

The Aussie Mag
for Amstrad owners

THE AMSTRAD USER

TYPE-IN
SPECIAL
for
CPC Basic
PCW Basic
& GW-Basic

Issue No. 65 \$4.50

June 1990

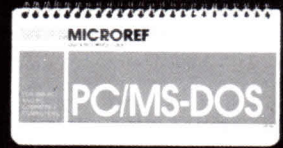
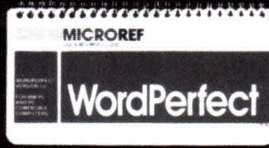
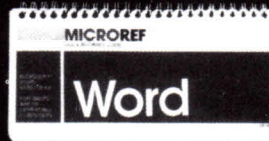
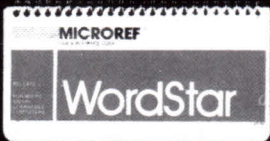
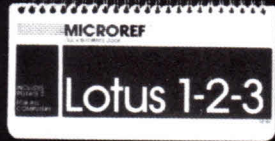
- Ten great games reviewed in the "Entertainment Centre" + Competition winner and Galactic Invaders CPC type-ins
- Review of Panasonic 24-pin printer + New book reviews
- New series on Sierra games + GW-Basic game type-in
- PCW type-in for teachers + Printing lists with LocoMail

FOR THE NOVICE & EXPERIENCED USER

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ESSENTIAL COMMANDS are organized into logical sections for easy reference.

FUNCTION KEY DIAGRAM identifies all function key assignments at a glance. **Vertical function key overlay** also included.

TWO-SIDED PLASTIC design fits all keyboards, wipes clean.

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STEP-BY-STEP outline of commands and procedures is easy to follow.

SPIRAL BOUND pages lie flat, turn easily. Built-in easel, too.

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) Shift F8 2
 Change page format... Shift F8 3
 (Page length/numbers, top margin, header/footer)
 Change document summary/defaults... Shift F8 4
 Change other format settings... Shift F8 5
 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... Home
 Bold... Home Spacebar
 Center... Home Spacebar
 Change font... Home
 Hard hyphen (no break)... Home
 Hard space... Home Spacebar
 Hyphen (allows break)... Home
 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

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

51 HYPHENATE **53 SET PAGE FORMAT** **45 INDENT AND CENTER** **47 INDENT AND CENTER** **49 SET L SPAC**

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 the next page format setting.

WORDPERFECT USING

When you specify the paper size and width of 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.)

- Position cursor at top of page where new paper size will begin
- Hold down **SHIFT** and press **F8** (Format)
- Press **2** (Page Format)
- Press **3** (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 **EN**
 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 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 types are useful for:

- 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 bin, paper feeding method, page offset, and font orientation instructions.

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

Available by Mail Order from The Amstrad User 641 High Street Road, Mt. Waverley, 3149 on (03) 803 9661 or retail outlet The Amstrad User Computer Shop

FRONT COVER: Confronting a Federation Mech head-on in "Mechwarrior" from Activision (PC).

THE AMSTRAD USER

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 Heaps of Software for all Amstrads, plus Consumables, Ribbons, Disks, Disk Drives

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All enquiries and contacts concerning this Publication should be made in the first instance by writing to The Amstrad User, 641 High Street Road, Mount Waverley, Victoria 3149, Australia. Urgent matters can be phoned through on (03) 803 9661.

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From time to time, some articles appearing in The Amstrad User will be reproductions from UK publications Amstrad Action, 8000 Plus and CPC Computing (formerly Computing with the Amstrad). The first two are printed under an agreement between Strategy Publications and Future Publishing Ltd, Bath, and the latter under an agreement with Database Publications.

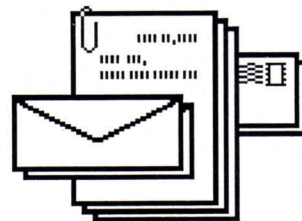
The subscription rate (for Australia) is \$45.00 for 12 issues of the magazine only, or \$80.00 for 12 issues of the magazine plus tape (for CPC range only) containing programs appearing in that issue. Postage is included in the above prices. For subscriptions to New Zealand, PNG, Solomon Islands or Vanuatu please add \$24 airmail. Other overseas prices available upon application.

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Contributions will not be returned unless specifically requested coupled with a suitable stamped and return addressed padded bag (for tapes or discs).

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Letters to the Editor



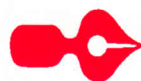
A monthly selection of your comments, hints and tips, advice and news - all shared for the benefit of Australasian Amstrad users.



I've had a PCW8512 for a long time and the first game I got was The Living Daylights but after many times of trying I haven't passed stage 1 yet. Can you help me? Your mag is the best but you should put more PC games reviews in it.

Adrian Griffiths, Alfred Cove WA.

You're in luck Adrian, look at the next column.



I note that in the April 1990 issue of your magazine under the heading "What's New in PD" in the Compatibles Corner segment, Chris Collins advises of upgrades in Shareware and new EGA games.

I get the impression that discs described in this section can be purchased from him or the magazine. If this is so, could you please advise how I might obtain them and the cost etc. involved. I am particularly interested in the EGA Games #6.

Ron Barff, Chermside West. QLD

The discs mentioned in Compatibles Corner each month are not available through our Mail Order service. You must contact Chris Collins direct at:

MACRODISK
Unit 2, 47 Vernon Street South
Kingsville Vic. 3015.



I am writing in answer to the letter from Antony Wyatt (November 1989). I too had the same trouble getting past the first level of PCW "The Living Daylights" until after about six frustrating months I eventually worked out how to do it. To get past the first level you run to the right until you come to the black sniper. Shoot him once with the Walther PPK and then move to the far right of the screen. You should now be able to choose a weapon for the next level.

One problem with this game is that you only have five lives and there are eight levels. When I play I lose about one life every level and so the furthest I've got is level six. A few months ago I decided to see if I could change the program so that when you get killed the number of lives you have goes up instead of down. Using "SID" and an 8080 assembly language reference card, I soon found the part of the program that had to be changed and I have made a basic program that will make the changes for you. It is listed below. All you do is run the program and follow the instructions.

```
10 PRINT "Insert The
Living Daylights disc and
press a key"
20 a$=INKEY$:IF a$=""
THEN 20
30 OPEN "R", 1,"bond.ems"
,1
```

```
40 FIELD 1,1 AS char$
50 GET 1,2529
60 p$=CHR$(52)
70 LSET char$=p$
80 PUT 1,2529
90 CLOSE 1
100 END
```

If you want the game returned to normal then just change the 52 to 53 in line 60.

Stewart Wicks, Strathfield NSW.

Warning folks. This program writes directly to the master disk so be careful!



Thank you for producing the Amstrad magazine 'with the mostest', and yes, I would love to renew my subscription. (Forever and ever). I am a 17 year old student studying for a degree in Business Information Systems and get very annoyed when the postman CRAMS my copy of your mag in the letterbox.

I do have some queries though:
1. Will you ever be re-introducing the "Pot Pourris" segments? If it's because you do not receive many questions to answer, let me get the ball rolling by asking What printer driver do I select when installing MS Works/Windows?

I purchased a PC2086 with the LQ3500 printer (and all the free software, naturally), and selected an Epson printer in the set up procedure. The result is the continual re-aligning of the paper,

margins, fonts etc.

2. Please, please, please, please set up a retail shop in Adelaide. I will personally contribute all my lunch money to fund the project.
 3. I recommend all VGA colour monitor owners to get a hold of Mean Streets (Hint sheet enclosed) and all hard disc users to obtain a copy of PowerMenu, an excellent shareware hard disc organiser.

Well, I hope my comments and suggestions have been of some use and thank you once again for producing an all-round computer magazine (I read it from cover to cover).

Yours until Hell freezes over,
 Danny Mensingh, Ingle Farm SA.

1. Your printer troubles will be solved by selecting the LQ-1500 driver with MS Works/Windows.
2. As for a retail shop in Adelaide, well maybe one day.
3. We share your high opinion of Mean Streets and your hint sheet will be published soon.



I am an elderly retired commercial accountant who gets great pleasure and satisfaction from a PCW8512 which admirably suits my needs in writing letters, family history and financial analysis through the very commendable spreadsheet SC2.

I am also an avid reader of the matter contained in your publication about PCW's and have gained some valuable tips.

I am writing however to see whether you or some of your readers can tell me where I can obtain more information such as names of suppliers, catalogues etc. on the extensive software which must have been developed for the CP/M operating system I have. I have no intention of updating to MS/DOS unless there is some magic which enables it to be used on PCW's.

I have no interest whatever in games and I am well aware of the software mentioned in your

publication, but feel that in the mass of programmes which must have been written for CP/M there are some to which I would be attracted.

A.V. Mellefont, Killarney Vale NSW.

While we have a solid base of CP/M material locally, most software is available only in England and the U.S. So reference to their related magazines should give you a better idea of what's about.



I have a PC 2086 and use Microsoft Works.

I want to produce a survey complete with boxes that can be used for computer codings, but I don't know how to draw the boxes (6mm square). I can't find IBM characters that give me what I want.

Is there any way of drawing square boxes in Microsoft Works? Alternatively, can I draw them in Microsoft Windows and then copy them into the word processor in

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Works?

I have been lost on this for quite some time, and would appreciate if someone would be able to give me some relevant advice.

John Moulds, Drummoyne NSW.

See page 151 of the Works manual and pages 5-10 of the 2086 manual. Note that your printer may be set up for an Epson character set rather than IBM, so you must reinstall your printer as an IBM, if it is capable of doing this.



Following your review of the Personal Ancestral File for the IBM from the LDS Church. Your readers may be interested to know that there is a version available in Australia that will run on the CPC 6128 and should run on the PCW, but as yet I haven't tried it. The program is Release 2.0 for use on the CP/M Kaypro and the cost is \$60.00, I have been using this program for about twelve months and find it very good, but it doesn't have PAFUTIL and FRCHK that are found in the IBM version. To run the Kaypro version, the

first thing you need to do is to transfer the files to the Amstrad disk format then you have to config the program to run on an Amstrad using the ADCONFIG file provided. Most of the codes that you are asked for, are in the user manual that came with the 6128. The other things needed are a second disk drive and a CP/M+, the instructions say CP/M 2.2, but I never tried to run the program under 2.2 and as the cursor keys do not work when using PAF, I wrote a setkeys file so they would work. Seminars on the using of the Personal Ancestral File are run by Worldwide Electronics Pty Ltd of Hornsby NSW.

John A Harris, Greta NSW.



I have a PCW 8512 and I want to use it for writing essays for my University Course. At present I have LocoScript and Book 1 Amstrad Word Processing Manual. It would appear to be biased to Business use for Mail etc.

Do you have a book from which I could learn to use it for essay-writing with the PCW8512.

Clyde Daniel, Lawson NSW.

Were not too sure what you mean here Clyde. We admit that the Amstrad manual is biased towards business use, but all the word processing facilities are explained fully. After all, you can lead a horse to water, but you can't make it drink? The book "Computers and Writing" (reviewed on page 38) may be of help to you.

All correspondence should be addressed to:

The Editor, The Amstrad User,
1/641 High Street Road,
Mt. Waverley, Vic 3149.

We regret we cannot give any personal replies.

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.

PEN PALS

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

Chris Bevan (CPC) 9 Blume Terrace Mount Gambier S.A. 5290	Chris Maloney (464 &PC) 20 Helena Court Rye Vic. 3941	Shane Stevenson (464) C/o P.O. Frederickton N.S.W. 2440	Jonathan Maddox (PCW) 7 Wendo Street Armidale N.S.W. 2350
Craig Bridgman (6128) 22 Atkin Street Melton Vic. 3337	Stephen Phillipson (CPC) 16 Julia Drive Bunbury W.A. 6230	Vasko Stoyanovski (464) 14 William Street Preston Vic. 3072	Reg Wilson (CPC6128) 41 Albury Street Townsville Qld. 4812
Deon Cameron 30 Ann Street Coffs Harbour, NSW 2450	Corey Powell (CPC464) 24 Campbell Street Shepparton Vic. 3630	Paul Tacey (CPC) RMB 5134 Shepparton Vic. 3631	John McNeil (464, PC-20) 1 Hawkins Street Chatswood Hills Qld. 4127
Thorsten Gehrke (6128) 10 Dillon Street Redwood Park S.A. 5097	Damian Roy (CPC464) PO Box 350 Mansfield Vic. 3722	Kenny Thomas (CPC) 35 Doreen Street Christchurch 7 N.Z.	Peter Juyce (CPC 464) 1 Frith Place Goonellabah N.S.W. 2480
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CPC

PC

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News Break



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

MICRODESIGN 2 FOR PCW ARRIVES

Because Creative Technology treat text and graphics with equal importance, their MicroDesign 2 package has been labelled an 'integrated page processor'. It provides all the essential features of Desktop Publishing and Graphic design for all the PCWs running under CP/M, and gives exceedingly high resolution results on the built-in dot matrix printer of the 8000s. Even better results can be achieved through an external 24-pin printer or HP compatible laser printer. It features excellent text editing facilities, typesetting, font design, a powerful icon symbol system, comprehensive graphics and file handling, and full page layout facilities.

MicroDesign 2 allows for the loading of text from LocoScript2, Protex and WordStar word processors and also page, screen and clip-art from other PCW packages including 'Desktop Publisher', 'Stop Press' and 'Mini Office Professional'. It is also compatible with the AMX and Kempston mouse. (See page 28).

MicroDesign 2 has been hailed as a major advance on all other desktop publishing systems (including Stop Press) and is now available through The Amstrad User for \$169 plus postage.

POMS SLOW ON THE DRAW

Consider yourself lucky that Pactronics has the licence to import Loriciel's products, one of which is the West Phaser Light-gun 'six-shooter' package for CPCs and PCs. The poor old poms have got US Gold to thank for not making it available in the UK.

The story goes like this. Loriciel, a major producer of software in France (where Amstrad CPC games sell as many as all the other formats put together - including IBM and compatibles) has a reciprocal arrangement with US Gold. Loriciels will distribute US Gold software in France and US Gold will do the same for them in the UK.

The problem is that US Gold have no plans to distribute the light-gun unless there is a considerable interest. Of course, not many people will know about it because US Gold are unlikely to advertise... result - Catch 22!

CPC TO PC UTILITY

Siren Software (UK) are currently working on a utility program that will allow users to transfer data from a CPC to a PC or back again by simply swapping disks between drives. The common transfer link is a 3.5" external disk drive.

The utility will eliminate the need for a serial linking cable,

EUROPEAN COMPUTER LEISURE AWARDS

A panel of European judges has been set the task of determining awards for software from a swag of nominations submitted by member nations. The UK selection (chosen by five computer magazines) was:

Best Sound:	Ghouls 'n' Ghosts
Best Action Game:	Batman
Best Arcade Conversion:	Strider
Most Original Game:	Stunt Car Racer
Best Flight Sim:	F16 Combat Pilot
Best Sports Simulator:	Kick Off
Most Chart Potential:	Rainbow Islands
Publisher of the Year:	Microprose
Game of the Year:	Kick Off

The above selections may be open to argument, but it must be borne in mind that they were across all formats including Atari, Amiga and PCs.

As yet, we have no reports listing other countries' entries nor do we have the final placings, but should be able to let you know next month.

communications software and for the two machines to be within the cable length of each other. In turn, this means that users with a PC in the office will be able to take work home or even create new data on their CPC to be transferred onto the PC when they get back to the office.

We'll keep you posted.

NEW PC SIERRA GAMES

Two new games from the Sierra organisation have just been released - *Conquests of Camelot* and *Sorcerian*.

Conquests of Camelot is subtitled 'The Quest for the Holy Grail' and is a 3-D adventure with lots of new puzzles and arcade segments. It involves the search and release of three Knights of the Round Table and eventual recovery of the Holy Grail. Arcade sequences include a joust with the Black Knight (great fun). It looks like another hit from Sierra.

The second release is a Japanese best-seller called *Sorcerian* (350,000 copies sold). It is billed as an epic role-playing adventure

with wide ranging cinematography that will send you to strange and beautiful lands. There are 15 separate role-playing adventures within three main missions. As a fighter, wizard, dwarf or elf (male or female) you have different abilities and skills to complete your adventure. The decisions you make will decide your fate and that of your party members and the ultimate outcome of *Sorcerian*.

A new series begins this month (see page 40) providing an in-depth review of individual Sierra games. The first to come under scrutiny is *Hero's Quest* with *Conquest of Camelot* following next month.

TAKING A PUNT

Dare we mention that the long announced and long awaited Australasian version of best-selling *Horse Racing* database *Pro-Punter* is just about completed. We have said this before, but after speaking with DGA Software in England, it now looks certain to be available around the beginning of July. In fact, a pre-release copy is currently on its way to our offices for review - so it must be true!

If you have been following the *Pro-Punter* saga, you will know that we first received copies of a CPC and PC version about eighteen months ago. Alas, it would not easily allow the user to set up Australian racecourses on the database and contained details of UK courses only.

By all accounts that has been put right with *Pro-Punter 2* which contains a large number of enhancements making it exceedingly powerful.

This news will no doubt delight PC owners eager to get some of their money back from the bookies. CPC and PCW owners are unfortunately left out in the cold as there are no plans to produce a version for them either under Basic or CP/M. (*No chance of losing money then - Ed*).

UK MAGAZINE HITS PROBLEMS

It has been reported that the UK publishing company Focus has some financial problems and is now operating under receivership. The 'Amstrad Computer User' magazine, 'Popular Computing Weekly', and BBC's 'Clothes Show Magazine' are some of the titles effected by Focus's problems.

Older readers will remember that *Computing with the Amstrad* (a Database publication) swallowed up *Amtix*, then changed its name to *CPC Computing*. In turn this was amalgamated with the *Amstrad Computer User* when Focus took on the publication.

WORLD CUP SOCCER

Unless you never watch SBS or read a newspaper, you will no doubt know that the 'Olympics' of the soccer world will be held in Italy this year. In line with this major sporting event involving twenty-four nations will no doubt be the release of a number of CPC soccer games.

Kicking off first is 'Italy 1990' from US Gold and features a referee with the ability to use the 'red card'. The next squad in line is 'World Cup Soccer '90' from Virgin with close-up views of the goal mouth to aid both goalkeepers and strikers.

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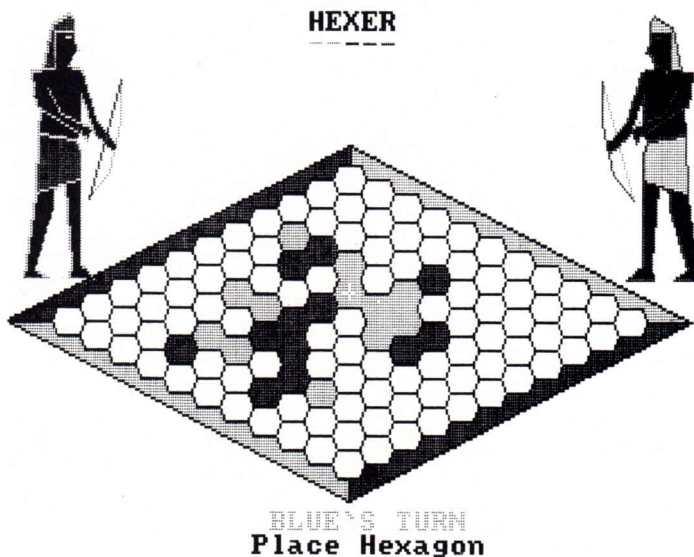
Competition winner!



This is the entry from Nikolai Ivanovic which took the \$2900 prize in our recent programming competition.

The history of "HEXER", or, before this program, "Hex" or "Polygon" is an interesting one. The game of "Hex" was invented in 1942 by the Danish mathematician, inventor and best selling poet Mr. Piet Hein. It was while Mr. Hein was working on the four colours for maps problem, put forward by Francis Guthrie the English mathematician in 1850, that the idea of the game "Hex" dawned on him. *(The four colour problem was eventually solved in 1977 by Kenneth Appel and Wolfgang Haken with the use of 1200 hours of the University of Illinois working on the problem).*

Mr. Piet Hein designed a game to be played on a diamond-shaped board, made up of adjoining hexagons. Mr. Hein determined that there should be 11 hexagons along each edge, but you can play the game with more or less hexagons. Two opposing sides belong to black and the other two sides go to white. The idea was to place pieces on the board, taking it in turns between the black player and the white, to create a continuous line from one of the respective coloured sides to the other.



The winner is the player who completes his or her line first.

In the early 1950s the game took off as "Polygon" with thousands of pre-printed pads being sold.

INSTRUCTIONS

HEXER is a game played on a diamond shaped board made up of 11 x 11 grid of Hexagons. The two players move and fill one hexagon in alternating turns. The aim of the game is to construct a continuous line of like coloured hexagons from one of that colour's sides of the board to the other.

Upon running the game the 11 x 11 hexagon grid will be drawn up and you will be asked whether you wish to play level 1 or level 2. Level 1 is the normal board play but level 2 has a number of hexagons randomly placed on the board in a prefilled neutral colour.

After you have chosen the level, the rest of the game screen (Egyptians & Heading), is produced. The computer then says whose turn it is and the cursor can be moved about the board via the joystick, into an empty hexagon.

When the cursor is in the desired hexagon, the fire button should be pressed. This will make the hexagon be filled in the player's colour. Then it is the other person's turn and so on until a continuous line is made by one person, joining his/her coloured sides.

In the game of HEXER as in the original Hex, you can't capture but by all means you should try and block the continuous line of the other player forcing him/her to go around you or even abandon the line.

The corner hexagons may be occupied by either player. When someone makes a continuous line, the computer will show the winner with a beep and a buzz and display the score.

If at any time the game has to be aborted, pressing the Delete key will let the game be restarted.

NOTE: DUE TO GRAPHIC FILL COMMANDS, THIS PROGRAM WILL WORK ON A CPC 6128 ONLY.


```

10 ' HEXER
20 ' based on the game "HEX" by Mr Piet Hein
30 ' invented in 1942
40 ' altered and turned into CPC game by
50 ' Nikolai Ivanovic
60 ' Feb 1990
70 '
80 ' THE AMSTRAD USER, JUNE 1990
90 '
100 RESTORE 100:PRINT CHR$(23);CHR$(0)
110 '
120 GOSUB 930 'initialisation and screen set up
130 '
140 GOSUB 590:GOTO 140 'main game
150 '
160 ' --- SUB-ROUTINES ---
170 '
180 ' hexagon maker
190 DRAWR 20,0:DRAWR 5,10:DRAWR -5,10:DRAWR -20,0:DRAWR
-5,-10:DRAWR 5,-10
200 RETURN
210 ' get rid of cursor
220 MOVE x,y:MOVER 5,0:DRAWR -10,0:MOVER 5,5:DRAWR 0,-
10:RETURN
230 k=((180-70)*(320-x)+(320-44)*70)/(320-44):IF k>y TH
EN wr=1:RETURN
240 k=((70-180)*(574-x)+(574-300)*180)/(574-300):IF k>y
THEN wr=1:RETURN
250 k=((180-290)*(320-x)+(320-44)*290)/(320-44):IF k<y
THEN wr=1:RETURN
260 k=((290-180)*(574-x)+(574-300)*180)/(574-300):IF k<
y THEN wr=1:RETURN
270 RETURN
280 ' place hexagon on board
290 MOVE x-10,y-11:DRAWR 20,0:DRAWR 5,10:DRAWR -5,10:DR
AWR -20,0:DRAWR -5,-10:DRAWR 5,-10:MOVER 5,5:FILL tur
300 PLOT x,y:FOR ro=1 TO 6:IF TEST(x+rox(ro),y+roy(ro))
<>tur THEN GOSUB 430
310 NEXT:RETURN
320 MOVE q,w:FOR a=1 TO e:READ x,y:DRAWR x,y:NEXT:RETUR
N
330 MOVE q,w:FOR a=1 TO e:READ x,y:DRAWR -(x),y:NEXT:RE
TURN
340 ' someones won!!!!
350 FOR a=600 TO 1 STEP -10:SOUND 1,a,2,15:NEXT
360 IF tur=2 THEN MOVE 164,126:FILL 2:INK 2,2,18:LOCATE
16,23:PRINT "BLUE WON!!!"
370 IF tur=3 THEN MOVE 454,124:FILL 3:INK 3,6,18:LOCATE
16,23:PRINT "RED WON!!!"
380 ' score
390 PEN 1:LOCATE 7,24:PRINT "PRESS ANY KEY FOR ANOTHER
GAME"
400 IF tur=2 THEN bluescore=bluescore+1 ELSE redscore=r
edscore+1
410 LOCATE 7,25:PEN 1:PRINT "SCORE : ";:PEN 2:PRINT "BL
UE ";bluescore;:PEN 3:PRINT "RED ";redscore;
420 CLEAR INPUT:WHILE INKEY$="":WEND:GOTO 100
430 ' round line insertion
440 GRAPHICS PEN 1:IF ro=6 THEN 460
450 MOVE x+roux(ro),y+rouy(ro):DRAW x+roux(ro+1),y+rouy
(ro+1):RETURN
460 MOVE x+roux(ro),y+rouy(ro):DRAW x+roux(1),y+rouy(1)
:RETURN
470 ' arrow shooter
480 GRAPHICS PEN tur:PRINT CHR$(23);CHR$(1);
490 IF tur=2 THEN MOVE 534,350:DRAW 562,266:DRAW 562,31
4:DRAW 534,350
500 IF tur=2 THEN MOVE 534,350:DRAW 562,266:DRAW 562,31
4:DRAW 534,350
510 IF tur=2 THEN MOVE 562,314:DRAW x,y:MOVE 562,314:DR
AW x,y
520 IF tur=3 THEN MOVE 106,350:DRAW 78,266:DRAW 78,314:
DRAW 106,350
530 IF tur=3 THEN MOVE 106,350:DRAW 78,266:DRAW 78,314:
DRAW 106,350
540 IF tur=3 THEN MOVE 78,314:DRAW x,y:MOVE 78,314:DRAW
x,y
550 GRAPHICS PEN tur:RETURN
560 '
570 ' --- MAIN GAME ---
580 '
590 x=310:y=201:IF tur=3 THEN tur=2:oppo=3: ELSE tur=3:
oppo=2 'select turns
600 ' set up and tell user for next turn
610 PEN tur:LOCATE 16,23:PRINT player$(tur):PEN 1:LOCAT
E 15,24:PRINT "Place Hexagon";
620 PRINT CHR$(23);CHR$(1):GRAPHICS PEN tur
630 ' place cursor
640 MOVE x,y:MOVER 5,0:DRAWR -10,0:MOVER 5,5:DRAWR 0,-1
0:FOR a=1 TO 100:NEXT
650 ' cursor and input loop
660 now=now+1:IF INKEY(74)=0 AND x>25 THEN GOSUB 220
:x=x-25:GOTO 640 'left
670 IF INKEY(75)=0 AND x<618 THEN GOSUB 220:x=x+25:G
OTO 640 'right
680 IF INKEY(72)=0 AND y<388 THEN GOSUB 220: y=y+10:
GOTO 640 'up
690 IF INKEY(73)=0 AND y>10 THEN GOSUB 220: y=y-10:G
OTO 640 'down
700 IF INKEY(76)=0 THEN GOTO 740 ' fire button
710 IF INKEY(79)=0 THEN GOTO 100 'reset
720 IF now=500 THEN now=0:SOUND 1,200,10,12:GOTO 660:EL
SE GOTO 660
730 'see if cursor is in spare hexagon
740 GOSUB 230:IF wr=1 THEN wr=0:GOTO 660 ' is cursor on
the board?
750 IF TEST (x,y)<>0 THEN GOTO 660
760 ' get rid of cursor and sound effects
770 now=0:GOSUB 220:FOR so=1 TO 30:SOUND 1,so,2,12:NEXT
780 ' shoot arrow

```



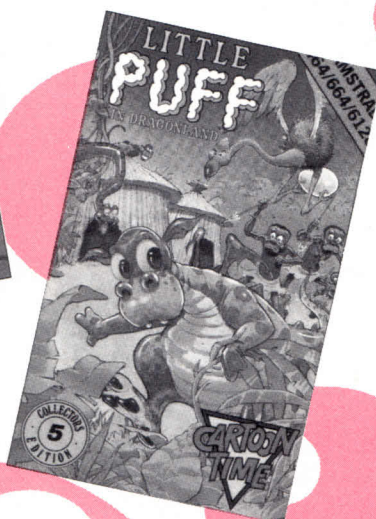
```

790 GOSUB 480 ' draw and fire
800 PRINT CHR$(23);CHR$(0)
810 ' put hexagon on board
820 GOSUB 290
830 ' test to see if connection made
840 GRAPHICS PEN 1:IF tur=2 THEN MOVE 164,126:FILL 3:IF
TEST(454,236)=3 THEN GOSUB 340:MOVE 164,126:FILL 2
850 MOVE 164,126:FILL 2
860 IF tur=3 THEN MOVE 454,124:FILL 2:IF TEST(164,236)=
2 THEN GOSUB 340:MOVE 454,124:FILL 3
870 MOVE 454,124:FILL 3
880 RETURN
890 '
900 ' --- INITIALISATION AND SCREEN SET UP ---
910 '
920 ' set mode and inks
930 MODE 1:INK 0,0:BORDER 0:PAPER 0:INK 1,25:INK 2,2:IN
K 3,6
940 ' drawing board
950 GRAPHICS PEN 1:MOVE 300,290:FOR a=1 TO 11:MOVER -25
0,-120:FOR b=1 TO 11
960 GOSUB 190:MOVER 25,10:NEXT:SOUND 1,100+a,5,12:NEXT
970 ' ask for level
980 LOCATE 4,1:PRINT "--=HEXER by Nikolai Ivanovic="--:
LOCATE 1,25:PRINT "LEVEL 1 OR 2":CLEAR INPUT:IF INKEY(6
4)=0 THEN 1050 'level 1
990 IF INKEY(65)=0 THEN 1010 ' level 2
1000 GOTO 980 'input loop
1010 FOR A=1 TO 7
1020 xhex=INT(RND(1)*450)+1:yhex=INT(RND(1)*230):IF
xhex<168 OR yhex<130 THEN 1020
1030 MOVE xhex,yhex:FILL 1:NEXT
1040 'get rid of "level 1 or 2"
1050 LOCATE 1,25:PRINT " "
1060 'title
1070 PEN 1:LOCATE 4,1:PRINT " " HEXER
"
1080 PEN 2:LOCATE 18,2:PRINT "--";PEN 1:PRINT "-";PEN
3:PRINT "--"
1090 ' marking red & blue sides
1100 GRAPHICS PEN 1:FOR cor=1 TO 8:READ corx(cor),cory(
cor):NEXT
1110 FOR cor=1 TO 4:MOVE corx(cor),cory(cor):DRAW corx(
cor+4),cory(cor+4):NEXT
1120 MOVE corx(8),cory(8):FOR cor=5 TO 8:DRAW corx(cor)
,cory(cor):NEXT
1130 MOVE 164,126:FILL 2:MOVE 454,124:FILL 3:MOVE 164,2
36:FILL 3:MOVE 454,236:FILL 2
1140 ' red egyptian
1150 GRAPHICS PEN 2
1160 q=46:w=360:e=14:GOSUB 320:q=64:w=384:e=12:GOSUB 32
0
1170 q=34:w=330:e=15:GOSUB 320:q=106:w=350:e=3:GOSUB 32
0
1180 GRAPHICS PEN 2:MOVE 32,312:DRAW 66,308:MOVE 30,270
:DRAW 70,280
1190 MOVE 56,390:FILL 3:MOVE 50,290:FILL 3:MOVE 44,370:
FILL 3
1200 MOVE 50,350:FILL 1:MOVE 50,320:FILL 1:MOVE 534,350
:DRAW 562,266
1210 MOVE 30,230:FILL 1:MOVE 60,270:FILL 1:MOVE 60,380:
DRAW 56,380:PLOT 84,210
1220 GRAPHICS PEN 3:PLOT 84,210:GRAPHICS PEN 1:MOVE 5,1
80:DRAW 310,305
1230 ' blue egyptian
1240 GRAPHICS PEN 3:RESTORE 1440
1250 q=594:w=360:e=14:GOSUB 330:q=576:w=384:e=12:GOSUB
330
1260 q=606:w=330:e=15:GOSUB 330:q=534:w=350:e=3:GOSUB 3
30
1270 MOVE 608,312:DRAW 574,308:MOVE 610,270:DRAW 570,28
0
1280 MOVE 584,390:FILL 2:MOVE 590,290:FILL 2:MOVE 596,3
70:FILL 2
1290 MOVE 590,350:FILL 1:MOVE 590,320:FILL 1:MOVE 106,3
50:DRAW 78,266
1300 MOVE 610,230:FILL 1:MOVE 580,270:FILL 1 :MOVE 580,
380:DRAW 584,380
1310 ' variable setting
1320 player$(3)="RED'S TURN ":player$(2)="BLUE'S TURN"
1330 IF tur<>2 THEN tur=3 ELSE tur=2
1340 ' round data setting
1350 FOR ro=1 TO 6:READ rox(ro),roy(ro):NEXT
1360 FOR ro=1 TO 6:READ roux(ro),rouy(ro):NEXT
1370 RETURN
1380 '
1390 ' --- DATA ---
1400 '
1410 ' data for red & blue side markers
1420 DATA 44,180,310,290,576,180,310,70,5,180,310,305.6
15,180,310,55
1430 ' data for red & blue egyptians
1440 DATA 0,24,18,0,0,8,-4,4,-16,-8,-8,-30,10,0,-20,-2,
4,-24,44,-22,2,-4,4,10
1450 DATA -28,10,-12,18,0,-8,4,-6,-2,0,-8,-10,14,-4,12,
-34,14,-14,4,-2,-2,-8
1460 DATA -18,14,-12,28,0,-18,-2,-18,-2,-42,-10,-60,22,
0,-12,6,16,44,0,12,10,4
1470 DATA 6,-56,-2,-10,24,0,-14,10,0,78,-4,10,4,6,0,-30
,-10,-36,-18,-18
1480 ' variable setting
1490 player$(3)="RED'S TURN ":player$(2)="BLUE'S TURN"
1500 ' data for round check
1510 DATA 0,20,25,10,25,-10,0,-20,-25,-10,-25,10
1520 DATA -10,10,10,10,15,0,10,-10,-10,-10,-15,0

```


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Calls to Assembly...



Joseph Elkhorne delves further into assembly language, explaining the many system calls available through CP/M.

Let's continue this month with the topic of CP/M system calls, of which there are many. Version 2.2 supports 36 calls, and only to be expected, the Plus release added more bells and whistles.

Mostly, I'll stick with the 'universal' three dozen in this tutorial, to be useful to more readers.

Any development programs which are predicated on CP/M Plus can be set up to check if they're running on an earlier version. How so? With a system call!

You always load the C register with the number of the function to be performed. Sometimes you pass a value to the function in another register; sometimes you will receive a value to the function in another register; sometimes you will receive a value from the system call.

For example, the Function 'Return Version Number' requires no value to be passed to it. You merely load the C register with the 0c hex, then Call 5, and CP/M returns a value in the HL register pair. On my machine, this yields HL=0031.

The simplest Function is the 'System Reset', number 0 (zero). You don't send a value, you don't receive a value. In fact, if you try to test it from SID (or DOT), it gives you the boot! You end up back at the A> prompt.

In addition to console (keyboard and screen) functions, you can control those wonderfully obsolescent devices known as Reader and Punch. As I haven't worked with paper tape in years, and doubt any reader does, these days, we'll skip that area.

More useful is the List Output Function, 05, which will allow you to send characters directly to your printer.

Finally, there are a number of disk and file operations available. Not only is the user limited to sequential access, as in AMSDOS, but a 'random' read and write facility can be implemented.

Let's not try the marathon before we know how to walk, though. We'll investigate the simpler functions listed in Table One. These will be used by the listing FUNCTION.ASM as a practical example.

The Console Functions, Input and Output, deal with a single character. The former, 01, waits for you to strike a key and echoes it to the screen. Your program can then test the value returned in the accumulator (or Register A) and act on it.

Because the Print String Function is so useful, let's look at it in detail. The first thing you must keep in mind is that your string must have a terminator - which is the \$ character. Forget that, and dumb old CP/M will spew out the contents of memory until it finds one.

We'll do it wrong to show you what happens. From SID, try this:

```
A100
mvi c,9
lxi d,109
call 5
rst 6
[return]
```

Now, use the Set command to insert the message:

```
S109
'H'
'I'
.
```

Where the full stop terminates your entry. Now, what happens when you do the Go command? You'd expect to get the 'HI' message which you ordered. But the system expects a \$ somewhere. So, not only do you get what you asked for, my system continued on to print the copyright message, which DID terminate with a \$. If you want to see a real string of garbage, find that 24hex using the Dump command and Set it to something else. It was address 0198 on my 6128. Then, do the G100 again.

Now, if that initial load image of SID hadn't been in memory, a 'real' program would spit through the entire transient program area, or some 61K of memory, looking for a \$. To simulate this, fill the memory

from about 190 to D000 with a letter of some kind. Then do the G100 and wait.

There are a number of different ways to put messages in your programs. You can specify individual characters as hex values, or single literals within single quotes, or complete strings, again within single quote marks for the assembler.

You might, for instance, want to start a message line with carriage return and line feed, making a new line, rather than accepting the last known cursor position. The elements of the combined string are separated by commas. Thus:

```
0dh,0ah,'This is one way.$'
```

and note that the dollar sign is WITHIN the quotes.

For other variations, see the listing. You'll note I'm cheating on classical CP/M by using machine-specific terminal emulation codes. They're separated, and easy enough to remove, should someone want to.

The format begins with the usual `bumf`, `EQUates` and other directives. After the `ORIGin`, we have the program proper, followed by the subroutines, messages and storage areas.

Because this is a simple demonstration, we have one good point: a lot of comments. A real program would take nothing for granted, however, and the user would be expected to set up his own stack, rather than relying on CP/M to do the right thing.

A stack is necessary, of course, so the system knows where to return to from subroutines. The programmer can also take advantage of the stack for temporary storage of values. More on this in the future; for now, we'll see if we get away with it, or the thing crashes in a flaming heap (would I do that to you?).

Inspection of the accompanying listing will show that some little programs I've previously used have been turned into subroutines. The main body of the program is just half a page. It prompts the user, prints a menu, waits for a choice.

We leave nothing to chance - only valid keystrokes are accepted, and those `CALL` (on Zero) the corresponding subroutine. Six CP/M system calls are illustrated in this trivial example.

Note that the 'clear' subroutine uses the terminal emulation codes as described in the CPC6128 User Instructions, Chapter Seven. Obviously, I could have combined the 'cls' and 'home' strings - but we're into explanation here, not a contest to write tight code.

All of the subroutines use one or another of the system calls. Those are denoted by loading a value in the C register and whatever else is necessary, then 'call `bdos`' does the work. This is really a jump to the address of the CP/M subroutine for execution. Since that location could vary from machine to machine or between versions, you need not know the absolute address to use the function. Bewdy!

Ironically, the version number subroutine took more code than anything else. This is because the

SERENDIPITY			
Some BDOS Systems Calls			
Function Name	Function Number (HEX)	Passed Value	Returned Value
System Reset	00	NONE	NONE
Console Input	01	NONE	A = character
Console Output	02	E = character	NONE
List Output	05	E = character	NONE
Direct Console In	06	E = 0ff(hex)	A = 00
Direct Console In	06	E = 0ff(hex)	A = character
Direct Console Out	06	E = character	NONE
Print String	09	DE = address	NONE
Read Console Buffer	0A	DE = address	Characters in buffer
Return Version No.	0C	NONE	HL = number

• Table one.

value returned in HL has to be preprocessed to allow something meaningful to print on screen for you.

Those of you who might have tried this example and used `SID`, may wonder about the 'echo' of the L value in the A register. Yes, BDOS functions that return a value in HL do duplicate the L value in A and the H value in B - being conservative and a pessimist, I follow the standard explanation to the letter. Let's assume Digital Research has their reasons and not get tricky, otherwise a program might have unexpected consequences somewhere, sometime, somehow.

You'll see in the Print String function call that the DE register pair is used as a pointer to the message. Several different ways of entering message data have been used, for illustrative purposes. As they say, there's more than one way to skin a cat.

I hope that the KISS theory is proving useful. In future, we'll cover more system calls and examine individual instructions in greater detail. ►


```

; program function.asm for demonstrating various
; system calls
; J.L. Elkhorne, 1990
;
; * preliminaries *
;
bdos equ 5 ; system interface
;
bye equ 00 ; system reset function
conin equ 01 ; console input function
conout equ 02 ; and console output
;
; above two are single character
;
prints equ 09 ; print a string
getcon equ 11d ; get console status, or --
; is a key pressed?
vers equ 0ch ; get version number
;
org 100h ; usual start address
;
; * main program *
;
go: lxi d,msg1 ; prompt user message
mvi c,prints ; the system function
call bdos ; do the function
;
user: mvi c,getcon ; look for console (keyboard) call
call bdos ;
ora a ; a logical trick -- see text
jz go ; loop until key is pressed
;
; status is returned in A reg.=0 if no key
;
menu: call clear ; clear screen, print menu
mvi c,prints ; user choices
lxi d,list
call bdos
;
usr: mvi c,conin ; wait for user response
call bdos
cpi 'x' ; tests for value of key struck
cz exit
cpi '1'
cz chars
cpi '2'
cz invers
cpi '3'
cz verno
jmp menu ; if none of the 4 keys
; then loop back

```

```

; * subroutines *
;
clear: mvi c,prints ; clear the screen
lxi d,cls ; and
call bdos ;
mvi c,prints ; home the cursor
lxi d,home
call bdos
ret
;
exit: call reg ; restore 'normal' screen
mvi c,bye ; system reset function
call bdos ; farewell, user!
;
;
chars: mvi a,ifh ; initial value
inloop: inr a ; becomes 'space'
mov e,a ; move value for system to use
push psw ; save accumulator value
mvi c,conout ; system call
call bdos ; the hook
pop psw ; retrieve accumulator
cpi 7fh ; compare to 'delete' character
jnz inloop ; do more if not done
;
mvi c,getcon ; look for console (keyboard) call
call bdos
ora a ; logical instruction to
; operate on flags
jz chars ; go to beginning if
; no key pressed
ret
;
invers: mvi c,prints ; send terminal code to screen
lxi d,revid
call bdos
ret
;
verno: mvi c,prints ; print lead-in message
lxi d,vn
call bdos
mvi c,vers
call bdos ; answer returned in HL
push h ; preserve value
mov a,l
rlc:rlc:rlc:rlc ; ripple high nybble to low
call chr ; print one character
mvi a,'.' ; and separator
call cd
pop h ; retrieve saved value
mov a,l

```

1

2

```

call chr
call delay ; wait a little
call delay
ret
;
chr: and 00001111b ; mask upper nybble
adi 30h ; turn to ASCII
cd: mov e,a
mvi c,conout
call bdos
ret
;
delay: lxi d,0f142h
dl: dcx d ; make it smaller
mov a,d
ora e ; any left?
jnz dl ; loop if so, else
ret
;
reg: mvi c,prints ; restore standards
lxi d,dfalt
call bdos
ret
;
; * message area *
;
msg1: db 0dh,0ah,'Press a key to begin ...$'
;
; don't forget the dollar sign
;
cls: db 1bh,'ES' ; Esc,E,string terminator
home: db 1bh,'H' ; Esc,H and
db 07h,'$' ; bell, and end
list: db 'DEMONSTRATION',0ah,0dh
db 0ah,0dh,09h,'1. Characters'
db ' ... any key when running'
db 0ah,0dh,09h,09h,09h,' to terminate ...',0ah,0dh
db 0ah,0dh,09h,'2. Inverse Video'
db 0ah,0dh,09h,'3. Show Version Number'
db 0ah,0dh,09h,'x. Exit'
db 0ah,0dh,07h,'$'
revid: db 1bh,'p$' ; Esc p terminal code
vn: db 0ah,0dh,'You are running version $'
dfalt: db 1bh,'q' ; restore
db 1bh,'c',21h ; blue paper
db 1bh,'b',ifh,'$' ; with white text
;
; * the rest *
;
keep: ds 100
;
end

```

3

DTP on a budget

Vic Renfrew looks at Page Publisher, the cheap but capable DTP program for CPC owners.

Desk Top Publishing (DTP) is fast becoming the growth industry of the home computer market. Computers originally bought as games machines or word processors are being put to other uses. People who need to produce newsletters or local magazines have found that they can use their home computer for this purpose. The best known (and arguably the best available) is AMX Stop Press (SP) which is available from TAU. The big draw back for those contemplating DTP is the cost of the software (SP costs \$129). Well all that may be about to change. Page Publisher (PP) has arrived and, for about the cost of a normal disc game YOU can experience the challenge of DTP. But is it any good? Let's have a look.

Initially, PP doesn't look like much. All you get is the program disc and a 12 page User Manual (which looks like it was produced with the program). The disc comes with the main program on one side, and PP Extras (including a clip art file and extra fonts) on the other. If the colour scheme is not to your

THE AMSTRAD USER
Reviewed in Melbourne, Victoria, April 1990

PAGE PUBLISHER
BY SD MICROSYSTEMS
A DESK TOP PUBLISHING PROGRAM
WRITTEN FOR THE AMSTRAD CPC

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Upon Loading, you are presented with a blank screen and a row of icons. These icons actually work the program and operate a series of pull-down menus. There are 12 icons, which will be explained shortly. Also in the top panel are indicators that show current mode, pen and pattern status, as well as co-ordinates.

The first icon is the paint pot. This contains all the options you need to produce lines and shapes. It also lets you alter the width of pen or brush, the density of the spray can, or choose from the patterns contained in the program which can be used to fill the shapes you create.

The scissors allow you to copy and move different sections of the page around. It also allows you to reflect, rotate, clear or frame sections of the screen.

The next icon, called the 'BLOB', shows you what section of the page your current screen occupies. As well, there are other options, such as overwrite and change cursor speed.

The filing cabinet allows you to load and save pages, screens, windows, fonts and patterns, as well as load text files and basic files. It is also through this icon that you access external commands, like CAT.

The printer icon allows the page, screen or window to be printed. You can choose from either draft or quality #4 and quality #6.

The text icon allows you to produce text in any of three fonts. In this icon, you can also define clown width or select from a number of word-wrap and justification options. The size of your text can also be decided here.

The ? icon lets you preview a page, wipe out the whole page, turn the co-ordinates on or off, or allows access to the editor for fonts, patterns etc.

The four arrow icons allow you to move around the page. The last icon, on the right of the panel, is a cross which takes you back one step and correct a mistake. By pressing the ESC key you can gain immediate access to many common functions contained in the other icons.

Control is by either joystick, function keys or cursor keys. Operation within the menus is either by cycling through the options or by pressing the key listed against the option that you want.

This is my first look at a DTP program. With PP, you seem to get all the options of the more expensive programs, if not perhaps with the quality of packaging and presentation. Of all is that you can get your mitts on a DTP program that won't dent your plastic. PP is disc only, and required 128 K to run. Have a go at PP; it's a good affordable entry into the world of DTP.

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The printer icon allows the page, screen or window to be printed. You can choose from either draft or

quality A4 and A5.

The test icon allows you to produce text in any of three fonts. In this icon, you can also define column width or select from a number of word-wrap and justification options. The size of your text can also be decided here.

The ? icon lets you preview a page, wipe out the whole page, turn the co-ordinates on or off, or allows access to the editor for fonts, patterns etc.

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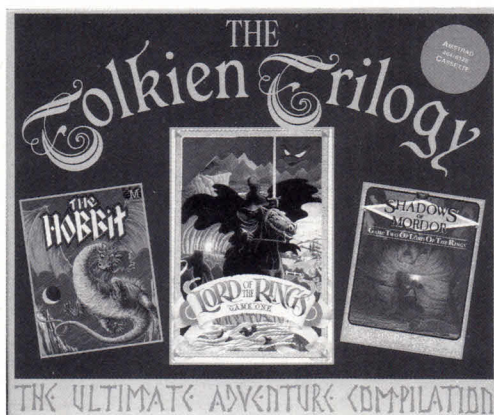
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Page Publisher is available from Cue Three Software for \$59.95. ■

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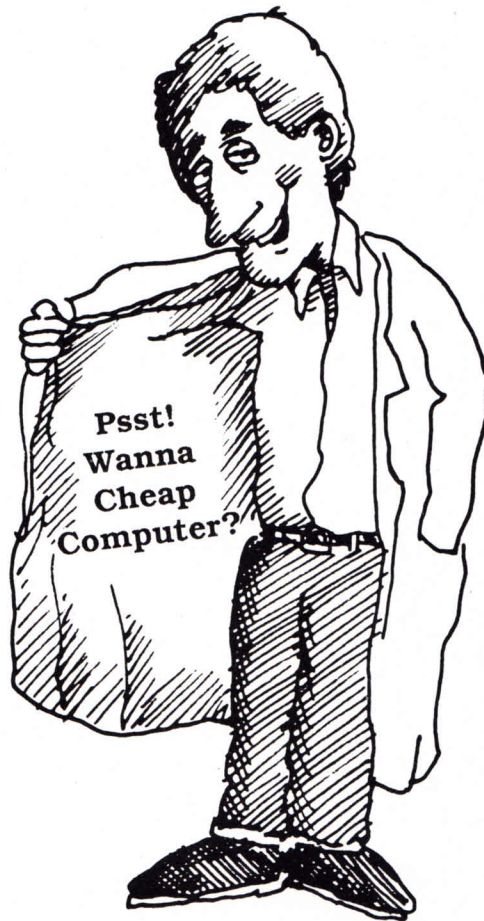
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That's Panasonic!



Peter Campbell reviews the Panasonic KX-P1124 printer, and discovers it's an item well worth talking about.

The first printer I bought to use with my CPC464 was solid and reliable. In today's money it cost around \$700, a mere half what it had sold for less than a year earlier. Unfortunately, it was not Epson-compatible and its NLQ would not have deceived anyone into thinking it had come from a typewriter.

Eventually I replaced it with a Panasonic KX-P1081 at about \$450 in today's dollars. That gave me much improved letter quality, complete Epson-compatibility and a liking for Panasonic products.

When Panasonic launched a new range of printers, I read the reviews with interest and decided to upgrade to 24-pin technology by purchasing a Panasonic KX-P1124 printer. I paid \$699 including a cable, but I have seen the printer advertised as low as \$580. There are other printers in the range including two 9-pin, 80-column machines. These have similar paper handling and styling. Advertised prices start as low as \$399.

Finished in a beige colour, similar to the Amstrad PC1512, the KX-P1124 has a rated speed of 192 cps in Elite draft and 63 cps in letter quality. (Because 24 pins are employed the output is described as LQ and not NLQ). It can emulate either the Epson LQ-

2500 or the IBM Pro-printer X24.

Although more compact than a 15 inch printer, the KX-P1124 is somewhat larger than most 80 column printers at 430 mm wide, 359 mm deep and 143 mm high. With a weight of 8.5 kg, it's about 3 kg heavier than the KX-P1081. It comes with a comprehensive manual which does not suffer from that peculiar "Jinglish" that afflicts some manuals. However, it's explanations of the many features of the printer are, at times, not as clear as they might be and some careful reading and experimentation is necessary before the printer is up and running.

To set the dip switches on my first printer, I had to remove the knob from the side, turn the machine over and remove four screws from the base. I could then remove the casing and set the dip-switches. After which the casing and knob had to be put back on.

Setting dip-switches on the KX-P1081 was a simpler task as they were located under a clear flap in the base of the machine and were accessed by moving the print head aside. The light had to be right and a long thin instrument, such as a small bladed screwdriver was useful.

The KX-P1124 has no dip-switches. Instead you make the initial settings from the front panel. Press the "FUNCTION" switch and turn on the power. The "ON LINE" LED flashes and the "ROW" and "COLUMN" LEDs light up. You work your way through a 7 by 6 matrix, selecting the options you want by row/column reference and then pressing "SET". At first glance the matrix is a bit forbidding. (See Fig.1).

However after studying the manual and experimenting a little, I found it easy enough. The settings can be printed out. Fig. 2 shows what printed out once the machine had been set up for use with my CPC464/6128 hybrid computer.

The only setting I have changed, in order to run the printer with a PC1512SD computer, is the data length which I changed to "8". I have since found that the 8-bit data length setting works quite satisfactorily on the CPC. All I have to do is change over

Row indicator light				Column indicator light (ON=lit, OFF=blink)					
R1	R2	R3	Row	C1	C2	C3	C4	C5	C6
ON	OFF	OFF	1st	LQ-2500 Italic	LQ-2500 Graphic	IBM X24 G1	IBM X24 G2	-	-
ON	ON	OFF	2nd	Draft	Courier	Prestige	Bold PS	Script	Sans Serif
OFF	ON	OFF	3rd	USA	France	Germany	England	Denmark 1	Sweden
OFF	ON	ON	4th	Italy	Spain 1	Japan	Norway	Denmark 2	Spain 2
OFF	OFF	ON	5th	Latin America	Print Di- rection	Skip	Auto LF	Auto CR	P.O Detect
ON	ON	ON	6th	Current Control Table condition print mode					
BLK	OFF	OFF	7th	DLL Buffer	C.S.F.	Buzzer	Zero slash	AGM	Data Length

• Fig. 1 - The initial setup mode matrix which replaces dip-switches.

**Version D
INITIAL SET-UP condition**

* Emulation mode	:	LQ-2500 Graphic
* Default font	:	Draft
* Int'l char. set	:	USA
* Image direction	:	Bi-direction
* Skip perforation	:	OFF
* Automatic LF	:	OFF
* P.O detector	:	ON
* Download buffer	:	Disable
* Cut sheet feeder	:	OFF
* Buzzer sound	:	OFF
* Zero font	:	0
* Alt. Graphic Mode	:	OFF
* Data length	:	7

LQ-2500 is a trademark of EPSON America, Inc.

• Fig. 2 - Initial Settings Print-out.

the cables. (I must get a data switch!)

A similar matrix approach is used to set the default font, pitch, form length, and lines per inch, and to choose between the "quiet" and normal printing modes, as well as the left and right margins. Three "macros" complete the matrix, which is shown on the front of the printer. This is handy if you want to temporarily change the default settings.

The macros are a useful feature. They are default print modes which can be programmed into the printer, where the settings are retained even when the power is turned off. Thus you can set up the fonts, pitch, paper length, lines per inch, and margins required by regular printing jobs - such as pre printed forms and store the settings in macro 2 or macro 3. Macro 1 is used to store the current default settings.

Paper can be fed into the printer in three ways. The usual method is to use continuous paper and "push" it through the printer from the rear of the machine. This brings into operation some special

features.

Need to feed a single sheet through? Press "FUNCTION" and then "ON LINE". This brings "MEMO LOAD" into operation. The continuous paper backs out of the paper path. You then open the front flap and push the single sheet of paper in as far as it will go. Move the lever on the top left of the printer from "T PUSH" to "F" (friction feed). Press "FUNCTION" and "ON LINE" again and the sheet is fed into position. After printing, move the lever to "T PUSH" and press the "FUNCTION" and "ON LINE" keys again to return the continuous paper to the printing position.

Finished printing on the continuous paper and want to tear it off? Touch the "SET" key, which double as "PCUT" and the paper moves up in line with the tear-off edge of the grey perspex cover. Tear it off and touch the "SET" key and "PCUT" (perforation cut) returns the paper to the printing position, with no wastage.

The memo load and perforation cut features cannot be used if you pull paper through the printer from the slot underneath. However, this method of feeding is recommended when labels and multi-part forms are being used.

If you have ever printed labels, you will know that they have an annoying habit of peeling off the backing paper whenever they are required to negotiate a sharply curving path. The path for pulling paper through the KX-P1124 is gently curving and I have had no trouble with labels peeling off and getting stuck in the bowels of the machine.

The paper path for cut paper allows an A4 sheet to be fed through sideways. However, the printer can only print an 8 inch (20.32 cm) line on the paper, starting no closer than 1.5 inches (3.81cm) from the left-hand edge. Nonetheless, the ability to handle paper up to A3 (which is as wide as A4 is long) would be useful if you wanted to print a poster, for example.

The print head life is stated at 100 million characters, while the fabric ribbon has a stated life of 3 million draft characters. Like the cassette used on

PRINT OUTPUT SAMPLES

Draft	-	The quick brown fox jumps over the lazy dog.
LQ Courier	-	The quick brown fox jumps over the lazy dog.
Sans Serif	-	The quick brown fox jumps over the lazy dog.
Prestige	-	The quick brown fox jumps over the lazy dog.
Script	-	<i>The quick brown fox jumps over the lazy dog.</i>
Bold PS	-	The quick brown fox jumps over the lazy dog.

Fig 4. - The six in-built fonts of the KX-P1124

the KX-P1081, this one has a built-in re-inking cartridge which extends the life by about 50% when compared with cassettes not having this feature.

In order to place the printer between my two computers, I put it on one of those printer stands which consist of two supports that tilt the printer forward. This particular version also has a paper tray on the back. The supports stop the front flap from being opened. No problem! The flap is detachable.

By using a combination of fonts, pitches and enhancements (such as, double high, double width, italics, emphasised, super and subscript etc.) up to 5500 different print styles can be created. And if that is not sufficient then you can load in up to 256 draft of 160 letter quality characters by fitting the optional 32k printer buffer. Fig. 4 shows the six in-built fonts.

The available pitches (number of characters per inch) are 10, 12, 15, 17 and 20. Each of these can be printed double height and/or double width. Other pitches can be created by inserting additional space

between the characters. A command called "character dot spacing" is provided to do this.

The printer has its own word processing commands which enable it to centre text, align it with the right margin, or justify it by spreading it evenly across the page. I found this last feature disappointing as it produces an uneven left-hand margin. I have also not managed to get it to justify proportionally spaced text, even though the printer provides a number of ways of supposedly achieving this.

Generally the KX-P1124 responds predictably to the codes used by its 9-pin predecessor. However, when it came to justifying text under the control of Protex, it proceeded along the line with a slow and jerky motion. By choosing the code to move the print head to a "relative horizontal position" instead, the printer performed the task more quickly and smoothly. For LQ printing this also required the character width to be redefined.

One very useful feature of modern printers is their ability to turn on the "Most Significant Bit" (MSB). CPC computers only have a 7-bit interface (i.e. they can only send the printer 7 bits of information out of a possible 8, resulting in the printer's characters from 128 to 255 normally being unavailable). However, by sending a code to the printer to tell it that the following codes should be 8-bit, the printer can be made to add on the MSB, or eighth bit. All characters can then be used, enabling the drawing of boxes and other useful things. Just how to exploit this feature is beyond the scope of this review.

Page form length can be varied from 0 to 22 inches with a selection of 8 to 14 inches available from the control panel. The true A4 form length (11.7 inches or 297 mm) is one of the six selections.

Distance between lines can be as little as 1/360 inch or as much as 1.42 inches! Again the more common lines per inch settings can be selected from the control panel. The default is 6 lines per inch.

If I have a major criticism of the machine, it is of its noise level. Some people have called it fairly average, but to me, it is not only louder but also more intrusive than either of my previous printers. There is, I admit, a "quiet" mode. This slows the printer and drops the noise level a bit, but for office use, I believe this machine would require a sound proofing box.

In summary, though, Panasonic's KX-P1124 represents good value for money. Features which appeal are its paper handling, print quality, ribbon re-inking, the default macros and the front control panel which replaces inaccessible dip switches. Less appealing are the noise levels, its word processing, and the instruction manual. ■

PRINT OUTPUT SAMPLES

Pitches:

5 cpi Elongated Pica - The quick
6 cpi Elongated Elite - The quick br
7.5 cpi Elongated Micron - The quick brown fo
8.5 cpi Elongated Compressed Pica - The quick brown
10 cpi Elongated Compressed Elite - The quick brown fox jump
10 cpi Pica - The quick brown fox jumps over the lazy dog. N
12 cpi Elite - The quick brown fox jumps over the lazy dog. Now is the t
15 cpi Micron - The quick brown fox jumps over the lazy dog. Now is the time for all goo
17 cpi Compressed Pica - The quick brown fox jumps over the lazy dog. Now is the time for all good men
20 cpi Compressed Elite - The quick brown fox jumps over the lazy dog. Now is the time for all good men to come to the

Fonts:

Draft - The quick brown fox jumps over the lazy dog.
LQ Courier - The quick brown fox jumps over the lazy dog.
Sans Serif - The quick brown fox jumps over the lazy dog.
Prestige - The quick brown fox jumps over the lazy dog.
Script - The quick brown fox jumps over the lazy dog.
Bold PS - The quick brown fox jumps over the lazy dog.

Enhancements:

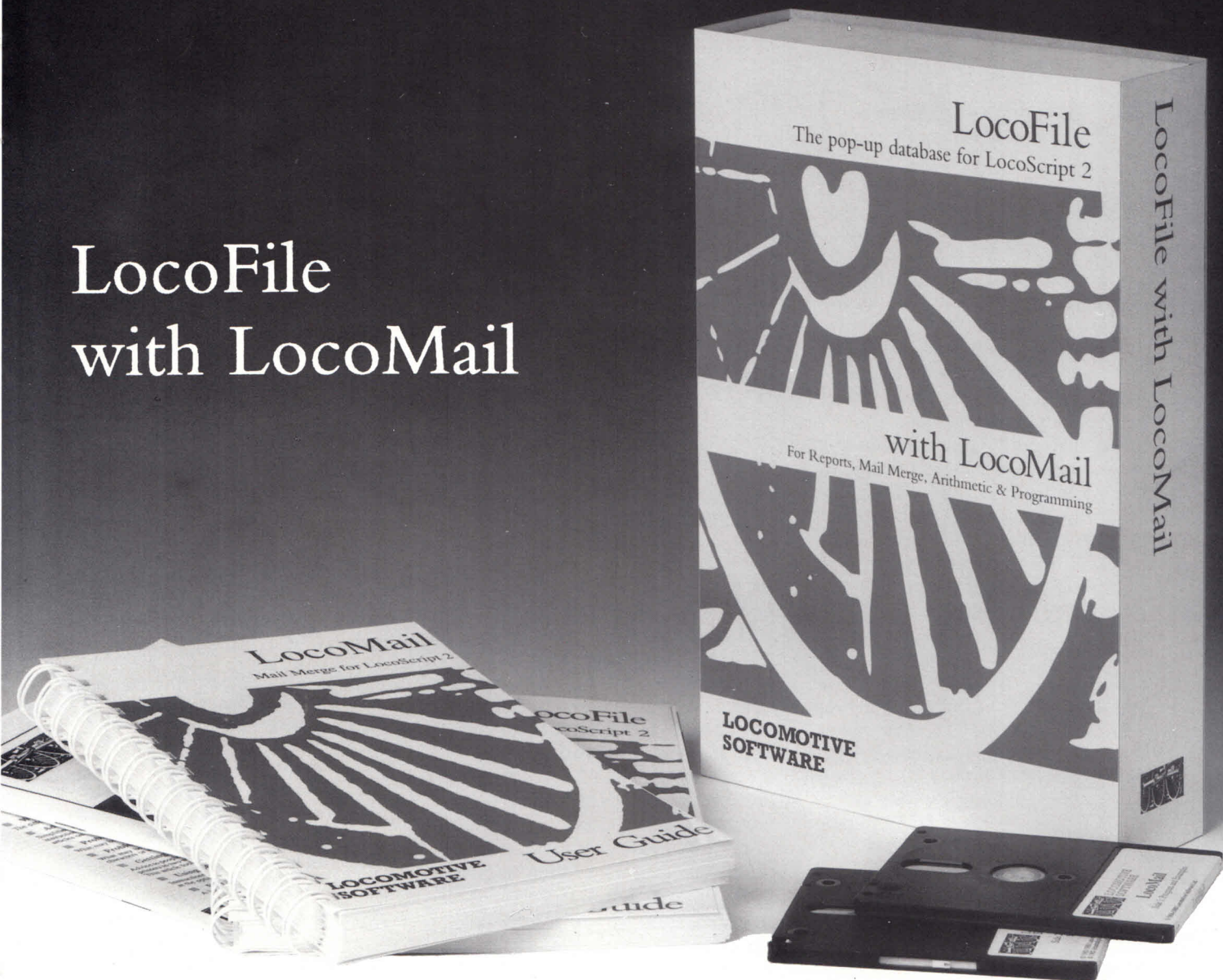
Double high - The quick brown fox jumps over the lazy dog.
Double width and height - Th
Italics - The quick brown fox jumps over the lazy dog.
Emphasized - The quick brown fox jumps over the lazy dog.
Double strike draft - The quick brown fox jumps over the l
Double strike emphasized draft - The quick brown fox jumps
Double strike emphasized draft italics - The quick brown f
subscript and superscript in LQ are available - The quick b

These samples were produced using a CPC464/6128 computer without the benefit of an 8-bit interface. The box was printed first and the paper backed up to the starting point because it was not possible to print a perfect box with so many varying pitches inside.

Fig. 5 - Samples of the output of the Panasonic KX-P1124

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.

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Printing lists in LocoMail

With a little trickery, LocoMail can be used to print lists of information from its complex datafile sources.

LocoMail is LocoScript's mail-merge program. Its job is to pull information into a pre-prepared document known as a Master document.

The ways in which the Master document can manipulate your information are endless. As well as the simple instructions that insert information into the document, there are LocoMail instructions to select just the data records you want, to do calculations on numeric data, combine items of information, repeat groups of instructions or omit them under certain circumstances.

SIMPLE LISTS

Producing lists of information from a LocoFile datafile is a very easy task in LocoMail, requiring just four types of LocoMail instruction.

The first instruction that is needed is the simple (+Mail) *item-name* (-Mail) instruction. This instruction copies into the finished document the information in the datafile associated with the given name. For example:

(+Mail) Name (-Mail) copies the Name information from the datafile.

(+Mail)Phone(-Mail) copies the Phone information.

These instructions are positioned at the actual point in the document at which this information is to be inserted. Suppose, for example, you wanted to prepare a much more sophisticated phone

list than the simple one we produced using LocoFile's Print Extract feature - made up of Names on the left and Home: followed by Phone numbers on the right:

Joe Bloggs → Home:01-123-1234 ↵

All you need to represent this layout in your Master document is:

**(+Mail)Name(-Mail) → Home:
(+Mail)Phone(-Mail) ↵**

(Of course, you'll also need a suitable tab top on the Ruler line). The line with (+Mail)Name(-Mail) replaces the actual name and (+Mail)Phone(-Mail) replaces the actual phone number. Notice how the → sign remains *outside* the Mail instructions. You must always be careful to put any tabs and styling or positioning codes (such as (+Bold) and (RAlign)) outside of Mail instructions: otherwise they'll be taken as part of the instruction and won't make their way into the finished document.

The information that is copied at any time is taken from one record - the Current record. When you are preparing a list, you need to take information from a number of different records, so another LocoMail instruction you need is the \$+ instruction that tells LocoMail to move on to the next record in the datafile. This needs to follow the (+Mail)item-name(-

Mail) instructions as follows:

**(+Mail)Name(-Mail) → Home:
(+Mail)Phone(-Mail) ↵
(+Mail)\$+(-Mail)**

The (+Mail)*item-name*(-Mail) and \$+ instructions take the required information from the current record and move on to the next record. To take the information from all the records in the datafile, you need LocoMail to repeat these instructions once for every record in the datafile.

The way to do this is to save these instructions as an item in its own right (known as a Program Unit):

**(+Mail)Prog_unit="(+Mail)Name(-Mail)
→Home: (+Mail)Phone(-Mail) ↵
(+Mail)\$+(-Mail)"(-Mail)**

and then use the Perform command % to Perform this Program Unit over and over again until the end of the datafile is found (signalled, for example, by the Name item becoming empty):

(+Mail)%Prog_unit @Name(-Mail)

(@Name tells LocoMail to keep on performing Prog_unit until Name is either empty or zero).

Simply putting all these instructions together gives us a Master document that will produce the list we want. However, this Master document is more of a mass of (Mail) codes than it needs to be. In practice, we would recommend using the following set

of instructions in which the → sign and the word Home: have been stored as Text and the carriage return at the end of each line of the list is stored as cr:

```
(+Mail)Text = " → Home: " ␣
cr=" ␣
" ␣
Prog_unit="(+Mail)Name:Text:Phone:cr␣
$+(-Mail)" ␣
%Prog_unit@Name(-Mail)
```

As you see, this simple rule has made the Master document much clearer to read.

This Master document gives you lists without recourse to any of the 'false' Paper Types that we needed when using the Print Extract feature. All you have to do is set up the document for the printer and the type of paper you want to use and merge it with a suitable datafile.

ORDERED LISTS

The list produced by the above Master document has one disadvantage compared to the lists produced by Print Extract - it's just sorted in record number order.

This is easily remedied by using another LocoMail instruction - the \$= instruction. This is a new LocoMail instruction introduced specifically to allow LocoMail to take advantage of the indexes in LocoFile datafiles. It can only be used with LocoFile datafiles and it is only available in versions of LocoMail that have been upgraded to work with LocoFile. (If you have got LocoMail already, this upgrading will happen automatically when you install LocoFile on your system).

The \$= instruction selects an index set up in the datafile - in other words, it lets you choose the order in which LocoMail works through the datafile. The box overleaf explains how the command works. Phone lists are normally in Surname order, so the \$= instruction you would want is:

```
$="Surname"
```

The quote marks are needed to

tell LocoMail that the name that is being given is the actual name of the index that is required: without the quote marks, LocoMail would take the current contents of the Surname item as the name of the index it was to select.

This instruction simply needs to be put at the top of our LocoMail master document as follows:

```
(+Mail)$="Surname" ␣
Text = " → Home:" ␣
cr=" ␣
" ␣
Prog_unit="(+Mail)Name:Text:Phone:cr␣
$+(-Mail)" ␣
%Prog_unit @Name(-Mail)
```

To produce the Phone list in, say, Firstname order (assuming the datafile has such an index), the instruction simply needs to be changed to:

```
$="Firstname"
```

while you can leave the choice of the index to use until the Master is merged with the datafile by changing the instruction to:

```
$=? ; Type the name of the index
you require.
```

SELECTIVE LISTS

Further changes to this Master document will let you be selective about the records that you include in the list.

Suppose, for example, that the only people you wanted to include in your phone list were people living in Hamilton. One way of making this selection is to pull up the records one by one and test whether the address in the current record is in Hamilton - if it is, include the information; if it isn't go on to the next record. The way you make this test is by using the LocoMail # command to specify the conditions under which you include or exclude records from the list.

If you have a specific Town item in the datafile, you would use the condition:

```
# Town = "Hamilton"
```

to test if the current Town item is Hamilton, and if so, insert the name and phone numbers:

```
#Town="Hamilton":<:Name:Text:
Phone:cr>
```

To ensure that this test is carried out on every record, this # instruction needs to be put in our Program Unit as follows:

```
Prog_unit="(+Mail)#Town="Hamilton"␣
<:Name:Text:Phone:cr:> ␣
$+(-Mail)" ␣
```

The Program Unit now tests whether the town item in the current record is Hamilton: if it is, then LocoMail adds the Name and Phone details to the list and then advances to the next record; if it isn't then LocoMail skips the instructions to insert the Name and Phone details and simply advances to the next record.

Even if you don't have a specific Town item, you can still use this approach - only this time you need to take advantage of LocoMail's 'wildcard*' to ask the question "Does the Address item include the word Hamilton?"

When comparing two pieces of text, LocoMail interprets * as meaning 'any number and combination of characters'. If an address includes the word Hamilton, then it can be thought of as some combination of characters (the details don't matter), followed by Hamilton, followed by some other combination of characters (again, the details don't matter). Also it doesn't matter what combination of upper case and lower case letters you've used - LocoMail will pick out Hamilton, hamilton or HAMILTON. So, the records you want are the ones in which the Address item matches *Hamilton*, making the # instruction you need:

```
# Address = "**Hamilton**"
```

The Program Unit you need in this case is therefore:

```
Prog_unit="(+Mail)#Address="**Hamilton**"␣
```


< : Name : Text : Phone : cr : > ↵
\$+(-Mail)" ↵

SELECTION USING THE KEYS

If you keep Town as a separate item in your datafile, there is another way of generating a phone list just for the people living in Hamilton. This is done by working directly with the keys LocoFile stores in an index.

To use this approach, you need to set up your datafile so that Town appears as an item in its own right and not as part of the address item. Then you can create a special index - one that has Town as the Main Key item and Name as the Sub Key item. Such an index orders the records primarily in alphabetical order of Town name, but where the Town is the same, the records are put into alphabetical order of Name.

The advantage of this index is that it automatically groups together all the records for people living in Hamilton - so once you have found the first record for Hamilton, you then know that all the other records for Hamilton follow this one. (As we will see, LocoMail has an instruction that will go straight to the first record with a given key).

Moreover, once you find a record that doesn't have Hamilton as the Town, you know that you have processed all the Hamilton records and you don't need to look at any more records. You can ask LocoMail to go straight to the end of the datafile so you don't have to waste time with the records which come after the Hamilton records.

To use the keys of this special Town index to pick out the records of people with addresses in Hamilton, you use a \$\$ instruction - another new LocoMail instruction introduced specifically for processing LocoFile datafiles. This instruction allows you to tell LocoMail to go directly to the record with a specified key in the current index - in much the same way as you can use the Goto feature in LocoFile to go directly to a particular record.

As with Goto, the record picked

out by the \$\$ command is the first one in the index with the key you give, so using the instruction:

\$\$ "Hamilton"

will pick out the first record in the index that has the Main Key Hamilton.

This instruction needs to go at the start of the Master document, immediately after the instruction that picks out the index LocoMail is to work with. Notice that we don't suggest putting this instruction in our Program Unit. If it were included in the Program Unit, the \$\$ instruction would tell LocoMail to pick out the first record with Hamilton as the Main Key each time the Program Unit is executed. The list you would get from that would simply contain the details from this first record repeated over and over again - hardly the result you want!

In other words, instead of starting (+Mail) \$="Surname"↵, the Master document to use here starts with:

(+Mail)\$="Town"↵
\$\$ "Hamilton"↵

The \$\$ "Hamilton" instruction skips all the records that come *before* the records you require. We also have to consider how to skip the records that come *after* the required records.

The solution to this problem is to change the item used to control how many times Prog_unit is performed. The Name item used so far was chosen to ensure that LocoMail would work through to the very end of the datafile. (We assumed that the Name item wouldn't be empty in any record). You now want to use an artificial item that you can set to null once all the 'Hamilton' records have been processed.

Suppose you used an item called Control. This Control item would have to be set to some value before the data records start being processed, so you would need some instruction like:

Control = "Not null"

before the Perform instruction. (We've used "Not Null" and "" representing null, but you could equally well use 1 and 0 as 0 and null have the same effect here).

To make Control null at the end of the batch of Hamilton records, you need to add instructions to the basic Program Unit so that it tests whether the Town item is still Hamilton and if it isn't, set Control to null. Again, this involves using the # Town = "Hamilton" instruction, but this time you want LocoMail simply to set Control to "" (the way null is signified in a LocoMail instruction) when Town is not Hamilton.

To complete our program, we've added one more instruction:

(+Mail) \$="" : \$\$ 9999999(-Mail)

This is simply a way of tricking LocoMail into jumping to the end of the datafile once all the 'Hamilton' records have been found. What it does tell LocoMail to select the record number index and then move to a very high record number - in practice, the end of the datafile.

On the next page, we've given the complete LocoMail program, along with sample records from a datafile and the finished result.

THE NEW LOCOMAIL COMMANDS

Two new commands have been introduced to allow you to use the indexes in a LocoFile datafile from LocoMail, \$= and \$\$.

\$= index-name
\$\$ main-key \$ sub-key

(with the \$ sub-key part of this instruction optional).

As you might expect, you can give the *index-name*, *main-key* and *sub-key* details either explicitly in the instruction (as "*details*") or you can give the name of an item holding this information or you can simply put ?;prompt to tell LocoMail to stop and wait for you to type in the name you want.

However, while you can use \$\$?; prompt to fetch the details, the drawback to this instruction is

that you can only add ; prompt for the Sub Key. A better solution is to set up a couple of instructions to store the details as items and use the item-names in the \$\$ instruction. For example:

```
mainkey=?; prompt
subkey=? ; prompt
$$ mainkey $ subkey
```

Possibly the best way of thinking about the \$= and the \$\$ commands is to compare their actions with using indexes in LocoFile itself.

The \$= command is like using the f2 Index menu in LocoFile to set the current index. You give the name of the index that you want to work with and this then defines the order in which records are picked out from the datafile. For example, the instruction \$="Surname" selects the Surname index. When LocoMail moves on to the next record either at the end of a pass through the document or because of a \$+ command, the record to which it moves is the next record in the specified index - just as if you were using the Page key to step through the records in LocoFile.

The only difference between \$= and the f2 Index menu is that \$= automatically moves to the first record in the specified index (unless this index is already the current index, in which case the record you are on doesn't change). When you select a different index in LocoFile, the record displayed on the screen doesn't change.

The \$\$ command is like using the Goto menu to tell LocoFile to display a particular record. You give the key in the current index for the record you want LocoMail to select and LocoMail jumps straight to this record.

For example, \$\$ "Smith" tells LocoMail to go straight to the record in the current index which has the Main Key Smith. If the current index is one that has both Main Keys and Sub Keys, then you can give LocoMail both the Main Key and the Sub Key for the record you want - again, just like

EXAMPLE DATAFILE

Record:19

Name Anthony Andrews
 Street Flat 2, 13 Avondale Road
 Town London
 County
 Postcode SW4 7TT

Record:20

Name Ruby Peters
 Street 6 River Lane
 Town Maynard
 County Lincs
 Postcode CB15 6DX

Phone 01 127 1138
 Work phone 01 198 8372

Phone 043 51 5958
 Work phone 043 51 7373

f2=Index

Index name:	Town
Main key:	Town
Sub key:	Name
	Alphabetic, no case
	Alphabetic, no case

Record:21 Changed

Name Belinda Andrews
 Street 30 Wickham Road
 Town Rockcliffe
 County Devon
 Postcode BA3 9II

Phone 0228 12247
 Work phone 0228 28372

Goto. You do this by tagging the Sub Key on the end of the \$\$ instruction as follows:
 \$\$"Smith"\$"John"; \$\$"Smith"\$"Joe"
 etc.

One important thing to note about using the \$\$ instruction is that, as with Goto, if the record you specify isn't found, then the program picks out the record that would follow it in the datafile.

For example, if there were no record for Joe Smith, then the record actually picked out might be the one for John Smith. With Goto, you can see immediately whether the record you expected has been found. When you are using LocoMail, you don't automatically see this information and so, as a rule, you need to use further LocoMail instructions to check that the correct record has been picked out (for example, by using suitable # instructions).

Another thing to note about jumping directly to records is the effect of specifying a record which

is after the last record in the index. Unlike using the Goto menu in LocoFile, this doesn't position you on the last record. Instead, LocoMail positions you on a 'Null' record at the end of the datafile, in which all the items are null.

THE PROGRAM

```
(+Mail)$="Town"␣
$$ "Hamilton"␣
␣
Text="␣           Home: "␣
cr="␣
"␣
Prog_unit"(+Mail)#Town = "Hamilton"␣
< : Name : Text : Phone : cr:$+␣
>< : Control = "" : >␣
(-Mail)␣
Control = "Not null"␣
%Prog_unit@Control(-Mail)␣
(+Mail) $= "" : $$ 9999999 (-Mail)␣
```


Percentage Calculator



Any student or teacher with a PCW will find this type-in a great help in calculating overall exam percentages.

Marks p/c by Keith Tarrant, is primarily designed for the use of teachers in compiling and percentaging their students marks at the end of a term, or year as appropriate. It provides for three categories of marks i.e. class marks, test marks, and exam marks. There is a consensus among teachers, to whom I have spoken, that this provision is adequate for most circumstances.

The program further provides for the calculating and percentaging of each category, the weighting of each category according to the teachers own assessment, and the printing of the result under the students name.

The instructions are simple:

Load basic

At prompt "OK", type RUN "MARKSPC"

Answer the questions on the screen and press RETURN, if any answer is ZERO, press RETURN, which will take you on to the next question or category. To print out results, follow the instructions on the screen.

With a few minor changes, any CPC or PC owner should be able to convert this program to their machine.

```

10 PRINT CHR$(27) + "E" + CHR$(27) + "
H"
20 PRINT "                                MA
RKS PERCENT PROGRAM"
30 PRINT
40 PRINT "  $ JUNE 1988 BY KEITH TARRA
NT "
50 PRINT
60 INPUT "STUDENTS NAME ";NAME$
70 INPUT "POSSIBLE CLASS MARKS ";T
80 IF T<=0 THEN GOTO 250
90 INPUT "CLASS MARKS 1";C1
100 INPUT "CLASS MARKS 2";C2
110 INPUT "CLASS MARKS 3";C3
120 INPUT "CLASS MARKS 4";C4

```

```

130 INPUT "CLASS MARKS 5";C5
140 INPUT "CLASS MARKS 6";C6
150 INPUT "CLASS MARKS 7";C7
160 INPUT "CLASS MARKS 8";C8
170 INPUT "CLASS MARKS 9";C9
180 INPUT "CLASS MARKS 10";C10
190 INPUT "CLASS MARKS 11";C11
200 INPUT "CLASS MARKS 12";C12
210 M=(C1+C2+C3+C4+C5+C6+C7+C8+C9+C10+
C11+C12)
220 PRINT "TOTAL CLASS MARKS          ";:P
RINT USING "###.###";M
230 P=(M/T*100)
240 PRINT "PERCENTAGE                    ";:P
RINT USING "###.###";P:PRINT
250 INPUT "POSSIBLE TEST MARKS          ";H
260 IF H<=0 THEN GOTO 430
270 INPUT "TEST MARKS                    1";H1
280 INPUT "TEST MARKS                    2";H2
290 INPUT "TEST MARKS                    3";H3
300 INPUT "TEST MARKS                    4";H4
310 INPUT "TEST MARKS                    5";H5
320 INPUT "TEST MARKS                    6";H6
330 INPUT "TEST MARKS                    7";H7
340 INPUT "TEST MARKS                    8";H8
350 INPUT "TEST MARKS                    9";H9
360 INPUT "TEST MARKS                   10";H10
370 INPUT "TEST MARKS                   11";H11
380 INPUT "TEST MARKS                   12";H12
390 J=(H1+H2+H3+H4+H5+H6+H7+H8+H9+H10+
H11+H12)
400 PRINT "TOTAL TEST MARKS              ";:P
RINT USING "###.###";J
410 K=(J/H*100)
420 PRINT "PERCENTAGE                    ";:
PRINT USING "###.###";K
430 INPUT "POSSIBLE EXAM MARKS          ";F
440 IF f<=0 THEN GOTO 610

```



```

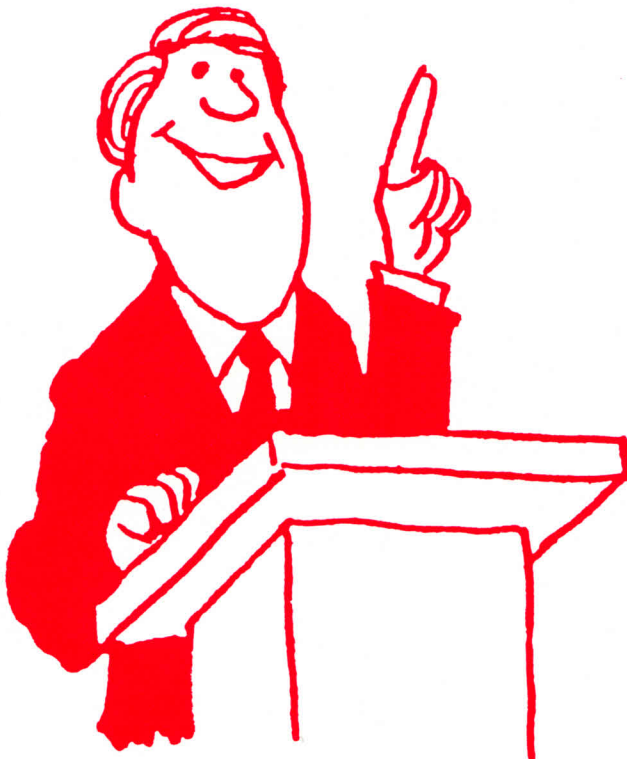
450 INPUT "EXAM MARKS QUESTION 1";E1
460 INPUT "EXAM MARKS QUESTION 2";E2
470 INPUT "EXAM MARKS QUESTION 3";E3
480 INPUT "EXAM MARKS QUESTION 4";E4
490 INPUT "EXAM MARKS QUESTION 5";E5
500 INPUT "EXAM MARKS QUESTION 6";E6
510 INPUT "EXAM MARKS QUESTION 7";E7
520 INPUT "EXAM MARKS QUESTION 8";E8
530 INPUT "EXAM MARKS QUESTION 9";E9
540 INPUT "EXAM MARKS QUESTION 10";E10
550 INPUT "EXAM MARKS QUESTION 11";E11
560 INPUT "EXAM MARKS QUESTION 12";E12
570 G=(E1+E2+E3+E4+E5+E6+E7+E8+E9+E10+
E11+E12)
580 PRINT "EXAM MARKS          ";:
PRINT USING "###.##";G
590 D=(G/F*100)
600 PRINT "EXAM MKS %          ";:
:PRINT USING "###.##%";D:PRINT
610 INPUT "CLASS MKS % OF TOTAL ";A
620 O=(P*A/100)
630 PRINT "ADJ CLASS MKS %    ";:P
RINT USING "###.##%";O
640 INPUT "TEST MARKS % OF TOTAL ";L
650 N=(K*L/100)
660 PRINT "ADJ TEST MARKS %   ";:P

```

```

RINT USING "###.##%";N
670 INPUT "EXAM MKS % OF TOTAL ";Q
680 R=(D*Q/100)
690 PRINT "ADJ EXAM MKS %     ";:P
RINT USING "###.##%";R
700 S=(O+R+N)
710 PRINT "TOTAL ADJ MARKS %   ";:P
RINT USING "###.##%";S
720 PRINT "TO PRINT RESULTS TYPE 'Y' -
OR 'X' TO QUIT"
730 A$=INKEY$
740 IF A$ = "Y" THEN 770 ELSE IF A$= "
y" THEN 770
750 IF A$="X" THEN 10 ELSE IF A$="x" T
HEN 10 ELSE 730
760 END
770 LPRINT "STUDENTS NAME ";NAME$
780 LPRINT TAB(5) "POSSIBLE CLASS MARK
S ";:LPRINT USING "###.##";T;
790 LPRINT TAB(38)"CLASS MARKS ";:LPR
INT USING "###.##";M;
800 LPRINT TAB(62)"PERCENTAGE ";:LPRI
NT USING "###.##%";P
810 LPRINT TAB(5) "POSSIBLE TEST MARKS
";:LPRINT USING "###.##";H;
820 LPRINT TAB(38)"TEST MARKS ";:LPR
INT USING "###.##";J;
830 LPRINT TAB(62)"PERCENTAGE ";:LPRI
NT USING "###.##%";K
840 LPRINT TAB(5) "POSSIBLE EXAM MARKS
";:LPRINT USING "###.##";F;
850 LPRINT TAB(38)"EXAM MARKS ";:LPR
INT USING "###.##";G;
860 LPRINT TAB(62)"PERCENTAGE ";:LPRI
NT USING "###.##%";D
870 LPRINT "WEIGHTING C/MARKS ";:LPRI
NT USING "###.##%";A;
880 LPRINT TAB(28) "WEIGHTING T/MARKS
";:LPRINT USING "###.##%";L;
890 LPRINT TAB(56) "WEIGHTING E/MARKS
";:LPRINT USING "###.##%";Q
900 LPRINT "ADJ CLASS MARKS % ";:LPRI
NT USING "###.##%";O;
910 LPRINT TAB(28)"ADJ TEST MARKS %
";:LPRINT USING "###.##%";N;
920 LPRINT TAB(56)"ADJ EXAM MARKS % "
;:LPRINT USING "###.##%";R
930 LPRINT TAB(56)"TOTAL ADJ MARKS % "
;:LPRINT USING "###.##%";S
940 LPRINT " "
950 GOTO 730
960 END
970 PRINT "
ARKS PERCENT PROGRAM"

```



... at last ... **SERIOUS DTP** on the

AMSTRAD PCW



A NEW GENERATION OF ADVANCED SOFTWARE FOR THE PCW

MicroDesign II provides all the essential features of DeskTop Publishing and Graphic Design on the Amstrad PCW. It operates under CP/M as a self-contained and fully integrated program.

TYPESETTING

Character Size and Line Spacing are adjustable up to 160 points, and the system handles up to eight columns of text on one page including Automatic Margins, Gutters, and Dividers.

Controls are provided for Left & Right Aligned, Centred, and Right-Justified text with Auto-Flow, Word or Character Justification, and variable Tabs & Indents.

The package is supplied with a huge range of Fonts, any of which can be enhanced using any combination of...

Bold, Double, Highlight,
Outline, Italic, Underline

Page Templates allow 'stylesheets' to be composed and saved containing settings for Page Format, Columns, Character Spacing, Line Spacing, Type Size, Text Format etc.



GRAPHICS

An extensive range of Graphic Art and Design facilities are provided, including Lines, Shapes & Pattern Fills; Cut, Copy & Paste; Rescale, Rotate & Reflect.

MicroDesign II includes a library of over 400 patterns and symbols which can be used for diagrams and shading effects.

Clip-Art and other graphic material can be created in MicroDesign II or imported from a wide range of other software products.

FONT DESIGN

The integrated Font Designer allows the user to create their own typefaces of up to 96 characters. Characters can be copied from each other or from a drawing and edited using features such as Reflect.

PAGE LAYOUT

Both Landscape and Portrait A4 page formats are provided as well as a very high resolution Strip format (512Kb RAM recommended for best results). Full Cut, Copy & Paste operations are provided for perfect layout control.

TEXT EDITING

The integrated Text Editor provides essential word-processing facilities within MicroDesign, and has full Cut, Copy & Paste facilities. It supports controls for Typestyle and Text Formatting features used during Typesetting.

Text files can be merged or loaded from Locoscript, Protext & Wordstar.

PRINTING

Specialised printing software gives the highest quality output (at three different scales) from the PCW's own printer or from an external printer. Most types of 9-pin, 24-pin, and laser printer are supported (serial or parallel interface), and jobs can be queued for unattended printing of multi-page documents.

GENERAL

MicroDesign II is fully compatible with Locoscript 2, Protext, Wordstar, AMX Stop-Press, NewsDesk International, The DeskTop Publisher, Master-Scan...

It is fast and friendly to use with mouse or keyboard, and is compatible with the AMX or Kempston mouse.

The ability to Undo or Redo the last operation means no fatal mistakes. The menu system has been carefully designed to make it easy to find and control all operations.

MicroDesign was used to design, typeset and print its own 120 page User Manual.

MicroDesign 2
Program only **\$169.00**
With Kempston
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ENTERTAINMENT

Reviewed this month:

- *Black Tiger*
- *Test Drive II*
- *Epyx Action*
- *Dr. Doom's Revenge!*
- *P-47 Thunderbolt*
- *Rainbow Islands*
- *Defender of The Crown*
- *Crime Wave*
- *If it moves, shoot it!*
- *Hard Drivin'*

BLACK TIGER

Capcom's barbaric beat-em-up is here

CPC Disk - \$39.95

CPC Tape - \$29.95

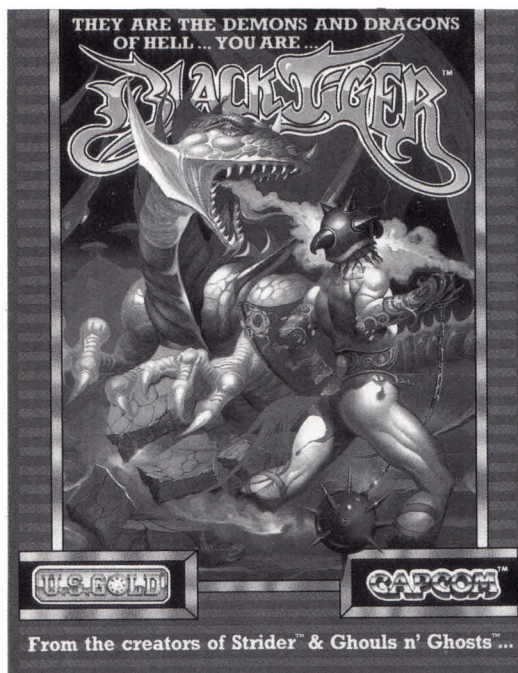
Long ago, when the world was a dark and evil place, out of a black and troubled sky emerged three fearsome dragons - creatures from hell, bearers of destruction, flame, fire and torment. The world was plunged into an age of devastation and misery. Only one man had the courage, power and skill to challenge these servants of Lucifer. He was known only as Black Tiger.

Black Tiger is a fantasy oriented platform scroller in the same mould as other Capcom releases, namely Strider and Ghosts 'n' Ghouls. Mr. Tiger must jump and slash through the various levels in order to defeat the dragons from hell and thus save the world and lives of all mankind (yawn).

Armed only with a mace and some light, but trendy armour, things can get a little heavy going. But heavier maces, stronger armour, potions and keys can be bought or given to you by old men who have been imprisoned in ice by the demons (yeah, you've got to thaw them out first). Magic tokens and zenny coins can also be collected by breaking open chests and jars that appear along the way.

Being a fantasy arcade game, there are a wide variety of creatures to be overcome including skeletons, goblins, fire-breathing mummies, fire demons, spinning skulls and man eating plants named Audrie's (sound familiar?) The levels are short but complex, with plenty of running, jumping and climbing involved before you take on the end of level guardian.

The graphics throughout are reasonably detailed, and the scrolling is smooth enough, but



everything is displayed in a dull green which makes it very difficult to see characters against the background objects. There are no sound effects, but an ok tune plays throughout.

I remember the hack 'n' slash thrills of the coin-op quite well, and although US Gold have managed to convert the general structure of the game to the CPC, they've captured little else. If you want a good platform game, check out Rainbow Islands on page 33.

REVIEW

TEST DRIVE II

Accolade's classy car sim arrives

CPC Disk - \$44.95
CPC Tape - \$29.95

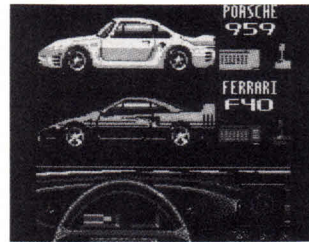
TEST DRIVE originally hit the home computer screen some years ago but never, sadly, made the transition to the CPC. It would appear that ACCOLADE have now decided to support our beloved format, and have released THE DUEL - TEST DRIVE II for the CPC.

THE DUEL gives you the choice to race in and against one of two high performance motor vehicles. There is the now familiar Ferrari F40 (as seen in CRAZY CARS II and TURBO OUTRUN) and the newcomer to the home computer, the Porsche 959. As well as choosing which car you want to drive, you also get to choose the car your computer opponent will drive. Once selected, however, you can't change without reloading the game. Next it's into the intro screen where you get to select the method of control and the level of difficulty (there is a choice of 12). Your car is either automatic or manual, depending on the difficulty level chosen, and you get a chance to race against the clock or a computer opponent.

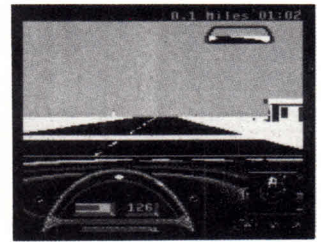
Now to race, WARNING : don't rev too high or you will blow your engine, and your rear view mirror will fill with smoke. Other than that, racing is pretty easy with left/right controlling the direction, while up/down control the speed (in a manual, fire changes gears). There are five sections in the race, varying from 2.6 miles to 6.0 miles. To complete a section

you must stay on the road, passing other motorists and avoiding the cops. All sections are flat, and the only difference is that in sections two and four you have to drive part of the way along the side of a cliff.

You view the action from inside the car where you are surrounded by your cockpit. All the standard instruments are there, from a steering wheel to gear shift. Although the wheel doesn't turn, there is a yellow light that moves around the wheel to show



• Which car will it be?



• Pull into the station.

you how far it is being turned. The gear lever goes up and down smoothly, while the addition of a rearview mirror is good.

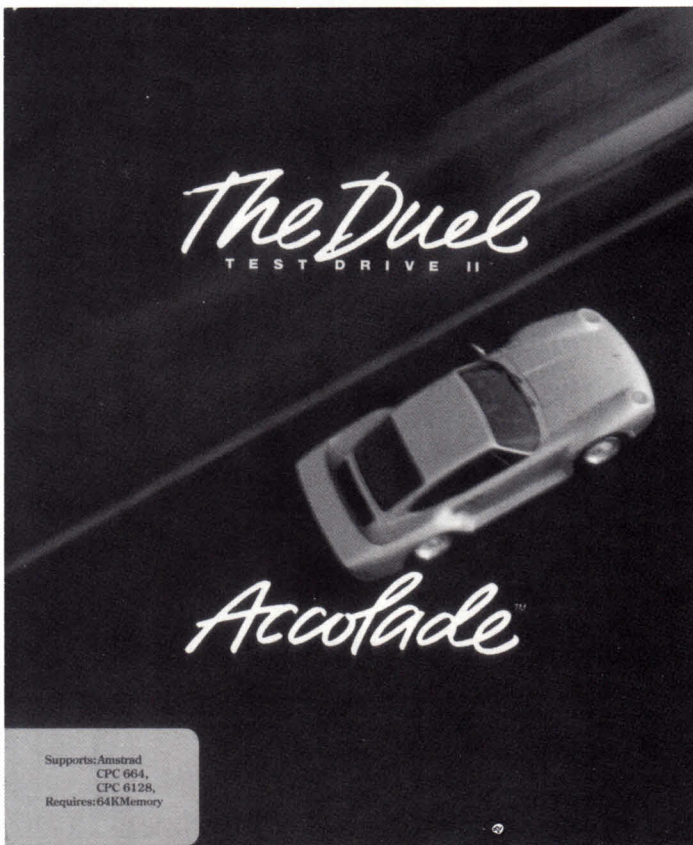
Two other features are worth noting. First is the radar detector, which is situated above the windscreen on the left. If it flashes, it means that you are on the radar of some cop, and you had better slow down if you don't want a ticket. If it isn't flashing, it means you are about to be booked. The second feature is also above the windscreen, and shows your position relative to the race distance, your opponents car, or any cop cars. This is essential when trying to win a race, as you can judge the amount of speed needed to win from the relative positions of all the cars.

Graphically, THE DUEL is not bad. The detail of the car interior is good, and the sprites of the other cars are also good. Cop cars are white, but all the others are blue, no matter what vehicle they are supposed to be. Scenery is pretty basic, with only guideposts and cacti present. Sound is limited to an almost sewing machine like engine noise, and the inevitable crash.

THE DUEL differs from other racing games on the market in that you are actually in the car, and not looking down from the rear. There are other car and scenery discs being developed for this game, but their availability for the CPC is not known. If they are, this system will be good, but if they aren't this game will quickly lose its appeal, as all the sections are bland and repetitive.

THE DUEL is not a bad racing game; it's just a pity it has been released at the same time as some great racing games.

But it's worth a try.



Supports: Amstrad
CPC 664,
CPC 6128,
Requires: 64K Memory

EPYX ACTION

A sporting compilation for the CPC

CPC Disk - \$49.95

CPC Tape - \$39.95

Compilations seem to be the flavour of the month at present for the computer games industry. Each month someone has four, five or six games, all of varying quality, bundled together into one package. EPYX, famous for their Olympic games simulators, and US. GOLD, famous for their action games, have joined together to produce a compilation, called EPYX ACTION, which contains sporting and action games in the one pack. The pack contains two discs and an enormous instruction sheet that explains the games, and the result is a fairly mixed bag.

The first game is IMPOSSIBLE MISSION II. In this, you guide your man via lifts around the enemies towers, hunting for access codes and a music code, all of which is necessary to complete the game. These codes are hidden in the furniture in each room and you must search these objects to get the code. Bonuses are also hidden in the rooms and are useful for avoiding the enemies robot defenders. Perhaps the best of the pack.

4 X 4 OFF ROAD RACING is the next offering. In this, you can compete in one of four different trucks, either standard or customised, over four different tracks. Not a bad racing game, where you start from the back of the pack and have to battle your way to the front. Each track is divided into sections and you can carry out your repairs at these stops.

The first of the multiple games is CALIFORNIA GAMES; sort of an Olympics by the sea (Wot, no Beach Boys?). Here you get to compete at skate boarding in the half-pipe, the foot bag, surfing, roller

skating, BMX racing and the flying disc (frisbee). All the standard EPYX options (i.e. practice, compete in one or all events etc.) and a mix of mode 0 and 1 graphics. A games program with a difference.

THE GAMES - WINTER EDITION takes you to the winter Olympics with all the standard EPYX options. Once you decide to compete, you get the opening ceremony, decide your country (with national song) and compete in either the luge, figure skating, ski jump, cross country skiing, downhill or slalom. Each event is followed by the medal ceremony, and the final event by the closing ceremony. The standard mix of EPYX graphics are also present. A lot of different games in one program.

The final offering in the pack is, I believe, the weakest. STREET SPORTS BASKETBALL allows you to choose from four different outdoor courts and to select your own team. A standard basketball game with each team comprising three players. The big let down here is the poor graphics. Not very well done at all. All things considered, EPYX ACTION is not a bad compilation. You get a lot of game play in this offering, with each of the GAMES offering hours of entertainment. Graphics vary from good to poor, and there is a distinct lack of background sounds in some of the games. When you consider that you are getting five games for about \$10.00 each, compilations are the way to go. This is a good offering, if you forget the poor quality of STREET SPORTS BASKETBALL. There's plenty to keep you busy for hours here, with a mix of sports and action.

DR. DOOM'S REVENGE!

Cap and Spidey fight on thanks to Empire games

CPC Disk - \$39.95

CPC Tape - \$29.95

The sinister Dr. Victor Von Doom, monarch of Latveria, has masterminded and executed the theft of a U.S. nuclear missile. Doom plans to launch the warhead at New York City if the United States does not surrender to him. The Amazing Spider Man and Captain America plan to stop the launch of the missile and apprehend the evil Dr. Doom. Only the most skilled and powerful Super-Heroes could survive such a test. Doom has contracted some of the most dangerous Super-Villains of all time to guard the castle complex, so our hero's struggle will be a long and perilous one.

Yes, Dr. Doom's Revenge brings back many characters from the old Marvel comics that I'm sure everyone has read from one time to another. Doom's fortress is guarded by such villains as Eduardo Lobo, Grey Gargoyle, Machete, Boomerang, Oddball, Rattant, Electro, Hobgoblin, Rhino and Batroc.

The game involves you taking control of Spider Man and Captain America and infiltrating Doom's Fortress. Spidey must locate and disarm the stolen missile, while Cap goes in search of Doom himself. You alternate between the characters as each comes across one of the villains. A game such as this sounds like a great idea, but sadly, it's no more than an average beat-em-up.

Upon meeting a villain. You must defeat him in one to one combat. A series of fighting moves are available through the joystick, plus Spidey can use his webs, while Cap can throw his shield. The villains can use whatever gadgets they have at hand. Apart from that, it's plain fisticuffs folks. The graphics throughout are great with plenty of cartoon sequences between levels, but the gameplay is slow and awkward. You get a great Marvel comic in the packaging. But the game itself is pretty average.

P-47 THUNDERBOLT

Historical shoot-em-up from Firebird

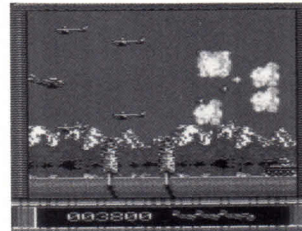
CPC Disk - \$39.95
CPC Tape - \$29.95

The P-47 Thunderbolt was one of the best, and biggest, fighter planes developed in the U.S.A. during the Second World War. It appeared in combat in 1943 and soon won a reputation as a tough and rugged machine. The introduction into service of the P-51 Mustang saw the P-47 relegated from its original role of high level interceptor fighter to mainly ground attack roles, and earned it the affectionate nickname of the 'JUG'. It is this aircraft that is the star of the JALECO arcade game, translated to the home computer by FIREBIRD.

Upon loading the game, the first thing you notice is that the loading screen is a good representation of the cover art, and shows a P-47 attacking a train. Next you get the title screen, and here you get the chance to define the keys that you want to use. Pressing fire brings up a well drawn graphic of a twin engine plane, and then it's into level one. Level one sees you, at low level, over the country-side of NW Europe. Armed with only your machine guns, your P-47 starts its patrol. You have to shoot down enemy planes and destroy flak guns before you can get to the end of the level. Naturally, you'll have to do that. The additional weapons are bombs, multi-warhead missiles or multi-missiles, and extra lives. At the end

of level one you must destroy a train, which takes numerous hits before it erupts into a huge fireball.

Level two sees you patrolling above the clouds, with a very picturesque setting (or rising) sun in the background. The action is more of the same, but this is the level that features the appearance of directable fire. Pick up this and you can destroy whole squadrons of the enemy with little effort. It's also very effective against the V-2 rockets that burst through the clouds at you. End of level enemy is a big bomber, and again multiple hits are required. Level three is back at low altitude, with a huge tank being the end of level enemy. Level four is over the ocean,



• Heavy fire on level one.



• The sun sets over our hero.

with more planes and rockets to destroy and, at the end of the level, a gigantic battleship. The remaining four levels are much the same, but I haven't managed to complete them yet, so I don't know what you have to destroy.

Controls for P-47 are easy, with up, down, left, right and fire being all that's needed. Sonics are limited to a jaunty intro tune and the standard in-game explosions. Graphically, well this is where P-47 stands out.

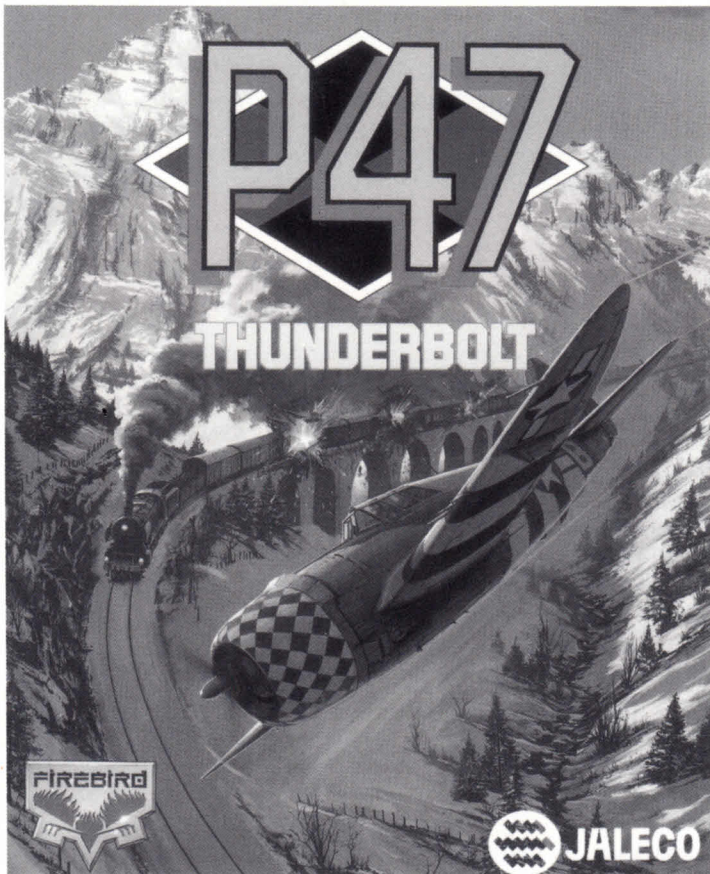
Too often are we presented with 16-bit games which feature beautiful backgrounds, only to see that the 8-bit conversion just sports a black background screen (SILKWORM from VIRGIN is an example). Well FIREBIRD have outdone themselves here, as they have transformed the detailed backgrounds from the 16-bit and arcade versions into the CPC version. In addition, the sprites are good.

Your P-47 although a little squat, is very well done and is in 3D, so that you can waggle your wings after each of your victories, if you have time! The detailed graphics may make it run a little slow, but this doesn't detract from the game.

I'm not normally a big fan of scrolling arcade games of this type, but this game could very well change my mind.

The detailed graphics, the addictive shooting and the challenge to see what is at the end of each level could keep me playing for some time.

Go on, jump in your JUG and reach for the sky, if you dare!



RAINBOW ISLANDS

Ocean's conversion sends the playability meter off the scale!

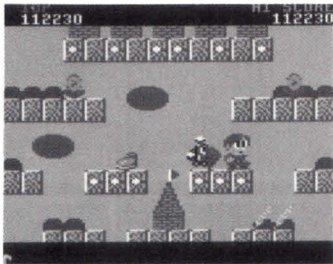
CPC Disk - \$39.95

CPC Tape - \$29.95

In a strange and mysterious land far, far away, lies the Rainbow Islands. All of which, sadly, are being flooded (greenhouse effect maybe?). A small, nameless boy decides to explore the islands before they sink forever into their watery grave, but unfortunately, the local inhabitants are not as friendly as he expected.

Rainbow Islands, the sequel to Bubble Bobble, has got to be the best platform arcade/scroller to date for the CPC. Super Wonderboy, Dynamite Dux, and any other game of this type will have to take a back seat sorry.

Our waddling hero must cross the several sinking islands before he reaches home, high and dry. The islands are Insect Island, Combat Island, Monster Island, Toy Island, Doh's Island, Robot Island and Dragon Island. All are fairly self explanatory except for Doh's Island, which is a retirement village for the sprites from "Arkanoid" (ah, gone but not forgotten).



• Careful, helicopter behind you!

The local residents follow the theme of their accompanying island, and all are particularly nasty. But our hero is not worried by this (well, not much), because he can throw rainbows! The

enemy have a strong dislike for these, because one touch turns them into one or more of the basic food groups.

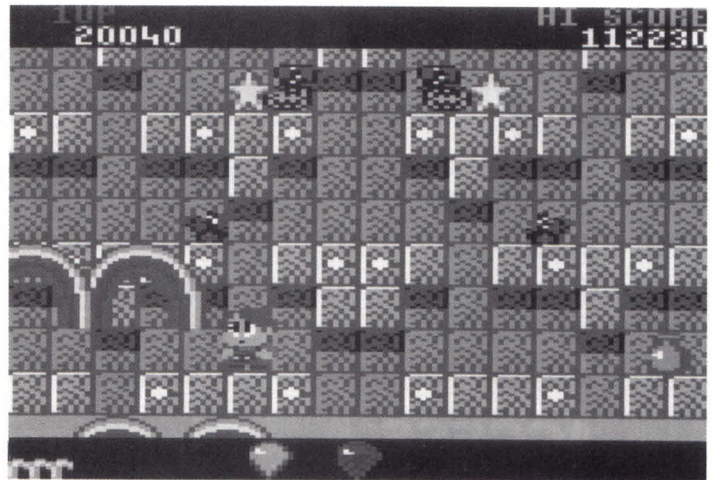
Each section begins at ground level, and our hero must work his way up the screen, jumping from platform to platform while spreading seven colours through anything that moves. If you reach a gap that is too large to jump between, no problem! Just throw a few rainbows out in front of you and walk across, but beware, they only last for a short time before disappearing.

Various objects can be collected along the way that include magic shoes (makes you run faster), red potions (lets you throw more rainbows at a time), yellow potions (speeds up your rainbow throws) and magic stars that destroy all enemies around you. As mentioned, enemies turn into food when hit, which will earn you points when collected, but you will have little time for this in later levels when you spend most of your time just progressing (although you still have the chance for a mass pig-out at the end of each).

At the end of every few levels, you will confront the island guardian, be it spider, tank, dragon or whatever. After successfully pounding it with rainbows, you will move on to the next island. You won't have

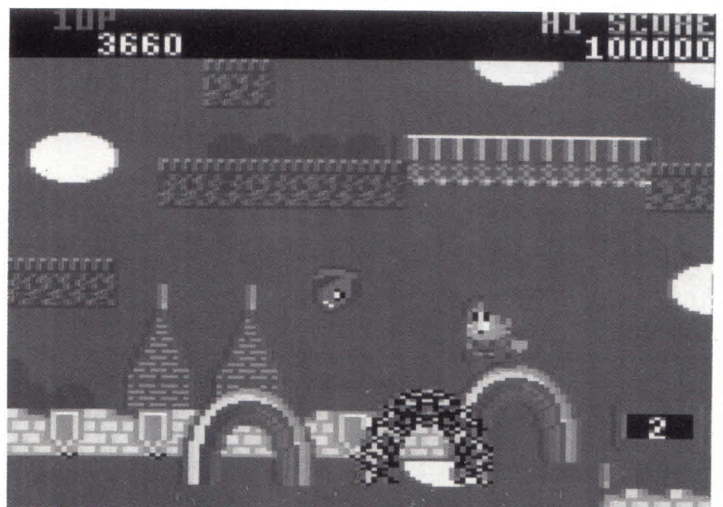
much time to spend during each section, as the water level is constantly rising around you, and if you dawdle, a sudden fall on a later level will see you in the drink.

The graphics and animation throughout the game are spot on. The background and enemy sprites all move smoothly, while the graphics are tremendously colourful and surprisingly distinctive (did they have to be so cute though?). There are little sound effects



• Getting serious on combat island.

to speak of, as a jolly background tune plays throughout and changes during the game. The conversion of the coin-op has been done right down to the secret room on each island! Everything does what it should do and I can't fault the game at all. Until some future release forces me to eat my words, I can safely say that Rainbow Islands is THE platform arcade game to beat.



• Rainbow hopping in level one.

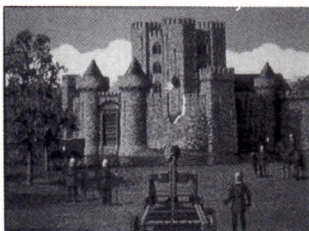
DEFENDER OF THE CROWN

Cinemaware's Medieval epic is converted to the PC

PC Dual - \$69.95

The age of chivalry, when Knights were brave, villains were despised, and damsel's were... PHWOAR! But seriously, the King has been murdered and England thrown into civil war! Amidst the ringing clash of steel and the thunder of charging steeds, the bold Saxon knights have been chosen to lead the people into battle against the hated Normans. Victory will not come easy. To save England, your skills as a swordsman and military leader will be tested to the full. But should you succeed, you'll win the Crown of England and the love of many a beautiful damsel!

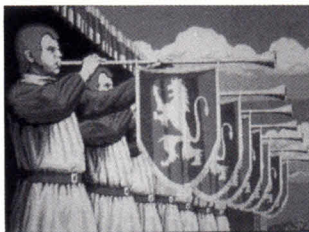
Cinemaware's Defender of the Crown was the first in a series of "interactive movie" games and is basically a mild strategy game, combined with arcade sequences and plenty of pretty pictures.



The time is several hundred years ago. Norman forces defeated the English in a long and bloody battle. They constructed dozens of fortresses to consolidate their gains and provide

bases for further advance. Again the Normans demonstrated superior skills, erecting the powerful castles on well-chosen sites. Towering above the landscape, the castles controlled the countryside for miles around with their mere presence. The Normans hold on England looked secure.

In the shadows of Sherwood forest, four Saxon overlords plot their revenge in the safety of Robin Hood's camp. Here you have the chance to select your character: Wilfred of Ivanhoe (a charismatic, Errol Flynn type), Geoffrey Longsword (a dashing swordsman), Cedric of Rotherwood (a brave leader) and Wolfric the Wild (an excellent jouster and doer of knightly things). All have their own castles and territories, while the Normans occupy the rest of



England (except Sherwood).

On starting, you will have precious little land and soldiers, as well as a meager income to maintain them. A Campaign army must be built and sent forth. Campaign armies are mostly made up of soldiers and vassals, either bought or collected from allied territories. Knights can also be recruited, but at a price.

Unoccupied land can be easily overtaken, while allied territories can be crossed safely with the aid of a messenger (allies they may be, but don't forget that there are four leaders and only one throne). Entering an enemy territory will mean certain conflict.

Battles are displayed in a side-on view, while you

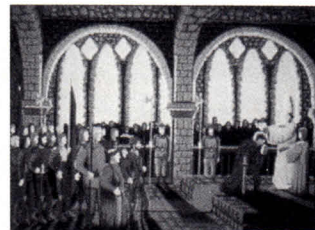
select your fighting tactics from a menu of options: outflank, ferocious attack, retreat etc. If won, you will take control of the territory and its income. If lost, your army will be slaughtered and your courage will be weakened.

After successfully capturing a Normans territory, and amassing enough men and income, you can try capturing a castle. For this you will need one or more expensive catapults, which are wheeled into place around the enemy fortress. Boulders, fire bombs, dead horses and just about any other inanimate object can and will be used to penetrate the castle and make a way for your men. If successful, the castle and its occupants will be vulnerable to attack and can be easily overtaken. A successful capture will result in the ownership of the castle and its income, plus all surrounding land owned by the previous occupant.

If you manage to seize all the Norman castles, the Saxons will have won and you will reign as King of England, but if your own castle is overtaken, your struggle will come to a sudden end.

During the game, you or any of the other Saxon or Norman lords can hold a jousting tournament, where chivalry requires all

Knights to attend. You can joust for fame or land, as skill with a lance can sometimes prove to be more effective than the largest army! You can also collect income and treasures by simply raiding castles. Robin Hood has vowed to help you three times during the game, and an excellent swordsman like Geoffrey Longsword can make a living from successful raids alone. Who knows, you may even rescue a Saxon maiden. Your future wife perhaps?



It's hard to give an overall opinion on Defender of the Crown. It was a real stunner when released for the Amiga some four years ago, and I remember spending many late nights following the perils of our Saxon friends. The many action sequences combined with a strategy element certainly make this a huge game, but the "interactive movie" theme tends to give the game a very watered down feel, as the action is varied but predictable. Another gripe is the graphics. Although very good (EGA), this game was one of the biggest graphic spectaculars ever to hit a micro, so where's the VGA? (not impressed sorry). But all in all, the game is pretty classy stuff, and I can't see many people being disappointed, as it is regarded by many as a classic, and deservedly so. Hopefully more Cinemaware products will be converted to the PC.

CRIME WAVE

Access are back with an awesome dose of arcade action

PC 5.25" or 3.5" - \$69.95

New York 1995. A powerful crime syndicate has taken over large areas of our major cities, turning them into vast criminal wastelands. Arson, extortion, drug distribution, murder and now... terrorist abduction! You have just learned that they have taken the President's daughter and are holding her and our country hostage.

Your mission: To wipe out this criminal organisation and rescue the President's daughter. Even with the most sophisticated assault technology available, it won't be easy. You are the only one that can save the country from this sinister infestation...

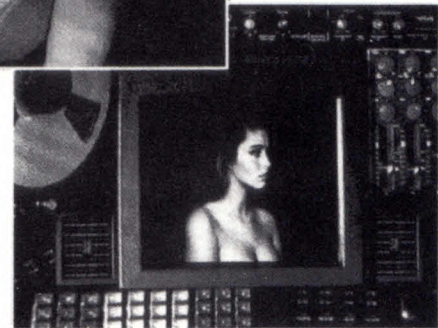
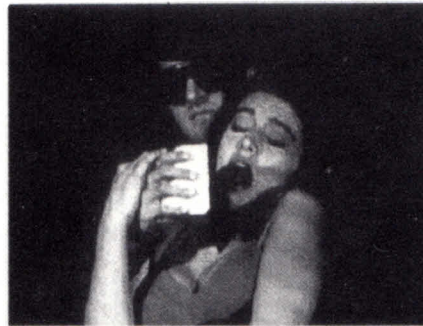
Remember Mean Streets, the brilliant sci-fi epic from Access? Well, Crime Wave is in a very similar mould. Except, while Mean Streets has a Bladerunner like detective style, Crime Wave focuses more on the gratuitous, kill'em side of our supposed future. Not that I object mind you.

There's no detective Tex Murphy character here, instead there's an ominous-looking grunt with a very big gun, and he's not afraid to use it.

The game then opens with a short introductory sequence, showing the President's daughter being kidnapped by the mob. A news broadcast then alerts our character of the crisis. Having nothing better to do, he load's up his UZI and decides to take on the

mob single handed.

From then on, our character must fight his way through screen after screen of non-stop arcade action. The scene opens at a subway station, and then moves through urban backstreets, warehouses, underground complexes and eventually the hideout itself, where King Pin is holding the President's Daughter hostage.



Each level will require almost continuous machine gun fire, as the attackers will appear by the dozen, and from any cover they can find. They range from trigger-happy mercenaries to skilled Ninja's and psychotic, knife-weilding maniacs.

Extra's such as more powerful guns, rockets, ammo, drugs, money as well as extra energy and lives can be picked up along the way, which proves to be invaluable, as you will use all these rapidly (drugs and money excepted). Flashing green arrows will indicate the nearest exit as well as bonus rooms.

Bonus rooms are filled with extra ammo and money, but are usually rigged by some electronic device such as electrified floors and lasers. On completing each level, a short sequence will fill you in on your current position and the whereabouts of the President's daughter.

The graphics and sound throughout, are truly state of the art. A sampled soundtrack and effects give the game an enormous boost, whilst all the graphics are digitised, right down to the last character. You can't get any more realistic than this.

Crime Wave may not be the first game of this type, but it is certainly the best. Let's hope Teenage Mutant Ninja Turtles will be this good.

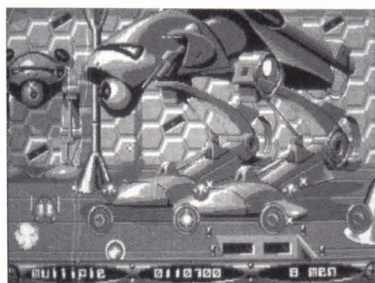
IF IT MOVES, SHOOT IT!

Broderbund's spectacular shoot-em-up

PC 5.25" or 3.5" - \$59.95

Many eons ago, overcrowding and resource depletion of our own planet, forced our people to set out to colonize the solar system. The planet of Kort became a popular settlement, with a similar climate and ecosystem to ours. The native Korts, who were admittedly less evolved than ourselves, were slowly driven away and forgotten. Until now.

The Korts have returned with a massive fleet of spaceships chartered throughout the galaxy, and are sworn to have their revenge. It's up to the new generation of settlers to defend our colonies from the long banished Korts.



If it moves, shoot it!, what an unimaginative name for a shoot-em-up. This game has been kicking about on other sixteen-bits under the name of "Phantom Fighter", so why change it?

But names aside, Shoot It is a pretty impressive blast that gives even the mighty Xenon II a run for it's money. The game is basically a vertical scroller, with your ship sitting neatly at the bottom of the screen, ready to take on the alien onslaught. As you've probably guessed, your objective will be easy to master, but hard to complete. The enemy will attack from all directions. Smaller ships will snake their way across the screen in neat formation, while larger fighters will open fire from the front or behind. Guardian ships, well, they do pretty much as they please.

The enemy sprites are small, fast and ever-present. Although graphically impressive, they all seem to be

variants of the classic UFO theme, and never take on a truly menacing appearance. Most can be despatched with a couple shots, but larger fighters will require repeated hits. The end-of-level mother-ships are your classic "shake the earth type", occupying a good part of the screen, and will take a lot of beating before they surrender in flames.

Extra weapons can be collected from pods that float down the screen. These include: Speed up's, fast lasers, double lasers, plasma bolts, sidefire and homing missiles. The gameplay is fast and frantic, and will require some pretty mean manoeuvres before any progress is made.



The graphics throughout are excellent, with some amazing looking backdrops to be covered. Level one is a sort of alien graveyard with huge, deformed skeletons poking out of the swirling sandstorm below. Later levels take you through strange inhabited caves and military hangars filled with large robots and machinery.

Although not quite as polished as Xenon II, Shoot It is just as playable and is a must for any shoot-em-up fan. But a word of warning, progress is really difficult, and even the most hardened gamer will be shot down again and again. But with some practise and use of the continue option, you'll find this to be a great game.

HARD DRIVIN'

Atari's huge coin-op arrives on the PC

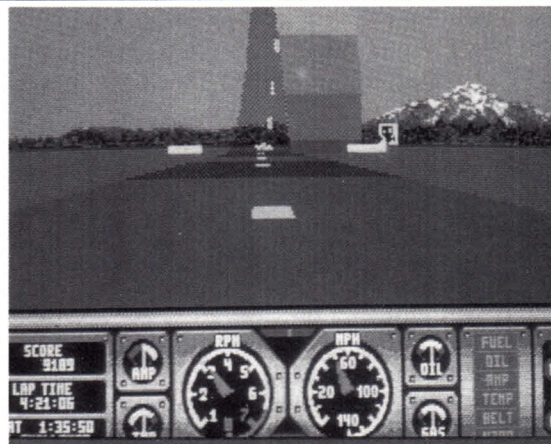
PC 5.25" or 3.5" - \$69.95

Leadfooters rejoice as the PC version of Hard Drivin' is now here.

Unless you live under a rock, you will be aware of this stunt-driving supergame that has enjoyed so much success since it's release last year.

I'm proud to say that the PC version is about as close to the coin-op as you could possibly get. The whole course is here, right down to the last roadsign, and the glorious 3D polygon graphics move quickly and smoothly, as they should do.

Choose the speed track or the stunt track to compete on. Either way, you're in for a heck of a ride. A great conversion of a classic arcade game (check April edition for a full review of CPC version).



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Writing and Security



Joseph Elkhorne reviews two new publications, "Computers and Writing" and "Safe and secure computing systems".

Our first offering this month is a book titled "Computers and Writing" from Blackwell Scientific Publications, and was written by Noel William's and Patrick Holt. It is a collection of papers from the first UK conference on the

subject, in April, 1988.

The format is on an academic level and certainly not a practical guide to authorship. If you're interested in the process of writing considered from computational,

cognitive and educational points of view, you may find it interesting.

Some of the topics covered are: Designing Computational Writing Tools, Developing a Writer's Assistant, Cognitive Models of Writing, Computer Assisted Essay Writing (in Norway, with English as a foreign language), Models of Writing, and Hypertext.

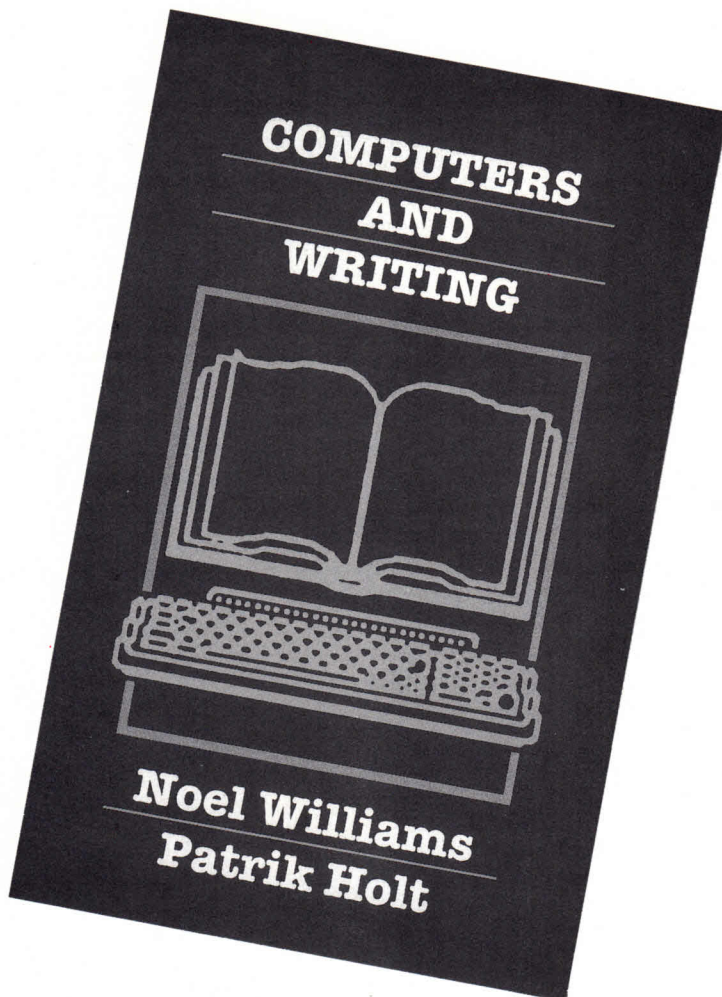
One gets the impression from some of the authors that they know stories and writers exist, but their approach is too esoteric. It seems not to have occurred to them to ask practising writers for their approach to creative composition, nor even to peruse the countless 'how to' books that have been published on the mundane level.

Granted, those who do 'creative writing' will admit they themselves don't fully understand the creative process. Simple techniques and rules of thumb, nonetheless, are explicated well in a number of texts.

Dean R. Koontz, a professional author who writes in several different areas, did a book called "Writing Popular Fiction" which presents any number of practical ideas for story construction.

I wonder what he would make of the following presentation of "the number of universal plots", attributed to A. Koestler:

*The Promethean striving for omnipotence.
Individual against society.*



Polygonal pattern of libidinous relations.

War of the sexes.

Love triumphant or defeated.

The conquest of the flesh.

The book does contain some fascinating information, even if the slant and more than a little of the text is heavy going. Viewpoints and concepts which may never have crossed your mind are presented.

Philosophy of software for writing support and writing training is discussed in the first paper, with description of a postwriting system called RUSKIN. This is essentially a style analyser.

Other papers approach writing as a linguistic mode, or from a psychological and computational perspective, as a problem-solving activity, and one even questions if the computer can write a story.

Judging by two examples, I think we humans need not fear obsolescence from AI, at least in the conceivable future. Still, the discussion of the TALE-SPIN simulation is worth inspecting contemplating.

If you're keen on learning about current progress in this area, "Computers and Writing" will cost you \$47.00. Most of the papers contain a comprehensive bibliography for further reading.

SAVE AND SECURE COMPUTING SYSTEMS

At a price of \$112.00 I don't suppose there will be many takers for this text from Blackwell Scientific Publications.

Their previous book, "Computers and Writing", cost far less, and was only 162 pages, compared to this one's 248.

Both books have a similar look: hard bound, plasticised cover; reasonable paper; good typesetting; a nice format, and good diagrams.

My wife, who is a librarian, pointed out the thorough information on the copyright page and commented on the general quality appearance, as a book.

Whether the quality is worth the asking price depends on how

valuable the reader finds the information. Certainly, the topics covered between those glossy covers - human safety and information security - could well be beyond any price.

As with the previous offering, the book comprises a collection of papers. These were given at the Safety and Security Symposium at Glasgow in 1986. The organisers the Centre for Software Reliability, hold that both safety for human beings and information integrity in computer systems are special cases of dependability.

Though this is definitely a specialist text, the general reader can still glean some information of interest from it. For example, a table in Chapter One lists a large number of computer-related failures - some of which have included loss of life, life-critical situations, and monetary loss.

As the book itself is copyright 1989, the information in this table is quite up-to-date. The items include incidents in Australia, even. The mention of one or another virus, Trojan horse, or bank loss is overshadowed by the cases of lives lost because of hardware or software malfunction.

One could almost be forgiven an episode of 'future shock' in examining these references. You might chuckle at a mention of America's B-1B Stealth bomber, in which the ECM system jammed the aircraft's own signals. The report that Skylab 'fell out of the sky' because of sunspot activity affecting on-board computer systems is less amusing.

A \$32 billion dollar error will surely make you gasp. But these pale into insignificance in listings of human deaths: allegedly, six people killed due to a

malfunctioning robot; four, when a British missile downs a British helicopter; numerous reports concerning commercial aircraft, and some microprocessor failures in automobiles.

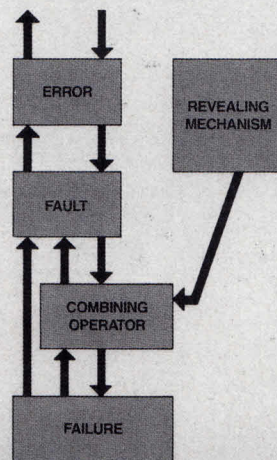
Other incidents cover public transport, nuclear power plants, medical equipment failures, election irregularities, insurance and bank frauds and bureaucratic foul-ups.

The various authors describe one or more aspects of the dual problems of safety and security. The complexity of these areas is pointed up, and partial solutions offered. The reader soon appreciates that there is no such thing as a foolproof system.

If this book can contribute to the saving of even one human life, it is a worthwhile addition to a reference library. The specialist approach is beyond the scope of the average reader, but the professional should find it of value. ■

Safe & Secure Computing Systems

Edited by
T. ANDERSON



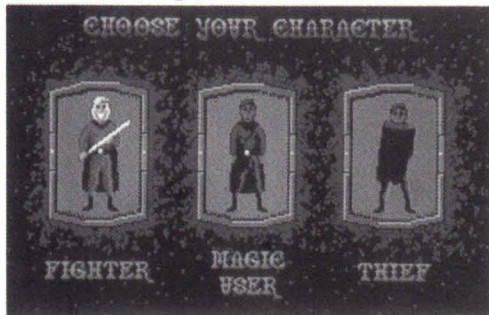
BLACKWELL SCIENTIFIC PUBLICATIONS

A breath of Sierra -1

So you want to be a hero? In the first of our Sierra On-Line adventure specials, your wishes just might come true.

You've got to hand it to the Sierra people - they really know how to produce a computer game. And that's what breeds their success. All those people who have bought a game from Sierra On-Line will know what I am talking about when I say that they are streets ahead of their competitors, especially when it comes to graphic adventures. Buy one and you're hooked!

Strangely enough, co-founder of the company, Roberta Williams, was less than interested in computer games until her husband Ken (now President of Sierra On-Line) brought home one of the first text-only adventures, and she found it fascinating. That was the turning point in both their lives -



• Choose your character from three basic types.

some ten years ago. Prior to the launch of the IBM PCjr, IBM asked Sierra to produce a game which would demonstrate the capabilities of the then new machine. This gave rise to the first of the King's Quest Series (Quest for the Crown) and the beginning

of animated 3-D Adventures.

A great deal of coding has been tapped through keyboards since then with about twenty superb animated adventures available across various age groups and tastes, plus some Japanese bestsellers and others.

My job over the next six months or so is to bring you my impressions of some of the later and even latest releases. The trouble with reviewing adventures is that you must play them to the end to get a full appreciation.

This is no mean task and will often take months especially if you get "stuck" (Thank goodness for hint books!). In their wisdom, Sierra don't appear to give reviewers any clues so you'll have to accept that many hours work will have gone into getting my opinions onto paper. I am working on *Conquests of Camelot* at the moment with *Sorcerian* waiting in the wings.

For this first article I had the choice of looking at Colonel's Bequest, Codename Iceman or Hero's Quest.

The latter won! Perhaps, if space and time permits, I can include these two at a later date. By the way, the full title to the game is '*Hero's Quest 1 - So you want to be a Hero*' and took some eighteen months to complete. With all that effort going into just one game you can understand why pirates are such damned parasites in the industry.

ROLE-PLAYING

Hero's Quest 1 is essentially a graphic adventure in the indisputable Sierra style and a role-playing game all rolled into one single game. You would not have experienced 'role-playing' in any other Sierra game before, so I'll explain the term.

Role-playing really means that your hero is able to develop characteristics or grow stronger in attributes as the game proceeds. For example, at the beginning of the game you may well have no climbing ability, so to reach an object up in a tree could result in many failures before the skill has developed enough to succeed. In the meantime all the attempts at climbing the tree will reduce your stamina or vitality. So this means you must have a rest before doing anything else. Similarly, you need to build a reasonable 'strength' level to fight some of the more difficult monsters. You would be killed immediately if you encountered such a beast at the beginning of the game. (Moral: save regularly).

Unlike the Advanced Dungeons and Dragons adventures HQ1 features just one active hero (from a choice of three). This makes life a little less complicated as you don't have to worry about the health or otherwise of numerous members of your party or band of adventurers. By no means does this detract from the playability of the game and most probably

makes the game attractive to a wider range of would-be players.

SCENARIO

Speilburg, nestling in a peaceful valley, was ruled by the Baron von Speilburg. Everything was fine until the arrival of an evil ogress, Baba Yaga. She placed a curse on the town and filled the surrounding countryside with monsters of various shapes, sizes and ferocity. To make matters worse, the Baron's two children had disappeared.

Ten years or so had passed without any sign of a hero capable of returning things to normal. That is, until I (or you) arrive on the scene! Not that your arrival has any major impact on the townfolk of Speilburg - they've seen adventurers come and go before. But you do have an edge on your predecessors as you have just graduated from the 'Famous Adventurers' Correspondence School.' This at least has provided some insight into exploring new worlds and living on your wits.

THE START

When the game has loaded and the introductory messages displayed, you can select between either a Fighter, a Magician or a Thief as the character for the quest. Each carries a 'ready-made' set of attributes, but they can be tinkered with as seen fit by apportioning an additional 50 points. I chose the fighter.

Questioning the townfolk will reveal a great deal of information concerning the current situation and, coincidentally, briefly introduces a character who will feature more prominently in the HQ1 sequel. There are shops to check out and buy provisions if necessary, and, most important on an adventurer's list - a visit to the Adventurer's Guild.

Locations switch into view from the North, South, East and West. Whilst all the screens within the town will reveal something helpful, not all the buildings or characters will seem active or useful. This is because only the locations (or

'rooms' as Sierra calls them) which are relevant to the chosen character will come into play.

Having gained valuable knowledge, the true quest begins - release the town from it's curse, rid the land of the monsters and find the Baron's son and daughter.

THE CAST

Now, if anyone thinks that I am going to take them right through the game, they are mistaken. I may let slip a few pointers on the way, but I am not going to spoil it for anyone - you must earn your own stripes! I will tell you though that the secret is to save regularly and build up your skill levels. You'll also need to earn some money (golds and silvers). The land outside the town is basically forest in which lurks numerous "baddies" ranging from squat goblins to brigands. Monsters come in different shapes and sizes from pink dinosaur-like creatures (Saurus) to a fearsome 'Cheetaur' with razor-sharp claws. Each adversary requires a certain skill level to defeat it. A goblin or Saurus are the easiest foe (although this is not the case at the beginning of the game) and are useful to practice against, all the time building up skill levels to face more aggressive adversaries later on.

A fighter is armed with a

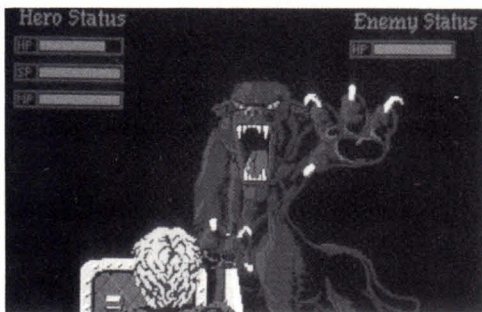
sword, shield and leather armour and has the ability to parry, thrust, dodge or duck depending upon the opponent. When a forest foe appears on the screen you can choose (if you are quick enough!) to fight or run away. If a fight is on, the screen changes to a view from behind the fighter who is facing the enemy. Successful hits on the enemy will decrease its 'health points' down to a critical red stage when just one more thrust will finish the job. Equally, your own 'health and stamina' points are displayed and are effected by telling blows from your opponent. Let them get down to the red danger level and you are likely to be killed. I found using a joystick was more convenient in tackling the enemy, but the keyboard is just as effective - it's your own choice.

Not all the characters you meet will be dangerous, indeed, some



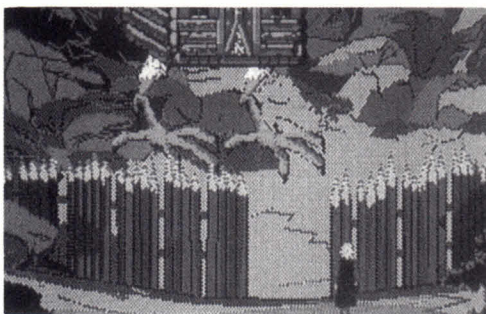
are very helpful. For example, the Healer will sell you potions which can restore your health after a particularly hard fight. But to buy them of course, you will need money.

You may wish to take on the role of Magic User or Thief instead of fighter. Each of these heroes require a slightly different allocation of the initial 50 bonus points.



• Encounter many different creatures.

Naturally the Magician needs to collect spells to use against monsters and the like and will be involved in a special 'Wizard's Game' with a swag of points if the winner. The Thief is an altogether wily and dishonest character and needs to perform a few sneaky deeds to earn his points. Both characters have distinct and different extra game screens accessed only by that particular character.



• Hero's Quest is full of surprises!

ANIMATION WITH HUMOUR

I have purposefully not mentioned all the characters you are likely to meet as part of the fun is discovering them for yourself. HQ1 has a full day-night cycle and certain characters only appear at night. One group is the Fairies. When they appear, just sit back and

enjoy the banter between them. (My children often load the game and restore at this point just to watch the sequence.)

You may have gathered that there are segments of the game which are fully animated and require no action from you other than to watch the screen. More often than not you will find them entertaining and at the same time be conscious of the writers' pervading sense of humour. A cheeky grin, an applause-seeking bow, an embarrassed red face or teeth gritted with determination - all are subtle touches to the animation which bring a little more realism and lightheartedness to HQ1.

QUICK KEYS

One of the nuisances of older games was the necessity to type instructions in full, eg. "LOOK AT something" or "INVENTORY" (the latter to show what you are carrying). HQ1 carries refinements to the Sierra's ever evolving use of special keys to reduce the burden of typing.

For example, hitting 'Control' and 'A' will generate "ASK ABOUT" in the text area and all you need to do is to type in the relevant word. Similarly 'Control' and 'L' will generate "LOOK AT". 'Control' and 'T' will give you the time of day (very important to gauge how long you have to find somewhere to sleep before nightfall) and 'Control' and 'S' gives the current status of the hero (health points, skill levels, puzzle points etc.). The function keys uses have been retained to Save, Restore and so on. Just hitting the Space Bar will repeat the last entry typed.

THE CLIMAX

Moving from location to location, unearthing clues or solid information, performing tasks, collecting items and money, all the time building up strength and skills will eventually bring you to a point in the game where you must infiltrate the Brigand's Headquarters. This is not an easy task and can only be achieved by an experi-

enced hero. It effectively contains a series of puzzles/action which will have you hitting the Save and Restore keys far more often than you did previously. They are cleverly thought out and one in particular will leave you gasping for breath when you solve it. (Have you ever noticed how simple some puzzles are after you have solved them?).

The end-game ties up all the loose ends and everything you wondered about drops into place. Mark my words though, this final section is a real tester. It took me longer to complete these last few locations than all the others put together.

Having completed the game as a fighter, the next step is to have a go as a Magic User or Thief. HQ1 is almost like having three games in one package! With HQ2 on the drawing board, Sierra have provided the facility to optionally save your experienced hero with all the skills developed in this first game to be used in the sequel. Could be useful

SUMMARY

Once again, Sierra have produced a first-class 3-D animated adventure. It's provided in dual format (both 5.25" and 3.5" disks are supplied) and is suitable for CGA, EGA or VGA screens (or Hercules monochrome). I tested the game on an Amstrad PC2086 with VGA screen, hard disk and Ad-Lib Music Card. The latter enhances the music and sound effects beyond imagination and adds greatly to the overall atmosphere and enjoyment.

Sierra always seems to add a little extra 'something' to their games which not only sets them apart from their competitors (if any), but also seems to improve on their previous releases. Hero's Quest 1 is no exception. The puzzles are teasingly different and the graphics superb. It is truly a game for all ages, although children in the 8, 9 or 10 bracket may need a little help on the way.

Hero's Quest 1 is a winner. Buy it and get hooked like me! ■

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 MASTERFILE 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.

Sounds clever!



John McNeill has provided us with this addictive numbers game that should keep GW-BASIC users happy for a while.

Clever is a GW-BASIC 3.22 version of an old CPC program entitled "Box Clever". The program acts in the same way as the CPC version. You are given nine boxes to fill with random numbers, and when all nine boxes are filled, the smallest number should be on the left and increasing to the right, so the highest number should thus finish on the right.

An interesting feature has also been added. As the game is very hard to complete, there is an option for a chance. When a number doesn't fit, the player may have another number selected by pressing 0. This can be done up to three times in the first round and one is added to the remaining chances at the end of a round. Clever was written for use with a CGA monitor, but most programmers should be able to convert it to MONO.

Program name : CLEVER

Notes : Written for GW-BASIC 3.22
Uses CGA colour

Program Length: 148 lines

```

          CLEVER
        BY JOHN McNEILL

  1  2  3  4  5  6  7  8  9
  0  0  0  0  0  0  0  0  0

Chances          : 3
Your Score Is   : 0
Your Number Is  : 15

Which Box Do You Wish To Put The
Number In (1-9)
or [0] for Chance ?

```

```

10 '
20 ' Clever
30 ' Conversion By : John McNeill
40 ' Basic Version : GW-BASIC 3.22
50 ' Requirements : CGA Monitor
60 ' Date       : 20-1-90
70 '
80 KEY OFF
90 SCREEN 2
100 SCREEN 0
110 COLOR 1,2,2
120 CHANCES=3:CLS
130 '
140 ' Goto Main Program
150 '
160 GOTO 590
170 '
180 ' Colors
190 '
200 COLOR 0
210 RETURN
220 COLOR 1
230 RETURN
240 COLOR 4
250 RETURN
260 COLOR 15
270 RETURN
280 '
290 ' Draw Boxes
300 '
310 LOCATE 5,X:PRINT CHR$(218)+STRING$(3,196)+CHR$(191)
320 LOCATE 6,X:PRINT CHR$(179)+SPACE$(3)+CHR$(179)
330 LOCATE 7,X:PRINT CHR$(179)+SPACE$(3)+CHR$(179)
340 LOCATE 8,X:PRINT CHR$(192)+STRING$(3,196)+CHR$(217)
350 RETURN
360 '
370 ' Update Boxes
380 '
390 FOR BOXES=1 TO 9
400 GOSUB 260
410 LOCATE 6,X(BOXES)+2:PRINT USING"#":BOXES

```


gw-basic type-in

```
420 COLOR 0
430 LOCATE 7,X(BOXES)+1:PRINT USING"##";BOX(BOXES)
440 NEXT BOXES
450 RETURN
460 '
470 ' Place Boxes
480 '
490 FOR XP=1 TO 9
500 READ DTA
510 X(XP)=DTA
520 X=DTA:GOSUB 310
530 NEXT
540 DATA 6,14,22,30,38,46,54,62,70
550 RETURN
560 '
570 ' Main Program Loop
580 '
590 GOSUB 240:GOSUB 490:GOSUB 260:GOSUB 390
600 FOR Z=1 TO 9
610 BOX(Z)=0
620 NEXT
630 GOSUB 260:GOSUB 390
640 COLOR 14,1
650 LOCATE 2,35:PRINT"C L E V E R"
660 COLOR 15,0
670 LOCATE 4,24:PRINT"B Y      J O H N      M c N E I L L
"
680 COLOR 1,2
690 FOR NUMBERS=1 TO 9
700 RANDOMIZE VAL(RIGHT$(TIME$,2))
710 NUM=INT(RND(1)*99)+1
720 FOR CK=1 TO 9
730 IF BOX(CK)=NUM THEN GOTO 710
740 NEXT CK
750 GOSUB 240
755 IF CHANCES<0 THEN GOTO 770
760 LOCATE 16,1:PRINT"Chances      : ";CHANCES
770 GOSUB 200
780 LOCATE 18,1:PRINT "Yore Score Is : ";SCORE
790 GOSUB 220
800 LOCATE 20,1:PRINT "Your Number Is : ";NUM
810 GOSUB 240
820 LOCATE 22,1:PRINT "Which Box Do You Wish To Put The
Number In (1-9)"
830 LOCATE 23,1:PRINT "or [0] for Chance ?"
840 A$=INKEY$:IF A$="" THEN 840
850 BOXNO=VAL(A$)
860 IF BOXNO>0 THEN GOTO 900
870 CHANCES=CHANCES-1
880 IF CHANCES<0 THEN GOTO 840
890 GOTO 700
900 IF BOXNO<1 OR BOXNO>9 THEN GOTO 840
910 IF BOX(BOXNO)<>0 THEN GOTO 840
920 BOX(BOXNO)=NUM
930 GOSUB 260
940 GOSUB 390
950 FOR A=18 TO 20
960 LOCATE A,1:PRINT STRING$(40,32)
970 NEXT
980 NEXT NUMBERS
990 '
1000 ' Score Check
1010 '
1020 FOR A=16 TO 23
1030 LOCATE A,1:PRINT STRING$(79,32)
1040 NEXT
1050 LOCATE 18,1:PRINT"SCORE CHECK"
1060 CHECK=0
1070 FOR A=2 TO 9
1080 IF BOX(A)<BOX(A-1) THEN CHECK=1
1090 NEXT A
1100 FOR DELAY=1 TO 2500:NEXT DELAY
1110 IF CHECK=1 THEN GOTO 1360
1120 FOR A=16 TO 23
1130 LOCATE A,1:PRINT STRING$(79,32)
1140 NEXT
1150 GOSUB 240
1160 LOCATE 20,1:PRINT"ROUND COMPLETED"
1170 SC=0
1180 FOR POINTS=1 TO 9
1190 SC=SC+BOX(POINTS)
1200 NEXT
1210 GOSUB 220
1220 LOCATE 22,1:PRINT"SCORE FOR THE ROUND : ";SC
1230 GOSUB 200
1240 LOCATE 24,1:PRINT"Press Any Key !!!";
1250 WHILE INKEY$="" :WEND
1260 SCORE=SCORE+SC
1265 IF CHANCES<0 THEN CHANCES=0
1280 CHANCES=CHANCES+1
1290 FOR A=16 TO 24
1300 LOCATE A,1:PRINT STRING$(79,32);
1310 NEXT
1320 GOTO 600
1330 '
1340 ' Game Over
1350 '
1360 FOR A=16 TO 23
1370 LOCATE A,1:PRINT STRING$(79,32)
1380 NEXT
1390 GOSUB 260
1400 LOCATE 18,1:PRINT"GAME OVER"
1410 GOSUB 240
1420 LOCATE 20,1:PRINT"YOUR SCORE WAS : ";SCORE
1430 GOSUB 200
1440 LOCATE 22,1:PRINT"Do You Wish To Play Again (Y/N)
?"
1450 A$=INKEY$:IF A$="" THEN 1450
1460 IF A$="y" OR A$="Y" THEN RUN
1470 IF A$="n" OR A$="N" THEN END
```


For the kids...

Chris Collins takes a break from his usual PD investigations, and looks at some educational software that is currently about.

Hello out there, and welcome once again to Compatible's Corner. This month's column is coming to you from Tasmania. It is now early Sunday morning on the farm, all of the animals are fed, and I have a bit of free time to write this month's column for you. This month we don't really have any news because I don't have access to my sources, but because I have my nephews down here with me, we will be looking at some educational software to help your children get more out of their computers and possibly learn something, and not just use it for playing games.

BALLOONS, AND STILL MORE BALLOONS

Balloon Speller is a product of KIDWare, occupies only one diskette, and has a registration fee of US\$11.95. Balloon Speller will quite happily run off one floppy disk drive or a hard disk drive. You must run the configuration program (BSCON.EXE) before you run Balloon Speller otherwise it won't run correctly.

Balloon Speller consists of three separate games all with the same basic theme. You use a balloon to collect the letters that you need for the missing word. You drive the balloon around the screen with the cursor keys, and simply pick up the letter by pressing the ENTER key.

The first game is "Word Flash" in which you are given a collection of letters, many more than you require, and you must collect the correct letters in the correct sequence to match the missing word. You can flash the word up on the screen at any time simply by pressing the space bar.

The second game is "Word Jumble", and this is very similar to "Word Flash" except that the only letters that you have on the screen to chose from are the ones that you require to fill in the missing word. Again, you need to collect the letters in the balloon.

The last of the three games is "Word Guess", and this is a hangman style of game. You are given a collection of letters, and you must select letters to try and guess the missing word. You cannot, in this

game, flash the word onto the screen.

In all three games, when you guess the word, you are rewarded with a simple tune. The program also keeps track of any errors that you make whilst trying to guess the words. If you make an excessive number of errors, the program will finish the game, and tell you what the word was.

You can create and edit the word lists used by the program, and I will be creating approximately 6 of them for you to use. You can always load another list from the first menu, and you must to be able to proceed to the game menu.

All in all, my nephews really enjoyed playing this one because of the great graphics and the style of play. Well recommended!

BRANDON'S LUNCHBOX

Brandon's Lunchbox is a collection of educational games designed for children between 3 and 7 years old, all run through a menu. Brandon's Lunchbox occupies only one diskette, is written by a gentleman called Joey Roblchaux of Baton Rouge, and has a registration fee of US\$5.00. It doesn't announce itself very well, as it only offers you a choice of 6 letters to choose from, without telling you what sort of exercise you will be doing.

Of the six available choices, both A and B are letter drills. These are simple games where a letter is flashed onto the screen, and you must quickly type in the same letter from the keyboard. The only difference between the two is that exercise A shows you an UPPER case letter on the screen, whereas exercise B shows you a lower case letter. As you will know all of the letters shown on a keyboard are upper case.

Choice C gives you a memory solving exercise. On the screen are ten doors numbered between 1 and 0. An object is shown at the bottom of the screen, and you have to choose a door to try and match the object. If you succeed, both the object and the door disappear, but if you fail, the object changes and you need to try again.

Exercise D is a simple counting exercise. A collection of shapes is shown on the screen, and you need to type in a number relating to the total number of shapes. If you get it wrong twice, the correct answer is flashed onto the screen.

E is an option that gives you an exercise that relates to number sequences. If this sounds too complicated, don't worry. It simply means that a number is shown on the screen, and the child must first guess the number below, and then the number above the number on the screen. Then a graphic is shown showing the child whether the sequence is ascending or descending, and the child must continue the sequence. It is a lot more difficult to tell you about it, rather than to play it.

The last option is F, and this is an addition exercise. Simple addition exercises are placed on the screen for the child to do. If they get it right, they are rewarded with a small tune. If they don't get it right, they receive an audible warning, a hint and are given another chance. This applies to all of the games in Brandon's Lunchbox.

SCHOOL MUM

School Mum is a set of exercises designed for children between 4 and 14. It occupies 1 diskette, has a registration fee of US\$15.00, and is written by Dr. Andy Notes. It includes MUSIC COMPOSITION, ART, ADDITION and SUBTRACTION, ENGLISH, MULTIPLICATION and DIVISION and ALGEBRA.

The MUSIC COMPOSITION part of SM allows children to type in notes using the keys from A to G, and see them appear as notes on a musical score sheet. This tune can then be played back if required, or edited to suit any specific requirements.

ART requires a joystick, and as I don't have an option for a joystick on my computer, I couldn't test it out. Also remember that it is probably looking for an analogue joystick, not the more normal digital type as plugs into the back of your keyboard.

ADDITION and SUBTRACTION are your normal exercises in addition and subtraction, although with 4 different levels of difficulty, they change the style of sum as you go along. A lot of help is given on level 1, but this gets gradually less as you go up through the difficulty levels.

ENGLISH is a weird one. It gives you a list of nouns, tells you what a noun is, and allows you to choose one. It then does the same thing with adjectives and verbs, before giving you another list of nouns. After you have chosen the second noun, the program creates three sentences showing you have to use the words chosen. These sentences usually don't make much sense, but sometimes they do!

MULTIPLICATION and DIVISION are similar to ADDITION and SUBTRACTION, but as you go up through the four levels of difficulty, they change the method of display of the problem as well as its difficulty. So, by the time you get to level 4, we are looking at problems like 108/6, and seeing it as long

division. This is an excellent part of the program as it teaches the children to think.

ALGEBRA is the last part of the equation. This teaches children very simple concepts of how to think logically. For those of you disgusted with the current school system, this is a beauty. It obeys all of the rules that I was originally taught, and still forces the children to put 0 before any other part of the equation. It also breaks the equation down into smaller parts to explain the equation and how to do it.

For example: $y = 4*(6+9)$ is broken down into its component parts. First, $(6+9)$ is worked out, and the equation rewritten to $y = 4*(15)$. This is then further explained as $4 * 15$ equals 60. So $y = 60$. It is explained so simply that any child of about 10 years or up would be able to understand algebra. Really good!

School Mum is a really excellent package for teaching children to THINK. Teachers and the school system seem to be so set against actually teaching children to think, that this is well worth the registration fee.

WORDFUN AND FINDUM

Wordfun and Findum are two more educational programs about words. They come from a couple named Don and Tammy Grundhauser in Bolse, and respectively the registration fees are US\$10.00 and US\$5.00. Both of these also carry a US\$2.50 postage charge. Although both of these programs are shareware, the registrations are donation only.

Wordfun is very similar to the simple jumbled word games that you see in the afternoon newspaper. That is, you have a collection of jumbled words that you must sort out correctly, and then these are used as clues for the word puzzle. Wordfun has four topics that are available to choose from, and also has a tutorial program to teach you how to use itself. No other documentation is supplied. The program has quite a good graphic display, with the keys required to play the game always being shown in the left hand top corner of the screen.

Findum is a word finding puzzle, with a grid of mixed letters being put on the screen, and a group of words supplied along the left hand edge. These words are then to be found in the grid of letters. They can be found left-to-right, right-to-left, top-to-bottom, bottom-to-top, and on any of the diagonals. You mark the word with the F1 and F2, then you check the word with the F3 key. If it is correct, it is highlighted and the word will disappear from the list. You keep going along this route until you have managed to find all the words. Findum also has a tutorial built-in, so no documentation is provided.

If you want a couple of games to make your children think, without them seeming like work, Wordfun and Findum seem to be a pretty good pair.

DOS LEARNING SYSTEM

The second last diskette that we will look at this month is called DOS Learning System. It comes from

a company called ECC Learning System, occupies only 1 diskette, and has a registration fee of US\$79.95. They also produce versions of this style of program for Lotus 1-2-3, Wordperfect V5.0 and V.42 and Microsoft Works.

The tutorial is a slide show, based on Dan Bricklen's Demo program, which allows you a certain amount of control, whilst stopping you making mistakes. It works its way through four major topics:

*Hardware
Overview of DOS
DOS Commands, and
Hard Disk Organisation.*

As well as the above, there is a simple tutorial to explain how to use the tutorial.

Most of the tutorial is very easy to complete, but it does appear to cover some areas that I have yet to see in other tutorials of this type. It does not attempt to be a computer tutorial, as in PC Tutor, but a DOS tutorial with a bit of extra, very useful information thrown in.

I found that DOS Learning System enticed me enough to go all the way through the tutorial itself, which is something I don't often do with programs of this type. I found this to be an excellent program that I could well recommend. It has also whetted my appetite to look further at the other tutorials from this company.

PIVOT!

Pivot! is the last diskette of the month, and for users of AsEasyAs this a beauty. Pivot! is a companion

program to allow you to print your spreadsheets sideways in a number of different fonts. Pivot fits onto one diskette, is supplied by Trius Corporation (Authors of AsEasyAs) and has a registration fee of US\$20.00.

Not being much into spreadsheets, I wasn't able to test this program out on anything that I knew. However, Trius are so considerate as to put a sample worksheet for you to test out Pivot! with. This is only a reasonable small sheet, but it does give you some idea of the power of Pivot!

Pivot! is invoked at the command line with the command PIVOT, and this will bring up a screen for you to see the PIVOT! name moving backwards and forwards across the screen. After it settles down (about 5 seconds), you can get into doing some serious printing. Pivot! can be invoked with pull down windows, or if called up with the /P option, it will work with a Lotus style menu system (across the screen). The choice is optional. I didn't really find one better than the other.

First thing that you need to do is to set Pivot! up to suit yourself. You can specify such things as type of character used to print, number of passes, codes to set your printer, which parallel port to use, and a couple of other things that I can't quite remember. Once you have saved all of these, they will come into operation each time you start the program.

Printouts are what the program is about, so we had better get on with describing them. I found that two pass is a necessity if you wish to keep a copy of the printout as one pass is too ragged. It can be read quite easily, but just doesn't look real good. I also seem to prefer the San Serif type-face that they supply, although there is also a COURIER, a CO2 and an ORATOR style also supplied. Which of these is available to you depends on which way you will be printing your spreadsheet, portrait or landscape. If you are not too happy with any of these, Trius are good enough to supply a program called GCHAR.EXE which allows you to create your own type-faces.

The only problem that I came across with the program is the fact that it doesn't support laser printers, only do matrix types. Then again this probably isn't a problem to most of you.

All in all, I feel that this is probably an excellent addition to any AsEasyAs owners list of diskette, and possibly any other spreadsheet owners list as well. I haven't tried it with any other spreadsheet, but it does support WKS and WK1 files so perhaps it will work with that other program.

Well that is about all for this month. Please remember that all of the diskettes listed above, plus any others that I have talked about are always available from MacroDisk at the following address:

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

Have you gone soft yet?

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Galactic Invaders

Galactic is a space shoot-em-up in the mould of such classics as Space Invaders and Galaxian.

The basic aim of Galactic is a simple but difficult one. You must defend your territory from the aliens by blasting their battle machines with your Ion-cannon as they descend through the atmosphere.

Your Ion-cannon is powerful and accurate, but the aliens have a habit of swooping suddenly. There are ten different waves of aliens to destroy, as well as the mother ships that appear occasionally. Upon completion, the orbiting battle station will erupt in flames (a battle station will explode at the beginning for a bonus). The program will work on any CPC. Control is via the joystick.

```

10 REM *** GALACTIC ***
20 REM THE AMSTRAD USER
30 SYMBOL AFTER 123
40 SYMBOL 123,&1C,&3E,&6B,&7F,&3E,&14,&22,&14
50 SYMBOL 124,&24,&18,&7E,&DB,&7E,&3C,&24,&42
60 SYMBOL 125,&20,&46,&6D,&38,&1C,&B6,&62,&4
70 SYMBOL 126,&0,&0,&0,&18,&24,&5A,&E7,&18
80 SYMBOL 127,&0,&0,&42,&3C,&DB,&3C,&42,&0
90 SYMBOL 128,&0,&0,&18,&66,&99,&24,&0,&0
100 SYMBOL 129,&0,&24,&5A,&E7,&7E,&24,&42,&E7
110 SYMBOL 130,&3C,&7E,&C9,&DD,&EB,&FF,&AA,&0
120 SYMBOL 131,&3C,&7E,&C9,&F5,&CD,&FF,&42,&3C
130 SYMBOL 132,&42,&99,&BD,&E7,&BD,&99,&42,&0
140 SYMBOL 133,&8,&8,&1C,&2A,&6B,&1C,&6B,&22
150 SYMBOL 134,&0,&0,&0,&8,&8,&8,&8,&0
160 SYMBOL 135,&2,&7,&B,&1F,&7C,&FE,&23,&0
170 SYMBOL 136,&40,&E0,&D0,&FB,&3E,&7F,&C4,&0
180 SYMBOL 137,&7,&1F,&3F,&7F,&7F,&FF,&FF,&FF
190 SYMBOL 138,&F,&F0,&FF,&7F,&7F,&3F,&1F,&7
200 SYMBOL 139,&E0,&FB,&FC,&9E,&E,&4F,&9F,&FF
210 SYMBOL 140,&F0,&F,&FF,&FE,&FE,&FC,&FB,&E0
220 SYMBOL 141,&41,&8,&21,&84,&10,&2,&88,&22
230 MODE 1:INK 0,0:INK 1,18:INK 2,26:INK 3,6:BORDER 0
240 HI=1000:DIM A(40),B(40),S(40)
250 WINDOW #1,1,40,2,23:PAPER #1,0:CLS #1
260 RANDOMIZE TIME

```

```

270 REM main program
280 LEV=10:SCORE=0:MEN=3
290 Z=16
300 FOR I=0 TO 639 STEP 2
310 ZZ=INT(RND*3)+1
320 IF ZZ=1 AND Z<30 THEN Z=Z+2
330 IF ZZ=2 AND Z>2 THEN Z=Z-2
340 MOVE I,Z:DRAW I,0,3:NEXT
350 PAPER 1:FOR I=1 TO 40:LOCATE I,1:PRINT " ";:NEXT
360 PAPER 1:PEN 2:FOR I=1 TO MEN-1:LOCATE I,1:PRINT CHR
$(133);:NEXT
370 LOCATE 7,1:PRINT"SCORE":LOCATE 19,1:PRINT"HIGH":LOC
ATE 30,1:PRINT"LEVEL"
380 REM main setup after rack
390 LEV=LEV+1
400 IF LEV>10 THEN 1360
410 C=122+LEV
420 CLS #1
430 PAPER 1:PEN 2
440 LOCATE 12,1:PRINT SCORE:LOCATE 23,1:PRINT HI:LOCATE
35,1:PRINT LEV
450 FOR I=1 TO 500:PLOT INT(RND*638)+1,32+INT(RND*348)+
1,2:NEXT
460 PAPER 0:LOCATE LEV*2+1-1,3:PRINT " ";:LOCATE LEV*2+
1-1,4:PRINT " ";
470 FOR I=1 TO 40:S(I)=1:NEXT
480 LOCATE LEV*2+1,3:PRINT CHR$(137);CHR$(139);:LOCATE
LEV*2+1,4:PRINT CHR$(138);CHR$(140);
490 FOR I=1 TO 3+INT(RND*2)+1
500 XX=INT(RND*40)+1
510 IF S(XX)=1 THEN S(XX)=3
520 NEXT
530 FOR I=1 TO 40:B(I)=5+LEV:NEXT
540 FOR I=1 TO 40:A(I)=I:NEXT
550 PEN 1:FOR I=1 TO 40:LOCATE I,5+LEV:PRINT CHR$(C);:N
EXT
560 X=20:PEN 2:LOCATE X,23:PRINT CHR$(133);
570 FOR I=1 TO LEV

```


cpc type-in

```

580 XX=INT(RND*40)+1
590 IF S(XX)=1 THEN S(XX)=2
600 NEXT
610 FOR I=100 TO 1 STEP -1:SOUND 2,I,1,7:NEXT
620 REM main loop
630 FOR I=1 TO 40
640 IF S(I)=0 THEN 780
650 PEN 1
660 ZZ=INT(RND*4)+1
670 LOCATE A(I),B(I):PRINT " ";
680 IF ZZ=1 AND A(I)>1 THEN A(I)=A(I)-1:B(I)=B(I)+1
690 IF ZZ=2 THEN B(I)=B(I)+1
700 IF ZZ=3 AND A(I)<40 THEN A(I)=A(I)+1:B(I)=B(I)+1
710 LOCATE A(I),B(I):PRINT CHR$(C);
720 SOUND 2,A(I)*B(I),1,7
730 IF B(I)>22 THEN 1310
740 PEN 2
750 IF JOY(0) AND 4 AND X>1 THEN LOCATE X,23:PRINT " ";
X=X-1:LOCATE X,23:PRINT CHR$(133);
760 IF JOY(0) AND 8 AND X<40 THEN LOCATE X,23:PRINT " ";
X=X+1:LOCATE X,23:PRINT CHR$(133);
770 IF JOY(0) AND 16 THEN 800
780 NEXT:GOTO 630
790 REM fire
800 PEN 2
810 FOR XX=100 TO 1 STEP -20:SOUND 2,XX,1,7:NEXT
820 FOR XX=22 TO 5+LEV STEP -1
830 LOCATE X,XX:PRINT CHR$(134);
840 LOCATE X,XX:PRINT " ";
850 NEXT
860 FOR XX=1 TO 40
870 IF A(XX)=X AND S(XX)<>0 THEN 900
880 NEXT
890 GOTO 780
900 IF S(XX)=2 THEN 1090

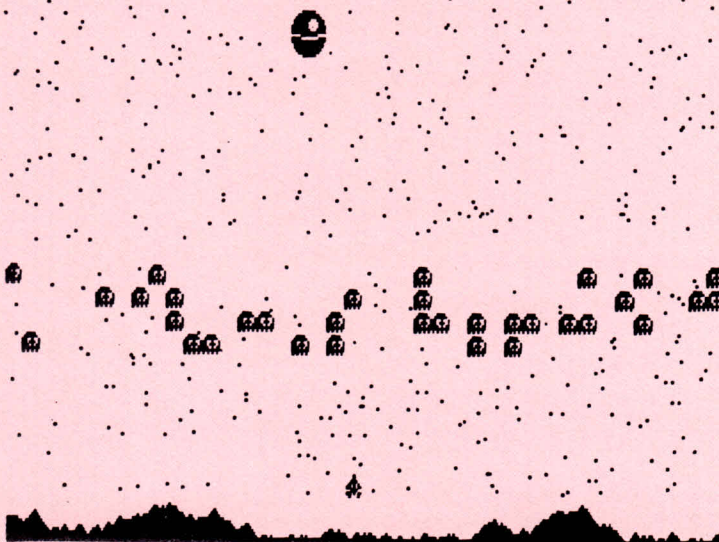
```

```

910 PEN 3:LOCATE A(XX),B(XX):PRINT CHR$(42);
920 SOUND 2,600,10,7,1,12,2:FOR DELAY=1 TO 100:NEXT:LOC
ATE A(XX),B(XX):PRINT " ";
930 PEN 2:PAPER 1:SCORE=SCORE+(S(XX)*10):LOCATE 12,1:PR
INT SCORE:PAPER 0
940 IF S(XX)=3 THEN 1550
950 S(XX)=0
960 RA=0:FOR XX=1 TO 40
970 IF S(XX)=0 THEN RA=RA+1
980 NEXT
990 IF RA=40 THEN 1020
1000 GOTO 780
1010 REM complete rack
1020 PEN 1:LOCATE 12,10:PRINT"LEVEL";LEV;"COMPLETE"
1030 FOR ST=2 TO 50 STEP 2:FOR SS=100 TO 1 STEP -ST:SOU
ND 2,SS,1,7:NEXT:NEXT
1040 LOCATE 17,12:PRINT"BONUS"
1050 FOR I=1 TO LEV*10:LOCATE 17,14:PRINT I:SOUND 2,100
,2,7:SOUND 2,120,2,7:NEXT:SCORE=SCORE+I:PEN 2:PAPER 1:L
OCATE 12,1:PRINT SCORE
1060 FOR ST=2 TO 50 STEP 2:FOR SS=100 TO 1 STEP -ST:SOU
ND 2,SS,1,7:NEXT:NEXT
1070 GOTO 390
1080 REM alien kamakazi
1090 FOR SS=400 TO 500 STEP 2:SOUND 2,SS,1,7:NEXT
1100 IF JOY(0) AND 4 AND X>1 THEN LOCATE X,23:PRINT " ";
X=X-1:LOCATE X,23:PEN 2:PRINT CHR$(133);
1110 IF JOY(0) AND 8 AND X<40 THEN LOCATE X,23:PRINT " "
;X=X+1:LOCATE X,23:PEN 2:PRINT CHR$(133);
1120 SOUND 2,2500,20,7
1130 IF A(XX)<X AND A(XX)<40 THEN LOCATE A(XX),B(XX):PR
INT " :A(XX)=A(XX)+0.5:B(XX)=B(XX)+1:LOCATE A(XX),B(XX)
:PEN 1:PRINT CHR$(C);
1140 IF A(XX)>X AND A(XX)>1 THEN LOCATE A(XX),B(XX):PRI
NT " :A(XX)=A(XX)-0.5:B(XX)=B(XX)+1:LOCATE A(XX),B(XX)
:PEN 1:PRINT CHR$(C);
1150 IF A(XX)=X THEN LOCATE A(XX),B(XX):PRINT " :B(XX)=
B(XX)+1:LOCATE A(XX),B(XX):PEN 1:PRINT CHR$(C);
1160 IF A(XX)=X AND B(XX)>22 THEN 1200
1170 IF B(XX)>22 THEN 910
1180 GOTO 1100
1190 REM man hit
1200 LOCATE A(XX),B(XX):PRINT " ";S(XX)=0
1210 PEN 3:LOCATE X,23:PRINT CHR$(141);
1220 SOUND 2,600,20,7,1,12,2:FOR DELAY=1 TO 100:NEXT:LO
CATE X,23:PRINT " ";
1230 MEN=MEN-1
1240 IF MEN=0 THEN 1760
1250 PAPER 1:LOCATE MEN,1:PRINT " ";
1260 PEN 2:PAPER 0:XX=1:FOR II=40 TO 20 STEP -1:LOCATE
XX,23:PRINT "-";LOCATE II,23:PRINT "-";SOUND 2,2000,5,7
:XX=XX+1:NEXT
1270 PEN 2:PAPER 0:XX=1:FOR II=40 TO 20 STEP -1:LOCATE
XX,23:PRINT " ";LOCATE II,23:PRINT " ";SOUND 2,2000,5,7
:XX=XX+1:NEXT

```

SCORE 0 HIGH 1000 LEVEL 8

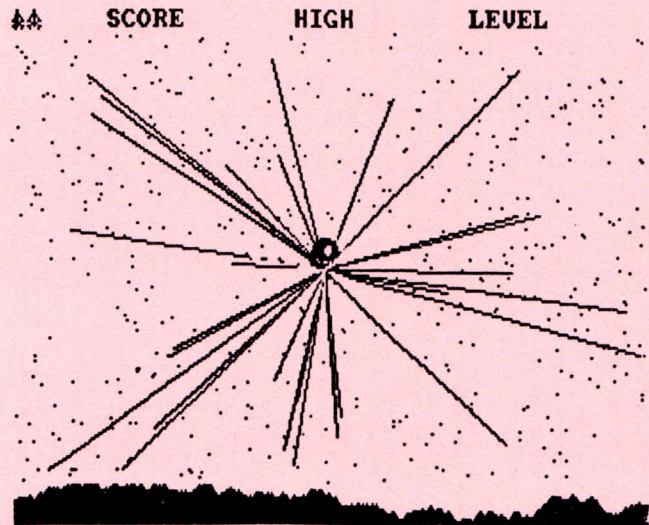



```

1280 LOCATE X,23:PRINT CHR$(133);
1290 GOTO 780
1300 REM aliens land
1310 FOR I=1 TO 250
1320 MOVE 319,16:DRAW INT(RND*638)+1,99+INT(RND*200)+1,
INT(RND*3)+1
1330 SOUND 2,600,2,7,1,12,2:NEXT
1340 GOTO 1910
1350 REM planet explodes
1360 CLS #1
1370 FOR I=1 TO 500:PLOT INT(RND*638)+1,32+INT(RND*348)
+1,2:NEXT
1380 PAPER 0:LOCATE LEV*2+1,3:PRINT " ";:LOCATE LEV*2+1
,4:PRINT " ";
1390 PEN 2:LOCATE 20,12:PRINT CHR$(137);CHR$(139);
1400 LOCATE 20,13:PRINT CHR$(138);CHR$(140);
1410 FOR I=1 TO 40
1420 A(I)=INT(RND*638)+1:B(I)=32+INT(RND*350)+1:NEXT
1430 FOR I=1 TO 40
1440 MOVE 319,199:DRAW A(I),B(I),INT(RND*3)+1:SOUND 2,6
00,2,7,1,12,2:NEXT
1450 FOR I=1 TO 40:MOVE 319,199:DRAW A(I),B(I),0:SOUND
2,600,2,7,1,12,2:NEXT
1460 PEN 1:LOCATE 11,8:PRINT"BASE STAR DESTROYED"
1470 LOCATE 18,15:PRINT"BONUS"
1480 FOR I=1 TO 100:LOCATE 18,17:PRINT I:SOUND 2,100,2,
7:SOUND 2,120,2,7:NEXT:PEN 2:PAPER 1:SCORE=SCORE+I:LOCA
TE 12,1:PRINT SCORE
1490 PAPER 0:PEN 3:LOCATE 10,20:PRINT"CONTINUE NEXT PAT
TERN"
1500 MEN=MEN+1:PAPER 1:PEN 2:FOR I=1 TO MEN-1:LOCATE I,
1:PRINT CHR$(133);:NEXT
1510 FOR I=100 TO 1 STEP -1:SOUND 2,I,1,7:NEXT
1520 Z1=0:Z3=380:Z4=34:FOR Z2=638 TO 319 STEP -2:MOVE Z
1,Z4:DRAW Z1,Z3,INT(RND*3)+1:DRAW Z2,Z3,INT(RND*3)+1:DR
AW Z2,Z4,INT(RND*3)+1:DRAW Z1,Z4,INT(RND*3)+1:Z1=Z1+2:Z
3=Z3-2:Z4=Z4+2:NEXT
1530 FOR DELAY=1 TO 3000:NEXT:LEV=0:GOTO 390
1540 REM mystery alien sequence
1550 AL=1:FIRE=3
1560 FOR SS=1 TO 20:SOUND 2,INT(RND*100)+1,1,7:NEXT

1570 PEN 2
1580 LOCATE AL,5:PRINT " ";
1590 AL=AL+1:IF AL>39 THEN 950
1600 LOCATE AL,5:PRINT CHR$(135);CHR$(136);
1610 H=INT(RND*100)+1:FOR SS=1 TO 7:SOUND 2,H,1,SS:NEXT
1620 IF JOY(0) AND 4 AND X>1 THEN LOCATE X,23:PRINT " ";
:X=X-1:LOCATE X,23:PRINT CHR$(133);
1630 IF JOY(0) AND 8 AND X<40 THEN LOCATE X,23:PRINT " "
;:X=X+1:LOCATE X,23:PRINT CHR$(133);
1640 IF JOY(0) AND 16 AND FIRE>0 THEN 1670
1650 GOTO 1580
1660 REM fire?
1670 FOR SS=100 TO 1 STEP -20:SOUND 2,SS,1,7:NEXT

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1680 FOR ZZ=22 TO 6 STEP -1:LOCATE X,ZZ:PRINT CHR$(134)
;:LOCATE X,ZZ:PRINT " ";:NEXT
1690 IF X=AL OR X=AL+1 THEN 1700 ELSE FIRE=FIRE-1:GOTO
1570
1700 PEN 3:LOCATE AL,5:PRINT CHR$(141);CHR$(141);
1710 SOUND 2,600,20,7,1,12,2:FOR DELAY=1 TO 100:NEXT
1720 LOCATE AL,5:PRINT " ";
1730 PEN 2:PAPER 1:SCORE=SCORE+50:LOCATE 12,1:PRINT SCO
RE:PAPER 0
1740 GOTO 950
1750 REM game over
1760 Z1=0:Z3=380:Z4=34:FOR Z2=638 TO 319 STEP -2:MOVE Z
1,Z4:DRAW Z1,Z3,INT(RND*3)+1:DRAW Z2,Z3,INT(RND*3)+1:DR
AW Z2,Z4,INT(RND*3)+1:DRAW Z1,Z4,INT(RND*3)+1:Z1=Z1+2:Z
3=Z3-2:Z4=Z4+2:NEXT
1770 FOR XX=1 TO 40 STEP 5:FOR YY=11 TO 13:LOCATE XX,YY
:PRINT " ";:NEXT:NEXT
1780 LOCATE 12,12:PRINT"GAME OVER"
1790 FOR I=300 TO 1000 STEP 3:SOUND 2,I,1,7:NEXT
1800 LOCATE 10,22:PRINT"PRESS FIRE TO RESTART"
1810 IF SCORE>HI THEN HI=SCORE
1820 PEN 2:PAPER 1
1830 LOCATE 23,1:PRINT HI
1840 PRESS=0
1850 IF JOY(0) AND 16 THEN PRESS=PRESS+1
1860 IF PRESS>10 THEN 1870 ELSE 1850
1870 Z1=0:Z3=380:Z4=34:FOR Z2=638 TO 466 STEP -2:MOVE Z
1,Z4:DRAW Z1,Z3,0:DRAW Z2,Z3,0:DRAW Z2,Z4,0:DRAW Z1,Z4,
0:Z1=Z1+2:Z3=Z3-2:Z4=Z4+2:NEXT
1880 PAPER 0:CLS
1890 GOTO 280
1900 REM continue after landing
1910 MEN=MEN-1
1920 IF MEN=0 THEN 1760
1930 PAPER 1:LOCATE MEN,1:PRINT " ";
1940 PAPER 0:CLS
1950 LEV=LEV-1:GOTO 290

```


Have you joined a

NATIONWIDE USER GROUPS

WESTERN AUSTRALIA

AMSTRAD USER GROUP (BUNBURY)

Chairman: Brian Ballard (097 217 199)
Secretary: John Cohen
Venue: 90 King Rd, Bunbury on the 3rd Saturday of every month at 3pm.
Mail: P.O. Box 77, Brunswick Jn, WA 6224.

AMSWEST (Perth)

President: Graeme Worth (09 341 5211)
Vice Pres: Thelma Ardron (09 361 8975)
Secretary: Gerry Atkinson (09 381 5434)
Treasurer: Richard Lang (09 525 4087)
Venue: 293 Bagot Road, Subiaco 6008 on the first and third Tuesdays of each month at 7.30.
Mail: P.O. Box 476, West Perth 6005 WA..

VIC CHIPS USER GROUP

(Amalgamated with Rockingham Quingana Group)
President: Des Nichols
Secretary: Val Hoeksema (09 527 7426)
Venue: Malibu Special School, Malibu Rd, Waikiki every Tuesday at 7.30pm.
Mail: PO Box 524, Rockingham WA 6168

SOUTHSIDE AMSTRAD USER CLUB

President: Brian Purser (09 398 1168)
Secretary: Lynda Blissett (09 459 8448)
Treasurer: Eric Tytherleigh (09 390 8865)
Venue: Huntingdale Primary Sch., 85 Matilda St, Huntingdale every 2nd and 4th Wednesday of each month from 7.00 pm.
Mail: The Sec., Southside Amstrad Users Club, 25 Halfner Crt, Maddington, WA 6109.

AMSTRAD COMPUTER CLUB TOM PRICE

President: Colin Smith (091 89 2074)
Secretary: John Eliot (091 98 1735)
Treasurers: P. & C. Montgomery (091 89 2398)
Venue: Primary School every 2nd Wednesday night. Contact the above for more details.

SOUTH AUSTRALIA

AMSOUTH AMSTRAD USER'S GROUP

President: Drew Ames (085 371 0151)
Treasurer: Bob Bleachmore (085 56 2048)
Secretary: Will Vaughan after 6pm: (08 382 8312)
Venue: Christies Beach High School, Western Section, Beach Road, Christies Downs (adjacent to Staff Car Park off Mander Road) every 2nd Wednesday at 7.30.
Mail: PO Box 612, Noarlunga Centre, SA 5168.

AMSNORTH AMSTRAD USER'S GROUP

Organisers: J.T. Clarkin (08 262 6342)
R. Britton (08 258 7861)
Venue: Lacrosse Hall, Terama Street, Gepps Cross every Wednesday at 7.00 p.m.

AMSTRAD COMPUTER CLUB INC. (SA)

President: Ross Barker (08 374 0565)
Vice Pres: David Simpson (08 373 1693)
Vice Pres: Paul Beard
Treasurer: Les Jamieson (08 356 9612)
Secretary: Debra Dienelt (08 339 1314)
Venue: Torrensville Primary School, Torrensville every tuesday between 6.30 & 9.00pm.
Mail: PO Box 210, Parkholme, SA 5043.

NORTHERN COMPUTING SOCIETY Inc.

President: Valerie Clarke (08 248 4031)
Vice Pres: Tony Mackereth (08 281 3968)
Sec./Treas: Graham Brewin (08 258 5320)
Venue: Drop-In Centre, Salisbury North Primary School, cnr. Bagster & Woodyates Rds every Wednesday from 7.00.
Mail: PO Box 482, Salisbury, SA 5108.

VICTORIA

CENTRAL AMSTRAD USER SOCIETY

President: Fred Gillen (03 580 9839)
Vice-Pres: Dennis Whelan (03 367 6614)
Treasurer: Doug Jones (03 560 8663)
Secretary: Craig Tooke (03 359 3736)
Venue: Bogart's Restaurant on the corner of Victoria and Errol Streets, North Melbourne on the first Sunday of each month starting at 1.00 pm.

EASTERN AMSTRAD USER GROUP Inc.

President: Tony Blakemore (03 890 3116)
Secretary: Stella Muir (03 723 1139)
Treasurer: Les Kovack (056 234 836)
PCW rep: Ron Hawthorn
Venue: St. Ninian's Church Hall, cnr. McCracken Avenue and Orchard Grove, South Blackburn on the 1st Sunday of each month from 1.00pm.

GEELONG AMSTRAD USER CLUB

President: Arthur Pounsett (052 78 2160)
Vice-Pres: Arthur Vienna (052 78 6736)
Secretary: Tony Sowinski (052 78 9418)
Venue: South Barwon Community Services Ctr, 33 Mount Pleasant Rd, Belmont on the first Wed. of each month, from 7.30pm
Mail: 12 Strathire Gardens, Hamlyn Heights 3215

GOULBURN VALLEY AMSTRAD USERS CLUB

President: Roger Tacey (058 23 1449)
Secretary: Rod Raven (058 21 9034)
Treasurer: Bev Felton (058 21 2703)
Venue: North Shepparton Community House, Olympic Ave. Every 3rd Thur. from 7.30pm
P.O. Box 1713, Shepparton 3630.

MOUNTAIN DISTRICT AMSTRAD USER GROUP Inc.

President: David Jamieson (03 870 1016)
Treasurer: Ian Pearson (059 965 019)
Secretary: Ian Pearson (059 965 019)
Venue: Country Womens Association Hall, 4 Sundew Avenue, Boronia from 7.00 pm every 2nd & 4th Monday of the month.
Mail: PO Box 132, The Basin, Vic 3154.

SOUTHERN AMSTRAD USER GROUP Inc.

President: Gerry Goody (03 786 3489)
Secretary: Bob Patterson (03 786 6976)
Treasurer: Geoff Wales (03 786 9212)
Venue: Karingal Tennis Club, Gretana Crescent, Frankston every third Tuesday at 7.30pm
Mail: The Sec., PO Box 100, Seaford, Vic 3198.

SUNBURY MELTON AMSTRAD USER GROUP

Contacts: Wayne Urnston (03 744 2719)
Norman McEntee (03 743 7104)
Venue: Toolern Vale Hall, Toolern Vale every third Saturday of the month at 10.00 a.m.

WENDOUREE AMSTRAD USER GROUP

Contact: Brad Maisey (053 44 8356)
Venue: Cnr. Charles and Appleby Drive, Cardigan Village on the first Sunday of the month at 3.00 pm.

WESTERN AMSTRAD COMPUTER CLUB

Contact: Noel Sutherland (03 369 5480)
Venue: Fairbairn Kindergarten, Fairbairn Road, Sunshine on alternate Tuesdays from 6.30pm.
Mail: PO Box 161, Laverton 3028.

ACT

CANBERRA AMSTRAD USER'S GROUP

Convenor: Paul Kirby (062 86 5460)
Secretary: James Gifford (062 47 5126)
Treasurer: Rod MacKenzie (062 54 7551)

Venue: The Oliphant Building, ANU, Canberra on the first Tuesday of each month from 7.30 pm.
Mail: PO Box 1789, Canberra, ACT 2601.

NEW SOUTH WALES

BLUE MOUNTAINS AMSTRAD USERS

President: Bob Chapman (047 39 1093)
Vice Pres: Dennis Shanahan (047 39 4568)
Treasurer: Peter Traish (047 53 6203)
Secretary: Malcolm Stone (047 51 2791)
Jun. Rep: Nathan Stone (047 51 2791)
Venue: Springwood Neighbourhood Centre, Macquarie Road, Springwood on 2nd and 4th Wednesday of each month at 8.00pm.

BRISBANE WATERS AMS USER CLUB

President: Peter Scammell (043) 676408
Vice Pres: Arthur Bradney
Secretary: Douglas Green (043) 422568
Treasurer: Andrew Perneck (043) 692430
Venue: Meals on Wheels Hall, cnr Ocean Beach rd and McMasters rd, Woy Woy. Third Thursday of each month at 7.30pm.
Mail: 1/254 Railway st, Woy Woy, NSW. 2256.

COFFS HARBOUR AMSTRAD COMPUTER CLUB

President: Bruce Jones (066 52 8334)
Secretary: Colin Jones (066 49 2127)
Treasurer: Brian Clayton (066 49 4510)
Venue: Orara High School, Joyce Street from 7.00 on the first Friday of each month.
Mail: 169 Beryl St, Coffs Harbour, 2450.

HAWKESBURY AMSTRAD USER GROUP

President: Terry Webb (045 76 5291)
Secretary: Dave Keen (045 77 5536)
Venue: Richmond Swimming Club Rooms every third Tuesday of the month at 7.30 pm.

ILLAWARRA COMPUTER USERS CLUB

President: Mark Jones (042 29 2109)
Secretary: Neville Dillon (042 56 2642)
Treasurer: Steve Astill (042 71 5462)
Librarian: Peter Platts (042 56 1956)
Venue: AGA Germania Club, Berkeley at 2.00 pm. every third Saturday of the month.

LISMORE DISTRICT AMSTRAD COMPUTER CLUB

President: Tom Wright (066 291 302)
Secretary: Russell Bell (066 21 6888)
Treasurer: Deborah King (066 864 424)
Librarian: Ben King (066 864 424)
Venue: Goonellabah Public School, Ballina St. on the last Tuesday of each month from 7pm.
Mail: PO Box 771 Lismore, NSW 2480.

PARKES COMPUTER USER GROUP

Contact: Eileen Magill (068 643 285)
Mail: North Gunning, Gunningbland, NSW 2876.

S & W MILLER AMSTRAD USER'S CLUB

President: Wai Sellers (049 33 5459)
Secretary: Nikki Lee (049 33 5459)
Treasurer: Georgina Todd (049 66 2788)
Venue: Maitland Park Bowling Club, Maitland on the second Tuesday of each month at 7.30pm.

MURWILLUMBAH AMSTRAD USERS GROUP

President: Nick Bruin (066 79 3280)
Vice Pres: Kai Philip (066 77 1440)
Secretary: Laura Goode (066 72 2499)
Treasurer: Lorraine Montgomery (066 72 1823)
Venue: Murwillumbah High Sch. on the 2nd Wednesday of each month at 7.00p.m.
Mail: c/o Post Office, Burringbar, 2483.

NEWCASTLE AMSCLUB (USER GROUP)

President: Bill Simkus (049 52 4638)
Secretary: Rex Morris (049 62 1221)
Treasurer: Roy Hannon (049 51 3127)

user group lately?

Venue: Waratah-Mayfield RSL Club (upstairs room), Hanbury St, Mayfield on the first and third Tuesday of the month at 7.30pm.
Mail: 36 Teralba Road, Broadmeadow, 2292

PCW AUSTRALIA GROUP

Secretary: Clyde Gittins (02 579 3984)
Treasurer: Geoff Bolton (02 745 2230)
Venue: Burwood RSL Club, 96 Shaftesbury Road, Burwood every second Tuesday of the month at 7:30 pm.
Mail: PO Box 478, Smithfield, NSW 2164.

SYDNEY AMSTRAD COMPUTER CLUB

President: Tom Caldwell (02 661 7573)
Sec/Treas: Reed Walters (02 560 9487)
Venue: Camdenville Comm. Ctr., Newtown on the 1st Saturday of every month at 2.00 p.m.
For more details contact the Secretary between 6.00 p.m. and 9 p.m.
Mail: PO Box 423, Matraville, 2036.

SYDNEY PC1512 USER GROUP

Contact: Geoff Craine (02 76 6467) A/H (02 412 9213) B/H
Venue: To be arranged; meeting initially on the third Tuesday of each month at 7.00 pm.

QUEENSLAND

AMSTRAD AND PC USER GROUP OF LOGAN

President: Michael Toussaint (07 200 5414)
Vice-Pres: Peter Incoll (07 208 2332)
Secretary: William K. Giles
Treasurer: Bryan Carter
Librarian: Carol Watkins (07 287 2882)
Newsletter: Rhys Watkins
Venue: Loganlea State High School (in the Communications Room) every 3rd Sat. of the month starting at 2.00 p.m. A Basic programming course is held fortnightly.
Mail: 10 Carramar St, Loganlea, 4204.

BRISBANE AMSTRAD COMPUTER CLUB

President: John O'Connor (07 271 3350)
Vice Pres: John Digby (07 351 2553)
Secretary: Bob Ashe (07 355 5699)
Treasurer: Ivan Dowling (07 269 8795)
Tech. Editor: Franz Hendrickx (07 356 0633)
Venue 1: NEWMARKET: Newmarket State Sch., Banks St., Newmarket on the 2nd Sat. of each month at 1.30p.m. Any executive member can be contacted for information.
Venue 2: REDLAND BAY: Birkdale State Sch., Agnes St, Birkdale 4159 on the 3rd Sat. of each month from 1.00pm. Co-ordinators are Paul Peterson (07 206 7214) and Nev Taylor (07 207 3435).
Venue 3: SUNNYBANK: Sunnybank State Sch., Turton St, Sunnybank 4109 on the 3rd Sun. of each month from 1.30pm. Contact Jim Papadimitriou (07 344 2067).
Venue 4: WESTERN SUBURBS: Jamboree Heights State Sch., 35 Beanland St, Jamboree Heights 4074 on the 1st Sat. of each month from 1.30pm. Contact Gordon Bradford (07 814 4746) or Helda & Jim James (07 376 1137).
Venue 5: REDCLIFFE PENINSULA: Kippa-ring State Sch. (library), Elizabeth St, Kippa-ring 4020 on the 2nd Sun. of each month from 1.30pm. Contact Ivan Dowling (07 269 8795)
Mail: PO Box 167, Alderley, Qld. 4051.

BUNDBERG AMSTRAD USER'S GROUP

President: Ray Babbidge (071 72 1223)
Secretary: Clive Barrett (071 71 3668)
Treasurer: Sheila Coe (071 72 8884)
Venue: The third Tuesday of the month. For more details contact the above.
Mail: 11 Laack St, Bundaberg, QLD 4670.

COMPUTER USER GROUPS OF AUSTRALIA

Pittsworth Branch
President: David Siebuhr
Contact: Ron Langton (076 931 690)
Venue: Every first Tuesday of every month from 5 pm. at the St. Peter Lutheran Church Hall, Grand Street, Pittsworth.
Mail: CUGA, PO Box 166, Pittsworth, 4356.

GOLD COAST AMSTRAD USER GROUP

President: Gary Rosenblatt (075 33 9232)
Treasurer: Greg Sneddon (075 32 0227)
Secretary: Pam Scott (075 32 3334)
Venue: Benowa State High School, Mediterranean Avenue, Benowa on the first Saturday of each month at 2.00 pm.
Mail: 46 Musgrave Ave. Southport 4215.

MACKAY AMSTRAD USER GROUP

Contact: Des Mulrealey (551 409)
Geoff Taylor (552 350)
Venue: Meet every second Sunday morning. Contact the above for location and time.

PENINSULA AMSTRAD CLUB

(amalgamated with BACC)
President: Ivan Dowling (07 269 8795)
Treasurer: Keith Johnston (07 203 2339)
Venue: Kippa-Ring State School Library, Elizabeth Avenue every third Tuesday of the month at 7.30 pm.

TOOWOOMBA AMSTRAD USERS GROUP

President: Tony Carlaw (076 91 6161)
Secretary: David Culliford (076 32 7277)
Asst Secs: Chris & Glen Jones (076 91 2643)
Treasurer: Anglea Gschidle (076 34 1692)
Librarian: Shane Gschidle (076 34 1935)
Venue: Toowoomba Education Centre, Baker Street, Toowoomba on the 4th Monday of each month starting at 7.30 pm.
Mail: c/o Secretary, 58 Curzon St, Toowoomba, QLD 4350.

TOWNSVILLE AMSTRAD USER GROUP

President: Ian Wallace (077 73 1798)
Vice Pres: Doug Selmes (077 78 6011 xt 252)
Treasurer: Chris Nisen (077 79 6299)
Secretary: Alistair Buckingham (077 73 3955)
Venue: Science Block of the Kirwan High School in Thuringowa Drive on the first and third Tuesdays each month at 7.30pm.

THE WARWICK AMSTRAD USER GROUP

President: Mrs. D. Christensen
Secretary: John Wode (076 61 5176)
Treasurer: Neville Christensen

WEIPA AMSTRAD USERS CLUB

President: Andrew Seaborn
Vice-Pres: Dave Woolton
Treasurer: Frances Casey
Secretary: Gary Chippendale (070 69 7448)
Venue: Noola Court in Weipa. Contact above for more details.
Mail: 15 Noola Court, Weipa, QLD 4874.

TASMANIA

SOUTHERN TASMANIAN AMSTRAD CLUB

President: David Burt (002 44 3385)
Secretary: Lance Brown (002 28 2018)
Treasurer: Cindy Campbell (002 34 8003)
Venue: Glenorchy Regional Library, Glenorchy at 7:30pm on the 4th Wed. of each month.
Mail: PO Box 247, North Hobart, 7002.

NORTHERN TASMANIA AMSTRAD CLUB

President: David Double H (003 444 243)
V. Pres.: Shane Crack H (003 446 525)
Sec/Treas: Eric Baker B (003 431 313)
Librarian: Paul James H (003 273 525)
Junior Del: Jason Donati H (003 316 597)

Tech. Off.: Richard Wilson H (003 931 437)
Venue: Launceston Community College (opposite Park Street) in Room 27 on the first Saturday of the month at 5.00 p.m.

N.W. COAST AMSTRAD USER'S CLUB

President: Peter Gibson (004 24 7586)
Treasurer: John Westerhof (004 24 3977)
Secretary: John Westerhof (004 24 3977)
Venue: Don College, Watkinson St Devonport the third Sunday of every month at 7.30pm.
Mail: Secretary, 7 Bishton St, Devonport, Tas.

NEW ZEALAND

THE AMSTRAD COMPUTER CLUB OF CANTERBURY

Contact: Ian Orchard (524 064)
Venue: Four Avenues School, cnr. Madras Street and Edgeware Road, Christchurch 1 on the fourth Wednesday of each month.
C/o 50 Rapaki Road, St. Martins, Christchurch. 2 NZ.
Mail:

AMSTRAD USERS GROUP

Contact: John Court H (666 143)
Venue: Oranga Scout Hall, Ferguson Park, Waitangi Road, Auckland. Between 9.30 am and 4 pm on the third Saturday and the last Sunday of the month. CPC and PCW's catered for.

WELLINGTON AMSTRAD USER GROUP

President: Patrick Faury (766 185)
Secretary: Lesley Walker (679 169)
Treasurer: Gareth Purchas (764 111)
Librarian: Dennis Lowe (887 919)
Librarian: Ewen McNeill (784 520)
Mag Editor: Steve Lillis (675 524)
Venue: Cafeteria, NZ Fisheries Research Division, Greta Point, Evans Bay, on the first Monday of each month from 7.30 pm.
Mail: PO Box 2575, Wellington, New Zealand.

CONTACT LIST

Victoria:

Brian Ellis, Reservoir
(03) 469 4425 A/H

South Australia:

Dave Green, Port Pirie
(086) 326 834

NATIONWIDE USER GROUPS

CLASSIES

FOR SALE

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CPC 464 with GT 65 monitor, DDI-1 disk drive and disks, three joysticks, DMP-1 printer, games, applications software, manuals, books and magazines. Value approx \$2000, sell

\$1200. Ring David Clark (003) 263 702
Amstrad second disk drive FD1, only few hours use \$250, will trade or buy speech synth for 6128 rom or ram. Hervey Bay, QLD, (071) 281 661

PCW 8256 with 512k memory. Word processing, office systems, personal accounting, desktop publishing (with mouse) software, all with manuals and disks. Value over \$1600, sell for \$1000 ono. Phone Ray (02) 525 1229.

Many back issues of magazines, Multiface 2+, software on tape and disk, all originals, not copies. Blank disks. Write with SAE for full details. Simon Tew P.O. BOX 513, Mareeba 4880

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.

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.

DISPLAY ADVERTISING DEADLINES

Issue	Booking by	Copy by
AUG'90	11/06/90	22/06/90
SEP'90	09/07/90	20/07/90
OCT'90	09/08/90	17/08/90

Please refer all display advertising enquiries or bookings to **DERRICK LEWIS & ASSOCIATES** on (03) 51 9984.
Classified ads should be phoned or sent directly to The Amstrad User.

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.

CPC & PCW PUBLIC DOMAIN SOFTWARE

The following discs contain compilations of public domain programs put together by the Advantage Computer User Group (in England) and 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 plus useful sorted directory and MENU systems.

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

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/Mv2.2 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, Bio-rhythms, 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

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

How to order your discs

You may either order over the phone by credit card or by post. *It is very important that you get the reference number correct. CPC and PCW discs are different.* (Software contained on 3" discs only). The cost per disc is \$17.50. • **BANKCARD, MASTERCARD & VISA accepted** •
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CPC
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The ultimate Desktop Publishing package for CPC owners. Combine text and graphics with 'what you see is what you get' facilities. The ideal publishing software solution for home enthusiasts, schools, societies and small businesses. (Stop Press needs 128k)

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WINNER 220 - a really robust joystick with built-in precision control. Fully micro-switched with two fire buttons on the base and two on the stem for fast and furious action 34.95

ZIPSTICK SUPERPRO - 90% British made quality moulded high impact plastic with self-centring actuator & eight-way micro switches. 1.4m of cable. Left and right hand fire buttons, steel shaft. 39.95

ZIPSTICK ELITE - a smaller, specially designed hand-held model with similar specifications to the Superpro, but with just one forward centrally located fire button. Has rubber pads on base for flat surface use. 29.95

CPC MISCELLANEOUS

SCREEN FILTER 29.95

DUST COVERS - Australian made vinyl fabric dust covers in light grey colour for:

464 monitor and keyboard	35.00
6128 monitor and keyboard	35.00
DMP2000/2160/3160 Printer	17.00

RIBBONS

Black Nylon for DMP 2000/3000/3160	19.95
Black Nylon for DMP4000	19.95

3" DRIVE CLEANING KIT 19.95

CF-2 3" DISCS EACH 7.25

6128 'SEAL 'N' TYPE' KEYBOARD PROTECTOR
Stops damaging spills etc. 29.95

PCW

8256 - 8512 - 9512

(The games marked with a § symbol are known to work only on the 8256/8512)

PCW GAMES

Academy (Tau Ceti II) §	65.95
ACE COMPILATION: with ACE (Air Combat Emulator, Sky War, Formula 1 & Strip Poker)	39.95
Armageddon Man	57.95
Bridge Player 2150	69.95
Catch 23	57.95
Classic Invaders (Space Invaders style)	29.95
<i>Classic Quest Adventures:</i>	
Forestland (hard)	49.95
Witch Hunt (very hard)	49.95
Clock Chess '89 (strong game) - all PCWs	59.95
CP Compilation - with 3-D Clock Chess, Backgammon, 3-D Draughts and Bridge 2000 - all on one disc	59.95
Double T Patience - compilation of six frustrating games including Kuala Lumpur, Poker Patience and Fourways	64.95
Fairlight (graphic arcade adventure)	39.95

PCW continued

PCW continued

PCW continued

Graham Gooch Cricket (<i>Ltd.Overs & Test Match featuring full animation of bowler, batsman and fielders</i>)	49.95
Guild of Thieves	69.95
Gnome Ranger	59.95
Heathrow ATC (<i>Air Traffic Control Simulator</i>)Southern Belle (<i>Steam Train Simulator</i>) - both on same disc	57.95
Ingrid's back	59.95
Knight Orc	59.95
Lancelot	39.95
Mindfighter	65.95
Return to Doom (<i>Topologika adventure</i>)	54.95
Steve Davis' Snooker	54.95
Time and Magik Level 9 trilogy: <i>Lords of Time, Red Moon & Price of Magik</i>	54.95
Tomahawk: helicopter simulation	49.95
World of Soccer - international Soccermanagement simulation	59.95
PUBLIC DOMAIN DISCS	17.50

PCW YEAR DISC

Containing all the PCW type-ins published in <i>The Amstrad User</i> for issues shown	
Year Disc 1 - Issues 25 to 40	27.50

PCW EDUCATIONAL

Better Maths (12-16 yrs)	29.95
Better Spelling (12-16 yrs)	29.95
Biology (12-16 yrs)	29.95
Chemistry (12-16 yrs)	29.95
Giant Killer - maths adventure 10 to adult	54.95
Magic Maths (4-8 yrs)	29.95
Maths Mania (8-12 yrs)	29.95

PCW PUBLISHING

Desk Top Publisher	59.95
MicroDesign 2 - new superb integrated Page Processor compatible with AMX or Kempston mouse	169.00
Newsdesk International	89.00
Stop Press (program only)	149.00
Stop Press (program + mouse and interface)	299.00

PCW DATABASES

Cardbox Plus	99.00
Condor One	149.00
Masterfile 8000	119.00
TAIT Database and Labeller	29.95

PCW MISCELLANEOUS

BRAINSTORM - tool for structuring raw ideas in a logical manner	79.00
DATASTORE II - menu-driven customised report generator, mailing list and label printer. Can be used with type styler Supertype II.	89.95
FLIPPER 2 - splits your PCW (8256, 8512 or 9512) memory into two environments and lets you flip between them, eg. between CP/M and Loco2. Not suitable for LocoScript 1.	89.95
GRAPHICS, THE UNIVERSE AND EVERYTHING... This latest version (2.0) provides the means to create professional graphics output and more. Source code included (All PCWs)	75.00
LIGHTNING BASIC PLUS - turbo charge your Mallard Basic (All PCWs)	75.00
MASTER PAINT - deluxe graphics program, for use with either mouse or keys	49.95
MINI OFFICE PROFESSIONAL - the PCW version of the highly successful Mini Office II with Spreadsheet, Wordprocessor, database, graphics and communications	149.00

MONEY MANAGER PLUS - cashbook/personal accounting	99.00
NEWWORD2 - PCW WordStar equivalent	100.00
PCW TOOLKIT - allows you to examine and alter data on any PCW disc as well as copy part or all of a damaged or corrupted disc for repair. Full instructions provided.	69.95
PERSONAL EXCELLENCE PACKAGE - High quality mental performance analyser	109.00
PRINT MASTER PLUS - create your own Banners, Letterheads, Signs, Calendars or Greeting Cards with graphics or borders supplied. (Runs under CP/M Plus only)	59.95
PROTEXT FILER - pop-up database for Protex	59.95
PROTEXT OFFICE - as Protex Filer but with mail-merge and invoice generator module	79.95
PROTEXT PCW	149.00
PROSPELL PCW - spellchecker for most word processors incl. WordStar and LocoScript	79.95
SCRATCHPAD PLUS spreadsheet	99.00
STARTRACK - tracks you through 88 constellations and more than 600 stars	54.95
SUPERTYPE II - 8 new different types for use with all CP/M, LocoScript 1/2, LocoMail and Mini Office Professional files	39.95
TAIT ACCOUNTING SYSTEM - small business Debtors, Creditors and Invoicing	99.00
TEMPDISC - a disc full of instant templates exploiting LocoScript to the full. Provides a wide range of heading styles, agendas, invoices, borders and documents: Tempdisc 1 (needs Loco1) 59.95 Tempdisc 2 (needs Loco2) 59.95 Tempdisc 8.2 (needs Loco2, Locomail and 8512) 67.95 Tempdisc 9 (for 9512) 67.95	
TOUCH 'n' GO - typing tutor	69.00

PCW PERIPHERALS

8256/512 'Seal 'n' Type' KEYBOARD PROTECTOR Stops damaging spills etc.	29.95
9512 'Seal 'n' Type' KEYBOARD PROTECTOR Stops damaging spills etc.	29.95
CPS8256 SERIAL INTERFACE for PCWs for communications or adding extra printers	145.00
AMX MOUSE plus interface - the most popular and sought after peripherals for your PCW, especially with Stop Press	165.00
KEMPSTON MOUSE plus interface - new style two-button mouse supplied with Jeeves (memory resident desktop accessories) and Daatafax personal organiser program. Mouse can be used with Stop Press, Desktop Publisher or the new MicroDesign 2 package.	175.00
PCW JOYSTICK INTERFACE from Kempston	49.95
SCANNER - Master Pack - a scanning device which attaches to a PCW printer head to copy photos or other art work, Master Scan software and MasterPaint, a powerful graphics package. Compatible with Desktop Publisher, FSE and Newsdesk International (8256 and 8512s only)	279.00
SCA RAMPAC 512k EXPANSION UNIT - simply plugs into the expansion port of any PCW. Adds an extra 512k to the 'M' drive allowing LocoScript2, Locomail, Locospell and more to be loaded at the same time. Through-connector allows other peripherals (eg. a mouse interface or serial/parallel interface) to be used at the same time.	299.00

Unless stated otherwise, please add the following P and P charges to your remittance:		
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Order value under \$20	\$1.00	\$2.50
Order value from \$20 to \$50	\$3.50	\$6.00
Order value over \$50	\$5.50	\$10.00

SCREEN FILTER	29.95
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PCW DUST COVERS

Australian made vinyl fabric dust covers complete for the following PCWs:	
8256/8512 monitor, keyboard and printer	55.00
9512 monitor, keyboard and printer	60.00

PCW TASMAN RANGE

Tasword 8000	69.95
Tas-spell 8000	49.00
Tasprint 8000	39.00
Tas-sign 8000	69.95

PCW CONSUMABLES

PCW 8000s PRINTER RIBBONS	
Black Carbon/Multistrike or Nylon	19.95
Coloured Nylon - Blue, Red or Green	24.95
PCW 9000s PRINTER RIBBONS	
Black Carbon/Multistrike	15.95
Black Nylon	19.95
DAISY WHEELS FOR 9000s	
Prestige Pica 10; Prestige Elite 12; Courier 10; Cubic Pica 10; Mini Gothic 15/Micro; Orator 90%/10; Letter Gothic 10/12; Script 12 each	19.95
3" DISC DRIVE CLEANING KIT	19.95
CF2 3" DISCS each	7.25

PCW LOCOMOTIVE PRODUCTS

LOCOSCRIPT 2 (latest) with manual	87.00
LOCOSCRIPT2 (latest) Disk only	49.95
LOCOSCRIPT 2 + LOCOSPELL2 pack	130.00
LOCOMAIL2	105.00
LOCOSPELL2	75.00
The following are for PCW 8000s using LocoScript 2.12 and above (Please state 8000s):	
24 PIN PRINTER DRIVER - suitable for most 24 pin printhead printers attached to 8000s	64.95
PRINTER CHARACTER SET DISC for defining new character sets	59.95
EXTRA PRINTER DRIVERS DISC containing a Printer File for every LocoScript2 compatible printer	59.95
KEYBOARDS DISC to configure LocoScript2 to use American, Canadian, Danish, English, French, German, Italian, Norwegian, Spanish or Swedish keyboard layouts with any nationality of LocoScript2.	59.95
LOCOFILE/8000 - the resident 'pop-up' database for LocoScript2	110.00
LOCOFILE/LOCOMAIL 8000 - the 'pop-up' database with mailmerging program in one pack	185.00
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LOCOFONT SET 2 adds a further set of five fonts to your matrix printer	65.00
LOCOKEY to customise your keyboard	59.95
LOCOMAIL SORTING PROGRAM	39.95
LOCOMAIL2 EXAMPLES DISC	17.50
LOCOMAIL2 NEW USER GUIDE	54.95

The following are for PCW 9512s (Please state 9512 when ordering):	
24 PIN PRINTER DRIVER - suitable for most 24 pin printhead printers attached to the 9512	64.95
PRINTWHEELS DISC allows the correct printing of the characters from any printwheel supplied for the built-in printer.	59.95

mail order

PCW continued

LOCOFILE/9000 - the resident 'pop-up' database for LocoScript2 on the 9512	110.00
LOCOFONT 24 - Text Set	64.95
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PRINTER DRIVER AND CHARACTER SETS supports a wide range of printers and printwheels used as an alternative to the built-in printer	59.95
LOCOMAIL SORTING PROGRAM	39.95
LOCOMAIL2 EXAMPLES DISC	17.50

PC

PC20 - PC1/2000 series PC1512/1640 - PPCs and compatibles

Items marked with a "†" symbol are also available in 3.5" disc format.
Items marked with a "*" symbol are supplied with both 5.25" and 3.5" discs.
Items marked with a "Δ" symbol are not suitable for a PC20.

PC & COMPATIBLES GAMES

2000 leagues under the sea	39.95
3-D Helicopter Simulator #	52.95
688 Sub Attack #	49.95
A-10 Tank Killer (flight sim.)	69.95
Abrams Battle Tank	54.95
ACE 2	33.50
Action Service	54.95
AD&D series - Champions of Krynn †	49.95
AD&D series - Curse of the Azure Bonds #	64.95
AD&D series - Dragons of Flame #	59.95
AD&D series - Dungeon Master's Assistant Vol 1	49.95
AD&D series - Dungeon Master's Assistant Vol 2	49.95
AD&D series - Heroes of the Lance #	49.95
AD&D series - Hillsfar #	64.95
AD&D series - Pools of Radiance #	59.95
Adventure 12 Series: 12 adventures + hint book	59.95
African Raiders	49.95
Afterburner (VGA compatible)	59.95
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Ancient Art of War #	74.95
Alf	39.95
Alien Syndrome	59.95
All Point Bulletin	59.95
Amazon	32.95
Annals of Rome #	SEE PAGE 5
Arcade Bonanza Pack - 18 games	29.95
Armada	49.95
Attack Chopper †	69.95
Austerlitz (War Game) #	69.95
Auto Duel	59.95
Backgammon	24.95
Balance of Power 1990 † Δ	69.95
Ballistix	69.95
Barbarian 2	59.95
Bard's Tale Vol 1 #	49.95
Bar Games †	SEE PAGE 5
Battle Chess (needs 640k) # Δ	61.95
Battle Hawks 1942 #	61.95
Battle Tech #	SEE PAGE 5
Battles of Napoleon	49.95
Beyond the Black Hole #	69.95
Beyond Zork	59.95
Beverly Hills Cop	49.95

PC continued

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Blood money	59.95
Blue angels (flight sim.)	59.95
Bomber	61.95
Bombuzal	59.95
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Bruce Lee Lives	59.95
Budokan #	59.95
Buffalo Bill's Rodeo Games	49.95
Cadaver	61.95
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California Games †	SEE PAGE 5
California Raisins	49.95
Captain Blood †	SEE PAGE 5
Captain Power	29.95
Carrier Command †	59.95
Cartooners	59.95
Caveman UGH-lympics †	64.95
Charlie Chaplin	69.95
Chase HQ	61.95
Chessmaster 2100 #	69.95
Chronoquest 2	89.95
Chuck Yeager's Advanced Flight Trainer †	54.95
Chuck Yeager's Adv. Flight Trainer + audio tape	59.95
Circus Games †	59.95
Classic Quest Adventure Series:	
Forestland	39.95
Witch Hunt	39.95
Catacombs	39.95
Cornucopia	39.95
Classic Arcades 2: with Penngo, Arnold and Grand prix	59.95
Classic Invaders	29.95
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Conquest of Camelot (Sierra) #	61.95
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Defender of the Crown #	69.95
Demon Stalkers	SEE PAGE 5
Destroyer †	SEE PAGE 5
Die Hard #	59.95
Doctor Doom's Revenge †	SEE PAGE 5
Doctor Ruth's Game of Good Sex (AO)	47.95
Don't go Alone †	64.95
Double Dragon 2 #	59.95
Dragon Wars #	59.95
Dragon's Lair (13 x 5.25" disks)	99.95
Dragonworld	SEE PAGE 5
Dream Warrior	29.95

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PC continued

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Epyx on PC Vol 1: with Winter Games, Summer Games 2 and Pistop 2	49.95
Epyx on PC Vol 2: with World Games, Street Sports Basketball and Impossible Mission 2	49.95
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F-15 Strike Eagle II †	69.95
F-16 Falcon #	62.95
F-16 Combat Pilot †	SEE PAGE 5
F-19 Stealth Fighter †	109.95
F-29 Retaliator	61.95
Face Off (Ice Hockey) #	59.95
Faery Tale Adventure #	49.95
Fahrenheit 451	32.95
Fallen Angel #	54.95
Family Feud	49.95
Fantasy Pak - arcade, war and mazes	19.95
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Final Frontier, The	59.95
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Flight Simulator (MicroSoft new version 4) †	95.00
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Friday Night Poker †	59.95
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Garfield Trivia Game †	39.95
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Indiana Jones - Last Crusade (graphic adv.) #	79.95
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PC continued

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Kings Quest 4 (9x5.25" and 4x3.5") # Δ	79.95
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Kult	59.95
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Rainbow Warrior	59.95
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Road Runner	69.95
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Savage	59.95
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Scavengers #	54.95

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Silicon Dreams	59.95
Silpheed #	52.95
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Space Max	SEE PAGE 5
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Space Quest 2 #	52.95
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Star Trek: The next Generation	59.95
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Stiegarr	59.95
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Their finest hour (Battle of Britain sim.) †	69.96
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Thrill of Winning Compilation Pack with John Madden Football, Budokan, Zany Golf and Ferrari Formula One	64.95

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Thunderchopper †	SEE PAGE 5
Time and Magik	SEE PAGE 5
Times of Lore	59.95
Titan	SEE PAGE 5
Tomahawk (helicopter sim)	49.95
Tongue of the Fat Man # (wrestling)	59.95
Total Eclipse	49.95
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Ultima V	79.95
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Untouchables, The	o/s
USS Stinger - submarine simulator	29.95
Usurper, The	SEE PAGE 5
'Vette (Corvette simulator) # Δ	69.95
Volleyball Simulator	59.95
Wall Street	59.95
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Where in Europe is Carmen Sandiego †	84.95
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Where in theWorld is Carmen Sandiego †	84.95
Where in USA is Carmen Sandiego †	84.95
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Who framed Roger Rabbit † Δ	52.95
Wibarm - puzzle solving arcade action #	69.95
Wide World of Sports: a compilation of California Games, Games (Winter Ed.) & Games (Summer Ed.)	SEE PAGE 5
Wierd Dreams	59.95
Windwalker	59.95
Wizardry 5	o/s
Wolf Pack #	69.95
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Kings Quest 4	13.95
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Leisure Suit Larry 2	13.95
Leisure Suit Larry 3	13.95
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Police Quest 2	13.95
Space Quest 1	13.95
Space Quest 2	13.95
Space Quest 3	13.95
Zac McCracken & the alien mindbenders	14.95
Zork Trilogy (Zork 1,2 and 3)	24.95

PC BUDGET GAMES

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PC continued

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PC continued

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PC continued

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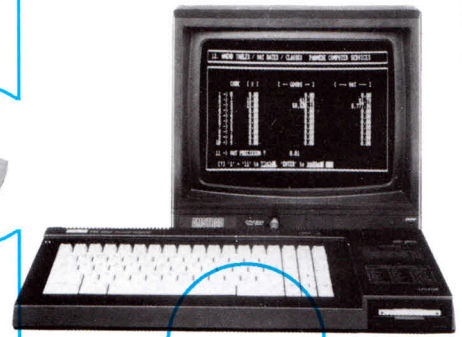
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All screen work is done graphically - and hence we offer unique panel, box, and ruled line options. Choose the line spacing at pixel resolution - you will be amazed how much clearer 9-pixel lines are than the usual 8-pixels. (Study the picture.) And all this faster than CP/M normally lets you paint the screen! PCW printer functions, under menu control, are provided.

Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE 8000 usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.

Megaglomerate Ltd

Sales Contact : Martin McManic
Telephone : 0245 654321
Reference : MGL
Date of last order : 14 Aug 86
Value to date : £31,455.00

Mega House
143-145 London Road
Chelmsford
Essex CM12 5DC

Ref	Maker	Model	Specification	Price ex VAT
C5001	Epson	FX85	100cps 40MLA 90col	£310
C5002	Epson	FX105	150cps 40MLA 132col	£410
C5003	Epson	FX100	100cps 132col	£195
C5004	Epson	LX100	100cps 20MLA 90col	£435
C5005	Epson	LX100	100cps 30MLA 90col	£575
C5006	Epson	LX100	100cps 40MLA 132col	£275
C5007	Epson	LX100	100cps 50MLA 90col	£395
C5008	Epson	EX800	100cps 40MLA 90col	£225
C5009	Canon	AS5	100cps 40MLA 132col	£240
C5010	Canon	AS5	100cps 40MLA 90col Colour	£410
C5011	Juki	5510	100cps 40MLA 90col	£530
C5012	Juki	5520	150cps daisywheel	£260
C5013	Juki	6100	30cps daisywheel	£350
C5014	Juki	6300	35cps daisywheel	£1,795
C5015	Fujitsu	5300	200cps 50MLA 90col	£2,700
C5016	Fujitsu	DX	200cps 50MLA 132col	£1,900
C5017	Canon	LIPSA1	8 page min 64 graphics	£2,650
C5018	Canon	LIPSA2	8 page min 64 graphics	£285
C5019	HP	Laser	8 page min 64 graphics	
C5020	HP	VP-810	100cps 50MLA 90col	
C5021	Taxan			

Customer Details and Invoices

British United Freight
433 Western Avenue
Gloucester
GL9 5JN

Tel: 0452 350000
Contact: Mike M
Ref: BUF

Invoice	Tax point	Amount	Date paid	Comments
12044	20 Aug 87	£235.00	02 Oct 87	
12339	29 Aug 87	£98.00	02 Oct 87	
12450	01 Oct 87	£305.00	---	re
12453	21 Oct 87	£133.00	---	
12533	03 Nov 87	£1,004.50	---	
12538	10 Nov 87	£355.65	---	
12703	11 Nov 87	£200.00	---	
12782	11 Nov 87	£39.20	---	
12829	04 Dec 87	£883.55	04 Dec 87	Cash with order
Totals:		£3,253.90		

Date of invoice

Drive:A File:INVOICES Records:00017 Selected:00009 New Format:1

MASTERFILE 8000 is totally menu-driven, fully machine-coded, and comes with example files and a detailed manual. We claim (modestly) that you will not find another filing system with such power, flexibility, and friendliness.

MASTERFILE 8000 costs \$119.00 (excluding postage and packing).

Bankcard, Mastercard or Visa orders are welcome, written or telephoned, quoting the card name, number and expiry date.

Send your order now to:

THE AMSTRAD USER
1/641 High Street Road
Mount Waverley
Victoria 3149 Tel: (03) 803 9661

Keyed files are maintained automatically in key sequence, with never any need to sort. You can have unkeyed files too, where records can be inserted at any point in the file.