we had cracked the secret by finding the fatal spot to land the lance. This was going to be a piece of cake. The Black Knight was facing us for the second time and commenced his approach. We lined up the shield and lance as before but at the last second the wily knight dipped his body giving us little time to reposition the lance. His aim was good, and we were 'grounded' - one all. We made it in the end, not without a few restarts though.

Moving on a few screens (or 'rooms' as Sierra likes to call them), will bring you to an impenetrable but invisible barrier linking five tall pointed stones. A series of riddles have to be answered and this really got us all thinking hard. It appears that there are really more than five riddles available to the program for, although the selection won't change while you are at this location, they may well be different the next time you try to pass.

The final set of locations embraces a ruined monastery, a mad monk and some ethereal beings. There are some tricky puzzles to solve here as well as some more fighting with your sword Excalibur. I'll refrain from saying any more as this is an important part of the game which must be solved.

THE SECOND QUEST
Choose the correct location and you will find yourself in an almost impossible position - up to your knees in snow with more of the white stuff ahead, and then

a vast expanse of ice covered lake.

We set a 'cracking' pace across the ice (eventually!) and reached a snow palace. Within, we found poor old Sir Lancelot (sorry, Launcelot) in suspended animation. He had been placed there by the 'Snow Queen' who now refuses to release him unless you perform a certain task. We had a few problems in this respect. Whether it was because we were standing in the wrong place or the sequence of conversation was wrong I shall never know, but it took quite a while to get the Snow Queen to realise that I was ready to perform her required task. Needless to say, we succeeded in the end, but Sierra should check out this segment. With the second knight released, it's on to the third.

THE THIRD QUEST
We are now abroad in the Middle East having just disembarked our ship. There are guides about ready to help us. Pick the right one and you will gather some important information. Nevertheless, all routes to Jerusalem appear to be across the desert. Apart from a few cobras and lizards, I have yet to find my way across. The secret is to find water to sustain you on your journey, and despite having a clue as to the direction I wish to go, I seem to be wandering around in circles. The longer I travel, the weaker I become and start experiencing mirages. Lancelot and Gwenhyver (or Guinevere) in an embrace, pools of water which disappear when I get close to them... and once again I keel over.

There is no doubt that I will solve this problem in

the end. Unfortunately though, it means that I cannot fill you in on the last, biggest, and probably, the most detailed section of the game. I do know that it will involve a major battle with a Saracen and probably the eventual discovery of the grail, but one can only guess. Deadlines can be blamed for not giving me enough time, although it would be useful if Sierra gave reviewers a few confidential clues to speed the process.
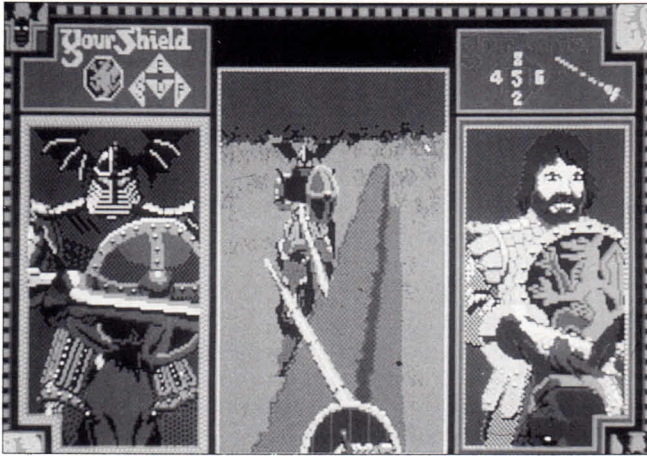
• Jousting with the Black Knight.

MECHANICS

The standard Sierra 'quick keys' have been used to reduce the amount of typing. For example, hitting 'Ctrl' and 'A' keys will generate "Ask about..." in the text box. There are specifics to CC1 like 'Ctrl' and 'O'

which will open Arthur's purse. The function keys perform standard tasks like Save or Restore in addition to F8 which will allow you to draw Excalibur.

Scoring is a little different in CC1. Unlike other Sierra games which display the current score at the top of the screen, in this game it is necessary to access an information menu. Your current score alongside the maximum obtainable is shown over three categories - Skill Points; Wisdom Points; and Soul Points.

Documentation is, as usual, of high standard. It's fundamental to the game, and without it the game could not be finished. It also features a 'walk-through' for beginners. This gets them off on the right foot with a few hints on what to ask about and look for.

SUMMARY

The sections I have seen so far leaves me in no doubt that Conquests of Camelot 1 will continue the tradition of great 3-D adventures from Sierra. The arcade elements are not too hard, but not too easy either. The puzzles are sufficiently different and challenging to keep the 'grey matter' working all the time. The accompanying music (and sound effects) by Mark Seibert enhance the game no end, especially when played with a Music Card fitted. The graphics... well, every time I see a new Sierra game they seem to get better and even more detailed.

More importantly, has anyone got a clue for crossing the desert? ∎
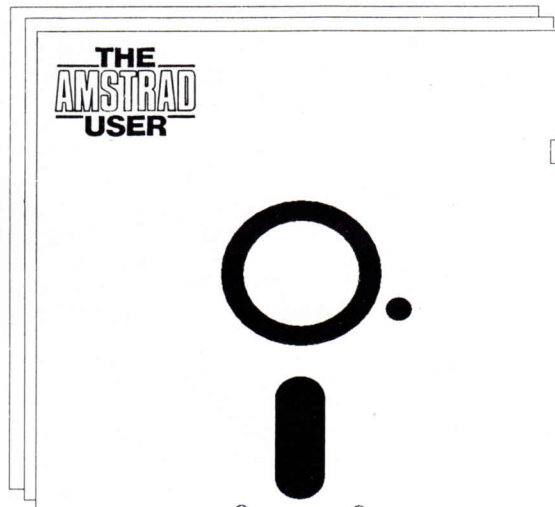
MEAN STREETS

Solved by Danny Mensleigh

BASIC HINTS

- Always save the game just before leaving your speeder, it will save a lot of hassles.
- Call Vanessa or Lee Chin everytime you discover a new name.
- Question suspects very thoroughly, even if it seems irrelevant.
- Get everything that isn't nailed down, but not before looking/opening or moving it.
- Make notes about locations, people and relationships.
- Enter 'pong' as a password into any of the computers for fun and games.

LOCATIONS

Linsky's Home

- Where do people normally hide a safe?
- Set off the alarm? Don't worry, go to the bar.

Linsky's Warehouse

- Get everything you can.
- The cabinet contains an interesting can of band-aids.

Davis' Lab

- Set the alarm off? RATS!
- A nine foot pole can't get the box, but a ten foot pole can.

Morgan's Home

- Search, move, and open everything.

Morgan's Beach House

- Need fish food? Try a plant.
- Thirsty? There's orange juice in the fridge.
- Don't be alarmed, console yourself.

Call's Lab

- Don't move the vine with bare hands.

- The stalagmite isn't that natural.

Clark's Lab

- Search carefully and you'll be able to get back to Call's Lab.

Apartment

- Art for art's sake? No.

Law and Order offices

- More alarms! Don't be a closet adventurer.
- Thorough searching reaps big rewards.

MTC Secret Locations

- Save game before entering.
- Very important to have all passcards and passwords ready.

This is our fifteenth Hint Sheet and earns Danny Mensleigh a cheque for $25. Why not put pen to paper and earn yourself some extra pocket money by sending in your own hint sheet (don't give the whole game away) to:

The Editor (Hint Sheets),
**The Amstrad User,
641 High Street Road,
Mount Waverley, Victoria.
3149.**

Windows on the world

► ► ►

Shane Kelly reports on Windows 3.0 from Microsoft while Joseph Elkhorne tests out a new menu system.

Windows 3.0 will have been around for a month or so when you read this - so we will soon know if it is going to live up to its promises of releasing DOS users from the 640k barrier and providing a better way of working or if it is all just another example of the micro-computer industries ability to hype a half-ready half-baked idea on to us in order to increase sales to the shell-shocked public.

I have seen two release showings of the product and I was impressed. I saw a 386 machine with 2 megabytes of ram report that it had over 14 megabytes available. I saw 15 applications open in icon form at one time and the machine still reported a huge amount of memory available. How? - By using the hard disk as virtual memory. I saw applications sharing their data and what's more updating it dynamically. I saw network support available from the package as standard. I saw Lotus 123 release 2.01 running in a window. I saw DBASE III+ running in a window. I saw a standardised help system. I saw all these things working and yet I am not convinced that this environment will mean much to the so-called domestic computer user.

My reasons are these. One, the domestic computer user has typically an XT type computer with maybe a hard disk and maybe not. This type of computer simply does not have enough "grunt" to take advantage of this environment. Those domestic users with a 286 or AT type machine will be able to use the new environment, but won't have access to its virtual memory facilities and will still have to run old DOS applications for the new Windows 3.0 will be beyond the domestic users budget. Three, most domestic users are still struggling to come to terms with the XT computer they have, let along comprehend the intricacies of a 386 machine. Four, most domestic users have no need of the computer power provided by the combination of 386 machines and Windows 3.0.

Effectively, this means that Windows 3.0 is not a domestic users answer to the problems of learning to drive "that darn computer". It is however the corporate computer users answer to the problems of supporting several different applications with several different user interfaces and obscure and irrational key combinations. The way in which you use applications will become standardised on this (or OS/2) and so instead of using only a few applications because the cost of support and training are prohibitive, you will be to use more applications with a much reduced learning curve. This means more productivity for individuals which should mean more productivity for your business as a whole - and

this means more dollars in the bank.

The bottom line to Windows 3.0 as I see it is:- If you are thinking of buying a computer in the next few months whether for home or business - do yourself the favour of considering a 386 machine - Amstrad 386's start from around $3999 and have all the power you will ever need for home and with Windows 3.0 they will have the ease of use that we all have dreamed of for so long. And $3999 is not that far removed from the top end XT and AT class machines.

If you already have an XT or AT class machine that is doing what you want it to, leave well enough alone - but believe me, you will covet thy neighbours P.C. with Windows 3.0.

MENU-LITE
There used to be a commercial with the running line, "Mother!, I'd rather do it myself". Heretofore, I've been loath to use a menuing system because I get involved in so many different applications: writing, computer languages, program development, databases, BBSing, experimentation - the list goes on and on.

At the same time, I found exposure to a menu system at a previous job only re-enforced by misgivings. That one was idiot-proofed to the point where no-one could use it, least of all the alleged system supervisor.

A slogan on telly recently uses the line, "If an Australian product is better, go for it"! Well, this firm went for the local product, at big bucks, because it was a 'professional' application. I'll not mention the name, since they'd probably take umbrage at my negative remarks. The bottom line is that this Oz wonder was overpriced. By comparison to this imported program, it was a rip-off. No wonder they changed their trading name....

When I learned that the RRP of Menu-Lite is only $29.95, I was surprised. Frankly, I didn't expect much. I knew it was possible to acquire a Public Domain menu program for as little as $5.00 - and you can probably find one for nix via a bulletin board.

Sitting down at my PC20, I glanced cursorily at the manual, decided that a good program would almost install itself. I thought I'd just 'temporarily' install the program for review purposes.

That was last week - it's still on-board.

Is Menu-Lite easy to install? Yes.

Looking at the disk directory, we find six (6) files. Sure enough, there's one called MINSTALL.COM - run that and it installs itself automatically.

Menu-Lite creates a sub-directory on the C: hard drive, copies itself over and modifies the existing AUTOEXEC.BAT file. If it doesn't find the latter, it creates one.

You're then prompted to remove the original diskette and press ENTER. The computer re-boots and the menu system pops up. You'll only have one selection on the list: Help and Function Keys.

Choosing this allows you to add your applications, and edit them in future. You can easily remove something you find you have no need for. You might want to change the menu to reflect the nature of the job, rather than the specific name of a program.

When you hit ENTER here, you get a small window on the left with the Function key names.

The on-board HELP information is succinct yet comprehensive. It's accessed by the F1 key.

You'll add your own applications with F2 and follow instructions. The information you key in is what you would enter on the DOS command line, with the addition of the menu selection name.

Thus, you might call the first application SCRIBBLE, which would actually access C:\PCW\ED.COM.

This brings up an interesting point: that you invariably find your method of working has to accommodate itself to the labour-saving aids. As users of PC-WRITE know, entering ED by itself as a direct command will start up the word processor, giving you the option of writing to a WORK.DOC (WORK.DO$) file.

In most instances, you'd enter ED filename. By using the menu program, you actually add work (keystrokes) for yourself. Maybe not... at least, you're saved the chore of changing to the appropriate sub-directory each time. Still, you have to remind yourself to rename the file as required, via the PC function keys.

With that quibble out of the way, the fact that I'm still using Menu-lite speaks highly of it. Even a fundamental error on Page 2 of the manual didn't turn me off - nor the keyboard diagram showing only the 'narrow' keyboard.

On a colour monitor, the display is quite nice. I do not know what the appearance is in monochrome, but hope the authors took that possibility into account.

The screen is neatly arranged, and has a prompt line at the bottom to remind one of the keys to use for moving around in the menu window.

As mentioned earlier, you can erase (F3) an existing menu item, or edit (F4) one. Cleverly, they have made the initial entry inaccessible to the user.

There are bells and whistles too. The user has the option of using a password. The password is NOT required to run any menu selection - it's only there to allow access to the Add, Edit and Erase functions.

Encryption is used to disguise the password in a file called MENU.JFC. And what if you forget

Windows 3.0 brings ease of use to DOS machines.

your password? Simple - just delete that file, and the password protection is removed. Like any safeguard, once someone else knows the lurk, you might as well not have a password....

The final Menu-Lite function is an alphabetical sort routine of your applications.

And, one final option - if you're really intent on doing something at the DOS command level, you use the ESC key from the main menu to exit the program.

You can then re-enter Menu-Lite without the normal AUTOEXEC.BAT start-up process by typing MENU.

I did have a look at the manual for purposes of this review. I think a line in the dedication describes the approach of the people at Elkay Software: To all the new computer users who are confused.

Elkay have certainly packed a lot of information into the book for such people. The beginning computerist need not worry when selecting this package - and the old-timer can rest assured it performs as intended. Overall, a sensible package that provides good value for money. ∎

New in the domain...

▶ ▶ ▶ *Chris Collins look's at the latest PD software to surface, including a cheque book manager and a stock market utility.*

This month we have quite a lot of programs to get through, so we had better get going before I run out of space.

BANKBOOK

This program comes from a company called ATLANTA IDEAS INC, and the registration fee requested is US$15.00. BANK-BOOK fits onto one diskette, and basically only consists of one file, BB.EXE. The program does create a couple of others to hold its data, as well as a couple of .CFG (configuration) files as well.

The program as supplied does include some sample data, but there doesn't appear to be any way to have both sets of data in the same directory at the same time. So you will need two directories on your hard disk, or do as I did with the program. Look at the sample data and note down what you need, then erase it and get the program to create my data files.

I found this to be one excellent program. I am not really into cheque book management programs, but the quick play that I had with BANKBOOK suggests to be that I may have found the cheque book management program for me. BANKBOOK is a little difficult to set-up, but only because it doesn't allow you to create new categories and payees on the fly.

You need to sit down with your deposit book and your cheque book before you start using the program, and write down the names of all the payees that you will wish to write cheques to. As well as all of the categories you will wish to break your cheques down into, you will also need your sources of income to enter. Once this is done and all of these are entered, the program is simply wonderful to use.

Grab your deposit books and your cheque books and start entering your information. As you go along you will be prompted for any information that the program requires to ensure your data is correct. You can also use the program to print out your cheques if you purchase the forms from the author.

The reports available from the program simply top off an excellent program. They allow you to break down the information in a number of ways, and also see the percentage of income spent in different categories.

One negative on BANKBOOK is the colour scheme. The menu line at the top of the screen does not stand out enough from the general background, and some of the colour combinations are a bit hard on my eyes. However, if you wish to run the program in MONO mode, or on a monochrome monitor, then simply start the program as follows:- BB MONO. This will set the program into monochrome mode, and it will re-member this for the next time you

use the program. To return to colour, simply type BB COLOR.

All in all an excellent implemen-tation of the basic cheque man-agement program. It does have a couple of small problems, but I think that the overall excellence of BANKBOOK will even get me using it!

PC CHART

PC CHART is a bit of a confusing program. Here I was thinking that I had been able to find a new program to help me with my charts (similar to Harvard Graph-ics) and what did I get? A set of comprehensive tools to help with the buying and selling of shares on the stock market! Talk about being let down. Hold it a minute I thought, there might be someone out there who could use a pro-gram like this. So I had a look anyway.

PC CHART is written and supplied by a company called Guru Systems, and has a registra-tion fee of US$106.00. This includes the postage charge of US$7.00. The program comes in the form of two .ZIP files on one diskette, but you must order the correct diskette for your video system. PC CHART CGA/HGC is for people with either Hercules Graphics Cards or for systems with CGA cards fitted, PC CHART EGA/VGA is for people with either VGA or EGA graphics cards fitted.

The diskette supplied has two installation batch files, although

you can do the installation manually if you wish. You will need approximately 1mb of hard disk space free to set the program up, or FOUR blank formatted diskettes if you want to run it off floppies.

PC CHART is a collection of tools to help you decide when to buy and sell shares on the stock market. Mathematical algorithms built into the program assist you in this quest. The program is laid out in a spreadsheet like pattern, making it easy for you to update one of up to 400 different price files, each of which relates to a different share.

If you prefer to have your data updated automatically, the program will accept the update information of two different American data vendors. The phone numbers are automatically loaded into the system, and dialled. But you do need a modem fitted to your machine to activate this option.

The analysis section of the program allows you to check on any of the following eleven parameters, and they include relative strength, moving averages, logarithmic plot, parabolic system, weekly charts and a few other options that I don't understand.

Not understanding what a program is supposed to do makes it very difficult to review, but by looking at the way that the program is set-up, how quickly it operates and get's you the information that you require, gives you some idea of the work that has been put into the program. From the graphics used in the EGA/VGA version and the general layout of the program, I would feel confident that the program would work well at its allocated task. Now if only I knew what that was!

HELP!/POP-HELP

HELP!/POP-HELP are two programs on the one diskette that are written by HELP SOFTWARE. They are basically on-line help manuals for many different uses. HELP!! is the version that you run from the command line (C> or

A>), and POP-HELP is the memory resident version which takes up 65k or RAM. Registration is US$15.00

HELP!!/POP-HELP comes with a help.dat file already set-up, but the diskette also contains two other .HLP files that you can use. These are PROGRAM.HLP and DOS33.HLP. Once set-up correctly with HELPINDX and renamed to HELP.DAT, either file can be used with HELP!!/POP-HELP. I am currently testing out PROGRAM .HLP which includes an ASCII table, Binary table, Box codes, Scan codes and colour codes for the entire range of the PC ASCII set. I have been looking for a memory resident ASCII table for a long while, and it appears as if I have found one.

Before using HELP!!/POP-HELP, please be aware that you must use HELPINST to set-up the directory information, hot-key for POP-HELP and colour or monochrome settings for the program. Otherwise it will not work correctly, and will keep giving error messages.

I love it! And the second best things about HELP!!/POP-HELP is that you can create your own .HLP files to use with the program.

SCOUT-EM

SCOUT-EM is the newest version of the disk and file manager SCOUT. This is the version that I have been searching for, and the reason why is quite simple. SCOUT-EM uses expanded memory to store most of its code in, so it only uses 4.7k of conventional memory.

SCOUT-EM is from New-Ware, the same people who supply COPYMASTER, FORMATMASTER, ARCMASTER and a couple of others that I can't remember. Seeing as we have looked at SCOUT before, I won't go into it too deeply except to say that this version now does everything exactly the same as before, except that it uses less conventional memory to do it with.

I still have major problems with

learning to use it because it uses non-mnemonic keys to do anything, e.g. to move a file to a different directory, use the V key. Very confusing. However, I am sure that there are some people out there using SCOUT and perhaps SCOUT-EM who think it is wonderful. For me, I will stick with my registered copy of XTree Gold.

QUICKBASIC SCREEN ROUTINES

For all of you QuickBasic freaks (sorry, supporters) out there, we have a three diskette package this month. Called QBSCR, the three diskettes are a collection of Quick-Basic code to help you build dazzling screens and menus for your QuickBasic programs.

A friend of mine (yes, I do have a couple!) who is deep into Quick-Basic had a look at these and reckons that they would save any programmer heaps of time, simply because they make it so easy to design a screen and then incorporate the necessary code into their QuickBasic program.

The registration fee for the programs on these three diskettes is US$15.00. So it is not an awful lot of money to spend on something that is going to make a QuickBasic programmers life so much simpler.

Screen routines are available for building menus, windows, boxes, pop-down windows and much more. A demo program is included to show you what the program is capable of.

If you are into QuickBasic, you must have a look!

Well, I guess that is it for this month. I was going to look at another diskette for AT owners, but because it deals with the CMOS on your computers I need to check it out some more!

Please remember that all of the diskettes listed above, plus any others that I have talked about are always available from Mac-roDisk at the following address:

MacroDisk
Unit 2, 47 Vernon Street
South Kingsville, VIC 3015

Another point of view

Phillip Riley receives a letter from Barrie Eaton, commenting on the use of graphics in adventures, past and present.

Well, more trouble with the old disk drive made us too late to get into June's mag, but things seem to be ok now. This month we have a letter from Barrie Eaton, who has a few comments on the use of graphics in adventure games so without further ado, I will hand the column over to Barrie.

Dear Phillip.

In response to your invitation asking readers whether or not adventure games ought to include graphics, I have a few comments I would like to make.

I personally feel that any adventure should be well presented, very descriptive and user friendly. The early adventure games were all text type only and usually written for machines using less memory than what is available today. Adventure games written for the CPC range of computers were originally cassette tape only and limited in their scope. Hence most games were still written as all text type. The first adventure game I encountered using graphics was from the Interceptor games namely, Message from Andromeda. The graphics were well done and used only in some locations that one visited. Other Interceptor Software games have followed the same format, and the ones I have played I have quite enjoyed. However I do agree with your statement that sometimes the picture can take too long to come up on the screen and therefore be a little frustrating. I did find this to be the case with some of the pictures in games like Warlord and Jewels of Babylon. One has to decide whether or not having the graphics is worth these trifling annoyances.

The adventures that later appeared on tape however started to contain pictures for each location visited and because of the memory available they all were in my opinion an appalling avalanche of rubbish to ever hit the games market. The graphics were poor to say the least and because room had to be found to accommodate these graphics, the quality of the games suffered for it. Such games were typically, Gems of Stradus, Necrisdome, Fantasia Diamond, Subsunk, Colossal Adventure etc.

Only when adventures using all graphics began to appear on disc did their quality improve. With being able to refer to the disc allowed for better graphics and still a well presented game. Kings Solomon's Mines is one that comes to mind where the pictures used for each location were very good and hence added to the playing of the game, (although I did find that particular game not an easy one to play).

I agree with a statement you made some time ago about it being better to play a well presented game with no graphics than to play a mediocre one with them. I also agree with your latest statement that a good description of a location leaves far more to the imagination than a poor picture that really tells one nothing.

As the old saying goes, A picture tells a thousand words, but in the case of most adventures I've played they DIDN'T. It is not without good reason that novels use words only thus leaving the scenes, locations, characters etc. to the readers imagination based upon how well such are described by the author. Books are still selling quite well WITHOUT the pictures. There are however a new generation of games around today that have characters moving around in them controlled by the operator. Such ones are Kings Quest, Leisure Suit Larry etc. I have only seen these adventures played on PC's having heaps of memory, and the graphics were outstanding to say the least which I guess is what makes them popular. Here again I must say that a lot of memory is required for such games. To conclude then Phillip, I have taken a preference to all text adventure games but still enjoy the ones with well defined graphics being used in a sparing manner. My latest purchased adventure to fit that category is Lancelot which I am enjoying playing. Well, I have had my few comments but would just like to add that I will concentrate on better descriptive locations in my adventures from here on, memory permitting.

Yours sincerely
Barrie M. Eaton

Thanks very much for the letter Barrie, it is always good to hear other points of view on a particular subject. I notice that you mentioned Gems of Stradus as being a poor game and I agree with you on that point, but I have played the same game under a different title on (dare I say it) a different computer. This was some years ago before Amstrad was even heard of. On this particular computer this game seemed fantastic (as you can imagine the graphics on this computer were nothing to write home about). Of course with the graphic capabilities of the Amstrad, we won't except this sort of game as any good, but in the earlier days it was considered as fantastic.

Another thing that comes to mind at the moment is a review I read some years ago in one of the English mags, I cannot remember the name of the game now as I was put off the game by the terrible review that it got. The game was a graphic adventure but the graphics, according to the review were terrible. The reviewer tore the graphics to pieces to the point that you really did not care to look at the game at all. The game itself may have been quite good, and worth playing if you ignored the graphics but I suppose that I will never know as I was put off the game by the reviewer who was put off the game by the look of it.

Which brings us to another point, if a game is visually appealing then people will give it more of a go than if they take one look at it and say YUK. The computer screen is the only part of your game that can actually be seen and as a result must look good.

The other mistake that some people make is to use the wrong colours on screen. If the colours are too bright they will hurt the eyes so always try to use dark colours or colours that don't glare too much as background colours. This is particularly important with text adventures where the player has to read from the screen constantly.

Well that is about it for this month, so until next month I will say good bye and tell you to keep sending letters as it can get very lonely up here in the attic.

ANSWERS
Rosalie McDonald has sent in some answers for The Pawn.
HOW TO FIND THE LAMP? There is no lamp as such, but if you deal correctly with the guru you will find three colours which, when mixed together will provide the light needed.
HOW DO YOU GET INTO THE PALACE WITHOUT BEING CHUCKED OUT? The answer is you don't but you still should deliver the note.
WHAT DO YOU DO WITH THE ADVENTERER? You kill him. To do this you must ask Kronos about the wristband at the beginning of the adventure and accept what he gives you.
HOW DO YOU SHIFT BOULDERS? Using the shirt you tie the hoe and rake together and then lever the boulder.
WHAT DO YOU DO WITH THE GURU? To get anywhere with the guru you must first cover that wristband. Then listen to him, take the bowl, fill it with snow and return.

Rosalie also has some info for Lancelot. To get the harp from the mermaid, the secret is to use the "WAIT" command. Tell the knight to "WAIT 1 and go N" and then take the harp. This allows you to get away instantly before the mermaid can take the harp. ∎

CLASSIES

FOR SALE

Start Computing with the Amstrad CPC6128 - by Judith Thamm.
A Basic course for beginners, full explanations. 112xA4 photocopied pages coil bound with over 50 programs. Ideal for computer clubs. Book $20.00, 3" disc $10.00, P&P $2.00
Ribbons re-inked $4.50 plus return postage. Judith Thamm, Box 269, Two Wells SA 5501 (Ph 085 20 2377)

Start Computing on a PC - by Judith Thamm. Learn quickly and easily at home. Hints, tips and traps for DOS and an intro to BASIC.
        Book plus 5.25" disc - $35.
        Book plus 3.5" disc - $38.
Cheque, Money Order, Bankcard, Mastercard accepted.
Ring Judith Thamm, (085) 20 2377.
Box 269, Two Wells SA 5501

Netcomm PC fax card - never used (unexpected prize). Retail $600, sell $400 or best offer. Call Steve AH(047) 212 807 or BH(02) 923 3793.

USER GROUPS

Sydney Amstrad User Club for CPC only, meets first Saturday of the month in inner suburbs. For details phone (02) 560 9487 or (02) 661 7573. 6-9pm only.

SERVICES

Personalised Stationery - an ideal gift for any occasion. 100 sheets of high quality paper with address and phone number printed plus 50 matching envelopes. Ring (03) 803 9661 for details.

WANTED

"ENTERPRISE" computer. Very rare English home micro. Ring BH (03) 803 9661. Ask for Andrew.

TV modulator to suit CTM644 colour monitor as advertised in TAU Dec 89. Phone (09) 535 1559 after hours or write to Terry Cain, 7 Newstead Close, Mandurah 6210.

CONTRIBUTIONS

We accept unsolicited articles or program contributions from readers with a view to possible publication, but in the case of programs we must insist that the coding is submitted on either tape or disc. We just do not have the time to key them all in. The tape or disc will be returned if originally accompanied with a stamped and return addressed padded bag.

NOTE: Classifieds are reserved for readers' use only. Commercial companies or traders are excluded.

Classified Ads Order Form

This section of the magazine offers you the chance to speak directly to the huge waiting world of Amstrad owners - or would-be owners.

You can place an ad of up to 30 words for just $7.50. So you could use it to sell a printer, launch a user group or publicize a piece of software you have written.

One thing you can't advertise is the sale or swap of software you've purchased. Such ads can be misused by software pirates.

Just fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 3 to 7 weeks after we receive your order.)

Classification: ❑ For Sale ❑ Wanted ❑ Services ❑ User Groups

Please place the following advertisement in the next available issue of The Amstrad User
I enclose payment of $7.50 by Cheque/MO/Bankcard/Visa/Mastercard (cheques payable to The Amstrad User).
Credit Card Number ....
Credit Card Expiry date ....
Name ....
Address ....
....
Telephone ....

Write your advertisement here, one word per box. If you want your phone number printed, it must be included in one of the boxes.

Amstrad PCs

The following collection of disks contain compilations of public domain programs suitable for Amstrad PCs (and possibly other IBM clones). With the exception of PC-SOFT #1, all items are available on both 5.25" or 3.5" disk format.

PC-SOFT#1 requires Basic2 (supplied with Amstrad 1512 or 1640s), whilst all others reqiure MS-DOS version 2.1 or above.

But remember, as Public Domain programs they are supplied on an as-is basis.

PC-SOFT #1

19 Basic2 utilities or games on one 5.25" disk, with:

3DGRID.BAS
Add an extra dimension to your maths formulae. You can enter your own functions or watch the 9 demonstrations plot.

3D-VIEW.BAS
This Basic2 program takes a series of x, y and z co-ordinates and constructs a picture from them. The three dimensional image can then be manipulated for a view at any angle, size and rotation.

ANAGRAM.BAS
Presents a jumbled word from a store of around 600 for you to unscramble as quickly as possible

ANGLES.BAS
This program provides both instruction and testing of the basics of angles. Acute, right, obtuse and reflex angles are drawn and described, then followed by a tests where angles have to be named or where you try to match a given angle by positioning a point with the mouse.

BASIC2.APP
Along with BASIC2.RSC the files provide an upgrade to version 1.23 with three extra commands - Alert, Inkey and Selector. You can use this version only if you have a licence to do so. If you have bought an Amstrad PC1512 or 1640 then you already have the licence, and this copy is supplied on the same terms as the original.

BAS-INIT.BAT
This batch file prepares a single floppy with enough of MS-DOS, GEM and BASIC2 to run the language from one disk.

BRAHMA.BAS
A version of the old favourite 'Towers of Hanoi' in which discs must be transferred from one pole to another without ever placing a disc on top of a smaller one.

BRAHMA2.BAS
The same as BRAHMA.BAS but with a recursive solution and demonstration.

BUSES.BAS
An educational program teaching number recognition and counting to pre-school children.

ENIGMA.BAS
A game which involves moving and interchanging two blocks of shaped tiles, with the object of transposing two blocks from opposite corners of the playing area.

EUROQUIZ.BAS
A graphic, multiple-choice quiz based around the countries of Europe and your knowledge of its major cities.

MANDEL.BAS
Draws extremely attractive multi-coloured Mandelbrot sets of your choice. Be warned - it takes a long time!

MATHS.BAS
This program offers you five types of test, covering addition, multiplication, subtraction and division and a random mixture of all four.

OXO.BAS
The thinking machine's noughts and crosses, and an example of one of the programs which can be found in Peter MacBride's book "Advanced Basic2 programs on the Amstrad PC".

ROBOPOST.BAS
A compulsive, simple yet frustrating sliding tile game with a difference - you have to create a pathway for a robot postman.

STYLISER.BAS
Downloads any of three fonts into an Epson-compatible printer, and they may be used with other programs (including non-GEM ones) to add sparkle to your correspondence.

SUNDIAL.BAS
A program for generating sundials on your PC. It takes into consideration your latitude and then calculates the appropriate hour angles and the 'style height'.

TENPIN.BAS
A ten-pin bowling game in which your PC keeps score and resets the pins after each go.

TURTLE.BAS
Based loosely on 'turtle' drawing found in Logo programs, this program allows you to draw and colour squares, circles, pies and ellipses.

PC-SOFT #2

Eight games on one 5.25" or 3.5" disk with:

3DOXO.EXE
A three dimensional version of Noughts and Crosses played on four planes against your computer. Each plane, one above the other, contains a grid of sixteen squares. To win, you must get four of your counters in a row - vertically, horizontally or diagonally. It's not as easy as it sounds and the computer plays a strong game.

BOUNCY.COM
A giant nuclear-power station that orbits the planet Abraxii has gone terminal. You have been raced to the scene, encased in your Ultra-Ball, to restabilise the reactor by colliding with the uridium cooling rods and driving them home one at a time. Your score 10 points for each rod successfully replaced. The only problem with the Ultra-Ball is that it is unsteerable and always travels in a straight line, horizontally or vertically. What you must do is activate the deflector shields that are built into the reactor so that the ball will bounce off them and hit the cooling rods. Within the reactor are anti-matter death stars which will destroy you on contact and inter-spatial gateways which will take you from one side to the other.

DRAGONFLY.EXE
A full colour action arcade game originally designed for the PC1512, but also works on EGA if you don't mind a messy title screen. The games centres on a tract of water patrolled by a helicopter. Your mission is to blast enemy hydrofoils out of the water before they blast you. The helicopter can be controlled with the numeric keypad (or a nine-pin joystick fitted into the keyboard of a PC1512/1640).

JOIN4.COM
This strategy game is based on the 'board' game Connect4 and involves two players dropping counters alternately onto one of the seven to try and produce a line of four in any direction - but be warned, it plays a mean game! It is self-contained and displays its own instructions. The game can be played against your computer, against another player with the computer keeping score, or the computer can play itself.

MM.EXE
This is the infamous Mastermind game of logic but with some additional features. You can play against a clock and have to keep a watchful eye on an ever dropping thermometer style scale on the right of the display. There's also a digital clock to remind you how long you have been playing. There are four levels - Amateur, Average, Expert or Master and the range of numbers for any sequence can vary from six to ten using any digit between 0 and 9. It also features sound effects and you can alter your guess as many times as you like within a time limit. You get a progress report after every ten moves.

MOLECULE.EXE
A jazzy version of Black Box in which you fire beams into a lattice of squares and determine where the molecules are hidden by analysing the reflections and absorptions. It's a bit like a 3D version of Mastermind but with more information provided.
A ray is absorbed by a direct hit and reflects from any of the corners of a molecule. You mark where you think each molecule is and check your guesses at the end of the game. There is a variable time limit to add tension to the game with sound, level of play and number of molecules also optional. There's also a demonstration mode to show you how it all works.

RACE.COM
Race simulates a six-race meeting at any of four courses. Each race is of a different length and you have to study the form to select the horse most likely to win. You start off with £50 (pretend they are dollars) and can bet up to £99 for a win or place to a maximum of four place bets in any meeting. The race is shown in colour (you must at least have CGA) as the horses come to the last fence, and although form plays a major part, your horse can still fall at the last fence.

REVERSI.COM
A very good version of Othello (for CGA graphics screens) with menu options offering instructions, programming details and a high score table. The object of the game is to have more squares covered with counters of your own colour than your opponent's when the board is full. You must place each counter to trap at least one counter of the opposite colour between your new one and another of yours already on the board. All trapped counters are then flipped over to your colour.

PC-SOFT #3

Twenty-four utilities on one 5.25" or 3.5" disk with:

BEEP.COM
If you compile large Cobol programs or simply want to irritate your neighbours, this is just the utility for you. It produces an attention-seeking alarm and tells you to press 'any key to continue'.

CAL.COM
A perpetual calendar which will display any month from the year 1753 to 3000 - instantly.

CALENDAR.COM
Lets you display and print a calendar for any year between 1900 and 2099.

CGA2.COM
Offers something like a 60% success rate in allowing owners of monochrome monitors to run programs that use CGA graphics in different shades of grey.

CHOICE.COM
A short command file providing a handy way of using multiple-

choice menus in your batch files.

CLEANUP.COM
If you use WordStar (not WS1512) or NewWord you may know they do funny things to the last letter in each word making them hard to read or load into another file. Run them through CLEANUP and most of your troubles are over.

CLICK.COM
A simple program to make your PC 'click' every time you press a key on the keyboard.

CLR.COM
Simply clears the screen to a specified colour.

CURSOR.COM
A utility, most useful for PPC owners, which changes the shape of the cursor to a block or turns it off all together.

DELB.BAT
A batch file which deletes all the files in the current directory which don't conform to a series of specified wildcards.

DOSEDIT.COM
A very handy routine to keep on your MS-DOS work disc. It takes a lot of the pain out of MS-DOS when you are trying to copy a lot of files or work with hierarchical directories on a hard disc. It lets you edit the command line.

DOSMAP.EXE
This program provides complete information about the contents of your PC's memory - which programs are in there, how much of memory they occupy and what interrupts they have taken over.

DRIVE.COM
Mainly for use in batch files, DRIVE checks whether a specified drive is ready for access.

ETIMER.EXE
Can be used to check or measure the time taken to run another program or an MS-DOS command.

FILEDATA.COM
Reads the system clock of your PC and produces a short text file (with the filename DATE) containing the full date in the form 'Monday 25th December'.

FSORT.BAT
This useful batch file takes two ASCII files, adds the second to the end of the first and sorts the result.

FULLDIR.EXE
This displays the directory tree structure of any drive.

GDEL.EXE
A global deletion program (so be careful!). It deletes all specified files or those with wildcards.

HDFLASH.COM
A useful utility for owners of Hard Disk Cards who can't see when the disk is being accessed. It puts a smiley face in the corner of the screen which is solid when the drive is reading and hollow when it's writing.

KD.COM
A dangerous but useful utility which kills a directory simultaneously removing all files within it.

LOSTFILE.EXE
This searches out files you know are somewhere on your disc.

LYNE.EXE
A great utility which lets you type a short letter or document line by line and saves having to go through a word processor. It sends your text to the printer at the end of each line. It also contains built-in codes for all the normal Epson printer effects.

MEDIT.COM
A neat and fast memory editor which can show you bytes of memory in real time.

NVRSAVE.COM
Enables you to save/store the contents of your NVR area to disk before removing and replacing your batteries.
Once the new batteries are in place you can use NVRREST.COM to restore the non-volatile RAM (NVR) area of your Amstrad PC.

PC-SOFT #4

Six games on one 5.25" or 3.5" disk with:

CRIB6.EXE
This is a full version of the popular card game for two players complete with cribbage board and score card. You can use the keyboard or the mouse to play the cards by simply pointing at them. For the uninitiated, each player takes a turn in playing a card to score points as they are laid. When all the cards have been played, they are scored individually and added to each player's accumulating score on the pegboard. The first player to 121 is the winner. There is a cheat mode whereby you can use the reveal option to show you your opponents cards.

GALACTIX.COM
Your crippled spacecraft, the USS Galactix, has crash landed on a planet after colliding with a meteorite. You were trying to get back to Earth at the time and unless you find five specific items to repair your ship, you are doomed. Naturally the planet is hostile being patrolled by robots and guards. You can 'get' objects, 'use', 'drop' or 'examine' them by using icons displayed on the right of the screen. Energy will be lost quickly if you come into contact with the inhabitants. Food and drink will replace lost energy. There are many puzzles and they must be completed in order to complete the game.

JASON.EXE
Trapped on an alien planet and surrounded by mutated plants and animals, you have to guide Jason around numerous obstacles to gather up the heart shaped crystals. Part of the screen gives way under his feet if he dawdles, so planning is essential. Four lives are provided and you lose one if you touch a flower or a hollow head.

RIMTRIX.COM
A real brain teaser, RIMTRIX involves a series of slideable tiles each bearing a pattern of tracks. Coloured balls are collected from the left of the screen and directed to their relevant coloured cups on the right of the screen by moving the tiles and creating a path for the ball. If the ball falls into an areas without a tile, the ball is lost.
Tiles can only be moved if in a position to be moved (ie. next to a black space) and can be moved left, right, up or down and even rotated. Keys can be redefined if required, but the game defaults are the arrow keys and the space bar to rotate. You cannot rotate a tile with a ball in it.

SNAKE.COM
There are lots of 'Snake-style' games around, but this one is different. The aim is to gobble up all the yellow apples, which are replaced elsewhere on the screen with red apples. Eat the red apples and they are replaced with poisonous mushrooms which must not be touched or 'you're dead. They can, however, be destroyed by spitting venom at them. Steering is different in that the snake will always turn left or right in relation to the direction in which it is travelling. There are many levels.

WEASEL.COM
A demonstration of the power of natural selection with a given alphabetical phrase. The program takes a completely random set of letters and with each generation uses a pre-set probability to decide whether a given letter will mutate to a random one. If this is the case, and the new letter is in the target phrase, it is deemed to more closely suit its environment.

PC-SOFT #5

Twenty-three utilities on one 5.25" or 3.5" disk with:

PEEK.COM
If you need to search through a file containing readable sections of text, this small utility will do the job for you.

POINTER.ACC
A GEM accessory which displays the pixel co-ordinates of the pointer. It is called from the application name menu by clicking on the 'Pointer-Pos' option.

POPTIME.EXE
A compact (only 1k) resident clock display program which not only pops up but also pops back on its own accord. It is loaded into RAM by typing POPTIME.

PRCODES.COM
This utility allows you to send any code through the serial or parallel port of your PC to your printer. Most of the codes are escape characters (beginning with the ASCII character 27). Other can be found in your printer manual. The codes are sent in decimal (1 to 255) or, for some, using the relevant keyboard character.

PRMODE.COM
A very friendly printer mode selector allowing you to select special effects on your printer (like bold, italic and underline) outside an application program (eg. when you use COPY filename PRN:). It can be used in a batch file or from the A> prompt.

PRINTC.COM
Another utility for getting codes to your printer which can be sent in hexadecimal or as the ASCII character.

PSTASH.COM
A useful utility for redirecting any output sent to the parallel printer ports to a named disk file.

RENDIR.COM
Here's a utility which enables you to easily rename a sub-directory. It's particularly useful if you have just created a sub-directory and copied a heap of files into it then decide you have the wrong name.

SCRDMP.EXE
This is a memory resident screen dump utility. It saves a text screen to a named file using the [PrtSc] key from your choice of application.

SEE.EXE
A utility for spotting ASCII strings in machine code files and then display them on the screen.

SET UTILITIES
Five useful utilities to set up an Epson printer from the A> prompt. They can also be included in your AUTOEXEC. BAT file for an automatic set up.

SET10.COM	- sets PICA type with ten characters per inch
SET12.COM	- sets ELITE type with twelve characters per inch
SET12M12.COM	- sets ELITE type and a 12 character margin
SETNORM.COM	- cancels any SET commands and resets the printer
SETPOUND.COM	- sets pound and hash signs so that they print as displayed on the screen.

SGR.COM
A utility for setting particular screen attributes. You can change colours, bold characters, reverse video etc.

SIZE.EXE
A fast utility which counts the number of characters, words, lines and pages of a named text file or files.

TSTDATE.COM
This utility, when incorporated in a batch file, provides a simple 'on date goto' function and a 'day of the week' function, a useful feature for automatic backups.

TIMEFIX.COM
A bug-fix exclusively for PC1512 owners who have problems when their internal clock gets to midnight. Apparently (in some cases) the clock continues to 31.00 instead of changing to 00.00 then hangs the machine.

TIMEPARK.COM
A utility for nervous hard disk users worried about disk head crashes. It 'parks' the heads after a pre-determined period of disk inactivity. They are 'un-parked' the moment an access is necessary.

TV.COM
A text view program with many features to display text files. You can scroll through a file in either direction a line at a time, move

back or forwards a page or straight to the start or end of a file. Unreadable symbols in Wordstar files can be converted to alphabetic form. Strings can be searched for with moves to the first or subsequent occurrences. TV also comes with an index facility for up to 16 separate text files accessed through an index screen.

WORDS.COM
A useful word counter which will give you a pretty accurate word count for any ASCII text file.

WYH.EXE
This utility looks at the system parameters and reports on the screen. It shows the number of floppy drives, whether or not a games card or maths co-processor are fitted, the number of parallel and serial ports, the size of RAM available and the number of hard disk drives on board.

CPC and PCW

The following discs contain compilations of public domain programs which have been tested under CP/M Plus. Unless otherwise stated, programs will run on the PCW, 6128 and 464/664 with extra memory and CP/M Plus. Programs for the 464/664 are on the CP/M 2.2 Collection. The discs are supplied in Data format and contain documentation files to help the user get started and provide instructions on running the programs.

But remember, as Public Domain programs they are supplied on an as-is basis.

HOW TO ORDER YOUR DISCS

Before placing your order, please make sure you have selected the correct item for your computer.

All software for PCs or compatibles have a reference PC-SOFT followed by a number.

Software for CPCs (found on this page) have a reference starting with #4 (for CPC464s with a disk drive and CP/M 2.2)) or #6 (for CPC6128 running CP/M Plus).

Software for PCWs have a reference starting with #8. These discs can be converted to run on a PCW9512.

You may either order over the phone quoting your credit card, or by post enclosing a cheque, money order or quoting your credit card number and expiry date.

The cost of each disk is as follows:

PC-SOFT 5.25" disks	12.50
PC-SOFT 3.5" disks	15.00
CPC 3" disks	17.50
PCW 3" disks	17.50

(Please add relevant postage as shown on Pages 56 to 64)

THE AMSTRAD USER
641 High Street Road
Mount Waverley, 3149
(03) 803 9661

PCW GRAPHICS (PCW only)
Simple user-designed graphics drawing program. Enables you to create, save, edit and print pictures on your PCW. Plot lines, points, boxes, four fill patterns, easy to use and wholly interactive • *PCW Screen Font designer* with several ready-to-run font sets • *Biomorph* - fascinating, graphic demonstration of natural selection - develop your own bugs! • *Readme* - program to display any ASCII text file in 45 character format on the 90 character screen - makes it easier to read. **PCW Ref: #815**

CP/M 2.2 COLLECTION
For 464/664 disc drive users with CP/M 2.2. Contains File Manager, Compare, Find, Disc sector editor, Key definer, Bad sector eliminator, Grep, Full Screen text editor, Easy lister, File transfer utility, Unerase erased files, erased files catalogue and many more. **CPC Ref: #430**

FULL SCREEN TEXT EDITOR
This machine code editor offers full screen editing, full block operations, windowing, automatic horizontal scroll (line length up to 255 characters), macro functions, word-wrap and formatting, pagination, find/replace, undelete and many user options.
The editor, which is less than 10k in size, is fast because it edits a file entirely in memory. It produces ASCII text files and has enough features to be used as a word processor. A comprehensive on-disc manual is included together with keyboard configuration files for the CPC and PCW.
CPC Ref: #601 PCW Ref: #801

DATABASE
A small relational database suitable for storing simple data and producing reports and forms letters from the data. Offers free format query language with macros and commands plus on-line help. The disc also contains an Inventory Database. Whilst these databases provide a useful introduction and you can use them to set up a full operational database system they are not meant to replace commercial packages for professional or business use.
CPC Ref: #602 PCW Ref: #802

COMMUNICATIONS
Programs to allow data transfer between computers (local and remote), access databases and bulletin boards. UKModem7, New Kermit, MEX and various communications utilities. The disc also contains software for Prestel (Viatel) emulation (PCW only).
CPC Ref: #603 PCW Ref: #803

VIDEO CLERK
Keep track of your video collection. With four Sort options and Forms Management system for printing out the data in order of title number, video number, global alphabetic or unique. Includes extensive on-disc documentation.
CPC Ref: #604 PCW Ref: #804

FIXED ASSETS LOG
Allows you to keep a record of all your assets and their value. For example, at home, you may wish to keep a record of how much money you are spending on your computer or the value of a stamp collection etc. In business you can use it to keep a record of how much money you have tied up in land, buildings, office equipment, cars etc. It can also be used as a stock-taking program.
CPC Ref: #605 PCW Ref: #805

COMPLETE UTILITIES
• *Newsweep* - one key erase, copy, rename and print, plus many other features. Ideal for sorting out your disc collection quickly and efficiently • *Superzap* - disc sector editor - edit by track/sector or filename. Fully menu-driven with cursor key SETKEYS file • *DisckitA* - multi-choice disc formatter, offers 178k data format for PCW discs and 5.25" second drive formatting • *Unerase* erased files • *Read/write* PCW discs on a CPC • *CP/M v2.2 emulator* • *Make* - allows you to copy files across user areas • *Cleanup* - useful for speedy file deletion • *Lookat* - speedily lists any file in Hex and ASCII • *Screen Dump* (CPC only) • *Password* • *Easy Lister* • *Password Protection* • *File* • *Scrambler* • *File Splitter* •

Directory check **CPC Ref: #606 PCW Ref: #806**

TEXT PROCESSING UTILITIES
• *Sideways* - prints text file sideways on an Epson-compatible printer. Ideal for those wide spreadsheets • *Sort* any ASCII list into alphabetical order • *Word count* - can be used on any ASCII file • *WSClean* - removes higher order bits from a text file and converts it to straight ASCII • *Calendar Generator* - prints out calendar for any year • *Simple Spell Checker* - with starter dictionary and dictionary editor • *Scoring card generator* • *Banner printers* • *Typewriter emulator* **CPC Ref: #607 PCW Ref: #807**

DISC ORGANISATION
Catalogue your disc collection and produce a printed index. Useful for speedy location of files and for keeping your discs in order. Library utilities for archiving and saving disc space. File dating system. Squeeze and unsqueeze for saving up to 40% disc space. Menu system - allows menu-driven access to programs on a disc. Completely and easily user-definable.
CPC Ref: #608 PCW Ref: #808

Z80 PROGRAMMER
A complete Z80 Assembler which is capable of converting an ASCII assembler file into a fully executable machine code .COM program. Plus Z80 Disassembler, Z80 Debugger, Z80 Library, 8080 Disassembler, Z80 to 8080 Translator and associated utilities. **CPC Ref: #609 PCW Ref: #809**

'C' PROGRAMMER
The Small 'C' Compiler by Mike Bernson. Includes source code and 25k of documentation. Produces executable .COM programs. **CPC Ref: #610 PCW Ref: #810**

C' TOOLBOX
A disc full of 'C' source code examples together with the corresponding executable .COM programs. Useful to those wishing to see some practical examples of 'C'. As a bonus, the programs are quite useful too. The 'C' source was written for a variety of compilers and may need modifying to compile on MIX or Small 'C'. **CPC Ref: #611 PCW Ref: #811**

FORTH, STOIC AND 'C' INTERPRETER
For experimenters interested in using these languages. Documentation is included on disc.
CPC Ref: #612 PCW Ref: #812

GAMES COMPENDIUM
A varied selection of the best machine code programs available for CP/M. Includes Pacman, Snake (PCW only), Chess, Othello, Mastermind, Spellit, Awari, Life, Golf, Polish Pong, Maze, Biorhythms, Word Search puzzle maker, TicTacTo.
CPC Ref: #613 PCW Ref: #813

ADVENTURES
• *Colossal Cave Adventure* which originated on main frame computers. With game save and re-load • *Bestiary* (written in Mallard Basic for either PCW or 6128 Mallard users. Standard CPC users see Adventurer's Attic March 1989)- you play the part of a young prince, your greatest love being to read the ancient bestiaries about strange and often legendary animals. Your task is to find a solution to the terrible blight which, one year, destroys both crops and animals in the kingdom. Includes game save and re-load • *Return from Arg* - a short but interesting new adventure written in 'C'. **CPC Ref: #614 PCW Ref: #814**

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— CPC —
464 - 664 - 6128

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8256 - 8512 - 9512

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Column 1

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Maths Climbers	19.95
Mr. DOS	19.95
Read Easy	19.95
Spell Castle	19.95
Type and Learn	19.95

Create with Garfield - design posters, cartoons or labels with
200 pieces of Garfield and friends art †	69.95
Delta Drawing	52.95
Dinosaur Days (6-12yr) - graphic writing program	**59.95**
Dinosaur Discovery #	49.95
Fraction Action	69.95

FUN SCHOOL 2 SERIES (Reviewed Jul 89)
Under 6	49.95
6 to 8	49.95
Over 8	49.95

*The above FUN SCHOOL 2 items are also available
in 3.5" format if requested. The cost of each unit is* 53.95
Grammar Examiner	59.95
In search of the most amazing things	59.95

Joshua's Reading Machine: *for ages 4 to 7 with parent
participation - also includes three adventures in Joshua's
Tinker Tales* 79.95

**Kid's Collection: *three educational games - Bambinours,
Memorise, and Associated*** 59.95

**Kid's Time: *for 3 to 8 year olds with Dot-to-Dot, Kid's
Notes (music), AB Key (letter recognition)*** 69.95

Lex, Wizard of Words (Ages 10 to 99) #	39.95
Magic Maths (4-12 yr) CGA	39.95
Math Blaster Plus (6-12 yr) - 750 math problems	**69.95**
Maths Mania (8-12 yr) CGA	39.95
Manhole, The (6 x 5.25" disks) primary level	89.95
Maxi Maths (12-16 yrs)	39.95

Micro Maths - advanced
for Years 9-11 students	59.95
Mixed up Mother Goose #	59.95
Number Fun 1 (5 to 15 yrs) #	o/s

ONCE UPON A TIME SERIES: for children (6 - 12) to write,
edit and print their own book.
Volume 1	79.95
Volume 2	79.95
Physics (12-16 yrs)	39.95
PC Globe 3.0 - more than a computerised atlas †	**125.00**

Playroom, The # (Pre-school to Year 2: teaches letters,
numbers and time: comes with soft toy mouse) #	79.95
Puzzle Story Book #	49.95
Race Car 'rithmetic	69.95

Reading and Me - suitable for ages 4 to 7 containing three
modules: Letters and Phonics, Words and Sentences,
and Reading Readiness	59.95
Rhyming Note Book #	49.95

Sesame Street series - covers problem solving, predicting,
logic & reasoning
Ernie's Big Splash (4-6 yrs)	39.95
Astro Grover (3-6 yrs)	39.95
Grover's Animal Ad (4-6 yrs)	39.95
Big Bird's Delivery (3-6 yrs)	39.95
Ernie's Magic Shapes (4-6 yrs)	39.95
Pals around Town (4-6 yrs)	39.95
Science & Engineering - examples	49.95
Ships Ahoy	59.95
Spelling Fun 1 (5 to 15 yrs) #	39.95

Stepping Stones Series
Level 1 - ages 2 to 4 - letters, number & words	69.95
Level 2 - ages 5 to 7 - words, maths & sentences	69.95
Study Mate - grade booster †	**84.95**
Ten Little Robots	49.95
Typing Tutor 4 #	62.95
Word Fun 1 (5 to 15 yrs) #	39.95
Where in Europe is Carmen Sandiego †	84.95
Where in Time is Carmen Sandiego †	84.95
Where in the World is Carmen Sandiego †	84.95
Where in USA is Carmen Sandiego †	89.95

Column 2

PC BUSINESS

Ability Plus †	299.00

Upgrade to **Ability Plus** for existing **Ability** users
(Original disks and manual required for proof)	224.00
Ability †	149.00
AutoSketch (CAD system) †	**249.00**

Bankmate - *manages personal finances and reconciles
your bank account. Includes pop-up calculator.* # 59.95
Bookkeeping (to Trial Balance)	**199.00**
Brainstorm †	99.00
Business Dynamics - *primer*	39.95
Capital Budgetting †	199.00
Cardbox Plus Standard †	895.00
Chartman - *business graphics*	99.00
Condor 1 Jnr †	149.00

Contactmate- *productivity package which controls
personal & business contacts* # 69.95
Corporate Finance †	199.00
Desktop Accountant †	399.00

DGCalc - *512 rows x 52 column spreadsheet performing
essential functions and more* 89.95
Dream House Professional - *floorplan drawing †*	129.95
Financial Accounting for non-Accountants †	199.00

Home Accounts - *60 expenditure categories and 10 income
accounts with budgetting & bank/cash reconciliation †* 89.95

Home Office Plus - *word processor, database, desktop
publisher, drawing, diary, mailing list, rolobase and
dictionary all in one package †* 129.00

Home Office Publisher - *complete desktop publishing
with WYSIWYG display †* *(requires dual drives)* 129.00
In-house accountant †	299.00

Masterfile PC version 3 standard - *the most popular
database for Amstrad PCs & compatibles* # 199.00

Masterfile PC version 3 full - *the standard version with
an integrated word processing module included* # 269.00

Mini Office Personal - *integrated database, wordprocessor,
Spreadsheet and label printer* 99.95

Money Manager PC - *cash book including graphics* 79.00

Moneymate - *a well organised personal finance
management package handling up to 10 bank accounts and
25 credit cards , 200 income/expense categories, budgeting,
cash flow etc. (can use mouse)* # 119.00

My Accountant - *personal and small business record keeper
with up to 100 user defined accounts †* 39.95

Personal Excellence Package - *a serious approach to
assessing your thinking skills, IQ, mental performance and
aptitudes* 109.00
Personal Cardbox Plus †	349.00
Protext PC #	169.00
Protext Filer PC	59.95
Protext Office	79.95

RAM JET EXECUTIVE - *gives PC1512 only a disc cache,
print buffer, screen accelerator* 69.00
Scratchpad Plus †	99.00

Sage Series *(fully supported in Australia) †*
Bookkeeper	299.00
Accountant	449.00
Accountant (network version)	900.00
Accountant Plus	749.00
Accountant Plus (network version)	1200.00
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Financial Controller (network version)	2500.00
Payroll (up to 999 employees)	599.00

**Unless stated otherwise, please add the
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Order value over $50	$5.50	$10.00

Column 3

Sales Force Management †	199.00
Stockmarket - *watch your shares*	79.95
Swiftcalc - Spreadsheet + sideways printing †	69.95
System 3 - *Invoicing, stock control and cashflow †*	129.00

Tait Accounting - *small business accounting with Debtors,
Creditors and Invoicing* 129.00

TBM (formerly ABC Business Pack) - an Australian
supported integrated accounting and stock control package
with many extras 499.00

TRIO - *Word Processor, Database and Spreadsheet* 99.95

Top Copy - *word processing with spell checker and
mail merge* 69.00

Twin Advanced - *integrated spreadsheet (like Lotus),
graphics and database* 159.00

PC UTILITIES

3-D GAME MAKER	49.95

AWARD WARE - *certificates, banners, cards Designer* 49.95

BANK STREET WRITER PLUS - *famous Word Processor
including 60,000 spell checker & Thesaurus* # 110.00
BANNER MANIA # (for colour printers too)	69.95
CREDIT CARD ACCOUNTING SYSTEM	29.95
CROSSWORD MANIA †	34.95

DISCO HARD DISK MENU SYSTEM - *creates
personalised menus, runs common DOS commands with
one keypress.* 99.00
DOS-RX - *disk management utilities and tools*	64.95

EXPERT SERIES:
Disc Tools	39.95
Filer	39.95
Money Power	39.95
PC Protection	39.95
Perfect Typing	39.95
Personal Finance	39.95
Personal Forms	39.95
Personal Publisher	39.95
Personal Skills	39.95
Writer	39.95
FILE RESCUE PLUS	69.95

GO! SERIES (all contain Computer ToolBox utility)

GO! START - *four function calculator, letter writer and
typewriter, computer toolbox, address filer, notepad, maze
game, print function for printing envelopes and address
lists* 29.95

GO! WRITE - *prompts for business letters, memos, reports,
invitations, calendars, banners and address forms* 29.95

GO! FILE - *fully functional database, just fill in the blanks
in ready made file forms* 29.95

GO! PLAN - *fully functional spreadsheet, just fill in the
ready made forms for planning retirement, savings, car
expense, loans, etc.* 29.95

HOME ORGANISER - *with Inventory, Shopping list, Librarian
and Planner †* 14.99
IANKEY TYPING TUTOR - *crash course* #	59.95
IANKEY TYPING TUTOR - *for 2 finger typists* #	59.95
LOTTERY WHEEL †	34.95
LOTTERY TREND - *analysis †*	34.95
MAIL SHOT PLUS - *with graphical layout*	99.00
MASTERING YOUR PC - *a DOS & Typing tutorial*	39.95
PAINT SHOP - *graphics with label feature †*	39.95
PERSONAL BANKING RECONCILER	29.95
PERSONAL POSSESSIONS INVENTORY	29.95
PERSONAL WEDDING PLANNER †	**69.95**
PIC TRIVIA †	34.95
PRINT MAGIC †	49.95

PRINT SHOP (NEW) - *over one million copies sold of this eas
to use personal graphics package. 8 type styles, 9 borders,
dozens of pictures to create personal cards etc.* † 99.95

ADD-ONs FOR NEW PRINTSHOP
Sampler disk - *graphics covering holidays, birthdays,*

—— PC continued ——

School, Sports and more †	59.95
Party disk - *graphics for Weddings, Welcome Home, BBQs, Parties, Valentine's Day etc. plus borders* †	59.95
School & Business Edtn - *over 100 eye-catching pictures for the office or student environment* †	59.95

ADD-ONs FOR OLD PRINTSHOP

PrintShop Companion - *adds a calendar to old Print Shop (monthly and weekly formats) plus facility to edit existing old Print Shop graphics* †	89.95
Disk 2 - *symbols for hobbies, occupations, travel, music and health* †	54.95
Holiday Edtn - *70 graphics for Christmas, Hanukkah, New Year, 10 new typefaces, 14 borders & 12 full panel designs* †	54.95

UPGRADE FROM OLD TO NEW PRINTSHOP † 34.95
PRINT POWER - *multi fonts & borders* 69.95

PUBLISH-IT - *a fully integrated, full featured desktop publisher with page layout, word processing, typesetting and graphics all in one package. Accepts imports from Word, WordPerfect, Lotus 1-2-3 graphic files. Over 1200 possible typestyle to choose from.* # 299.95

PUBLISH-IT LITE - *a simpler version of Publish-It having all the main features for those wanting to do straightforward publishing for practical purposes. (3.5" swap facility)* 99.95

PUBLISH-IT PORTFOLIOS

People, Places and Things (over 250 pics) #	**59.95**
Symbols and Slogans (over 450 pics) #	**59.95**
Educational Graphics (over 200 pics) #	**59.95**
Design Ideas (over 85 layouts) #	**59.95**

SPLASH - *a VGA paint program with over 256000 colours which makes full use of the incredible high quality VGA graphics. 60 pattern and brush sizes, flip, stretch, fill, zoom, merge.Compatible with most DTP programs* # 199.00

Tasword PC - *word processor* †	99.00
Tas-spell PC - *spell checker* †	95.00
Tas-print PC - *style writer* †	95.00
Tas-sign PC - *sign maker* †	o/s
Tascopy PC - *graphics editor* †	o/s

PC PUBLIC DOMAIN

PC-SOFT #1 - 19 Basic2 utilities and games-	5.25"	12.50
PC-SOFT #2 - 8 games for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #3 - 24 utilities for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #4 - 6 games for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00
PC-SOFT #5 - 23 utilities for all Amstrad PCs -	5.25"	12.50
	3.5"	15.00

PC JOYSTICKS

ANKO PRECISION JOYSTICK: *top of the range - with free floating or auto centring operation modes, dual axis trim controls for accurate control of cursor/aiming/movement, two fire buttons on base and one on stem and rubber feet for surface grip* 49.95

ANKO STANDARD JOYSTICK: *mid-range priced joystick with fire button on base and one on the stem, dual axis trim controlsfor accurate movement, and rubber feet for surface grip* 39.95

JUNBO JOYSTICK: *the smallest inthe range but just as accurate, with auto return centring and fine tuning to adjust movement control, long life variable resistor control, two fire buttons,suitable for hand held control* 29.95

KONIX SPEED KING - *hand-held (in the left hand) for a natural grip and total control. Microswitched twin fire buttons positioned under trigger fingers. Free or self centring solid steel shaft. Autofire feature.* 49.95

Please note that with the exception of the Amstrad PC20

—— PC continued ——

all other Amstrad PCs require a joystick card to be fitted

MISCELLANEOUS

DISKS

Verbatim "Valuelife" 3.5" (packs of five) per pack...17.50
KAO "Amstrad User" 5.25" (packs of ten) per pack...22.50
KAO "Amstrad User" 5.25" (packs of two) per pack... 4.50

DISK DRIVE HEAD CLEANERS

3.5" for PPC, PC20 or PC2000s	17.95
5.25" for PC1512/1640	17.95

IBM PARALLEL PRINTER CABLE **29.95**

JOYSTICK GAMES CARD: *Easily fitted - allows the use of an IBM style joystick on your Amstrad PC.* 49.95

PC1512/1640 'SEAL 'N' TYPE KEYBOARD PROTECTOR
Stops damaging spills and dust 29.95

MODEM - *Amstrad's MC2400 (V21, V22, V22 bis and V23 2400 bps). Works with any IBM compatible and comes with communications software.* 399.00

SCANNER - *GS4500 Geniscan includes 400 dpi scanner and controller, Scanedit 2 software, Prodigy OCR software and Dr. Genius software. Features auto merge function for large size images and direct scanning* 499.00

DUST COVERS

Australian made vinyl fabric dust covers in light grey for the following equipment: (please state your printer)

PC1512 or PC1640 monitor and keyboard	36.00
PC20 system/keyboard	18.00
PC2086 monitor/system and keyboard	39.00
PC2286/2386 mon/system and keyboard	39.00
DMP3160 or LQ3500	17.00
DMP4000 or LQ5000	30.00
Epson LX-800 or Star NX-1000	17.00
Epson LQ500	17.00

DISK DRIVES/CARDS

FOR PC1512 or PC1640
(The PHDs also suit PC2086s without hard disks)

20mb Portable Hard Drive on a card *	849.00
30mb Portable Hard Drive on a card *	929.00
20mb Internal Hard Disc *	725.00
30mb Internal Hard Disc *	789.00
* Add $15 for certified post and insurance ($25 overseas)	
720k 3.5" int. disc drive **	289.00
720k 3.5" Ext. disc drive **	385.00
360k 5.25" Disc drive kit **	375.00

FOR PC20 and PC2086

360k 5.25" External disc drive **	339.00
720k 3.5" External disc drive **	339.00

FOR PC2286 and 2386

1.2 mb 5.25" External disc drive **	395.00
1.44mb 3.5" External disc drive **	395.00
** Add $10 for certified post and insurance ($20 overseas)	

MATH CO-PROCESSORS

8087-2	XT - 8MHz	369.00
80287-8	AT - 8MHz	595.00
80287-10	AT - 10MHz	689.00
80387-16	16MHz	1145.00

MICROSOFT RANGE

Chart † 550.00

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Order value over $50	$5.50	$10.00

—— PC continued ——

Excel for Windows #	849.00
Learning DOS †	95.00
Multiplan #	345.00
Project #	695.00
QuickBasic Compiler †	185.00
QuickC †	185.00
Windows 286 †	195.00
Windows 386 #	345.00
Word †	675.00
Works #	299.00
Word Exchange †	119.00

—BOOKS—

CPC TITLES

Advanced User Guide	21.95
Childs' Guide to the Amstrad Micro	13.95
Computer Games Guide (400 Hints, Tips & Pokes)	**29.95**
Disc System, The Amstrad CPC 464	28.95
Filing Systems and D/Bases for the CPC464	30.95
High Energy Programs for the Amstrad	9.95
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Machine Language for the Absolute Beginner	23.95
Practical "C"	29.65
Ready made Machine Language routines	23.95
Starting Basic - Bk 1	19.95
Sound, Graphics & Handling - Bk 2	24.95
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Book 1: First Steps in Basic	17.95
Book 2: Exploring Basic	17.95
Book 3: Computer Games	17.95
Whole Memory Guide - 464	30.95

LOGO TITLES

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Using DR Logo on the Amstrad	37.95

PCW TITLES

Advanced LocoScript on the PCWs	39.50
Desktop Publishing with the PCW	35.95
All in one business computing with the PCW and Mini Office Professional	37.95
Locomail User Guide - new version	54.95
LocoScript Pocketbook	17.95
LocoScript2 and the Amstrad PCW Computers - a complete guide	43.00
LocoScript2/LocoMail/LocoSpell: assignments and solutions	**32.95**
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Mastering the Amstrad PCW 8256/8512	32.25
Pocket Wordstar	30.95
PCW Machine Code	**39.95**
Program your PCW	32.95
Using Databases on the PCW	35.95
Word Processing with the PCW	27.95

CP/M TITLES

CP/M Plus Handbook - Operator's and Programmer's guide for the Amstrad CPC6128 and PCW 8256 and PCW 8512 (Soft 971) by Digital Research Inc. *Over 500 pages of everything you need to know about CP/M Plus. Includes a GSX supplement* 52.95

Choosing & Using CP/M Business
Software (for PCWs) 35.95

mail order

PC TITLES

Abacus Books for Beginners:

Cobol for Beginners	**36.95**
Excel for Beginners	**36.95**
GW-Basic for beginners	36.95
Lotus 1-2-3 for beginners	36.95
Microsoft Works for beginners	36.95
Microsoft Word for beginners	36.95
MS-DOS for beginners	36.95
Unix and Xenix for beginners	36.95
Ventura for beginners	36.95

Abacus Quick Reference Guides

dBase III	24.95
GW-Basic	24.95
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Amstrad PPC Companion	42.50
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Basic2 User Guide by Locomotive Software	39.95
Business Computing with the PC1640	44.00
Business Presentation	
Graphics on the PC1512	55.00
Communications with the Amstrad PC	44.00
DOS Plus Reference Guide for PC-DOS, MS-DOS and CP/M Programmers from Digital Research	75.00
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PC and IBM compatibles	46.65
Laptop Users Guide	**36.95**
Lotus Agenda	39.95
MS-DOS Tips and Tricks	**36.95**
PC System Programming for developers:	
an encyclopaedia for DOS programmers	69.95
PC1640 Technical Reference Manual	49.50
PC File Formats & Conversions (with 5.25" disk)	**49.95**
PC Tools Companion	36.95
PC Tools Complete	**49.95**
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Amstrad PC1512/1640	29.95

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Lotus 123 vers 2.2	34.95
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Multimate Adv II	34.95
PC/MS-DOS	34.95
WordPerfect 5.0	34.95

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Multimate Adv II	19.95
PC/MS-DOS	19.95
WordPerfect 5.0	19.95
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Using Ability on the Amstrad PC	34.95
Using DOS Plus on the Amstrad PC1512	39.95
Using desktop publishing on the Amstrad PC	29.95
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Using MS-DOS on the Amstrad PC1512/1640	29.95
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Word Processing using GEM Write	45.95

OTHERS

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Computers and the Law	65.00
Creative Printmaster Book	**29.95**
Introducing dBase	o/s
Managing your Computing: a practical handbook	50.00
Microcomputer - troubleshooting & repair	48.95

— COURSES —

Complete intoductions comprising audio tapes, disks and text

MACHINE SPECIFIC

Amstrad PC 1512 and 1640	59.95
Amstrad PPC 512 and 640	59.95
Amstrad PC20	59.95
Amstrad PC 2086	59.95
Amstrad PCW 8256/8512 with LocoScript 1	59.95
Amstrad PCW 9512 with LocoScript 2	59.95

OTHER COURSES

CP/M Computing on the PCW	59.95
Complete intro to IBM PC/XT/AT & compats.	59.95

— MAGAZINES —

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(English imported mag.)

Jan/Feb 85	March 85	April 85
June 85	November 85	December 85
January 86	February 86	May 86
September 86	November 86	January 88
February 88	March 88	April 88
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── BINDERS ──

BINDERS - in white vinyl with THE AMSTRAD USER logo in silver on front and spine. Protects twelve copies.   12.95

MISCELLANEOUS

MINI SUPER CLEANER - a small hand-held vacuum and/or blower to clean out difficult to reach areas such as a keyboard. Small brush and pipette attachments supplied.
Requires 2 x 1.5 volt batteries - not supplied   27.95

— VOUCHERS —

Gift Vouchers are an ideal gift for birthdays (or any other occasion for that matter) which allows the recipient to make his or her own choice of computer merchandise.

Any value of voucher (over $20) can be purchased, but must be used through The Amstrad User Mail Order service or The Amstrad User Computer Shop, our retail outlet in Mount Waverley.

To order by mail, send your cheque, money order or credit card number with expiry date, along with your name and address (this is to where the voucher will be posted) to our address shown below.

THE AMSTRAD USER
641 High Street Road,
Mount Waverley,
Victoria
3149

Phone: (03) 803 9661

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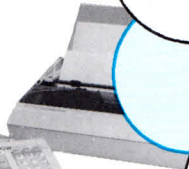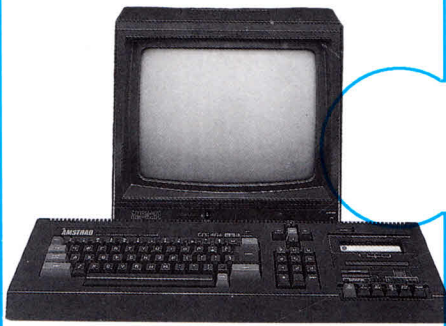
THE AMSTRAD USER

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