

EVERY WILD IMAGINATION NEEDS A LITTLE SELF CONTROL.



When we introduced our AMX Mouse to Amstrad CPC users the response was phenomenal. We didn't claim it was 'the best input device'. The press said it for us.

In fact it has received outstanding critical acclaim, and no wonder!

It has brought to Amstrad users the same freedom and versatility which has up to now been the exclusive province of much more advanced computers.

In fact it is no surprise that nearly all new 'State of the Art' computers such as the latest Amstrad PC 1512 now come with a mouse as standard. Proof, if proof were needed, that the mouse is here to stay.

We have developed the AMX Mouse for the Amstrad Personal Wordprocessor. It comes complete with a full graphic front end, as a replacement to the CPM disc Management System, providing you with the User friendly approach of a mouse environment and freeing you from the complexities of CPM Plus.



Cataloguing, copying and running programs are just some of the many features available at the touch of a button.

Desk accessories such as a calculator, memo pad, address/telephone directory and alarm clock are also included.

The AMX Mouse for the Amstrad CPC home computer is supplied with sophisticated Art software, incorporating Windows, Icons, Menus and Pointers and comes complete with an operating system, enabling you to create a mouse environment in your own programs.

Isn't it time you trapped an AMX Mouse.

The following AMX Mouse packages are available:

Package A - For the Amstrad CPC 464/664/6128 includes, Mouse and interface, AMX Art and AMX Control plus a fully illustrated operating manual - £69.95

Package B - For the Amstrad PCW 8256/8512, includes Mouse interface, AMX Desktop and operating manual - £79.95.

The AMS range of Mouse software for the CPC, includes AMX Utilities £19.95 (Disc), AMX Pagemaker £49.95 (Disc), AMX 3D Zicon £24.95 (Disc) and for the PCW 'Stop Press' £49.95 is to be released shortly.

These superb packages are available from all good computer dealers or direct, using the FREEPOST order form supplied.



FOR INSTANT ACCESS/VISA ORDERS TELEPHONE (0925) 413501/2/3

PLEASE SEND ME **POST FREE** THE FOLLOWING AMX MOUSE AMSTRAD PACKAGES
(Quantity)

_____ FOR THE CPC AMX MOUSE / INTERFACE, AMX ART, AMX CONTROL
@ £69.95 EACH, INCL. VAT AND P&P

_____ FOR THE 8256/8512 AMX MOUSE / INTERFACE, AMX DESKTOP
@ £79.95 EACH, INCL. VAT AND P&P

I ENCLOSE CHEQUE/POSTAL ORDER FOR £ _____

OR DEBIT MY ACCESS OR VISA (tick as appropriate)

CARD NO

EXPIRY DATE _____

SIGNATURE _____

NAME (Block Capitals Please) _____

ADDRESS _____

POSTCODE _____

AMX MOUSE

IMAGINATION AT YOUR FINGERTIPS
SEND TO: ADVANCED MEMORY SYSTEMS LTD. FREEPOST, WARRINGTON WA4 1BR.
TELEX 628672 AMS G

ADVANCED MEMORY SYSTEM LTD., 166/170 WILDERSPOOL CAUSEWAY, WARRINGTON WA6 6QA

REGULARS

- 5 **News**
- 11 **Letters**
- 68 **Gallup Chart**
- 114 **Least Significant Bit**

PROGRAMMING

- 42 **Power from PIP**
Nigel Grant reveals the power behind three letters
- 56 **Double trouble**
Two listings at once. Twice the fun, half the effort
- 47 **Exploring MS-DOS**
Understanding your PC operating system makes it easier to use
- 70 **Goin' Loco**
Get out your drawing pens and start designing

FEATURES

- 17 **Adventure Column**
What's zis - Ze French adventure
- 23 **Hairy Hackers**
Pokes for the old and new, programmed just for you
- 53 **Prestel, past and present**
The number one comms service explained
- 73 **Mikro Gen - keeping fresh**
Alexander Martin visits the people behind Frost Byte
- 79 **Ask Alan Sugar**
Your chance to write to the man himself
- 81 **The PCW goes filming**
Thirty seconds of television takes three days to film. Sally Tyler finds out why

REVIEWS

- 28 **In the picture**
Which art package? Jill Lawson draws her conclusions
 - 60 **King Combat**
Does Barry McGuigan beat Frank Bruno, Is a fist better than a Ninja?
- 
- 89 **Latest games**
Dan Dares, Mission Elevates and Frost Byte in the games reviews. Do you agree with Colin, Nigel and Liz?

COMPETITION

- 76 **Ambyte compo**
Disc owners! Win a new game every week for six months.

OFFERS

- 110 **The ACU shop**
Backnumbers and binders, subs and savings

AMSTRAD COMPUTER USER

The official magazine for all users of Amstrad computers

Editorial and Advertising offices:
169 King's Road, Brentwood, Essex CM14 4EF.
Tel: 0277-234459 (Editorial); 0277 234434 (Advertising)
Telecom Gold: 72:MAG021

Published by Avralite Ltd, 36/38 St. Petersgate, Stockport SK1 1HL

News trade distribution: Diamond-Europress Sales & Distribution Ltd,
Unit 1, Burgess Road, Ivyhouse Lane, Hastings, East Sussex TN35 4NR.
Tel: 0424 430422.

Editor: Simon Rockman
Assistant Editor: Alexander Martin
Advertisement Manager: Jane Nolan
Advertisement Assistant: Lorraine Day

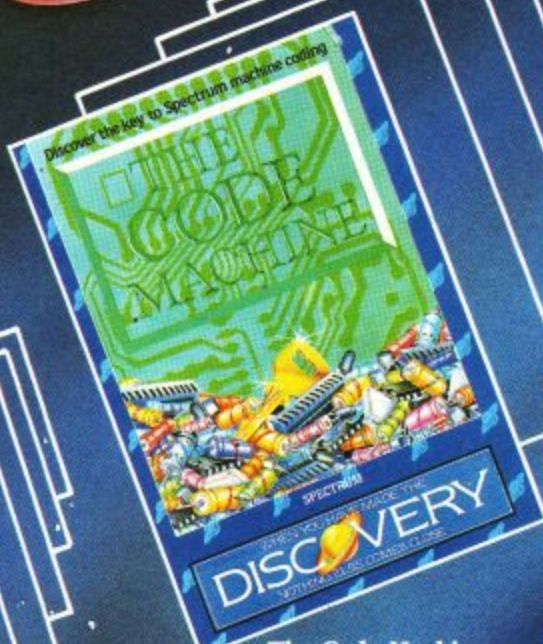
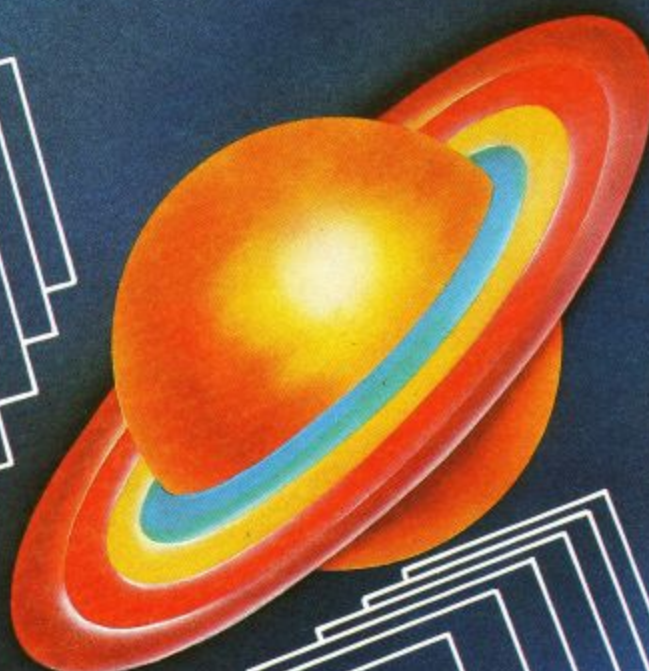
Amstrad is a registered trade mark, and with the title Amstrad Computer User, is used with the permission of Amstrad Consumer Electronics plc. No part of this publication may be reproduced without permission. While every effort is made to ensure the accuracy of all features and listings we cannot accept any liability for any mistakes or misprints. The views and opinions expressed are not necessarily those of Amstrad or Amsoft but represent the views of our many readers, owners, members and contributors. We regret that Amstrad Computer User cannot enter into personal correspondence.
© Avralite Ltd 1986.

WHEN YOU HAVE MADE THE DISCOVERY



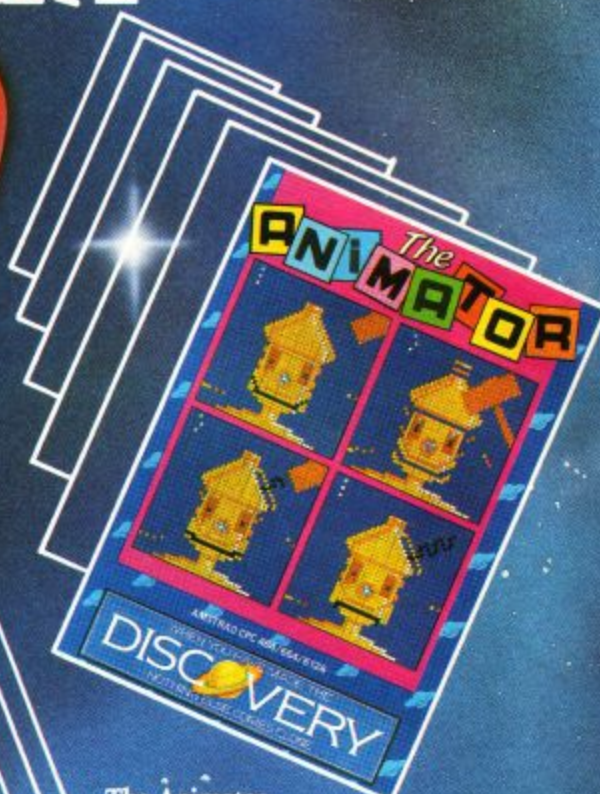
Pyraword
Amstrad CPC 464/664/6128

Coming Soon – the complete word processor for Amstrad. It is a single programme, simple enough to be learnt quickly by those not familiar with computers, but at the same time producing many types of sophisticated printing normally associated with more expensive software.



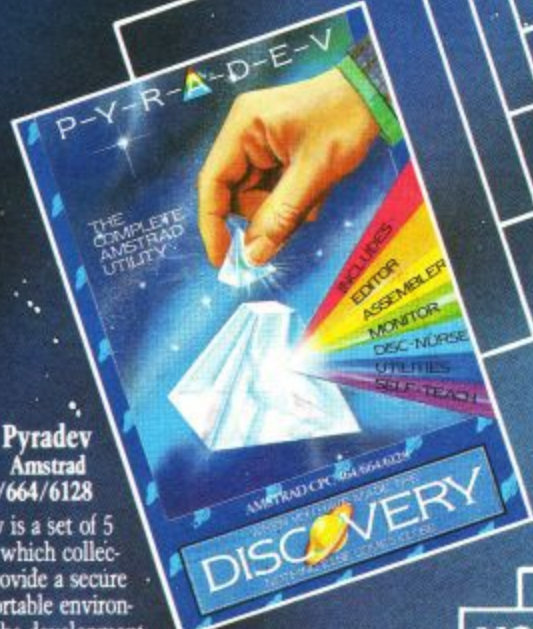
The Code Machine
Amstrad CPC 464/664/6128 & Spectrum

The code machine is a full feature machine code programming development package consisting of an Editor/Assembler and a separate monitor disassembler. Both programs are entirely self-contained, and written entirely in machine code.



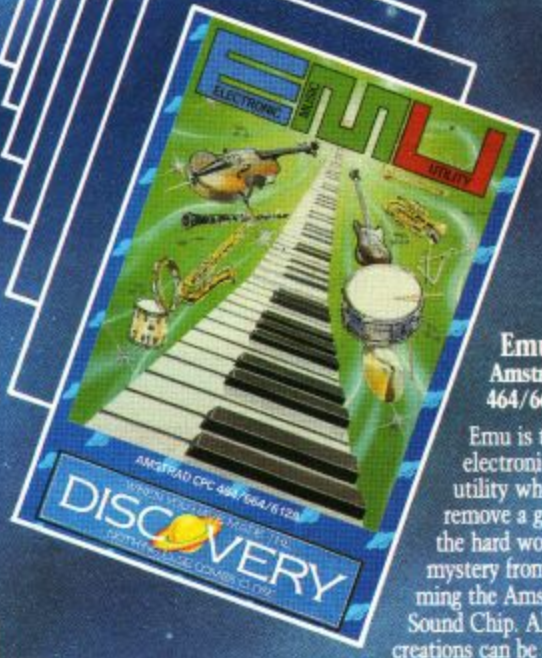
The Animator
Amstrad CPC 464/664/6128

The Animator gives you the chance to transform the ideas and images in your mind into pictures on your screen. The power of your computer is enormous, the creativity within your mind is greater still. The Animator allows the two to come together to open up a whole new computing world.



Pyradev
Amstrad
CPC 464/664/6128

Pyradev is a set of 5 programs which collectively provide a secure and comfortable environment for the development of AMSDOS and CPM software on these Amstrad machines using the DDI disc system.



Emu
Amstrad CPC
464/664/6128

Emu is the electronic music utility which will remove a great deal of the hard work and mystery from programming the Amstrad Sound Chip. All your creations can be saved in a form that lets you use them in your own Basic or Machine code programs – and despite its complexity EMU is very easy to use.

NOTHING ELSE COMES CLOSE
WHEN YOU HAVE MADE THE
DISCOVERY
NOTHING ELSE COMES CLOSE

Please send me the following

	No.	Cost each	Total
The Animator			
Pyraword			
Pyradev			
The Code Machine – Amstrad			

	No.	Cost each	Total
The Code Machine – Spectrum			
Emu			
Post & Packaging			FREE
TOTAL			

Name

Address

I enclose a cheque*/P.O. for the sum of

Please charge my Access/Visa** the sum of

Card No. Signature

Please allow 28 days for delivery. *All cheques made payable to Gremlin Graphics Software Ltd. ** Delete as necessary. Please allow Gremlin Graphics Software Limited, Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423

AMSTRAD



NEWS

Clock this from Citizen

In a brave attempt to make *Amstrad Computer User* run out of watch and time jokes, Citizen has launched three more printers.

The MSP 10E and MSP 15E are 80 column and 136 column printers. The major difference between them is the width of platen as they have similar performance characteristics.

NLQ will give 40 cps while draft prints at 160. Both have a full bit image graphics capability and are Epson and IBM compatible with a Centronics input as standard.

The 10E sells for £349 and the 15E at £449.

The third of the new printers is a 24 pin dot matrix printer using a 12x12 matrix on a staggered print head. (Yes, I don't know what that's supposed to mean either.)

This gives an exceptionally high quality of print at speeds of 200 cps in draft and 66 cps in letter quality.

The printer has a 132 column width and a serial and parallel interface as standard. Automatic paper load, a 24k buffer and additional fonts on plug-in cards makes it very special indeed.

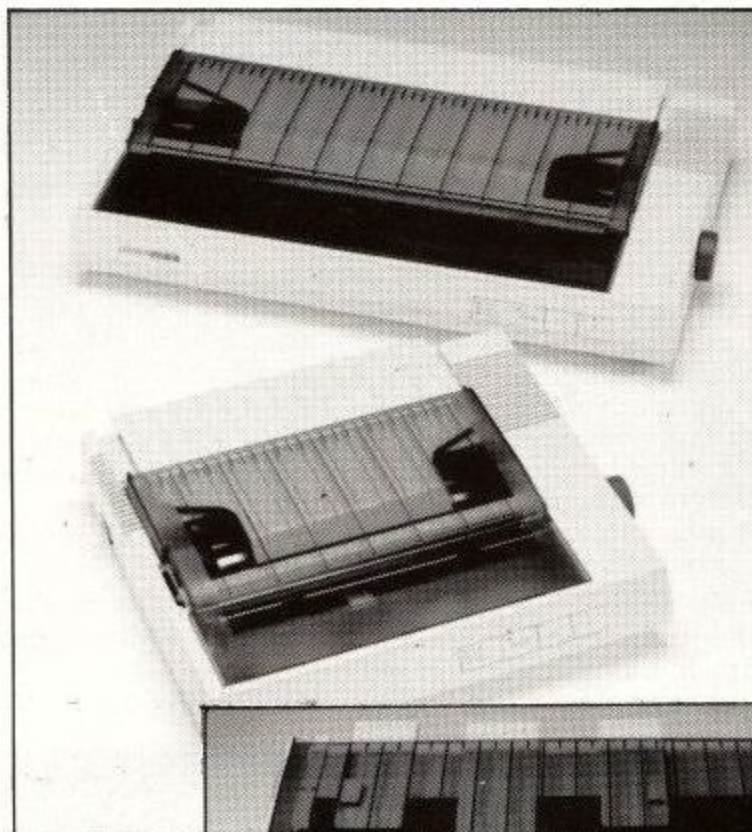
Dan Dare to the rescue

A funny thing happened on the way to the duplicators.

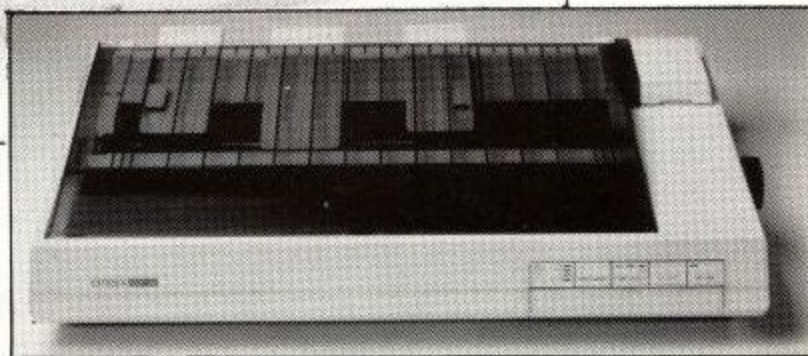
It happened to Virgin's disc version of Dan Dare. The inlay says RUN"DISC. In fact to load the game you must type !CPM (! is achieved by Shift +@).

Virgin says the mistake was a result of a mix up between itself and the duplicators.

Still, it's nice to know there is a disc version.



Left: MSP 10E and 15E - both offer high speed draft and NLQ modes, IBM compatibility and 8k buffer



Right: HQP 45 - first of a new range 24 pin dot matrix printers from Citizen

Best seller on screen

Adventure gamers and fans of Dick Francis will be pleased to hear of a new game based on his thriller *Twice Shy*.

The game has been written by the Ram Jam Corporation for Mosaic Publishing which is currently working on *The Archers* and will shortly be releasing the *Snow Queen*.

It combines the usual form of illustrated adventure with an

animated horse-racing game which can be played separately.

If you win at the races you return to the main adventure, which involves avoiding the heavy mob of the horse racing world. They want to relieve you of some intriguing game-usable software that has come into your possession and the money in your pocket.

An Amstrad version will be available for £9.95.

Ariola Red Handed

Things haven't been going too well at Ariolasoft recently.

Despite several recent new releases, including *Deactivators* for the Amstrad (reviewed in this issue) the company has had to resort to eking out its meagre earnings with a spot of burglary. Caught in the act by a local photographer, the offenders' only alibi was that they were promoting their latest game *They Stole a Million*.

Despite wearing disguises the suspects were traced back to the shop where they bought their designer stripey tee-shirts.

The three perps were Tigress designer Chris Palmer, Ariolasoft's creative development manager Mark Easton and programmer with *Shirekilo*, Edgar Belka.

Summing up at the trial, Mr Justice Wunce committed the three to 24 months' hard labour – they have to man the phones in Amstrad's Customer Service department.



Ah-Uh-Ah-Uh-Ah! and Ghunf, Thud!

Judo Champion Brian Jacks was on the Martech stand at the recent PCW Show, possibly because he's been acting as a consultant for a judo game called *Uchi Mata* which Martech is about to release. Brian is very pleased with the results he has seen and claims that the game can be used as an accurate training aid.

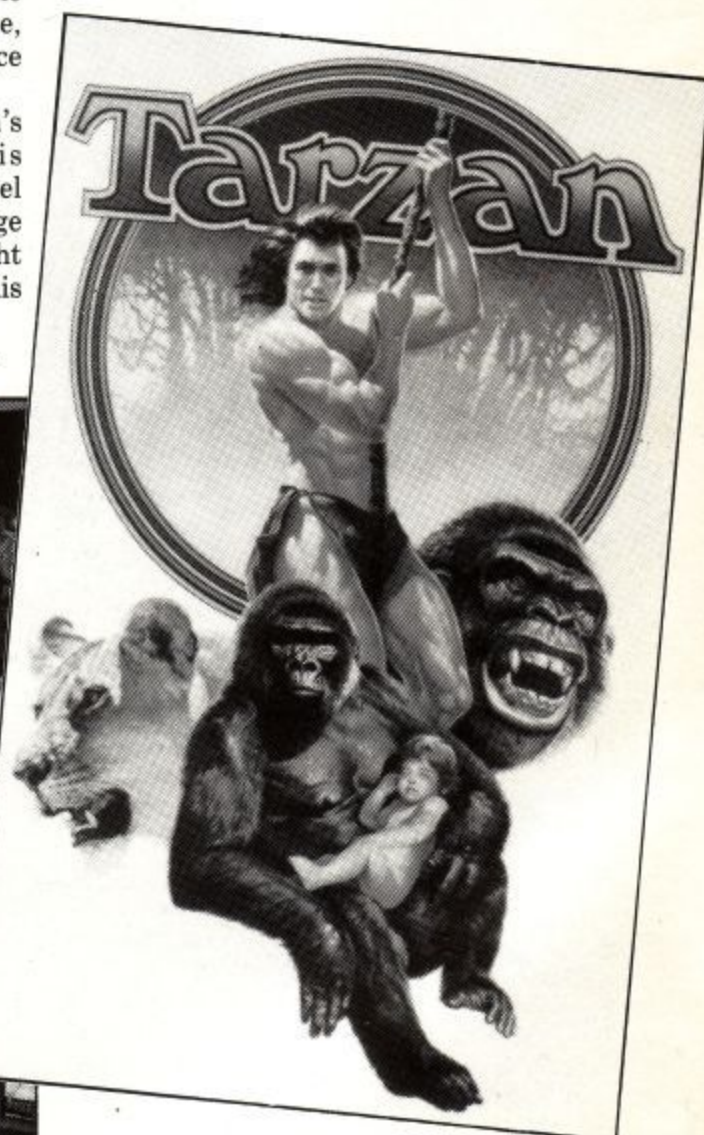
Martech is also launching *Tarzan* –

Lord of the Jungle, which it describes as a new arcade combat adventure.

The company says that *Tarzan* is the officially licensed version of the game, based on the hero created by Edgar Rice Burroughs.

The game is centred around Tarzan's quest for his mate Jane, who is kidnapped by hostile natives. (We feel sorry for the natives.) The jungle is huge and full of dangers and Tarzan must fight off the hostiles and wild animals in his search.

Price will be £8.95 – expect it soon.



Swinging lessons for Tarzan (above), while Brian Jacks shows how to deal with troublemakers (left)

Entire
CPC
range

Latest
business
packages

Amstrad
PC 1512

Speech
synthesisers
and music

All the
new 1987
games

PCW
8256 &
8512

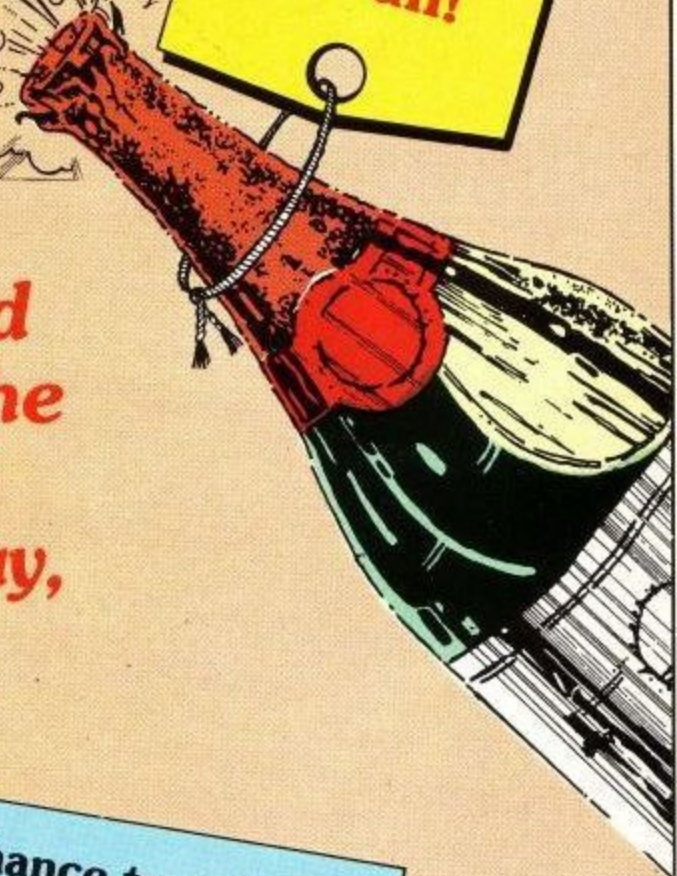
Modems
and comms
software

Non-stop
demonstrations
and free
advice

Word
processors
& utilities

Light pens,
mice and
joysticks

**Celebrate
the New
Year -
with a
visit to the
most
exciting
computer
show of
them all!**



**Step into the sparkling world
of Amstrad computing at the
Novotel, Hammersmith, on
Friday, Saturday and Sunday,
January 9 to 11.**

**Doors open 10am
Close 6pm on Friday &
Saturday; 4pm Sunday**

**Your chance to quiz top
experts at presentations
in the Amstrad Theatre**

**Advance tickets
make welcome
Christmas
presents**

*(They also save you
a third off the
normal price - and
let you walk straight
past the queues!)*

Advance ticket order

Please supply:

- Adult tickets at £2 (save £1) £ _____
 - Under-16s tickets at £1 (save £1) £ _____
- TOTAL £ _____

Cheque enclosed made payable to Database Publications Ltd.

Please debit my credit card account:

Access / Visa

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Admission at door:
£3 (adults), £2 (under 16s)

POST TO: Amstrad Show Tickets, Europa House,
68 Chester Road, Hazel Grove, Stockport SK7 5NY.



Champagne Suite &
Exhibition Centre,
Novotel, Hammersmith, W6

January 9-11, 1987

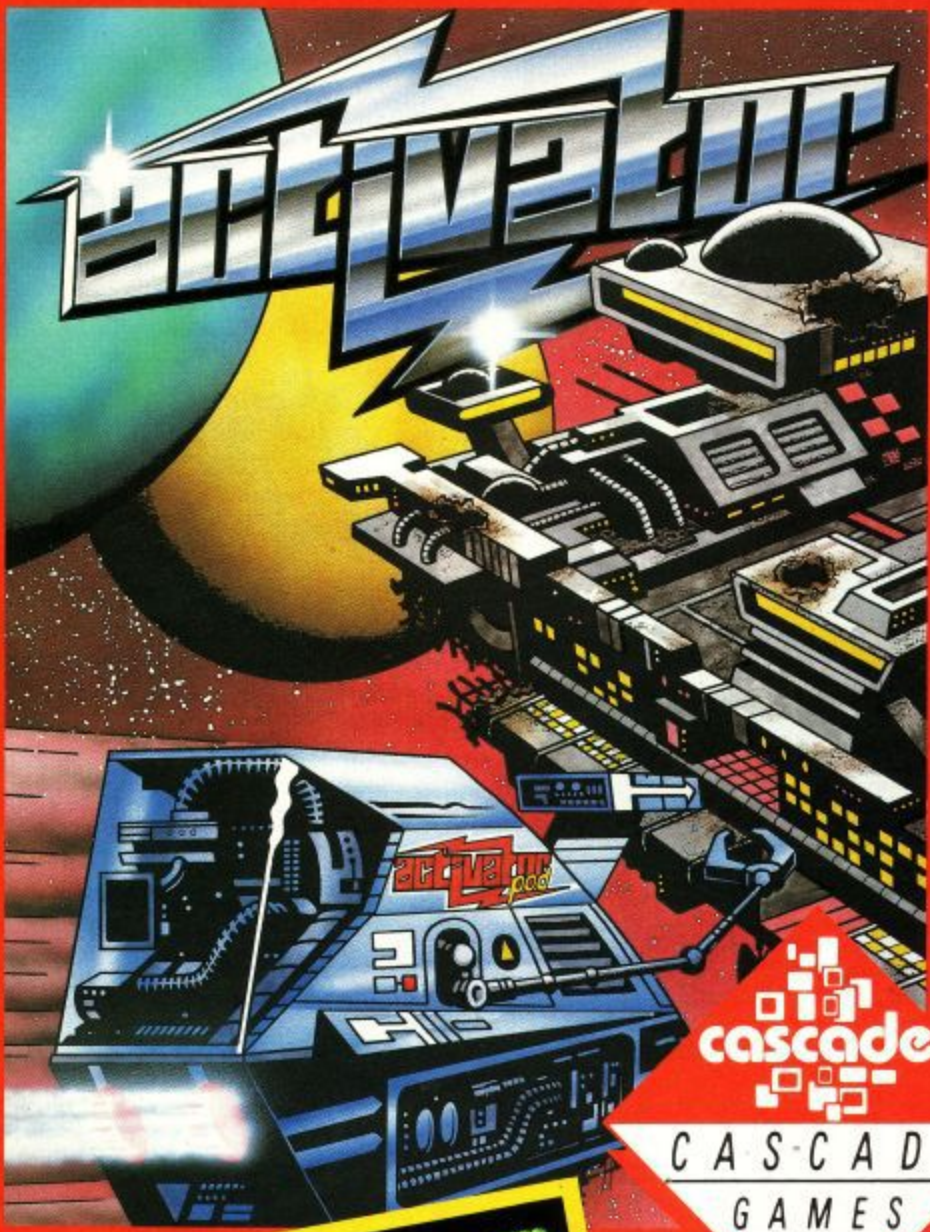
Name

Address

..... Signed

PHONE ORDERS: Show Hotline: 061-480 0171
PRESTEL ORDERS: KEY *89, THEN 614568383
MICROLINK ORDERS: MAILBOX 72:MAG001

Please quote credit card number and full address + Ref. ACU 11



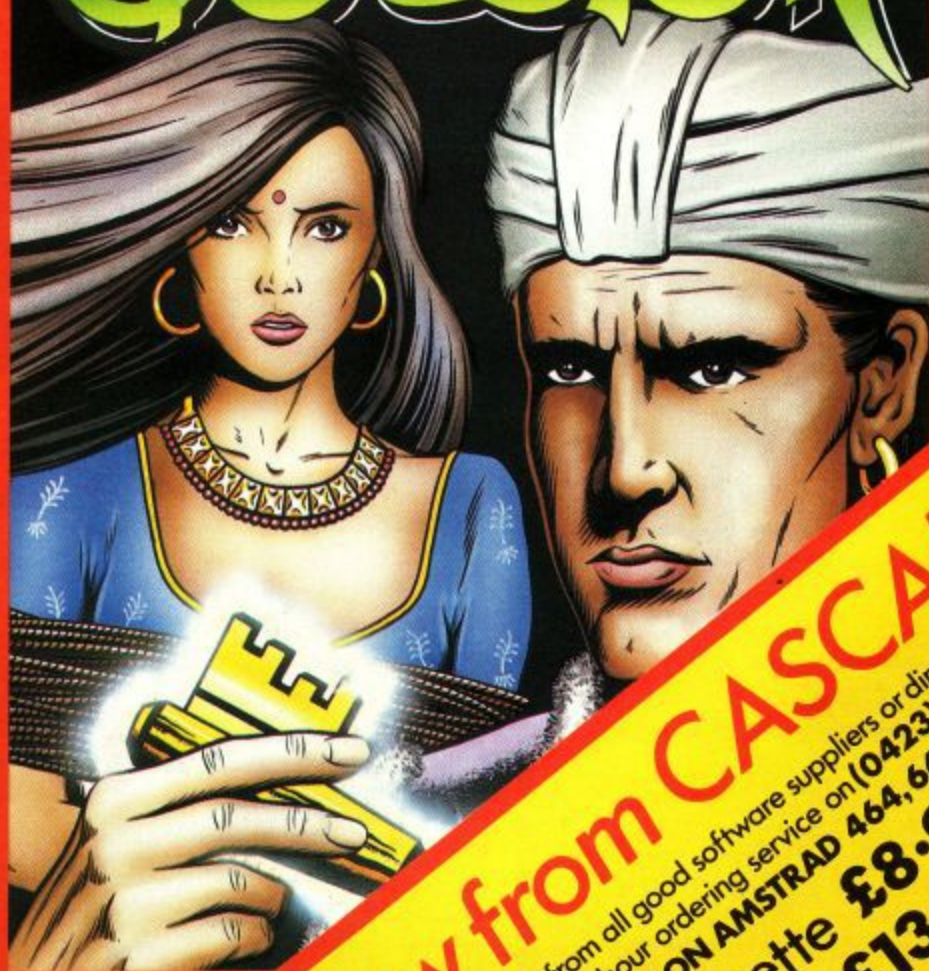
After years of neglect many strange and dangerous life-forms have infested Antari. The fuel-rods so essential to her reactivation have been taken from the Power Chamber and lost in her web of decks, chambers and rooms. You must locate these and return them to their correct location. Many dangers lurk around every corner. Radiation will penetrate your **ACTIVATOR'S** outer skin. Time is limited.



CASCADE
GAMES
LTD



QUESTOR



You are **QUESTOR**—and only you have The Power. The power and the will to deliver your Kingdom from the evil Garr. For Garr would destroy all that stands between himself and domination. But you are strong with The Power. You can use The Power and enter where fear defeats the weak of spirit.

New from CASCADE
Available from all good software suppliers or direct from
Cascade - 24 hour ordering service on (0423) 504663
OUT NOW ON AMSTRAD 464, 664, 6128
Cassette £8.95
Disk £13.95

Cascade Games Ltd,
Harrogate, HG1 5BG, England.

Long List from CRL

CRL is putting out a number of new releases for Christmas.

Among them is Buggy Maroon, a game about a bunny gangster from Chicago. You must help Buggy to become Public Enemy No.1 in a tough game of skulduggery, corruption and crime.

There's plenty of rabbit in this game as it features a menu driven conversation system that lets you talk to the other characters.

Buggy Maroon is the result of a mega deal with the girls of St Brides. (Why do I get this vision of St Trinians with Beebs, hacking into the Ministry of Defence?)

The game is about to be released for the Amstrad and will cost £7.95.

Also from CRL comes news of a game you can really get your teeth into.

Watch out for Dracula, a new adventure game based loosely on Bram Stoker's original story of the blood sucking count from Transylvania.

The game features digitised graphics and rather than moving from location to location as in the usual type of adventure the player progresses to the next situation.

Again the game is almost ready for release.

Deus ex Machina will be a familiar title to Spectrum users, but being an Amstrad user you may not have heard of the game originally brought out by Automata.

Heralded as a fully animated television fantasy, the game is controlled by your home computer and synchronised to its own stereo soundtrack.

The game is something to do with a giant computer, containing DHSS, police and state records, going on the blink.

It should be available for the Amstrad by the time you read this and will sell for £8.95 on CRL's Nu Wave label.

CRL's boss Clement Chambers tells me that the new Dr What game is nothing to do with any television programme.

You have to guide the four doctors, called What, Why, Where and When, to a location in time and space. To get there

they need to use a Tryidis time machine.

You need to solve puzzles such as how to get past the Dalek - sorry, robot monster - by throwing a cap over its eye or fix the time machine with a baseball bat.

Now I understand why CRL has been quiet for so long.



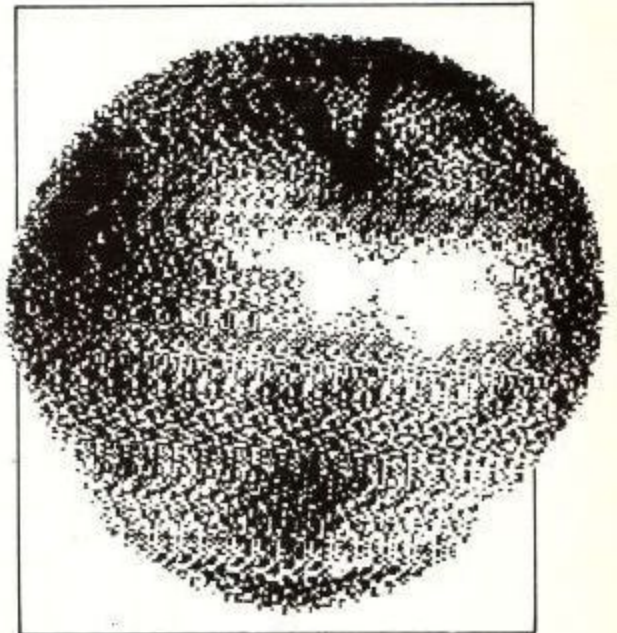
Grabba frame on Joyce

Exciting news from Electric Studio this month - a video digitiser for the PCW 8256/8512 and CPC 6128.

This device will allow a picture from a video recorder or camera to be displayed and "grabbed" by the computer. Once grabbed the screen image can be saved to disc or printed out.

Screens saved in this way can be manipulated with the ESP light pen and mouse graphics programs to do such things as add text.

The package includes the interface and necessary software for the reasonable price of £99.95.

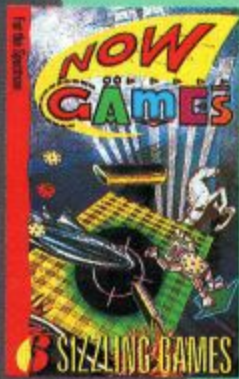


DAVE and PAM

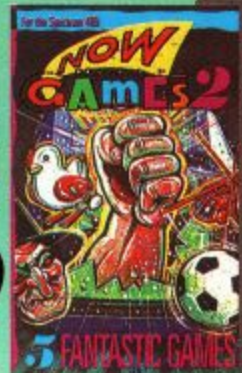
by ALEX & SPITAL



▶ 5 FUN FILLED GAMES ◀



NOW GAMES



Virgin Games presents the third fantastic compilation in the **NOW GAMES** series ... 5 best selling full price games on one tape for the price of one full price new one!

NOW GAMES 3 is a wide choice of high quality games the whole family can enjoy. Available for **COMMODORE 64**, **SPECTRUM 48** and **AMSTRAD CPC**.

NICK FALDO PLAYS THE OPEN

Mind Games

This beautifully presented simulation features 900 scrolling screens of authentic action over the 18 holes of the Royal St George's course in Sandwich.

SORCERY

Virgin Games

This beautifully designed arcade adventure features great graphics and gameplay as it transports you to a land where evil must be defeated and the power of good restored.

CODE NAME MAT II

Domark

You are the Captain of Centurion II in this exciting shoot-em-up. Your ship has a range of weapons, shields and a tracking system, but you must decide the best strategy to eliminate the attacking Myon craft.

EVERYONE'S A WALLY

Mikro-Gen

This is a multi-screened arcade adventure featuring excellent cartoon graphics and lots of humour. Use your ingenuity to get the gang working and uncover the combination to the wages safe.

VIEW TO A KILL

Domark

Spectacular 3 part multi-screen arcade adventure based on the James Bond film. There's a car chase around the Eiffel Tower, a rescue from a flaming City Hall and some code-breaking at Silicon Valley.

Look out for **NOW GAMES** and **NOW GAMES 2**, still the best value around. For **COMMODORE** and **SPECTRUM**.

NOW GAMES 3 is available from all good software stores or, if you have difficulty, directly from Virgin Games.

Please make your cheque or postal order payable to Virgin Games Ltd. Please do not post cash.

NOW GAMES 3 is £9.95, please tick the version you require. COMMODORE SPECTRUM AMSTRAD.

NOW GAMES 2 is £8.95 (features: Air Wolf, Chuckie Egg, Tir Na Nog, Cauldron, World Cup II)

COMMODORE SPECTRUM.

NOW GAMES is £8.95 (features: Lords of Midnight, Brian Bloodaxe, Strangeloop, Pyjamarama, Arabian Nights, Falcon Patrol II) COMMODORE SPECTRUM.

£9.95

Name Address

Virgin Games Ltd, 2/4 Vernon Yard, Portobello Road, London W11 2DX



Please bear in mind that the views expressed herein are not necessarily those of Amstrad. Be assured that all your views are given thorough consideration. This letters section is the Amstrad Computer User's own forum.

Joyce games

As a user of PCW 8256 I am interested in any new piece of software that comes along. I was very pleased to read that some software manufacturers are going to start producing games for the PCW and I have noticed that games such as Batman and Fairlight have started to appear in more and more shops here.

I am writing to ask if Amsoft would consider (or are considering) making a version of Elite for the PCW? Surely with eight times more memory the PCW would have a much smoother, faster game than on the BBC?

B. Treadgold,
Edinburgh.

ACU: There are loads of new PCW games in the pipeline but you have to realise that loads of memory can make a programmer's life more difficult. Smooth graphics on a high resolution screen are very tricky. Firebird is thinking about a PCW version of Elite but while you are waiting it is worth getting a copy of Tomahawk from Digital Integration.

Spook slip-up

I read all computer magazines concerning the Amstrad, and - Creep Creep - I think your magazine is the best. But your listings are no better than the rest for mistakes, unfortunately.

My most recent complaint is the haunted house program in the September issue where the save HH code address should have been 30000 and not 20000 - so my Dad says and he isn't much brighter than I am! But at least he can sort out your programs.

Tracy Williams,
St. Austell,
Cornwall.

ACU: Your Dad is right - the magazine should have read SAVE "HHCODE", b,30000,4800. The mistake was only in the instructions, the listing was perfect.

You cannot be serious

I am an over 40 housewife. I've had a CPC 464 since go. I have all the ACU mags including the ones with the boring business bit in the middle.

My problem is I feel guilty because I don't have time to be a "serious programmer" - I am too busy enjoying playing the games.

My first add on was the DMP1 printer,



my second a picnic table to put it on and the last was a big desk to cope with the cassettes.

I dive straight into the letters page to find the send up. I read them all twice, because I don't understand the question - never mind the answers.

Hasn't anyone ever dared to confess that they are not serious users? If so you haven't printed their letters, Australians and lorry drivers excepted.

If I wasn't so obsessed with solving one of my four adventure games maybe I would look further than the keyboard or joystick. To this end I read Hairy Hackers Haunt, but he's not given me any clues yet - just a good laugh.

Do the adventure game compilers realize they are turning some of us average intelligent humans into mindless idiots who have the last game on the computer whirling around their head until the next time they load it?

Worried,
Scunthorpe.

Computer tutor

Earlier this year I purchased an Amstrad 6128 and although a lot of software is being made available on disc this does

not include much educational software.

I would be grateful for any information you could give me regarding adult educational programs, not necessarily to 'O' level.

S. Campbell,
Loanhead,
Midlothian.

ACU: There is not very much in the way of good educational software, partly because the market is limited and partly because anyone who does venture into the educational arena has their programs pirated out of existence. Try School Software in Ireland (010) 353 61 27994 who seem to have programs for most age ranges.

Music down the phone

The BBS which I run has currently opened up a lot of new sections to cover the ever growing information required by computer users. One of these is a Midi section. I hope the following will allow readers of your magazine to hear about the Access BBS and all its facilities.

The BBS is run on a Vision IBM AT clone running at 8Mhz. The software used is the Fido BBS (including Fidonet). The modem is a Quattro Card

2400, supporting V21, V22, V22Bis and V23.

The BBS runs 24 hours a day, seven days a week on 0905 52536. For editors and companies its use is free. For other users there is a once only fee of £5 which is spilt into five levels - in £1 increments. Nurd Access is free (lowest privilege). Extra Access is £5 (highest privilege).

J. W. Brooks,
Access Bulletin Board System,
Warndon,
Worcester.

ACU: The advertising bill is in the post.

Lost adventurers

The Adventurers Club, which had about 2,000 members when I last asked, is showing signs of being in trouble.

The last two issues of their newsletter have not appeared. Their phone (01-794 1261) was first connected to a recorded message about new management and now goes unanswered.

Several club members have confirmed the above from their own experience and a friend who recently called at their registered office (64c Menelik Road, London NW2 3RH) was met by a woman who told him it was just an accomodation address for post. In fact, I've previously had a meeting there with Henry Mueller, the "secretary" who runs the club, and it certainly looked like his home.

My only involvement with the club dates back to December 1985, when I agreed to become Honorary President. This just involved writing an unpaid column on matters adventurous in the newsletter for a year, with no involvement in the club's finances before starting and everything seemed fine at the time.

I now cannot contact anyone at the club and am understandably worried for its customers. I would advise anyone planning to join the Adventurers' Club, or buy mail-order games from it, to satisfy themselves as to its financial stability before sending money.

Pete Austin,
Level 9 Computing,
Weston-super-Mare.

Review reviewed

I have noticed your review of Graham Gooch's Test Cricket from Audiogenic in the September issue of *Amstrad Computer User* (page 76). As I am the author of the CPC and PCW versions of the program, I thought I would write to you about a point raised in your review - that of the screen mode used for the view of the bowler, batsman, wicket keeper and slip fielder.

I had a chuckle to myself when reading your comments on this as I had wondered if anyone would be observant enough to notice that this screen is actually made



up of two modes. If you look closely, you will see that the graphics contain six different colours and thus must be displayed in mode 0.

The text however, needs to be higher res to fit that number of characters across the top line of the screen and is displayed in mode 1. This I achieved by a mode change triggered by the fast ticker interrupt, a feature of the CPC's excellent event system.

I assume that the picture of this screen in your review was taken after the program had been interrupted and frozen (*correct - Ed*) somehow as the top line appears to be shown in Mode 0 instead of mode 1 (or is my copy blurred?). Mode 0 would be the default mode in these circumstances as Mode 1 is only switched in temporarily for the top line of the screen.

A question asked in your review is "what affects the players' performance?". This is based on the players' batting and bowling averages which can be viewed or changed through the team editor accessed through the top menu.

When I accepted the contract to convert this program from the C64 original I knew nothing of cricket and had little interest in it but because the original program was so detailed a simulation of the game my interest grew and I've now become hooked on cricket - to a certain extent.

Anyway, thank you for reviewing the program. I think it was a fair review and would like to compliment your publi-

cation on its standards generally.

Graham Blighe,
Hampshire

ACU: Thank you for taking the trouble to write, it's always good to know what programmers think of our reviews . . .

A kind of magic

I have succeeded in producing graphics from music cassettes placed in the Amstrad datacorder.

```
10 X%=0: MODE Z: MOVE 0,0
20 Y%=0: FOR Z%=0 to 7:
Y%=Y%+INP(&F500): NEXT:
Y%=Y%/6
30 DRAW X%,Y%:X%=X%+4:IF
X%>639 GOTO 10 ELSE 20
```

Basic has a job keeping up with the tape activity but this program works quite well.

Ian Campbell,
Southampton,
Hampshire.

ACU: Brilliant. This is a really fun short program, but we did find it necessary to type `OUT &F600,&10` to get the tape moving. (Thanks Vax).

Dear Nigel, Liz and Colin

Thank you very much for the complimentary review of our game Killapede. We have been writing programs now for a couple of years and people seem to have

Compumart

Special Limited Offer
10 - AMSOFT 3" CF2 MICRODISKS
ONLY £32.00 + £1p&p
Suitable for All Amstrad Drives

NEW 5 PACKS
5 - AMSOFT 3" CF2 Microdisks
ONLY £17.00 + £1p&p
SUITABLE FOR ALL AMSTRAD DRIVES

Printer Ribbons For
DMP 2000 Printer **£5.50 ea.**
8256,8512 Printers **£5.50 ea.**
Ribbons - POSTAGE FREE
Please Specify Printer

Same Day
Despatch On ALL Orders
Before 4pm
ALL Prices Inc. VAT

GUARANTEED 



24 Hour Credit Card
Order Line
0509-233893

VISA Access 

Please send cheques/postal orders to:
Compumart, (Dept AM)
Unit 8, Falcon Street, Loughborough,
Leics, LE11 1EH

Compumart
0509-262259
HOTLINE 

HiSoft Software

We have lots of other language and utility products for the Amstrad range of computers from the CPC464 to the PC1512!

All the following products are available directly from us by mail order (make a cheque or postal order out to HiSoft) or by telephone using an Access or Visa credit card. Be sure to tell us exactly *what computer* you have and *what product(s)* you want. We always despatch orders by first class post; if you want a quicker delivery, we can arrange it at a small extra cost.

CPC COMPUTERS ONLY

TurboBASIC Compiler	TAPE/DISC	£14.95/ £19.95
FONT64 font editor/dump	TAPE/DISC	£7.95/ £12.95
ART IN PASCAL Pascal library	DISC	£14.95
C compiler <i>SPECIAL OFFER</i>	TAPE	£19.95

CPC & PCW 8256/8512 COMPUTERS

PASCAL80 CP/M compiler (new version of Pascal80 with variant records, FILES of any type, fully interactive editor, CHAINing and more!)	DISC	£39.95
DEVPA80 CP/M assembler/debugger	DISC	£39.95
C (CP/M and AMSDOS versions in one)	DISC	£39.95
The KNIFE (CP/M) disc hacker	DISC	£12.95
Write Hand Man	DISC	£29.95

PC1512 COMPUTER

HiSoft COBOL	DISC	£39.95
HiSoft FORTRAN	DISC	£39.95
KNIFE86 disc hacker with UNDELete	DISC	£29.95

HiSoft TurboBASIC

At long last there is a fast and powerful BASIC compiler for Amstrad BASIC! HiSoft TurboBASIC is a true compiler of Locomotive BASIC 1.0 on the Amstrad CPC series of computers turning your BASIC statements into machine code programs to be executed whenever you like.

TurboBASIC certainly is fast, just look at the PCW benchmark timings using interpreted BASIC and compiled TurboBASIC:

	BM1	BM2	BM3	BM4	BM5	BM6	BM7
Interpreted	0.116	3.31	9.17	9.62	10.18	19.1	28.9
Compiled	0.0042	0.046	1.13	1.12	1.12	1.39	1.55
Speed up	27	71	8.1	8.6	9.0	13.7	18.6

All timings in seconds

Also, the BYTE Sieve benchmark, which is an example of a whole program and not a somewhat artificial benchmark, executes in 2.56 seconds when compiled with TurboBASIC as compared with 122 seconds when interpreted with BASIC 1.0, a speed increase of 49!

TurboBASIC is an *integer-only* compiler which means that it only compiles whole-number arithmetic, not floating-point. This allows compiled programs to run with extra speed and, in conjunction with the Amstrad graphics (all of which are supported by TurboBASIC) some pretty amazing games can be written in BASIC instead of machine code. We supply an example space invaders game free with TurboBASIC so you can see for yourself the dramatic speed increase.

HiSoft TurboBASIC £14.95 tape, £19.95 disc

WRITE HAND MAN New Version!

This fabulous program sits in the background of your Amstrad CP/M computer ready to spring into action at the press of a key and it doesn't matter what you were doing before, Write Hand Man is always at your beck-and-call.

You're writing a letter and need the pre-VAT price of something; use Write Hand Man's calculator. You're using a spreadsheet and want to make some notes; use Write Hand Man's notepad. Autodial phone numbers with the phonebook. Set up 8 different macro keys with commonly-used phrases or commands. Define the function keys. Look at a directory of your disc or view a document while you're editing another document. Write Hand Man is always there to help you.

We have now produced a brand-new version of Write Hand Man with many improvements and extra features some of which are:

- mini screen editor / edit any document from within Write Hand Man
- improved graphics on the PCW8256/8512 e.g. calculator shown above
- full year calendar up to the year 2000 with today's date shown (CP/M Plus version)
- full screen refresh (even of graphics!) when leaving WHM on PCW8256/8512
- all applications make full use of the PCW8256/8512 cursor and function keys

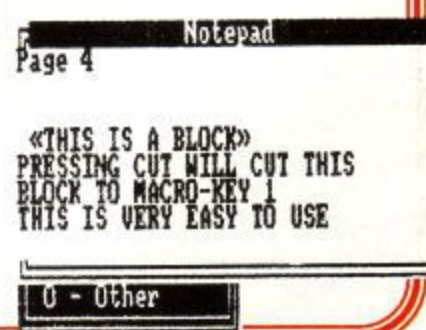
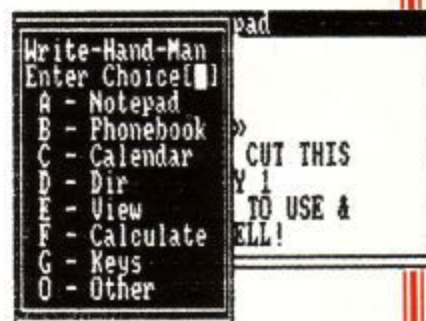
• and still only £29.95

Write Hand Man works alongside any CP/M 2 or CP/M Plus program on all Amstrads and comes complete with a manual describing how to add your own applications. Screen refresh works under CP/M Plus only. Order by post or phone from HiSoft.

Please note our new address and phone number

Disc Directory			
ED80	COM	PIP	COM
N80	COM	FKEYS	BAK
CALENDAR	REL	PHONEBOO	MAC
PHONEBOO	DAT	DIR	REL
PHONEBOO	REL	ASCII	REL
NOTEPAD	MAC	CALENDAR	MAC
CALENDAR	DAT	DIR	MAC
NOTEPAD	REL	NOTEPAD	DAT
SETKEYS		DEFS	
ASCII	MAC	WHMEX	COM

HiSoft
The Old School Greenfield
BEDFORD MK45 5DE
Tel: (0525) 718181



avoided reviewing them, but that's life.

I thought I'd just mention that our high score presently stands at 370,000 (and that's without the cheat option which is activated in pause mode.) Please note that the price of players software is £1.99 – even better value than you thought.

I would like to ask a favour on behalf of all free-lance programmers – please include the author's name, it means a great deal.

Philip and Andrew Oliver,
Complex Computer Software,
Trowbridge, Wiltshire.

The case of the disappearing case

In reply to M Berris (ACU, September) I have a theory about the missing 3 inch disc cases. It is not dissimilar to the phenomenon observed among clothes hangers. A moderate number of basic wire clothes hangers left alone in an empty closet will yield one of two results when the closet is opened after a decent interval of time.

They will usually be observed to have undergone a population explosion to be envied by Australian rabbits and will spill out at your feet. Less commonly, they will have been affected by a mysterious plague and will have been totally decimated. When this happens there will not be a clothes hanger left in the entire house.

I suspect that disc-less cases are particularly vulnerable to an illness known among humans as slipped disc. Once a disc slips it is nearly impossible for it to be reunited with its case. My discs are quite susceptible to this disease so if you know a cure please let me in on it.

Bradley W Dean,
London.

Hello Amstrad 464 & 6128

My name is Ayhan Catintas. I'm 19 years

old and I'm looking for a computer friend. My address is: Millet Cad. Vidinli Ap. No. 133/6 Capa, Istanbul, Turkey.

I'm waiting your letters.

Rambo bug

To get the prisoners on Rambo you must switch to knives and shoot the criss-crossed building at the bottom of the camp, then when they have all come out you must repeat it. In my copy of Rambo there must be a fault, because when you do repeat it the criss-crossed building changes into a hut. Weird?

By the way, if US Gold wants someone to program Zaxxon I would be pleased to do it because I can do a direct conversion from the arcade machine.

Keith Orbell,
Waterbeach,
Cambs.

ACU: Amstrad is converting Zaxxon. A very early copy which we had peek at looks very promising.

Simple Welsh

Following the letter by Mick Tems about the difficulty of producing properly accented Welsh using LocoScript I must

express my disappointment that vowels y and w with circumflex accents are not available directly. However, the way round this restriction may interest fellow Welsh users and anyone else needing uncatered for accented letters.

Simply insert another line above the word containing the required accent. Then give that line a line spacing of zero for non capital letters and half for capitals. To give a brief example:

(circumflex **) (+LSpace0)
Dwr (+LSpace1)**

on the screen is:

(circumflex over w**)**

on the printer.

Hwyl fawr,
Richard Morse,
Pwllheli,
Gwynedd.

Galaxians avenged

In your reply to Keith Talbot's letter (ACU, September) you claim that joystick control of Galaxian's Revenge is out of reach of a simple change to the basic program. However, the required change can be obtained with one line of basic:

**445 POKE &5151,74 : POKE &5169,75 :
POKE &5251,76.**

D.J. Davies,
Ipswich.

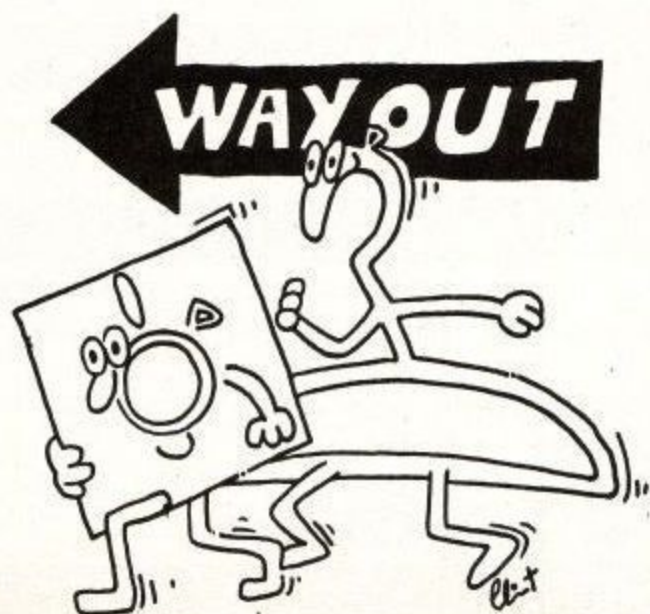
ACU: I.A. Napier from Norwich also put us to shame with his conversion:

Add the following command to the end of line 440:

**:POKE &5151, &4A:POKE
&4B:POKE &5251,&4C**

These commands change the number of the key being tested from keyboard to joystick (Left, Right and Fire respectively). Other values may be substituted if you still want to use the keyboard, but assign different keys". Thanks I.A.

ACU



More New Products from GARWOOD

Our Free Autumn Catalogue now includes software for IBM PC and compatible machines.

Save time (and money) when you order by -

☎ Chelmsford (0245) 460788 (3 lines)

Telex: 99468 GARWD G

Freepost: Garwood (Wholesale) Ltd, Freepost, BRENTWOOD, Essex, CM15 0BR

Orders placed before 4pm. despatched same day (subject to stock availability)

CP/M Software on 3" Disc (Amstrad PCW8256/8512 & CPC6128)

FINANCIAL MODELLING:

POCKET CALCSTAR	£39.95
SUPERCALC 2	£49.95
CRACKER 2 (with graphics)	£49.00
MULTIPLAN	£69.99
SCRATCHPAD	£59.99

WORD PROCESSING:

NEW WORD 2	£69.00
POCKET WORDSTAR (with Mailmerge)	£49.95
POCKET WORDSTAR DELUXE (MailMerge & Spelling Checker)	£69.00

SPECIAL:

MICROFILE/MICROWORD (+ Mailmerge)	£49.95
MICROFILE TEMPLATES	£29.95
FLEXILABEL	£29.95
BRAINSTORM	£49.99

ACCOUNTS/PAYROLL:

AMSOFT ABCS (from £33)	
CAMSOFT (from £49.95)	Details on application
M.A.P. (from £49.00)	
SAGE (from £69.99)	£99.95
CASH TRADER	£149.95
CASH TRADER with ANALYSER	

DATABASE MANAGEMENT SYSTEMS:

CAMBASE (CPC6128 only)	£39.00
CAMBASE 2	£49.95
CARDBOX	£59.99
CONDOR 1	£99.99
DBASE II	£119.00
DELTA	£99.95
POCKET INFOSTAR	£69.95
POCKET SUPERSORT	£49.95
SAGE RETRIEVE OR MAGIC FILER	£69.99

PROGRAMMING LANGUAGES:

DR PASCAL/MT+	£49.95
DR CBASIC COMPILER	£49.95

GRAPHICS:

DR DRAW	£49.95
DR GRAPH	£49.95

COMMUNICATIONS:

SAGE CHIT-CHAT RANGE (from £69.99)	Details on application
------------------------------------	------------------------

TRAINING:

TOUCH 'N' GO	£24.99
IANKEY Crash Course or Two Fingers	£24.95
AUDIO TUTORIALS (inc. Locoscript, Newword 2, Supercalc 2, Multiplan, and CBasic)	£ 9.95

GAMES:

3D CLOCK CHESS	£15.95
BRIDGE PLAYER	£19.95

SPECIAL OFFERS

FREE ACCO LIBRARY FILE (worth £3.33) and £3.00 DISC VOUCHER with every Software Order (£6.00 voucher over £100.00)
Voucher can be exchanged with your next order for 3" CF2 or CF2-DD discs

GREAT NEW PRODUCTS FOR PCW OWNERS

DAISY DISC - £19.95. Allows LocoScript documents to be printed on a Daisy Wheel Printer (see catalogue for details)
STEP BY STEP GUIDE TO LOCOSCRIPT - £4.95. Incredible value paperback from Amstrad
IBM PC SOFTWARE. A wide range of low cost programs are fully detailed in our catalogue
Also in stock - Amstrad Modem £99.95 - CPS8256 interface £67.85 - PCW8256 2nd Disc Drive £182.85 (fitted)

Superb Quality PCW8256/8512 or PC1512 Dust Cover Set £11.45

Branded 3" Compact Discs

Single Sided (reversible), Double Density CF2 - Box of 10 **£36.95** Double Sided, Quad Density CF2-DD - Box of 10 **£59.50**

DISC STORAGE AND OTHER ACCO PRODUCTS

ACCO disc storage box 3" discs (up to 50) or 5 1/4" (up to 60) **£19.95** ACCO Library file (holds 7 3" discs) **£3.33**
UNIQUE ACCO EASYSTRIP (for clean separation of perforations) **£11.38** or **FREE** with Printer Stand
ACCO Screen Filter **£37.67** ACCO Printer Stand **£42.15**

RIBBONS

DMP1 **£3.95**

DMP2000 **£5.50**

PCW 8256 **£5.50**

COMPUTER LABELS

FULL RANGE OF SIZES IN STOCK e.g. - 1,000 3 1/2" x 1 7/16" LABEL TRACK IN FLIP TOP DISPENSER - **£5.75**
- 2000 3 1/2" x 1 7/16" LABEL TRACK (2 ACROSS) IN PLASTIC TRAY - **£11.00**

LISTING PAPER

WE STOCK A FULL RANGE OF LISTING PAPER AT HIGHLY COMPETITIVE PRICES

e.g. 2000 sheets of 11" x 9 1/2" 1pt. 60g. Plain with micro perforations **£14.95**

1000 sheets of A4 1pt. 90g. plain with micro perforations **£14.18**

SEE US ON
STAND 82

AMSTRAD USER
SHOW 3/5 OCT

ALL PRICES INCLUDE VAT & POSTAGE

Special Offers Close 1st November

VISA

Garwood Software



Registered Office and Correspondence: 45 Plovers Mead, Wyatts Green, Essex CM15 0PS
Shop: THE PRINT WIZARD - 149A HIGH STREET, BRENTWOOD, ESSEX CM14 4SA



SEEK AND YE SHALL FIND...

Into adventures with Bill Brock

Graphics yea or nay?

Many of the adventure programs that are advertised today make a point of raving about their graphics. Some, it is true, are quite remarkable – but do we need them or are they mainly there to sell the game to the inexperienced adventurer?

There is no doubt that good graphics can transform a mediocre arcade game but in pure adventures I would rather see the effort and memory used to improve the game itself.

When you read and enjoy a good book it is because it is well written, has a good plot and lets your mind create the scenes from the written word. Your imagination transfers you to the scenes described on the written page and just the words "A rune carved knife" conjure up a far more detailed picture than is practical to produce on the monitor screen.

I am far from opposed to having graphics with my adventures but I do think a slavish obsession with pretty pictures is not the way to improve an adventure game.

Last month we looked at Mandragore from Infogrames, but I did not talk at length about its simple chunky pictures – why? Simply because the appeal of this game was not in looking at works of art but in staying alive to solve a series of quests – the graphics are there to inform rather than be admired.

Get involved in this game and you could well end up with sweaty palms and a total dedication to keeping your team in tip top condition.

That masterclass purveyor of fine adventures, Level 9, now give us graphics in addition to plenty of dramatic text. But the graphics are not overdrawn – they simply set the scene, leaving your imagination to fill out the details.

Old Scores from Global Software has fine detailed graphics, but only five of them. Pictures here simply tell you which buildings you are in or near while the text supplies the real atmosphere.

The other extreme is found in the adventures from Interceptor Micros – Forest at World's End and Jewels of Babylon both have superb graphics but only very limited textual descriptions. Both are good and have been the starting point for many a now hardened adventurer.

What do you think? Would you rather have the emphasis on graphics or text? Do you find some adventures really transport you to another dimension, where you sweat to stay alive? Do you just like the

stimulus of solving logical puzzles, regardless of pictures or depth of text?

You, the Amstrad Adventurer, are now someone to be reckoned with. You have a purchasing power to make writers and distributors sit up and listen. Write in and let us know what kind of adventures stir your blood.

From the depths of time . . .

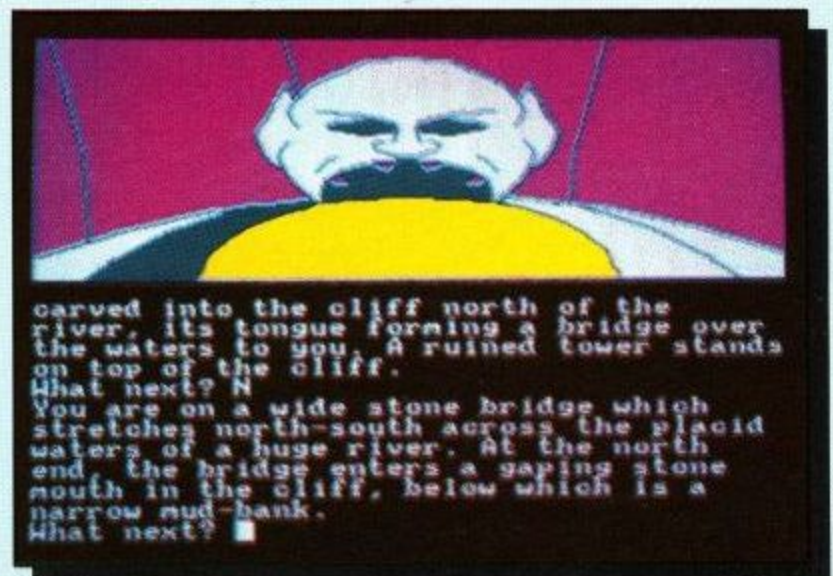
For some years I have been recommending adventurers to delve into Level 9 early works. Colossal Adventure is an excellent interpretation of the computer's first great adventure from the dawn of computer history (well the seventies anyway). And, to help the beginner, Level 9 produce the best hint sheets available.

With these you need not find out more than you want to at any point, yet at the same time you can learn the basics of how adventure games are constructed and solved.

Two other early Level 9 games, Adventure Quest and Dungeon Adventure, are both cracking good games to solve and equally recommended – providing you like the general scenario of swashbuckling swords and sorcery.

Now Rainbird, an offshoot of British Telecom's computer software arm, has released Jewels of Darkness, a compilation of all three games. Rainbird only distributes up-market software, so prices are not cheap – but what you get should be worth what you pay!

This is certainly true of Jewels of Darkness. The three adventures still have the same locations but the text



Jewels of Darkness

(originally very good) has been extended and the operating system is the much improved version currently found in Level 9's latest products.

Other features are a large vocabulary and recognition of such complex sentences as GO NORTH AND DROP ALL BUT THE LAMP AND THE AXE.

The games were originally text only but these latest versions have a full set of graphics. They also have RAM SAVE/LOAD and Level 9's special OOPS command that will step you back to the last location, even following something fairly catastrophic like being killed! The PCW version uses the extra RAM to provide multiple OOPSes.

Jewels of Darkness is available for all Amstrad computers, including the PCW8256 on both disc and cassette.

Considering that you get all three adventures the price of £14.95 (£19.95 disc) makes it a must for anybody who calls himself an adventurer.

The instructions are good, with many examples of how to enter commands. They also include brief scenarios for the three adventures and as an added bonus a 40+ page novella *The Darkness Rises* by Peter McBride. This will take you still deeper into the fantasy world of Jewels of Darkness.

Read and enjoy, but make sure the doors are locked and you have a sword within reach!

Delving into Colossal Adventure again was just as enjoyable as it ever was but the new features make the whole game just that bit easier to play. To speed up play you may type ahead while the pictures are being drawn, but they are drawn quickly anyway. If you want to repeat some moves at maximum speed, choose WORDS and revert to a text-only display.

Although all the main locations are in the same places as before, I did find that the vending machine (spare batteries for your lamp!) is in a different position within the maze. That did throw me for a while as this maze is almost impossible to map.

All I will say is that the vending machine is five moves from the west end of the long corridor. As you can move N, S, E, W, U and D, this gives you a fair amount of space to explore!

For all I say about graphics in adventures, I have to admit that those in Jewels of Darkness improve the original text only games. A pictorial representation of a



location is certainly easier to recognize than text alone.

The programs are protected by the Lenslok system. Be prepared to squint through the plastic lens that comes with each game to decode the scrambled letters shown on the screen. I hate these things. I must be cross-eyed or something – they never seem to work first time.

The graphics are fairly simplistic, with very little fine detail to detract from the picture my imagination has already conceived. Level 9 has also got program compression to such a level that the memory used by the graphics is not affecting either the depth of text or the facilities offered by the command interpreter.

Although I have not yet worked my way completely through *Dungeon Adventure* or *Adventure Quest* they too appear to be just as improved as *Colossal Adventure*. There should be no reason on earth why an Amstrad should be without this classic package.

Cradle snatcher?

Do you have young children in the house, do you want to introduce them to the joys of adventure gaming? This could mean less time for you at the keyboard, but then they may be able to help you with the odd puzzle in the future...

Mirrorsoft has a number of fine educational games aimed at the very young. *Caesar's Travels* is an obvious adventure primer, not so much an adventure in the normal sense, more an interactive animated story.

Caesar the Cat first appeared as an arcade game for children, noteworthy for the excellent animation of Caesar himself. *Caesar's Travels* is a multi-choice illustrated story with 18 different endings, each dependent upon the choices made as the story unfolds.

Numbers and colour recognition play a part in the story and a key card designed to fit above the number keys helps show the choices to be made. Sound effects complement the story, with Caesar purring or crying as the story demands.

A book is included with the cassette. This mimics the program, even to the choices to be made as it is read. So *Caesar's Travels* need not stop when the young one is thrown off the computer – there are even a few pictures to be attacked with crayons or paints. Go for it – start them young!

Murder Franglais

Last month *Mandragore*, now *L'Affaire Vera Cruz*. Infogrames obviously means to make a mark on the British software market. There certainly seems quite a line up of interesting titles due to hit us in the months to come. The English Channel must be fairly buzzing with the passage of translated programs.

Vera Cruz, a young lady of rather dubious character



Caesar's Travels

appears to have got herself terminated with extreme prejudice. It is up to you to find the perpetrator of this dastardly deed.

You play the part of a Detective Sergeant in the Crime Squad at St. Etienne in the Loire valley. On August 8, 1986 you are informed of the discovery of a body in an apartment block in the town. From the caretaker's description it seems to be a case of suicide.

You gather your team and go to the scene of the crime. Here you must be at your most observant and make notes of anything you think may be of consequence. This done you must return to the police station and pursue your investigations using all the methods available to a modern police force.

The program is on both disc and tape and loads in two parts. The first produces a display of the dead girl lying on the floor of her apartment. To allow the forensic team to do their job properly you may not touch anything. This does not stop you looking.

Using the arrow keys you can move a red square around the scene of the crime and take a closer look at anything that catches your eye. Pressing the COPY key will enlarge what is in the square – but only if it has some bearing on the case (pressing COPY twice may be beneficial).

There are over 2000 places in which to look, so you can either use your intuition or be very methodical and check the lot.

Make a note of everything you have found, load the main program then type in your list of finds. Evidence is keyed in with a space between each item and only when you have finished keying it all in – press Enter. Beware of pressing Enter too soon as you cannot return to this stage without reloading the second part of the program.

Now the work really starts. You have a display showing a police computer terminal below which is a menu of five possible types of action. There is also the option of having all evidence shown on the terminal appearing on your own 80 column printer. If you have such a printer use it, it will save you quite a bit of time copying out everything manually.

The five main options you have are Message, Examination, Statement, Comparison and Arrest.

Message: Allows you to use the computer terminal to make inquiries of various sections of the French State Police Force. These include local and district police squads, the Judicial Research and Comparison Centre at Lyon, the Vehicle Registration Department and a couple of prisons.

Examination: Permits you to request such additional checks as an autopsy or a handwriting analysis.

Statement: Enables you to get a written statement from anyone that you can name and give an address for.

Comparison: Here you can compare an alibi or evidence with facts collected during the investigation. This facility only works when carried out on information obtained from a written statement.

Arrest: Is your final option. When you believe you have sufficient evidence of someone's guilt you may try to arrest him. The computer will have taken note of all that you have done to solve the crime and will take appropriate action!

Inspecting everything possible at the scene of the crime is very important, as is entering this evidence



L'Affaire Vera Cruz

when you start the main investigation. Your chief lines of approach are via the Messages and Statements.

With the former a code and destination are required before you ask your question. For example, to contact the central research centre at Lyon, you must first enter CRRJ LYON, followed by your request for information. This may seem a little confusing at first and is made more so because on this type of input you cannot delete a wrongly typed character.

Almost every inquiry that is answered positively will give you a further lead, perhaps a name – or nickname – or another case the police are working on. From these leads you can pursue your investigations, building up facts that will incriminate the guilty party or making links between the different people involved.

Once you have an address where you think someone may be found, you can get his Statement. This again will give you further clues to follow up. Both Statements and inquiries involving people will produce photographs of those persons concerned.

The instructions imply that on any request you should type in as much information as possible. In some ways this is a little confusing as there is always the worry at the back of your mind that you are not getting an answer because you have not typed in enough.

I found that the command interpreter was really only looking for a few critical words and more often than not would respond in the case of a person to just BILL BROCK (or BROCK BILL).

The Examination option must not be confused with the adventure command of EXAMINE. It has only a limited use in this program and really only understands very few types of examination. The same could be said of the Comparison option. Both are useful, but without giving away any clues that may spoil your investigations – concentrate on inquiries from other police Departments and on Statements.

The Vera Cruz Affair is a fascinating game and could well produce many similar investigations in the future. There will undoubtedly be a few initial uncertainties as to which Police Department to direct your inquiries, but having got used to the French judicial system, adventurers should find this one refreshingly different.

Observation is the keynote. Make notes on all people mentioned – even if not directly by name!

ACU

TASWORD 6128

THE WORD PROCESSOR FOR THE AMSTRAD CPC 6128



TASWORD 6128
The Word Processor
© Tasman Software Ltd 1985

Print text file	P
print with Data merge	D
Save text file	S
Load text file	L
Merge text file	M
Return to text file	R
Customise program	C
save Tasword	I
Erase file from disc	E
into Basic	B
check spelling	K
Install Tasprint	I

0 words 0 characters Drive A
1 lines 65276 characters free.

← move text left	→ delete word	→ start of text	→ fast scroll up
← centre line	→ delete line	→ end of text	→ fast scroll dn
← move text right	→ undelete line	→ start of line	→ word right
← rejustify para (←J)	→ CLR clear text	→ end of line	→ word left
← rejust line (←L)	→ insert line/char	→ scroll up	→ scroll down

Mr J H Shears
17 High Street
Lockton Bay
Lancashire LA7 6LX

3rd February 1986

Dear John,

Thank you for your letter of the 21st January. I have corrected the first draft of the article and incorporated your suggested changes. It is a good thing TASWORD has a find and replace facility! You will see from the enclosed print out of the corrected draft that I have also made some other changes and I hope that you agree that they are an improvement.

Line 16|Col 58|B/J on [W/W on [Insert off] [Paging off] C for help|NORMAL CHARS

TAS-DIARY THE ELECTRONIC DIARY

TAS-DIARY for the Amstrad CPC 6128, 664 and 464 with disc drive disc **£12.90**

Keep an electronic day-to-day diary on disc! TAS-DIARY features a clock, calendar and a separate screen display for every day of the year. Each year stored on disc includes a memo pad and several note pages. TAS-DIARY is an invaluable aid to keeping records, reminders, and any other data which is related to that most valuable commodity of ours - time!

TASWORD 6128 THE WORD PROCESSOR

TASWORD 6128 for the Amstrad CPC 6128 disc **£24.95**

Brilliant value for money.
AMSTRAD ACTION December 1985.
A powerful and easy to use word processor and a superb data merge program.

AMTIX December 1985.
TASWORD 6128 is the word processor especially developed to utilise the extra memory in the CPC 6128.

The program uses ALL the additional 64K of memory in the CPC 6128 as text space. This means that text files can be around ten thousand words long. TASWORD 6128 includes a built-in data merge program. Mail merge, in which a letter is printed any number of times, each individually addressed to a different person, is just one of the applications of this powerful facility.

The notepads are a unique feature of TASWORD 6128. Four separate notepads are available. Typing reminders and storing letter headings are just two possible applications for the notepads.

Up to one thousand characters can be stored in ten user definable keys allowing commonly used words, sentences, or even paragraphs to be typed with a single keypress.

TASWORD 6128 has comprehensive customisation features. These allow many of the program facilities to be changed to personal requirements. A customised program can be saved and includes the notepads and user definable keys.

TASWORD 6128 is fully compatible with TAS-SPELL and TASPRIINT. It will also read in data from Masterfile 6128. It can even be used to enter and edit your own Basic programs.

With all standard and many extra word processing facilities TASWORD 6128 is the most powerful of the TASWORDS, for the Amstrad CPC computers.

TASWORD 464-D THE WORD PROCESSOR - WITH MAIL MERGE!

TASWORD 464-D disc **£24.95**

This is the new TASWORD especially developed to utilise the capabilities of the CPC 464 and 664 disc drives. The additional facilities include a larger text file size and automatic on-screen disc directories during save and load operations. A major new feature is the mail merge facility. This gives multiple prints of your standard letters, forms, etc., with each copy containing, for example, a name and address automatically taken from a disc file containing the data. This data can be entered using TASWORD 464-D, or created using the Masterfile Program Extension package. A powerful and useful conditional printing facility is included - parts of a document can be printed according to user-specified criteria. TASWORD 464-D will only run on, and is only supplied on, disc.

TAS-SPELL THE SPELLING CHECKER

TAS-SPELL disc **£16.50**
for the Amstrad CPC 464 and 664 running
TASWORD 464-D and for the CPC 6128 running
TASWORD 6128

Spelling mistakes and typing errors spoil any document whether it is a private letter or your latest novel. With TAS-SPELL you are free to be creative in the confident knowledge that your spelling won't let you down.

TAS-SPELL checks the spelling of TASWORD 464-D and TASWORD 6128 text files. TAS-SPELL has a dictionary of well over twenty thousand words which it compares with the words in your text. If a word is not recognised then the relevant part of your text is displayed with the suspect word highlighted. You can correct the word, ignore it (it might be a name), or even add it to the TAS-SPELL dictionary. Please note that TAS-SPELL will only work with TASWORD 464-D and TASWORD 6128.

TASWORD UPGRADES

TASWORD 464 and Amstrad owners: send your original cassette or disc (not the packaging) as proof of purchase and £13.90. Your original will be returned together with TASWORD 464-D or TASWORD 6128 on disc.

TASPRIINT 464 THE STYLE WRITER

TASPRIINT 464 cassette **£9.90** disc **£12.90**

A must for dot-matrix print owners! Print your program output and listings in a choice of five impressive print styles. TASPRIINT 464 utilises the graphics capabilities of dot-matrix printers to form, with a double pass of the printhead, output in a range of five fonts varying from the futuristic DATA-RUN to the hand-writing style of PALACE SCRIPT. TASPRIINT 464 drives the dot-matrix printers listed below and can be used to print AMSWORD/TASWORD 464 text files. TASPRIINT 464 gives your output originality and style. Completely compatible with the 664 and 6128.

TASWORD 464 THE WORD PROCESSOR

TASWORD 464 cassette **£19.95**

"There is no better justification for buying a 464 than this program"
POPULAR COMPUTING WEEKLY,
NOVEMBER 1984

Your 464 becomes a professional standard word processor with TASWORD 464. Supplied complete with a comprehensive manual and a cassette which contains both the program and TASWORD 464 TUTOR. This teaches you word processing using TASWORD 464. Whether you have serious applications or simply want to learn about word processing, TASWORD 464 and the TUTOR make it easy and enjoyable.

TASCOPY 464 THE SCREEN COPIER

TASCOPY 464 cassette **£9.90** disc **£12.90**

A suite of fast machine code screen copy software for the CPC 464, 664 and 6128. Print high-resolution screen copies in black and white and also large 'shaded' copies with different dot densities for the various screen colours. TASCOPY 464 also produces 'poster size' screen copies printed onto two or four sheets which can be cut and joined to make the poster.

TASPRIINT 464 and TASCOPY 464 drive the following dot-matrix printers:

- AMSTRAD DMP1 MANNESMANN STAR DMP501/5/515 SHINWACP-80
- EPSON FX-80 TALLY MT-80 BROTHER HR5 COSMOS-80
- EPSON RX-80 BROTHER M1009 DATA PANTHER AMSTRAD DMP2000
- EPSON MX-80 TYPE III NEC PC-8023B-N DATA PANTHER II

TASWORD 8000

THE WORD PROCESSOR FOR THE AMSTRAD PCW 8256 AND 8512

TASWORD 8000
The Word Processor
(C) Tasman Software Ltd 1986
main menu

Print text file	P
print with Data merge	D
Save text file	S
Load text file	L
Merge text file	M
Return to text file	R
View disc file	V
reName disc file	N
Erase file from disc	E
Customise program	C
save Tasword	T
check spelling	K
change drive	A/B
change user number	0-9

0 words 1 lines 0 characters 256 characters free Drive/User: M/B

← move text left	TAB tab	← set left margin	⌘ to ⌘ put marker
← centre line	←TAB reverse tab	← clear margins	⌘ to ⌘ put marker
→ move text right	→TAB set tab	→ set right margin	⌘ and ⌘ put marker
↵ justify paragraph	↵ clear tab	↵ set ruler	⌘ and ⌘ next marker
↵ hard justify para	↵ reset tabs	↵ save ruler	⌘ and ⌘ prev marker
↵ justify line	↵ clear tabs	↵SPACE printer control char. 2SPACE extra char.	
↵ justify line			

TASWORD 8000
THE WORD PROCESSOR

TASWORD 8000 for the Amstrad PCW 8256 and 8512 disc £24.95

Tasword 8000 makes full use of the unique features of the PCW computers. The program utilises all of the large memory built in to these machines. This means that your documents can be nearly one hundred thousand characters on the PCW8256 and over a three hundred thousand characters on the PCW8512. With all of your document in memory you can move from one part to the other easily and quickly.

Tasword 8000 is remarkably easy to use. Just type TASWORD to load the program and you are ready to start typing your letter or document.

Tasword 8000 has detailed on-screen help displays that you can view while you type. You do NOT need to read more than one page of the comprehensive program manual before using Tasword 8000. The on-screen

Line 5[Col 70]Page 118/1 on [M/M on [Insert off][Faging off][STOP for help]Numeric off[10]

TASWORD 8000

THE WORD PROCESSOR

TASWORD 8000 for the Amstrad PCW 8256 and 8512 disc £24.95

TASWORD 8000 offers a fast and flexible approach to word processing on the PCW 8256 and 8512.

TASWORD 8000 has been especially developed to make use of the unique features of the PCW computers, utilising ALL of the large memory built into these machines. Your document can be nearly one hundred thousand characters long on the PCW8256 and over 300,000 characters long on the PCW 8512. That's enough room for over 100 pages! TASWORD 8000 is fast! With all of your document held in memory at any one time, there is no need for the program to access the disc as you move through your text. Cursor commands allow the user to move through the text both easily and quickly, even with very long documents. TASWORD 8000 allows you to move rapidly to the start or end of your text and to ANY line or page number.

TASWORD 8000 is remarkably easy to use. You can view detailed help displays AT THE SAME TIME as you are typing. The detailed manual and the interactive TASWORD 8000 TUTOR supplied with the program mean you can be producing quality documents immediately - you only need to read one page of the comprehensive program manual before using TASWORD 8000!

TASWORD 8000 includes a sophisticated set of print options which allow you to print any part of your document, automatically number pages and print headers and footers. Printing multiple copies of a document is easy - just enter the number of copies required. TASWORD 8000 can be used to take full advantage of ANY printer connected to the PCW via the Amstrad parallel/serial interface.

DATA MERGE. TASWORD 8000 includes the powerful Tasword mail merge facility. You can store a list of names and addresses on disc and Tasword will print your letter, each individually addressed, to each of your intended recipients. The TASWORD mail merge is open-ended and flexible - storing names and addresses is just one application. Printing can be made conditional: just send a letter to addresses in London, for example. TASWORD 8000 includes two of the unique TASPRIINT 8000 fonts (Lectura Light and Median). This gives you two new unique typestyles on the PCW printer. The TASPRIINT fonts give your printed documents a very special appearance and have great impact when used for headings within your text.

With these, and a host of other useful features such as a permanent word count, TASWORD 8000 is a fast and flexible approach to word processing on the Amstrad PCW 8256 and 8512.

Available from good stockists and direct from:

Tasman

SOFTWARE

Springfield House, Hyde Terrace, Leeds LS2 9LN. Tel: (0532) 438301

If you do not want to cut this magazine, simply write out your order and post to: TASMANSOFTWARE, DEPT ACU, SPRINGFIELD HOUSE, HYDE TERRACE, LEEDS LS2 9LN

I enclose a cheque/PO made payable to TASMANSOFTWARE Ltd OR charge my ACCESS/VISA number:

NAME _____
ADDRESS _____

ITEM	PRICE
_____	£ _____
_____	£ _____
_____	£ _____
_____	£ _____
_____	£ _____
TOTAL	£ _____

Outside Europe add £1.50 per item airmail.

Telephone Access/Visa orders: Leeds (0532) 438301



Please send me a FREE Tasman brochure describing your products for: the Amstrad CPC 464, 664 and 6128 the Amstrad PCW 8256 and 8512

ACU

Overseas: The following distributors of Tasman products may be contacted for the address of local suppliers. Many products are supplied in translated form. FRANCE & SWITZERLAND Semaphore Logiciels, CH 1283 La Plaine, Geneva. SCANDINAVIA Kelly data, Postboks 43, Refstad, Oslo. NETHERLANDS Fibsoft, PO Box 1352, 9701 BJ Groningen. GERMANY Profisoft, Suthausen Str 50/52, D 4500 Osnabruck. BELGIUM Easy Computing, Avenue Guillaume Lelever 30, 1160 Brussels. PORTUGAL Informova, Campo Grande 284 A, 1700 Lisbon. AUSTRALIA Dolphin Computers, Unit 2, 7 Waltham Street, Artarmon, New South Wales 2064. NEW ZEALAND Software Supplies, PO Box 865, Christchurch. U.S.A. Ramey International, 17620 26 Mile Road, Washington, MI 48094.

All TASMANS 464 software is fully compatible with the 664 and 6128

All prices include VAT, postage and packaging.

TASPRIINT 8000

THE STYLE WRITER

TASPRIINT 8000 for the Amstrad PCW 8256 and 8512 disc £14.90

TASPRIINT 8000 consists of a further six fonts that can be used with TASWORD 8000 to extend and enhance the variety and appearance of your printed documents. In addition, with TASPRIINT 8000 you can print files from disc onto the PCW printer in one of the eight TASPRIINT 8000 fonts. TASPRIINT 8000 utilises the graphics printing capability of the PCW printer and the printed text is double the height of normal text - ideal for notices, posters, and for headings within documents.

26th January 1986

Mr J H Shears
17 High Street
Lockton Bus
Lancashire LA7 6LX

Dear John,

Thank you for corrected the first incorporated your suggestions. I have a find and enclosed draft that I and I hope that you agree that they are an improvement.

Regards,

Bill

26th January 1986

Mr J H Shears
17 High Street
Lockton Bus
Lancashire LA7 6LX

Dear John,

Thank you for your letter of the 15th January. I have corrected the first draft of the article and I have incorporated your suggested changes. It is a good thing that Tasword has a find and replace facility! You will see from the enclosed draft that I have also made some other changes and I hope that you agree that they are an improvement.

Regards,

Bill

TAS-SPELL 8000

THE SPELLING CHECKER

TAS-SPELL 8000 for the Amstrad PCW 8256 and 8512 disc £16.50

The spelling checker for TASWORD 8000, TAS-SPELL 8000 checks the spelling of your TASWORD 8000 text and any other text in standard ASCII format.

COMPACTA - bold and heavy, good for emphasis
DATA RUN - A FUTURISTIC SCRIPT
LECTURA LIGHT - clean and pleasing to read
MEDIAN - a serious business-like script
PIQUE SCRIPT - a distinctive flowing font

Small Business Accounts & V.A.T. made Simple.

Accounts and V.A.T. **made simple** is the answer for your business

- Professional business software on 6128, 8256 or 8512 single or dual drives, and for IBM compatible PC1512.
- Over 2500 Users on many other computers.
- Cash Book accounting made simple based on the Simplex 'D' system.
- Control of Unpaid Bills.
- Single entry — no knowledge of book-keeping required.
- Produces VAT Return for Special Schemes 'A' to 'J' and Pharmacy Scheme 'B'.
- Trading and Profit and Loss Account at any time.
- Very simple to operate weekly accounts.
- Fully accepted by Customs & Excise.
- User Club and 'HOTLINE' support team.
- Ideal for all Retailers and other cash businesses.
- £99.95 inc. VAT or Demo versions at £19.95 inc. VAT.
- 20 Minute Video available in VHS or Betamax.

YES — Clip the Coupon now or telephone 0625 615375 and we will rush you a free copy of the video.

**FREE VIDEO
NOW AVAILABLE**



Micro Simplex is a Division
of Sandhurst Marketing p.l.c.

Please send me my free video NOW
Micro Simplex, Cheshire House, Castle Street, Macclesfield SK11 6AF

Name

Company Address

Telephone

Type of Business

*VHS/Betamax
*Delete not applicable



HAIRY HACKERS HAUNT



Beefcake booster

More hacks than Fleet Street. More striking than Wapping. More zip than YKK, and less taste than French UHT milk. Yes folk, it's about time for another session of Hairy Hacking, so straight in and here we goes:

Among other news last month, a breed of flea that thrives on word-processors was discovered. It's called a Joyce-Tick.

Unfortunately, my "Pokes for an Infinite Barclays-West Bank Account" article was stopped by the editorial staff, who have now all suddenly bought villas in Spain.

Rougher Rambo

Instead, we have yur a progette for infinite lives for Rambo (who?), kindly sent in by A. Norman in Essex. I thought there were a lot of Normans in Essex a while back? Anyway, his Beefcake Booster lets Rambo make Vietkong kebabs with even less personal damage than in the film. So, here's the clever bit, slightly modified by me to have a checksum on it after I typed it in wrong.

Run this program, rewind and play your Rambo tape and all else will happen as if by magic. For his efforts, Mr. Norman gets (Ta da da da daaaaa)

Vax vends a vecordious variety of patches and pokes

Poke of the Month! (Yeaaaa, Cheer). Just let us know what game you want for your 'straddy, and we'll do our best and

```

1 REM INFINITE LIVES FOR RAMBO
10 DATA 21,9C,8E,36,00,23,36,00,23,36,00
20 DATA 21,AB,8E,36,00,C3,00,8F,21,20,22
30 DATA 36,F8,21,40,20,11,40,00,01,F2,01
40 DATA ED,00,21,40,00,E5,21,00,0B,E5,21
50 DATA F2,01,E5,21,07,0B,E5,21,0B,02,E5
60 DATA F1,21,EA,B1,11,09,B1,F3,C9
70 MEMORY &2000:CHK=0
80 FOR X=&9500 TO &953F
90 READ AS
100 Y=VAL("8"+AS):POKE X,Y:CHK=CHK+Y
110 NEXT
120 IF CHK<>6306 THEN PRINT "Whoops! Err
    or in DATA.":END
130 LOAD""
140 CALL &3A6A
150 LOAD"!",&2040
160 CALL &9513
  
```

probably more.

To all those who sent letters in, thanks. To all those who didn't, give it a go. In fact, there was so much male mail last month (maybe the women don't have any problems?) that I've decided to have a "Hackers In Agony" section. How is this different from the Q & A session by the ed? I dunno, you decide.

First off, a self-confessed, absolute beginner's letter. Glenn Cahill in Galway is asking what I mean when I say "Wind past the loader and run this program."

Well, reading the manual tells you all about typing and running programs, and despite cutting comments blasted around by various sections of the press I don't think there's any book that's any better. Most of them have just had "Spectrum/Oric/Electron" replaced with "Amstrad", and some still even refer to the Break key.

Winding past the loader refers to the first program on the tape, which loads all the others. Find out where it ends (read up on the CAT command) and that's it. OK Glenn? There, I'll frame your letter with the other one.

Here's the other one, from Kenneth Guest in Cheshire. He asks why he gets 'Type mismatch on line 40' in my proggyette to put screen output to the printer. Well, there's this old joke about the person who said "...and I typed 'mismatch', and now it comes up with Syntax Error."

Obvious things that people miss when they have checked it all through six times and found no mistake, honest, is to have confused O (Oh) with zero or to have put '!' instead of '. And there's another one that everybody misses. You have probably forgotten the dollar in VAL("&" + a\$), or typed S instead of \$. Right, back to pokes.

A lot of people have been poking around at Roland on the Ropes. Mind you, it's been about for a while. Anyway, this must be the definitive luxury poke for it, with infinite lives and bullets, and a complete map of the maze available on request by pressing the H key. Shame it's really only for disc versions on the 464, but tape owners might want to try a bit of juggling with three tapes. 664/6128 owners are out of luck.

Rope adder

It comes in two parts. Part 1 is the loader for the cheat code, part 2 the program that mixes the cheat code with the real game. Here's part 1, and don't run this with any roms other than a disc drive on your machine:

```
10 REM BASIC LOADER FOR ROLAND ON THE RO
PES CHEAT
20 RESTORE 110:READ a$
30 add=&AEE4:chksum=0
40 WHILE a$<>"END"
50 a=VAL("&" + a$):POKE add,a
60 add=add+1:chksum=chksum+a
70 READ a$:WEND
80 IF chksum<>26475 THEN PRINT "DATA err
or !":STOP
90 SAVE "CHEAT.COD",b,&AEE4,220
100 :
110 DATA 20,7F,7F,7F,7F,7F,7F,D2
120 DATA 94,95,91,7F,3E,10,32,5D
130 DATA 8F,C3,AA,BC,3E,10,32,03
140 DATA 81,C3,AA,BC,3E,2C,CD,1E
150 DATA BB,2A,DD,35,C8,E5,3E,01
160 DATA CD,0E,BC,21,01,01,CD,75
170 DATA BB,26,00,06,18,C5,CD,87
180 DATA AF,C1,24,10,F8,26,00,3E
190 DATA 02,CD,81,AF,C4,52,AF,AF
200 DATA CD,81,AF,C4,6C,AF,3E,09
210 DATA CD,81,AF,28,EA,3E,09,CD
220 DATA 1E,BB,20,F9,AF,CD,0E,BC
230 DATA 21,34,06,01,14,17,CD,DE
240 DATA 2D,CD,A0,2D,E1,C9,7C,FE
250 DATA 09,00,C6,18,67,E5,21,19
260 DATA 01,CD,75,BB,E1,CD,87,AF
270 DATA CD,5A,BB,7C,D6,17,67,C9
280 DATA 7C,A7,C8,25,E5,06,00,AF
290 DATA CD,4D,BC,21,01,01,CD,75
300 DATA BB,E1,C3,87,AF,E5,CD,1E
310 DATA BB,E1,C9,ED,5B,8A,2C,2E
320 DATA 00,06,21,C5,E5,05,CD,C4
330 DATA BD,A7,20,04,3E,E0,18,0D
340 DATA CD,29,2C,21,E4,AE,85,6F
350 DATA 7C,CE,00,67,7E,CD,5A,BB
360 DATA D1,E1,2C,C1,10,DD,3E,0D
370 DATA CD,5A,BB,3E,0A,C3,5A,BB
380 DATA END
```

Phew! This guy just about rewrote the game. When you've typed in SAVEd and RUN that, with your games disc in the drive, it makes a file called CHEAT.COD or an error message. If you get an error message, it's time to persuade younger brother to read out the data while you check it.

If by some strange chance it worked, you only have to type in the next little program and you're almost there. Here's

part 2. Again, don't have any other roms than the disc drive plugged in:

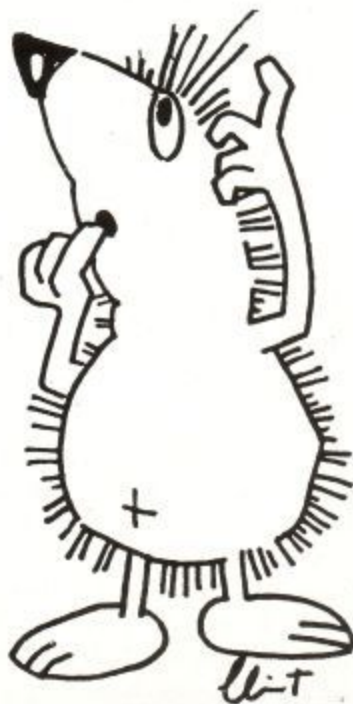
```
100 REM SPECIAL LOADER FOR ROLAND ON THE
ROPE
110 MEMORY 4800
120 LOAD "CHEAT.COD",&AEE4:LOAD"ROLANDD"
130 LOAD "ROLANDC":CALL 29476
140 POKE &A7E5,&F8:POKE &A7E6,&AE 'Inf.
Bullets
150 POKE &A80B,&F0:POKE &A80C,&AE 'Inf.
Lives
160 POKE &32A4,&CD:POKE &32A5,&0:POKE &3
2A6,&AF 'Map Feature
170 POKE &A259,1 'Or any number of monst
ers.
180 CALL 41100
```

Save this on the game disc as ROLANDB and run it when you want the cheat version. Thanks to Mr. Olivier Landolt, all the way from Switzerland, for that one.

Now some really good stuff from a perfectly professional Polish poker: Justin Garvanovic. First in the stack is a poke for one of the cutest proggyes ever to grace the ram chips of a 464, Spikey Harold.

This is the sort of poke that the British Society for the Prevention of Squashing Hedgehogs ought to have. Type in and save this lot on a blank tape or disc, and don't have roms on the back of your machine:

```
1 REM Spikey Harold pokes.
10 MEMORY 12345:BORDER 0:MODE 1
20 LOAD "!spiky1"
30 WINDOW #1,14,26,10,10:WINDOW #1,14,26
,13,13
40 tot=0
50 FOR n=&BE00 TO &BE3C
60 READ a$:a=VAL("&" + a$)
70 tot=tot+a:POKE n,a
80 NEXT n
90 IF tot<>6360 THEN PRINT "Error in DAT
A.":END
100 CALL &BE00
110 DATA 2A,38,BD,22,3D,BE,21,EE
120 DATA 99,22,38,BD,3E,C3,21,1A
130 DATA BE,32,0E,BC,22,0F,BC,C3
140 DATA 00,83,2A,3D,BE,22,38,BD
150 DATA CD,37,BD,3E,F7,32,C1,7D
160 DATA 3E,C3,21,36,BE,32,30,00
170 DATA 22,31,00,C3,00,81,AF,32
180 DATA 33,9C,C3,F8,98
```



Typed it? Good. Now rewind and press Play. You still go through the great loading music, but afterwards Harold has a bit more spine to him. Have you seen any hedgehog flavour crisps lately?

Super ship for Thrust

Now, a poke from the same source for 'Thrust'. Loading instructions are much the same as the Spikey Harold pokes:

```
1 REM Thrust pokes
10 MEMORY &3FFF:BORDER 0:MODE 1
20 LOAD "!THRUST1"
30 WINDOW#1,14,26,10,10:WINDOW#2,14,26,1
3,13
40 tot=0
50 FOR n=&9E00 TO &9E46
60 READ a$:a=VAL("&" + a$)
70 POKE n,a:tot=tot+a
80 NEXT n
90 IF tot<>6235 THEN PRINT"Whoops. Error
in DATA.":END
100 CALL &9E00
110 DATA 2A,38,BD,22,00,9F,21,EE
120 DATA 99,22,38,BD,3E,C3,21,1A
130 DATA 9E,32,19,0D,22,1A,BD,C3
140 DATA 00,36,2A,00,9F,22,38,BD
150 DATA CD,37,BD,3E,F7,32,C1,3C
160 DATA 3E,C3,21,36,6E,32,30,00
170 DATA 22,31,00,CD,00,4F,C3,00
180 DATA 3C,3E,99,32,66,71,21,3E
190 DATA 04,22,3F,43,C3,00,70
```

As well as infinite lives, you also get quite a bit of fuel with this one - no free glasses with every 8 gallons though.

The next one (for Stainless Steel) is a bit shorter and isn't checksummed. That means you have to be careful when placing pinkies on the keyboard. Type in the following and either run with the tape rewound, or fast-forward file and then run.

```
1 REM Stainless Steel pokes.
10 MODE 1:MEMORY &3FFF
20 LOAD "steel",&4000
30 POKE &4084,&64
40 POKE &4085,0
50 FOR n=&64 TO &71
60 READ a$:POKE n,VAL("&" + a$)
70 NEXT n
80 DATA 21,00,18,3E,04,22,DE,06
90 DATA 32,78,14,C3,16,01
100 CALL &4000
```

That should iron out a few problems. Finally we have Justin's last poke for this month - lives, fuel, ammo and air for

```
1 REM Pacific pokes
10 MODE 0
20 FOR n=0 TO 15:READ a:INK n,a:NEXT n
30 DATA 0,25,26,17,24,9,18,10,20,1,2,11,
15,8,3,6
40 BORDER 0
50 MEMORY 12345
60 PRINT "Please Wait."
70 LOAD "!"
80 LOAD "!"
90 LOAD "!"
100 tot=0
110 FOR n=&BE00 TO &BE38
120 READ a$:a=VAL("&" + a$)
130 POKE n,a:tot=tot+a
140 NEXT n
150 IF tot<>3539 THEN PRINT "Whoops. Err
or in DATA.":END
160 CALL &BE00
170 DATA 21,00,40,01,00,02,7E,EE
180 DATA EE,77,23,0B,7B,01,20,F6
190 DATA 3E,C9,32,0B,40,CD,00,40
200 DATA 3E,C3,21,26,BE,32,77,01
210 DATA 22,78,01,C3,5F,01,21,00
220 DATA 00,22,95,4F,7C,32,92,4F
230 DATA 32,0E,91,32,66,4C,C3,0B
240 DATA 9D
```

PSS/Ere's Pacific. Run this, rewind Pacific tape, and RUN.

Thanks for the pokes Justin, and may your stack never overflow its workspace.

Stop press

Vax - I've just had an envelope from Justin - with Pokes - Ed. Let's see what's inside: Infinite everything for the one and only Starstrike II, a different sort of poke for Alligata's Meltdown and infinite lives for Gunfright. Here's what he has to say:

Starstrike II, unbelievably hot on the Amstrad, now has another routine which will give infinite shield, infinite fuel and stop laser temperature from rising. To use it either rewind the tape or skip the first file and then run the routine.

```
10 MODE 1:MEMORY &18FF
20 LOAD"!STARSTRIKE"
30 WINDOW#1,14,26,10,10
40 WINDOW#2,14,26,13,13
50 TOT=0
60 FOR N=&1D00 TO &1D2E
70 READ AS:A=VAL("&"+AS)
80 TOT=TOT+A:POKE N,A
90 NEXT N
100 IF TOT<>3818 THEN PRINT "ERROR IN DATA":END
110 CALL &1D00
120 DATA 2A,38,BD,22,2F,1D,2A,01
130 DATA BB,22,38,BD,21,1F,1D,3E
140 DATA C3,32,30,00,22,31,00,3E
150 DATA F7,32,38,BC,C3,00,19,2A
160 DATA 2F,1D,22,38,BD,CD,37,8D
170 DATA AF,32,A0,24,C3,5F,01
```

Meltdown time

And the poke for tape-based Meltdown. What you have to do here is position the tape just before the saved game finishes and run the routine below.

It will then prompt you to load and save as normal with the new time put into the new file.

```
10 MODE 1
20 OPENOUT "D"
30 MEMORY &462
40 LOAD "gameposn.mdf",&463
50 POKE &638,&59
60 POKE &639,&23
70 SAVE "gameposn.mdf",b,&463,&107
```

Gunfright frights on

The final (yep I'm sure this time - Ed) poke from infinite lives for Gunfright.

```
10 MODE 1:MEMORY &3000
20 LOAD""
30 POKE &39E2,&C3
40 POKE &39E3,0
50 POKE &E9E4,&BE
60 B=0
70 FOR N=&BE00 TO &BE18
80 READ AS:A=VAL("&"+AS):POKE N,A:B=B+A
90 NEXT N
100 IF B<>2844 THEN PRINT "ERROR IN DATA":END
110 DATA 21,24,83,22,30,02,F3,F1
120 DATA C9,AF,32,E6,0E,C3,37,BD
130 DATA 21,FF,AB,11,40,00,C3,AF
140 DATA 39
160 CALL &BE10
```

Holding keys

Some people must play Galactic Plague, even if it's just while they're waiting for their Spindizzy tape. Jonathan Kups of Nuneaton (Look Mum! I got my name in the mag!) says that if you press E and R at the beginning of the game, you move on to the next screen. Has anyone out there got any more of these Keypress pokes?

Simple Starquake

Mark Lloyd of Co. Kildare has sent in the codes for Starquake. If you're interested they are:

1. VOREX, 2. AMBOR, 3. DULON, 4. ELIXQ, 5. TALIS, 6. INDOL, 7. ZODIG, 8. ASCIO, 9. UPQZZ, 10. SNODY, 11. KRYZL, 12. QUORE.

If you're not into Starquake, maybe you want his poke for infinite lives in Boulder. Just POKE 800,21 and run as normal, no need for even a line number. Don't start the game straightaway, wait for the credits to finish.

Matthew Pollard of Knutsford sent in the Boulder poke (I hope you lads haven't been pinching them from other magazines?), and also the following pokes for Radzone. No checksum on this one, so watch out for typing errors:

```
1 REM Infinite Lives for Radzone
10 FOR f=&BB48 TO &BB4D
20 READ a:POKE f,a:NEXT
30 DATA &21,&EE,&09,&36,&67,&C9
40 RUN"
```

Just type in this and run it with the fully rewound Radzone tape inserted in the relevant hole and the PLAY button down.

Profit at Doom

The other thingy sent in by Matthew is a poke for lives in Caves of Doom. Treat it much the same as the Radzone above, but all you troglodytes use the Caves of Doom tape and progyette instead:

```
1 REM 255 Lives on Caves of Doom
10 MEMORY 5240
20 LOAD"MCODE",5320
30 POKE &2525,255
40 CALL &5320
```

Another entry from Ireland. John the Hacker of Belfast has sent in infinite lives for Design Design's NEXOR game. Here's his hard work. Run this proggy, put in the fully re-wound NEXOR tape and Zap... Infinite lives. Would people please put checksums on long pokes huh?

Now for an apology: Sorry about the MAXAM re-assembly program in the September issue. Somewhere along the line the Great God Glitch put his hand in

```
10 '*****
20 '* NEXOR INFINITE LIVES *
30 '*
40 '*JOHN THE HACKER 26/07/86*
50 '*****
60 for n=0 to 61
70 read a$
80 a=val("&"+a$)
90 poke n+&40,a
100 next
110 ltape 'Leave out this line if on a 4
120 mode 1
130 print "Insert rewound NEXOR tape, then hit any key."
140 call &bb06
150 call &45
180 data 4E,45,58,4F,52,21,40,00,11
190 DATA 00,C0,06,05,CD,77,BC,21,00
200 DATA 01,CD,83,BC,CD,7A,BC,21,56
220 DATA 01,36,64,23,36,00,C3,00,01
230 DATA 21,25,20,36,00,23,36,00,23
240 DATA 36,00,21,78,5C,36,3E,23,36
250 DATA 00,23,36,00,C3,00,20,00
```

and did a juggling act with the listing. Unfortunately, he dropped a few pieces in the process and in the end the finished article wasn't.

Judging from the number of phone calls we got, we thought we might put the correct listing in this month. Extremes of the apology go to the poor unfortunate who phoned up first and whom I greeted with all the warmth of a Jovian winter.

```
100 REM ** To turn a Maxam disassembly
110 REM ** into a form that assemblers
120 REM ** can make sense of again.
130 REM **
140 REM ** By the ever-unpopular
150 REM ** Hairy Hacker, 5/7/86
160 REM **
170 ZONE 9
180 OPENOUT "D":MEMORY HIMEM-1:CLOSEOUT
190 DIM L$(200)
200 INPUT "Name of file to convert ";f$
210 INPUT "Name of file for result ";c$
220 OPENIN f$
230 PRINT "Reading in File."
240 WHILE NOT EOF
250 LINE INPUT #9,a$
260 IF z=0 THEN bgn$=LEFT$(a$,4):z=1
270 xl=xl+1:PRINT"Line";xl;CHR$(13);
280 i=INSTR(a$,"&"):IF i=0 THEN 330
290 FOR j=1 TO 3
300 x$=MID$(a$,i+j,1):IF ((x$>"9") OR (x$<"0"))AND((x$>"F")OR(x$<"A")) THEN
330
310 NEXT
320 L$(ln)=MID$(a$,i+1,4):ln=ln+1
330 WEND
340 nd$=LEFT$(a$,4)
350 CLOSEIN
360 FOR i=0 TO ln:IF (L$(i)>bgn$) AND (L$(i)<nd$) THEN L$(ln2)=L$(i):ln2=ln2+1
370 NEXT
380 'now make an output file
390 OPENOUT c$
400 OPENIN f$
410 WHILE NOT EOF
420 LINE INPUT#9,a$
430 b$=LEFT$(a$,4)
440 FOR i=0 TO ln2:IF b$=L$(i) THEN 460
450 NEXT:GOTO 470
460 PRINT#9,"L";b$;";":PRINT "L";b$;";"
470 'now turn constants to labels
480 a$=MID$(a$,26):p=INSTR(a$,"&"):IF p=0 THEN 560
490 FOR j=1 TO 3
500 x$=MID$(a$,p+j,1):IF ((x$>"9") OR (x$<"0"))AND((x$>"F")OR(x$<"A")) THEN
560
510 NEXT
520 b$=MID$(a$,p+1,p+3)
530 FOR i=0 TO ln2:IF b$=L$(i) THEN 550
540 NEXT:GOTO 560
550 MID$(a$,p,1)="L"
560 PRINT#9,CHR$(9);a$:PRINT,a$
570 WEND
580 CLOSEIN
590 CLOSEOUT
```

Amstrad PC program

Yeeeah, another First! This here is a program for the Amstrad PC. So, keyboards at the ready for Vax's Keyclick proggy.

The PC has a real neat keyboard, but it doesn't go Clunk when pushed as per the real thing. All you've gotta do is type this lot into RPED (the CAPITALS are important), load into DEBUG, and save it out again.

Right, now you've read the manual on RPED, here's what you type in. Call the file CLICK.HEX:

```
:10010000E022909C505152E460A880750EBA610009
:100110000077E0B9C800E2F0070EE5A59589DEAC9
:100120000000000000E1FBA5A01E8290000935C0B9
:100130002180C30020012E890743432E8C070009AE
:10014000250E1FBA0301CD21800031BA2401B10434
:1001500003EA42CD218409CD21C3000A2D2D204068
:100160006579626F61726420436C69636020506102
:10017000746368205620302E32202D000A240065
:0000000000
[Make sure there is a blank line here,
and don't type this line in.]
PIP newfile=oldfile[t8]
TYPE oldfile > newfile
```

[Make sure there is a blank line here, and don't type this line in.]

Sore fingers and squinting eyes yet? Get out of RPED, put in disc 1, type:

DEBUG

(now put in your disc with CLICK.HEX on it)

N CLICK.HEX

L

N CLICK.COM

W

Q

If you get any error messages, it's probably a good idea to check your HEX file over. Ditto if your version of the proggy goes Kerplonk.

All being well (a guy can dream, can't he?) you now have a file called CLICK.COM on your disc. Type CLICK and tap the shift key once or twice. You hear only the twang of a cheapo keyboard you say? Turn up the volume. Clever eh?

Don't expect this to work with Sidekick, however. This gets smart and puts in its own "read a key" routine for no apparent reason.

Now a tip for users of things like

Amsword, Sidekick and Maxam. No injury intended but the tabs aren't handled properly. Smart editors like Protex, Real Wordstar, LocoScript and so on make text after a tab shoot along to a pre-determined place.

If someone gives you a document with real tabs in it the best way round this is to use PIP in CP/M - or DOS + on AIRO if you're feeling convoluted. Read up in your manual on this, but basically you use:

PIP newfile=oldfile[t8]

That incantation puts the right number of spaces in where tabs ought to be. In MS-DOS, you can say:

TYPE oldfile > newfile

But this doesn't let you change the tab spacings.

Finally, I shall answer the question on everybody's lips: Why do computer hacks always answer a question with another question? Well, why not?

ACU

Advantage

Our compilation discs run on all PCW and CPC computers and contain comprehensive documentation files. Some software is Public Domain and is supplied free of charge. Upgrade earlier versions by returning original disc plus £1.95. All prices include postage and VAT at 15%. To order send cheque, postal order or International Money Order. OVERSEAS ORDERS PLEASE ADD £1 PER DISC.
Advantage (Dept U12) 33 Malyns Close, Chinnor, Oxfordshire OX9 4EW UK

ARNOLD VISITS JOYCE

ADVENTURING WITH THE PCW

We are pleased to be able to offer a collection of four classic adventure games from NEMESIS on one disc, specially adapted for the PCW computer.

THE TRIAL OF ARNOLD BLACKWOOD

"A surprisingly addictive game" (Adventure Club). May confound many an experienced adventurer.

ARNOLD GOES TO SOMEWHERE ELSE

"Originality and some fiendishly difficult problems" (PCN). You will need logic and a lot of stamina.

THE WISE AND FOOL OF ARNOLD BLACKWOOD

"Buffs will enjoy the paranoia that pervades the adventure" (PCW). The definitive tour of Rochdale.

BRAWN FREE

"An amusing introduction to adventure playing - maximum rating" (HCW). Poking affectionate fun at the Legends and Codes of the West.

The disc also includes Hints and Tips and, if you need it, "Cheat Sheets" on each game.

£15.95 (Members £13.95) - available exclusively from Advantage, ex-stock.

ADVENTURING WITH THE CPC

The four-games disc described above can also be supplied for CPC Computers: £13.95 (Members £11.95)

Each adventure can be obtained on tape: £5.95 each (Members £4.95)

ADVANTAGE - C

A professional product for PCW and expanded CPC computers, exclusively available from Advantage, at an affordable price.

Features:

- Full Kernighan-Ritchie implementation
- Supports floats, doubles, bit fields, structures and unions.
- Unix C compatible
- 150 library functions
- Optimisation tools
- Suitable for experienced programmers
- Suitable for beginners; step-by-step tutorial is included.
- The compiler, programs and manual are written by MIX Software, Texas, USA.

The package includes a 450 page, A4 size book describing the operation of the compiler, C programming and tutorial.

The compiler runs under CP/M Plus and is supplied on three inch disc - a second disc drive or RAM disc is recommended for CPC users. Please ask about the MSDOS version.

£39.50 (Members £37.50) Overseas £44.50

Available ex-stock - no waiting.

As a measure of our confidence in this product we offer a no-quibble money back guarantee if it is returned to us as-new, within 14 days of purchase.

A companion disc to the C Compiler comprises a full screen program editor, example programs written in C with their source code and several utilities.
PCW & CPC £11.95 (Members £9.95)

COMPLEAT UTILITIES SUITE

PCW & CPC £11.95 (Members £9.95)

A comprehensive package of programs including Full Screen Text Editor - 20 Function File Manager (one key erase, rename, copy, hide, squeeze, unsqueeze, print, tag etc) - Disc Sector Editor - Catalogue & Unerase erased files (V2.2) - Z80 Assembler, Reverse Assembler, Linker, Library & Debugger - File Scanner, Editor, Chopper, Compare - String Finder - Bad Sector Eliminator - Typewriter Emulator - plus improved versions of PIP, DDT, LOAD, SUBMIT, DIR, DUMP and TYPE.

APPLICATIONS PROGRAMS

PCW & CPC £11.95 (Members £9.95)

Contains Inventory Manager/Database - Full Screen Text Editor - Word Count - Spelling Checker with easy to edit Starter dictionary - Alphabetical Sort - Library Utility for organising and cataloguing your collection (four programs) - Keyboard Definer (V2.2) - Password - Scrambler - Synonym - Unspooler - Squeeze/Unsqueeze for saving up to 40% disc space - Help Organiser - Sorted Directory.

MSDOS SOFTWARE

We are introducing a new range of programs on disc for the Amstrad PC. All fully documented.

THE UTILITIES COLLECTION

£9.95 (Members £7.95)

THE GAMES COLLECTION

£9.95 (Members £7.95)

Stamped addressed envelope for details

GAMES COMPENDIUM

PCW & CPC £9.95 (Members £7.95)

Features the famous Colossal Cave Adventure with game save feature - Chess Challenge - Othello - Mastermind - Rubik's Cube - Polish Pong - Pressup - Awari - Golf Simulator - Life - Noughts & Crosses - Word Search Puzzle Maker - Biorhythm Calculator - Calendar Generator - Maze Designer - Gothic and Banner poster printers.

AMUSEMENTS & DIVERSIONS

PCW & CPC £9.95 (Members £7.95)

Features the classic Star Trek - Space Trader - Lunar Lander - Baseball - Civil War - Bee Attack - Baccarat - Craps - Horse Races - Hunt - Chase - Boggle - Square - Quest (a text adventure) - Calculator - Loan Estimator - Weather Forecaster - Home Budget - Horoscope - Investment Evaluator - Poster & Label Printers.

NATIONAL & INTERNATIONAL USER GROUP

Join the leading independent user group supporting the Amstrad range of computers and receive monthly Newsletters, user support and the opportunity to share views, programs and ideas. Members also benefit from substantial discounts on our continually increasing range of software - more than can be detailed in this advertisement. The annual membership fee is £8.95 (UK) or £13.95 (Overseas).

CP/M, Unix, MSDOS and Amstrad are all registered trade marks.

LAZAHOLD LTD
trading as

AMSOFT

LocoScript

**ENHANCE YOUR WORD PROCESSING POWER
WITH LOCOMAIL – AVAILABLE NOW AT £39.95
(members £33.95)**

**LOCOSPELL – £39.95
(members £33.95)**

You can obtain LOCOMAIL and LOCOSPELL
ONLY through

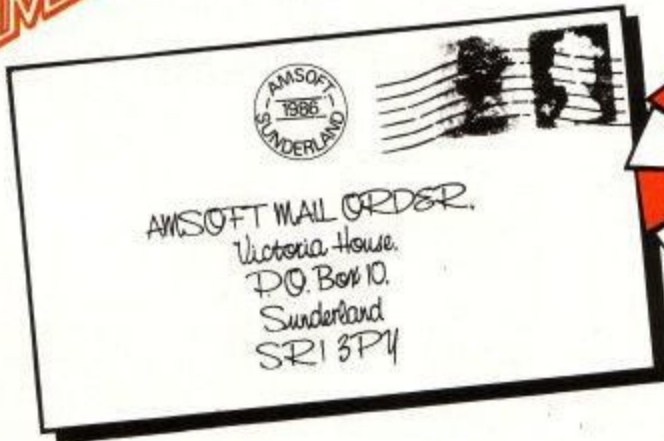
AMSTRAD USER CLUB AND AMSOFT

Phone for fast, easy ordering
(Access or Visa)
ON 0783-673395

VICTORIA HOUSE,
P.O. BOX 10
SUNDERLAND
TYNE AND WEAR. SR1 3PY

AMSOFT

**BUSINESS, EDUCATIONAL AND GAMES SOFTWARE
DIRECT TO YOU BY EASY MAIL ORDER
– PERIPHERALS TOO!**



DON'T FORGET

- 15% DISCOUNT ON PURCHASES
- YOUR OWN MEMBERS' NEWSLETTER
- "MEMBERS ONLY" SPECIAL OFFERS
- THIS MAGAZINE EVERY MONTH TO YOUR DOOR
- PRIVILEGE CARD



Telephone us for a faster, easier service.
Orders using credit card (Access or Visa)
0783 673395. 24 hour service

Send for FREE information

Complete this coupon and return it to the address shown on the envelope

*Approximate discount on most items, see price list for details.

DELIVERY ONLY WITHIN U.K.

Lazahold Ltd, trading as Amstrad User Club and Amsoft

I would like full details of Amsoft Mail Order and the Amstrad User Club Software Catalogues, Sales Leaflets, and order forms.

Name

Address.....

Post Code

In the Picture

Melbourne Draw from Melbourne House

Available for a while now, and based on GraphiQL which was originally written for the ill-fated Sinclair machine, this program comes with a combination of drop-down menus for the beginner, and one, two or three key-press commands for the more experienced user. This can be a little confusing in the early stages, but you'll probably soon evolve your own mixture of the two.

A rather wordy 32-page manual explains most functions fairly clearly and experience will show, for instance, when the more conveniently placed ENTER and COPY keys can be used instead of the spacebar on the CPC 464 and CPC 664 machines.

A colourful design gives way to a blank blue screen with yellow cursor in the centre when loading is completed. Enter brings up the menu bar across the top of the screen, from which you can select a variety of drop-down menus listing all the functions available.

To exit a wrongly chosen menu you must either select a function or press Escape. Cursor movement is controlled with the four arrow keys, and initially the program will cheep at you if you do something right and groan if you are wrong - happily, this facility can be dispensed with.

Colours can be changed from the range available on loading, but a note should be

Recent months have seen the advent of a new batch of graphics packages for Amstrad machines, each offering a variety of new features. Jill Lawson takes a look at Melbourne Draw, The OCP Art Studio and The Image System to evaluate their strengths and weaknesses.

made of these since adjustments must be made before dumping screens to a printer.

Methods of drawing range from single pixel Plot, through Point Trail, Line and rubber-banded Line (where the key-press LI and RB commands are essential for speedy work) to (rubber-banded) Circles and Boxes, and the bonus ability to draw Ellipses at a chosen angle.

The Airbrush facility is limited to a single density and there is no paintbrush selection, although the manual details a method of constructing your own brush with the aid of Texture Trail and the Colour List. A unique Zap function enables the re-colouring or deletion of continuous lines but should be used with care.

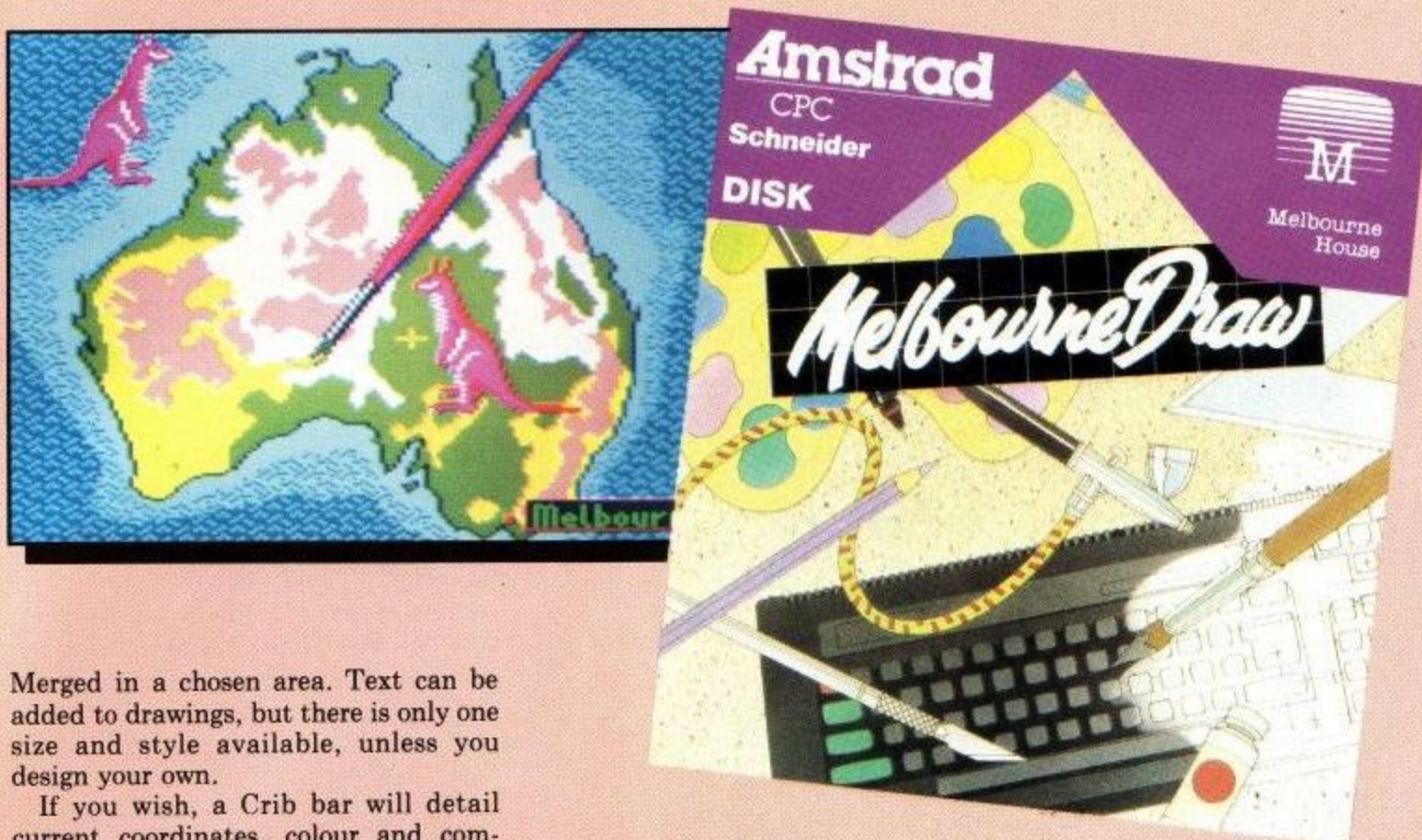
A slow but very safe Fill firstly floods any enclosed area with colour, at which stage any leakages can be spotted and repaired, and only then is the operation

completed with the selection of Fill Colour or Fill Texture.

You will have noticed a couple of references to Texture, and this is where Melbourne Draw really scores. A sketch-pad can be called up to overlay the lower part of the screen, without damage to the main drawing. In this area you can design anything from patterns, which can be used to fill an enclosed area on the screen, to objects such as trees, birds, animals and people. After deleting the background colour from the Colour List, these can be Planted anywhere in your picture.

Collectively, drawings created on the pad and stored for use in your picture are known as Textures. These can be saved as a separate file for future use.

With Block Remember, rectangular areas can be lifted from the main drawing and subsequently converted into textures, or Copied, Moved or Mirrored at will, and colours can be Swapped or



Merged in a chosen area. Text can be added to drawings, but there is only one size and style available, unless you design your own.

If you wish, a Crib bar will detail current coordinates, colour and command and whether XOR is being used. The default cross-hair cursor can be changed to a useful arrow shape or removed from the final picture altogether.

Unfortunately the cursor colour remains constant and may need to be changed, for instance to a dark colour when working over a light area.

There is a very small (7-pixel square) Magnify option, suitable only for the occasional accurate positioning of a single pixel, or to check for gaps in a line rather than as a regular drawing aid. I found that Moving the magnify box can produce alarming unwanted lines across the screen. Also, the 'magnify' cursor occasionally reproduces itself in technicolour at random positions on the picture, necessitating a certain amount of re-drawing.

I would suggest that you avoid using the sketch-pad and magnify together whenever possible. And try to avoid running the cursor off the lower right-hand corner of the screen since in some instances it can return with cannibalistic tendencies.

There is no straightforward way for tape users to save their pictures to, or load them from disc (or vice versa) make sure you buy the appropriate version.

A Basload program which comes with Melbourne Draw enables you to use pictures in your own programs, and three Shaded Dump programs permit dumping to Epson/Amstrad printers.

On the whole this is a fairly sophisticated drawing tool with some very attractive features. I found it a bit heavy going at first but once you are familiar with all the functions available (and the couple of things to avoid) it provides a wealth of possibilities for the

imaginative artist. As the only one of these utilities to operate on the full CPC range and in all three screen modes, it must be a recommended buy for anyone looking for a good, general-purpose package.

The OCP Art Studio from Rainbird

Having tried out this utility on the Spectrum, I couldn't wait to get my hands on the updated Amstrad version. The good news is that this is now completed but, and here's the sad part – at present only for the CPC 6128. I was able to borrow a machine for just long enough to get taste of what it offers – and what I saw, I liked.

Formulated on the WIMP concept, almost all the information needed to use the program appears on screen in a series of drop-down menus and sub-menus.

Operation can be with joystick or mouse, but performance from the keyboard is so smooth that these are only a real benefit with the Spray Can option.

It is intended to enable the absolute beginner to start drawing immediately, but I expect it will come with a comprehensive manual too, similar to that supplied with my Specky Studio.

At the outset you are presented with a white screen, black arrow cursor (moved with the cursor keys) and a double row of blue boxes with various menu titles from which you can pull down lists of functions.

In some cases, making a particular

choice will lead to a further list or box. When a choice has been made the cursor may change to an appropriate icon indicating the nature of the current mode, but an option exists to use a cross-hair cursor as a permanent alternative.

Drawing on screen can be achieved with Pen, Brush or Spray Can. Sixteen variously shaped Pens and eight Spray patterns are built into the program, along with sixteen brushes, the shapes of which can be re-designed to your own requirements.

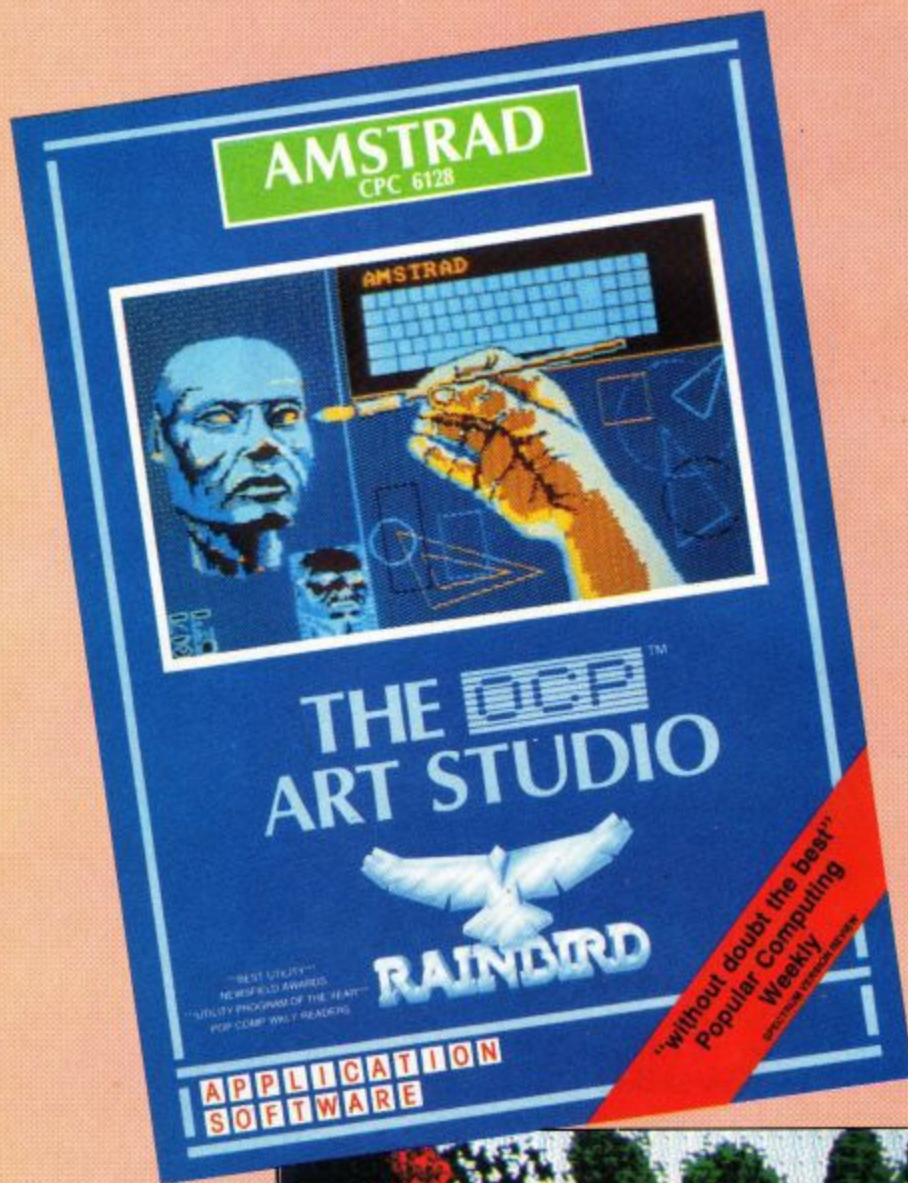
Filling is fast and efficient, with the option to use either solid colour or one of 32 Textures, any or all of which can be edited for your needs. Textures can be Washed onto an area drawn previously to create dotted lines, fancy printing and so on.

Points, Lines, continuous Lines, Rectangles and Circles, with rubberbanding if desired, are included in the Shapes menu along with Triangles and Rays but, surprisingly, no Ellipses. However, these can be produced by defining a window round a circle and stretching it with the Re-Scale facility.

A Window can be defined to include an area up to full screen size, and once specified that area within the window can be Copied, Moved, Rotated, Mirrored, or Enlarged, Reduced, Squashed and Stretched with the re-scale option.

AND, OR and XOR modes may be utilised with windows and the contents may be printed without the background or other chosen inks.

Text can be added in a multiplicity of directions, sizes and styles and can be



edited to produce new fonts which can be saved separately. A selection of alternative fonts is included on the disc.

The full screen is utilised for each of the excellent x2, x4 and x8 Magnify modes and each level has Scroll bars to enable work over a large area.

Even with the best programs it is possible to make mistakes, or you may just not like a particular addition to your picture. Provided that you take an immediate decision, the last operation can be aborted with the invaluable Undo.

There is a very elegant File load/save and Disc Catalog facility and comprehensive options for dumping to a range of printers.

Well documented, smooth and

efficient in operation and embracing all the features that you would expect to find in a contemporary drawing program, it is difficult to find anything to dislike about Art Studio. Apart from the fact that it operates only in Modes 1 and 2, it may well provide sufficient reason for CPC 464 and 664 owners to consider upgrading to a 6128.

The Image System from C.R.L.

At first sight this one seems a bit of an oddity – a new art package offering relatively few of the facilities of other

programs. Drawing aids are confined to Plot, Line, Rectangle and an unusual Circle/Ellipse-producing method whereby the figure is drawn inside a chosen square or rectangle.

There is a fairly speedy and efficient Fill but if there is a leakage it can only be stopped, not aborted, so it needs to be used with great care.

It is possible to re-design Textures, for which purpose you must leave a 16 x 32 pixel area free in the top left-hand corner of the screen. However, these have the limitation that they may only be used to fill areas of a colour different to any of those used in the texture.

Add to this the fact that there is no facility for the addition of text and only Mode 0 is available and you could write this one off. Persist though, and you'll discover that while it may not be the world's greatest drawing program, it has enough interesting and ambitious features to keep you occupied for many a happy hour. And there are possibilities for producing some very effective screen displays.

If you can ignore a certain amount of confusion between the Tab and Escape keys, the manual explains clearly what can be done with the Image System. A step-by-step exercise introduces many of the commands available and how they can be used to create special effects.

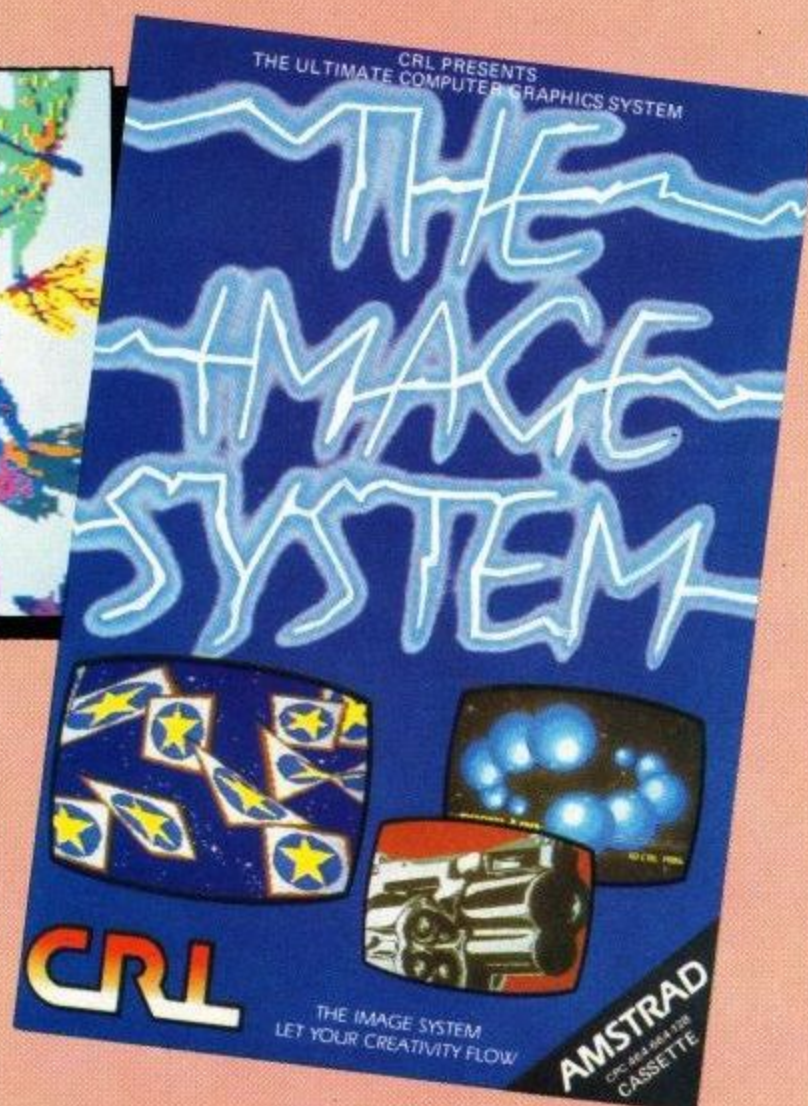
The principle on which the program is based is the saving of defined areas of the screen as separate pictures, which can subsequently be recalled, re-coloured and manipulated in a variety of ways.

Suppose that you draw a leaf in four colours and save it as Picture 1. You can then clear the screen, change all four colours to blue and print it on the screen as a blue silhouette of the original. Changing the colours back to those in the first drawing and making the background transparent, you can put the leaf back on the screen, offset slightly from the blue shape to give the effect of a shadow behind it.

Alternatively, your picture can be Moved, Rotated, Reduced, Enlarged, Stretched or Compressed in either direction, or even Twisted before being placed on the screen. And, since your one original drawing can be used an unlimited number of times in a variety of shapes and colours, you can quickly fill the screen.

When a picture is altered in shape or size, several pixel-size holes can appear in the resulting image, and depending on the style of design it may be necessary to do some repair work to produce a satisfactory result.

Up to 255 pictures of at least 2 x 2 pixels may be stored in the memory – an indicator bar shows how much has been used. As the available memory dwindles, some or all of the previously saved



pictures may be Erased.

However, since the program crashed on several occasions after erasing pictures, I found a safer method was to save the screen, reload the Image System then reload the screen thereby freeing all the memory for further use. This is tedious, but better than losing several hours work.

Pictures stored in memory may also be saved as a separate file. These can be re-loaded and used to add previously drawn elements to a new picture, creating startling or amusing effects. I did find it necessary to make a separate note of picture details I had saved, and the colours in which they were drawn.

A note book is handy for listing file names, since there is no built-in catalog option and attempts to load an incorrectly named screen or picture file can return you to Basic.

A menu bar at the foot of the screen gives details of the colour palette available, in which any of the 27 Mode 0 colours can be substituted for an existing colour. An arrow points to the current drawing colour, selected with 1-8 and SHIFT/1-8.

A lower colour band shows the colour currently chosen for parts of a picture originally drawn in the colour immediately above it, and shows a 'T' on those colours chosen to be transparent when placing a picture on the screen. A message area gives information regarding current commands in use, and

displays the X and Y coordinates of the cursor.

A useful optional zoom window at the right-hand end of the menu bar enables accurate plotting and facilitates texture design. The whole bar may be moved to the top of the screen or removed altogether.

The manual also has some interesting ideas regarding drawing techniques and the use of finished pictures as a basis for photography. Other suggested applications are for needlework (this is a uni-sex program), screen-printing, using pictures in your own programs and use of the printer dump routine.

The program does lack much of the sophistication of the previous utilities if you are looking for a straightforward

drawing tool, and I would certainly advise care with the Fill and Erase Picture commands. But I found it very easy to use and it could provide a lot of fun for the less serious user who wants to create colourful designs quickly. It has an addictive quality which I find hard to resist.

The verdict . . .

If you own a CPC 6128, the OCP Art Studio has everything you need for fast, problem-free production of detailed hi-res pictures. And if you can cope with Lenslok and don't mind foregoing the possibility of drawing in Mode 0, this is certainly the best value art utility available to date.

As an all-mode, all-CPC machine drawing program, Melbourne Draw has the across-the-board versatility that the others lack and incorporates several very pleasing features – a sound purchase for the average Amstrad user who is looking for maximum flexibility.

A little on the pricey side, The Image System is out of the running as a basic drawing tool. But for the production of colourful, complex low-res screen designs from a minimum of initial work, given its ability to manipulate areas of screen, this is the fun one for those with perhaps more imagination than artistic ability.

	Melbourne Draw (3 Modes)	OCP Art Studio (Modes 1 & 2)	The Image System (Mode 0)
General ease of use	8	10	9
Speed	8	10	7
Drawing facilities	9	10	8
Special features	9	9	10
Freedom from problems	8	10	7
Fun factor	8	7	10
Value for money	8	9	7
Overall assessment	9	10	8

256K SILICON DISC ●●●●●●



● This is the fastest storage system available for Amstrad CPC computers and is compatible with CPM 2.2, CPM+ and all DK'Tronics peripherals including the 64K/256K memory expansions. When used with CPM+ and our 256K memory the edition disc capacity is a massive 442K (more than the PCW 8512 Ram Disc). It automatically logs on as drive B or drive C in two drive systems and does not require extra power supply.

● The 256K Silicon Disc is designed to be used with at least one normal disc drive attached. When fitted the directory uses 2K thus leaving 254K for storage, over 70K more than the normal discs.

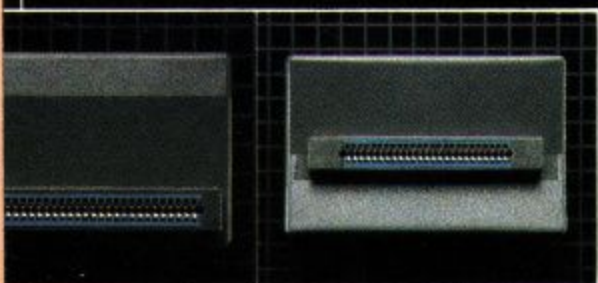
● Data and programs can be exchanged between the Silicon Disc and a normal disc, application programs can then work on the data at vastly increased speed especially on systems with only one normal drive.

● Software is contained in an expansion ROM and there are two environments in which the Silicon Disc can be used, BASIC under AMSDOS where all the normal AMSDOS commands are fully supported LOAD, SAVE, MERGE, CAT etc and within CP/M 2.2 CP/M+ where commercial programs are designed to run on multi drive systems.

● Software is contained in an expansion ROM and there are two environments in which the Silicon Disc can be used, BASIC under AMSDOS where all the normal AMSDOS commands are fully supported LOAD, SAVE, MERGE, CAT etc and within CP/M 2.2 CP/M+ where commercial programs are designed to run on multi drive systems.

£99.95 including VAT (464 and 6128)

64K and 256K MEMORY EXPANSIONS



■ The memory expansions increase the Amstrad 464's internal memory to give a total of 128K or 320K. The 621's memory is increased to 320K. It is compatible with all DK'Tronics peripherals including the 256K Silicon Disc.

■ It is supplied with bank

switching RSX software (464 software on cassette 6128 on disc.

■ The software adds some BASIC commands which makes it possible to use the second 64K (or 3rd or 4th and 5th in the case of 256K) for storage of screens, windows, graphics and basic arrays. This ability means that you can write much larger basic programs and sophisticated programs that use pull-down menus with ease.

■ With an expansion fitted on the 464 it then has the same memory configuration as the CPC 6128. It will then run CPM+ with its massive 61K T.P.A. area, opening up an even larger software base to 464 users. When using either of the expansions with CPM 2.2 on the 464 and 6128 computer the T.P.A. is increased to 61K.

■ The RAM is accessed by means of bank switching using a single I/O port. Memory is actually switched in and out of the 64K/280 address space in 16K sub blocks (as are the ROMS). The port determines which particular combinations of the original four 16K sub blocks and any new sub blocks from the expansion RAM will occupy the 64K address space at any time. All of this switching is done automatically by the software supplied.

■ The contents of the expansion RAM are retained if the computer is reset and if the RAM is used for machine code the contents will remain even if the computer crashes.

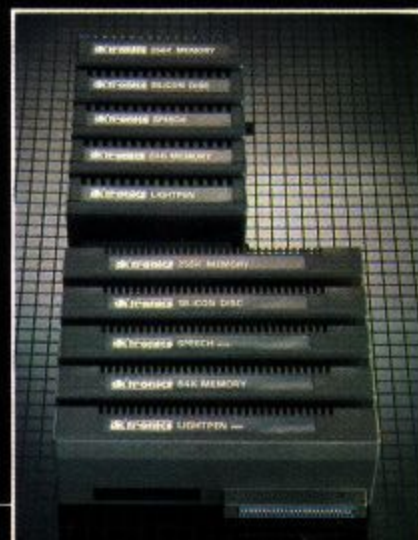
64K **£49.95** including VAT (464 only)

256K **£99.95** including VAT (464 and 6128)



LEAD FROM

DK'Tronics have produced this... enlarge the potential of the 464... and have been designed to cor...



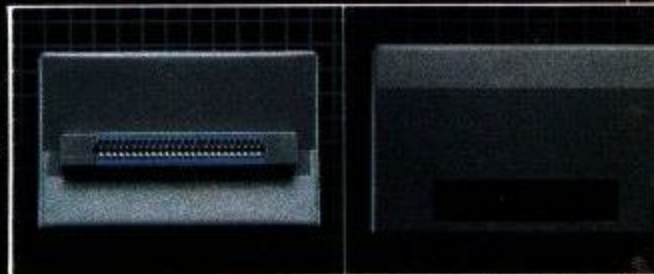


GRAPHICS LIGHT PEN

The sophisticated graphics package includes a colour palette, nudge control for one pixel accuracy, brush choice, text handling and user defined characters.

- It can magnify, shrink, colour fill and create circles, rectangles, lines and curves.
- Complex pictures can be easily edited at pixel level using a scratch pad which is magnified to the full screen.
- There is picture storage and retrieval, and a pen calibration utility and there is also an Amstrad/Epson compatible printer dump utility supplied on cassette.
- There is a cassette version for the 464 and a ROM version for the 464 and 6128.

Cassette **£19.95** including VAT (464 only)
ROM **£29.95** including VAT (464 and 6128)



SPEECH SYNTHESISER

This simple to use speech synthesiser includes a powerful stereo amplifier and two high quality speakers which greatly improves the sound quality of the internal mono speaker.

- It uses the popular SPO/256 speech chip and has an almost infinite vocabulary.
- It is supplied with a text to speech converter software for ease of speech output creation. Everything you wish to be spoken is entered in normal english without special control codes or characters making it extremely easy to use.
- The voicing of the words is completely user transparent and the computer can carry on its normal running of a program whilst the chip is talking. The speech output from the SPO/256 is mono and directed to both speakers.
- There is a cassette version for the 464 and a ROM version for both the 464 and 6128.

Cassette **£29.95** including VAT (464 only)
ROM **£39.95** including VAT (464 and 6128)



GOING BEHIND

range of powerful peripherals to
4 and 6128 Amstrad Computers
compliment their style and colour.

dk'tronics
POWER BEHIND YOUR AMSTRAD

DK'Tronics Limited
Gorleston, Great Yarmouth, Norfolk NR31 6BE.
Phone 0493 602926 (24 hours), Telex 975408.

HOW TO ORDER

DK'Tronics products are available in all good computer stores but may be obtained by completing the order form below and returning it to DK'Tronics or by telephoning and quoting your Barclaycard or Access number.

Orders are normally despatched within 24 hours and if you have any further queries concerning our products do not hesitate to give us a ring or send us a large stamped addressed envelope for our latest free 84 page technical manual covering our Amstrad product range.

Please send me:

Name _____ Signed _____

Address _____

I enclose Cheque/PO/Cash for: Total _____

or debit my Barclaycard/Access number

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

CP/M+ is a registered trademark of Digital Research Inc.

MASTERFILE III

FOR THE AMSTRAD CPC 6128 (ALSO CPC 464/664 WITH DK TRONICS 64K RAM)

RATHER ENHANCED ...

We are pleased to announce the third major issue of MASTERFILE. This is no mere update, but a thoroughly enhanced and streamlined re-design of MASTERFILE 128, packed with new features, and a delight to use. We included some of the best ideas which our earlier MASTERFILE customers contributed. We sent prototypes out to our eager "test" users, and they kicked it as hard as they could, and came up with even more ideas. We spent several weeks further honing MASTERFILE III. Then we sat down and totally rewrote the manual.

SOMEWHAT POWERFUL ...

For the benefit of newcomers to the CPC machines, MASTERFILE III is a very powerful and flexible data filing and retrieval system. All "database" systems require that your data is organised into fields and records. But unlike most, MASTERFILE does not commit you to field lengths or formats, since ALL data is variable-length and optional. Files are not pre-formatted, and only used bytes are saved to disc. Also, unlike the rest, MASTERFILE allows multiple user-defined ways of viewing/printing your data. And unique in its price range, MASTERFILE offers RELATIONAL FILE options, whereby common data can be entered just once and shared by many records. Maximum field size is 240, maximum fields per record is over 50, and maximum file size is 64K. Room for 1,000 full names and addresses, for example. Only one disc drive is required. It is menu-driven throughout, and comes with detailed illustrated manual, and example files.

EVER SO FAST ...

Just about Any kind of information can be handled by MASTERFILE. You can Export the data to other systems (e.g. PROTEXT/MERGE and TASWORD). You can even merge your own USER BASIC to MASTERFILE for customised file processing. You can build new files from other sources — e.g. transfer data from Spectrum MASTERFILE. The speed of Search of MASTERFILE is second to none. We even get calls from customers who say that "The search did nothing"; they simply blinked and missed the revised status saying how many records had been found! Records can be sorted ascending/descending, character or signed numeric, even embedded keys such as surnames. We simply don't have room to list all the features; give us a call if you are still in doubt of the power of MASTERFILE III.

PLEASINGLY PRICED ...

How much does it cost? Just £39.95. Our test customers all say this is far too low — but then we didn't charge them this! However, we appreciate that many of you are "home" users who do not want to pay a "business" price. So we kept to a realistic figure. But don't be fooled by the low price. This is no toy written in Basic, nor is it a lumbering CP/M dinosaur. This is real machine-coded computing power. We have had IBM and Apricot users beg us for a MASTERFILE for their machines — when they had seen the earlier CPC MASTERFILE. They are going to be more frus-

Description	Maker	Model	Value
Microcomputer, 64K RAM + 32K ROM	Amstrad	CPC 464	£199.00
Microcomputer, 128K RAM + disc	Amstrad	CPC 6128	£299.00
Disc interface and 1st drive, 3"	Amstrad	DDI-1	£149.95
Dot-matrix printer 50cps 80col	Amstrad	DMP-2000	£159.95
Executive briefcase	Amstrad	AT0109	£42.00
Wire paper clip	Antler	BAC	£0.01
Answering machine	British Steel	BT2036	£185.00
Photocopier single-feed	British Telecom	PC-10	£650.00
String, ball of	Canon	BOS-Exec	£0.40
Executive no. aircraft	IBM	CLQUA-CUGX00	£5,200.00
Typewriter, electric	Olivetti	Leterra 36	£190.00
Dictation machine	Philips	510	£30.00
Coffee maker	Philips	ND5349	£119.00
Parcel scale	Salter	258P	£129.95
Microcomputer, 48K	Sillicorn	Trumspec	£10.00
Letter scale	Maymaster	375KL	
Totals:			£5,202,294.26

Top record: 0001 (H) for menu
Records: 0016 Selected: 0016 Parents: 0000 RAM used: 02K from 64K
File: FILE2

trated now. So are the PCW plodders. Alas, many of you pay a lot more, because you buy one database after another before you throw them all out for MASTERFILE. The trick is to ask around, read the reviews and choose MASTERFILE III first time. Try telephoning our competitors and ask to speak to the programmer for technical information. Then try us. We think you will spot the difference!

For those of you who already have an earlier MASTERFILE, we tempt you with some of the extras that "III" has:

Three Times faster disc load/save than MASTERFILE 128/II. Twice the screen speed. Total +/- values. Merge all/selected. Save all/selected. Disc file erase options. Implicit record numbering, both physical and selected. GOTO selected record number. Simpler but more powerful search. Full data name prompting. Print report width up to 160 columns. Page numbering. Insert records anywhere. Record Cursor for direct update within a display page. Smart new text editor. Format printing. Extended User Basic options. Compatible with all earlier CPC MASTERFILE files. Field-to-Field Calculations.

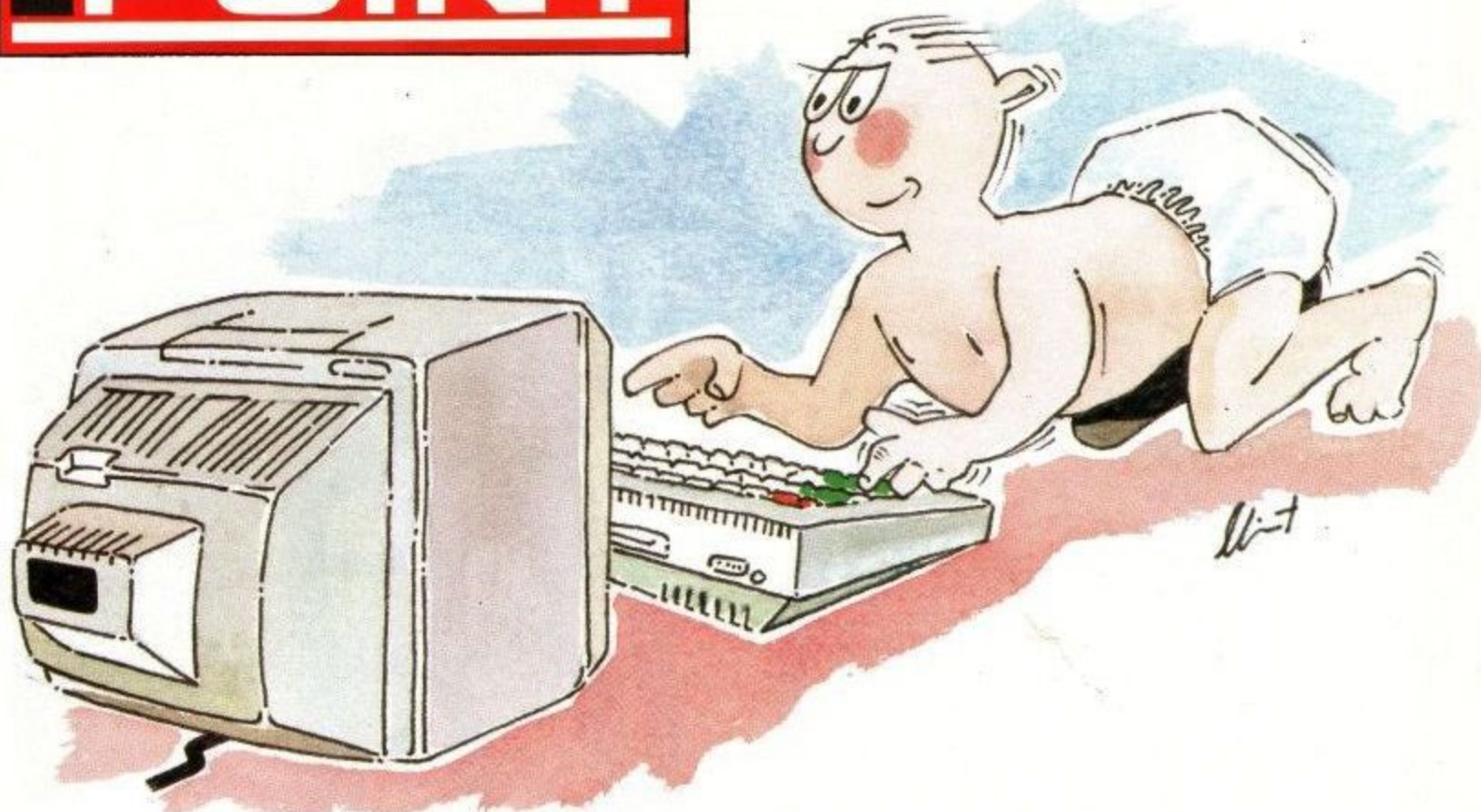
MASTERFILE III complete costs £39.95. We can provide an UPDATE onto your original MASTERFILE 464/128/II disc for £19.95 — inclusive of the new revised manual. If your original MASTERFILE 464 is on tape, we ask £22.95 for the exchange.

We also have one of the fastest and friendliest spread-sheet programs around, MASTERCALC 128. For this we ask £33.00. But as a SPECIAL OFFER to customers who buy MASTERFILE III complete and MASTERCALC 128 together, we offer the spread-sheet at £10 OFF, just £23. (£62.95 in total for both programs.)

All prices include VAT and P&P to anywhere in Europe. Outside Europe please add 20% for air-mail service. ACCESS/VISA/MASTERCARD welcome, written or telephoned. Please quote your card expiry date if ordering via credit card. If paying by cheque, make out to "Campbell Systems".

Our normal response is return of post, 1st class.
AU 11/86

CAMPBELL SYSTEMS, 57 Trap's Hill, Loughton, Essex, IG10 1TD, England. Tel: 0378 77762.



The aim of this series is to turn common or garden Basic programmers into machine coders – and it's easier than you think.

Machine code may have been an esoteric black art back when programmers entered hex codes into their computers with switches, but the sophisticated assemblers and debugging monitors now available for the simplest home computer make it a field anyone can learn.

Amstrad owners are particularly fortunate. First, the CPC range has one of the widest choices of assemblers, most of which are excellent, including Arnor's Maxam, Gremlin Graphics' Pyradev, Hewson's Zapp, Discovery's Code Machine, Ocean's Laser Genius and Hisoft's Devpac.

Second, for every Basic operation which involves the computer hardware – getting a keypress, printing a character on the screen, setting up windows, using the sound and graphics or reading and writing to cassette or disc – there is an equivalent machine code routine available for the machine coder. So the beginner already has a thoroughly debugged framework of subroutines to work with.

During this series I'll explain how to use some of the most important firmware routines, but for really serious work the CPC Firmware Specification (SOFT 968, available from Amsoft) is a vital book. It costs £19.95, so start saving those pennies!

Routine problems

Having said that, I must point out that the reason why many people find machine code difficult is not that it is so

Machine code? It's child's play!

There's a nasty rumour going around that assembly language is difficult. Peter Green aims to dispel it with a new series for the Basic programmer who wants to become bilingual.

hard but that it is so simple.

Many quite elementary operations in Basic – such as printing a string of characters or adding 132,977 to 76,281 – do not exist in machine code. If you want to do this sort of thing then you have to write a piece of program to make it happen. Machine code is primitive.

Not only that, but mistakes are generally fatal. Basic programmers are using a complex, high level language, a lot of which is there to check that you aren't doing something silly. Try to RETURN when you haven't first GOSUBed and Basic says "Unexpected RETURN", and goes back to command mode so you can fix the mistake in your program.

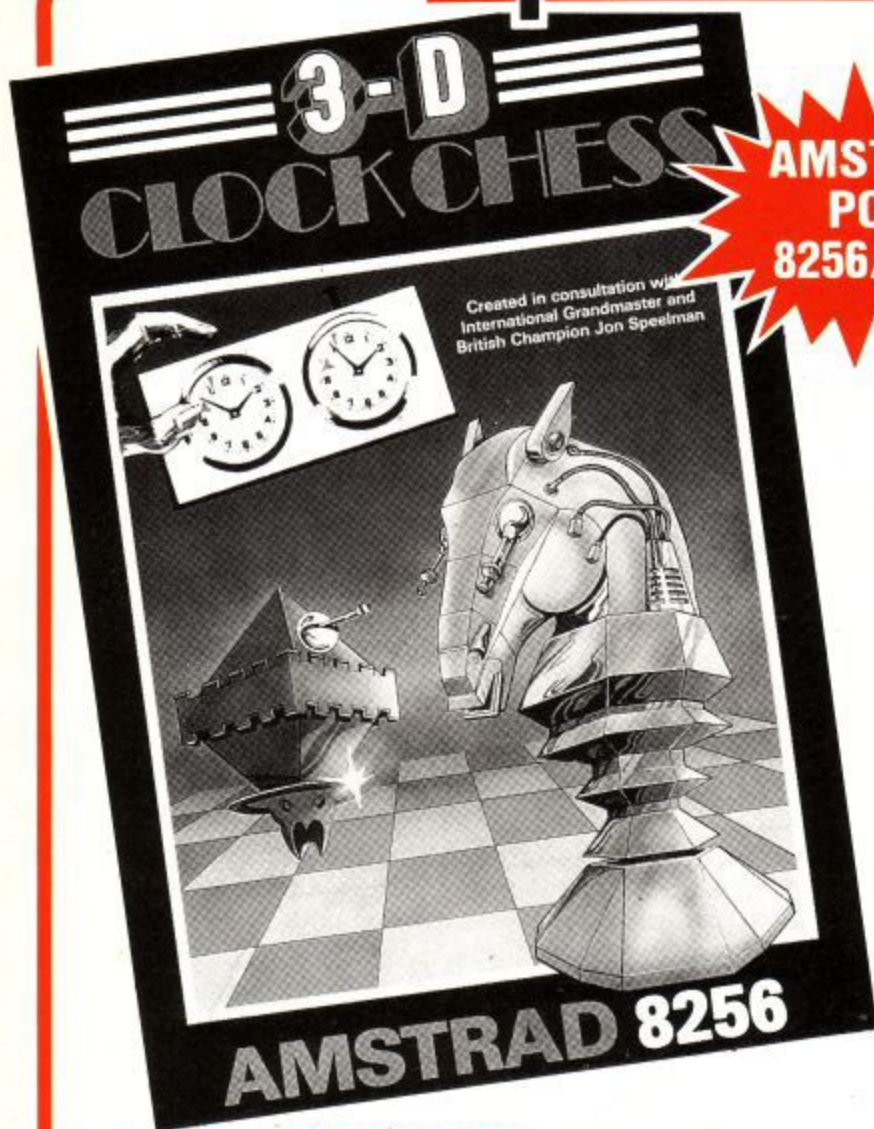
The machine code programmer, however, is working without a safety net. Make the same mistake here and the poor dumb microprocessor will happily fetch a non-existent return address –

which will generally be a random number – and jump there, 999 times out of 1000 disappearing up its own output port in the process.

If this random jump doesn't cause a complete reset, losing your program irrevocably, it will probably end up in some kind of infinite loop. Pressing Esc is no help – the loop is very unlikely to be doing anything sensible like checking the keyboard. So to regain control you'll have to switch off the computer – losing your program irrevocably. Hence the most fundamental law of machine code is:

Never run your program unless you've saved it first

If the worst happens – and it will, frequently – your program is safe on tape or disc and can be reloaded for correction. I'm sure hardened Basic programmers will find this a difficult habit to get into, but don't worry, it will come. Having four hours of hard work completely wiped out



AMSTRAD
PCW
8256/8512



3-D CLOCK CHESS

NOW AT £15.95

Created in consultation with International Grandmaster and British Chess Champion Jon Speelman.

FAST with unique method of setting levels by time. 'Play against the clock' and 'matching time' modes.
PENETRATING at tournament levels - looks at least seven moves deep.
FRIENDLY - every possible feature. Ideal tutor for beginner and expert alike.

"Superb graphics... it really does re-create a match play atmosphere"
 - COMPUTING WITH THE AMSTRAD

"3-D Clock Chess has a clearer display... plays a stronger game". - PUTTING YOUR AMSTRAD TO WORK September 1986.

BRIDGE PLAYER

£19.95

A challenging and realistic program for all bridge enthusiasts

VERSATILE bidding routines give you a really worthy opponent.
POWERFUL bidding and play to appeal to the most experienced player whilst being an excellent tutor for beginners.
COMPREHENSIVE on-screen displays, keep you informed at all times.

The ultimate refinement in home computer versions of this sophisticated card classic - FEATURES include:

- ★ Option to specify point count
- ★ rebid/replay
- ★ self-play mode
- ★ move onto next hand

3-D VOICE CHESS

Cassette... £12.95 Disc... £15.95
 Unique program brings you all the playing power of the original Amstrad Superchess, plus SPEECH and 3-D graphics. Beginners to expert levels with classic helpful features:

- ★ Analyse mode
- ★ problem solving
- ★ large opening library
- ★ help menu
- ★ change colours
- ★ recommended move

AMSTRAD
CPC
464/6128

DRAUGHTS/CHECKERS

Cassette... £5.95 - also available on disc
 Complete with strategic hints, Kings and several challenging levels of play.

BRIDGE PLAYER 3

Cassette... £12.95 Disc... £15.95
 Continuing the tradition of quality, this exceptionally strong bridge player will give even highly skilled players an engrossing game. FEATURES include bidding in ACOL system with STAYMAN and BLACKWOOD conventions

- ★ post mortem facility - rebid/ replay
- ★ bias deal
- ★ claim rest of tricks
- ★ restart play of cards
- ★ input hand/contract

BACKGAMMON

Cassette... £5.95 - also available on disc
 Dice classic with fast moving graphics - easy to learn but hard to beat!

PINBALL WIZARD

Cassette... £5.95 - also available on disc
 Colourful, fast-action graphics and sound give this game the feel of a real arcade pinball. Realistic launch, flippers, bumpers, high-score, bonus scores and freeball features.

SUPERCHES

Cassette... £5.95
 The original Amstrad chess program - with seven levels of play to challenge you.

MAIL ORDER by cheque, postal order or ACCESS/VISA number (with expiry date). Telephone for instant credit-card orders. Send SAE for catalogue.

DELIVERY is by soonest post. Post free in UK; Europe add 80p per program. All other places add £1 for surface mail or for Airmail add £2 for first program and £1 for each additional.

cp software

15 DESPARD ROAD
LONDON N19 5NP

Tel: 01-272 2918 Telex: 57784 MCCL G

is an excellent learning experience.

The complete lack of error trapping in machine code, plus the sheer speed at which things happen, makes debugging a program harder than in Basic. Nevertheless, there are useful techniques you can adopt which I'll cover later in the series.

It's the same, only different

At one level, that of syntax, Basic programmers should have little trouble making the changeover to assembly code. Basic commands consist of keywords such as PRINT, GOSUB, PAPER, INK and RETURN followed, if necessary, by operands like PRINT "Hello", GOSUB 200, PAPER p%, INK 1,26 and RETURN.

The operands are constants, variables or sometimes other Basic keyword constructions such as PRINT CHR\$(c%). Variables can be of several types, such as string or numeric, and are identified by name like message\$ and A%.

Assembly language works much the same way. The commands are called operation codes, shortened to opcodes.

Strictly speaking, assembly language doesn't deal with opcodes, the actual eight-bit binary numbers that the microprocessor interprets as its instructions. Instead it uses English mnemonics to represent the opcodes, which makes it easier for the programmer to remember. For instance opcode &C9 or mnemonic RET means return from subroutine. This distinction is rather pedantic for our purposes.

What about variables? Purists will probably cringe, but it may help Basic programmers to think of machine code as having "variables" of two types - the processor's on-chip registers (identified in assembler by letters) being one type, and the bytes that make up the computer's memory (identified by their address, 0 to 65535, or &FFFF in hexadecimal), being another.

So we have following analogy:

Basic: Keywords operate on variables
LET A=B

Machine Code: Op codes operate on registers/memory LD A,B

The syntax is very similar, although the mnemonics are more terse than keywords (the example means Load the A register with the B register). Nevertheless, most are fairly obvious and you should have no trouble picking them up.

However there is one important difference between Basic and assembler. In Basic, A=A+B or D=C+E works just as well as aardvaak=aardvaak+baboon or dolphin=coyup+egret, if you fancy zoological variable names. Keywords will work on any variables (of the right type).

Basic doesn't care.

Machine code does. Certain operations will only work on certain registers. ADD A,B is fine, making A equal to A plus B. But there's no way to add the C register to the D register and store the result in the B register in one go. For single-register addition, the processor insists that one of the registers involved must be A, and the answer must be left in A. That's the way the chip is built. To do D=C+E, we need to do some shifting about:

LD A,C ;put C into A

ADD A,E ;add E to it, leaving answer in A

LD D,A ;move answer from A to D

Notice that A's original contents have been lost (A is now C+E too), so if they were important you would have to save them before doing this operation and restore them afterwards. This shifting

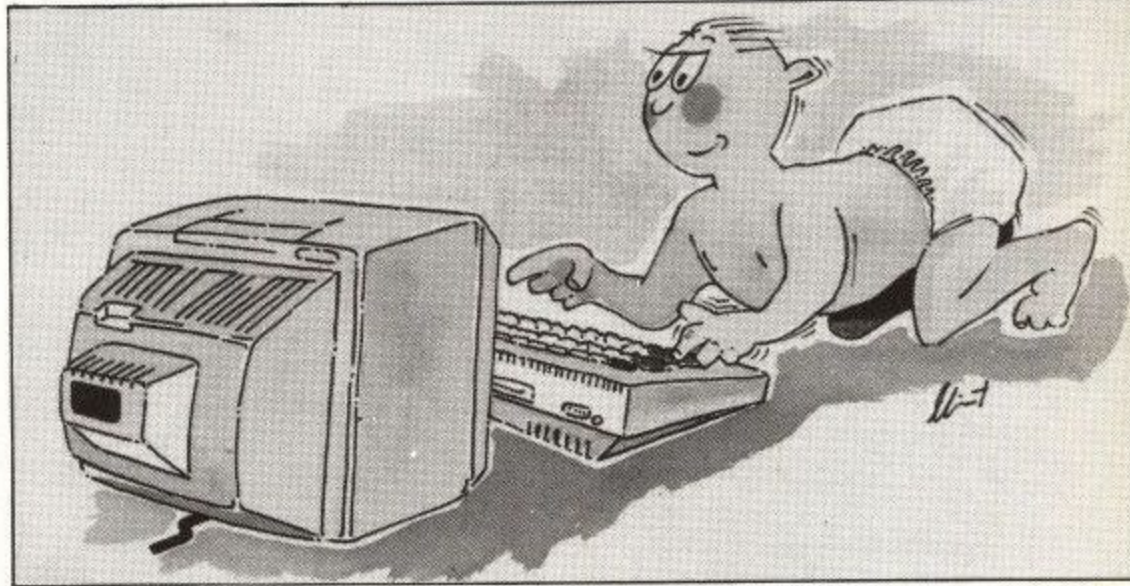
various ways. In short, it is the most used of the available registers and is the real workhorse of any program.

Closely associated with the A register is the flag or F register. This is eight bits wide too, but the bits represent states or conditions rather than a number. For example, the least significant bit in F is called the "carry" flag. If an addition causes a carry, this bit is set to 1, otherwise it is reset.

The carry also functions as a "borrow" when subtracting, and as a temporary store for bits being shifted. Bit 6 of F is the "zero" flag, set if an operation results in a value of zero, and reset otherwise.

Other important flags are "sign" and "parity/overflow". Op codes exist for testing these flags: the machine code equivalent of IF...THEN.

There are a further six eight bit



about of data is one of the main characteristics of machine code that the Basic programmer must get used to.

Registering the details

Let's look at what registers are available on the Z80, the microprocessor at the heart of the Amstrad computers. First and most important is A, the accumulator.

As we have seen, for eight bit arithmetic (addition and subtraction only, I'm afraid - no multiplication or division) it must form one of the operands, and holds the result afterwards. A series of additions accumulates a running total in A, hence its name.

Comparison instructions are available for testing the value of a byte in A, and A is also required for any of the logical operations (AND, OR, XOR or NOT, which work the same as in Basic).

A can be incremented and decremented, and have its contents directly transferred to and from any specified byte in memory. Its contents can be shifted and rotated left and right in

registers, called general purpose registers and labelled B,C,D,E,H and L. These are less versatile than A, as we have seen, and are used mostly for temporary storage of values.

Being located on-chip, interchange of data between each other and A is very fast and efficient. They can all be directly incremented and decremented, making them useful as loop counters, and the shift and rotate instructions also apply.

Furthermore, the registers can also be used in pairs to represent 16 bit values. The three pairings are BC, DE and HL. This allows 16 bit arithmetic to be performed (here HL plays the role of the 16 bit accumulator), but there are no op codes for 16 bit comparisons or logical operations.

One of the more important uses of the register pairs is as "pointers", which means the 16 bit value in a pair is used not as data, but as a pointer to the address of a memory byte that is to be used as data. This is good for indexing the entries in a table stored in memory.

Two more 16 bit registers are available,

the index registers IX and IY. These cannot be split into two eight bit halves (not legitimately, at any rate), are less versatile than the general purpose registers, and as their name suggests are most often used as pointers or indexes to data in memory.

In this respect they have an additional feature, in that they take an additional fixed offset. For example, LD A,(HL) puts the byte pointed to by HL into A. So does LD A,(IX), but LD A,(IX+5) adds 5 to the contents of IX and gets that byte instead. This feature could be used to add up the fifth entries from a group of tables.

The Z80 contains an "alternate register set" called A', F', B', C', D', E', H' and L' which can be swapped with the normal set at will and thus almost double the on-chip storage capacity. However in most home computers these registers store values used by the operating system. The Amstrad is no exception, so we cannot use the alternate set without taking special precautions.

Your assignment is . . .

Assigning a value to a register or memory byte is one of the most fundamental

operations. In Basic it is often done implicitly, as in Mode 2, where the screen mode is a variable (0-2) and is being assigned the required value. The machine code equivalent is:

LD A,2: put required mode in A

CALL &BC0E: this is a firmware subroutine that changes the screen mode.

The result on-screen is identical. We put the 2 in A because that is where the subroutine expects to find it, although how it changes the mode isn't really of interest to us.

In Basic the command to assign a value to a variable is LET (we could have said LET m=2:MODE m but it's a bit long-winded). Basic programmers almost always leave out the LET, which is optional. The assembler equivalent is LD (Load) and is not optional.

Let's finish this article with a useful example. I've mentioned that machine code has no PRINT command. Let's write one as a subroutine we can incorporate into future programs.

The Basic program is PRINT "Hello". Basic knows that this means start at the "H", and move along the string sending characters to the screen until there are no

more left, that is loop five times. We have to duplicate this in machine code. Here's how:

LD HL,string: The assembler works out the actual address of the label 'string' as a 16 bit number

LD B,5: We know the string is five characters long

CALL print: This is a subroutine that prints B characters starting from address in HL

RET: Go back to wherever we called this routine from

LD A,(HL): Get a character from the address pointed to by HL

CALL &BB5A Call the firmware subroutine to print a character on screen

INC HL: Increment (add one to) HL to point to next character

DEC B Decrement B, the loop counter

JR NZ,print: IF B did not reach zero, THEN there are more characters to print. Go do it.

RET: ELSE B is zero, so we've printed five characters and finished. Return to where we called this subroutine.

TEXT "Hello": the message to be printed

ACU

"Quite the best and most flexible personal accounts system I've seen - doubles as an inexpensive business system" Computing with the Amstrad September 1985
 "Money Manager is good enough to make most programs of this type give up in shame" Popular Computing Weekly 17-23 April 1986

Unbeatable value

CPC464

CPC664

CPC6128

MONEY MANAGER

Thousands of satisfied users!

ONLY £29.95 Incl. VAT, p&p

Unrivalled features

PCW8256

PCW8512

Financial management software for personal and/or small business use.

Money Manager is an easy-to-use system for recording all financial transactions, and for analysing them in a number of very powerful ways in order to facilitate sound financial management. It is ideal for controlling the finances of a small business, or for users wishing to control their personal finances in a business-like way. Use it to check bank statements, keep track of expenditure, monitor cash flow, make budgeting forecasts, prepare business financial statements, pacify your bank manager, convince the tax and VAT inspectors, avoid nasty surprises, etc. etc.

12 months of entries are kept in a file stored on your disc. At any time, you may load a file into the computer memory, add to or edit the entries, analyse them, print statements, and then save the updated file for later use. Entries may be historic (for record keeping) or forecast (for budgeting). You may have any number of separate files, and make copies of files for archive purposes. You may advance the period covered by a file month by month.

Up to 100 separate transactions may be entered per month. Each entry consists of:

- The day of the month, e.g. 23rd of June.
- An account number, one of up to 9 defined by you to suit your circumstances e.g. 1=Barclays, 2=Visa, 3=Halifax etc.
- Reference, e.g. ABC123 for a cheque number or invoice reference.
- A class code, one of up to 50 defined by you to suit your circumstances e.g. h0=Household expenses, h1=Mortgage, h2=Rates or p0=Production, p1=Raw materials, p2=Assembly, p3=Packing, etc.
- A description so that you can see what each transaction was for, e.g. "New gearbox" or "Box of 10 discs".
- An optional single character mark which you may include for further classification, e.g. b=business, p=private, etc.
- The amount of the transaction, which may be plus or minus.
- A marker to indicate whether the entry is exempt, zero rated or taxable for VAT, or alternatively the actual VAT paid.

You may select categories according to account, class and mark (e.g. all entries, or all motoring expenses for business using a credit card, etc.) and produce reports on the screen or printer as follows:

- Full detailed statements, showing each transaction for any month or for the whole year.
- Detailed monthly VAT statement showing input and output amounts excluding VAT, the actual VAT and the total amount, plus totals and net VAT due.
- Tables showing the totals in each class for each month of the year.
- Tables showing the totals in each class for each account.
- Tables showing monthly maximum, minimum, average balances, turnover, cashflow etc.
- Bar graphs of any category month by month.
- Pie charts of annual totals for various categories (CPC version only).

Plus: standing orders - entries optionally sorted into date order - item search facility. Comprehensive manual and full set of practice data included. Full telephone support.

Send cheque or credit card number or phone for immediate despatch.



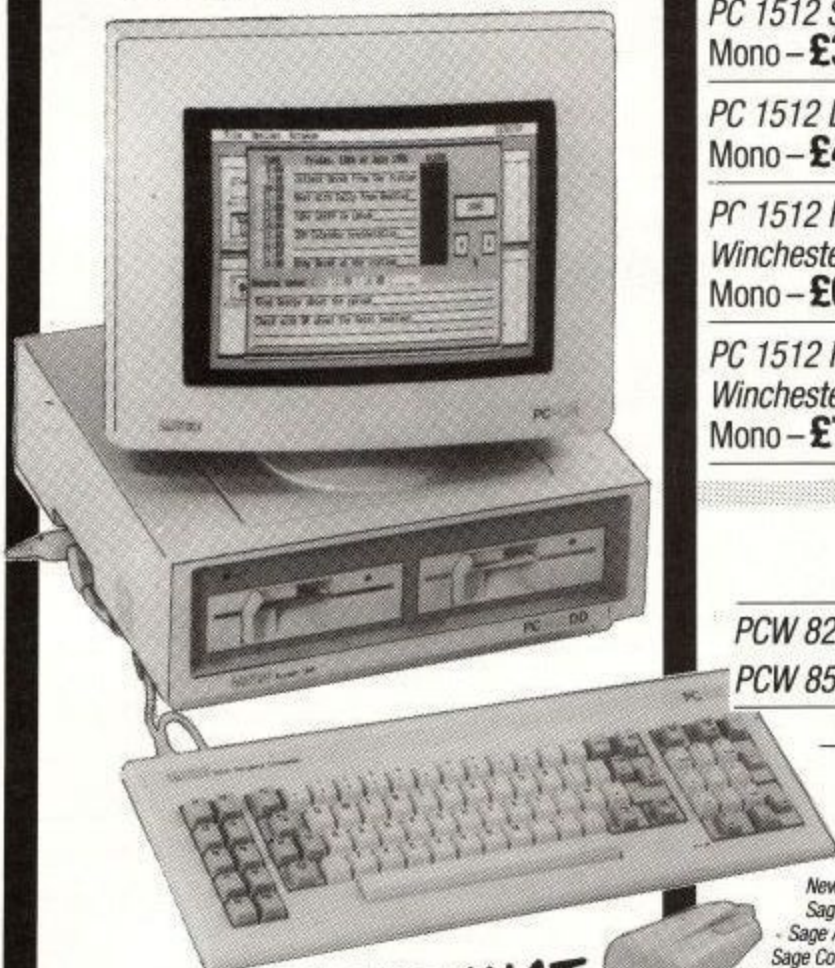
Connect Systems

3 Flanchford Road, London W12 9ND 01-743 9792 8am-10pm 7 days a week



DANUM

**THE NORTH'S
LEADING AMSTRAD
BUSINESS
ADVICE CENTRE**



CALL IN AND CHAT
No appointment necessary



MODEMS

AMSTRAD MODEM FOR PCW 8256/8512
MODEMS FOR PC, 464, 6128 etc.

CALL FOR PRICE

DANUM

COMPUTER SYSTEMS
17 East Laith Gate, Doncaster,
South Yorkshire DN1 1JG

TELEPHONE (0302)

20355

AMSTRAD

PC 1512 IN STOCK NOW!!!

HARDWARE

PC 1512 SD Single Drive
Mono - **£399** Colour - **£549**

PC 1512 DD Twin Drive
Mono - **£499** Colour - **£649**

PC 1512 HD10 10Mb
Winchester
Mono - **£699** Colour - **£849**

PC 1512 HD20 20Mb
Winchester
Mono - **£799** Colour - **£949**

SOFTWARE

Wordstar 1512 WP Package	£60.83
Supercalc II Spreadsheet	£43.88
Supercalc III Spreadsheet	£60.83
Sidekick for PC 1512	£26.04
Reflex for PC 1512	£60.83
Sage Accountant Package	£149.00
Sage Accountant Plus	£199.00
Sage Payroll	£99.00
Sage Bookkeeper	£99.00
Sage PC Write WP	£99.00
Sage Desk Set	£69.00

DIGITAL RESEARCH BOOKS

Introducing the Amstrad PC	£ 7.95
Using GEM on the Amstrad PC	£12.95
Using DOS Plus on the Amstrad PC	£ 9.95
DOS Plus Manual for the Amstrad PC	£17.50
Using presentation graphics on the Amstrad PC	£12.95
Word Processing using GEM Write	£ 9.95

PCW 8256/8512

PCW 8256 Complete - **£399**
PCW 8512 Complete - **£499**

SOFTWARE

Loco Mailmerge	£34.75
Loco Spellcheck	£34.75
Delta D/Base	£86.95
Multiplan S/Sheet	£60.86
Newword II WP	£60.86
Sage Accounts	£86.95
Sage Accounts Plus	£130.43
Sage Combo Pack	£173.90
Sage Retrieve D/Base	£60.86
Sage Payroll Pack	£60.86
Pocket Wordstar and Mailmerge	£86.95

10 Mb HARD DISK & MONITOR STAND

- ▲ Specifically designed for PCW 8256/8512
- ▲ 10 Mb formatted capacity
- ▲ Fully supported by Amstrad Hardware and Software
- ▲ Fast 85 MS access time
- ▲ Supplied with enhanced CP/M plus
- ▲ Complete with controller and drive
- ▲ Introductory offer

£399.00

PRINTERS FOR YOUR AMSTRADS

All prices include cables and a serial/parallel interface for PCWs.

DOT MATRIX

	For PC 1512	For PCW 8256/8512
Citizen 120 100 CPS draft, 25 CPS NLQ, 80 col	£195.00	£229.00
Citizen LSP10 100 CPS draft, 25 CPS NLQ, 80 col	£199.00	£233.00
Citizen MSP10E 160 CPS draft, 40 CPS NLQ, 80 col	£275.00	£309.00
Citizen MSP15E 160 CPS draft, 40 CPS NLQ, 132 col	£349.00	£383.00
Epson LX86 120 CPS draft, 16 CPS NLQ, 80 col	£235.00	£269.00
Amstrad DMP3000 105 CPS draft, 80 col	£155.65	N/A

DAISY WHEEL

Daisy Step Junior 14 CPS, 132 col	£169.00	£199.00
Daisy Step 2000, 21 CPS, 132 col	£245.00	£279.00
Juki 6100, 20 CPS, 132 col	£285.00	£319.00
Citizen Premier 35, 35 CPS, 132 col	£495.00	£529.00

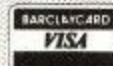
Serial and Parallel interface for PCW 8256/8512 £49.00

*Phone or call for your comprehensive software listing for all Amstrad PCs and PCW computers.

Carriage charges for hardware	£ 7.50
Small items	£ 2.50
Books and software	£ 1.50

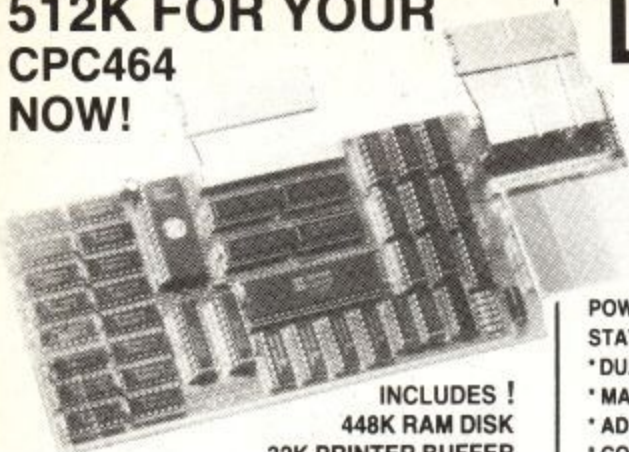
MAIL ORDER DIVISION

We accept orders with cheques, VISA or ACCESS. All products can be reserved by phone.



ALL PRICES EXCLUDE VAT (no VAT is charged on books)

**512K FOR YOUR
CPC464
NOW!**



INCLUDES !
448K RAM DISK
32K PRINTER BUFFER
Z80 MACHINE CODE MONITOR
EXPANDED BASIC AND GRAPHIC SUBSET
ALLOWS MINIMUM 60K TPA FOR CPM USAGE

EASY INTERNAL "PLUG IN" INSTALLATION, NO SOLDERING REQUIRED. INTELLIGENT ROM SOFTWARE ENSURES MAXIMUM PERFORMANCE. UP TO 288K PROGRAM SPACE AND 256K DATA SPACE. FULLY COMPATIBLE WITH 3" DISK DRIVES.

**SCREENS
UNBEATABLE VALUE**

£89.95!

**SCREENEX
256K RAM UPGRADE FOR PCW8256**

OUR RAM UPGRADE KIT WILL GIVE YOUR PCW 8256 DOUBLE RAM CAPACITY. EASY PLUG IN INSTALLATION NO SOLDERING REQUIRED.
FULL FITTING INSTRUCTIONS SUPPLIED.

**UNCHALLENGED
PRICE
BREAKTHROUGH**

£26.05!

FMP PERSONAL ASSISTANT PACK

AN AMAZING COMPENDIUM OF BUSINESS SOFTWARE FOR CPC 128, PCW 8256 AND PCW 8512 COMPRISING:

WORD PROCESSOR, DATABASE, MAILING, INVOICING, APPOINTMENTS & BANK ACCOUNT RECONCILER

A POWERFUL SET OF BUSINESS PROGRAMMES ON ONE DISC TO SATISFY MOST NEEDS. NORMAL PRICE £129.95 BUT OFFERED AT OUR RIDICULOUS PACKAGE PRICE DUE TO BULK BUYING!

**SAVE AN
AMAZING £84!**

£45.95!

**8256 & 8512 CENTRONICS
INTERFACE**

SIMPLE "PLUG IN" INTERFACE ENABLING CONNECTION BETWEEN YOUR PCW AND CENTRONICS PARALLEL DOT MATRIX OR DAISYWHEEL PRINTERS. NO SOLDERING OR MODIFICATION NECESSARY TO INVALIDATE YOUR WARRANTY.

HIGH QUALITY COMPONENTS ENSURE TROUBLE FREE USE AND MAXIMUM USE FROM YOUR CENTRONICS PRINTER. TEST ONE TODAY AT SCREENS.

**SCREENS
AMAZING
PRICE**

£35.50!

HOW TO ORDER

PERSONAL CALLERS WELCOME MONDAY-SATURDAY 9AM-6PM
EARLY CLOSING-WEDNESDAYS. OPPOSITE MOOR PARK UNDERGROUND STATION. COFFEE ALWAYS HOT!
TELEPHONE QUOTING CREDIT CARD NUMBER FOR FAST DISPATCH
WRITTEN ORDERS WITH PAYMENT PLEASE ALLOW 14 DAYS DELIVERY
DELIVERY ORDERS BELOW £200 ADD £4.00 OVER £200 ADD £6

PLEASE ADD 15% VALUE ADDED TAX TO QUOTED PRICES
ALL OFFERS SUBJECT TO AVAILABILITY

**LOOK!
1.4 MB DISK STATION FOR
CPC464!**



POWERFUL 'STAND ALONE' DUAL DISK STATION FEATURING:
* DUAL BASF 6138 5-25" SLIMLINE DRIVES
* MASSIVE 1400K FORMATED CAPACITY
* ADVANCED V-DOS OPERATING SYSTEM
* COMPATIBLE WITH 2" DISK DRIVES
* CPM 2.2 OPERATING SYSTEM WITH MANY USEFUL UTILITIES INCLUDED
* COMPREHENSIVE ENGLISH MANUAL

OUR PRICE IS EQUAL TO ONLY £130 PER 720K DISK DRIVE
AMAZING VALUE

£260!

* CPM IS A REGISTERED TRADEMARK OF DIGITAL RESEARCH INC

** V-DOS IS A REGISTERED TRADEMARK OF VORTEX COMPUTER SYSTEMS

A COLOUR TV FOR £78!!



FACT NOT FICTION. NOW THANKS TO SCREENS ENGINEERS AMSTRAD COLOUR MONITOR OWNERS CAN HAVE A TOP QUALITY COLOUR TV FACILITY THROUGH SCREENS AMAZING SCREENVISION

SIMPLY PLUG IN YOUR MONITOR, NO MODIFICATIONS, ALTERATIONS OR SPECIAL CABLES NEEDED AND YOUR MONITOR HAS DUAL PURPOSE AS A DEDICATED COMPUTER MONITOR AND FULL COLOUR TELEVISION!

- * SUPER SLIM MODIFIED TV-VIDEO TUNER OF MOST MODERN SPECIFICATION AND DESIGN
- * BUILT IN AUDIO AND COMPOSITE VIDEO OUTPUT
- * PUSH BUTTON CHANNEL SELECTION * CRISP CLEAR PICTURES ON ALL CHANNELS (subject to reception area)
- * LED STATUS INDICATOR * ISOLATED 240V AC POWER FOR COMPLETE SAFETY
- * SEPARATE CONTROLS FOR BRIGHTNESS, COLOUR & VOLUME * ON-OFF SWITCH

**SCREENS
EXCLUSIVE
SCREENVISION**

£78.22!

FULLY GUARANTEED

**3" FLOPPY DISCS
NO SHORTAGE AT
SCREENS**

CF2=£30_{IN 10'S}

CF2DD=£48_{IN 10'S}
BULK ORDERS WELCOME

SCREENS SCOOP!

**PANASONIC KX-P1080 NLQ
IMPACT DOT MATRIX PRINTER**



- * NEAR LETTER QUALITY PRINTING IN ALL PITCHES
- * OPERATOR-ACCESSIBLE PRINT MODE SELECTOR (STANDARD-PROGRAM-NLQ-COMPRESSED)
- * TRACTOR & FRICTION FEED STANDARD
- * PROPORTIONAL SPACE PRINTING * PRINTER BUFFER
- * 100 CPS NORMAL MODE. 20 CPS NLQ MODE. 86CPS COMPRESSED MODE
- * FULL 96 ASC11 CHARACTERS, ITALIC 32 PLUS INTERNATIONAL CHARACTERS 11 COUNTRIES

**GIVE A-WAY
PRICE SO
HURRY**

£173.85!

INCLUDING CABLE & FREE MAINLINE DELIVERY

DON'T BUY UNTIL YOU CHECK OUR DISCOUNT PRICES ON ALL AMSTRAD HARD & SOFTWARE

SCREENS MICROCOMPUTERS & ELECTRONICS
MAIN AVENUE, MOOR PARK, NORTHWOOD, MIDDLESEX, ENGLAND
TELEPHONE: 09274 20527
TELEX: 923574 ALACOL G
PRESTEL: 927420664
FACSIMILE: 0923 40402

CORPORATE, EDUCATIONAL, TRADE AND EXPORT INQUIRIES WELCOME.

YOUR introduction to today's ever-widening world of communications!

TeleLink

If you've ever linked your Amstrad to a modem – or if you are intending to do so – you'll want to find out all you can about the exciting world of communications that lies at your fingertips.

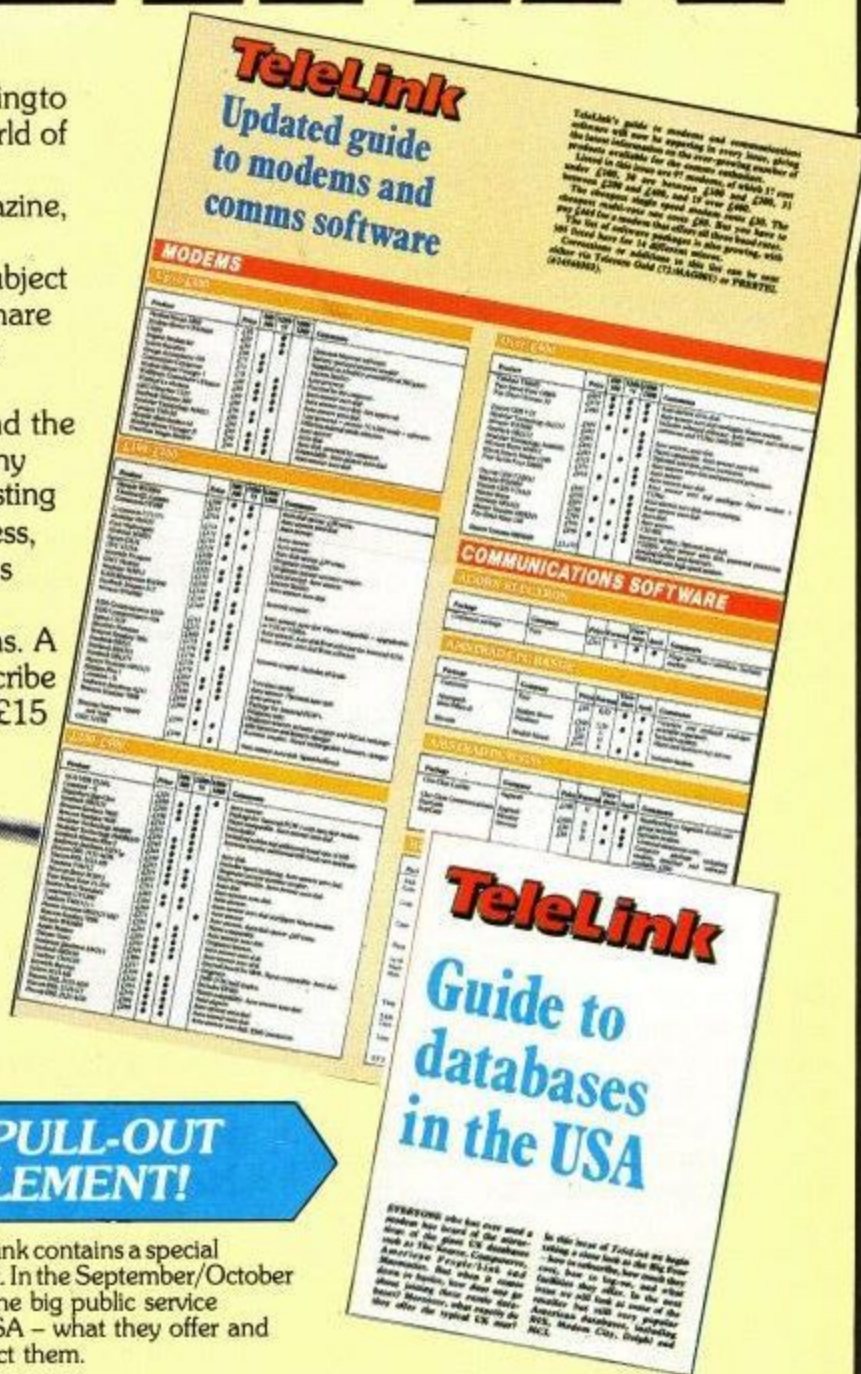
And there's no better guide than Britain's No. 1 comms. magazine, TeleLink.

In its pages the country's top experts in this fascinating subject introduce you to the latest developments in which YOU can share . . . unveiling the mysterious world of the hacker, advising you on data security, reviewing new products, taking you behind the scenes at Prestel, Telecom Gold and many others. There's also a Directory section listing hundreds of bulletin boards you can access, plus details and prices of current modems and communications software.

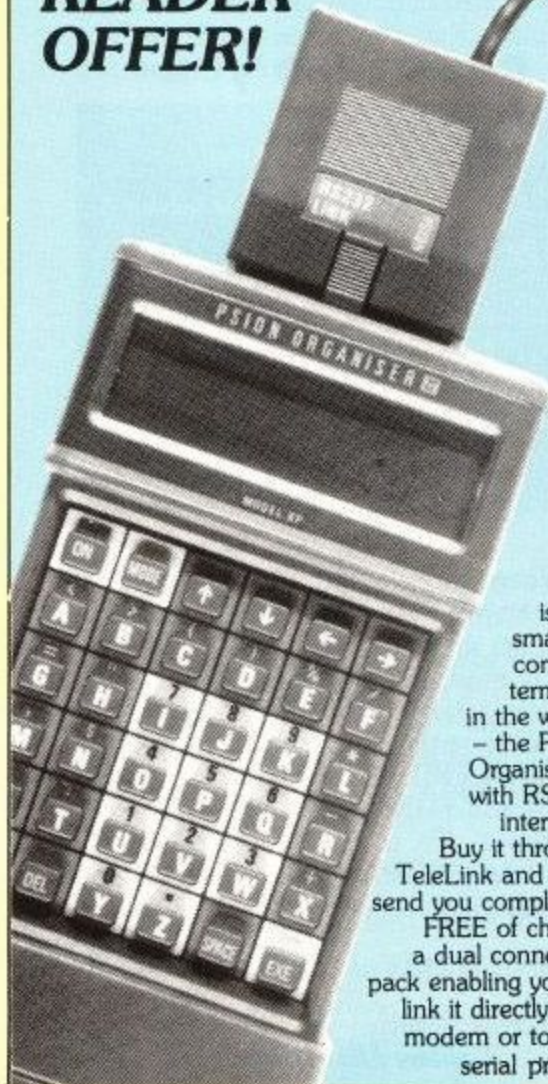


Steve Gold, the UK's top comms. writer, heads the TeleLink team of experts.

TeleLink is published every two months. A single copy costs £1.50, or you can subscribe for the next 12 issues, post free, for just £15 – a saving of £3!



EXCLUSIVE READER OFFER!



This is the smallest comms. terminal in the world – the Psion Organiser II with RS232 interface. Buy it through TeleLink and we'll send you completely FREE of charge a dual connector pack enabling you to link it directly to a modem or to any serial printer

FREE PULL-OUT SUPPLEMENT!

Every issue of TeleLink contains a special pull-out supplement. In the September/October issue it's all about the big public service databases in the USA – what they offer and how you can contact them.

TeleLink

Subscription (12 issues) UK & Eire £15 5001
 Europe £23 5003
 Overseas Airmail £38 5004

(Commencing with _____ issue)
 Single copy (September/October) £1.75 5020
 Europe add 50p Overseas add £1
 Binder £3.95 5017
 Europe add £3 Overseas add £5

Please indicate method of payment (✓) Access/Mastercharge/Eurocard/Barclaycard/Visa Expiry date _____
 Card No. _____
 Cheque/PO made payable to Database Publications Ltd.

Name _____ Signed _____
 Address _____

Post to: TeleLink, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

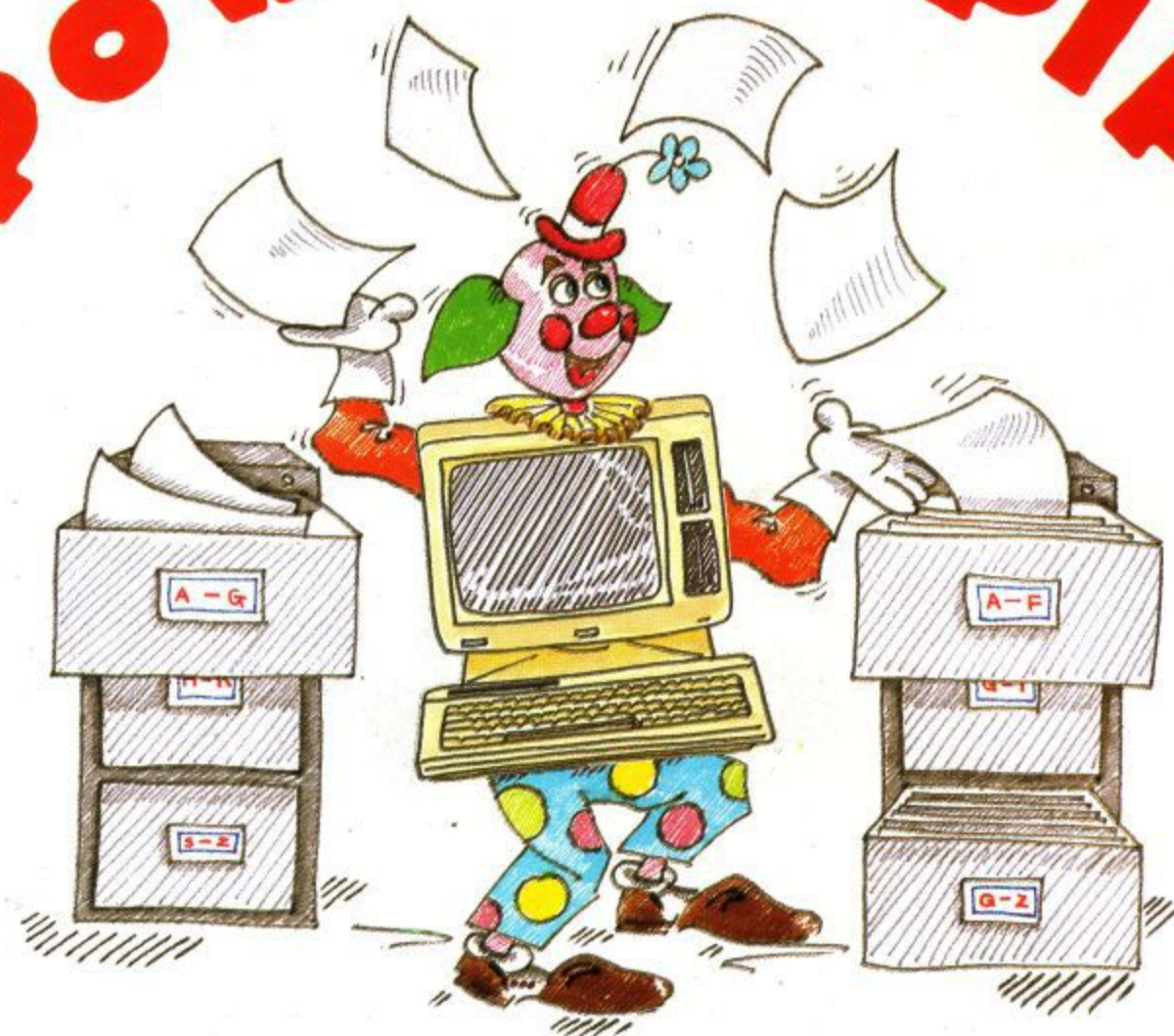
Order at any time of the day or night:

Telephone Orders:
061-429 7931
 Orders by Prestel:
Key *89, then 614568383
 MicroLink/Telecom Gold
72:MAG001

Don't forget to give your name, address and credit card number
 Please allow up to 28 days for delivery.

ENQUIRIES ONLY:
 061-480 0171 9am-5pm

Power to PIP



The Peripheral Interchange Program otherwise known as PIP is a utility program included with all CP/M based systems. PIP has many useful functions, some of which seem to go undocumented. This article will show you how many of PIP's features may be utilised in day to day use.

When using PIP the general command format is shown in Figure 1.

Imagine that you have a file called FRED.TXT on your B drive and you want to make a copy of it on to drive A. At the A> prompt simply type the following line:

PIP A:FRED.TXT=B:FRED.TXT

When you have typed it press the Return

If you use PIP just to copy files you are missing out on a lot of more powerful features. Nigel Grant shows how to get more from this program.

key and the file B:FRED.TXT will be copied to drive A. If you had wanted to call the file copied on to drive A by a different name then this is how to do it:

PIP A:HARRY.TXT=B:FRED.TXT

The above statement will copy the file B:FRED.TXT to drive A and rename it to HARRY.TXT.

Extensive PIPping

When there is more than one file to be copied PIP should be called on its own. This is achieved as follows:

A>PIP

When you press Return an asterisk (*) appears on the screen. This is the PIP prompt, meaning that PIP is ready for you to enter instructions.

Let's set up an example of the PIP sequence required to copy three imaginary files: FRIENDS.DBF, ACCOUNTS.DTA and FONTASY.COM.

Step 1. To copy the file FRIENDS.DBF from drive A to drive B and rename it OLD.DBF, type:

B:OLD.DBF=A:FRIENDS.DBF

and press Return.

Step 2. To copy ACCOUNTS.DTA from

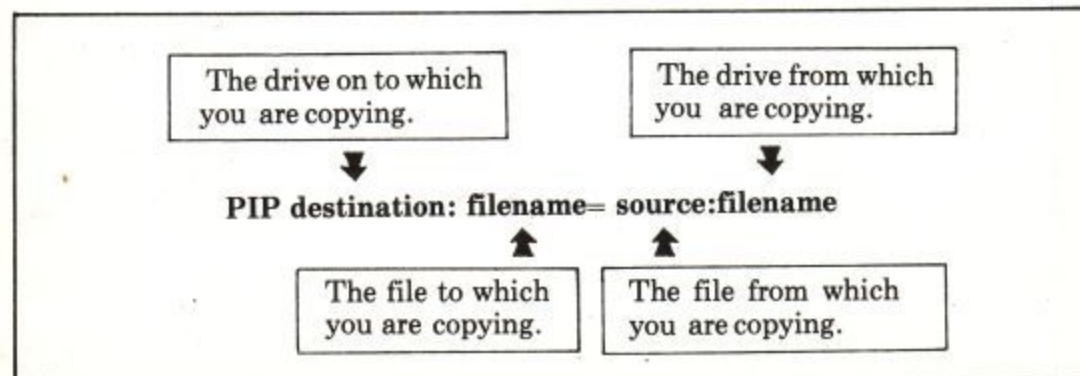


Figure 1: The PIP command entries

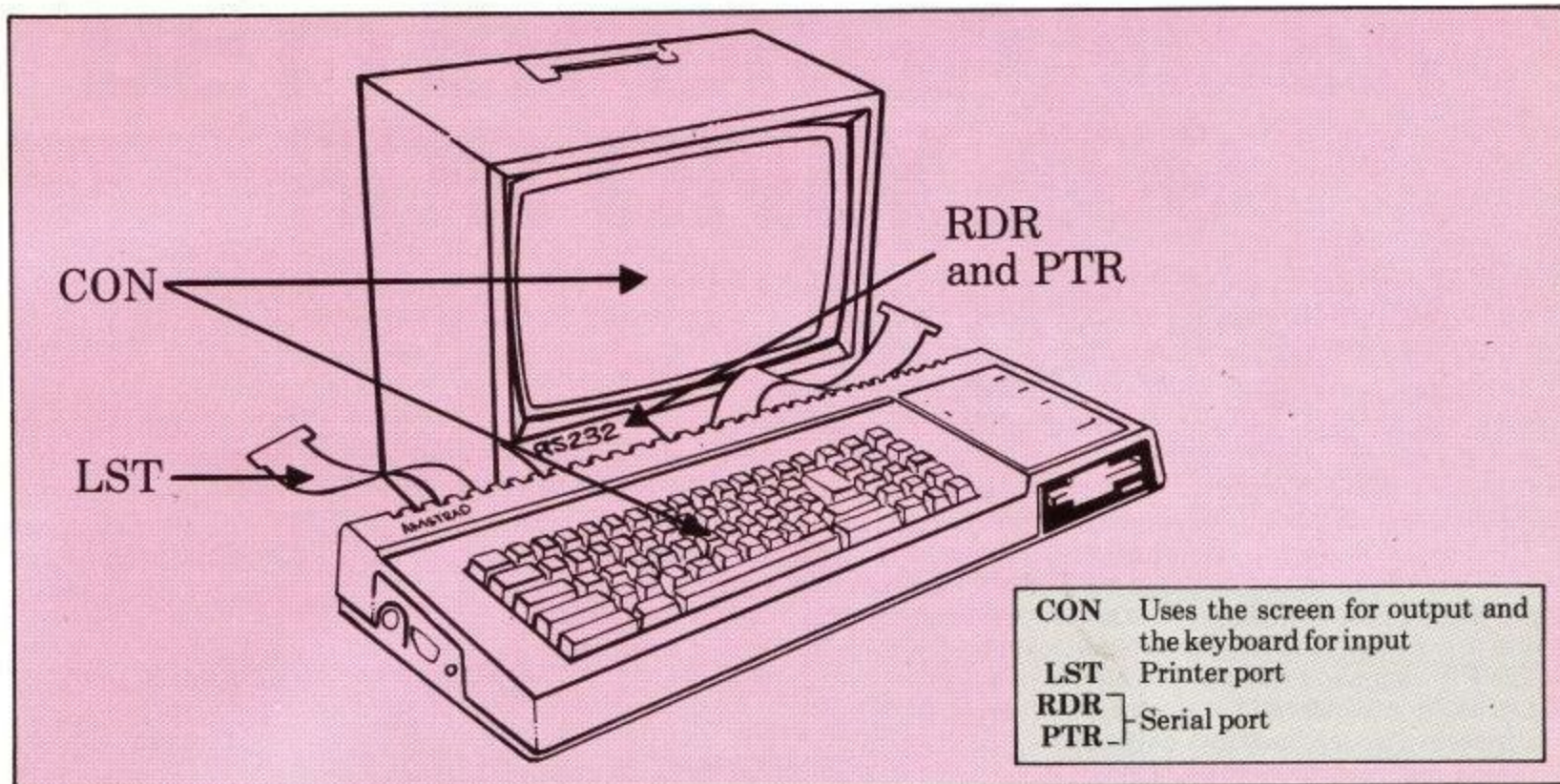


Figure 2

drive A to drive B and rename it ACC.DAT, type:

```
B:ACC.DAT=A:ACCOUNTS.DTA
```

and press Return.

Step 3. To copy FONTASY.COM from drive B to drive A, type:

```
A:FONTASY.COM=
B:FONTASY.COM
```

and press Return.

Step 4. To return from the PIP prompt (*) to the CP/M A> prompt press Return.

The PIP sequence we have just carried out would look like this on screen:

```
CP/M Plus Amstrad Consumer Electronics plc
v 1.1, 61K TPA, 2 disc drives, 368K drive M:
A>pip
CP/M 3 PIP VERSION 3.0
*b:old.dbf=a:friends.dbf
*b:acc.dat=a:accounts.dta
*a:fontasy.com=b:fontasy.com
*tc
A>
```

PIP and wildcards

PIP is a very convenient way of copying groups of related files using the inclusive CP/M wildcard characters ? and *.

For example, to copy all files on drive A whose names begin with AMSTRAD to drive B, type:

```
PIP B:=A:AMSTRAD.*
```

Or to copy all files from drive A to drive B, type:

```
PIP B:=A:*.*
```

Since using wildcard characters in PIP

is the most efficient way of copying multiple files of the same type between discs, it is worth devising a standard way of naming files to make the most of this.

Merging files

If you have three or four small files and you wish to create one larger file PIP is the program to use. This is very simple and can be achieved in seconds.

Let's say that on drive A you have three files called TOM, DICK and HARRY, and you wish to merge these to create a file called FRED. The command is as follows:

```
PIP FRED=TOM, DICK, HARRY
```

This sequence will create a file on drive A called FRED which contains information from the three old files TOM, DICK and HARRY.

Getting switched on

All the examples given so far show the use of PIP in its standard mode. PIP has many other options available, most of which are set up by software switches.

A software switch is a command or series of commands issued at the end of a PIP instruction and enclosed in square brackets. These switches cover a multitude of tasks, and the command format when using them is:

```
PIP destination: filename=
source:filename[switch]
```

Note that no spaces appear between the source:filename and the brackets.

One of the most commonly used switches is [V]. This informs PIP that all data transfers should be verified. To

verify a transfer use:

```
PIP A:FRED=B:FRED.DOC[V]
```

A useful trick for those wishing to convert WordStar to standard Ascii files is to use another of PIP's switches, [Z]. For example, on drive B there is a file called LETTER.DOC which you want to use in another program but when the file is loaded it displays superfluous characters. PIP can remove these like this:

```
PIP B:LETTER.DOC=B:LETTER
ASC[Z]
```

When transferring the file in the last example it would have been quite easy to have PIP display on-screen what was happening during the transfer. This is achieved via the [E] switch. The command line to give a screen display of the above transfer would look like this:

```
PIP B:LETTER.DOC=B:LETTER
.ASC[ZE]
```

Beware - only use the [E] switch when transferring TEXT files. If it is used on any other type of file then strange things may happen.

The above examples show only a few of the simpler software switches available. PIP has many more complex switches that cannot be covered in an introductory article - for further information consult an advanced CP/M users guide.

More than just discs

So far we have only scratched the surface of PIP's capabilities. Not only can it be used for copying files between discs but also for transferring data between any logical CP/M devices.

These can be separated into three distinct categories - the screen and keyboard, the printer port and the serial



Do's and don'ts with PIP

- When copying between discs always ensure the destination disc has enough room for the file(s) that you are copying.
 - When copying a file within a disc always either rename the file or change the file extension.
 - PIP will copy a source file onto a destination disc containing a file of the same name, erasing and overwriting the old file. Always check the destination disc for this or you may be sorry.
 - Before overwriting a Read Only file PIP asks for confirmation. Press Y to overwrite or N to prevent this from happening.
 - PIP copies all file attributes such as (RNO, R/W, DIR & SYS) with files that it copies. For example a READ ONLY file will stay READ ONLY if copied with PIP.
- Even though PIP has many useful features I would advise new users to get in touch with the CP/M user group and obtain the Public Domain program SWEEP, which has all of the facilities mentioned above but is completely menu driven.

port. In a CP/M environment each of these devices has a name - see Figure 2.

These device names are used when you wish to use PIP as a tool for redirecting input and output. Complex as this may sound it is really rather easy to achieve.

The PIP command format for achieving redirection is shown in Figure 3.

Suppose you are sitting at your computer and wish to print a file called MEMO.TXT that resides on drive B, but loading your word processor seems a bit of a chore. PIP can send this file to your printer with a very simple statement. Type:

```
PIP LST:=B:MEMO.TXT
```

This tells PIP to take the file called MEMO.TXT from drive B and transfer it to the output device called LST - which just happens to be your printer.

PIP has three switches that are used when outputting to external devices:

[D]n: Specifies that the destination device copies only up to column n. For example:

```
PIP LST:=B:MEMO.TXT[D40]
```

This command would only print the first 40 columns of each line contained in the file MEMO.TXT.

[F]: Removes all form feeds included in the source file.

[P]n: Specifies the number of n lines per page.

For example:

```
PIP LST:=B:MEMO.TXT[F P65 D65]
```

The above statement would output the file B:MEMO.TXT to the printer with a Right Margin of 65 columns, a Page

Length of 58 lines and remove all Form Feeds.

Another example of using PIP to save loading complex programs is in the creation of very small text files. You find yourself having to create a small three line file containing the lines:

```
Hello John.
Got a new motor?
Yes I have.
```

Type:

```
PIP JOHN.MTR=CON:
```

After pressing Return the cursor will jump directly underneath the line that you have just typed and the screen will look like this:

```
A>PIP JOHN.MTR=CON:
#
```

PIP is now waiting for you to input information into the file JOHN.MTR from the CON: device, the keyboard. Enter the information and the screen will look like this:

```
A>PIP JOHN.MTR=CON:
Hello John
Got a new motor?
Yes I have.
```

Now you have entered the text we have to tell PIP that the file is complete by pressing the CTRL (ALT on the PCW) and Z keys simultaneously. When you have pressed CTRL Z there will be a slight pause while PIP writes the file JOHN.MTR to disc and you will be returned to the CP/M A> prompt.

In the above example CON: was used as an input device so this meant the keyboard. If CON: is used as the output

device this tells CP/M to use the screen. This means that we have now created a file called JOHN.MTR that can be viewed using PIP. To view a file we simply have to reverse the syntax. Type:

```
PIP CON:=JOHN.MTR
```

The file JOHN.MTR will now be displayed on-screen.

A more advanced feature of PIP is its ability to totally redirect all input and output. An effective use of redirection turns the computer into a very simple typewriter.

Using PIP it is possible to redirect all output from the keyboard and send it to the printer. The only problem with doing this is that screen output is redirected to the printer so your only way of knowing what you are typing is to look at the paper. Even so this is a very useful trick for printing one label. Try:

```
PIP LST:=CON:
```

Everything you now type will be printed on your printer. To stop this happening simply press CTRL Z and your machine will return to normal.

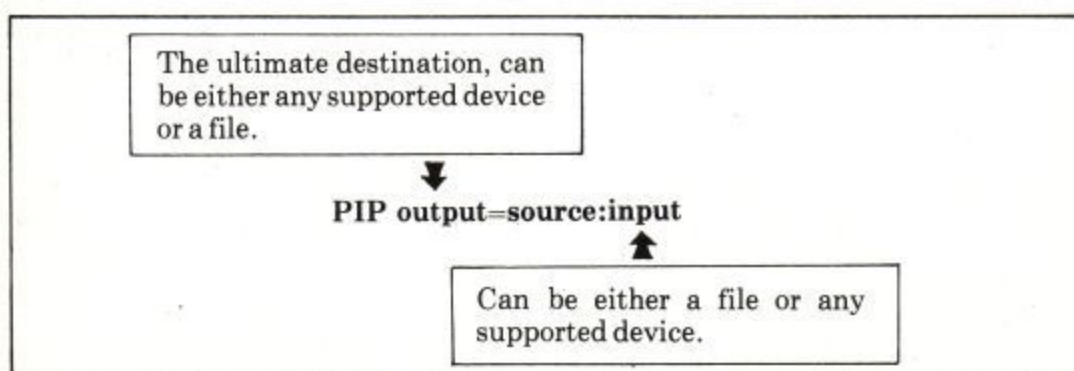


Figure 3

OPUS WILL MAKE YOU A BETTER ORGANISER FOR ONLY £60

If your micro system is starting to get out of hand a smart organiser could be the solution to your problems.

At just £59.95 the Organiser desk from Opus Supplies will help to organise your system beautifully. It's purpose built to provide plenty of storage space and because it's produced alongside our range of executive computer desking it offers a level of quality you'll appreciate.

Shelving accommodates your monitor, printer, computer, disc drive or cassette recorder and software, and the teak-finished unit is fitted with castors to make it fully mobile. The Organiser's assembled dimensions are: H. 31", W. 40¼" and D. 26".

And our price includes VAT and FREE DELIVERY.

The Organiser desk is suitable for use with all leading home micros including the BBC, Amstrad, Commodore and Sinclair computers.

Getting organised couldn't be easier. Phone us on 0737 65080 or simply post the coupon below.



To: Opus Supplies Ltd,
55 Ormside Way, Holmethorpe Industrial Estate, Redhill, Surrey.

Please rush me the following:
(PRICES INCLUDE VAT AND CARRIAGE)

_____ Organiser Desk(s) at £59.95 each (inc. VAT)

I enclose a cheque for £ _____ or please debit my

credit card account with the amount of £ _____

My Access Barclaycard (please tick) no. is: _____

Name _____

Address _____

Telephone _____



pride utilities



UNIT 14, WHITE HILL HOUSE, 6 UNION STREET, LUTON, BEDS LU1 3AN
THE UTILITY PEOPLE TEL (0582) 411686

FOR YOUR AMSTRAD 464/664/6128

TRANSMAT

£7.95 CASS
£11.95 DISC

Easy tape to disc transfer. This professionally used and respected utility has set the standard in tape to disc transfer that others attempt to mimic. Rated highly by the computer press.

Transmat's many features include: Easy operation • Auto or non auto modes • Relocator for programs which overwrite the disc area • Erase • Catalog files • Rename • Disc header reader • Select user area • A or B drive working • Transmats itself.
Also available on ROM only £19.95.

NOW ON ROM ODDJOB

£12.95 DISC
£19.95 ROM

STILL THE BEST DISC UTILITY PACKAGE

A complete disc utility with all the programs YOU have told us you wanted all together in one amazing package. A total of 39k of disc space used.

Just look at some of the features:

- A complete directory editor with which you can examine the disc directory and easily alter the contents.
- Recover erased programs.
- Hide programs from the directory.
- A complete sector editor to examine and/or alter the contents of files in HEX or ASCII.

- Map out your disc and locate where files are on the disc.
- Prevent programs from accidentally being erased.
- An intelligent disc copier that can copy those damaged/non-standard sectors on a single or twin-drive system.
- Format in half the time on either drive. Ideal for 5.25 inch second drives.

- Transfer your little used programs/files from disc onto tape to reclaim expensive disc space.
- Increase the speed of your disc drive by up to 20%.
- Load and list protected BASIC programs.
- All instructions are supplied on disc on a separate help menu.
- Simple to use with single-key selection.
- Makes full use of the disc drive. A to A, A to B, B to A, etc.
- Compatible with all AMSTRAD CPC computers.

All this for the incredible price of £12.95 on disc only ODDJOB is constantly upgraded—check with us the current version No. and if you wish, return the disc with £2 for upgrade.
NOW A ROM VERSION ODDJOB AVAILABLE—£19.95.

ADDLABS

£1.99 CASS

Create your own professionally finished address labels with this super program supplied with 50 blank address labels for most printers.

SPIRIT

£5.95 CASS

The perfect advanced software complement to Transmat for those knowledgeable in computing—Spirit offers all the tools you need in one economic package to transfer those genuine headerless programs onto disc.

To use Spirit you need a disassembler and some knowledge of machine code.

8 BIT PRINTER PORT

NEW! £17.50

A full 8 bit Printer Port obtained with this adaptor. This simply connects between the standard port and the printer lead, no other connections necessary. Will enable the user to have full graphics possibilities, definable character sets, etc.

FIDO

NEW! £11.95 DISC

A general file and disc organiser. If you can never find the program you want, then FIDO is your answer. Its many features will allow you to completely organise all your files/discs and manipulate them using a specially designed database. This menu-driven disc can store up to 200 discs or 2,150 programs. Full disc utility section - security password system (to protect your database) - Separate programs runner - Will search and list - Sort into alphabetical order - Printer option - Finds free space - Very Simple to use - Well up to Pride's usual high standards.

IF YOU HAVE ANY DIFFICULTY OBTAINING OUR PROGRAMS PLEASE USE THE ORDER FORM BELOW

ORDER FORM		ACU11/86		Cass/Disc/Rom/Port	
TRANSMAT					
SYS X					
PRICE PRINTER PORT					
SPIRIT					
FIDO					
PRINTER PAC II					
SUPER SPRITE					
SCRIPTOR					
ODDJOB					
ADDLABS					

All prices include VAT and P&P. For Europe add £1 per title. For Australasia add £1.75 per title. For rest of world add £1.50 per title. INC AIRMAIL CONTRE REMBOUSEMENT • £2.50
EUROCHEQUES accepted in Sterling

NAME _____
ADDRESS _____

PRINTER PAC II

NEW! £7.95 CASS
£11.95 DISC

The screen copier. The complete printer utility for most popular dot matrix printers including the DMP2000 - full proportional shading - full size dumps - variable buffer option to release the computer - text dumps - all modes catered for.

SUPER SPRITE

NEW! £7.95 CASS
£11.95 DISC

Create fast moving animated games easily.

An extremely powerful and versatile piece of software at a realistic price. SUPER SPRITE is a menu-driven friendly program which will offer you hours of enjoyment designing your own sprites. Included is a demo to show you the possibilities of designing and writing your own animated software. The complete instruction book gives examples of how to create and animate sprites for your own programming.

SCRIPTOR

£6.95 CASS
£10.95 DISC

An essential software utility for the DMP-1 Amstrad printer. SCRIPTOR offers 6 definable character fonts - lower case descenders - futuristic - italics - joined writing - bold and heavy - contains DESCRIBE allowing you to define your own characters.

SYS X

£6.95 CASS
£10.95 DISC

An RSX program offering more than 30 Basic commands for your Amstrad. An ideal programming aid.

WHY WAIT AGES FOR PROGRAMS TO LOAD GET YOUR TAPE SOFTWARE ONTO DISC

Our aim, here at GOLDMARK, is to provide the solutions (and a help line) to transfer your tape-based software to disc. Most of our routines require the use of TRANSMAT, a Tape to Disc Conversion program by Pride Utilities. These conversion routines are called TIE's - "TRANSMAT INFORMATION EXCHANGE SHEETS". Each issue of TIE contains between 8 and 12 solutions. TIE's were initially published by Pride at the beginning of 1985. GOLDMARK took over from Pride in April 1986 because many more Amstrad owners were buying their first disc drive or upgrading to a 6128, making it even more imperative that they should receive all the help they require to transfer their software to disc. NONE OF OUR PRODUCTS SHOULD BE USED TO INFRINGE COPYRIGHT LAWS.

We have produced a large "professional" Tape to Disc Solution Book (THE GOLDMARK BOOK), which includes an index and contains over 100 solutions incorporating TIE's 1 through to 6. Purchasing THE GOLDMARK BOOK entitles you to use the HELP LINE. We are also producing TIE sheets every month (number 6 was published in April). THE GOLDMARK BOOK and the TIE sheets are not stapled photocopies but are professionally produced. Both THE GOLDMARK BOOK and TIE sheets can be purchased individually. However, one of the facilities we offer is membership of the GOLDMARK CLUB.

By joining THE GOLDMARK CLUB you will receive THE GOLDMARK BOOK together with our NEWSLETTER book and all TIE sheets and newsletters as they are published each month up to and including March 1987. You will also receive FOUR free utilities during your membership, large reductions on our range of software/hardware and of course use of the HELP LINE. Our membership year is from 01/04/86 to 31/03/87. Regardless of when you join you will receive all that has been issued since April 1986. Your name will then be added to The Goldmark Club mailing list until March 1987. (Purchasers of TIE's 1 to 4, THE PRIDE BOOK, or THE GOLDMARK BOOK can claim a £2.00 discount - ask for details).

Goldmark also offers a TAPE-TO-DISC TRANSFER SERVICE that was the FIRST professional service, one which our competitors are still trying to copy. If we cannot transfer it - no one else can. We can offer STAR WATCHER(SOFT 915), ENTREPRENEUR, LORD OF THE RINGS, HOME BUDGET(SOFT119) and many, many more as part of this service. Send us your original cassette and instructions. We will return the instructions but cassettes are retained by us for legal reasons.

SPEED-TRANS is a utility specifically designed to transfer most programs protected with SPEEDLOCK. Among those it will transfer are Batman, Jet Set Willy, Rambo, Scrabble, Raid, Winter Games, Nomad, Yie Are Kung Fu etc. This utility is TRANSMATTABLE to disc.

VIEWTEXT. This utility (written by Pride and only available from us) will allow you to see the text contained in binary files. It is particularly useful for programs that require passwords etc. to play the game (e.g. Hacker and other adventure games). This utility is TRANSMATTABLE to disc and is one of the FREE utilities given to GOLDMARK CLUB MEMBERS.

TRANSIT. This utility (again by Pride and only available from us) will copy individual files from drive A-A, A-B, B-B and B-A. IT DOES NOT REQUIRE THE USE OF CPM. It is a necessity for those with a 5 1/4 second drive. It is menu-driven and, as with all our products, is extremely easy to use. It is also another GOLDMARK CLUB FREE utility.

LORD OF THE RINGS conversion cassette. Side 1 of this utility will AUTOMATICALLY transfer the three game parts to disc (including the screen). Side 2 is for NON-DISC owners and will reduce the original loading from around 14 minutes to only 3 minutes. This utility really saves time when you keep getting killed!

All prices include P & P	UK only	Europe	Rest of World
TIE sheets	£2.00	£2.50	£2.50
THE GOLDMARK BOOK	£5.00	£5.50	£5.75
THE GOLDMARK CLUB (1 years membership)	£20.00	£25.00	£26.00
TAPE TO DISC TRANSFERS:			
First title including price of disc	£6.00	£7.00	£7.50
Additional titles on the same disc	£3.00	£3.00	£3.00
SPEEDTRANS	£5.50	£6.50	£7.00
VIEWTEXT	£3.00	£4.00	£4.50
TRANSIT	£4.00	£5.00	£5.50
LORD OF THE RINGS conversion cassette	£4.00	£5.00	£5.50
MASTERFILE 464 (disc)	£25.00	£26.00	£26.50
MASTERFILE 464 with MPX (disc)	£29.50	£30.50	£31.00
MASTERFILE 128 (disc)	£32.50	£33.50	£34.00
MASTERCALC 464/664 (disc)	£25.00	£26.00	£26.50
MASTERCALC 128 (disc)	£32.50	£33.50	£34.00
DLAN Display Language (disc)	£13.50	£14.50	£15.00
DMP 2000 Ribbons	£5.75	£6.25	£6.75
AMSOF2 CF2 3inch Discs	£3.75	£4.25	£5.00
100 Address labels	£1.30	£2.30	£2.80
100 Cassette labels	£2.00	£3.00	£3.50
100 Disc labels	£1.65	£2.65	£3.15

ORDER FORM Please tick appropriate item



1. Please send me The Goldmark Book containing TIE's 1-6. As a non-member I understand that I will be charged for subsequent TIE sheets if I require them (e.g. TIE 7 onwards)

Mr/Mrs Initials

2. Please send me TIE sheet (state number) (TIE number 6 onwards available separately)

3. Please enrol me in THE GOLDMARK CLUB. If you have already purchased The Goldmark Book or have purchased TIE's 1-4 from Pride Utilities you may claim a discount of £2.00. However you must send the book or TIE's to us as proof.

Telephone

4. Please transfer the enclosed ORIGINAL tape(s) to Disc.

Please give machine type(s). CPC

5. Please transfer the enclosed ORIGINAL tape/disc to EPROM.

I enclose £ (All prices inclusive)

ACU11/86

FOR FURTHER INFORMATION please telephone the above number between 0900-1000 or 1800-2100 or send a large SAE Please send your cheque (Sterling please) or UK postal order to the address above - we accept EUROCHEQUES Our Australasia agents are TECH-SOFT Computer Wholesale, 324 Stirling Highway, Claremont, W.A. 6010. Tel: 385 1885

Getting to know MS-DOS

The PC 1512 brings with it two new operating systems. Robert Schifreen looks at MS-DOS.

Probably the most widely used operating system on micros is MS-DOS (Microsoft Disc Operating System), the system used in the IBM PC. When the PC 1512 is operating under MS-DOS, the machine is just about totally compatible with the IBM PC.

The IBM and most clones are still being shipped with MS-DOS version 2.11. — on a true IBM it's called PC-DOS. Using version 3.2 certainly doesn't mean that your Amstrad is any less IBM compatible. What it does mean is that you have access to many more facilities than do people using MS-DOS 2.11.

I'll start with a brief look at some of the facilities that MS-DOS provides for the Amstrad PC 1512. In future articles, I'll look at individual ideas and commands in more detail.

Turning on

The Amstrad PC comes with two different operating systems, Dos Plus and MS-DOS 3.2. This article only concerns MS-DOS, so you will need the MS-DOS 3.2 disc handy. Every time you turn on the computer, you have to load in the operating system from a disc.

To start MS-DOS, follow the instructions in the manual, and once it is loaded you will get a prompt on the screen something like this:

A>

This shows that MS-DOS is waiting for you to tell it what to do, while the A means that you are using drive A. If you type command that needs to access a disk, without specifying a drive, MS-DOS will use the drive whose name appears in the prompt. Drive A is known here as the default drive, and is always set initially to the drive that you use to start MS-DOS from.

To change the prompt, you can use the PROMPT command. Try these:

By the way, your copy of the MS-DOS

If you type:	The prompt changes to:
PROMPT	A>
PROMPT Today is \$d\$g	Today is Tue 9-5-86>
PROMPT You are in drive \$d	You are in drive A
PROMPT Now what?>	Now what?>
PROMPT The time is \$t	The time is 12:54:13

master disc is very precious, as you can't use the computer without it. You should never use the master copy of the disc to start the machine, so if you've not already made a copy of the disc, look up the DISKCOPY command in the manual and make one or more now.

Of system discs and data discs

As I mentioned earlier, MS-DOS controls the way the computer reads information from discs. So, how can the computer load MS-DOS from the disc in the first place if MS-DOS reads the discs?

The three programs that make up MS-DOS are always stored in a certain place on the disc (well, two of them are anyway). That way, the very simple program in rom in the computer can find and load them each time. Once MS-DOS is loaded, the computer's rom hands over to it.

Three special programs have to be on the disc that starts MS-DOS, and because two of them have to be in a special place on that disc, you can't simply copy the programs over from another disc, as they probably won't end up in the correct place. To prepare a disc that can be used to start up the computer, look up the SYS command in the manual.

The three special programs are called IBMDOS.COM, IBMBIO.COM and COMMAND.COM. You can see COMMAND.COM by using the DIR command as described below. The others are what is known as hidden files, which means that they don't show up on the directory — so you don't know they're there.

Looking at a disc

To see the list of files on a disc, type DIR. If you are going to follow the examples in this article, you should keep

the MS-DOS disc in the drive. Assuming that you have, you will see something like this when you type DIR.

```
Volume in drive A is 46001
Directory of A:\

IMAGES      <DIR>      14-07-86  12:13
COMMAND    COM      23612  14-07-86  12:13
ANSI       SYS      1699   14-07-86  12:13
CONFIG     SYS       60   14-07-86  12:13
DRIVER     SYS     1110  14-07-86  12:13
RAMDRIVE   SYS     6566  14-07-86  12:13
AUTOEXEC   BAT       88   14-07-86  12:13
GEM        BAT       46   14-07-86  12:13
GEM3       BAT     786   14-07-86  12:14
ANSI       COM     139   14-07-86  12:14
APPEND     COM     1725  14-07-86  12:14
ASSIGN     COM     1523  14-07-86  12:14
MORE       COM     282   14-07-86  12:14
MOUSE      COM     6984  14-07-86  12:14
RTC        COM     397   14-07-86  12:14
SYS        COM     4639  14-07-86  12:14
ATTRIB     EXE     8234  14-07-86  12:14
CHKDSK     EXE     9680  14-07-86  12:14
COMP       EXE    14448  14-07-86  12:14
DEBUG      EXE    15647  14-07-86  12:14
DISKCOMP   EXE     3808  14-07-86  12:15
DISKCOPY   EXE     3936  14-07-86  12:15
EDLIN      EXE     7356  14-07-86  12:15
EXE2BIN    EXE     3050  14-07-86  12:15
FDISK      EXE    16444  14-07-86  12:15
FIND       EXE     6403  14-07-86  12:15
FORMAT     EXE    10957  14-07-86  12:15
GRAFTABL   EXE     8194  14-07-86  12:15
GRAPHICS   EXE    13314  14-07-86  12:15
JOIN       EXE     8942  14-07-86  12:15
KEYBUK     EXE     2985  14-07-86  12:16
LABEL      EXE     2750  14-07-86  12:16
MODE       EXE    13928  14-07-86  12:16
PRINT      EXE     8624  14-07-86  12:16
RECOVER    EXE     4145  14-07-86  12:16
REPLACE    EXE     4852  14-07-86  12:16
SHARE      EXE     8544  14-07-86  12:16
SORT       EXE     1896  14-07-86  12:16
SUBST      EXE     9898  14-07-86  12:16
TREE       EXE     8556  14-07-86  12:17
XCOPY      EXE     5396  14-07-86  12:17
41 File(s)      4096 bytes free
```

The top line gives you the name of the disc. Each disc can have a name, which you assign with the LABEL command.

The next line tells you that you are looking at the root directory on the disc. MS-DOS allows you to have lots of directories on each disc, which helps you to keep things tidy and makes finding files easier. We'll look at directories next time.

Next comes a list of all the files on the disc. The first column gives the name of the file, then comes the file's extension. The full name of a file is its first-column name followed by a full stop, followed by its extension. So the first file in the list has the name ANSI.SYS.

The third column tells you how many bytes the file occupies. The last two columns tell you the date and time that the file was saved.

Finally, after the list of files, you are told how much space is left on the disc. Each disc holds 360k, or 362000 bytes.

The TYPE command displays the contents of a file on the screen. Files with extensions of COM or EXE are programs, which will probably be meaningless if you try to look at them with the TYPE command.

Using the
Prompt command

24 HOUR

COMPUTER REPAIR CENTRE

The only **AMSTRAD SPECIALISTS**
recommended by Amstrad

Repairs also undertaken for all the
following computers:
**SPECTRUM,
COMMODORE, ATARI,
BBC, IBM**

**NO HIGH
FIXED
PRICE
REPAIR!**

**FREE
SOFTWARE WORTH
£35
WITH EVERY
SPECTRUM
REPAIR**

The established
company with a proven reputation

Over the years we have built up an enviable reputation in the UK for computer repairs, which is second to none. This is based on many years experience in repairing Spectrum, Commodore, BBC and other leading makes – and we were the first AMSTRAD repair centre anywhere. This is why we have customers all over the world.

We are the best, forget the rest, look what we offer

**DON'T DELAY –
ACT TODAY
It's as easy as
ABC!**

- No high fixed price – you only pay what the repair actually costs.
- While-U-Wait Service – spare parts for all leading computers – available over the counter.
- State of the art test equipment to provide comprehensive test report and locate faults.
- Repairs to all leading makes of computer.
- Amstrad specialist.
- Spectrum rubber keyboards repaired for only £8.95.
- Commodore 64's, Vic 20's, Atari, Commodore 16's and Plus 4's repaired.
- Discounts for colleges, schools etc.
- Every computer repaired by us is completely overhauled and tested before return.
- All computers returned carriage paid and covered by insurance.
- Three months guarantee included.
- Free Software worth £35 with every Spectrum repair.

A Simply send your computer securely packed, together with a cheque or postal order for the maximum fee to the address below. Your computer will be repaired and returned to you within 24 hours together with the balance of the fee and your FREE £35 worth of software.

B Or if you prefer a written quotation just send £2.50 to cover post & packing.

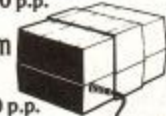
C Alternatively just quote your Access or Visa card number.

DISCOUNT COMPONENTS
e.g. Power Transformers



Commodore £29.00
+ £1.50 p.p.

Spectrum
£9.95
+ £1.50 p.p.



**AMSTRAD
REPAIRS
from
£9 to £35**

**BBC
REPAIRS
from
£12 to £35**

**SPECTRUM
REPAIRS
from
£7 to £19.90**

**COMMODORE
REPAIRS
from
£12 to £35**

SPECIALIST COMPUTER REPAIR CENTRE

Dept. 24, 28 College Street, WORCESTER WR1 2LS
Telephone: 0905-611072/613023

Trade orders
welcome



WE SET THE STANDARD BY WHICH EVERYONE ELSE IS JUDGED

The function keys

On the left of the keyboard are the 10 function keys. Many programs use them to provide certain facilities to the user.

Normally, only two of the function keys are any use to you in MS-DOS. If you type a command (followed by RETURN) and then press the F3 key, the command that you just typed reappears – just press RETURN again to execute it. This is quite handy if you want to do the same thing a number of times.

Pressing F1 also repeats the last command typed. However, instead of repeating it all at once, it brings back one character each time you press it.

Ready to explore

Before you start to explore MS-DOS on the Amstrad PC, make a copy of the MS-DOS disc as described in the section on DISKCOPY in the manual. Most of the programs on it are commands, which you can't use unless there is a copy in the disc drive, just like CP/M.

Not all MS-DOS commands are on disc, though. Some are built into MS-DOS (they're part of COMMAND.COM which is loaded once when you turn on the computer) and you don't need a disc in a drive to use them.

To get you started, here's a brief description of all the files on the MS-DOS disc, and a list of the built-in commands.

What's on the MS-DOS disc?

A variety of programs and files with the following capabilities:

ANSI.SYS Known as a device driver, A variety of programs and files with the following capabilities it allows you to redefine keys, including the function keys, by typing certain Escape sequences. Also lets you control screen modes and other functions of the machine.

ASSIGN.COM Assigns names to devices. Useful if you have more than one printer, say, and want to select which one a program uses.

ATTRIB.EXE Protects a file from being erased from a disc.

BACKUP.COM Backs up a hard disc onto floppy discs.

CHKDSK.COM Checks out a disk. Will tell you how much of the disc is being used, and whether it contains any errors. on it.

CONFIG.SYS A file which you put on a disc. It includes a number of special configuration commands for MS-DOS which are obeyed when you start up.

COMP.COM Compares two files and reports any differences.

DISKCOMP.COM Compares two discs and reports any differences.

DISKCOPY.COM Copies one disc to another.

EDLIN.COM The MS-DOS line editor.

Built-in commands

CHDIR	Change the current directory.
CLS	Clears the screen.
COPY	Make a copy of a file.
CTTY	Allow control of the computer from another terminal.
DATE	Set the computer's calendar.
DEL	Delete a file.
DIR	Get a list of all files on a disc.
MKDIR	Make a new directory on a disc.
PATH	Tell MS-DOS where to look for a file.
PROMPT	Change the MS-DOS prompt.
PROMPT	Customise the MS-DOS prompt.
RENAME	Change the name of a file.
RMDIR	Remove a directory.
SET	Set up certain MS-DOS parameters.
TIME	Set the clock.
TYPE	List the contents of a file.
VER	Displays the version of MS-DOS being used.
VOL	Displays the name of the disc in use.

A very simple word processor, better than nothing but not very sophisticated.

FDISK.COM To format a hard disc.

FIND.EXE A special type of program known as a filter. Allows you to look through a file for a specified string.

FORMAT.COM Prepares new floppy disks for use with MS-DOS.

GRAFTABL.COM Allows you to print graphic screen dumps from MS-DOS programs.

GRAPHICS.COM An extended set of graphics characters which programs can use once they have been loaded.

JOIN.EXE Joins two directories so that they appear as one. Don't use this command unless you know what you are doing, as you can lose track of files.

KEYBFR.COM Allows the PC to be used with a French layout keyboard...

KEYBGR.COM ... or German

KEYBIT.COM ... or Italian

KEYBSP.COM ... or Spanish

KEYBUK.COM ... or English

LABEL.COM Lets you name a disc.

MODE.COM Sets the screen mode.

MORE.COM A filter that stops display after each 24 lines, and asks you to press a key to continue.

PRINT.COM TYPEs a file on to a printer.

RECOVER.COM Attempts to recover lost files from a disc which develops errors.

RESTORE.COM Restores files that were backed up with the BACKUP command.

SHARE.EXE Allows the computer to be used on a network.

SORT.EXE Sorts data. Try typing SORT (followed by RETURN). Then type a list of words, pressing RETURN after each. Type Ctrl-Z when you have finished and see what happens.

SUBST.EXE Makes a directory on a disc behave as if it was a separate drive.

SYS.COM Makes a disc into an

MS-DOS system disc that can be used to start up the computer.

TREE.COM Displays a list of all the directories on a disc.

VDISK.SYS If you have a file called CONFIG.SYS that contains the command:

DEVICE = VDISK.SYS

then you will set up a ram disc.

Creating a file

With MS-DOS there's an easy way to create a file on a disc. First, get a disc with some space on it – don't use the master disc that came with the machine. Load MS-DOS and get to the A- prompt. Now, suppose you want to make a file called TEST. Type:

COPY CON TEST

What you are doing is using the COPY command, which is normally used to copy files. You would normally type COPY followed by two filenames. The first is the one that you want to copy, and the second is the name you want to give to the new version. In the example above, by specifying CON as the first name, you copy from the keyboard to a file called TEST.

There won't be any prompt on the screen at the moment. Try typing some lines of text. When you have finished, type Ctrl-Z, which MS-DOS interprets as being the end of the file that it is copying from.

The prompt should return, and you now have a file on the disc. Try using the TYPE command to look at it. To edit the file, look up EDLIN in the manual and program to alter the file that you created.

As I hope you are now starting to see, MS-DOS can be useful. There are many wonderful facilities that MS-DOS provide, and I have only started to scratch the surface. See you next time.

All this in just

WORD PROCESSOR

Compose a letter, set the print-out options using embedded commands or menus, use the mail merge facility to produce personalised circulars – and more!

```
Line 001014 0054 Words 15148 Char.
Line 001014 0054 Words 15148 Char.
07 July 1986

Dear Douglas,

Further to our telephone conversation
yesterday, I have pleasure in enclosing
a pie chart showing the breakdown of
our fixed costs for the year.

As previously discussed with yourself,
I will be travelling down by train next
Thursday morning.

I look forward to meeting you then.

Yours sincerely,

Jeremy Broad
```

DATABASE

Build up a versatile card index, use the flexible print out routine, do powerful multi-field sorting, perform all arithmetic functions, link with the word processor – and more!

```
Mini Office II Database - Database Software 200
Title: 1 0000113 Size: 127 Record Number: 1

Name: _____
First name: _____
Address: _____
Address: _____
Sex: _____
Age: _____
Date: _____
Date: _____
Date: _____
Date: _____
Date: _____

Select from: 1 2 3 4 5 6 7 8 9 0 ESCAPE Now, EDIT, DELETE, PAGE, or PRINT
```

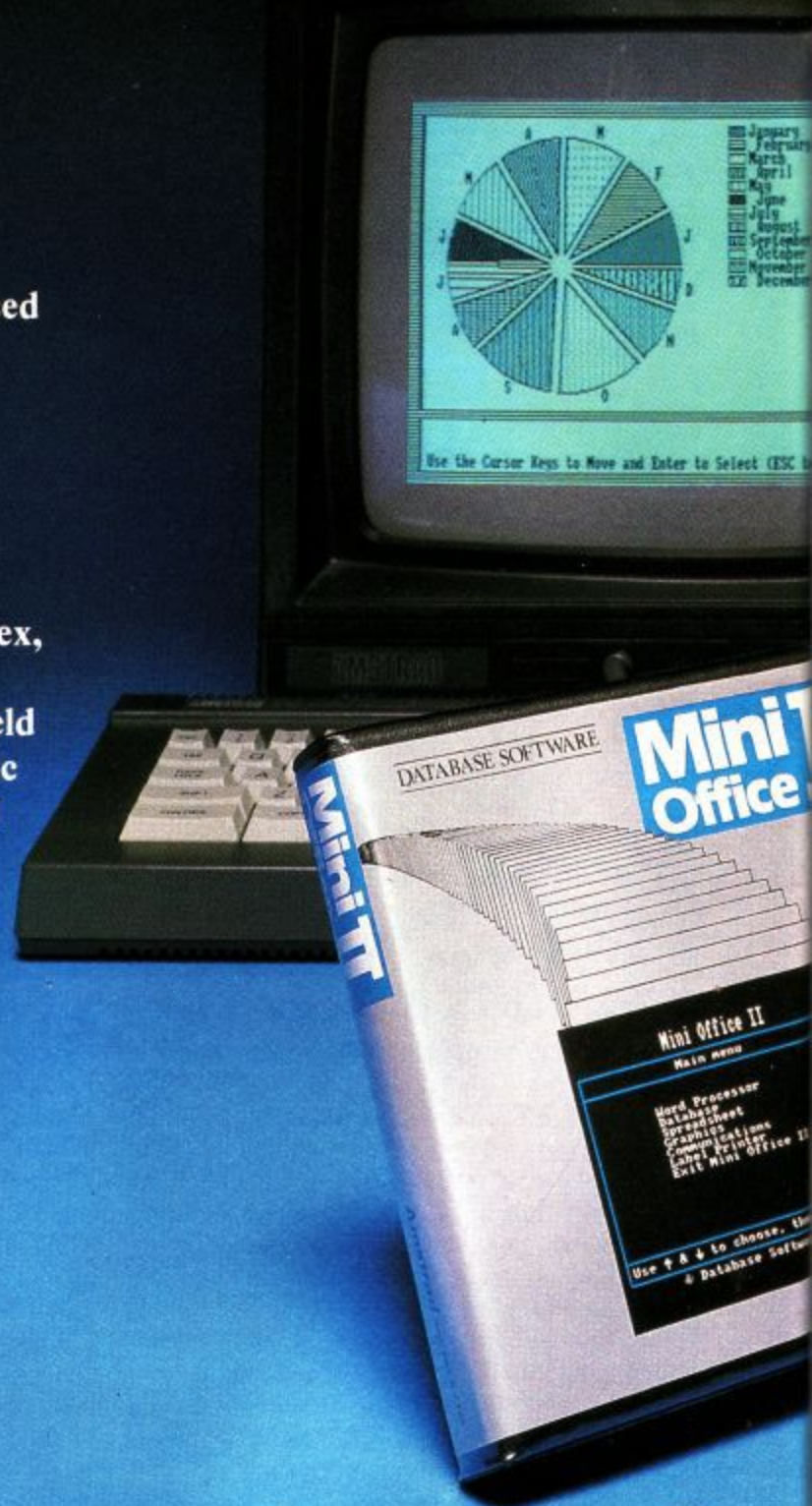
LABEL PRINTER

Design the layout of a label with the easy-to-use editor, select label size and sheet format, read in database files, print out in any quantity – and more!

```
Mini Office II Label Printer

Douglas, Heather
Hollywood House
Hollywood Road
Stockport
SBS 4BP

Use Cursor Keys To Move,
# Followed By A Number For Field,
ESCAPE To Exit, TAB To List Fields.
```



...and at a price

Mini Office II offers the most comprehensive, integrated suite of programs ever written for the Amstrad – making it the most useful productivity tool yet devised.

A team of leading software authors were brought together to devote a total of 26 man years of programming to the development of Mini Office II. What they have produced is a package that sets new standards in home and business software.

The sample screenshots above illustrate just a few of the very wide range of features, many of which are usually restricted to software costing hundreds of pounds. Most are accessed by using cursor keys to move up and down a list of options and pressing Enter to select.

Is it that easy to use? Several leading reviewers have

already sung its praises on this very point.

Yet possibly the best advertisement for Mini Office II is that it comes from the same stable that produced the original Mini Office package back in 1984.

That was so successful it was shortlisted in two major categories of the British Microcomputing Awards – the Oscars of the industry – and sold in excess of 100,000 units!

It was up to Mini Office II to take over where the first Mini Office left off, with 32 extra features, two additional modules, a program to convert existing Mini Office files to Mini Office II format, and a 60 page, very easy to follow manual.

This is the package thousands of Amstrad owners have been waiting for – and at a price everyone can afford!

ONE package!

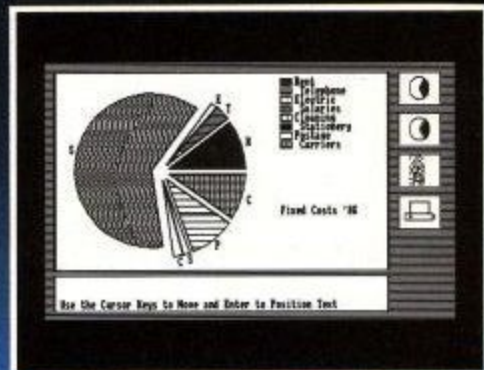
SPREADSHEET
Prepare budgets or tables, total columns or rows with ease, copy formulae absolutely or relatively, view in either 40 or 80 column modes, recalculate automatically – and more!

```

Freespace:10872 Auto Down
Cell:19 (Locked) Formula
Contents:13-12887

1 .....A.....B.....C.....
2 .....Jan.....Feb.....
3 Electric 60.00 50.00
4 Telephone 130.00 125.00
5 Salaries 2450.00 2400.00
6 Postage 375.00 360.00
7 Carrier 420.00 300.00
8 .....
9 TOTALS: 3845.00 3845.00
10 .....
    
```

GRAPHICS
Enter data directly or load data from the spreadsheet, produce pie charts, display bar charts side by side or stacked, overlay line graphs – and more!



COMMS MODULE
Using a modem you can access services such as MicroLink and book rail or theatre tickets, send electronic mail, telex and telemessages in a flash – and more!

```

>br
-----
British Rail Service
Tickets / Fares / Timetable
-----
* Ticket Bookings
* Pullman/Steam Bookings
* Seat Reservations
* Sleeper Reservations
* Pullman Rail
* Steam Excursions
* Electric Express - Newsletter
* Timetable and fares from May 12th

* No for HELP
1-8 Redisplay Quit
Select 1
    
```

that can't be matched!

DATABASE SOFTWARE

Amstrad CPC 464, 664, 6128

Cassette £14.95
3" disc £19.95

Database Software,
FREEPOST,
Europa House,
68 Chester Road,
Hazel Grove,
Stockport SK7 5NY.

Order at any time of the day or night

Telephone Orders:
061-429 7931

Orders by Prestel:
Key *89, then 614568383

MicroLink/Telecom Gold
72:MAG001

Don't forget to give your name, address and credit card number

ENQUIRIES ONLY: 061-480 0171 9am-5pm

Please send me **Mini Office II**

*Add £2 for Europe
*Add £5 for Overseas

Cassette £14.95* 6086
3" disc £19.95* 6087

Payment: please indicate method (✓)

Access/Mastercharge/Eurocard / Barclaycard/Visa

Card No. _____

Cheque/PO made payable to Database Publications Ltd.

Name _____ Signed _____

Address _____

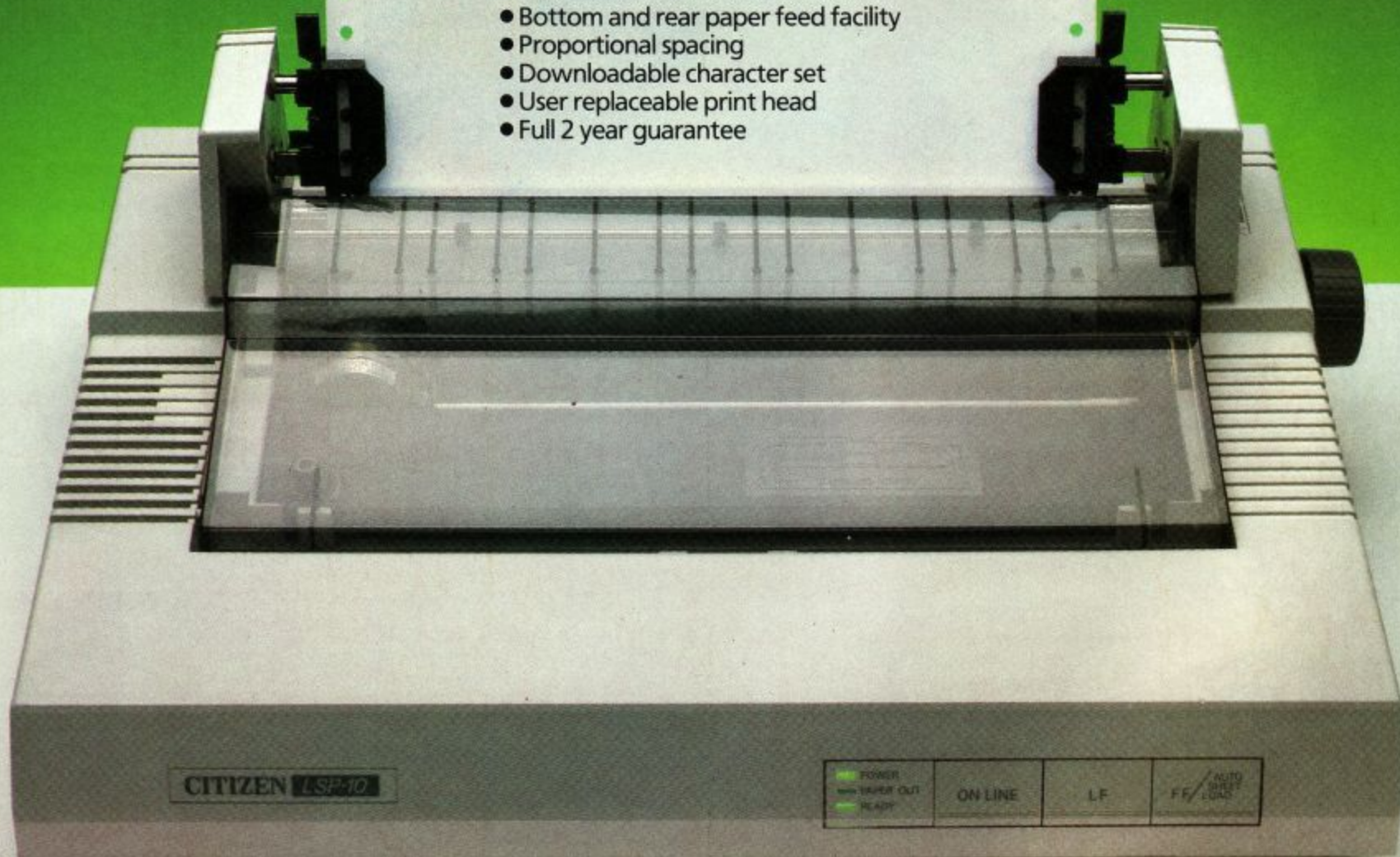
Tel: _____

Please allow 28 days for delivery

ACU 11

TOUCH IT AND YOU'RE SOLD

- Full IBM® and Epson® compatibility
- 120 CPS draft speed
- 25 CPS correspondence speed
- Standard 4K buffer
- High resolution graphics capability
- Built-in variable width tractor feed
- Bottom and rear paper feed facility
- Proportional spacing
- Downloadable character set
- User replaceable print head
- Full 2 year guarantee



No matter how predisposed you are towards the best known names, if you're looking for a printer for your PC, even a brief encounter with the Citizen LSP-10 will prove an eye opener.

With Citizen, it's a straightforward case of getting rather more for rather less.

On features and performance, we can match absolutely anyone in the business.

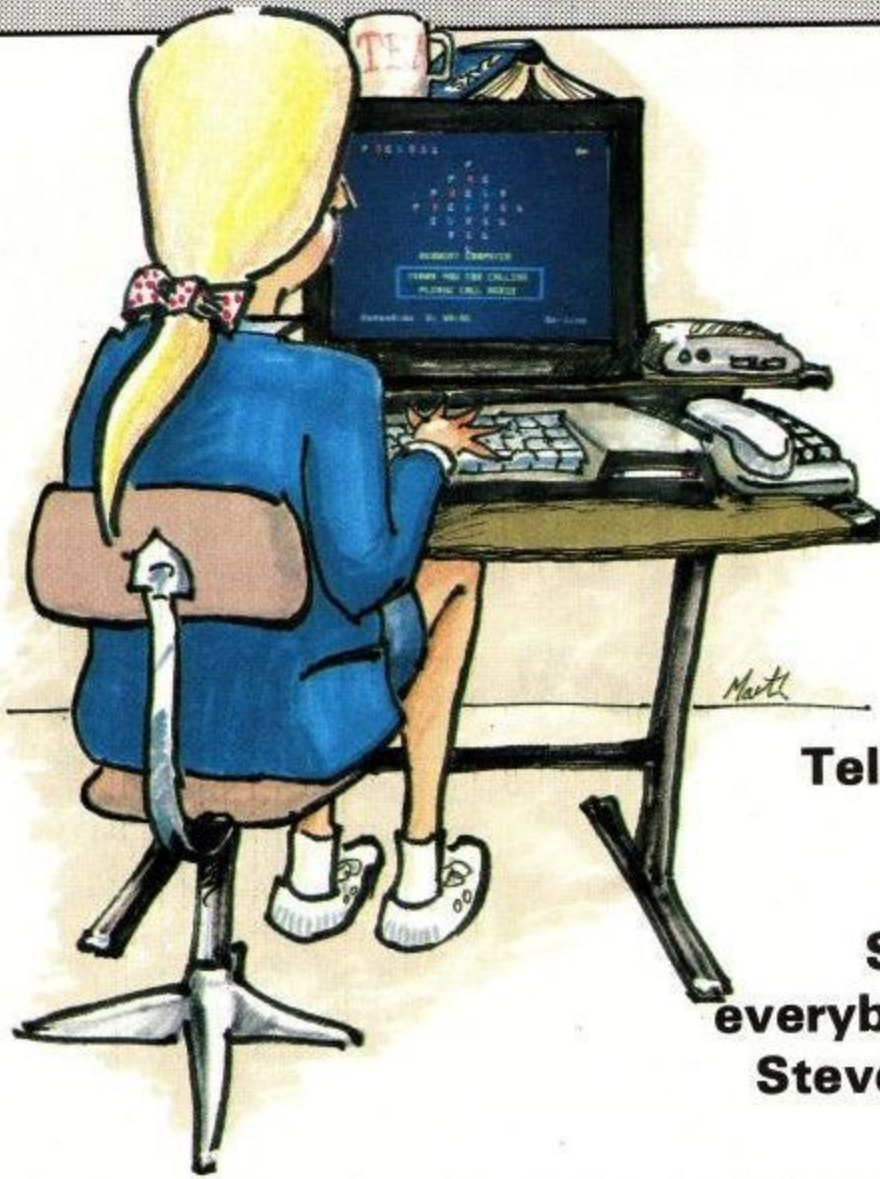
As for guaranteeing our printers, giving one full year more than any other manufacturer speaks volumes for the quality of our products.

And as for price, well, the very idea of saving money has always been an irresistible selling proposition.

For the full Citizen story, just contact Matthew Masters on (0895) 72621.

 **CITIZEN**
COMPUTER PRINTERS

There are some things you can always depend on.



It's just a phone call away...

Telling the history of viewdata is a bit like describing the invention of the wheel. Suddenly it was there – and everybody accepted its existence. Steve Gold recalls its beginning.

Back in the mid-1970s, as witnessed by the heavy TV advertising of that period, the then Post Office was very keen for us all to use the telephone during off-peak periods. After all, this was when all the equipment used by office staff during weekday business periods lay idle.

As part of its drive to encourage us all to use the phone during evenings and weekends the Post Office asked its top staff to come up with a revolutionary way to get us all on the phone. The result of this was the brilliantly conceived, but initially poorly marketed, Prestel service.

It was launched on an unsuspecting public during the late 1970s and was originally thought of as an information carrier mirroring the teletext services. Most people today have come to know these as Ceefax and Oracle – signals which are broadcast with standard TV transmissions.

When Prestel was launched high ranking officials within the Post Office and government were heard to predict great things for the pioneering service. Figures of two million terminals and up in the UK by 1985 were heard.

At the time of writing Prestel only has 60,000 or so subscribers – so what went wrong? To find the answer we have to look back at the phenomenal advances in power for the average home computer which have occurred in the last decade or so.

Whereas Prestel was conceived in an environment where 1k of ram was

expensive, now we think of 512k as being the norm. We have the likes of Jack Tramiel and Alan Sugar to thank for that.

Sheer computing power and an insatiable thirst for interactive communication have turned Prestel's very concept on its head. Now the great information bank plays host to a whole range of interactive communicating services. These include Chatline – a real time multi-user CB facility, Gallery – publish your own pages on Prestel (subject to legal niceties) almost instantly, and Mailbox – real time messaging between users, to mention but a few.

Today, almost a third of Prestel's 60,000 user base is taken by computer users who have bought a modem and plugged into the service, using the power and keyboard of their home micros to cut the cost of logging on to Prestel.

What's on tonight

Because Prestel is what can best be described as a "living" database, its contents and style inexorably change for, one hopes, the better rather than the worse. Small information providers, often home workers using a simple computer and modem, rub shoulders with the big boys such as British Rail and the English Tourist Board.

For the average home user Prestel offers a range of information spread across 250,000 frames of information. It plumbs several areas to surprising depth,

for example the Consumers Association, but leaves great tracts of useful data – town details, maps and so on – quite unaccounted for.

This is perhaps due to Prestel's policy of providing a basic infrastructure for information providers (IPs) to distribute their information on. Just as advertising magazines such as Exchange & Mart are heavily reliant on their information providers (advertisers in E&M's case), to a great extent so is Prestel.

In many ways Prestel is a supply driven system, since only firms who require a high public profile or are satisfied their outlay is justified by the potential profits from their pages are interested.

Such an environment, coupled with the still-monolithic might of British Telecom, is not conducive to innovation to say the least.

Despite such an austere environment certain areas of Prestel thrive and offer, in their own small way, a highly original service. One information provider is Micronet 800, which rents some 25,000 pages from Prestel and fills them with micro-orientated information, fun and games.

Launched back in April, 1983 as a joint project between British Telecom and East Midlands Allied Press (EMAP), Micronet now has 20,000 subscribers – nearly a third of the entire Prestel subscriber base – and is one of the more powerful IP's on the service. Perhaps realising this, BT has just upped its

AMSTRAD PROFESSIONALS
FROM DIGITAL RESEARCH

NOW
WITH FREE SUPPORT
FOR 30 DAYS*

Your Amstrad has 256k or 128k to play with.

The Amstrad 8256 and 6128 are extraordinary machines with random access memory that lifts them far above the home computer norm.

Now Digital Research, creators of the CP/M operating systems bundled with these business calibre Amstrads, offer serious users professional program development power and applications portability via two high level Digital Research languages: PASCAL/MT+ and CBASIC COMPILER.

Both languages come as complete packages of standard Amstrad 3" disks with full documentation.

The most complete PASCAL £49.95.

PASCAL/MT+ is full ISO standard PASCAL, extended to provide a comprehensive professional programming environment for industrial, business and educational applications.

It's faster, more versatile, more portable and easier to use in sophisticated applications demanding segmented development.

The package includes a compiler to generate relocatable object files; a linker to generate executable files from compiler outputs; a run-time support library covering transcendental functions, machine interrupts and other tasks; a disassembler and a symbolic debugger.

As well as standard ISO numerics, PASCAL/MT+ supports BCD and floating point real numbers for arithmetic precision. Special features reduce program size and enhance I/O capabilities. PASCAL/MT+ is the fully implemented PASCAL you can start with, stay with and never outgrow.

It seems a pity just to play.

Ten times faster with CBASIC £49.95.

CBASIC Compiler is a native code compiler that allows separate modules to be written, tested and combined to create a complete program. And it combines machine code speed with BASIC ease to produce programs that execute eight to ten times faster than the same interpreted programs.

A fully integrated set of device independent graphics statements and functions permits direct output to any graphics peripheral without recompiling.

Extended precision 14-digit decimal arithmetic ensures that fractional parts of pound amounts are exact and ledgers balance to the penny.

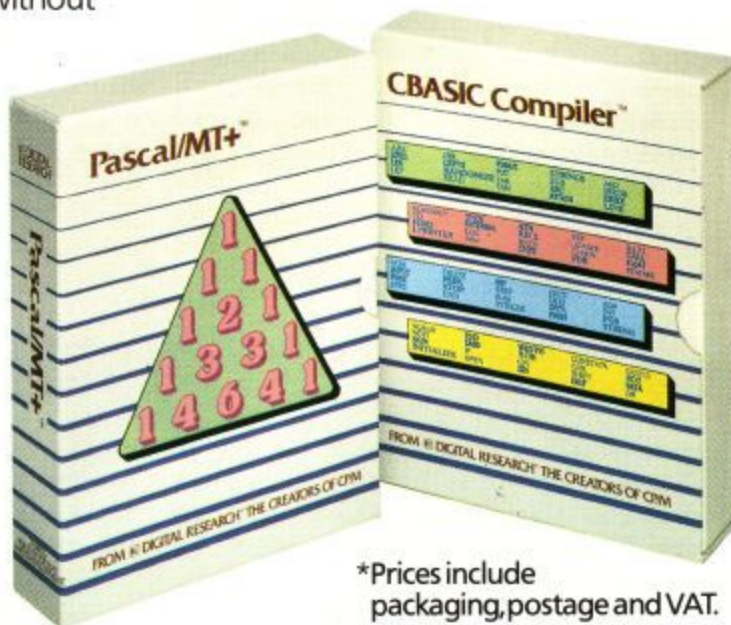
CBASIC Compiler also supports integer arithmetic, so you can use integer variables to increase execution speed.

Multiple line function capability with multiple parameters provides features found in block-structured languages. Local variables can be declared in an MLF. MLF functions may be declared as external, belonging to an entirely different program module.

Development Potential.

PASCAL/MT+ and CBASIC Compiler run on the Amstrad CPC 6128, PCW 8256, CPC 664 and CPC 464 with DD-1 disk drive. Use of graphics with CBASIC Compiler is only available on CPC 6128 and PCW 8256.

The Amstrad Professionals from Digital Research will allow you to explore and exploit your Amstrad computer's program development potential to the full.

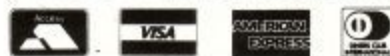


*Prices include packaging, postage and VAT.

Amstrad Professionals from Digital Research. Now Professionalism begins at home.

To place an order, send cheque to: Amstrad Sales, Digital Research (UK) Limited, Oxford House, Oxford Street, Newbury, Berkshire RG13 1JB. Or telephone Newbury (0635) 38787 or 38783, with your credit card details. Or contact your local Amstrad dealer.

*FREE telephone support for 30 days following receipt of registration card. Thereafter a full year's on-line telephone support is available for just £15.00+VAT. Full details will come with your software.



**DIGITAL
RESEARCH**

The creators of CP/M™

shareholding in the concern to 40 per cent. A newcomer, Bell Canada Enterprises, hold 20 per cent.

Micronet under the microscope

By the time of the Micronet launch, Prestel was an ailing beast. It was almost five years old and BT was getting tired of pumping millions in only to see a subscriber base of 30,000 looking at government releases, advertising and patchily informative (but chargeable) information frames.

In many ways Micronet has been the saviour of Prestel, "rescuing" it with a fat 20,000 boost in subscribers, who spend a lot of chargeable BT connect time logged on to the service.

Because the service is a microcosm of its paper equivalent - a computer magazine - it is structured in a very similar way. It contains product reviews, hot news, letters pages and so on. But because of the volatile and instantaneous nature of the medium upon which it is written - the Prestel computers themselves - it has evolved.

Under the guidance and control of a surprisingly small number of incredibly enthusiastic and dedicated staff, it's become a very up-to-date electronic magazine - often copied, but never beaten.

Since even the weekly computer magazines have a few days delay between writing the news and seeing the magazine in the great British public's hands, Micronet has an obvious edge.

The service brings subscribers the news literally minutes after its occurrence. I've used it myself to report from shows and press launches, and created frames for immediate release.

Communication's the answer

Because the majority of Micronet subscribers are a gregarious lot they exploit the two-way electronic medium on which Prestel is published. They send each other thousands and thousands of electronic letters - mailboxes in Prestel.

Coupled with pre-addressed interactive frames (called response frames), the output of the subscribers often matches the staff at Micronet 800 for originality and sheer volume.

To cope with this, and perhaps steer the mailbox activity away from Micronet itself, Micronet technical manager Mike Brown has created an on-line facility called Chatline. Subscribers fill in a response frame which, once sent, is retrieved centrally by Micronet and updated to all the Prestel computers.

In this way, users can see their chat

distributed to all Prestel users (assuming they are on line) in as little as 10 seconds. It's quite surprising to see how many people use the chatlines to carry on a multi-user conversation with several people, despite the fact that hundreds of miles separate them.

And all this for little more than the price of a local phone call. It's not difficult to see how many subscribers get hooked and spend a lot of time on-line.

Telesoftware-a-gogo

A subscription to Micronet, including Prestel, will set you back a shade over a pound per week. Thereafter, provided you don't access any chargeable frames, the running costs generally work out at around 50 pence an hour during non-office hours, which is surprisingly cheap entertainment.

Many people will tell you stories of phenomenally high telephone bills. But unless the user spends literally all his leisure hours on-line, it is simply not possible to run up such large bills.

Most users can expect a telephone bill around £20 or so higher per quarter - a lot of entertainment for the price of a couple of nights out.

Among the multitude of pages and services on Micronet that your subscription covers, are the free program listings that you usually find in a computer magazine.

But with Prestel, such listings can be automatically downloaded and fed into your micro at the touch of a button. Such programs are known as telesoftware - they can be downloaded via the telephone.

While a proportion of the telesoftware available on the Prestel Microcomputing areas is chargeable (more of which later), a fair number of programs for most popular micros, including the Amstrad range, are free for the price of a phone call.

By merely going to a certain frame on Prestel and activating your software, a complete program can be downloaded and run/saved on your home micro. Think how much tedious typing in that will save!

Micronet vs the rest of the world

Being the biggest microcomputing IP on Prestel doesn't mean that Micronet is the be-all and end-all of computers on the service.

There are two other micro-orientated areas on Prestel that will interest Amstrad owners. The first is Viewfax 258, to be found on (you guessed it) page 258.

It's a small but active computer section run by Birmingham-based

Lindsey Reid. Assisted by a small band of staff Lindsey provides a microcosm of Micronet itself, including news pages, telesoftware and several home user enthusiast areas.

Viewfax is the database which is of most interest to Amstrad owners because of the Amsnet subscription.

Amsnet contains news and reviews of interest to Amstrad owners and has a very clubby feel. The most lively area is the letters page.

Updated daily it offers help to new users as well as quite technical advice from Arnor, Virgin and Amstrad, who all log on in their spare time. If you miss a day's letters you feel left out. Even the editor of this magazine is known to chip in the occasional comment.

Amsnet is the best source of telesoftware. There is a little Public Domain software, some programs contributed by readers and listings from ACU, all of which can be downloaded for free.

The great unsung heroes

While both Micronet 800 and Viewfax 258 areas are staffed by comparatively few people, they both use the talents of enthusiastic amateurs to provide an economic service to Prestel users.

Often, the activities of the home-workers are provided for little more than a reimbursement of out-of-pocket expenses. This is a considerable saving on employing full-time staff to write news, product reviews and so on.

In fact, if several of the home-workers on Prestel dropped their amateur status, it's almost certain that the charging structure of Prestel would be unable to support full-time workers creating such areas. The end losers would be the Prestel subscribers themselves.

Costing it all up

So there you have it - a potted history of Prestel. On the surface a giant version of Ceefax and Oracle on the TV. When examined closely, as it is frequently by its subscribers, a hotbed of activity from what many have described as a vociferous minority.

I think that Prestel, with the Microcomputing area as a value-added option, offers tremendous value for money. And the opportunity to make new friends with people many hundreds of miles away.

Indeed, if it weren't for Prestel and Micronet, it's unlikely I would find myself writing this article today. Instead, I might still be working as an accountant!

Computers are fun. A modem and Prestel add to the enjoyment in what is fast becoming the global village. A cliché perhaps, but the reality is incredible.

ACU

Double Trouble

By KEN GOODMAN



Since the early days of home computing there have been a number of games which persist in surviving in one disguise or another. Such as "dodge the shower of nasties" or "bomb the city flat" or "bat the beknighted ball". Then there are the various board games, or grid games, like "find the submarine" or "match the colours" and "reversi".

No doubt we've all had a go at these at some time or another, but here's something new. Have you ever tried to handle two of these old crocks at the same time? Now's your chance!

Here's a straightforward, easy to understand, Basic program which lets you play "fill the grid with colours" or "dodge the nasties" one game at a time but also gives you the option of running both together. You should find this intriguing since the grid must be filled with different non-adjacent colour blocks before either the time runs out or your lives are lost in the other game.

The listing is printed in sections with titles to make the structure clear but here, in addition, is a summary.

100-220	Sets the variables and prints the instructions.
260-340	Choice of three games.
380-460	Draws the screen layout.
500-710	Controls the progress of game 1.
750-910	Ditto for game 2.
950-1110	Ditto for game 3.
1150-1280	Running sequence for game 1.
1320-1400	Ditto for game 2.
1440	Delay routine.
1480-1510	Interrupt subroutine to print time.
1550-1610	Draws the grid for game 1.
1650-1690	Checks the grid in game 1 for adjacent colours.
1730-1750	Prints the flashing marker for game 1.
1790-1810	Prints a colour block for game 1.
1850	End-of-game sound.

Notes

If you wish to alter the degree of difficulty in game 1, increase or decrease the value

of tt in line 500. This is the total length of time allowable in which to complete the grid.

To decrease the number of nasties in game 2, reduce the figure 0.5 in line 1360 or remove the line altogether. To alter the number of lives permitted, change the value of lv in line 760.

Main Variables

Game 1

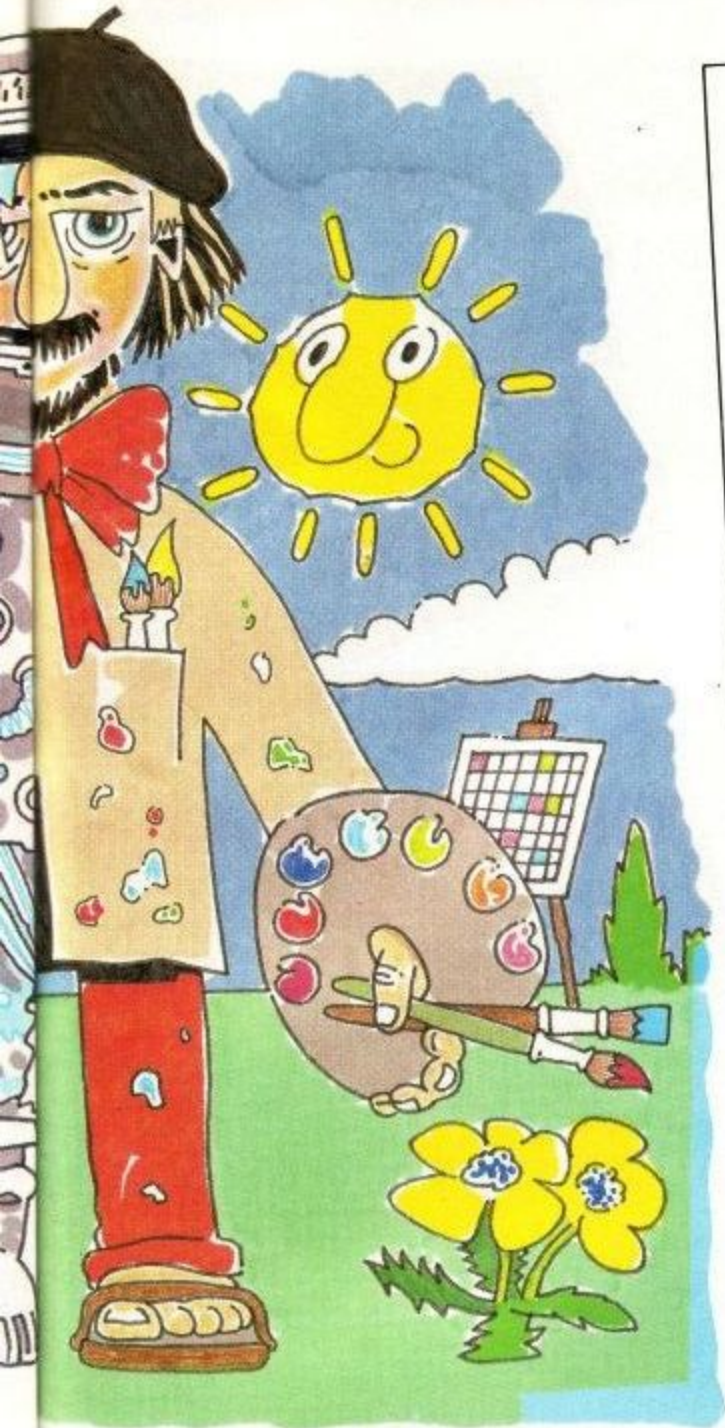
grid(n)	Registers the condition of each grid cell.
tt	Time left.
fail	Adjacent-colour flag.
tally	Number of cells filled.
rxp,ryp	Coordinates for printing colour blocks.
blockx	
blocky	
rx,ry	Random coordinates for nasties.
cell	Grid cell number calculated from coordinates.
cbn	Block colour number chosen at random.
set	Flag set when block is inserted into grid.

Game 2

manx,many	Coordinates of players token.
msc	Max score.
sc	Players score.
lv	Lives left.

```

10 '          DOUBLE TROUBLE
20 '
30 '          By Ken Goodman
40 '
50 '
60 '
70 '
100 ' Starters
110 '
120 CALL &BC02:manx=5:many=12:DIM grid(3
5)
130 SYMBOL 240,129,102,60,255,90,255,129
,231
140 SYMBOL 241,60,126,219,231,255,146,21
9
150 SYMBOL 242,60,60,24,255,24,60,66,66
160 MODE 1:PAPER 2:CLS:PAPER 0:WINDOW 2,
39,2,24:CLS
170 LOCATE 13,2:PRINT"DOUBLE TROUBLE"
180 LOCATE 3,4:PRINT"GAME 1 - Try to fil
l the grid":LOCATE 12,6:PRINT"Key Z
to place a colour"
190 LOCATE 3,9:PRINT"GAME 2 - Dodge the
Nasties":LOCATE 12,11:PRINT"Keys / L
EFT  RIGHT \
200 LOCATE 3,14:PRINT"GAME 3 - Try to fi
nish Game 1 before":LOCATE 12,16:PR
INT"the nan dies in Game 2"
    
```



```

520 WHILE INKEYS<>"" :WEND
530 PEN #2,3:LOCATE #2,3,7:PRINT#2,"GAME
    1"
540 FOR i=1 TO 35:grid(i)=0:NEXT
550 GOSUB 1550
560 RESTORE:FOR i=1 TO 7:READ n:da(i)=n:
    NEXT
570 DATA 3,1,6,12,4,10,2
580 fail=0:tally=0:IF a$="3" THEN RETURN
590 EVERY 50 GOSUB 1480:WHILE NOT fail A
    ND tally<15 AND tt>0
600 GOSUB 1150:WEND:zz=REMAIN(0):GOSUB 1
    850
610 GOSUB 1550
620 IF a$="3" THEN RETURN
630 IF tt<=0 THEN LOCATE #3,9,3:PRINT#3,
    "Time's up":GOTO 660
640 IF fail THEN LOCATE #3,10,2:PRINT#3,
    "Colours":LOCATE #3,10,4:PRINT#3,"ad
    jacent":GOTO 660
650 IF tally=15 THEN LOCATE #3,8,3:PRINT
    #3,"OK You win
660 dl=3500:GOSUB 1440:CLS#3
670 LOCATE #3,1,2:PRINT#3,"Type M for mo
    re"
680 LOCATE #3,1,4:PRINT#3,"or C for a ch
    ange"
690 WHILE INKEYS<>"" :WEND
700 aa$=INKEYS:IF aa$="" THEN 700
710 aa$=UPPER(aa$):IF aa$="M" THEN CLS#
    1:CLS#3:GOTO 500 ELSE GOTO 260
720 '
730 ' Control Game 2
740 '
750 msc=0
760 lv=10:sc=0
770 IF a$<>"3" THEN PEN #1,4:LOCATE #1,2
    ,5:PRINT#1,"GAME":LOCATE #1,4,8:PRIN
    T#1,"2":LOCATE #1,4,8:PRINT#1,"2"
780 PEN #3,6:LOCATE #3,2,3:PRINT#3,"LIVE
    S "STRINGS(lv,242)
790 IF a$="3" THEN RETURN
800 GOSUB 1320:IF lv=0 THEN 830
810 IF a$="3" THEN RETURN
820 dl=15:GOSUB 1440:sc=sc+1:GOTO 800
830 GOSUB 1850:IF msc<sc THEN msc=sc
840 CLS#3:LOCATE #3,2,2:PRINT#3,"Your Sc
    ore"sc
850 LOCATE #3,2,4:PRINT#3,"Max. Score"ms
    c
860 dl=3500:GOSUB 1440:CLS#3
870 LOCATE #3,1,2:PRINT#3,"Type M for mo
    re"
880 PRINT#3:LOCATE #3,1,4:PRINT#3,"or C
    for a change."
890 WHILE INKEYS<>"" :WEND
900 aa$=INKEYS:IF aa$="" THEN 900
910 aa$=UPPER(aa$):IF aa$="M" THEN CLS#2:C
    LSH#3:GOTO 760 ELSE GOTO 260
920 '
930 ' Control Game 3
940 '
950 EVERY 50,1 GOSUB 1480
960 EVERY 20 GOSUB 1320
970 GOSUB 500:lv=10:tt=50
    
```

```

1210 GOSUB 1550
1220 IF a$="3" THEN nn=600 ELSE nn=250
1230 pause=INT(TIME/nn):set=0:WHILE TIME
    /nn<pause+2
1240 IF NOT INKEY(71) THEN blockx=rxp:bl
    ocky=ryp:PEN #1,da(cbn):GOSUB 1790:
    GOSUB 1550:grid(cell)=cbn:GOSUB 165
    0:tally=tally+1:set=-1:pause=tt+3
1250 WEND:WHILE INKEYS<>"" :WEND
1260 IF NOT set THEN blockx=rxp:blocky=ry
    p:PEN #1,5:GOSUB 1790
1270 blockx=3:blocky=14:PEN #1,5:GOSUB 1
    790
1280 set=0:RETURN
1290 '
1300 ' Run Game 2
1310 '
1320 LOCATE#2,manx,many:PEN #2,10:PRINT#
    2,CHRS(143)
1330 manx=manx+(INKEY(30)=0)-(INKEY(22)=
    0)
1340 IF manx<1 THEN manx=1 ELSE IF manx>
    10 THEN manx=10
1350 PEN#2,5:LOCATE#2,INT(RND*10)+1,1:PR
    INT#2,CHRS(240)
1360 IF RND>0.5 THEN PEN #2,9:LOCATE#2,I
    NT(RND*10)+1,1:PRINT#2,CHRS(241)
1370 PRINT#2,CHRS(30);CHRS(11);CHRS(11);
1380 LOCATE#2,manx,many:PEN#2,3:PRINT#2,
    CHRS(242)
    
```

This is one of hundreds of programs now available FREE for downloading on **MicroLink**

```

210 LOCATE 12,20:PRINT"PRESS SPACE"
220 WHILE INKEYS="" :WEND
230 '
240 ' Options
250 '
260 MODE 1:INK 0,13:PAPER 0:CLS:LOCATE 6
    ,6
270 WHILE INKEYS<>"" :WEND
280 PRINT"WHICH GAME ?":LOCATE 6,9
290 PRINT"1 - Game 1 only":LOCATE 6,11
300 PRINT"2 - Game 2 only":LOCATE 6,13
310 PRINT"3 - Games 1 & 2 together":LOCA
    TE 6,15
320 PRINT"4 - End program"
330 aa$=INKEYS:IF aa$="" THEN 330
340 IF aa$<"1" OR aa$>"3" THEN CLS:END
350 '
360 ' Set the screen
370 '
380 MODE 0:INK 9,11:INK 10,17:INK 11,13
390 BORDER 13:PAPER 11:CLS
400 WINDOW#1,2,0,2,18:PAPER#1,5:CLS#1
410 WINDOW#2,10,19,2,18:PAPER #2,10:CLS#
    2
420 WINDOW#3,2,19,20,24:PAPER#3,13:CLS#3
430 MOVE 16,392:DRAW 624,392,2:DRAW 624,
    8
440 DRAW 16,8:DRAW 16,392:MOVE 16,104
450 DRAW 624,104:MOVE 272,392:DRAW 272,1
    04
460 ON VAL(aa$) GOTO 500,750,950
470 '
480 ' Control Game 1
490 '
500 tt=40:RANDOMIZE TIME:IF a$="3" THEN
    540
510 PEN #3,5:LOCATE #3,2,2:PRINT#3,"TIME
    "
    
```

```

980 PEN #3,5:LOCATE #3,2,2:PRINT#3,"TIME
    ":LOCATE #3,12,2:PRINT#3,"LIVES"
990 WHILE NOT fail AND tally<15 AND tt>0
    AND lv>0
1000 GOSUB 1150:LOCATE #3,13,4:PRINT#3,"
    ":LOCATE #3,13,4:PRINT#3,lv
1010 WEND:zz=REMAIN(0):zz=REMAIN(1):GOSU
    B 1550:GOSUB 1850
1020 CLS#3:IF tt<=0 THEN LOCATE #3,9,3:P
    RINT#3,"Time's up":GOTO 1060
1030 IF fail THEN LOCATE #3,10,2:PRINT#3
    ,"Colours":LOCATE #3,10,4:PRINT#3,"
    adjacent":GOTO 1060
1040 IF tally=15 THEN LOCATE #3,8,3:PRIN
    T#3,"OK You win":GOTO 1060
1050 IF lv<1 THEN LOCATE #3,2,3:PRINT#3,
    "Your man is dead"
1060 dl=3500:GOSUB 1440:CLS#3
1070 LOCATE #3,1,2:PRINT#3,"Type M for m
    ore"
1080 LOCATE #3,1,4:PRINT#3,"or C for a c
    hange"
1090 WHILE INKEYS<>"" :WEND
1100 aa$=INKEYS:IF aa$="" THEN 1100
1110 aa$=UPPER(aa$):IF aa$="M" THEN aa$=
    "3":CLS#1:CLS#3:GOTO 950 ELSE GOTO
    260
1120 '
1130 ' Run game 1
1140 '
1150 rx=(INT(RND*3)+1):rxp=rx*2-1
1160 ry=(INT(RND*5)+1):ryp=ry*2
1170 cell=5*(ry-1)+rx+6
1180 IF grid(cell) THEN 1150
1190 GOSUB 1730
1200 cbn=INT(RND*7)+1:blockx=3:blocky=14
    :PEN #1,da(cbn):GOSUB 1790
    
```

```

1390 IF TEST (256+32*manx,210)<>10 THEN
    PRINT CHRS(7);LOCATE #3,7+lv,3:PRI
    NT#3," " :lv=lv-1
1400 RETURN
1410 '
1420 ' Delay
1430 '
1440 FOR hold=1 TO dl:NEXT:RETURN
1450 '
1460 ' Interrupt
1470 '
1480 WHILE INKEYS<>"" :WEND
1490 LOCATE #3,2,4:PRINT#3,SPC(4)
1500 LOCATE #3,2,4:PRINT#3,tt
1510 tt=tt-1:RETURN
1520 '
1530 ' Grid for Game 1
1540 '
1550 DI:FOR xx=32 TO 224 STEP 64
1560 MOVE xx,208:DRAW xx,368,4:NEXT
1570 FOR yy=208 TO 368 STEP 32
1580 MOVE 32,yy:DRAW 224,yy:NEXT
1590 MOVE 94,178:DRAW 162,178:DRAW 162,1
    42
1600 DRAW 94,142:DRAW 94,178
1610 EI:RETURN
1620 '
1630 ' Colour check - Game 1
1640 '
1650 n=cell-6:FOR j=1 TO 2:FOR i=n TO n+
    2
1660 IF grid(i)=grid(cell) THEN fail=-1
1670 NEXT:n=cell+4:NEXT
1680 IF grid(cell-1)=grid(cell) OR grid(
    cell+1)=grid(cell) THEN fail=-1
1690 RETURN
1700 '
1710 ' Print flashing marker
1720 '
1730 LOCATE #1,rxp,ryp:PEN #1,14:PRINT#1
    ,CHRS(144)CHRS(144)
1740 LOCATE #1,rxp,ryp+1:PRINT#1,CHRS(14
    4)CHRS(144)
1750 RETURN
1760 '
1770 ' Print colour block
1780 '
1790 LOCATE #1,blockx,blocky:PRINT#1,CHR
    S(143)CHRS(143)
1800 LOCATE #1,blockx,blocky+1:PRINT#1,C
    HRS(143)CHRS(143)
1810 RETURN
1820 '
1830 'End-of-game noise
1840 '
1850 FOR i=100 TO 400 STEP 5:SOUND 1,i,1
    ,15:NEXT:RETURN
    
```

TRACKER by Union Software

A totally new concept in computer wargames utilising artificial intelligence. Versions will differ substantially to make full use of machine capability. Controlling up to 8 remote skimmers you must wipe out renegade intelligent forces across 5000 tracks. One to one combat is featured in fast 3D.

STARGLIDER by Argonaut Software

A true arcade quality 3D combat flight simulator of the first order. A high action product with novella and poster included. Featuring stunning graphics, realistic sound effects and true 3-D perspective.

ADVENTURES by Level 9

JEWELS OF DARKNESS-A premier collection of classic adventure.

SILICON DREAMS-A modern space adventure.

These sizeable adventures are in three parts and represent excellent value for money. Each contain over 600 graphic locations and feature the latest Level 9 text handling system allowing multi command sentences, help and oops. Level 9 are undisputed leaders in cassette based adventure and are renowned for their intriguing plots and puzzles.



Bringing software

		SPECTRUM	SPECTRUM	C/DORE	C/DORE	C/DORE	AMSTRAD	AMSTRAD	AMSTRAD
		48/128	128	64/128	64/128	128	464/664/6128	664/6128	6128
		TAPE	TAPE	TAPE	DISK	DISK	TAPE	DISK	DISK
THE ART STUDIO	OCP	14.95	-	14.95	17.95	-	-	-	19.95
ADVANCED ART STUDIO	OCP	-	24.95	-	D	-	-	-	D
THE MUSIC SYSTEM	SYSTEM & ISLAND	-	-	14.95	17.95	-	15.95	19.95	-
ADVANCED MUSIC SYSTEM	SYSTEM & ISLAND	-	-	-	39.95	-	-	29.95	-
STARGLIDER	ARGONAUT	-	-	D	D	-	D	D	-
TRACKER	UNION SOFTWARE	D	-	14.95	17.95	-	D	D	-
THE PAWN	MAGNETIC SCROLLS	-	D	-	19.95	19.95	-	-	24.95
JEWELS OF DARKNESS	LEVEL 9	14.95	-	14.95	14.95	-	14.95	19.95	-
SILICON DREAMS	LEVEL 9	D	-	D	D	-	D	D	-

VERSIONS MAY VARY FROM DESCRIPTIONS ABOVE

RAINBIRD

THE PAWN by Magnetic Scrolls

The most talked about adventure of the year! Containing the most sophisticated language interpreter and text-handling system ever seen in an adventure together with 30 picturesque illustrations and unique scrolling screens. Game includes novella and poster.

THE ART STUDIO AND ADVANCED ART STUDIO by O.C.P.

The leading art and design package renowned for its ease of use and comprehensive list of features. The Advanced Art Studio is designed to stretch the limitations of individual machines and incorporates a low resolution mode on Amstrad and Commodore. Manual and upgrade offers included. Printers supported using grey scale.

THE MUSIC SYSTEM AND ADVANCED MUSIC SYSTEM by System Software

The best music programs for Commodore and Amstrad. The Music System features Keyboard, Editor and Synthesiser, and Advanced Music System has additional Printer and Linker (continuous linking of music files) modules, Commodore Advanced version also has a comprehensive MIDI module. Utilising WIMP technology with comprehensive manual and upgrade offers where applicable.



out of the Ice Age

AMSTRAD	ATARI	ATARI	ATARI	MSX	APPLE	IBM	AMIGA	MAC
PCW	800/130	800/130	ST		2 SERIES	CMPTBLES		512/PLUS
DISK	TAPE	DISK	DISK	TAPE	DISK	DISK	DISK	DISK
-	-	-	-	-	-	-	-	-
-	-	-	D	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	24.95	-	D	D	D	D
-	-	-	D	-	-	D	-	D
-	-	D	24.95	-	19.95	D	24.95	24.95
19.95	14.95	14.95	19.95	14.95	D	D	19.95	D
D	D	D	D	D	D	D	D	D

VERSIONS MARKED D ARE UNDER DEVELOPMENT

All products available from
RAINBIRD SOFTWARE

1st Floor · 64-76 New Oxford St.
London WC1 1PS

Make cheques/postal orders
international money orders payable to
Rainbird Software and post to the
above address.

ACCESS/VISA - telephone 01-240 8837

RAINBIRD SOFTWARE IS A DIVISION OF
BRITISH TELECOMMUNICATIONS PLC

OCTOBER 1986



Which game offers the most in hand to hand combat? Jim Taylor, armed only with a Quickshot II, does battle.

If there's one thing people never tire of in their computer games it's good, old-fashioned honest down-to-earth violence.

Cute arcade-adventures with twee characters and witty scenarios may come and go, but the game where you can take out your aggression on a load of old pixels will be with us for ever.

It may be a sad comment on human nature – but I'm here today, brothers and sisters not to give you a homily but to tell you just where you can get the best fix of mega-mayhem for your Amstrad.

There are two main strands to the violent games industry. On my left ladies and gentlemen, we have the representatives of the Marquess of Queensberry, exponents of the noble art of pugilism. In other words boxing games.

On my right, originally fighting out of the mystic orient but now more or less naturalised residents of the West, we have the karate games.

Somewhere in the middle we have the rest – those games which don't fit neatly in to any particular category but which still give you the necessary dose of action.

Oriental Combat

There seems to be no end to the number of games based on the martial arts. Just when you think you've had enough double somersaulting and high-kicking to last you a lifetime, out comes another game with just enough originality to tempt you again.

Of course all of these games have to measure themselves against the high standards set by the first of chop-em-ups – The Way of the Exploding Fist.

The Way of the Exploding Fist
– Melbourne House

It was the first, but is it still the best? Way back in the summer of 1985 it arrived like a breath of fresh air – or a stiff jab in the bread-basket – on the Amstrad games scene.

We went bananas over it. But if you can remember that far back you'll realise that there wasn't an awful lot of competition around. Has Fist stood the test of time?

I think it has. Few of its challengers come anywhere near it for sheer rib-cracking action, nimbleness of animation or strength of addiction.

It's a fairly simple idea – you take on

KING COMBAT



and try to beat a number of opponents in the ancient art of karate. You can execute 16 different movements from a simple punch to a tricky high back kick.

The beauty of Fist is that it's a simple business to get started and enjoy yourself, but that making progress against the later fighters requires a considerable degree of skill with the joystick.

Practice certainly pays off. There can be few more satisfying moments in games than landing a perfectly timed flying kick and laying your opponent flat out.

Unfortunately before you get to that stage you'll have to suffer many a savage blow to many a sensitive spot of your anatomy.

The other main attraction of Fist is the two player option. Although this means that one player has to use the keyboard the fun is still immense.

The representation and animation of

the fighters in Fist are superb. But criticisms were made on its release by those who compared it to the Commodore 64 version – they said the background graphics were dull and the sound appalling.

At the time I thought these people were being churlish killjoys – now I'm inclined



The Way of the Exploding Fist: Ouch! Another blow shatters another bone. How much can you take?

to think that Melbourne House didn't give as much attention to the frills as it might have done.

However the sound still recreates some suitably unpleasant physical contact noises and the background is pretty enough. Pity it's always the same. What's really important though is the gameplay, and in my book *Fist* still takes some beating.

Yie Ar Kung Fu - Imagine

Although *Yakf* only offers you 10 moves – as opposed to *Fist's* 16 – it provides elements that make it a very tempting alternative if you're determined not to overload your software shelves with the martial arts.

For a start, you're up against eight different opponents. As if that wasn't enough each one of them has a different style and uses a different oriental



Yie Ar Kung Fu: Oolong takes on another oriental baddy

weapon. And you get two backgrounds – temple and mountain range – both of them very attractive indeed.

Your opponents include Bucha, a bald blubberbelly with a penchant for nose dives; Star, with his evil oriental projectiles; Nuncha, who menacingly twirls two clubs joined by a chain. Other nasties use swords, clubs, shields and assorted offensive weapons.

So the action is pretty diverse and makes great demands on you as you take the role of Oolong. If I find it hard to be as enthusiastic about *Yakf* as about *Fist* it's not on account of the graphics or sound, which are equal if not superior to Melbourne House's offering.

It's more because *Yakf* just seems to lack that sense of real combat that can have you staggering away from the screen wondering if you might not really have a cracked rib or two.

Sai Combat - Mirrorsoft

Sai is a means of combat in which body and weapon are used as one. In this case you use a stick – or bo – to do harm to your opponent.

Both fighters on screen sport natty headbands around their balding pates and are observed by a pair of decrepit old Sai masters.

The state of your energy, or Chi, is



Sai Combat: Grab that bo and give it some stick

represented by the colour of a dragon's head under your fighter – if it starts to go green you're in trouble.

As in *Fist* you are able to use 16 movements to try and beat your opponents. What makes *Sai Combat* smarter than the average karate game is the element of the weapons. Somersaulting with a stick is one thing; knowing what to do with it once you've landed is another.

The different levels of the game take place against a variety of pretty backgrounds as you rise through the Dan levels. As the sticks and fighters whirl through the air they make an impressively and fearsome whooshing noise.

The game begins fairly gently and you shouldn't have too much trouble disposing of the first opponent. However the second one is an altogether tougher cookie and will rapidly bring you down to earth in the most painful of ways – more likely than not with a quick poke of his bo in your eye.

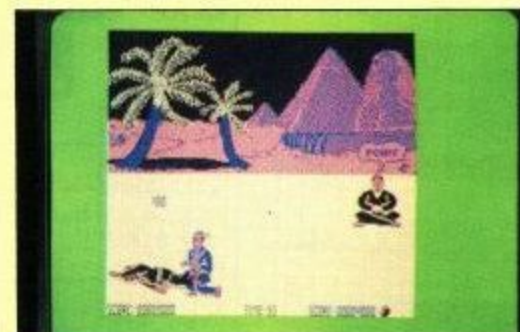
Sai Combat's mixture of excellent graphics, animation and a gameplan with a touch of originality make it a very desirable fighting game. Now if someone could do a version where the Sai chaps take on the choppers from *Fist*...

International Karate - Endurance

Endurance has rather set itself up with its motto – "Perfection is the only acceptable standard". Needless to say, this game falls well short.

Not that it's bad – far from it. It's a workmanlike job, but just lacks that touch of class to put it up with the leaders in takeaway martial arts.

You get the usual two combatants, but they're both rather small and lacking in



International Karate: Another exotic backdrop to the crash, bang and wallop

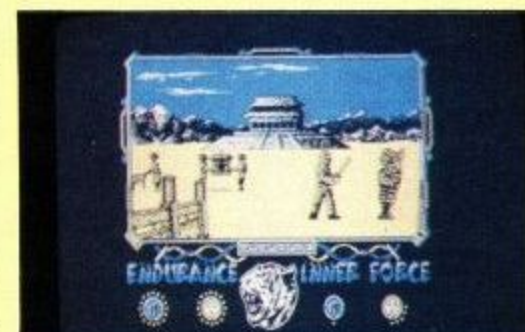
detail. You also get 16 movements, but I have to admit that I found them less than simple to implement – with the result that I often got a faceful of flying kick.

The international element comes in with the backgrounds – if you defeat one fighter you jet off round the world to take on the next. Why is anyone's guess, but there you have it.

The result is that you get six different backgrounds – Sydney Harbour, the Pyramids and so on. Pretty though these are, they remind me of the illustrations in a graphic adventure.

Sound effects are strange – something like listening to a sea shell. But the game's biggest problems are that the fighters are too small and the action not violent enough.

The Way of the Tiger - Gremlin Graphics



The Way of the Tiger: Trigeminal scrolling and excellent animation, but what about the blood and guts?

As befits a game that features trigeminal scrolling *Way of the Tiger* comes in three sections. So it's not so much a karate game – although it includes that – as a triple combat game. What you get for your cash is unarmed combat, pole fighting and sword fighting. The action takes place on a screen split in to three separately scrolling areas – hence the trigeminal business.

This scrolling gives a good impression of movement, matched in quality by the rest of the graphics and the animation.

As the heroic ninja you have to take on numerous opponents in your fight against evil. In the first section – unarmed combat – you could come up against anything from a nasty goblin to a tough old troll.

Success in this section takes you on to the next stage – pole fighting. The scrap takes place on a log over a river and defeat means taking an early bath.

The next stage is sword fighting, which again has a superb background. The scrapping here tends to be tougher than in the two previous sections.

Possible movements are limited to about 10 in the game, and essentially the same ones are used in all sections.

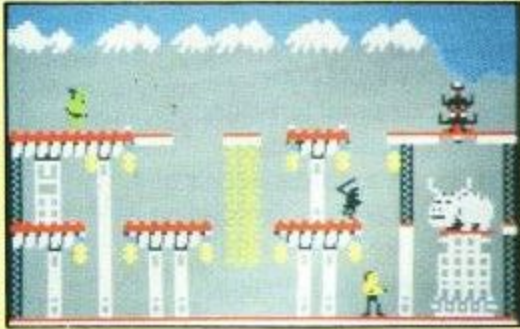
While the scrolling, background graphics and animation are all excellent there's no overwhelming sensation of

being involved in a fight to the death. Tiger seems to lack something of the excitement of the best on-screen scraps.

Bruce Lee - US Gold

The game that's named after the man who might be said to have started - or be to blame for - the whole martial arts craze.

It's a strange package and strictly speaking doesn't belong in this section



Bruce Lee: Green Yamo's got a serious weight problem - but he's still causing Brucie some tricky problems

since it's not solely a combat game. However I can't think of anywhere else to put it, so here it is.

It is a successful combination of combat and platform game. You, as Brucie, run around trying to collect lanterns, unlock doors and claim the evil wizard's fortune.

Trying to stop you is the Green Yamo - an overweight lump of green fluorescence - and his sidekick the ninja.

So as you rush up, down and around the screen you regularly have to stop for a spot of full body contact with these two. Since the characters are pretty small and there's lots else going on the combat isn't as complete as the specialist games. But it's still good fun, and the other elements make the whole thing a very enjoyable game.

Boxing

"What's karate got that boxing hasn't?" you might ask. The answer is vertical action; all those leaps and somersaults and high kicks.

Boxing is essentially back and forth - which is why there needs to be something extra to make it really suitable for a computer game.

Barry McGuigan's World Championship Boxing - Activision

Bazza may think of himself more as a chat show host than a boxer these days, but his program is still the best boxing game around. It has excellent graphics and fight action added to a genuinely intriguing strategy element.

You begin by creating your boxer out of the available characteristics. So you can, for instance, choose from styles such as Slugger - you like to get in close for a bit

of rough house - or Dancer - where you're one of those elegant movers who rarely gets within an arm's length of his opponent.

Before you make it in to the ring you have to spend some time in training camp, working up a sweat on the bags, sparring or running 10 miles at five in the morning.

If you've done the business then you should have a chance when you take on your foes, the first of whom is likely to be the tough but lumbering Cannonball Corby - some joke about Commodore?

Since the boxers move automatically according to the chosen style you can concentrate on landing some good punches.

The program is written with a deal of thought and skill. Graphically it packs a reasonable punch, but what makes it the number one is its excellent blend of strategy and violence.

Frank Bruno's Boxing - Elite

Until Barry burst through the ropes this was the heavyweight among boxing programs. It's still good - graphics and action is exciting - but it now seems to lack a little of the skill element.

**3D Boxing - Amsoft
Rocco - Gremlin**



3D Boxing: The crowd bays for action - but they won't get much

A couple of contenders who never really made it to the top rank - probably because their trainers never quite thought out the strategy properly. Its 3D's graphics are not very impressive, and get less so when the action starts. You never seem to have any close control over what the fighter is doing and pretty quickly you don't really care.

Rocco does have impressive graphics - very detailed indeed. Unfortunately all four opponents look exactly the same and share the same fighting style.

The other contenders

Knight Games - English Software

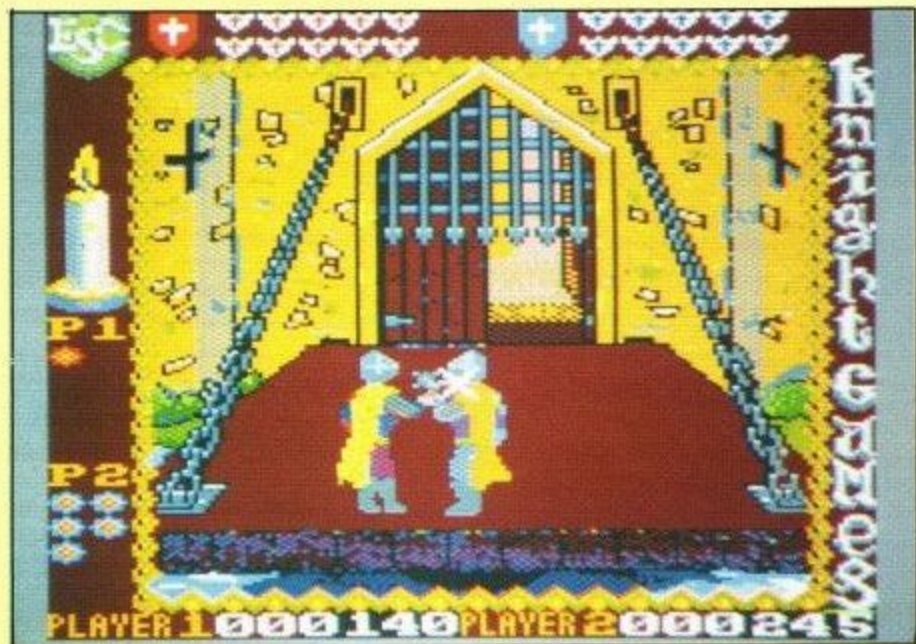
This medieval slice-em-up features some of the most impressive background graphics I've ever seen on the Amstrad, as well as the funkiest music since Blondel was serenading Richard the Lionheart.

It's also got eight events, six of which

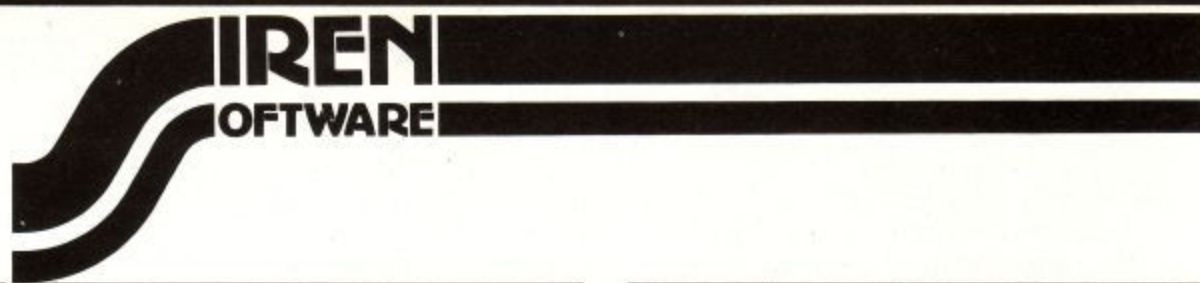
involve battering away at an opponent. You get two sword fights, quarterstaff, pikestaff, ball and chain, axeman.

Clanking around in his armour the player just tries to hammer his opponent - it seemed to me that there was neither much subtlety in the gameplay or variety between the different events.

In fact the two most enjoyable sections of the program are, unfortunately the least violent - archery and crossbow, in which you have to aim at targets spinning in the distance.



Knight Games: Clanking around in their thermal armour, the combatants cut large chunks out of each other



MASTERDISC

The only disk utility package you will ever need, this program really does it all.

IMAGE – make backups of your disks (inc. funny formats, etc)

DIRECTORY EDITOR – unerase files, show hidden files, secure files, etc.

SPEEDFORM – format your disks lightning fast.

SECTOR EDITOR – complete sector editor.

DEPROTECTOR – deprotect a Basic program.

DISK HEADER – display start, length, type, etc of files.

TAPE HEADER – as for disk header, but for tape.

TRANSFILE – transfer individual files from tape to disk or disk to tape.

DISKMAP – shows how files are stored on disk.

TYPESTYLE – display on screen or printer any ASCII file.

DUMPFIL – display Hex/ASCII format for contents of a file.

DISK – speed up your disk drive by up to 20%

This disk does it all!

On 464, 664, 6128. Disk only £12.99

NEW

DISCOVERY PLUS

NEW

NEW

THE ULTIMATE TAPE TO DISC TRANSFER PROGRAM

- * The only one to automatically transfer headerless, normal and turbo loaders at the touch of a key.
- * Contains four programs giving you far more power
- * Will transfer the majority of your software, even programs that other copiers will not copy
- * Will handle a wide range of different turbo loaders.
- * Absolutely no programming ability needed.
- * Comes complete with full easy to follow details of how to transfer over 100 different programs using Discovery Plus.
- * All parts of the package are very easy to use.
- * Full details will enable even the first time user to transfer their programs
- * This really is so much better than any other transfer program, we will refund your money twice should you find a better one.

Amstrad Action Magazine said of our old Discovery program, "Probably the best of the tape to disc copiers".

Discovery Plus is definitely the best

Compatible with the 464, 664, & 6128

On Disc Only £14.99

Updates

If you have our old Discovery program, to receive this latest one, return it to us with a cheque or P.O. for £5.99 (If you have it on disc) or £8.99 (If you have it on tape). Please send the Tape/Disc box with it.

Transmat/Amshelp Owners

Send us your Transmat or Amshelp disc (complete in box) and receive a £2.50 discount on this superior product.

NEW

HANDYMAN

NEW

FORMAT & USE 207K ON A STANDARD AMSTRAD DISC

THIS UNIQUE PROGRAM IS AN ABSOLUTE MUST FOR ALL DISC OWNERS

- * Handyman will allow you to format & use 207K on a standard CF2 Disc
- * Handyman has a full disc/file search and replace facility
- * Handyman allows you to look for and change text in files/games etc
- * A disc menu program allows you to load your programs at the touch of a key
- * Filemate displays in HEX/ASCII any file.
- * Handyman also has many other unique facilities

Available on disc £12.99 464,664 & 6128

compatible

NEW NEW NEW NEW NEW NEW NEW NEW NEW NEW NEW NEW NEW NEW

AMDRIVE – THE CPC SECOND DISC DRIVE

Add a second disc drive to your Amstrad. This unit (as featured in last months Amstrad User Reader Offer) was a sell out at the last Amstrad Show! The disc drive fits neatly on top of the built in drive on the 6128/664 or on top of the FD1. The Amdrive comes complete with all leads, cables, power supply unit, 12 months guarantee & full instructions.

Please State 464.664/6128 when ordering.

AMDRIVE Only £89.95

AMRAM – THE SIDWAYS RAM UNIT

This unique peripheral allows you to run rom based programs from disc. The Amram prevents memory or himem problems, and once a program is loaded into Amram, your Amstrad thinks it is a rom! Features include a reset button & icon driven pull down menu driven software which will allow you to customise your roms.

AMRAM Only £39.95 464.664/6128

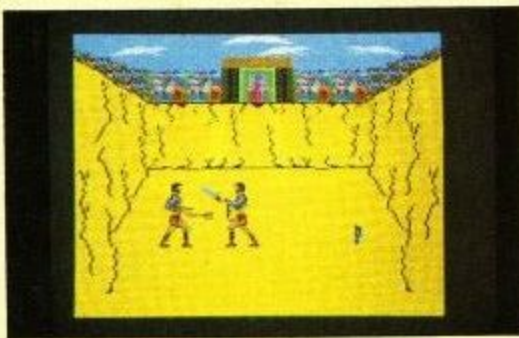
Overseas Orders Please Add £1 for postage. Selected items available from: Semaphore. CH-1283 La Plaine, Geneva, Switzerland. PR8 Softwaredienst, Erbachshof, 8702 Eisingen, West Germany

UK Trade Enquiries Welcome

SIREN SOFTWARE

Trafford Technology Centre, 43 Elsinore Road, Manchester M16 0WG. Tel 061-848 9233

Gladiator - Domark



Gladiator: Cut and thrust in the Roman arena - but it could be before you earn your freedom

It's hard to find anything good to say about this. The graphics are dismally sketchy, the action is unclear and the sound a collection of beeps.

The idea is to fight your way to freedom by winning gladiatorial combat. You have a choice of 45 weapons - which sounds fab, but isn't; the dozen or so swords, for instance, are not terribly different. The best combination of weapons is two tridents.

In the arena, under the Emperor's gaze, you scrap it out. But the action is unclear and you'll find it very hard indeed to beat the computer.

Fighting Warrior - Melbourne House

Excellent graphics and animation, atmospheric soundtrack and the most disgusting slicing, squelching and spitting noises to be found in a game. But, I'm afraid, rather tedious when it comes to the fighting.

As you make your way from left to right across the screen taking on a variety of bizarre creatures, the action becomes very repetitive. You only have a sword to fight with and four movements of it.

In the end Fighting Warrior disappoints. At first you think it's going to be the combat game to end them all, but ultimately it's a bore.



Fighting Warrior: Slice and squelch while the pyramids scroll by

Rock 'n Wrestle - Melbourne House



Rock n Wrestle: The snappiest dressers in fighting games grapple away

A nice idea, this one. And it's one of the few combat games to pull off a true 3D effect. Not to mention the 25 different wrestling moves.

Problem is that it's terribly difficult to perform these moves, with the 3D only adding to the confusion.

I'd recommend this only to dedicated grapple fans who know their wrestling, can cope with the garishly colourful costumes and don't mind suffering the odd body slam.

ACU

SUPERPOWER UTILITY SOFTWARE NOW ALSO ON DISC

ADM DEVELOPMENT PACKAGE

DISC (6128 only) ... £19.95
ROM (2 x 16K) £19.95

NEW LOW PRICE

MACHINE CODE PROGRAMMERS

Slash your program development time by up to 50%!! Our Assembler runs at approx. 24000 lines per minute - as many as 8 times faster than similar products. Over 30 commands in the Editor/Assembler including Block Move, Block Delete, Block Copy. Disc version uses Bank switching to maintain file sizes. Disassembled files can be edited and re-assembled. Monitor has over 30 commands including Single Step, Conditional Breakpoints, Set CPU Registers etc.

TOOLBOX & BASIC EXTENSIONS

DISC £19.95 Please state ROM £19.95 464, 664 or 6128

"Basic Programmers - SAVE PRECIOUS MEMORY SPACE!!" The disc versions of this product include INSTALLATION, allowing you to create your own files of routines selected from TOOLBOX for use with particular programs. This ensures maximum availability of user memory. Rom versions, of course, have 100% saving anyway! ALL versions now provide a simple ASSEMBLER from within BASIC.

DIRECT COMMANDS - CHARACTER, COMPACT, EDITOR, FIND <& REPLACE>, KILL, MEDIT, PICTURE, SOUNDLAB, TIDYLIST, XREF.

PRINTER COMMANDS - CDUMP, DUMP, ECHO ON/OFF, LRON, LTROFF.

GRAPHICS COMMANDS - CIRCLE, TURTLE, FILL, FRAME, GCOL, GRAPHICS PAPER, GRAPHICS PEN, MASK.

SCREEN COMMANDS - Double height or underline, PAGE ON/OFF, SCREEN, VDU.

FILE COMMANDS - BAUD, INFO, UNPROTECT.

OTHER COMMANDS - ASSEMBLE, KEYBOARD, ROMS, TUNE.

NEW SUPERPOWER ROM CARD £34.95 ONLY

(Eight sockets, addressable 0 to 7, 8 to 15, 16 to 23 etc. Cased unit, plugged neatly to expansion port. Through connector.)

ORIGINAL ROM CARD £25 ONLY (CPC 464)

OTHER SUPERPOWER PRODUCTS

Disc User's Utilities
Mailing List/Club Membership program.
Disc (6128 only) and Rom versions priced at £19.95 each. Send for full details.
SUPERPOWER Products for the Amstrad CPC series are available from dealers nationwide AND:-

Micro Power Ltd.,
Northwood House,
North Street,
Leeds LS7 2AA.
Tel. 0532 458800/
434006



With monitor, data £100 of software yo (Until mummy catc



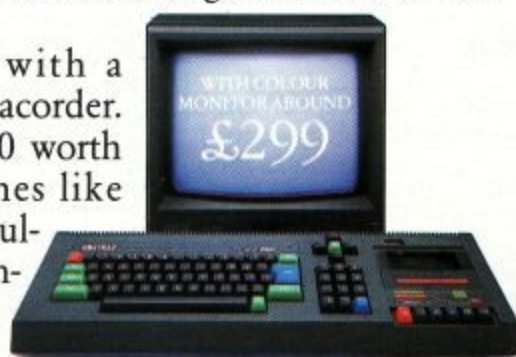
With the Amstrad 464 home computer the fun starts as soon as you get it home.

Because unlike many other home computers the 464 comes complete with its own green screen or full colour monitor.

It also comes with a convenient built-in datacorder.

And you get £100 worth of software with games like Harrier Attack and Sultan's Maze. Not to mention Oh Mummy.

64K of RAM



means you have plenty of memory to play with. And there are over 200 Amstrad games you can play, many exclusive to Amstrad.

But games are only half the fun on the 464.

The kids can learn spelling and arithmetic with software like Wordhang and Happy Numbers.

Whilst adults will love the way that it helps around the house with budgeting and accounts.



order and
ou can't lose.
ches you.)



To help you make the most of your 464, you can join the Amstrad User Club.

And there are lots of books and magazines devoted to it as well.

What's more you can buy joysticks, printers, disc drives, speech synthesisers and light pens to make it even more fun.

But perhaps the most pleasurable thing about the 464 is the price.

The complete home computer costs just £199 with green screen or £299 with colour monitor.

Not much to pay for a chance to get away from mummy.

Please send me more information.

Name _____





Address _____

ACU 11/86

The Amstrad 464.
The complete home computer.

Amstrad P.O. Box 462, Brentwood, Essex CM14 4EF.

			Last month	Market strength
	1 Thrust <i>Firebird</i>	Deservedly number 1. Simple and clever space game. A cross between Asteroids and Lunar Lander.	10	100
	2 Speed King <i>Mastertronic</i>	Large sprites and high speed action in an excellent motorcycle racing game.	ne	90
	3 Ninja Master <i>Firebird</i>	Simple four part test of Japanese fighting skills.	ne	55
	4 Kane <i>Mastertronic</i>	High quality Wild West action, birdies and baddies to shoot, trains to catch.	1	44
	5 Harvey Headbanger <i>Firebird</i>	Jolly arcade game which demands quick wits and fast responses. Best for two players	2	41
	6 Ghosts and Goblins <i>Elite</i>	Faithful conversion of the coin-op original. Difficult but addictive. Great fun once mastered.	3	32
	7 Storm <i>Mastertronic</i>	Gauntlet-style view from above arcade game. Very addictive with a huge map.	7	29
	8 Green Beret <i>Imagine</i>	Blood and thunder coin-op convert. Take on a whole army with only a knife and the occasional flame thrower.	5	24
	9 Knight Games <i>English</i>	Middle ages combat game. Bash the hell out of a friend while wearing armour.	17	23
	10 Winter Games <i>Epyx/US Gold</i>	It's snow joke trying to control your skis as you aim for the next Olympic record.	16	22
	11 Molecule Man <i>Mastertronic</i>	Have a ball rolling around a 3D maze, or build your own with the construction set.	4	21
	12 Elite <i>Firebird</i>	The famous space trading game with plenty of mid-flight action. Highly addictive and an essential purchase.	5	21
	13 Knight Tyme <i>Mastertronic</i>	Once a knight – now a spaceman. Clever menu-driven arcventure. Cute characters and a wry sense of humour.	8	20
	14 Jack the Nipper <i>Gremlin</i>	Thrill to be three, scare the cat, break the computers and release the convicts. All in an afternoons naughtiness.	14	20
	15 Batman <i>Ocean</i>	Gotham City will never be the same unless you can rebuild the batcraft and rescue your friend who has been Robin-napped.	15	18
	16 Kung Fu Master <i>Data East/US Gold</i>	Now everybody's kung fu fighting. Run to the aid of the love of your life. You may need to beat up a few gaulers on the way.	11	17
	17 International Karate <i>System 3</i>	Latecomer to the oriental arena. Yet another way to let off steam as you do hand to hand combat in a distant land.	ne	17
	18 Speech <i>Superior</i>	Let your Arnold do the talking. Software which answers back, not a game but fun to play with.	ne	16
	19 Formula One Sim <i>Mastertronic</i>	The racing game which is stuck in the chart, by now everyone must have a copy – don't be left out.	20	16
	20 Stainless Steel <i>Mikrogen</i>	Ricky Steel makes Mad Max look like Mel Gibson (He does doesn't he), help him get to his air car and blast the baddies.	ne	15

 Non-mover
  Up
  Down
  New entry
 November 1986
 Chart compiled by Gallup/MicroScope

Probably the best joysticks in the world

THE TOP PEOPLES CHOICE

125 +

The Explosive Joystick

Compatible with ZX Spectrum, 16k, 48k, 128k, +2, Commodore 64, Vic 20, Amstrad, Atari, etc.

At only £8.95 the features on the 125 are second to none. Besides its unique internal structure, built to withstand immense punishment from even the most vigorous games player, the joystick contains no less than four extremely sensitive fire buttons. Two are housed in the handgrip which has been moulded for extra comfort and ease of operation. The trigger finger fire button provides ease and comfort for your finger and the top fire button is contoured to fit your thumb for sure fire shooting. The base fire buttons are positioned for extra control and two hand firing whether you are right or left handed.

A built in auto-fire switch provides continuous shooting at the touch of a fire button.

Including Spectrum+2 Selector Connector.

The 125 comes complete with a full 12 months warranty

Prices include VAT, postage & packing. Delivery normally 14 days.

Export orders at no extra cost. Dealer enquiries welcome.

Cheetah, products available from branches of

Dixons **WHSMITH** High St. Stores and all good computer shops.



You know you deserve the best!

DELUXE Cheetah MACHI MICROSWITCH JOYSTICK

- ⚙ METAL SHAFT ⚙ AUTO FIRE
- ⚙ +2 SELECTOR CONNECTOR
- ⚙ 12 MONTH WARRANTY

- Deluxe, robust construction.
- Comfortable rugged hand-grip, 8 directional control with automatic centering.
- Heavy duty base with strong stabilizing suction cups.
- Highly sensitive light touch MICRO SWITCH fire buttons.
- Ergonomically designed control handle with indestructible METAL SHAFT.
- Built in AUTO FIRE function.

Mach I Joystick compatible with:

- Sinclair ZX Spectrum 16K, 48K, 128K, +2
- Amstrad computers
- Commodore 64 & VIC 20 Computers
- Commodore C16 & Plus 4 Computers (adaptor sold separately)
- Atari 2600 & Atari 5200 Video Game Systems
- Atari Home Computers

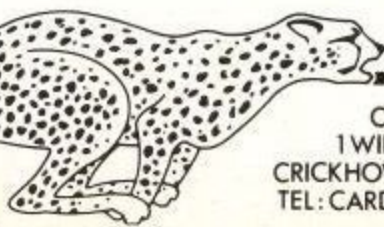
Prices include VAT, postage & packing. Delivery normally 14 days. Export orders at no extra cost. Dealer enquiries welcome. Cheetah, products available from branches of **Dixons** **WHSMITH** High St. Stores and all good computer shops.



ONLY
£14.95

Cheetah

Marketing



CHEETAH MARKETING LTD.
1 WILLOWBROOK SCIENCE PARK
CRICKHOWELL ROAD, ST. MELLONS, CARDIFF
TEL: CARDIFF (0222) 777337 TELEX: 497455
FAX: 0222 779404

Well kiddies, this month we're all going to become graphic designers. No, not because they earn a lot of money. Nor because they get to wear trendy gear, well some of them. Because we're looking at graphics and the graphics commands in particular.

Most computers these days use the Cartesian coordinate system. This is a scheme devised by the French philosopher René Descartes (1596-1650). One day he was sitting in the bath (or was that the other guy?) thinking to himself "what can I do to really screw things up for everyone who wants to draw graphs on their personal computers in the 1980s?"

So he thought up this really brilliant idea where things were drawn on a grid. Any line drawn on it starts at a specific point which has a unique pair of numbers associated with it, called coordinates. Counting across the page gives you a number which you call the X coordinate, counting up the page gives you a number which you call the Y coordinate.

Why Y? Why not?

I expect René used the first two letters that came into his head. It has been a headache ever since, trying to remember which is across and which is up and down. It should be easy really. After all, X is a cross which means Y must be up and down.

With coordinates, the X always comes before the Y and when drawing graphs on paper you always move across the page and up, not up and across. "Think of a painter," my maths teacher always used to say, "he has to move his ladder across before climbing up it." I expect you've got little gems of useless crud imprinted on your brain too.

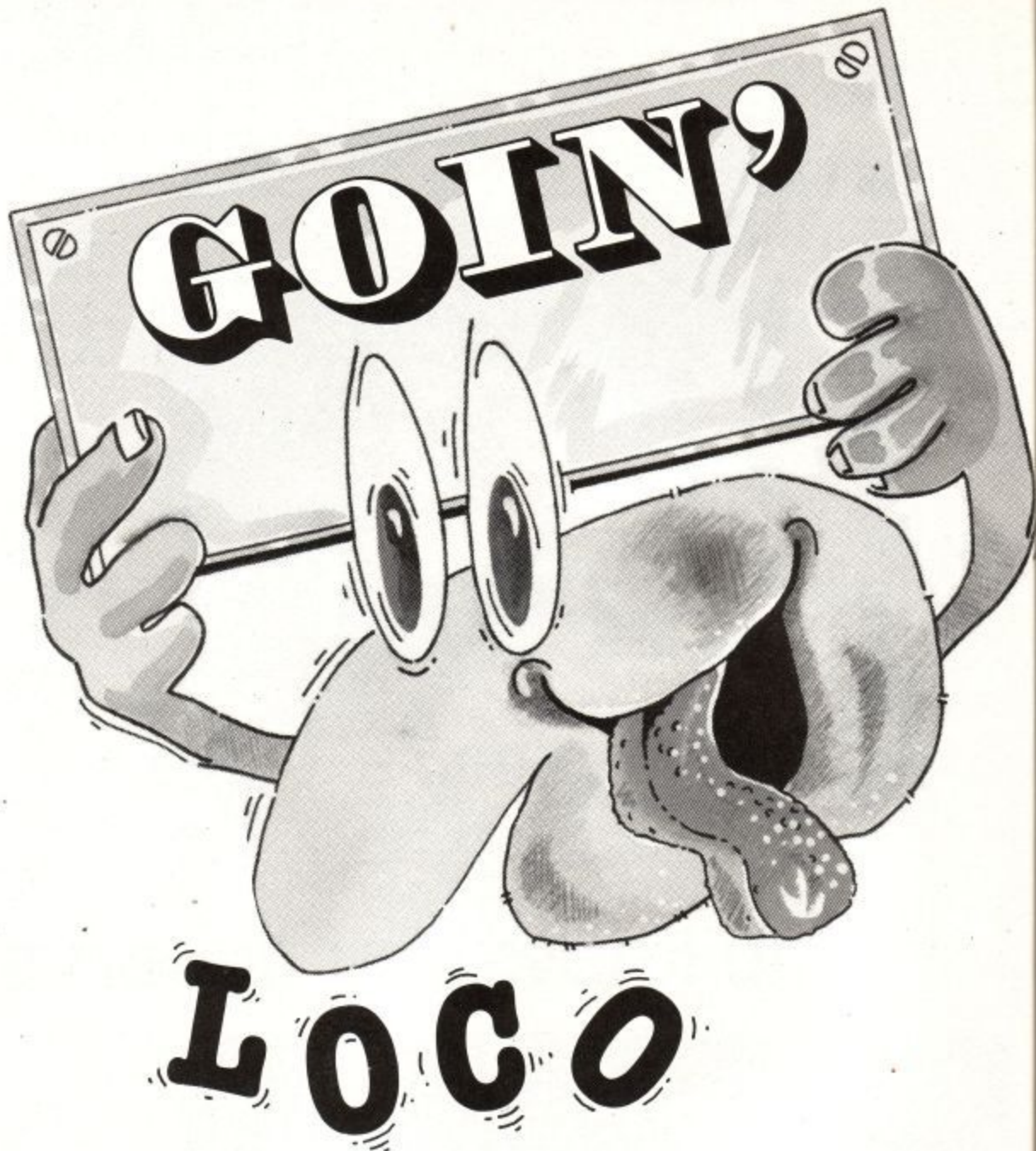
There is now an alternative to the Cartesian system. I don't know if there is a technical name for it, but it is commonly known as Turtle Graphics. This is the system used with the Logo language and is available with some versions of Pascal and under Basic 2 on the PC1512.

Rather than issuing commands such as "draw a line to the point 10 units across and 10 units up", Turtle Graphics uses commands "point in a direction, draw a line 10 units long". The 464 doesn't have any Turtle Graphics so unfortunately I can say no more about them.

Plonking dots

By now you should have grasped the fact that the graphics on the 464 are Cartesian. That is, they are used by specifying two coordinates, one X (across the screen) one Y (up and down).

There are three things that you can do. Plot a point - a dot plonked in the middle of the screen somewhere. Draw a line between two points. And move to a point,



Alexander Martin becomes graphically orientated

without leaving a trace on the screen.

This is a good point (no pun intended) to introduce the graphics cursor. The graphics cursor is a pair of numbers hidden inside the computer. The numbers are the coordinates where the last graphics command finished.

So if you've just drawn a line that finishes at 50,60 and you say Draw 60,70, there will be a line drawn between the two sets of coordinates and the graphics cursor will be moved to the new position.

Absolutely baffling

The commands that allow you to do this are Plot, Draw and Move. All three commands operate with absolute coordinates. Baffling? Absolutely. There are three more commands and these are Plotr, Drawr and Mover. If expect you've noticed something about these. The R stands for relative and indeed these are all relatives of Plot and the other commands.

There are two sorts of command then,

relative and absolute. The difference between them is the way in which the parameters to the command are used. Absolute commands move to a completely new position. Relative commands move to a position that is dependent on the old position.

A move to an absolute position is like a specific journey. You walk to the bakers. The final position that you end up in is important - well it is if you wanted to buy bread. On the other hand, the headlamps on a car shine relative to the car's motion. As the car moves the headlamps shine at the same distance from it.

To show that there is a marked difference between the two, here is a program that uses the same parameters, starting at the same place but showing quite different results.

```
10 MOVE 100,100 'standard starting position
20 MOVE 40,40:DRAW 30,20
30 '
40 MOVE 100,100 'standard starting position
50 MOVER 40,40:DRAWR 30,20
```

Absolute and relative commands are equally useful. One command can easily be produced from the other simply by adding offsets or bringing the graphics cursor back to the start.

Chunky pixels

The thing that I found most confusing about the Amstrad's graphics when I started using them was the way in which coordinates relate to pixels. In a word they don't. Because there are three different graphics modes the coordinate system is designed to operate with all three and produce the same result on all screens.

So if you draw a square 10 by 10 in one mode it will be printed as a square and not a rectangle in another. The only difference will be in the chunkiness of the pixels displayed on the screen. For each different mode, when a line is drawn from one set of coordinates to another, a calculation is made by the computer to find the pixels to switch on between the coordinates.

Other computers number each pixel with a coordinate. On the Amstrad, coordinates don't specify a particular pixel but a position on an unseen grid.

The following listing shows that different modes take differing amounts of time to finish the same program. Using a simple loop and both absolute and relative graphic commands the program draws a rectangle. Run this in all three screen modes. You will notice that there is a difference in the time taken to draw the block.

The difference is not that great between modes 0 and 1 but Mode 2 takes much less time. The Step command in the For Next loop moves the graphics cursor two pixels across in Mode 2, so only half as many lines are drawn. This probably accounts for the large difference. Take out the Step command and you will find that the speed difference is very small.

```
3 DEFINT a-z
5 t:=TIME
10 FOR x=10 TO 520 STEP 2
20 MOVE x,10:DRAWR 0,200
30 NEXT x
40 PRINT TIME-t!
```

Origin of the species

The place where the coordinates start, 0,0, is called the origin. Initially this is in the bottom left corner of the screen. If it was completely stuck it would be quite inconvenient. Especially when drawing circles, where using coordinates relative from the origin takes a great deal of effort out of the calculations. Usefully, the origin is mobile and it can be altered using the Origin command.

There are four additional parameters to the Origin command that allow you to define a graphics window. A further

command, Clg, makes it possible to clear the graphics window to one of the available inks. This command in combination with Origin is very fast and can be used to produce a large filled block on the screen very quickly indeed. Origin, demonstrated in the short program below, takes coordinates and converts to the nearest screen byte.

```
10 MODE 0
20 FOR x=320 TO 1 STEP-30
30 y=y+40
40 ORIGIN 0,0,320-x,x+320,0,y
50 CLG i
60 i=i+1:i=i MOD 14
70 NEXT x
```

Create and display

Finally, here are two programs that you can type in and use. They perform separate functions. One allows you to create a data file of graphics information, the other allows you to then display the image you created in a number of different sizes.

The second program has been developed from the first so you will be able to edit a copy of the first to create the second. They do show that the fictitious

```
10 MODE 2
20 DEFINT a-z
30 OPENOUT "dum":MEMORY HIMEM-1:CLOSEOUT
40 ORIGIN 320,200
50 FOR n=1 TO 7:READ button(n):NEXT
60 DATA 0,2,8,1,9,7,18
70 DIM x(400),y(400),a(400):last=0:x(0)=0:y(0)=0:a(last)=-1
80 x=0:y=0:ox=x:oy=y:a=-1:MOVE x,y
90 PRINT CHR$(23)+CHR$(1)
100 '
110 GOSUB 260
120 LOCATE 1,25:PRINT USING "x: ### y: ### ";x,y;
130 IF a<0 THEN PRINT"MOVE "; ELSE PRINT"DRAW ";
140 IF a<0 THEN PLOT ox,oy:PLOT x,y:a(last)=a:x(last)=x:y(last)=y:GOTO 170
150 MOVE x(last),y(last):DRAW ox,oy
160 MOVE x(last),y(last):DRAW x,y
170 ox=x:oy=y
180 IF fire THEN GOSUB 220
190 GOTO 110
200 '
210 '
220 last=last+1:x(last)=x:y(last)=y:a(last)=a:fire=0:PRINT CHR$(7);
230 RETURN
240 '
250 ' key reading routine
260 FOR n=1 TO 7
270 IF NOT(INKEY(button(n))) THEN ON n GOSUB 310,320,330,340,350,360,390
280 NEXT n
290 IF pr2 THEN pr2=0:GOTO 260
300 IF NOT(pr) THEN RETURN ELSE pr=0:GOTO 260
310 y=y+1:pr=-1:RETURN
320 y=y-1:pr=-1:RETURN
330 x=x-1:pr=-1:RETURN
340 x=x+1:pr=-1:RETURN
350 fire=-1:pr2=-1:RETURN
360 a=-a:RETURN
370 '
380 ' save the file
390 GOSUB 220
400 WHILE INKEY<>"":WEND
410 LINE INPUT "Filename:";fs
420 IF fs="" THEN RETURN
430 OPENOUT fs
440 WRITEN 9,last
450 FOR n=0 TO last
460 WRITE #9,x(n),y(n),a(n)
470 NEXT n
480 CLOSEOUT
490 RETURN
```

sheet of coordinates on which you are plotting extends beyond the edge of the screen.

When you have got them typed in, run program one. This uses yet another method of reading the keyboard. The cursor keys move a point or line about the screen. Pressing space toggles from Draw to Move.

So to draw a shape move to the first point, press Copy to fix it, press space to draw, move to the next point and press Copy again. You can have up to four hundred points defined, or to have more, change the Dim statement at the start. The shape that you draw is stored in a file and can be saved by pressing Enter.

The computer prompts you for a file name. It then saves the size of the file and a list containing the x,y coordinates and a number that indicates whether to draw to, or move to, the next point.

The second program works in a similar way. Press Enter to load a file. Use the cursor keys to move the centre of your shape about. Press Copy to draw your shape and press it again to erase it. The key . on the keypad will reduce the size of the shape and 0 will increase it.

The programs are not very sophisticated - they don't check for moving off the screen for example. You could easily expand them, combine them to create and manipulate images and put in extra features.

```
10 MODE 2
20 OPENOUT "dum":MEMORY HIMEM-1:CLOSEOUT
30 ORIGIN 320,200
40 DEFINT a-z
50 FOR n=1 TO 8:READ button(n):NEXT
60 DATA 0,2,8,1,9,7,18,15
70 DIM x(400),y(400),a(400)
80 x=3:y=2:s=1
90 PRINT CHR$(23)+CHR$(1)
100 '
110 GOSUB 230
120 LOCATE 1,25:PRINT USING "x: ### y: ### scale: ####.### ";x,y,s!;
130 IF NOT fire THEN 110
140 FOR n=0 TO last
150 IF a(n)<0 THEN MOVE (x(n)+x)*s!,(y(n)+y)*s!:ELSE DRAW (x(n)+x)*s!,(y(n)+y)*s!
160 NEXT n
170 fire=0
180 GOTO 110
190 '
200 '
210 '
220 ' key reading routine
230 FOR n=1 TO 8
240 IF NOT(INKEY(button(n))) THEN ON n GOSUB 280,290,300,310,320,330,370,340
250 NEXT n
260 IF pr2 THEN pr2=0:GOTO 230
270 RETURN
280 y=y+1:pr=-1:RETURN
290 y=y-1:pr=-1:RETURN
300 x=x-1:pr=-1:RETURN
310 x=x+1:pr=-1:RETURN
320 fire=-1:pr2=-1:RETURN
330 s!=s!-.1:RETURN
340 s!=s!+.1:RETURN
350 '
360 ' load the file
370 WHILE INKEY<>"":WEND
380 LINE INPUT "Filename:";fs
390 IF fs="" THEN RETURN
400 OPENIN fs
410 INPUT#9,last
420 FOR n=0 TO last
430 INPUT#9,x(n),y(n),a(n)
440 NEXT n
450 CLOSEIN
460 RETURN
```



THE TWO MOST POWERFUL UTILITIES AVAILABLE ON THE AMSTRAD

★ UTOPIA ★

ADDS 50 NEW COMMANDS TO BASIC INCLUDING A 27 SHADE GRAPHICS SCREEN DUMP (FOR EPSON/DMP2000 PRINTERS)

FOR DISC USERS: FORMAT, COPY, DELETE, LOAD DUMP, TYPE, LIST, DEDIT (full disc sector editor) DISCCOPY, ACCESS, INFO, SAVE, SPOOL . . . PLUS MORE

FOR PROGRAMMERS: FIND, REPLACE, VARS ARRAYS, FNS, CALL, MEDIT (full memory editor), MOVE, STATUS, TOKENS, NOKEYS, C (calculator), MDUMP . . .

FOR PRINTING: GDUMP, PRINTON, CDUMP, PRINTOFF . . .

FOR ROM MANAGEMENT:

HELP, HELPR, ROMOFF, ROMON, U, XROM . . .

"A powerful range of commands at a bargain price"
- Popular Comp. Wkly

ROM
£29.95

★ PLUS ★
USEFUL
FUNCTION
KEY
DEF'NS

"This piece of software should be held up as an example of what can be done by programmers who care it is brilliant"
- Electronics & Computing

DISC
£26.95
ROM
£39.95

MAXAM IS NOW RECOGNISED AS THE INDUSTRY STANDARD ASSEMBLER/MONITOR/EDITOR FOR THE CPC MACHINES, USED BY LEADING SOFTWARE HOUSES, COMPUTING MAGAZINES AND WIDELY THROUGHOUT INDUSTRY

★ **EDITOR** ★ Full screen editor of word processor standard incl find/replace, block operations, add/remove line numbers.

★ **ASSEMBLER** ★ Assemble from memory or file nested conditional assembly expression evaluation.

★ **MIX MACHINE CODE WITH BASIC** ★ Source code in a basic program - assembled, run and tested from basic.

★ **PLUS** ★ Unlimited breakpoints, disassembler, memory editor, relocater, memory search and much more!!

24 HOUR HOTLINE ACCESS VISA
01-684 8009

★ MAXAM ★

Arnor Ltd 118 WHITEHORSE ROAD CROYDON CR0 2JF

MIKRO-GEN MASTERING THE MARKET

On a recent visit to sunny Berkshire Alexander Martin met the men and women behind one of Britain's longest lived software houses.

The history of the software industry, especially the games market, is littered with the remains of dead companies who for one reason or other have failed to make a go of it. Games are a sink or swim business where software houses regularly go under.

The average life of a software house seems to be measured in months rather than years. The exception to this rule is undoubtedly Mikro-Gen, one of the longest surviving games producers in the country. With a couple of recent hits and more games on the way, the company is revamping its low key image and going for a more modern and exciting style.

Mikro-Gen started way back in the good old days of the ZX81. Its first product was a chess game for that machine, at a time when few thought such a thing was possible. It was written by Andrew Laurie, one of the founding partners of Mikro-Gen.

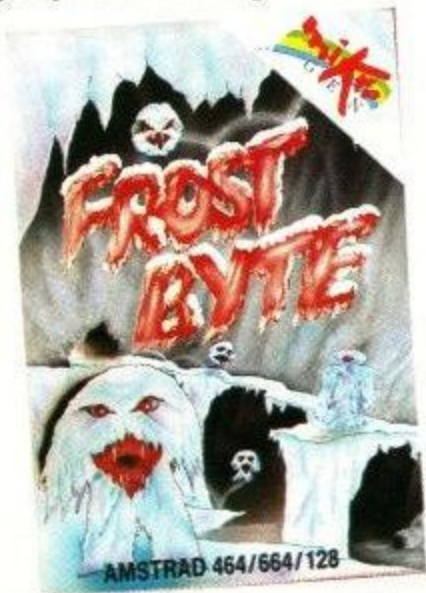
Tapes were produced one at a time on a normal cassette recorder and sold through small ads in Computing Today and PCW. But Andrew rapidly got fed up with the manual duplication of the cassettes.

As Mike Meek, the other partner and now managing director of Mikro-Gen says: "Andrew was saying one night, 'I'm going to give this up, it's not worth the hassle', so I said 'I don't think you're doing it right'.

"And we talked, and what came out of that conversation was that I would take over the marketing and production of his program, while all he had to do was maintain it."

Duplication was changed to a large reel to reel tape recorder dumping to six Marantz cassette recorders. The expertise gained by doing it themselves paid off when they became the first ZX81 software supplier to W.H. Smith and the reliability of the cassettes clinched the deal.

They expanded the range of titles and



Frost Byte - one of many new Mikro-Gen releases

Mike left his well paid full time job to run Mikro-Gen. Initially programming was done by outside contractors, but eventually the problems of managing program production and the rapidly expanding workload led to the freelancers being taken on full time.

Time to expand

The team has since expanded and now there is a sizeable programming staff. Cassettes are still duplicated by the company but now on professional duplicating machines. Folding the cassette inlays, labelling and packing are all done on the company's premises.

Initially Mikro-Gen had premises in the centre of Bracknell which were used as a shop as well as for the rest of the business. Recently production has moved to a medium sized industrial unit on a modern trading estate in Bracknell leaving the shop to carry on.

In a few short years Mikro-Gen has come a long way from its roots and as Mike points out, they were not the only ones to start a small way.

"Every company started in its front room. That's where this industry comes from. Now the market has more professional requirements.

"Regrettably there is an equal mix of marketing to quality of software. Quality ought to be the main factor and I have to say it isn't.

"I would rather see the software winning out at the end of the day, but I wouldn't like to see products not selling mainly because of lack of business expertise.

"Maybe marketing has the edge, because there have been some awful pieces of software coming on to the market - not mentioning any names but we all know them - and they've gone to number one!

"And in some cases these are products

other companies have turned down. Just because the marketing conditions and hype were right they've become best-sellers.

"What worries me about this trade is that we don't promote ourselves very well, if at all. Compared with the record industry, which spends millions on promotion, the software trade does nothing - and yet we have 10 per cent of the market. If we want to increase that share we ought to be doing more.

"This trade owes its success to certain factors - one is undoubtedly Sinclair, another is Amstrad. But it's Alan Sugar and Clive. Very little is said about the product itself, it's always the companies that are hyped.

"I believe that the software houses are a major factor in making home computers successful. In the early days of our chess program people were seeing it at shows and saying 'can it do that?' - then going on to the Sinclair stand, buying a machine and coming back to buy the program.

Making a market

"Now that's making a market. I'm not so sure we're still attracting the same market but we should be, and we ought to be doing things to further the trade. Up to now everything that has happened has been haphazard."

We turned to the subject of hardware. "In general we've always wanted a machine with greater capability," continued Mike, "and because of that we've pushed existing equipment to the very limits.

"You have to develop techniques whereby game characters have faces - even when the resolution of the machine doesn't allow it. If the graphics designer is very clever, he can suggest some shadows and the brain will do the rest."

I asked Mike how he'd like to see

Real Correspondence Quality Printer

PRICE BREAKTHROUGH

QUENDATA DWP 1120 DAISYWHEEL PRINTER

A HOST OF USEFUL FEATURES INCLUDE:

- Standard parallel/centronics interface
- 20 c.p.s. (approx 200 words/minute)
- Easily obtained Qume ribbons
- Uses Qume daisywheels (many typefaces available)
- 10, 12 and 15 pitch options
- Maximum paper width 13 inches
- 4 levels of hammer impression
- Comes complete with power lead, plug, ribbon, courier 10 wheel, manual and cover
- Tractor and cut sheet feeder available

TRADE PRICE £178.25 INC. VAT. REC. RETAIL PRICE £299.00

OUR PRICE £199.

NOW **£149.00**

AMSTRAD PRINTER LEAD IF ORDERED WITH PRINTER JUST £9.95.
IDEAL FOR 464, 664, 6128, WORD PROCESSING.

TELEPHONE 01-446 7170 or 01-952 0451. ACCESS OR BARCLAY CARD WELCOME
DELIVERY £12.50, (mainland UK) or collect from our two stores

Allow 48 hours delivery

Adams World

779 High Road, North Finchley, London N12 8JY. (By Tally Ho)
Or 190c Station Road, Edgware, Middlesex (By Edgware Tube)

DOUBLER

HAVING PROBLEMS BACKING UP THE LATEST LOADING TECHNIQUES? **DOUBLER+** Will solve ALL your problems. After enormous success on the CBM 64 and Spectrum we now have "Doublor" available for the CPC464. Designed by DRAYSOF, inventors of the infamous "Interface III", this superb unit will operate with 100% success guaranteed. It requires the use of an auxiliary cassette deck. Simply plug in the "Doublor" on the expansion port, connect a tape player to it with the lead supplied, LOAD the software supplied in the normal way and you are ready to start. Using digital techniques "Doublor" will create a brand new machine back up of ALL software. 100% success GUARANTEED. As a bonus "Speedcop" is included in the package. This is a superb conventional back up copier that will handle all normal AMSTRAD loaders. It has all the usual options like choice of save speed deprotect basic etc. Solve all your back up problems in one move, remember we guarantee success.

ONLY £16.95

Evesham Micros

THE UTILITY SPECIALISTS

3" DISCS
Usually Available
@ £39.00 for 10
inc. P. & P.

DISCMASTER V1.0

At last a **POWERFUL disc backup and utility** package for the 464/664/6128 series. Incorporates the following:
"DUPLICATOR" . . . A new standard of protected disc backup for the Amstrad. A very powerful program that will operate with one or two drives. We aren't saying that it will copy every disc available but our extensive tests have been **unable to find one that it won't**. We are sure that the DUPLICATOR is the **best disc backup program available**. Make no mistake many similar utilities are very limited. Future updates will be available as and when necessary at nominal cost.
"MENU MAKER" . . . A tremendously useful utility that allows you to make a menu on all your own discs **completely automatically**. You select which files are to be included on the finished menu and all the rest is done for you.
"RECOVER" . . . This program allows you to recover any files that may accidentally be erased from a disc. Very useful in case of accident.
"EXTENDED CATALOGUE" . . . Gives an extended CAT that includes the start address and length in bytes of both BASIC and machine code files.

ONLY £19.95

WARNING: Do not be misled by other adverts. There is only one "DUPLICATOR", it is the most powerful program of its type.

TAPE TO DISC MADE SIMPLE

At last, a hardware "device" that will allow you to transfer those tediously slow loading cassettes to disc. "Disc Wizard" operates on the working memory of the computer, hence it is unaffected by the loading method used. It is brought into operation by the **simple press of a button**. A working version of the program in memory is then saved to disc and the program will restart. The saved version, when reloaded, will start from **exactly the point that the button was pressed (very useful)**. In most cases the process is then complete. With some programs it will be necessary to make one or two adjustments to the saved programs using a Simple routine supplied. However, this will also allow you to make certain custom alterations to the programs, e.g. screen size, windows, etc. "Disc Wizard" is a hardware interface that fits the expansion or floppy disc port of the 464/664/6128. It is equipped with a through port and is supplied complete with simple instructions. **At the time of going to press we have been unable to find even one, memory resident, program that the "Wizard" has been unable to handle.**

ONLY £39.95

Please Note: This product is intended for archival purposes only. Programs transferred require the unit to be present for reloading. Software to enable saved versions to stand alone will be available in the future.

SUBJECT TO AVAILABILITY. ALL ORDERS DESPATCHED THE WORKING DAY AFTER RECEIPT

All prices include P&P and VAT. Send cheque, Postal Order or Credit Card No. Credit Card orders accepted by phone. Callers welcome. Wide range of goods stocked. Trade enquiries welcome. European orders send price as advertised. Outside Europe £2.00 for airmail. Mail order to Evesham please.

EVESHAM MICROS

BRIDGE STREET, EVESHAM,
WORCS. WR11 4RY.
Tel: 0386 41989



MICRO CENTRE

1756 PERSHORE ROAD,
COTTERIDGE, BIRMINGHAM.
Tel: 021-458 4564



In Australia contact: MICRO ACCESSORIES of S.A., 39b Anderson Walk, Smithfield, South Australia 5114. Tel: (08) 254 6284

hardware for home computers develop:
 "I'd like to see the Amiga, or a similar machine, at two hundred pounds. And I'd like to see compact disc storage come into play. This trade has got an enormous way to go - we've hardly scratched the surface.

"The ZX80 was successful, even though you had to represent things with squares and in very low resolution. People enjoyed playing.

"A lot of people would turn their nose up at games but leisure time is a very important sector of the market. If it wasn't there wouldn't be an arcade industry, and you've only got to go into the West End to see how strong that is.

"I strongly believe that we are going the wrong way as far as software is concerned. People marketing arcade machines are now licensing them as games because the software is already successful. But there isn't the depth that everybody has been demanding for the last two years.

"We turned from producing very complex arcade adventures because we felt that most people get far more pleasure from software they can use straightaway.

Media influence

"To an extent reviewers in magazines have been guilty of misleading the market. I'm pretty sure that if we brought out a game similar to one on an arcade machine we would be criticised for lack of content. Reviewers can't say an arcade machine game lacks depth, because it already exists as a format. As the reviewers are the experts on the market we've always tried to produce software that is acceptable to them.

"But I'm increasingly aware that once a reviewer has held his job for a while he no longer represents the average buyer - he can't, he's seen far too much software and his appreciation has become far too sophisticated to represent the guy at street level.

"Reviewers hold a lot of power. If they say a game hasn't got content and is poor value, what do you do? Distributors will

get software of that complexity, and selling for £8.95, appearing on a budget label.

"It cannot be done, with the amount of labour and programming skill that goes into the six months of development. The profit margin isn't there to produce a budget title."

Budget software

"Budget software seems to be improving in quality", I suggested.

"It is improving, because profit margins are getting tighter and eventually this will force some people out of that market place as they have to pay more for development", said Mike.

"Battle of the Planets is still the smoothest scrolling yet as far as 3D graphics are concerned, but it took a lot of time working that out. Of course, now it's been done, someone can hack the program and put those tables into a program very quickly.

"What takes the time is the actual development. It's a bit like your television going wrong and the repair guy coming out. He might spend two or three hours working on your set and eventually pull out and replace a capacitor.

"You haven't just paid for the part, you've paid for that guy's time and skill. And when you pay your £8.95, you're paying for a program which will be that little bit better.

"Did you ever see Spectrum Starstrike II? Regrettably it didn't achieve the kind of success it deserved. The processor is working so much overtime you wouldn't believe it.

"Technically the game is brilliant. But how can you tell that to a guy who's just bought an Amstrad and seen all the other wonderful things that his machine can do? All he sees is a slight flicker that, at the end of the day, he might not like.

"It's not always possible to put over how technically good a program is - or maybe the user doesn't care."

"That's probably near the mark", agrees Rod Cobain, sales manager for Mikro-Gen. "A lot of people just buy the games to play them they don't



Mike Meeh: 'People enjoy playing'

around a number of new titles. One, Frost Byte, has been developed by Chris Hinsley and is based on a flexible character who looks like a piece of orange vacuum cleaner tube and moves like one of those toys that walk down stairs.

It's possible to move this character backwards and forwards and jump. He can also fire, but only in the direction he is pointing. There are several nasties to shoot at and these are strategically placed to prevent you moving from one screen to another.

The game has the same graphic style as Mikro-Gen's previous hit Equinox. The object is to free your pals from the icy wastes by progressing through as many screen as you can - making sure that you avoid the various hazards and pick up the right objects en route.

Interestingly, the first versions of games are produced for the Amstrad. Chris tells me that the background graphics of the screen easily convert to the Spectrum while the sprites slot into

ng is supplied on disc with full instruction finger by finger.

INDIVIDUAL OR GROUP INSTRUCTION ON THE AMSTRAD PCW AVAILABLE

- contact us for rates.

AMSTRAD CPC 464 664 6128

RANDOM ACCESS DATABASE

powerful and versatile. Finds records in seconds. Multiple print formats - mix 40 & 80 chr. text. Extensive calculations. Searches & Sorts. 40 fields per record. 6000 records on 6128. £39.95

INSTANT ACCESS

programming utilities which include Random Access, Sector editing, Error handling, BASIC enhancements and also an Evaluator. £29.95

dealers: contact us for extensive BBC range.

MINERVA SYSTEMS,

59 SIDWELL ST., EXETER, DEVON. TEL: 0392 37756.

ORDER NOW OR SEND FOR MORE DETAILS

Please rush me by return send more details

First Base LernLoco TypeRite

R.A. Database Instant Access

Cheque/Access No.

Signed

Name

Address

Ref. AU 106



WIN A GAME A WEEK!

Ambyte is a software company which solves the problem of getting your favourite cassette games on disc for the price of the slow loading tape version.

A disc full of games, usually of six programs – containing only what you have chosen from the Ambyte list, none of those annoying oldies other companies sneak into their compilations – has to come to a minimum combined value of £15 which is peanuts compared to the individual disc price.

But if you are clever enough to win this competition Ambyte will give you a FREE disc every week for the next six months – at least one new game EVERY WEEK.

That should make those long, cold, wintery evenings more entertaining! All you have to do is try and remember your school history lessons and answer the Guy Fawkes questions alongside.

Rules

1. Sender of the first correct entry drawn on November 20 (not the 5th) 1986, will receive a disc each week for six months. The six runners up will each receive one disc.
2. You may photocopy the form but only one entry is allowed per reader.
3. The judge's decision is final. No employees of ACU



The questions

1. In what year did Guy Fawkes attempt to blow up the Houses of Parliament?
 - a. 1066
 - b. 1605
 - c. 1945
2. Who was on the throne of England?
 - a. Boadicea
 - b. Queen Victoria
 - c. James I

Make no mistake many similar utilities are very attractive when necessary at nominal cost.
"MENU MAKER" . . . A tremendously useful utility that allows you to make a menu on all your own discs **completely automatically**. You select which files are to be included on the finished menu and all the rest is done for you.
"RECOVER" . . . This program allows you to recover any files that may accidentally be erased from a disc. Very useful in case of accident.
"EXTENDED CATALOGUE" . . . Gives an extended CAT that includes the start address and length in bytes of both BASIC and machine code files.
ONLY £19.95
WARNING: Do not be misled by other adverts. There is only one "DUPLICATOR", it is the most powerful program of its type.

... program that the "Wizard" has been unable to handle.
ONLY £39.95
 Please Note: This product is intended for archival purposes only. Programs transferred require the unit to be present for reloading. Software to enable saved versions to stand alone will be available in the future.

SUBJECT TO AVAILABILITY. ALL ORDERS DESPATCHED THE WORKING DAY AFTER RECEIPT

All prices include P&P and VAT. Send cheque, Postal Order or Credit Card No. Credit Card orders accepted by phone. Callers welcome. Wide range of goods stocked. Trade enquiries welcome. European orders send price as advertised. Outside Europe £2.00 for airmail. Mail order to Evesham please.

EVESHAM MICROS
 BRIDGE STREET, EVESHAM,
 WORCS. WR11 4RY.
 Tel: 0386 41989

MICRO CENTRE
 1756 PERSHORE ROAD,
 COTTERIDGE, BIRMINGHAM.
 Tel: 021-458 4564

In Australia contact: **MICRO ACCESSORIES of S.A.**, 39b Anderson Walk, Smithfield, South Australia 5114. Tel: (08) 254 6284



AMSTRAD

Mancomp Price £	TAS-SPELL	16.50
	TASPRINT	9.90
	TASCOPY	9.90

AMSTRAD . . .
 8256 WORD PROCESSOR SYSTEM
 8512 WORD PROCESSOR SYSTEM
 6128 128K + GT65 GREEN MONITOR
 6128 128K + CTM644 COL. MONITOR
 464 64K + GT65 GREEN MONITOR
 464 64K + CTM644 COL. MONITOR
 DISC DRIVE + INTERFACE (464)
 SECOND DISC DRIVE (LESS CABLE)
 SECOND DRIVE CABLE
 464/6128 MODULATOR
 RS232 INTERFACE (464)
 RS232 INTERFACE (8256)
 SPEECH SYNTH + SPEAKERS

AMX . . .
 AMX MOUSE (464/6128)
 AMX UTILITIES
 AMX PAGERMAKER
 AMX 3D ZICON

MEMORY EXPANSION
 64K MEMORY EXPANSION (464/664)
 256K MEMORY EXPANSION (464/664)
 256K MEMORY EXPANSION (6128)
 256K SILICON DISC (464/664)
 256K SILICON DISC (6128)
 DK TRONIKS LIGHTPEN + I/F (464/664)

JOYSTICKS
 AMSTRAD SINGLE JOYSTICK
 CHEETAH 125 JOYSTICK

COMMUNICATIONS
 PACE:
 COMMSTAR SOFTWARE
 SERIAL INTERFACE
 COMMSTAR + INTERFACE
 COMMSTAR + NIGHTINGALE
 COMMSTAR + NIGHTINGALE + I/F
 I/F TO NIGHTINGALE CABLE

WORD PROCESSING
 TASMAN:
 TASWORD 464
 TASWORD 464 - DISC
 TASWORD 6128

THE NEW PC1512
 Including:
HARDWARE, SOFTWARE, DISC DRIVES, MONITORS, Etc.
PHONE FOR DETAILS

BEEBUG UTILITIES
 ULTRABASE (464/664/6128) DISC
 ULTRABASE (464/664/6128) CASS
 LOCKSMITH (464/664/6128) DISC
 LOCKSMITH (464/664/6128) CASS
 LOCKSMITH (464/664/6128) ROM
 REMBRANT (464/664/6128) DISC
 REMBRANT (464/664/6128) CASS
 DISC DEMON (464/664/6128) DISC
 DISC DEMON (464/664/6128) ROM
 TOOLKIT (464/664/6128) DISC
 TOOLKIT (464/664/6128) CASS
 TOOLKIT (464/664/6128) ROM

COMPLETE OFFICE SUITE
 DATABASE:
 MINI OFFICE II (464/664/6128) CASS
 MINI OFFICE II (464/664/6128) DISC

PRINTERS
 SEIKO SP1000CPC PRINTER FOR AMSTRAD

All prices include VAT, Carr. Extra.
 Software orders add £1.80 P&P.
 Hardware orders add £7.00 per item P&P.
 Joysticks add £1.00 P&P.

OPEN MON-SAT 9AM-8PM

EXPRESS REPAIRS!

Faulty Amstrad? . . . Send just the keyboard. DO NOT send the monitor, unless the monitor is also DEAD! (To make sure monitor is DEAD, switch on monitor in darkened room, turn up brightness to maximum and after 5 minutes switch off. If you get a bright spot receding, then monitor is O.K. (not DEAD)). Please send all items, well packed by 'Compensation Fee Paid' - Post, details from your P.O.

AMSTRAD REPAIRS BETWEEN £14 and £55	BBC REPAIRS BETWEEN £14 and £45
SPECTRUM REPAIRS BETWEEN £9 and £20	ESTIMATES GIVEN ON PRINTERS/DISK DRIVES ETC.
COMMODORE REPAIRS BETWEEN £14 and £35	MANCOMP GUARANTEE If the same fault occurs within 90 days of our repair, we will repair it FREE of charge AND refund the postage. <small>*Terms and Conditions available on request.</small>

FIRST-
 To provide 'While-U-Wait' Service.
FIRST-
 With International repairs and discounts for Schools, Hospitals and H.M. Forces.
FIRST-
 To provide Insured/Recorded Delivery on return journey.
FIRST-
 With **LOW CHARGES** (e.g. £9 for keyboard faults).
FIRST-
 For **PROFESSIONALISM** "Of all the repair companies 'Sinclair User' spoke to, MANCOMP seemed the most professional when it came to advice and a helpful attitude". AUGUST 1985.
FIRST-
 For **SPEED** "One firm, at least, can usually effect any necessary repair 'over-the-counter' in 45 mins. Based in Manchester, MANCOMP can offer what is arguably the fastest turnaround in the business, to personal callers". 'CRASH' Magazine, JUNE 1985.
FIRST-
 For **ADVICE & HELP** "I have come across a firm that will be more than willing to advise you as to how to remedy your problem. They are called MANCOMP and as well as repairing faulty computers, are also quite willing to discuss your problems with you, and offer reasonably cheap and (more importantly) CORRECT cures". Phil Rogers, 'POPULAR COMPUTING WEEKLY', JANUARY 1985.
FIRST-
 For **LOW PRICES** "My computer blew recently. I took it to MANCOMP, who fixed it in 8 mins. and for less than £10. they are local, 'clued-up', and blindingly efficient!" COMPUTER COLUMN, '4 HEATONS DIGEST', (Vol. 1, No. 11).
FIRST-
 For **HONESTY** "Call in and watch your computer being tested and repaired 'While-U-Wait'. Our engineers don't disappear into a back room. If there is nothing wrong, we will tell you!"
FIRST-
 For **REPUTATION** "We have a reputation built on 2 1/2 years of successful Spectrum, BBC, Commodore, Apple and IBM repairs."

MANCOMP LTD
 (Dept AA10) PRINTWORKS LANE, LEVENSHULME, MANCHESTER M19 3JP.
 Tel 061-224 1888 or 061-224 9888

Throw away the L plates

MINERVA HELPS YOU PASS THE TEST
 AMSTRAD PCW 8256/8512

FIRST BASE
 Would you buy an expensive, complex car before learning to drive? It may be difficult to operate, the manual may be too complex and more importantly you may not need all the functions!
THEN WHY DO THIS WITH SOFTWARE?

The simplicity of First Base gets you into the driving seat and onto the road in minutes - not days! AND it also MAIL-MERGES WITH LOCOSCRIPT. *Fast Access by Key Field *Reports & Totals *Search & Sort *Outputs ASCII files for upgrade (if required) £29.95

LERNLOCO
 The commands and functions of the Amstrad PCW wordprocessor need considerable learning skills but with LernLoco you will be able to do lap after lap with ease. This step by step tutorial is supplied on disc. You will become so confident that you even CREATE YOUR OWN MANUAL! £16.95

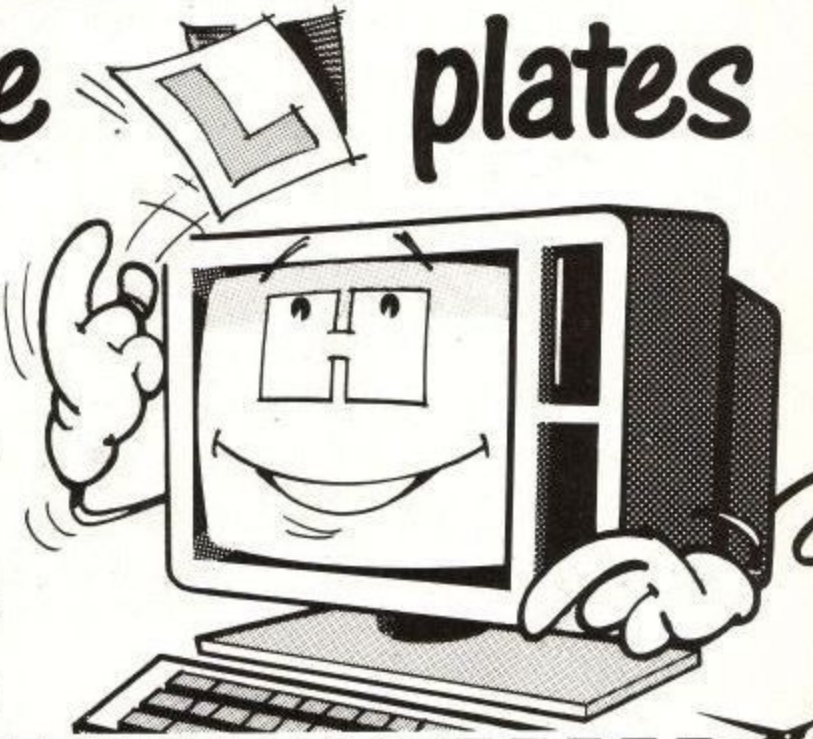
TYPERRITE
 If you find you can't get out of second gear and away from two finger typing then TypeRite will get you through the gearbox and past the checkered flag in record time. This course in touch typing is supplied on disc with full instruction finger by finger. £19.95

INDIVIDUAL OR GROUP INSTRUCTION ON THE AMSTRAD PCW AVAILABLE
 - contact us for rates.

AMSTRAD CPC 464 664 6128
RANDOM ACCESS DATABASE
 Powerful and versatile. Finds records in seconds. Multiple print formats - mix 40 & 80 chr. text. Extensive calculations. Searches & Sorts. 40 fields per record. 6000 records on 6128. £39.95

INSTANT ACCESS
 Programming utilities which include Random Access, Sector editing, Error handling, BASIC enhancements and also an Evaluator. £29.95

Dealers: contact us for extensive BBC range.
MINERVA SYSTEMS,
 69 SIDWELL ST., EXETER, DEVON. TEL: 0392 37756.



ORDER NOW OR SEND FOR MORE DETAILS

Please rush me by return send more details

First Base LernLoco TypeRite

R.A. Database Instant Access

Cheque/Access No.

Signed

Name

Address

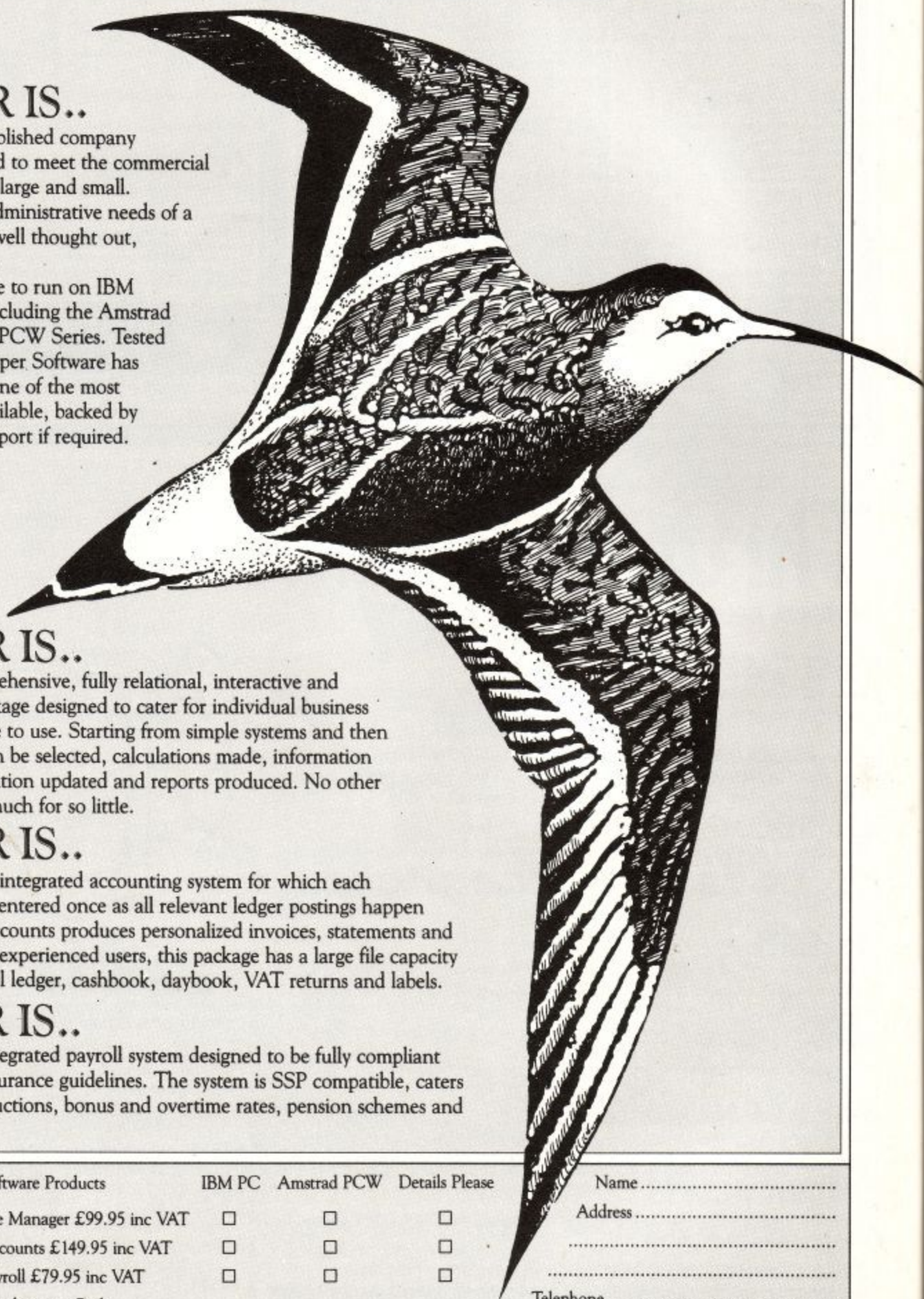
Ref. AU 106

WHAT IS SANDPIPER?

SANDPIPER IS..

A professional, well-established company producing software designed to meet the commercial requirements of businesses, large and small. Produced to cater for the administrative needs of a busy office, the software is well thought out, practical and simple to use.

All products are available to run on IBM PC/compatible machines including the Amstrad PC 1512, and the Amstrad PCW Series. Tested in the market place, Sandpiper Software has proved, by demand, to be one of the most popular software ranges available, backed by full customer telephone support if required.



SANDPIPER IS..

File Manager — a comprehensive, fully relational, interactive and programmable multifile package designed to cater for individual business needs, and yet it is so simple to use. Starting from simple systems and then expanding upwards, files can be selected, calculations made, information returned to any file, information updated and reports produced. No other database package offers so much for so little.

SANDPIPER IS..

Accounts — a simplified integrated accounting system for which each transaction need only to be entered once as all relevant ledger postings happen automatically. Sandpiper Accounts produces personalized invoices, statements and remittances. Designed for inexperienced users, this package has a large file capacity for Sales, Purchase, Nominal ledger, cashbook, daybook, VAT returns and labels.

SANDPIPER IS..

Payroll — a simplified integrated payroll system designed to be fully compliant with all Tax/National Insurance guidelines. The system is SSP compatible, caters for additions and deductions, bonus and overtime rates, pension schemes and holiday pay.



Sandpiper Software Products	IBM PC	Amstrad PCW	Details Please
Sandpiper File Manager £99.95 inc VAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sandpiper Accounts £149.95 inc VAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sandpiper Payroll £79.95 inc VAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sandpiper Combination Pack Accounts & Payroll £199.95 inc VAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enclose a cheque made payable to Sandpiper Software Ltd			ACU11/86

Name

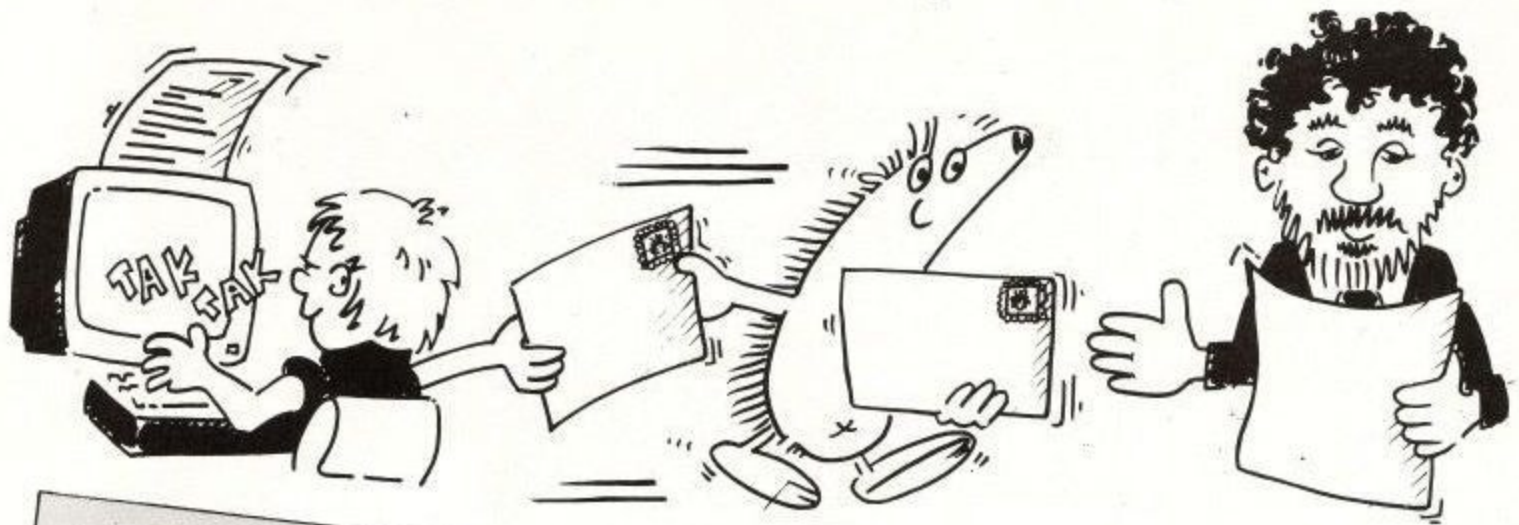
Address

.....

Telephone

Please debit my Access/Visa no. which is:

.....



Dear Mr Sugar...

Have you ever wanted to write to Alan Sugar? As the Chairman and Managing Director of Amstrad Consumer Electronics he is one of the most - if not THE most - important person in the home computer industry. Obviously someone that important does not answer all his own letters - there is a customer services department to do that.

ACU offers you the chance to ask Alan Sugar questions directly. Simply fill in the form below and we will pick out the best questions to be put to Mr Sugar.

Have you ever wondered why Amstrad bought Sinclair? Will Amstrad use the CD mechanism from their hi-fi in future com-

puters? Will the Spectrum kill off the CPC464? Will the PC1512 kill off the PCW? Which new markets is Amstrad considering? Why was the 664 killed off so suddenly? What does he think of the Amiga?

Whatever your question Alan Sugar should be able to answer it. However we would like you to keep questions as short as possible. For preference use the form at the bottom of the page and write clearly. You may use a separate sheet of paper, but please be as concise as possible.

All letters should be in by November 4, so you haven't got very long - get your pen and go for it.

Dear Alan Sugar . . .

My question is:

.....
.....
.....
.....
.....
.....
.....
.....

Name

Address

Machine owned

**Send to: Amstrad Computer User,
169 Kings Road, Brentwood, Essex CM14 4EF**

Please don't put "Dear Alan Sugar" on the envelope or the letter may not be correctly delivered.

Freedom of the press.

FOR THE AMSTRAD
CPC 6128
CPC 664
(+64K Min Add On Ram)
CPC 464
(+64K Min Add On Ram
+ Disc Drive)

WORKS WITH
KEYBOARD
JOYSTICK OR
AMX MOUSE

AMX Pagemaker puts you right at the heart of the desktop publishing revolution.

At long last you can produce newspapers, posters, leaflets, notices and handouts in your own home, office or school.

We're not talking about amateurish results, but extraordinarily professional work with crisp text and exciting graphics.

It's the sort of 21st Century technology that's turned Fleet Street upside down and is part of the most exciting advance in publishing since Guttenberg and Caxton.

You can type directly onto your screen with a choice of 16 typefaces or, if you really want to be creative, you can design your own typefaces, and, just like the most advanced computer setting, you can centre, range right, left or choose literal justification. You can even have full pixel control over character size and spacing.

Alternatively, you can load in either word processing or standard ASCII text files with fully automatic on-screen text formatting.

EXTRA! EXTRA!

Using the patterns supplied, you have outstanding graphics facilities for drawing, spraying and painting, or you can achieve some incredible results, using your own pattern designs.

The cut and paste options include copying, moving, rotating, stretching plus a fantastic zoom facility.



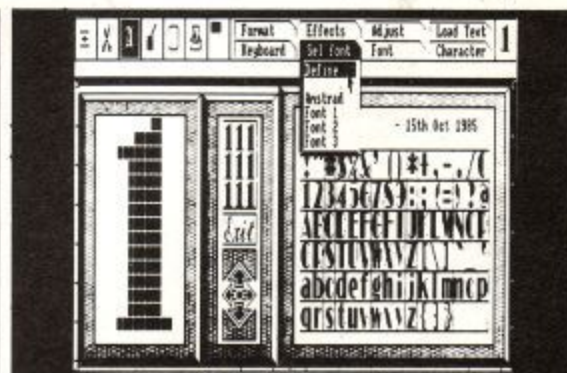
WIN £200! REPLACE THIS PAGE. WRITE TO AMS FOR COMPETITION DETAILS



— ZOOM ON AMX PAGEMAKER —



— PREVIEW YOUR PAGE —



— DEFINE A FONT —

A mode conversion routine allows you to load in screens and digitised pictures from all Amstrad graphic modes.

HOLD THE FRONT PAGE!

The 'Preview' facility gives you total control over your work by allowing you to view a page in miniature at any time, while also permitting the viewing of disk based pages prior to loading or saving. A wide range of printers including the Amstrad DMP-2000, Epson FX/RX/LX/LQ, Mannesman Tally MT80+, Shinwa CP80II and Star SG10/15 are supported.

AMX Pagemaker is supplied on 3" disc and includes a comprehensive illustrated manual, while costing a mere £49.95. Your gateway to Desk Top Publishing is present at all good computer dealers or by mail order using the FREEPOST order form.

AMX Pagemaker - your opportunity to publish and be damned!

PLEASE RUSH ME **POST FREE** _____ (Quantity) **AMX PAGEMAKER PACKAGE/S** AT £49.95 each INCLUDING VAT AND P & P ACU 11/85

I ENCLOSE CHEQUE/POSTAL ORDER FOR £ _____

OR DEBIT MY ACCESS OR VISA (tick as appropriate)

CARD No. _____

EXPIRY DATE _____

SIGNATURE _____

NAME (Block Capitals Please) _____

ADDRESS _____

POSTCODE _____

AMX PAGEMAKER
IMAGINATION AT YOUR FINGERTIPS
SEND TO: ADVANCED MEMORY SYSTEMS LTD., FREEPOST, WARRINGTON WA4 1BR.

FOR INSTANT ACCESS/VISA ORDERS TELEPHONE 0925-413501/2/3

ADVANCED MEMORY SYSTEMS LTD · 166/170 WILDERSPOOL CAUSEWAY · WARRINGTON WA4 6QA · TELEX: 628672 AMS G



Shooting a commercial can be boring... waiting for something to happen

The PCW goes filming

What do a swimming pool, a spacelite, a fish fryer and a brute have in common? They are all part of the lighting equipment required for the shoot of the latest PCW8256 advertisement.

The venue: Westway Studios located in the west of London. Two studio days were booked for filming enough material for a 40 second television commercial for the PCW8256. Glamorous as it sounds, filming ads can be a boring, time consuming business, often involving many hours of anticipation and waiting for something to happen.

Studio days start early – around 8.30am – and when I arrived on day one the production crew were putting the final touches to an office set we were using.

Amid the hustle and bustle, coffee was being consumed by the gallon as individual shots for the two days to come were discussed by the advertising agency, the camera crew and the production team.

The first impression that you get on walking into a studio is that a lot of people are involved, each required for his

Amstrad is preparing an advertising campaign. Sally Tyler reports from the set of the latest mini epic.

own particular expertise. Although this creates more work for the catering staff, it also means that at a moments notice an expert can be called upon to advise within his own specific field to help to achieve the best possible shots in the minimum amount of studio time.

You may think that filming involves only one company supplying both specialist staff and specialist equipment. In fact it's not quite as simple as that. An advertising agency is assigned to the task of designing the contents of the advertisement and ideas for the script.

Delaney Fletcher Delaney, the advertising agency Amstrad uses for computer

commercials, had this task and after various ideas had been submitted to Amstrad the final story line was chosen. A film production company provided the team to produce and direct the shoot, and yet another company provided staff, cameras and lighting equipment. Altogether that makes up a lot of people and equipment!

On our first studio day we were using two actors and an actress for some office shots. The idea was to portray three very different and distinct personalities in an office, each sitting at a desk and in front of their treasured PCW8256. The same set was used for each character with only

QuickShot[®]

We've **TURBOCHARGED** the **World's**
Best Selling JOYSTICK ...

QuickShot 2 Turbo

* **EXTRA
PRECISION**

* **TURBO
RED BASE**

* **SIDE GRIPS**

* **12 MONTH
WARRANTY**

* **SIX MICRO-
SWITCHES**

* **AUTO-FIRE**

* **STABILISING
CUPS**



COMPATIBLE WITH:

- SINCLAIR ZX SPECTRUM (INTERFACE REQUIRED)
- AMSTRAD CPC 464/664/6128
- AMSTRAD PCW (INTERFACE REQUIRED)
- COMMODORE 64
- VIC 20
- COMMODORE C16 (ADAPTOR REQUIRED)
- COMMODORE PLUS 4 (ADAPTOR REQUIRED)
- MSX
- ATARI HOME COMPUTERS
- ATARI 2600/5200 VIDEO GAMES SYSTEMS
- SPECTRAVIDEO SV1 738 X PRESS
- ACORN ELECTRON (INTERFACE REQUIRED)
- BBC (INTERFACE REQUIRED)

S.R.P. **£13.95** INC VAT

Available from:

W. H. SMITHS • BOOTS • JOHN MENZIES • LITTLEWOODS MAIL ORDER • TOYS R'US • ALLDERS
DEPARTMENT STORES • SPECTRUM • LEISURESOFT • RAM ELECTRONICS • SILICA SHOP
...and other computer stockists.

SPECTRAVIDEO LTD.
(A WHOLLY OWNED SUBSIDIARY OF ASH & NEWMAN LIMITED.)

SPECTRAVIDEO™

165 Garth Road, Morden, Surrey SM4 4LH, England. Telephone: 01-330 0101 (10 lines) Telex: 28704 MMH VANG Facsimile: 01-337 5532



Behind the junk typewriters a street scene is being constructed

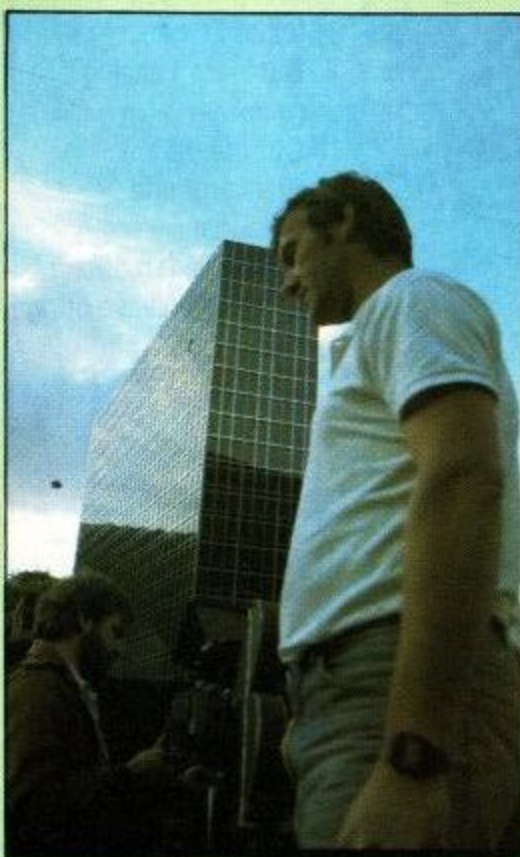


Sally... taking a studio break

small cosmetic changes to the appearance of the office.

The biggest decision seemed to be, not where to position the camera or the lights, but which plant to use with which character. After some time it was decided that the mother-in-law's tongue was the most suitable plant for the businessman's office.

Pictures were hung and replaced on the office wall until a suitable picture, plant and character combination was found. With the appropriate atmosphere for each office scene and the cameras and the lights set up, each actor went through a rehearsal of the particular personality



The 'skyscraper' is 5ft tall

that they were to portray in the advertisement.

A window had been constructed in one wall of the office set. This was in fact a piece of dark gauze stretched over a wooden frame and lodged into place in the set wall, giving a very good impression of a glazed window.

Behind the window a blue cloudy sky had been painted on to the studio wall. The main role of two actors was to react as humorously as possible to an object seen falling past the office window. This was an old typewriter which had been sprayed with paint to cover all identifiable features.

It sounds an easy enough task, but when the typewriter was dropped from scaffolding above the set it bounced on the floor and could be seen rising above the window ledge. Sawdust was brought to try to solve the problem and it was even suggested that someone lay on the floor to catch the typewriter. I hasten to add that its innards had been taken out the day before!

The only solution was to rebuild the window ledge so that it was a few inches higher. So it was back to the coffee urn for the rest of us while the set designers got to work.

Each scheduled shot is thought through by the production team days before the allotted studio time. However, it is not until everyone is assembled in the studio that the practicalities of a shot can be tested out. If a particular idea doesn't work another is tried until the best possible shots are obtained, however long it may take.

This philosophy proved to be only too true as far as the office shots were concerned. With the window ledge raised and actors at the ready, over and over

again the skeleton typewriter was thrown until an appropriate reaction was achieved from the actors and a realistic rate of descent was obtained from the falling typewriter.

For most of us observing the action while sitting on any empty equipment cases this was something of an endurance test since the lights made everyone feel as if they had just spent the morning on the beach in the Bahamas. This was just three of the shots to be used in the ad. After nearly seven hours work enough material had been shot for about 10 seconds of the commercial!

One of the real pleasures of a day in a film studio is the food. Even the most enormous of appetites are catered for. The call sheet assigned three breaks for each of the studio days, the most memorable being the bacon sarnies for breakfast. Breakfast really does taste different in the confines of a cluttered studio.

With the office scene shots finished, the camera was set up to take close up pictures of the machine over the shoulder of each actor. This task proved far easier than the first, probably because it didn't involve falling typewriters.

In the background of all this activity, the set builders were working away on a street scene to be used on studio day two. It was decided that the skip we had hired as part of the set was too large for the scale of its contents, and within minutes, rather than hours, a new skip had been built out of hardboard.

It was fascinating to watch what looked like odd bits and pieces constructed into very realistic objects. As one bystander remarked: "They're even painting the road".

Day two proved to be just as eventful

TAPE TO DISC AT THE TOUCH OF A BUTTON

WITH THE PERIPHERAL THAT ALL AMSTRAD OWNERS HAVE BEEN WAITING FOR

THE MIRAGE IMAGER

★ FEATURES: ★

- * Extremely easy to use
- * Transfer ANY program to disc or tape at the touch of a button
- * Fully automatic saving of ANY program onto disc or tape
- * Freeze ANY game at any point, save it, and restore it later
- * Menu driven with prompts and single character commands
- * User friendly and fully error trapped
- * Consists of hardware only no additional software required



★ FEATURES: ★

- * Internal 8k Rom and 8k Ram
- * Very powerful and efficient compressing to use MINIMUM space on your disc or tape
- * Through connector for adding other peripherals
- * FAST, SLOW + TURBO speed options when saving to tape.
- * Handles expansion Roms and all paging modes
- * Can be used without disc interface (CPC 464)
- * Display colours can now be set up as required.
- * The display window size can be set up to suit any program

The Most Revolutionary and Exciting Peripheral for all Amstrad CPC464, CPC664 and CPC6128 Owners.

"The Mirage Imager must be the smartest peripheral yet" Amstrad User.

"Very simple to use and works every time" Amstrad Action

"A great little peripheral that should top the hardware charts very quickly indeed" AMTIX.

In case of difficulty order directly from:



**24 Bank Street
Braintree
Essex CM7 7UL
(0376) 48321**

Trade enquiries welcome

Available from good retailers everywhere

for only **£49.95**

(6128 owners add £4.95 for bus extender lead)



Leek Computer Centre 7 Ball Haye St, Leek, Staffs ST13 6JN

**NEW!
AMSTRAD
PC1512's**

(IBM Compatible)

**from
£399 (Ex. V.A.T.)
phone NOW!**

**Telephone
(0538) 387859**

HARDWARE

PCW 8256	£435.00
PCW 8512	£550.00
CPC 6128 (Col)	£385.00
CPC 6128 (Gm)	£285.00
CPC464 (Col)	£285.00
CPC 464 (Gm)	£185.00
Amstrad Spectrum 128+2	£145.00
As above with gift pack	£155.00
DMP2000 Printer	£155.00
DMP3000 Printer	£P.O.A.
Inter Gem	£89.00
Light Pen (PCW)	£75.00
Light Pen (CPC)	£19.00
Mouse (CPC)	£65.00
Modulator (CPC) from	£14.00
Disc Drive/IF (CPC)	£150.00
Disc Drive (PCW)	£170.00
Modem (CPC)	£30.00
Joysticks (from)	£6.50
Dust Cover (CPC) 2pcs	£8.50
Dust Cover (PCW)	£11.00
Printer Ext Lead (PCW)	£10.50

SOFTWARE

PCW	
Pocket Wordstar	£45.00
SuperCalc II	£45.00
Caxton Cardbox	£85.00
Sagesoft Retrieve	£60.00
Salesoft Accounts	£85.00
Dr. Draw	£45.00
Dr. Graph	£45.00
Datagem	£35.00
The Cracker	£45.00
Sagesoft Payroll	£45.00
Newword (Wordpro)	£60.00

LEISURE

Tomahawk	£15.00
Fairlight	£12.50
Batman	£12.50
Deadline	£18.50
Hitchhikers Guide	£24.00

SOFTWARE

AMSTRAD CPC:

Elite (Tape)	£12.75
Mag Max	£6.75
Yie ar Kung fu II	£6.75
Terra Cresta	£6.75
Knight Rider	£6.75
W.A.R.	£6.95
Ghosts and Goblins	£6.75
Spindizzy	£7.95
Stainless Steel	£6.75
Nexor	£6.75
Starstrike II	£7.95
Tomahawk	£7.95
2112 Ad (Disc)	£12.75
Sorcery Plus (Disc)	£12.50
Elite (Disc)	£17.50
Laser Basic	£12.75
Nexus	£7.95

HOW TO ORDER

- 1 Visa (Phone)
- 2 Access (Phone)
- 3 Cheque (Post)
- 4 Instant Finance/
Business Leasing
(Written details on request)
- 5 Out of hours
Answerphone
- 6 Personal callers
welcome. (To obtain
ad prices please bring
this copy).

**7 NO MONIES
CASHED UNTIL
GOODS
DESPATCHED**

**Please Note:
All prices include V.A.T.
and delivery**

**EDUCATIONAL
ORDERS WELCOME**

AMSTRAD PC SOFTWARE

GEM Write	£P.O.A.	Reflex	£P.O.A.
GEM Draw	£P.O.A.	Sidekick	£P.O.A.
GEM Wordchart	£P.O.A.	Wordstar	£P.O.A.
GEM Graph	£P.O.A.	Supercalc 3	£P.O.A.
GEM Diary	£P.O.A.	Sage PC Write	£P.O.A.
GEM Font Editor	£P.O.A.	Sage Retrieve	£P.O.A.
GEM Toolkit	£P.O.A.	Sage Accounts	£P.O.A.
		Sage PC Planner	£P.O.A.

**This is only a
sample of the
items available
please ring for
details of items
not shown.
All items offered
subject to
availability**



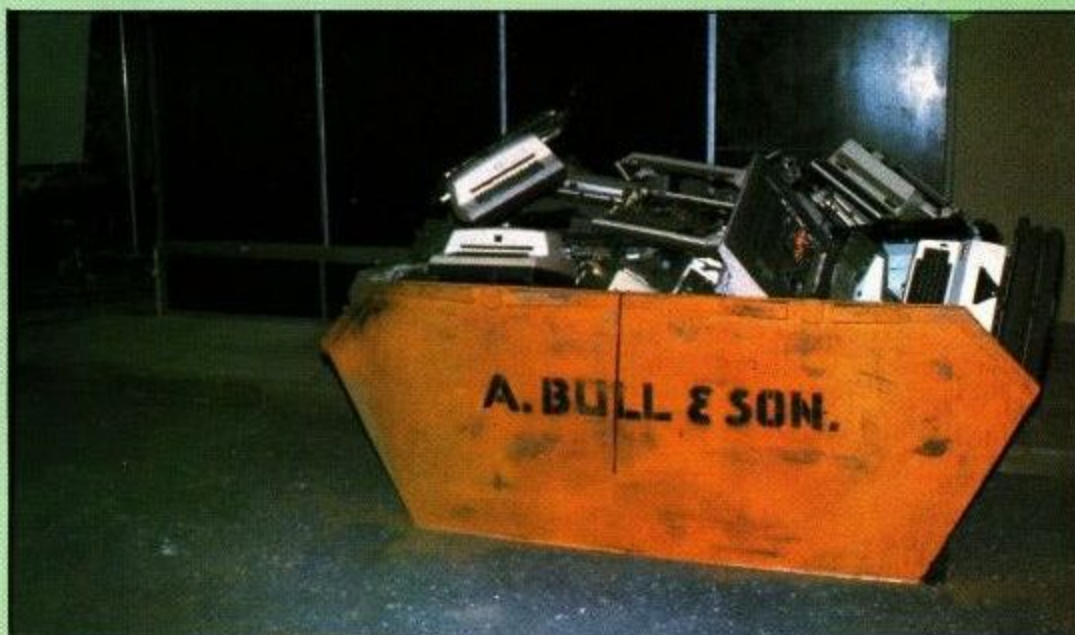
as day one. As the first scheduled shot involved another falling typewriter, we were all prepared for a long wait. About a third of the studio had been used to create a street scene and as it was such a large area the most powerful of the lighting equipment was installed.

The studio floor was covered in a mass of cables of all sizes, connecting various lights, cameras, a playback system and monitors to a generator housed in a large van in the car park.

Around the remainder of the studio there were abandoned lights and equipment waiting for their turn to be used. In one corner, perched on a table, there was a model of an office block. This was in fact only two small rectangular sheets of smoked perspex, joined together in the corner and marked with a metal grid construction to give the impression of windows.

I was interested to see how the model was going to be used to best effect. The time came later in the afternoon, when cameras and crew moved out into the car park with the model, a table, and a miniature typewriter scaled down to 1½ inches.

The model was assembled on a covered table in the middle of the car park, the idea being to use passing clouds as sky.



A ship is built in minutes - out of hardboard

The effect was incredibly good, and we were lucky enough at one point to have a helicopter flying past just to add to the atmosphere.

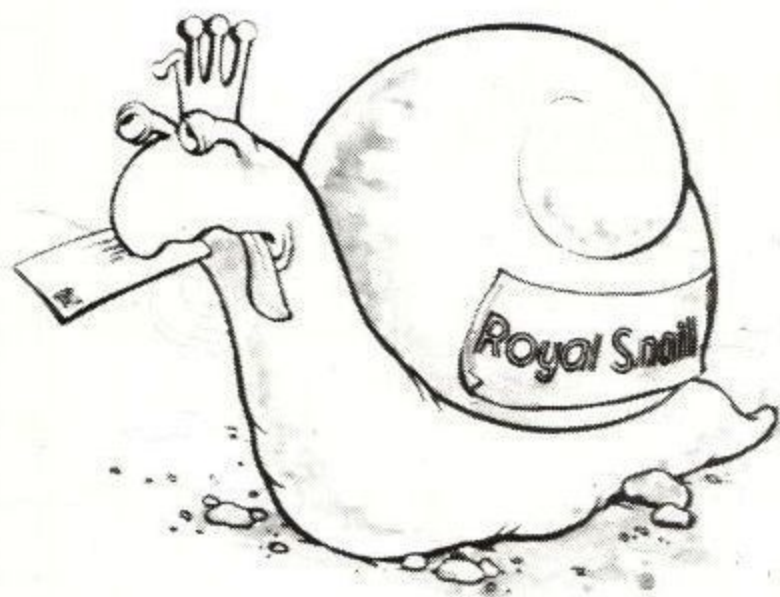
The only dodgy part of the exercise was that we had no control over the wind. The miniature typewriter had been modelled out of a type of polystyrene and was to be filmed falling out of a window (really a hole) in the model. So it was important to

gauge the wind. At one point it even looked as if it might rain.

Back in the studio the scene was being set for the last few shots of the schedule and after two long days, the objective was achieved, enough material on film to put together a 40 second commercial.

And was it all worth it? You'll just have to wait and see.

ACU



**There is
an alternative...**

Electronic Mail

For Telex, on-line games, Prestel, Telecom Gold, Easylink, home banking, cheap holidays etc.

The Enterprise range of BAPT approved modems offers you V21(300 BAUD), V23(1200/75) and for Enterprise 2, V22 (that's right **1200 BAUD FULL DUPLEX**).

We can offer them complete with an extensive range of top class software to support the auto dial/auto answer functions, viewdata etc. all at incredibly low prices. In the words of Micronet 800 "As far as value for money is concerned, Enterprise 1 and 2 from Kirk Automation are it!"

PRICES

Enterprise 1 - £99.95 + VAT (£114.95)
Enterprise 2 - £249.95 + VAT (£287.45)

**KIRK'S
ENTERPRISE
The Space Age
Alternative**

Comms Packs (including Enterprise 1, Viewdata/Terminal Software, Interface, Leads, Instructions etc).

Just plug in and GO!

- ▶ PCW8256/8512 £199.95 (+ VAT and postage)
- ▶ PC 1512 (all versions) £199.95 (+ VAT and postage)
- ▶ CPC 464/664/6128 £129.95 (+ VAT and postage)

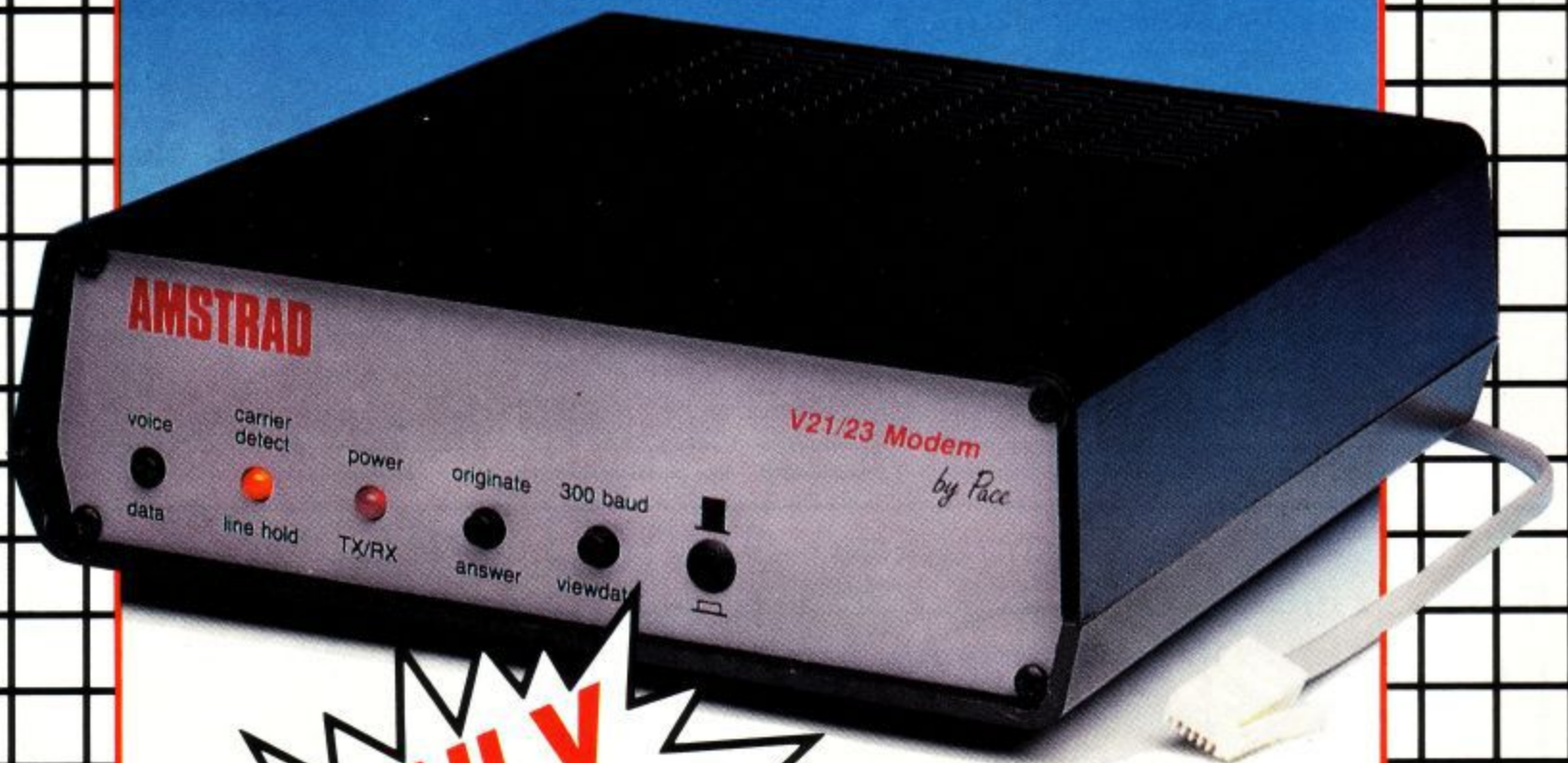
All cheques etc. payable to **Kirk Automation Limited**
Bridge Works, St. Whites Road, Cinderford, Glos. GL14 3HB
Telephone: 0594 22084 Access, Visa and Amex

KIRK

STOP PRESS - FOR OCTOBER
AMSTRAD / PACERS232 WITH
COMMSTAR AT AROUND £59

AMSTRAD

V21/23 MODEM



ONLY
£99.95
inc VAT

In addition to the modem with B.T. connecting plug and lead, you are supplied with a lead to connect to your Amstrad computer RS232 Interface and a voucher entitling you to the 1st quarters subscription to both *Prestel and *Micronet 800 free of charge.

AVAILABLE FROM CURRYS*
AMSOFT USER CLUB
AND GOOD AMSTRAD COMPUTER STOCKISTS

* SELECTED BRANCHES ONLY

BY **PACE**

AMSTRAD CONSUMER ELECTRONICS PLC.
BRENTWOOD HOUSE, 169 KINGS ROAD, BRENTWOOD, ESSEX CM14 4EF Tel: (0277) 228888



APPROVED for connection to
telecommunication systems specified
in the instructions for use subject to
the conditions set out in them.

S/S IND S/2982/3/G/500472



microlink

Your personal passport to the world of communications with

TELECOM GOLD

Telecom Gold is a trademark of British Telecommunications plc

What it offers the Amstrad user . . .

Electronic mail is much cheaper than the post

Sending mailbox messages to other subscribers, whose numbers are rapidly growing, is the cheapest form of communication possible. You can send a message of any length to another mailbox for less than the cost of a first-class stamp. And it doesn't cost a penny more to send the same message to 500 different mailboxes! Even a message sent to a mailbox on the other side of the world only costs 30p.

The biggest bulletin board of them all

The number of bulletin boards is growing rapidly. The only snag is that the vast majority are single-user boards – which means lots of other people are also trying to make contact and all too often all you get is the engaged tone. But with the MicroLink bulletin board there is no limit to the number of people using it at the same time. And no limit to the number of categories that can be displayed on the board.

Give your micro mainframe power

With MicroLink your micro becomes a terminal linked directly to the Telecom Gold mainframe computer, and able to tap its tremendous power and versatility. Right away you'll be able to use giant number-crunching programs that can only run on a mainframe.

The mailbox that is always open

MicroLink is in operation 24 hours a day, every day. That means you can access your mailbox whenever you want, and from wherever you are . . . home, office, airport – even a hotel bedroom or golf club! No-one needs to know where you are when you send your message.

We're only a local phone call away

The majority of MicroLink subscribers can connect to our mainframe computer in London by making a local phone call. This is possible because they use British Telecom's PSS system, which has access points all over Britain. A local phone call is all you need, too, for direct access via MicroLink to all the other countries belonging to the international Dialcom system.

Telemessages – at a third off

The modern equivalent of the telegram is the telemessage. Send it before 10pm and delivery is guaranteed by first post the following day (except Sunday). The service was intended for people phoning their message to the operator, which costs £3.50 for 50 words. But you can now use it via MicroLink, for only £1.25 for up to 350 words! For an extra 65p your message can be delivered in an attractive greetings card.

Go teleshopping on your micro

With MicroLink you can study the British Rail timetable – and then buy your ticket in advance. You can book theatre tickets. And even order a bouquet of flowers. It's all part of the teleshopping revolution!

Send and receive telex messages

With MicroLink you can turn your micro into a telex machine, and can send and receive telex messages of any length. You will be able to communicate directly to 96,000 telex subscribers in the UK, 1½ million worldwide – and even with ships at sea via the telex satellite network. Business people can now send and receive telexes after office hours, from home or when travelling.

What does it all cost?

Considering all the services you have on tap, MicroLink is remarkably inexpensive. You pay a once-only registration fee of £5, and then a standing charge of just £3 a month. On-line costs are 3.5p a minute (between 7pm and 8am) or 11p a minute during office hours. There is an additional 2.5p a minute PSS charge if you are calling from outside the 01-London call area. Charges for telex, telemessages and storage of files are given on the next page.

How much it costs to use MicroLink

Initial registration fee: £5.

Standing charge: £3 per calendar month or part.

Connect charge: 3.5p per minute or part – cheap rate; 11p per minute or part – standard rate.

Applicable for duration of connection to the Service. Minimum charge: 1 minute.

Cheap rate is from 7pm to 8am, Monday to Friday, all day Saturday and Sunday and public holidays; Standard rate is from 8am to 7pm, Monday to Friday, excluding public holidays.

Filing charge: 20p per unit of 2,048 characters per month.

Applicable for storage of information, such as telex, short codes and mail files. The number of units used is an average calculated by reference to a daily sample.

Telex registration: £10.

Outgoing telex: 5.5p per 100 characters (UK); 11p per 100 (Europe); 18p per 100 (N. America); £1.25 per 400 (Rest of world); £2.75 per 400 (Ships at sea).

Deferred messages sent on the night service are subject to a 10 per cent discount.

Incoming telex: No charge.

It is not possible to deliver a telex without a mailbox reference. If a telex is received without a mailbox reference the sender will be advised of non-delivery and asked to provide a mailbox address. Each user validated for telex and using the facility will

incur a charge of 6 storage units a month. Further storage charges could be incurred depending on the amount of telex storage and the use made of short code and message file facilities.

MicroLink PSS service: 2.5p per minute or part (300 baud); 3p per minute or part (1200/75 baud).

Only applies to users outside the 01-London call area.

Telemessages: £1.45 for up to 350 words.

Telemessages can be sent with an illustrated greetings card for 75p extra.

Radiopaging: No charge.

If you have a BT Radiopager you can be paged automatically whenever a message is waiting in your mailbox.

International Mail: For the first 2,048 characters – 20p to Germany and Denmark; 30p to USA, Australia, Canada, Singapore, Hong Kong and Israel. For additional 1,024 characters – 10p; 15p.

These charges relate to the transmission of information by the Dialcom service to other Dialcom services outside the UK and the Isle of Man. Multiple copies to addresses on the same system host incur only one transmission charge.

Billing and Payment: All charges quoted are exclusive of VAT. Currently all bills are rendered monthly.

Software over the telephone

MicroLink is setting up a central store of software programs which you'll be able to download directly into your micro. The range will include games, utilities, educational and business programs, and will cover all the most popular makes of micros.

Talk to the world – by satellite

MicroLink is part of the international Dialcom network. In the USA, Australia and a growing number of other countries there are many thousands of users with electronic mailboxes just like yours. You can contact them just as easily as you do users in Britain – the only difference is that the messages from your keyboard go speeding around the world via satellite.

What you need to access MicroLink

You must have three things in order to use MicroLink: a computer (it can be any make of micro, hand-held device or even an electronic typewriter provided it has communications facilities), a modem (it can be a simple Prestel type using 1200/75 baud, or a more sophisticated one operating at 300/300 or 1200/1200 baud), and appropriate communications software.

MicroLink

in association with

TELECOM GOLD*

Application Form

I/We hereby apply to join MicroLink

ACU11

I enclose my cheque for £5 payable to Database Publications as registration fee to MicroLink.

I also wish to use Telex. I authorise you to charge an additional £10 to my initial bill for validation.

I confirm that I am over 18 years of age.

I confirm that I accept the terms and conditions for the time being in force; a copy of which are available on request.

I intend to use the following computer _____

Signature _____

Date _____

FOR OFFICE USE ONLY:

Mailbox assigned _____

Start date _____

Password _____

SEND TO:

**MicroLink
Database Publications
Europa House
68 Chester Road
Hazel Grove
Stockport SK7 5NY.**

* Telecom Gold is a trademark of British Telecommunications plc.

Name

Position

Company

Address

Postcode

Daytime telephone

Commencement of Service

Please indicate month of commencement

 19

Allow 10 days for validation of mailbox

Payment

Whilst Database Publications Ltd is the supplier of all the services to you, the commission and billing thereof will be handled by Telecom Gold as agents for Database Publications Ltd.

Date of first payment to be on 15th of month following commencement.

Please complete billing authorisation form A, B or C below:

A. Direct Debiting Mandate (Enter full postal address of Bank Branch)

To

I/We authorise you until further notice in writing to charge to my/our account with you on or immediately after 15th day of each month unspecified amounts which may be debited thereto at the instance of British Telecommunications plc – TELECOM GOLD by Direct Debit. Bills are issued 10 days before debit is processed.

Name of Account to be debited

Account Number

B. Please debit my/our Access/Visa/*American Express account number

* Overseas subscribers only

I/We authorise you until further notice in writing to charge to my/our account with you on or immediately after 15th day of each month unspecified amounts which may be debited thereto at the instance of British Telecommunications plc – TELECOM GOLD. Bills are issued 10 days before charge is applied to your account.

C. Please invoice the company/authority.

If you select this option, which is ONLY AVAILABLE to government establishments and Public Limited Companies, we will require an OFFICIAL ORDER to accept unspecified amounts.

SOFTWARE REVIEWS

FROST BYTE

Equinox was a superb game, one of the new breed which has helped to keep Mikro Gen programs looking fresh. The problem with producing a game which has originality as one of its strongest points is how to write a follow up. Chris Hinsley of Mikro-Gen has achieved this by taking the spirit of Equinox and building a new game.

Frost Byte is the sequel to Equinox. It uses the same cute 16 colour sprites and rooms with a similar feel. But the gameplay has been changed significantly. Instead of being a floating orb you are now a Keezer. You look like one of those coils which runs down stairs, turning itself end over end. Or to be more accurate you look like the green and yellow aliens from Marble Madness, the ones which jump on the marble and lick their lips.

In your role as a yellow and green liquorice allsort you have to seek out captured friends and release them. As the title would indicate the action takes place on a frozen landscape, a cave which has to be mapped. The CPC does not have a very wide range of blues, so the backgrounds often look a little chunky. The foreground sprites, and some of the large multicoloured monsters are very much better. The Amstrad has five greens, so it's a good job that most monsters are green. The beast on the third screen blinks as if alive.

Once armed your bendy toy can shoot – although the



ammunition is limited and you will need to pick up more later. As with Equinox, moving the joystick picks up an object and pushing down again uses it.

There are some magical crystals dotted through the caves, each of which affect your spring. Eating a red crystal speeds you up, but limits the strength of your jumps. A blue crystal gives you the power to leap tall cliffs with a single bound – but slowly. Trampolines add power to your jumps in tight corners.

Author: Mikro Gen

Price: £9.95

Tigel

As winter looms the let's-get-the-game-out-for-Christmas bandwagon rolls on. If Christmas is the O-level exam then the PCW Show is the mock. Software houses try to have their wares ready for the show, but just like revision they never get it done in time. Miss Christmas and you have

to wait another year.

Frost Byte was in a pre-release state at the show but will be prepared for the end-of-year software showdown. Both the tasks and the graphics are truly inventive, something to settle down with as the nights draw in.

18/20

Liz

Initially the game seems far too hard, and until I'd mastered the art of jumping over falling drops of water I got nowhere. The monsters are wonderfully inventive. I love the creature featured on this month's front cover.

The rules about what can be shot and what needs to be avoided are a bit vague but once killed twice shy and you

should conquer most things with time. The tie-in with a frozen waste seems a bit pointless. Still, at least it's not part of a licensing deal. Frost Byte has a very strong "just one more game" appeal, you'll either love it or hate it. I love it.

19/20

Colin

Frost Byte from Mikro-Gen continues the Equinoctal vein. Instead of a sphere which floats hither and thither, your joystick controls a slinky-like spring which arches its way through the monstrous infestations of an icy cavern. Picking up and using things is again courtesy of a downward twitch on the stick, and again there's an intelligent use for everything.

The usual batch of laconic horrors await you, and not a few cleverly contrived traps. The way in which the spring moves lends itself to some gymnastic manoeuvres to circumvent obstacles, and working these out is half the fun.

A lot of thought has been put into this playable game, and it takes a lot to get the most out of it.

18/20

DAN DARE

Computer games and comics have a lot in common when you stop to think about it. Stylised graphics, simple story line, action abounding and not too many complications.

The first comic-computer crossover that I can remember was Superman for the Intellivision games console and that was about six years ago. Plus a change – this time it's a superhero from this side of the Big Pond who's saving the world on your Arnold.

In this week's issue: The Mekon has set an asteroid hurtling towards the Earth and will only stop it if the people of Earth hand over power to him. Dan Dare, Pilot of the Future, goes into space to blow up the asteroid and thwart the Evil One's despicable plans.

Can Dan do it? What will happen to Digby, his sidekick? Will all the Mekon take over be an obscure magazine? Read on, read on.

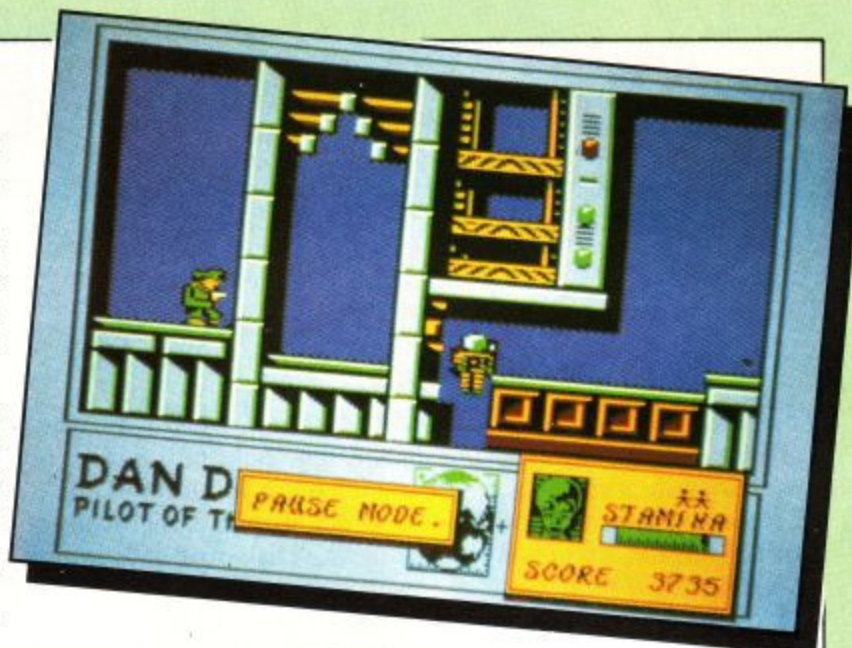
Once Dan gets to Schloss Mekon he's pretty much on his own against the hoards of Treens – the blighter Mekon's henchmen. True, Dan, Professor Peabody and Digby do get a lift to the asteroid that the Mekon is using to threaten earth. However, the Prof takes Dan's rocket out of harm's way, and Digby gets captured by the Treens almost from the word go. Dan is thus all alone in a big bad asteroid.

Fortunately his trusty laser gun is to hand and into battle he goes. The Treens are floating aliens who attempt to either shoot or capture our hero and he also comes under fire from various automatic gun emplacements that encrust the innards of the planetlet.

Once Dan has been hit a few times he becomes unconscious and is transported to a jail set deep below the surface. The same fate awaits him should he slip while jumping over the shafts sprinkled about the place.

The jail itself presents no problem as the lock's broken (hurrah), but Dan loses vital time in finding his way back to where he was via the Mekon's elevator system.

To get to the detonator mechanism he has to cross a chasm. There are four bridging pieces to be placed, then Dan can



release Digby and activate the detonator. Then he must flee like the clappers to the Mekon's spaceship to make good his escape.

Will he do it? Only you know, as you guide a behatted Dan through the cavernous interior of the Mekon's tool of devastation. Marvel at the detailed walls. Thrill to the zap of zarjaz (sorry, wrong comic) lasers. Gasp at Dan's death defying bounds. Cringe as he crouches from the naughty Treens.

His exploits are detailed in a faithfully rendered comic-book script which appears from time to time on the bottom of the Mode 1 screen. Likewise the imminent demise of the Earth is chronicled by a graphic globe slowly going green. Once the grot reaches Antarctica, Dan's heroism has been in vain.

Everything is joystick-based and some delicacy is called for at times. There's a lot of carefully-instilled atmosphere in this game, and not a lot to complain about. But I always thought Dan Dare was Sloanespeak for "on the floor"...

Author: Virgin

Price: £8.95 (tape), £12.95 (disc)

Nigel

Dan Dare is another classic from Virgin. The play is the run, jump duck and fire type where the obstacles are gaps and robots. The automated defences attempt to either shoot Dan or swoop down and cart him off to clink. I can't quite work out why there is no door on the jail.

The graphics are excellent, depicting sombre high-tech girders and rails rather than Sorcery's sombre

rustic walls and bars – perhaps this has something to do with Virgin's working environment.

Play is definitely trickier than in Sorcery, where you have to be pixel accurate and get your timing to the nanosecond. Some individual screens require mastering but there is always a way round – if you can only find it.

Well worth a look for fans of this type of game.

18/20

Liz

There are some games which seem to work and others which don't. Just when everyone thought that 3D games were passé Ocean breathed new life into them with Batman.

And Dan Dare proves that programs which used to be called ladders and platform games and are now known as

arcade adventures still have life in them.

Dan Dare is addictive, the puzzles are clever, there are plenty of aliens to shoot and the place is huge. If saving the world is the bag you are into then this is the game to buy.

19/20

Colin

I suppose that a comic base allows almost any scenario to be dragged out, dusted off and presented as a novel concept.

It's a shame that Virgin have chosen a bog-standard platform game for Dan Dare's first ram-based romp.

They've gone to town on the artwork, with intricate

threedeeish walls, floors and lifts and there are sufficient nasties to keep sitting-room superheroes busy.

The joystick control is very pernicky and it's very easy to step forwards while trying to fire upwards and then plummet to captivity.

It's OK, but nothing to queue up for.

16/20

The Cirket Prestel Link

Approved for use with telecommunication systems in accordance with the conditions of use.

B.T. Approval No. S/2644/3/E/022886



Enter the world of data communication with the Cirket Prestel Link.

A complete package for your CPC computer for only £35.99

Full viewdata standard 16 colour, dynamic frames.

Access to BT Gold and Bulletin boards with terminal mode.

Use the RS232 compatible interface with your own programs -extensive documentation provided.

Reliable BT approved acoustically coupled modem. 1200/75 and 1200/1200 half duplex.

£35.99

Software on tape

£43.99

Software on disc

Download Telesoftware! Available now. Enhanced software that provides not only Telesoftware downloading but also ASCII and XMODEM file transfer, text dump plus many other features.

£14.95 on tape

£19.95 on disc

All prices inc. VAT and P&P.



Cirket Distribution



Park Lane, Broxbourne Herts EN10 7NQ Tel. (0992) 444111

INTRODUCING

J.C.M. Locksmiths Ltd

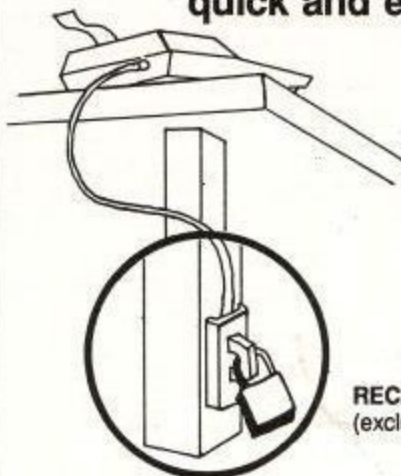
AFFILIATE MEMBER MASTER LOCKSMITHS ASSOCIATION

61/63 Surbiton Road, Kingston-upon-Thames, Surrey, England, KT1 2HG

Tel: 01-546 1800 or 01-546 7286

MULTI PURPOSE SECURITY CABLE

quick and easy to fit



With this cable you can move any machine all over the desk, or even from one desk to another. One end of the tough cable is attached directly to the equipment, the other is fixed to the desk leg, wall or floor, secured by the padlock. To prevent rubbing or scratching the cable is sheathed in PVC.

REC. RETAIL PRICE £12.00 (excluding padlock)

plus VAT plus P&P

STOP THE OPPORTUNIST

NOW YOU CAN FULLY PROTECT YOUR

Electric Typewriters
Calculators
Computer Terminals
Dictating Equipment
T.V.'s & Videos

Electronic Cash Registers
Audio-Visual Equipment
Tape Recorders
Film & Slide Projectors
Word Processors

ARE YOU IN A RUT??

Then climb out by learning to use your **AMSTRAD** to it's full potential with our unique step-by-step **Programming and Applications Courses** designed for any age or interest.

If you have had enough of playing games or typing in endless program listings that don't run there's a **MICROWISE** correspondence course designed for you.

- * For CPC464/664/6128
- * No Previous Experience Required
- * Beginners & Childrens Courses
- * Texts & Software Supplied
- * Coursework Graded to Suit
- * Individual Tutor Support

Send coupon, NO STAMP REQUIRED, TO:

MICROWISE UK

FREEPOST Colchester, CO3 4BR.

Name

Address

ACU11

TOTAL SUPPORT FOR THE AMSTRAD COMPUTER RANGE

ALL THE BIG NAMES AT PRICES YOU CAN AFFORD

THE NEW PC 1512		TOTAL SUPPORT FOR THE AMSTRAD COMPUTER RANGE		THE NEW PC 1512	
GAMES		Numbers	£14.95 D	Amshelp	£6.99
Voodoo Rage	£1.99 T	Maths Mania(8-12yrs)	£14.95 D	Systems X Ext Basic	
Cassette 50	£9.95 T		£9.95 T	Commands	£13.95 D
	£14.94 D	Music Theory (7+)	£14.95 D	Tomcat Backup	
Samantha Fox	£8.95 T		£9.95 T	Copier	£10.95 D
Spin Dizzy	£9.95 T	Better Spelling		HARDWARE/INTERFACES	
Heavy on the Magic	£8.95 T	(8-Adult)	£14.95 D	UPGRADES	
	£12.95 D		£9.95 T	AMX Mouse	£79.95
Knight Rider	£8.95 T	German Master		ESP Light Pen	
	£14.95 D	(AorB)	£8.95 T	G128+8256	£44.95
Bruce Lee	£9.95 T	Genplot	£24.95 D	64k Expansion	
Yie Ar Kung Fu	£8.95 T	Spanish Tut (A or B)	£8.95 T	(DK'Tronics)	£49.95
	£12.95 D	Genplot	£14.95 T	256k Expansion	
Ghosts & Goblins	£8.95 T	Cobol	£49.95	(DK'Tronics)	£99.95
	£13.99 D	Fortran	£49.95	256k RAM (82560 kit form)	£59.95
Green Beret	£9.95 T	LANGUAGES		Speech Synth (ROM) kit form (6128)	£39.95
	£12.95 D	Pascal/MT+		Memory U/Grade 512k (8256)	£39.95
BUSINESS		(Dig Research)	£49.95 D	J/Stick Controller + Free Game (8256)	£24.95
Home Budget Tape	£19.95	C. Basic Compiler		5 Way Sideways ROM	£26.00
Home Accounts Man	£14.95 T	(Dig Research)	£49.95 D	CPC Serial Port	£40.00
	£18.95 D	PRINTERS		RS232 & Centronics 9paw	£53.00
Prospell	£24.95 D	DMP 2000	£159.95	Kepton Pro J/Stick	£16.95
Stock Control	£17.95 T	Brother M1009	£189.00	Quickshot II J/Stick	£9.95
Payroll (Camsort)	£14.95 D	MCP40 Printer	£125.00	125 J/Stick	£8.95
Stock Control, Invoicing, Sales, Purchase & Nominal Ledger (Camsort)	£149.95 D	Sakata SC800 Plotter	£175.00	ACCESSORIES	
Stock Control (MAP)	£49.00 D	Okimate 20 Colour Printer	£173.00	Amstrad Cover	£4.95
Cash Trader with Analyser (Ques)	£149.95 D	Epson LX 86 (State type i.e. (P) (S))	£275.00	Computer Cleaning Kit	£5.95
Cardbox (Caxton)	£99.99 D	RIBBONS		Amstrad Brother M1009	
MODEMS		PCW 8256 (Branded)		Plotter Cable	£9.00
AMS V21/23 Modem	£99.95	DMP 2000	£4.20	Amstrad Plotter Cable	£9.00
Mini Max Modem (RS232 Driven)	£80.50	Brother M1009/M1109	£3.27	Thingj (Document Holder)	£6.99
Communicator 104 Modem (CPL)	£175.95	Epson LX/86	£3.33	2nd Disk Drive Lead	£8.95
Chatterbox (PCW)	£172.50	Okimate 20 (Colour)	£7.75	Dust Cover for 8256	£9.95
EDUCATIONAL		*** CF2 disks £34.00 Box of 10 ***		FURNITURE	
Transition Geometry	£14.95 D	UTILITIES		Shinecrest Desk 450	£41.50
Respiratory System	£14.95 D	Brainstorm (Caxton)	£49.99 D	Shinecrest Desk 600	£69.95
Fractions	£14.95 D	Maxam (Ass/Mon/Editor)	£19.95 D	Selmore Mobile Comp. Stand	£56.00
		Scriptor-Define Chatont for DMP1	£26.95 D		

The new Wall Computer ONLY £9.95

If it's not here please ask. Special new scheme for Amstrad retailers abroad phone/telex* for details

TMC

AL-TUKHAIM

MICRO COMPUTER CENTRE
Rodney House, Castle Gate, Nottingham
NG1 7EW. Tel: 0602 585737

Good Programs are always wanted
Best Royalties Paid
DIAL YOUR ORDER
Rapid Ordering Service
BY TELEPHONE OR ACCESS OR VISA

STOP PRESS
ARABIC VERSION OF AMSTRAD CPC RANGE
AVAILABLE SOON.
PHONE FOR DETAILS

STOCKMARKET

THINKING OF INVESTING? ALREADY AN INVESTOR?

STOCKMARKET enables you to record details of purchases, sales and dividends of shares, unit trusts etc. Current share prices can be entered very easily at any time for an automatic folio revaluation. Values of share prices, indexes etc can be recorded, listed and plotted along with moving averages. Practise buying and selling shares. See if your intuition is right.

PRICES

- * Store values of share prices, indexes, exchange rates etc.
- * Up to 260 prices per share (eg. weekly prices for 5 years).
- * Tabulate prices.
- * Plot prices and moving averages with log or linear scales.
- * Actual prices supplied as demonstration data (inc FT 30, British Telecom).
- * Use curves to select best buying and selling opportunities.

ACCOUNTS

- * Record full details of your portfolios of stocks, shares, unit trusts etc.
- * Practice buying and selling techniques and accurately record your progress.
- * Up to fifty shares per folio. Store many folios on one disc.
- * Buy and sell shares with automatic calculation of dealing costs.
- * User definable dealing costs.
- * Record dividend yields and price earnings ratios.
- * Update prices and automatically update yields, P/E ratios and recalculate individual share and total folio value.
- * Record dividend payments, total dealing costs and keep cash accounts.
- * Tabulate present folios, past transactions, dividends and cash accounts.
- * Demonstration data supplied. Comprehensive forty page manual.

CPC 464 (disc)/664/6128
PCW 8256/8512
Price: £29.95 (inc. p&p)

MERIDIAN
software

38 Balcaskie Road,
London, SE9 1HQ.
Tel: 01-850 7057

MIDLAND COMPUTER LIBRARY

MIDLAND COMPUTER LIBRARY

MIDLAND COMPUTER LIBRARY



*Do you use
Software?*

NOW YOU CAN HIRE IT BEFORE YOU BUY IT!

- OVER 8000 different titles available for hire for the COMMODORE, SPECTRUM, ELECTRON, BBC, AMSTRAD, ATARI, and MSX computers.
- ALL GAMES manufactured ORIGINALS with full documentation.
- OVER 25,000 satisfied members.
- EUROPEAN members welcome.
- UP TO 65% OFF software, regular sales lists sent to all members.
- Full computerised system keeps track of your order. We pride ourselves in being the most professional Hire Library in the United Kingdom, with staff of 14 who know what the word service means. Backed by our own software company and programmers.
- ARCADE, ADVENTURE, EDUCATIONAL and BUSINESS software too.
- HIRE PRICES from only 75p INC. P&P.
- 20% DISCOUNT off all purchase software.
- LIFE MEMBERSHIP £6.00. Hire your first title FOC.
- FREE CATALOGUE.
- FREE HINTS AND TIPS.
- FAST RETURN OF POST SERVICE (if reserves are given).

Send now
for free catalogue
stating which
computer
**MIDLAND
COMPUTER
LIBRARY**
28 College Street
Worcester
WR1 2LS
Telephone
0905 611072

NAME _____
ADDRESS _____

AC

FREE HIRE

CYCA LTD.

287 CALEDONIAN ROAD, LONDON N1 1EG
TELEPHONE: 01-700 4004

AMSTRAD

CPC 464 Green	£173 + VAT
CPC 464 Colour	£260 + VAT
CPC 6128 Green	£260 + VAT
CPC 6128 Colour	£350 + VAT
DMP 2000 Printer	£139 + VAT
PCW 8256	£399 + VAT
PCW 8512	£499 + VAT
Amstrad V21/23 Modem	£86.00 + VAT
CF2 Floppy Disc	£2.90 + VAT
CF2DD Floppy Disc	£5.00 + VAT
Sony 3½" S/S DD	£1.90 + VAT
Sony 3½" D/S DD	£2.90 + VAT
Printer Ribbon DMP 2000	£5.00 + VAT
Printer Ribbon 8256/8512	£5.00 + VAT
JY2 Joystick	£13.00 + VAT
RS232 Serial Interface	£43.00 + VAT
CPS8256 RS232 (use with PCW 8256) .	£59.00 + VAT

PRICES INCLUDE POSTAGE & PACKING

CYCA LTD

287 Calendonian Road, London N1 1EG

CREDIT CARDS HOT LINE
01-700 4004



Rombo Productions Proudly present

VIDI ©

THE Video Digitiser/Frame Grabber
For CPC 464/664/6128

Grabs Complete Frames from Video or Camera

Grabs in Mode 1 or Mode 2

Updates Amstrad Screen in 0.3 seconds

Digitises 16 shades in Mode 0 in under 4 seconds

Full Software control of

16 Separate Levels of Contrast and Brightness

£89.95 inc p&p

Write or Phone for Further Details

ALSO: ROMBO ©

THE 8 - Rom Box That fits ALL CPC Machines

"... very well designed ..." Tony Kandle, PCW

"... great little board ..." Amstrad Action

Recommended by Arnor for use with their ROMS

The Rom Box the professionals use

Features include: Ribbon Cable, DIL Switch Rom Selection, fully cased, Select as Roms 0-7 or 8-15, Dual expansion connectors and more ...

£34.95 inc p&p from:

Rombo Productions, 62 Meadowbank,
Ladywell, Livingston, West Lothian, EH54 6EL

Tel: (0506) 39046

ALL PRODUCTS IN STOCK, FULL REFUND IF NOT DELIGHTED

TRIVIAL PURSUIT

You can't have missed it. Trivial Pursuit has been the board game of the Eighties. Neatly mixing Homo Sapien's compulsive competitiveness with his obsession with oddness, Trivial has belied its name as life-long friendships are shattered over the number of snakes in Hawaii.

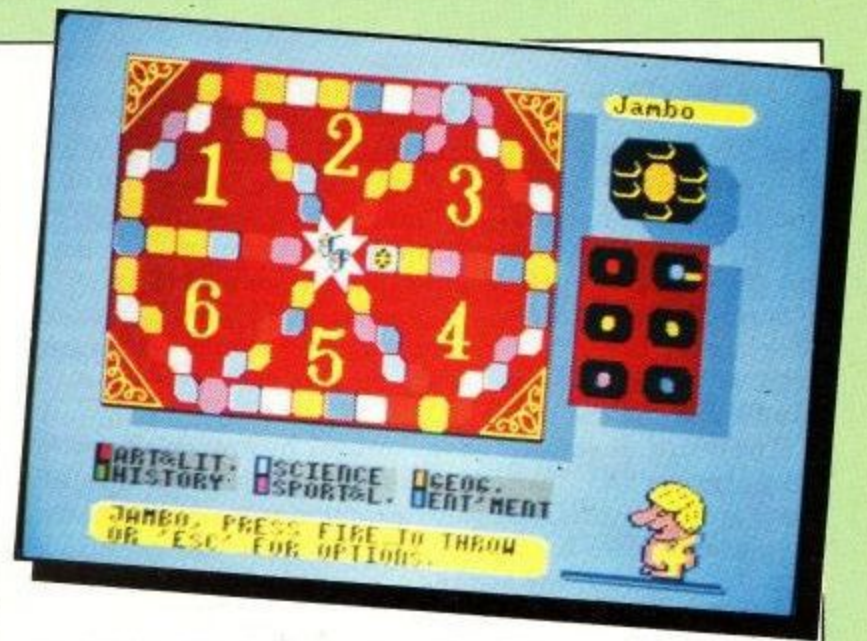
Briefly, Trivial involves collecting six cheese-shaped pieces (wedges) from around a wheel shaped board. The wheel is divided into squares, most of which have a subject such as science, entertainment, geography and so on associated with them. Land on a square, and you have to answer a question on that subject. Get it right and you can throw the dice again for the next square, else it's the next player's go.

Six of the squares are special. Land on one, answer correctly and you win a wedge for that subject. When you've got a full set you have to make for the hub of the wheel. Once there, you have to answer a question on a subject chosen by your opponents - and you've won.

The wheel structure of the board gives enough freedom of choice to allow elements of strategy to creep in. Do you go for Entertainment, which you're good at, or Science, which is nearer the wedge you want but less easy to answer? And so it goes on, into the small wee hours...

That's the board game. The computer version, happily, is even better. One of the disadvantages, I felt, of the low-tech game was that one person had to be Grand Inquisitor and thus couldn't play. On the Arnold this part is played by one T.P., a gambolling homunculus who picks a number between one and six for you. When you've picked your square, he wanders off to his library.

The library is a well-appointed room with a blazing fire, candle, hi-fi and other paraphernalia. Here, after pacing the carpet, T.P. asks a question. This can either be a textual query (like the original), musical (in three-part harmony), or graphical. There is a rich assortment of graphics which appear on a roll-down screen after the library lights have dimmed. Musical questions are played on the hi-fi, which has an animated bar-graph display just like the real thing. This sort of



attention to detail occurs throughout the game.

Pressing the fire button on the joystick reveals the answer. This is a bit of a departure from the board version, where if you got an answer wrong the questioner didn't have to reveal anything, but works well. Other additions to the original include a performance sheet for each player, a settable timer for the questions and a one-player mode.

There are sixteen blocks of questions (on the disc version) and a new one gets loaded in if a block gets exhausted during play. You can also load in a new block whenever you want - it's a good idea to do this every time you play, as this avoids repetition of questions.

Everything (apart from typing in names at the beginning) you need to do to play the game can be done from the joystick. This makes things much easier if there's more than two of you, as it's simpler to pass a stick around than a computer...

Everything about this adaptation recommends itself. The questions themselves are as singularly quirky as the real thing and the presentation is pretty damn hot.

Author: Domark

Price: £14.95 (tape), £19.95 (disc)

Nigel

One day someone will take a computer program and turn it into a board game. For the moment things work the other way around. Scrabble was a programming triumph (watch out for the Joyce version out soon). Trivial Pursuit on the computer really adds to the game.

There are 3,000 questions - 1,000 from the original

Genus I version, 1,000 new ones and 1,000 which use graphics or sound. When you have heard all questions you can buy a new tape. You can find out who has answered the most questions, and who got the most right - an end to the argument that your younger sister beat you because she was just lucky.

18/20

Liz

I just love trivia. Where was Monopoly invented? (Atlantic City). Which members of the Royal family can vote? (All except the Queen). Prove to your friends that you know more useless facts than anyone else. My friends now refuse to play the board game with me - I'm not a bad loser, I'm a

dreadful winner. "Come on, everyone knows that".

You can still argue over whether Mao Sa Tung is the same thing as Chaiman Mao. If Domark isn't careful it's going to get a very good reputation.

19/20

Colin

There's only one way to test Trivial Pursuit and that involves a weekend, close friends and lashings of Liebfraumilch. Domark's doings pass this test with honours.

The MC, one T.P. (a Piman lookalike), squeeks, shuffles and skips his way through fiendish questions in

the best tradition. The frills Domark has added are really useful, and as a whole it's even more fun than the real thing.

Great graphics, great 'gameplay', great fun. It almost hurts me to say this, but... a classic.

20/20

THE FOURTH PROTOCOL

The name's Preston. I work at the Ministry. I keep an eye on the most deadly people in the country: The Other Side – and I'm not talking about Atari. I'm the newly appointed head of security and I have to face the most challenging assignment of my career. A group of Russian agents are planning to smuggle a nuclear device into Britain, breaking the Fourth Protocol. They intend to set it off in such a manner as to make America seem responsible for the "accident". My task is to detect the agents and foil the plot.

The Fourth Protocol is a famous book by Fredrick Forsythe. Okay, so you and I have never read it, but lots of people who don't spend all their time playing computer games and reading stupid magazines have. Otherwise it wouldn't be a bestseller would it? Anyway, now you can play it as a computer game. It's in three parts and you must complete the first before going on to the second and third.

The object of the first part is to retrieve some vital Nato documents. As Preston, head of security, you have the facilities of a computerised command centre at your disposal. There are various methods of communication such as memos from other department heads, phone calls and information from agents in the field and reports from other departments.

The action, in this first part of the game, revolves around a series of icons displaying the options you can take. Three computer terminals show situation reports, memos and so on. When there is a message waiting, an icon is displayed on the screen of the terminal. Moving a pointing finger icon to the relevant option and pressing Enter will give you a further menu with more icons.

For example, the memo option will print the memo on the screen and display a further menu. This shows you a filing cabinet to store the memo, a dustbin to throw it away, an eye to read it and a picture of a computer to return to the command



centre. Certain memos require immediate action and off you go to more sub menus.

One of the most important actions is assigning surveillance teams to various suspects that emerge in the course of your investigations. This is done through a camera icon. 'Watchers' make regular reports of 'chummies' activities, allowing you to make various decisions on the way – arrest, pass on false information, deport and so on. Constant vigilance in the command centre is necessary, as it is very easy to miss a phone call or important message and lose a vital lead. Codes, phone numbers, limited resources, staff morale and success rates add to the complexity and realism of the game.

All control is from the cursor keys and Enter, with the cursor stepping to each icon in turn. There is no joystick option but there is a pause, save and load game facility.

Author: Ariolasoft

Price: £14.95 (tape), £19.95 (disc)

Nigel

Visually, Fourth Protocol is less than interesting, but if you are willing to forego a little colour and are into a little light thinking, FP is a real treat.

The pace that the info comes in at is the factor that gives this game its addictive quality. You have to assign watchers, examine info that has just come in, work out coded passwords, note telephone numbers and still

make snap decisions about the various suspects. There are red herrings and routine security head duties to carry out, generating the right sort of civil servant atmosphere.

And all the time, in the back of your mind there's this little voice saying "you missed something".

17/
20

Liz

How do you write an adventure game without asking the player to type in pages of text? Well how do you write an operating system which doesn't need loads of text? Simple. Apple did it with the Macintosh and Digital Research produced GEM for the Amstrad PC. If they can do it for something as boring as a disc operating system then surely this front end can be tagged onto an adventure game.

The Fourth Protocol has been around on the Spectrum

for quite a while, but it's new to Amstrad users. Some of the features make the game feel very real. You need to make an appointment to see your boss, hire taxis and use the London underground.

Loading in three parts is a pain and the game is so difficult that not very many people will see the final section. Look out for the film on soon.

14/
20

Colin

Yet another move the pointer around and select icons game. This is quite a good one though, which succeeds in generating a degree of authentic spy atmosphere.

I got a bit fed up with reviewing the security arrangements in Building 17, especially as this gave me less time to sort out those Commies and the boss got a bit

shirty.

There are plenty of things to do in the game, but no option to plant secrets on someone then arrest him. You can't call the two-colour graphics the most exciting in the world but the game is nonetheless quite playable. Move over Smiley!

14/
20

TYPESETTING AMSET

£199.98 + VAT

For the first time
a major suite of Typesetting software
is available to the Amstrad user.

PROFESSIONAL typesetting.

Package includes H & J, kerning, indents,
multicolumn, depth count, character count, rules.

20 FOUNTS from 4½-72 point.

Digital setting on Linotron 202N.

QUALITY

Typeshare - The nation's biggest bureau service

TUTORIAL

comprehensive step by step tuition is included.

EXPANSION

- AMCOM Error free comms.
- AMCOUNT Counting Ad. Pack.
- AMAT Advanced Typography.

TRIAL OFFER

£40.00 +VAT for trial pack.

'Phone for brochure

Typeshare

Typeshare Ltd, Alan House, 55-59 Saffron Hill
Hatton Garden, London EC1N 8QX. 01-405 7937.

252 Scafford Road
Melton Mowbray
Leicestershire LE13 1LA



Tel: (0664) 63617

Squirrel's Byte

3" DISKETTES

Price per 10 CF2 disks 34.95 5 CF2 disks 18.50

RIBBONS

Amstrad DMP2000	5.50	Kaga KP810	3.99
Shinwa CP480	3.99	Epson LX-80	3.45
Epson FX/RX/MX80	3.45	Canon PW1080A	3.99
Seikosha GP80/100/250	3.45	Centronics GLP	3.65
Star NL10	5.75	Star NL10	9.95
Amstrad PCW8256/8512	5.50	Centronics GLP	3.65

PRINTER CABLES

1 metre cable (CPC) 9.95 PCW ext. cable set 11.25

PAPER & LABELS

2000 sheets per box		Price per 1000 labels	
Exact A4 70 gsm	19.75	3.5" x 1.5" 1 or 2 across	6.95
11 x 9.5" 60 gsm	14.95	2.75" x 1.5" 1 or 2 across	6.25
12 x 9.25" 60 gsm	17.45	2.75" x 1.5" 3 across	6.25

MODEMS - Carriage £5.00

PACE Nightingale package including I/Face, software and cable
CPC 464/664/6128 161.00 PCW 8256/8512 249.00

HARDWARE

Upgrade chips - 8256 44.95 RS232 I/Face - PCW 62.50
PACE 5.25" DISK DRIVES - Carriage £5.00 PCW 8256/8512 227.50
40/80 track drive - CPC 182.50

SOFTWARE

These are just examples from our range - full software ranges from Camsoft, Sage, Caxton, Arnor, Amsoft, and M.A.P. are available at DISCOUNT PRICES - ring for details.

SAGE Popular accounts	95.00	Stock/invoice/sales	94.95
Stock + invoicing	59.00	Invoicing	47.50
Payroll	58.95	PSIL integrated system	139.95
Chit Chat + combination	92.50	AMSOF Supercalc II	44.95
CAMSOFT (for PCW8256/8512)		DIGITAL DR Graph/Draw	46.95
Cambase	47.50		



ALL ITEMS POST FREE EXCEPT DISK DRIVES AND MODEMS
ALL PRICES INCLUDE VAT. Please telephone if you do not see the item you require.

SHEKHANA COMPUTER SERVICES

	RRP £	Our PRICE £		RRP £	Our PRICE £
Exploding Fist II-D2	9.95	7.50	Cyberun	9.95	7.50
The Music Box	14.95	11.95	Galvan	8.95	6.95
Dragons Lair-D1	9.95	7.50	Lazer Genius-D4	14.95	12.95
City Slicker-D2	8.95	6.95	Get Doctor-D2	9.95	7.50
Paper Boy-D2	8.95	6.75	Doomsday Blues-D2	9.95	4.99
Trivial Pursuit-D4	14.95	12.95	Knight Games-D1	8.95	6.75
Dan Dare-D2	9.95	7.50	Konami Golf	8.95	6.95
Lord of the Rings	15.95	12.95	Batman-D2	8.95	6.75
4th Protocol	14.95	12.95	Footballer of year-D2	9.99	7.50
Knight Rider	8.95	6.95	1942-D2	8.95	6.75
Druids	7.95	5.95	Spiffire 40-D2	9.95	7.50
Elite-D4	14.95	12.95	Lightforce	8.95	6.95
Winter Games-D2	9.95	7.50	Desert Fox-D2	9.95	7.95
Jack the Nipper-D2	8.95	7.50	Leader Board-D2	9.95	7.95
Nexus-D2	9.95	7.95	Commando 86-D2	8.95	6.75
Alter Shock-D2	9.95	7.50	Fighter Pilot-D1	8.95	6.75
Mini Office I	5.95	4.99	*Kari Warrior-D2	9.95	6.75
Scrabble-D2	9.95	7.50	Star Trek-D2	8.95	7.50
Mini Office II-D4	14.95	12.95	Dark Sepire-D2	9.95	7.50
Lazer Basic-D4	14.95	12.95	Infodroid-D2	9.95	7.50
Starstrike II-D2	9.95	7.50	Darius Intimos-D2	9.95	7.50
Hi Jack-D2	9.99	7.50	Vera Cruz-D2	9.95	7.50
Ghostbusters-D2	10.99	8.50	Johnny Reb II-D2	9.95	7.50
Shockway Rider	8.95	6.75	Colos Chess Bridge 4.0-D2	11.95	9.95
Shaos Lins Road-D2	9.95	7.50	The Music System-D4	15.95	13.95
Bobby Bearing-D2	9.95	7.50	Konix Joystick		12.99
Azimuth (Head Align)	8.95	7.50	Compton Pro 5000 Joystick		14.95
Miami Vice	8.95	6.95	Dalax-Micro Stick Joystick		14.95
Theatre Europe-D2	9.95	7.50	Advance Music System	29.95	26.95
Highlander	8.95	6.75	The Mirage imager	49.95	47.50
Spindzy-D2	9.95	7.50	Masterfile III	39.95	34.95
International Karate-D1	7.95	5.95	Hitchhikers - 6128 or PCW		24.95
Revolution-D2	9.95	7.95	Pyradiv	29.95	24.95
The Great Escape	8.95	6.95	Disc Wizard	39.95	36.50
*Mercenary	9.95	7.95	Master Disc	12.99	10.99
Tujad	8.95	6.95	ESP Light Pen-PCW	79.95	69.95
Bridge Player 3-D2	12.95	10.95	Fairlight-PCW	14.95	12.95
Pacific-D2	9.95	7.50	Batman-PCW	14.95	12.95
Monopoly-D2	9.95	7.50	Odd Job	12.95	10.95
Colosus Chess 4.0-D2	9.95	7.50	Lord of the Ring-PCW	24.95	22.50
Fairlight-D2	9.95	7.50	Jewels of Darkness-PCW	19.95	17.95
Tomahawk-D2	9.95	7.50	Tomahawk-PCW	19.95	17.50
Green Beret-D2	8.95	6.75	Infocom Titles for 6128 & PCW Titles		
Nick Faldo's Golf	9.95	7.95	Available at £24.95 each		24.95
*PSI-5 Trading	9.95	7.50	Hint Book for Infocom Games		9.95
*Silent Service	9.95	7.50			

D=Disk Version Available. D1=at £11.95, D2=at £12.95, D3=at £14.95, D4=at £17.50
Special Offer while stocks last 3" disks box of 10 only £38.00 inc P&P

For Mail Order: Chq/PO payable to:

SCS (AMUS) P.O. BOX 394 LONDON N15 6JL
P&P INCLUDED IN UK. EUROPE ADD £1 PER TAPE.

ESLEWHERE AT COST. Tel 01-800 3156 S.A.E. FOR FULL LIST

If you would like to pick up your discount software produce your copy of this advert
to us at S.C.S. Unit 5, 221 Tottenham Court Road, London W1R 9AF
(near Goodge St. Tube Station).

Open 6 days a week from 10.00-18.00pm

Access and Visa Card Hot Line please ring: 01-809 4843/01-631 4627

Credit Card orders despatched same day - subject to availability

*New release subject to release from software house, please ring to confirm availability of new releases



Accounts

ON YOUR AMSTRAD
PCW - 6128

Designed by a small businessman
for the small business

SALES - PURCHASES CASH BOOK - PETTY CASH

Full Reporting of:

Monthly Sales and Purchases
with Payment Status, VAT extraction
and Purchase cost analysis

Debtors and Creditors
with Date, Invoice Number and Totals Due.

Client and Supplier Accounts
with Outstanding Balances

So easy to use

NO COMPUTER KNOWLEDGE REQUIRED

Full on screen instruction at all times
only brief, clear instructions for the first time user
No huge manuals to wade through.

Reduce Accountancy Fees - Provides full information
for your accountant to prepare Final Accounts.

Impress your Bank Manager

with all the vital financial information on your business
professionally printed out and at your fingertips.

Telephone Hemel Hempstead (0442) 66588
for further information or send your cheque:

for only **£34.95** to:
MPG SOFTWARE

27 Corner Hall Avenue, Hemel Hempstead, Herts.

Please Quote Ref: ACU

Rapid despatch from receipt of order

RSD CONNECTIONS LTD

MONITOR LEADS	AMSTRAD EXPANSION PORT EXTENSION LEADS	IDC D CONNECTORS
Fidelity (Scart) to: BBC/QL/Commodore/Sony/ Spectrum 128/Amstrad £4.95 Microvitec to: BBC/QL/ Spectrum 128/Amstrad £2.50 Ferguson to: BBC/ Comm. 64/MSX/QL/ Spectrum 128/Amstrad £2.50 Hitachi to: BBC/Comm. 64/QL/ Spectrum 128/Amstrad Sony/Kaga to: BBC Comm. 64/BBC Green screen to: QL Comm. 64/BBC Green screen to: QL Comm. 128 £4.95 Phone to Phone Philips to: BBC/Comm. 64 £2.95	NEW! 6" Single F to m £10.50 Double F to 2M's £14.75 Suitable for 664 & 6128 The easy way to connect your add-on's	Male Female 9-way £2.70 £3.20 15-way £3.20 £3.70 25-way £3.80 £4.45 37-way £5.90 £6.80
IDC AMPHENOL 36-way plug £4.95 36-way socket £5.95 36-way plug (solder type) £4.95	AMSTRAD MONITOR EXTENSION LEADS To 464, 1m. £8.50 To 664 & 6128 £7.90	RIBBON CABLE (Price per ft) Grey Rainbow 9-way .13 .24 10-way .15 .28 14-way .18 .32 15-way .20 .36 16-way .22 .40 20-way .30 .50 24-way .36 .60 25-way .40 .65 26-way .45 .70 34-way .60 .80 37-way .65 .85 40-way .70 .90 50-way .95 £1.25 60-way £1.10 £1.40 64-way £1.15 £1.50
BBC DISK DRIVE LEADS Dual disk drive power lead £4.50 Dual disk drive lead 1m £10.25 Single disk drive power lead £2.75 Single disk drive extn. lead 1m £7.25 Disk drive extn. lead 1m £2.75	AMSTRAD 2nd DRIVE LEAD Suitable 664 & 6128, 1m £6.95	AMSTRAD JOYSTICK SPLITTER NEW... Play with a friend! Splitter enables 2 Joysticks to be used independently. ONLY £6.95
CASSETTE LEADS BBC to cassette £2.25 DRAGON to cassette £2.20 SPECTRUM to cassette £1.25 BBC to Acorn cassette £2.25	AMSTRAD CASSETTE LEAD 1m, 5-pin to 3-Jack £2.20	CONNECTORS IDC Card Trans 2 Row Edge PCB Socket 10-way £1.20 £0.85 £0.80 14-way - - - £0.90 16-way £1.60 £1.20 £1.00 20-way £1.90 £1.35 £1.20 26-way £2.40 £1.60 £1.45 34-way £3.10 £1.95 £1.60 40-way £3.40 £2.00 £1.85 50-way £3.85 £2.25 £2.00 60-way £4.80 £2.60 £2.25
PRINTER LEADS ALL 1 METRE LENGTH BBC £9.95 BBC serial £8.95 MEMOTECH £10.75 EINSTEIN £12.75 IBM PC £12.75 SPECTRUM interface One to RS 232 £9.75 MSX £13.95 APRICOT £15.20 DRAGON £9.95 QL £10.75	MISCELLANEOUS TV Aerial Leads 1.2m £1.25 2m £1.50 3m £1.75 4m £2.00 Y piece Switched TV Splitter, TV & Aerial leads plugged in without loss of signal £1.95 Spectrum Power Supply replacement lead £2.50 TOP QUALITY C15 Computer Cassettes Boxes of 10 35p each £3.00	D CONNECTORS Solder Bucket Male Female 9-way .75 £1.00 15-way .95 £1.50 25-way £1.50 £1.90 37-way £2.40 £3.25
ANY COMBINATION OF LEADS MADE TO ORDER	AMSTRAD RS232 Printer/Modem Cables 1m RS232 F to F £10.95 RS232 M to F £10.95 Amstrad to Nightingale £8.95	HOODS .95
	PCW PRINTER LEAD From Interface to Centronics Printer 1.5m £15.20	TRADE ENQUIRIES WELCOME

75p P&P IN UK. Access & Visa accepted. Add 15% VAT to all orders
Cheques made payable to
RSD Connections Ltd, Dept ACU10, PO Box 1, Ware, Herts.
Tel: 0920 5285 66284

POOLSWINNER

THE ULTIMATE POOLS PREDICTION PROGRAM

- MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available - 22000 matches over 10 years. The database updates automatically as results come in.
- PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- ADAPTABLE** Probabilities are given on every fixture - choose as many selections as you need for your bet. The precise prediction formula can be set by the user - you can develop and test your own unique method.
- SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- DISC/MICRODRIVE COMPATIBLE** Tapes supplied with conversion instructions.
- PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

PRICE £15.00 (all inclusive)

AT LAST! No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish fixtures for 1986/7. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.

POOLSWINNER with FIXGEN £16.50 (for both)

FIXGEN 86/7

NOW AVAILABLE

Boxed, with detailed instruction booklet

COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM

NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike.

You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc. It outputs most likely winners, good long odds bets, forecasts, tricast etc. The database includes vital course statistics for all British courses. You can update the database - never goes out of date.

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

ALL PROGRAMS AVAILABLE FOR: AMSTRAD CPCs, AMSTRAD PCWs (ADD £3.00), All BBCs, All SPECTRUMS, COMMODORE 64/128, ATARI (48K+), SINCLAIR QL.
Supplied on tape (simple conversion to disc) - except PCW (on 3" disc) and QL (on microdrive)

Send Cheques/POs for return of post service to...

selec SOFTWARE
phone 24 hrs
37 COUNCILLOR LANE, CHEADLE, CHESHIRE. ☎ 061-428 7425
(Send for full list of our software)

SCHOOL SOFTWARE LTD.

Give your kids that extra edge. Don't settle for less when you can have the best.
NOW ONLY £12.95 discs & £9.95 cassettes.
£2 P&P (includes airmail worldwide)

Playschool (3-8)
Teaches the use of number, simple arithmetic, letters, shape recognition, keyboard skills and art. Learn with Superkid.

Music Invaders (7-adult)
Music composer and piano player. Excellent graphic presentation, compose up to 1000 notes. Simple to use. "Incredible value for money".

Magic Maths (4-8)
Here at last is a maths program which really does merit the term 'educational game'. Dealing with addition and subtraction, it brings new standards to educational software.

Maths Mania (8-12)
The first addictive maths game for this age group. Concentrating on multiplication and division, it gives hours of fun. Don't settle for less.

Music Tutor (7-adult)
A comprehensive music course linked to grade one theory.

Basic Geometry (9+)
Excellent use of the computer in introducing this difficult subject. A tutor at your own keyboard.

Better Spelling (9-12)
The market leader in spelling programs giving you 16 menu options to choose from.

Better Maths 1 (12-16)
Using excellent graphics this course will really benefit the learner. If you want a maths course don't settle for less and be disappointed.

Physics
The most highly rated program for the 12 to 16 year old. Using superb graphics it has courses on nine sections of Physics.

Chemistry
The ideal program to give a kid an edge in this subject. Has courses on 8 important sections of Chemistry for 12 to 16 year olds.

Biology
Learn key definitions and pit your wits against the computer on topics such as cells, mammals photosynthesis, respiration, reproduction and so on. Written by professional author like all our programs.

Geography
A specialist study of weather and climate and related topics. Exceptionally detailed.

ALSO FOR PCW 8256
VISA HOTLINE ring 010/353/61/27994 (UK)
Mail order only. Send cheque/p.o./Visa no. for immediate delivery
Meadowvale Estate, Raheen, Limerick, Ireland.
Telephone: (061) 27994, (U.K.) 010-353-61-27994

SOFT INSIGHT (DISCOUNT SOFTWARE)

ALL PRICES INCLUDE FREE FAST DELIVERY IN THE U.K. ONLY. PLEASE ADD 70P PER TAPE ON EUROPEAN ORDERS AND £1.00 PER TAPE ELSEWHERE.
New titles arriving every day, please ring for details
Access orders/enquiries tel: 01-305 0521.

AMSTRAD CASSETTES	RRP	Our PRICE	Graham Good's Cricket	RRP	Our Price	Theatre Europe	RRP	Our Price
Price of Magic	9.95	7.95	Stainless Steel	9.95	7.95	Spy Vs Spy	14.95	12.00
Fourth Protocol	14.95	12.00	Kung Fu Master	9.95	7.95	Fighter Pilot	14.95	12.00
Paperboy	9.95	7.95	Desert Fox	9.95	7.95	Cyrus II Chess	14.95	12.00
Starstrike II	9.95	7.95	Night Games	9.95	7.95	3D Grand Prix	14.95	12.00
Frost Byte	9.95	7.95	Johnny Reb 2	9.95	7.95	Raid	13.95	12.00
L'Affair Vera Cruz	9.95	7.95	Sai Combat	7.95	6.20	PyraDev	29.95	22.95
Alter Shock	9.95	7.95	Pro Tennis	8.95	7.00	6 Computer Hits Vol. 2	14.95	12.00
Trivial Pursuit	14.95	12.00	International Karate	6.50	5.70	Strike Force Harrier	14.95	12.00
Powerplay	9.95	7.95	Cauldron 2	8.95	7.00	Green Beret	14.95	12.00
Dan Dare	9.95	7.95	Nexor	8.95	7.00	V	14.95	12.00
Rebel Planet	9.95	7.95	Dynamite Dan 2	8.95	7.00	Strangeloop+	14.95	12.00
Tobrük	9.95	7.95	Lazer Genius	14.95	12.95	Tank Commander	14.95	12.00
Batman	8.95	7.50	DISC BASED SOFTWARE			Zoids	14.95	12.00
Bomb Jack	8.95	7.50	Fourth Protocol	17.95	13.95	Heavy on the Magic	14.95	12.00
Tomahawk	8.95	7.95	Vera Cruz	14.95	12.00	Equinox	14.95	12.00
Green Beret	8.95	7.50	Trivial Pursuit	19.95	15.95	Single CF2DD 3" Disc	6.50	
Colossal Adventure	9.95	7.95	Johnny Reb II	14.95	12.00	Box of 10	60.00	
Adventure Quest	9.95	7.95	Dan Dare	14.95	12.00	PCW 8256 SOFTWARE		
Dungeon Adventure	9.95	7.95	Int. Karate	12.95	10.00	Tomahawk	19.95	15.95
Snowball	9.95	7.95	Desert Fox	14.95	12.00	French Mistress	19.95	16.95
Lord of Time	9.95	7.95	Tobrük	14.95	12.00	German Master	19.95	16.95
Return to Eden	9.95	7.95	Monopoly	14.95	12.00	Spanish Tutor	19.95	16.95
Emerald Isle	6.95	5.40	Cluedo	14.95	12.00	Bridge Player	19.95	15.95
Red Moon	6.95	5.40	Mini Office	19.95	15.95	Fairlight	19.95	15.95
Fighter Pilot	9.95	7.95	Spin Dizzy	14.95	12.00	Superclac 2	49.95	44.95
Scrabble	9.95	7.95	Fairlight	14.95	12.00	DR Graph	49.95	44.95
Monopoly	9.95	7.95	Ping Pong	14.95	12.00	DR Draw	49.95	44.95
3D Grand Prix	9.95	7.95	Tau Celi	14.95	12.00	Hitch Hikers Guide to		
Battle of Britain	9.95	7.95	Get Dexter	14.95	12.00	the Galaxy	24.95	22.95
Elite	14.95	10.00	Doomsday Blues	14.95	12.00	3D Clock Chess	19.95	15.95
Worm in Paradise	9.95	7.95	Way of the Tiger	14.95	12.00	C Compiler	49.95	44.95
Theatre Europe	9.95	7.95	Tomahawk	14.95	12.00	Pascal MT/+	49.95	44.95
The Music System	14.95	12.00	Boulder	14.95	12.00	Card Box	99.99	90.00
Winter Games	9.95	7.95	Batman	14.95	12.00	Touch-N-Go	24.95	21.95
Rescue from Fractus	9.95	7.95	Single CF2 3" disc	4.50	4.50	Batman	14.95	12.95
Spin Dizzy	9.95	7.95	Box of 10	40.00	40.00	G. Good's Cricket	19.95	12.95
Turbo Espit	8.95	6.71	Masterfile	29.95	24.95	Jewels of Darkness	19.95	12.95
Spitfire 40	9.95	7.95	Mastercalc	29.95	24.95	Lord of the Rings	24.95	19.95
Tau Celi	9.95	7.95	Graphic Adv. Ctor	24.95	19.95	Blackstar	14.95	12.00
Lazer Basic	14.95	11.95	Sold A Million	14.95	12.00	SAS Assault	14.95	12.00
Lazer Compiler	19.95	15.95	Computer Hits 6	14.95	12.00	Scrabble	19.95	15.95
Mini Office II	15.95	12.95	Dun Darach	14.95	12.00	Boulder	15.95	12.95
Way of the Tiger	9.95	7.95	Marsport	14.95	12.00	*DENOTES NEW TITLES THAT ARE AVAILABLE IN THE NEAR FUTURE. PLEASE RING FOR CONFIRMATION.		
Get Dexter	9.95	7.95	Battle of Britain	14.95	12.00			
Nick Faldo's Golf	9.95	7.95	Scrabble	14.95	12.00			
Jack the Nipper	9.95	7.95						

WHY NOT COME AND PICK UP YOUR SOFTWARE PERSONALLY FROM OUR DISCOUNT SHOP AT 3 STATION CRESCENT, WESTCOMBE PARK, BLACKHEATH, LONDON SE3 7ER. RIGHT OUTSIDE WESTCOMBE PARK RAILWAY STATION ON THE SOUTHERN REGION. OPEN ON SATURDAYS ONLY FROM 10.30 TILL 6.00PM.

3 STATION CRESCENT WESTCOMBE PARK BLACKHEATH SE3 7ER.

MISSION ELEVATOR

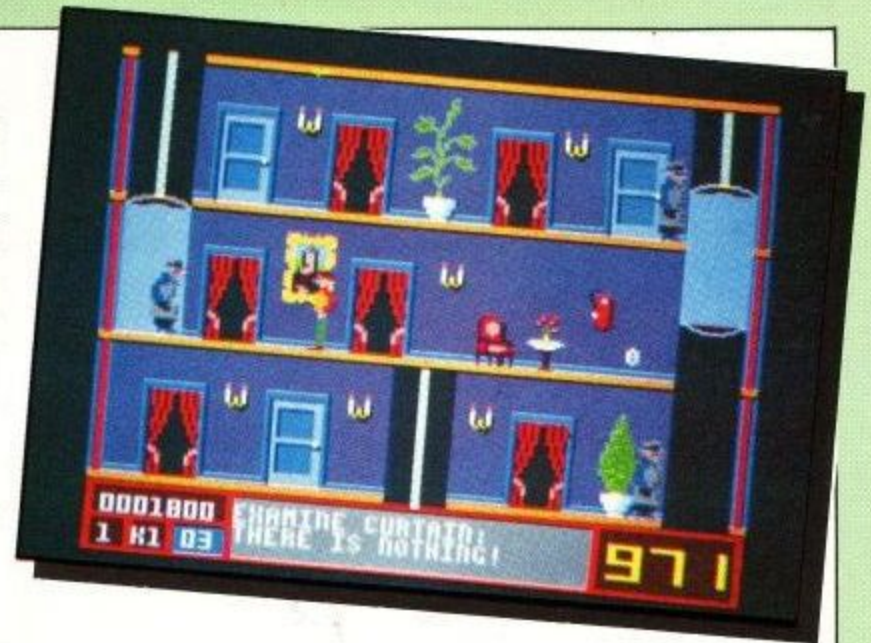
The first task in this spy caper is to find the English instructions hidden away in the densely packed and fiercely multilingual information sheet. Once this is achieved, the story unfolds. A hotel has been the cover for the Central Intelligence units of the FBI (eh?), but a hostile Secret Service unit has the place under siege. They hope to coerce the US Government into releasing their buddies by threatening to blow said hotel sky-high with a bomb that's going ka-boom real soon now.

Good guys inside this four star can of worms located the bomb, and the passwords to its electronic detonator. However, the bad guys caught on and disposed of the men in white hats. But the dispoosees have managed to hide the info all around the place.

At this point Control decide to send in their superagent, called (no, don't laugh) Trevor. Imagine . . . "My names Bond. Trevor Bond." Giggle. Straight face now, because Our Trev's in dead schtuck. He has to get to the bomb on the 62nd floor, and in so doing get all the bits of the password. Trouble is, the hotel has some weird architecture, and every eight floors there's a locked emergency exit. To pass this, Trevor must find the porters for those eight floors. And the porters, sensibly enough, have locked themselves in rooms.

So Trevor has to find the master key. Each and every floor is swarming with enemy agents, called Trevorski, just dying to squeeze a shot off at the bod of our hero. So even with the master key to open the doors to find the porter to cross the exit to get to floor 62 things ain't easy. It's a good idea to bear in mind the ancient Chinese adage, "Not only porters hide behind locked doors". And some people have vital information, but are reluctant to leak the lentils without being bribed. Together with the fact that clueettes are scattered everywhere, you can see that Our Man In the Hotel has his work cut out. And you're him.

The action is presented in a cutaway view of three floors of the Terrorist House Forte. As you move up and down via the elevators, the screen pans to follow you. Enemy agents spring



forth in profusion from behind curtains and make for your floor. There they pull a pistol and take potshots at you. You can crouch or leap out of the path of the bullet, and fire back. While you're crouched down you can examine the various objects scattered around and about.

Everything is nicely portrayed on screen. The enemy have an evil, sordid air about them, the chairs, tables, pictures and other hotel-ish items are very convincing and those Doric columns . . .

All aspects of the game are controlled by joystick or cursor keys, including little games of dice and poker which the computer throws at you from time to time to help you keep your slush fund liquid.

The animation's not bad at all, the action's brisk and there are lots of little surprises to keep the interest going. An action game with lashings of strategy, spiced with humour.

Author: EuroGold
Price: £9.95

Nigel

Gosh, another mission. Does this make me a missionary? Well at least this game is something new. A madcap, shoot everything in sight, rush around the screen game or a find the objects and use them in the right order adventure? The choice is yours.

The game starts with a naff print out of your orders but don't switch off. This is followed by some superbly smooth fast graphic action. You must search the large

hotel for objects and clues to complete your task. Out to stop you are a gang of secret agents with an unlimited supply of manpower. Shoot 10, shoot 20, shoot 50 and they still keep coming. Don't they worry about paying pensions in this game?

The pace of the game is reminiscent of Rambo, Green Beret and so on. So if you liked them, you'll like this.

19/20

Liz

Games from unknown software houses should be treated with caution, but the excellent stuff from France which has been migrating this way in recent months shows that the Europeans can code. This first immigrant from Germany heralds the birth of the EuroGold label.

The people who wrote this know their stuff. It's a

shame they went for Mode 0 - I always feel that the higher resolution of Mode 1 merits the sacrifice of colours. The game scores in that you can play the whole thing with the joystick, although using it to enter your name is a pain.

Still, a fun game with plenty of "one more go" appeal.

18/20

Colin

It's Eurospy time, folks. Our dashing agent dashes around an hotel, getting the gen to defuse a bomb. On the way bullets, bribery and booze play a part in getting past the swarms of ne'er-do-wells. Quick wits and red-hot reactions won't hurt, either. And the graphics are delightful.

If you ever get bored with the game (I haven't yet), you can always wonder why the Danish loading instructions look uncannily like English . . . You'll always get a lift from this one.

17/20

STAR STRIKE II

If there are any extra-terrestrials sniffing around Planet Earth, they're probably pretty paranoid by now. Since Space Invaders first soft-shoe shuffled their way down to a phosphor planet, the computer games industry has had the Aliens in its sights.

Starstrike II continues in this well-worn vein. The Outsiders, bless their little plutonium socks, have been routed from Federation space where, one presumes, they were up to no good whatsoever. Now Federation command is sending Starstrike II ships to knock out what remains of the Outsider's home planet's defence before marching in to liberate them. They probably won't appreciate being liberated, but that's not your problem.

Your problem is to penetrate the defensive screens thrown up around the planets, knock out any spaceships that happen to want to stop you, and knobble computers, reactors or whatever else keeps the planets going.

There are three types of planet, industrial, military and agricultural. Military planets have a central battle computer and are heavily defended. Industrials are dependent on the obligatory nuclear reactor and are less well defended. Agricultural planets have a computer which looks after all the robot farmers, are easiest to get to and probably feed millions. That's not your problem either. War is hell.

Your controls on this noble quest are fairly simple. Looking at your spaceship you can see a speed gauge and indicators for fuel, laser life and force field strength. There's also the symbol of the star system you're currently attacking, and the type of planet enjoying your attentions.

You can hop from system to system by using your support unit. This also refuels the ship. On arrival at a system, and having left the comfort of your unit, you can choose a planet to attack. If you choose a military planet the first thing you'll encounter is an orbiting space station. Shoot bits off it, dock, and you'll have a short-cut past the extra shields that these planets have. Otherwise, you'll have to run the gauntlet.

The shields are planes with small, heavily defended openings in them. You can fly straight through the planes but



this depletes your force-field something rotten, so it's a better notion to fly through the openings and zap anything that moves.

Then comes the dogfight, just like any other 3D dogfight. Following that, fly along a trench zapping ground installations (sounds familiar?) and then plummet down a ventilation duct to dispose of the Very Important Hardware at the bottom. Ahem.

During a skirmish with other ships a head-up display clicks on, giving ship type, distance and inclination. Elite-like, an exploded ship can drop a fuel pod which you can pick up and use.

All the various stages are well and truly 3D. Quite the most impressive parts of the game are the solid geometric bits and bobs that float around the Lesser Magellanic Cloud (chez Outsiders). In that respect it's quite as good as Elite. But it has none of the subtleties that hallmarked that game - it's a zap-em-up pure and simple. And if that's what you want, that's what you'll get.

Author: Firebird Gold

Price: £9.95

Nigel

Ooh eck, another galaxy to defend from galactic tyranny. There is a lot to shoot at, the rotating space station is very impressive, the walls in space very difficult to navigate through and the deep space battle makes Starion look like 3D invaders.

Just as you master one section there is a new challenge.

Once you are good enough to last a few waves you find that it takes a very long time to play Starstrike II, so a save game option would have been useful.

Elite without all the boring space trader bits.

17/
20

Liz

I'd been waiting so long for this game that it couldn't possibly have lived up to my expectations. I had seen the Spectrum version and watched demos at computer shows. Real Time has an enviable reputation, and with clever maths and efficient coding produces video effects that George Lucas would be proud of. These make you feel as though

you are there at the helm of a small spaceship, fighting the foe.

Starstrike I was good but suffered from being in Mode 0. This has crisp mode 1 graphics, with stipples to add the necessary colours and make objects look solid. Technically brilliant, suitably fast and generally the biz.

19/
20

Colin

Cor - unbridled zapping! Awesome graphics! Galactic jingoism! Whizz around zapping pugnacious polygons and generally making the place radioactive. If anything, Real Time has gone overboard on the rotating solid thingies, as your ship

feels sluggish and unresponsive and the gameplay is so shallow.

OK if you're not tired of Star Wars and Starion, but me, I'll stick to Elite.

12/
20

POWERPLAY

THE GAME OF THE GODS



The fantasy quiz game that transforms you and your opponents into mighty ancient gods. You control four great warriors fighting for your honour in the Temple of Apollo. Demonstrate your superior knowledge and they will transform into stronger beings – but you must master the use of 'mutations', 'teleports' and 'challengers' to emerge from the battle victorious!

"Powerplay is exceptionally well presented." "The most original of all such games currently available and unlikely to be matched."

A & B Computing March '86

"Powerplay is an outstanding piece of software. It challenges players mentally, but never becomes a bore." "... here's a game brimming over with originality."

Personal Computer World Feb '86

BBC version shown

- A Strategic Board Game for 2 to 4 players
- Arcade style 3D graphics action
- Rapid access to over 2000 questions on four topics
- Special facility to create your own questions

On CASSETTE at £9.95 for
COMMODORE 64
AMSTRAD CPC

On DISC at £14.95 for
BBC B
COMMODORE 64
AMSTRAD CPC

Available at good computer stores or direct from Arcana Software Design



**ARCANA
SOFTWARE
DESIGN**

ARCANA SOFTWARE DESIGN
AVONDALE WORKSHOPS
WOODLAND WAY
BRISTOL BS15 1QH
TEL: (0272) 48401

Please quote this magazine if ordering directly



ADDS ORDER

£6.99 incl
MANUSCRIPT HOLDER



Create more space and reduce VDU operator eye strain. This new holder fastens to the terminal holds manuscripts at the optimum angle for viewing and can be tilted away when not required.

FREE VDU screen cleaning kit with every order

ADDS VISION

£29.99 incl
SCREEN FILTER



Fits all models. Please enclose details of Machine No. and whether mono or colour monitor.

The Polac filter – the VDU operator's dream. It eliminates reflection, reduces eye strain, defines character more exactly and enhances accurate reading. Simple, easy – Fit one for clearer vision.

FREE VDU screen cleaning kit with every order

ADDS SPACE

£5.95 incl
NEW DIAL-A-DISK



FREE CF2 Disk when ordering 10 disks at same time.

The Dial-a-Disk breakthrough. At last Amstrad 3" Diskettes can be stored, protected and retrieved as you wish in a robust, convenient and innovative container and display panel combined.

FREE VDU screen cleaning kit with every order

ADDS MEMORY

£34.50 for 10 incl
FREE CF2 Disk when ordered with a Dial-a Disk Storage Case



ALSO AVAILABLE 5 PACK £19.44 incl

What you forget, your computer remembers. But don't forget that SBS supplies Amstrad Diskettes at attractive prices with a rapid delivery service.

FREE DISC

Computer Addware is quite simply all the sundries which enhance the performance of your Amstrad computer system. We, at SBS, have coined the word because we feel it says it all about what a difference these accessories make. The pictures show only a fraction of what we can add to your system and we operate a fast professional distribution service to supply your needs. Contact SBS Data Services because it's not just computers which can do their addition, fast.

ALL PRICES INCLUDE VAT — PLUS — FREE NATIONWIDE DELIVERY

PLEASE SEND ME	DESCRIPTION	QTY	VALUE	I ENCLOSE A CHEQUE PAYABLE TO
<input type="checkbox"/>	DIAL-A-DISK			SBS DATA SERVICES LTD
<input type="checkbox"/>	MANUSCRIPT HOLDER			NAME _____
<input type="checkbox"/>	3 INCH DISKETTES			ADDRESS _____
<input type="checkbox"/>	SCREEN FILTER			TEL _____
<input type="checkbox"/>	TOTAL ORDER VALUE			

FOR IMMEDIATE DESPATCH @ OUR 24 HOUR HOT LINE (0273) 726331 (10 LINES)

SBS Data Services Ltd
UNIT 3 - CLARKS INDUSTRIAL ESTATE - NEWTOWN ROAD
HOVE - SUSSEX - BN3 7BA - TEL (0273) 726331 - TELEX 678226

IT ALL ADDS UP TO REAL VALUE

DEACTIVATORS

The most dangerous job in the Air Force is bomb disposal, so quite sensibly they get robots to do the dirty work for them. There is no compassion for a robot – but that is your vocation in life.

The building is full of bombs – there is probably some good reason for this, but you have to save it. Unless you can use your droids to take the bombs to a window and throw them out. What the neighbours will think is irrelevant.

The building is in 2D, across and down, but the rooms are in 3D. As your robot moves around a room he (are robots male?) gets convincingly larger and smaller. The building is full of walls – otherwise the ceiling falls down – and not all the walls have doors in them. Some of the floors have holes which allow you to fall from level to level and others have poles which help your metal man climb up levels.

To jump from one area of the building to another there are transporter pads. Unfortunately whoever planted the bombs also disabled the computer which operates the transporters. To get them working again you'll have to find the missing circuit boards and repair the computer. Even with the transporters working you cannot move a single 'droid through the whole building. And some of the bombs are not accessible to the robot which can get to the external window.

To get a bomb from the depths of the building to the robot which can then dispose of it you have to partake in a cross between Russian roulette and pass the parcel. Your robot must pick up the bomb and throw it through an internal window to another robot, which can then take it to the next robot or to the exit.

To get the bomb through the window you need to line yourself up on the tiled floor and select the correct angle of elevation. Bombs are fragile, drop them four times and BOOM – the bomb, robot and room are all destroyed. Catching the bombs is made more difficult by varying gravity levels in



different rooms. In later buildings rooms rotate and make things very confusing.

The hardest thing of all is avoiding enemy droids. These follow you from room to room, even if you use a transporter. Just touching one spells instant doom. Your only escape is to run away, jumping through holes in the floor until your pursuer finally cracks. Some doors are electrified, as are some of the fireman's poles – you'll need to fix them before worrying about the bombs.

The game gets progressively harder and should satisfy the most dexterous games player.

Author: Ariolasoft
Price: £8.95

Nigel

These robots are not my cup of oil. You can't shoot the enemy and getting the transporters to work is a fiddle. There is nothing more frustrating than running from a robot, jumping on a faulty transporter and re-materializing in the same place to greet instant death.

Maybe if you played the game from the robot's viewpoint it would be more exciting, albeit even more difficult to play. I found the selection of which robot you controlled awkward and soon hung up my joystick.

9/20

Liz

Deactivators is good because it is original, but it is not exciting – more absorbing and mind taxing. It is certainly a game which takes some learning and should not be attempted without reading the instructions. You need to learn the layout of the buildings, making a model in your head – so adventure

fans should feel at home.

I found the game too hard, all that running away from robots made me feel like Dr Who. The sense of achievement on finishing the first level is worth the graft.

16/20

Colin

I found this horrifically difficult. It was only the cuteness of the metal men which made me continue – that and the insistence of the editor.

Deactivators is a thinking game. You need to have a good look around the building, work out your routes and then execute the moves. It's the game that goes on inside your head which matters – what happens on the screen is

less important.

That is not to say that the graphics are poor, they are competent and effective, adding to the game. Deactivators is not something you can load up for a quick zap – more an evening's entertainment.

13/20

CHATTERBOX. * NEW FROM K.D.S. For the PCW ***** £150

Complete communications system. Comprehensive features inc. RS & Centronics interface & multi-standard baud rate modem. Auto Dial/Auto Answer. All in one self-contained unit.

RS232 & CENTRONICS INTERFACE (For the PCW) £53

Connect to other printers, computers & modems. Items below are for the 464, 664 and 6128 models.

CENTRONICS PRINTER "T" SWITCH. (can be used on PCW with RS/Centronics interface). £22

Connect 2 printers (inc. Daisy Wheel) to your Amstrad. Switchable under software control.

POWER CONTROLLER. (Can be used on PCW with RS/Centronics interface). Featuring 8 switching relays. Up to 5 amps AC/DC. £40

MINI-MAX. *NEW FROM K.D.S.***** £70

Quality modem for use on any computer with RS232 interface. Has multi-standard baud rates and Auto Dial/Auto Answer. Attractively cased.

CPC SERIAL INTERFACE * NEW FROM K.D.S. ***** £40

Connects to most modems, other computers and serial printers. Multi-standard baud rates. Comms. Pak software built in on ROM (features similar to those of the Communicator 104).

SIDEWAYS ROM BOARD £26

Now new 5 way board. Takes 8 or 16K ROMs

8 BIT PRINTER PORT £17

Send all character codes (i.e. 0 to 255) to your printer. Uses standard Print 8 commands etc. Unique design. No power input required.

COMMUNICATOR 104 (CPC) £153

Complete communication system with built-in interface. Multi-standard baud rates, Auto Dial/Auto Answer etc. Comms. Pak software built in on ROM. Contact bulletin boards, Prestel, BT Gold, Micronet etc.

VAT TO BE ADDED TO ABOVE PRICES

Send cheque or P.O. with order.

Free MicroLink subscription with every modem purchased. Send S.A.E. (9" x 4") for details or S.A.E. (10" x 7") if free communications guide required as well.

K.D.S. ELECTRONICS, Dept. G.
15 Hill Street, Hunstanton, Norfolk.
Tel: 04853 2076



LOAD & RUN

THE MAIL ORDER AMSTRAD SPECIALISTS
Send your Cheques/POs (Sterling only)
LOAD & RUN, DEPT ACU2 P.O. BOX 123
DARTFORD DA1 5AA

RING (0322) 73128 FOR ENQUIRIES + HOT LINE ORDERS

NOW IN

THE PROTO 3" DISC BOX

RRP £6.99

SPECIAL SUMMER OFFER

£6.50

PACE MODEM & COMMS PACK FOR CPC's

RRP £172.50

SPECIAL SUMMER OFFER

£159.95

MIDI MUSIC SYSTEM

as seen on our stand at the User Show and reviewed in this magazine recently

RRP £129.95

SPECIAL SUMMER OFFER

£99.95

3" AMSOFT DISCS

£37.95 for box of 10

+ ALL THE LATEST ON OUR PRESTEL PAGES



ALL PRICES INCLUDE P&P + VAT E.&O.E.



A MICROPPOWER
AMSTRAD TARI CORN FOR YOUR COMPUTERS

YORKSHIRES LEADING AMSTRAD SPECIALIST

PCW8256/8512

- ★ Largest selection of business software
- ★ User training courses
- ★ Free starter pack (worth over £50) with every PCW8256 bought
- ★ Call and see us for help and advice

COMPUTERS

PCW 8256	399.00+VAT
PCW 8512	499.00+VAT
CPC 6128 Colour	347.78+VAT
CPC 6128 Green	260.83+VAT

PRINTERS

EPSON, CITIZEN, NEC, SAMLECO, JUKI etc.

ACCESSORIES

LIGHT PENS, RS232, PCW MEMORY UPGRADES, PRINTER RIBBONS.

SOFTWARE

SAGESOFT, NEWSTAR, MAP, AMSOFT, PLUS LARGE SELECTION OF GAMES.

Northwood House,
North Street, Leeds 7.
Tel. (0532) 458800



DISCOUNT SOFTWARE

CHECK OUT THESE PRICES

GAMES	BUSINESS & TUTORIAL	DISC BASED	
Amdrum - New	31.95	Guide to Basic 1 or 2	16.95
Latin Kit for Amdrum	3.50	Masterfile	19.95
Electro Kit	4.50	Mastercalc	19.95
Batman	6.95	Screen Designer	11.95
Elite	11.75	Protex	17.50
Jack the Nipper	6.75	Hisoft 'C' Compiler	29.95
Jewels of Darkness	11.50	Mini Office II	11.95
Knight Games	8.95	Rembrandt	11.95
Ghosts & Goblins	6.75	Office Mate	13.50
Monopoly	7.50	Office Master	20.95
Nexus	7.50	Maxam	17.50
Powerplay	7.50	Tasword 464	15.95
Scrabble	7.50	Tasprint (cass)	8.50
Speech	7.50	Tascopy	8.50
Spiritfire 40	7.75	Pitman Typing Tutor	7.75
Turbo Esprit	6.75		
Winter Games	7.50		
Who Dares Wins II	6.95		
		CP/M	
		Dr Draw or Dr Graph	43.95
		Hands On (any)	21.95
		Devpac 80	34.95
		Pascal 80	34.95
		New Word	81.95
		Hisoft 'C++' Compiler	34.95
		Touch & Go	20.95
		Caxton Cardbox	52.95
		Supercalc 2	42.95
		At Last	43.95
		Data Gem PCW	34.95
		Zork I (or 2 or 3)	19.95
		Enchanter	19.95
		Hitch Hikers Guide	23.95
		Tomahawk PCW	16.95
		Batman PCW	12.95
		BOOKS & MANUALS	
		Concise Basic Spec	16.95
		Concise Firmware 464	17.50
		The Amstrad CP/M Plus	12.95
		As above - loose leaf	18.95
		EPROMS	
		Maxam (machine code ass/diss)	34.95
		Protex (word processor)	34.95
		Utopia (utility rom)	25.95
		Prospell (spelling checker)	29.95
		Promerge+ (mail merge)	29.95
		EPROMS	
		Micropower: Programmers Toolbox	18.50
		Mailing List & Club Membership	18.50
		Discpower (utility rom)	18.50
		Rombo Rom Board (holds 8 Roms)	33.95

LABELS: Fanfolded -1 across x 1,000 OUR PRICE £6.25
2 across x 2,000 OUR PRICE £10.95

ALL PRICES INCLUDE POSTAGE, PACKING & VAT IN THE UK
OVERSEAS ORDERS WELCOME - PLEASE WRITE FOR EXPORT PRICES
WRITE FOR A FREE FULL PRICE LIST - LATEST ON PRESTEL *25888
PLEASE SEND CHEQUES/POs TO:

M.J.C. SUPPLIES, (ACU)

'Scoja', London Road, Hitchin, Herts SG4 9EN.

Tel: (0462) 32897 for Enquiries/Orders - out of hours Answerphone



MISSION OMEGA

There's a huge alien spacecraft hurtling towards Earth, codename Omega. In one hour it will be blown out of existence by Earth defence systems. As the man on the spot - you happen to be commanding the nearest vessel - you are given orders to intercept and explore the spacecraft. To do this you must build a number of robots capable of exploring and overcoming the defences of the spacecraft and then supervise the mission from your vessel.

Robot games must be coming into vogue, this is the second we've had this month. The game is of the icon and menu driven sort where you drive a little arrow around and press fire to select an option.

You start on the main screen where you can select either map, build, control or launch mode. Launch means you've completed the search and the missiles can be launched. If you do this before the search has been completed you have failed the mission but it does give you a score.

Map shows you maps of the space craft, one small and divided into quarters, the other filling the rest of the screen and showing an enlarged version of a quarter. Only the explored parts of the ship are shown on the map. The large map shows the position of each of your robots. Something that isn't mentioned in the instructions is that pointing to a place that has been explored and pressing fire will show the room at full size with all its features.

The build section allows you to create and name a number of robots. You have a limited amount of material from which to create robots so you can either have a small number of heavy robots or many light ones. They can have different speeds, weapons, power units, methods of locomotion and sensors. Different sensors have different ranges.

The control section allows you to command the robots in the search of the ship. Selecting Manual, you can move the robots with the joystick and press fire to shoot. There are two other methods of control. Automatic sets the robot off exploring under its own steam. (Actually there isn't a steam driven robot. A real oversight on the programmers' part).

When it can find no more rooms to explore it will stop and



report. Also, any nasty little alien robots that it finds it will engage in combat, which is useful as combat is a little tricky on manual. Finally, there is program mode which can be used to send the robot to an appointed place. However, you can only send the robot as far as the range of its sensors.

There are lots of things to find on the ship. Some are to be picked up and these are displayed on the control screen when a robot collects them. You can also find transporter pads to get to other quarters of the ship, remarkably (for an alien ship) they are marked Otis - the lift company. Some corridors are barred by force fields. There are devices dotted around the ship that deactivate these, but not necessarily close at hand.

There are various options to choose. A continuous, 'hurry up' tune plays throughout the game but it can be switched off. Every screen has colour bars which can be selected and the colours changed. And the game can be played with either keyboard or joystick.

Author: Mind Games
Price: £9.95

Nigel

I enjoyed playing Mission Omega, finding it quite addictive. Obviously the secret of success is to build the right sort of robot. More information about this would be nice but the instructions are very sketchy indeed. However, most things can be worked out in time.

My only quibble is that I would have liked the robots

to be a bit more programmable. If you could direct one to go to a certain place, or home in on another robot, it would have made things a little easier. It takes quite a long time to play a game so there are hours of enjoyment in it.

17/20

Liz

It is difficult to have a fair crack at a game when the instructions conspire not to instruct. I remember reading a copy of Byte magazine about five years ago which described a game where you could design robots and then set them to do battle in a computer generated world. You could program your little tank and then trundle it off to do battle with a

friend's tank.

When I first saw Mission Omega I hoped this was a version for the CPC. Wrong, your robots are all on the same side and difficult to program. Marvin, where are you?

10/20

Colin

Mission Omega starts promisingly enough. First build your robots, then send them on an exploration of a giant spaceship. Trouble is, the instructions give very few clues as to what to do, what you're looking for or how to look for it.

The game degenerates into an endless wander around a

maze, where the only thing that happens is that your batteries run down.

There's no doubt it looks swish, but beneath that icon-pointer-window business there isn't much of a game.

14/20

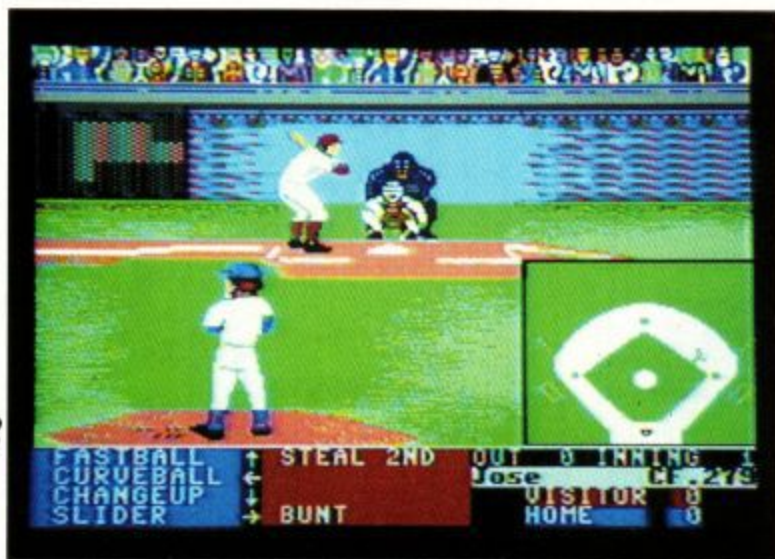
HARDBALL

TAPE
£9.95

DISC
£13.95

© Accolade Inc.
Soft 06063/07063

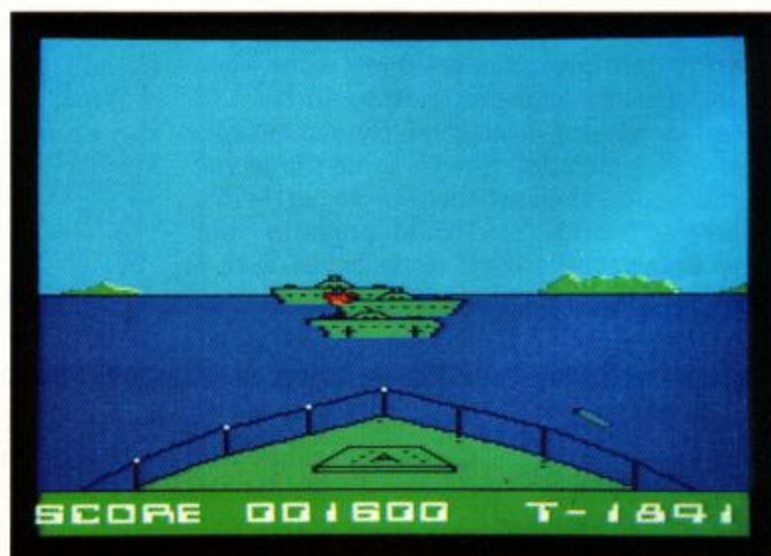
(Keyboard or Joystick)



Commodore screen shots shown

Quite simply the most realistic sports simulation game of all time. Here's computer Baseball with 3-D full-size animation so real it almost looks like real TV.

Hardball puts you in the field as both player and manager with control of physical play and strategic decisions, testing your split-second reactions and your planned approach to the game.



TAPE
£8.95

DISC
£12.95

James Software
Soft 06031/07031

(Keyboard or Joystick)

You are responsible for the defence of your homeland against a ruthless armed enemy. You have at your disposal a number of known nuclear weapons to enable you to carry out your mission. Ranging from the Falcon destroyer - the last of the great battleships, to the Anti-missile missiles as a last line of defence

NUCLEAR DEFENCE



17 Beam Street, Nantwich, Cheshire CW5 5NA.

PCW 8512	P.O.A.
PCW 8256	P.O.A.
FD2 Disk Drive	P.O.A.
6128 Colour	P.O.A.
6128 Green	P.O.A.
PC	P.O.A.
Memory Upgrade	P.O.A.
Price List Control Database	P.O.A.

All Amstrad Accessories Available.

Full Helpline Available

Tel: 0270 629758

Prices Include VAT & Delivery



**PCW 8256
MEMORY UPGRADE ONLY £25
all inclusive**

The following advantages can be gained by having a larger ram disc. The standard ram disc is 112k, the memory upgrade increases this to 368k.

As you will have found copying a disc for back-up purposes involves four disc changes, with the ram upgrade a copy is completed in two, because the whole disc can be copied into ram and then copied to the back-up disc.

You will also find that programs which require two disc drives can be run on a single disc drive PCW 8256 with the up-grade. This is done by creating a disc with the minimum number of files which are required to run the program, up to a maximum of 368k. When you start PIP all these files into Drive M: and use Drive A: as your data disc, using this method the program will be found to run faster as the system will not have to stop and read the program disc, as the program will be resident in the very fast ram disc.

This upgrade comes complete with easy to follow instructions complemented with photographs. The 8 upgrade integrated circuits come preformed for easy insertion and are tested prior to dispatch.

To get your Ram Upgrade Kit.

Send your Cheque or Postal Order made payable to MEAC Designs to:

**MEAC Designs, Dept. AC, 3 Little Croft, Yateley,
Camberley, Surrey GU17 7BU**

SAE with any enquiries please

AMSTAT AMSTRAD STATISTICAL AND MATHEMATICAL SOFTWARE

Fully available for BOTH PCW and CPC ranges
AMSTAT1 (V1.21) - means, s-devs, var, skew, kurt, 1-sample, 2-sample, and paired t-tests, 1-way-ANOVA inc. single/multiple cont. intervals, 2-way-ANOVA, correlns, regressions, histograms, scattergrams, transformations, file storage and retrieval, output to wordprocessor file, manual. Any number of variables to a total of 500 (+) data points.

AMSTAT2 - 27 nonparametric tests in 4 programs providing a "complete Siegel". Binom., Chsq. (3), Kolm-Smin (2), Runs, McNemar, Sign, Wilcoxon, Walsh, Randomisation(2), Fisher, Median (+extension), Mann-Whitney, Wald-Wolfowitz, Moses, Cochran, Friedman, Kruskal-Wallis, Contingency, Spearman, Kendall, Kendall partial, Concordance. "tremendous value" - Tony Kandle, Popular Computing Weekly, 8-14th May 1986.

"I now give it an unreserved recommendation..." - Jo Stork, Business Computing with the Amstrad, July 1986.

AMSTAT3: FORECASTING

Business oriented mathematical and statistical software: Lin. and Polynomial regression, Trend and Seasonal Variation, Multiple Regression Analysis, Transformations, Exponential Smoothing, Adaptive Filtering, Graphic display, full printout, manual suited to immediate use and for teaching.

AMSTAT4: RESOURCE MANAGEMENT - LINEAR PROGRAMMING MODULE

General Purpose Linear programming + Specialised Transportation and Assignment variants. Capable of analysing and solving problems of sequencing, scheduling, blending, and allocation of scarce resources. 40 page manual, 18 worked examples.

The programs have applications in research of all kinds, education, sales, production planning, work and method study, financial planning, personnel, social work etc.

	CPC	PCW		CPC	PCW
AMSTAT1 v1.2	£25.95	£27.95	AMSTAT4	£25.95	£27.95
AMSTAT2 v1.0	£39.95	£39.95	AMSTAT 1+2	£49.95	£49.95
AMSTAT3	£25.95	£27.95	AMSTAT 1+2+3+4	£99.95	£99.95

All prices include P&P within U.K. Cheques, POs to

S. C. Coleman, 33 Leicester Rd, Ashby-de-la-Zouch, Leicestershire LE6 5DA.
Tel 0530 415919. (AMSTAT1 v1.1) for the CPC still available at old price)



"NEW RIBBONS FOR OLD"

from

ALADDINK

ALADDINK WILL RE-INK YOUR OLD FABRIC RIBBONS
AT GREAT SAVINGS AGAINST NEW PRICES!!

PCW: Base price; £1.90. 2nd & subsequent; £1.60 each

DMP: Base price; £2.00. 2nd & subsequent; £1.70 each

Post your old cassette together with remittance to:

ALADDINK (Dept AU)

4 Hurkur Crescent, Eyemouth, Berwickshire TD14 5AP

Most makes of ribbon catered for. Telephone 08907 50965 for a quotation

ROMANTIC ROBOT present



Multiface two
NO1 AMSTRAD MULTIPURPOSE INTERFACE with

- 1) FULLY AUTOMATIC, UNIVERSAL and PROFESSIONAL back-up facility to tape and disc for Amstrad CPC 464, 664 and 6128.
- 2) MULTI TOOLKIT to study/modify/develop software/hardware
- 3) 8K RAM EXTENSION
- 4) RESET BUTTON for "warm" reset

All at an AMAZING PRICE of £46.95!

MULTIFACE TWO is UNIQUE both in unbeatable value and features:

* It is the only truly automatic back-up device - the programs are RELOADED exactly as they were STOPPED and SAVED, incl. the colours and sound - no other peripheral can RESTORE COLOURS AUTOMATICALLY and some programs will not RELOAD & RUN properly then - BEWARE! and use MULTIFACE TWO only.

* Does not occupy any part of the Amstrad RAM and requires

* No additional software - has internal 8K ROM and 8K RAM.

* STOPS ANY program ANYTIME. You can just PAUSE or SAVE or use MULTI TOOLKIT, etc. Programs will CONTINUE from the same point when you RETURN or RELOAD next time - everything is FULLY and AUTOMATICALLY RESTORED.

* MENU-DRIVEN, fully ERROR-TRAPPED with prompts and one-touch commands turning complex tasks into a trivial procedure - all you need to do is to push the button and select from the menu:

SAVE - to name & SAVE a program to disc, tape or hypertape.

RETURN - to CONTINUE a program after any operation.

JUMP - not to return but to JUMP to another address, say to your own routines in the 8K RAM extension.

TOOL - to access MULTI TOOLKIT routines.

* MULTIFACE 2 is EXTREMELY FAST in both SAVING & RELOADING - its INTELLIGENT COMPRESSING and TURBO saving to disc/tape makes a standard 64K program reload typically in up to 20 SECONDS from disk - other products take 4-5 times longer! - or just over 5 minutes from tape. The most EFFICIENT COMPRESSING also results in minimal space used on disc or tape.

* MULTI TOOLKIT is the only existing combination of hardware and software capable of displaying & modifying EVERYTHING you may wish to know about a program and current state of computer. You can PEEK/POKE the entire AMSTRAD contents incl. extra 8K RAM, Z80 registers, colours, etc. You can open a WINDOW and scroll through 56 byte blocks in decimal, hex and even ASCII representation (ie. everything seen as text to reveal messages, etc) with full on-screen editing. You get INFO on screen mode/start address, interrupt mode, no. of characters per line, horizontal sync. position, lower and upper ROM and RAM bank status, ROM type, etc. And ALL can be changed...

* COMPATIBLE with expansion ROMS, RAMS and any other devices.

* PLUGS DIRECTLY into CPC 464, 664, 6128 - no need for extras.

* Save PROGRAM or a full 25-line SCREEN ONLY.

* THROUGH extension BUS for connecting other peripherals.

Multiface two THE ESSENTIAL AMSTRAD CPC COMPANION

Please send me a MULTIFACE TWO at £46.95 plus p&p - UK £1.00. Europe £2.00. Overseas £3.00

I enclose a cheque/PO for £ or debit my No. Card exp

Name & address

ROMANTIC ROBOT UK LTD 77 Dyne Road London NW6 7DR 01-625 9463

SERIOUS FUN with an AMSTRAD 464/664/6128

Slightly bored with computer games? Less than passionate about spreadsheets and nominal ledgers? Try a little **SERIOUS FUN** instead!

SERIOUS FUN informs and entertains. Ideal for the newcomer to scientific computing and BASIC programming, it illustrates a theme with some simple programs which you can very easily type in yourself.

Our first **SERIOUS FUN** leaflet explores RANDOM NUMBERS - their properties, uses and abuses. Try coin-tossing on your AMSTRAD, or cheating at dice! 10 pages of A4, including 7 short Basic programs (several with graphical output).

Send £1.75 plus 25p p&p to:

Clifton Computer Concepts
4 Kensington Place, Clifton, Bristol BS8 3AH

LANDSCAPE UTILITY

Sheer ARTISTIC GENIUS from your Amstrad! This novel application of sophisticated mathematics creates a new show of superb landscapes - QUITE SPONTANEOUSLY - every day. (The first version was called the Landscape Creator.) Extra features include better foreground topography, viaducts across the water, crescent moon and stars, improved trees, clouds, and castles. The machine-code routines make extensive use of "fractal" graphics and probability-theory; the details are still a trade secret and there is no other software like it.

- * Easy control of colour scheme
- * Easy saving of screens to disc or tape
- * Other utilities can be used to add extra features
- * Any screen-dump program will produce printouts
- * Compatible with CPC 464/664/6128
- * Individually tested before despatch

Only £19.00 (£22.00 on disc) inc. P&P
(Overseas add £1). Cheques/PO's to:

BRIAN JAMES (SOFTWARE)
21 LAMOND PLACE, ABERDEEN AB2 3UT



Cornix Card-Index

Easy to Use Card-Index Filing Program
Produced Specially for the Amstrad Computers
CPC464/664/6128 PCW8256/8512

- Wide Range of Applications
- Multiple Print/Display Options
- Comprehensive Search Routines
- Sort Cards into Alphabetical Order
- Prints Mailing Labels

"Extremely Easy To Use"...Amstrad Action June 1986

Only £24.95 including Vat. (£19.95 on Cassette)

Detailed Program Specifications available on Request

CORNIX SOFTWARE LTD.

Spirella Building, Bridge Road, Letchworth, Herts. SG6 4ET. Tel: (0462) 682989

NETWORKS, HARD DISCS & NEW PC's

MICRO-TECH

Leading Business Systems Specialist in the

NORTH WEST

Full Range of hardware, SOFTWARE & SUPPLIES
CONSULTANCY, TRAINING COURSES & EQUIPMENT,
REPAIRS & ON-SITE MAINTENANCE

061-797 6419

Fountain St, Off Bolton Rd, BURY, Lancs. BL8 2NS



PRE-SCHOOL, PRIMARY, JUNIOR

Education

By a Teacher. Tested by Pupils

Approved by Parents and Schools

For All AMSTRAD Computers. CPC and PCW

Cassette £6.50 Disc £11.00

SAE For Lists (Please indicate CPC or PCW)

ARC (ACU5) 53 Bentley Street, CLEETHORPES,
South HUMBERSIDE DN35 8DL. (0472) 699632

BONZO MEDDLER [for ANY CPC]

THE dedicated TAPE TO DISC utility.

- "A VERY GOOD & USEFUL set of utilities at an AMAZINGLY LOW PRICE". AMTIX, AUG. 1986.
 - TRANSFERS all standard BASIC, BINARY & ASCII files.
 - COPEs with some HEADERLESS and some FLASHLOADERS!!
 - AUTO-RELOCATOR • EXTENDED CATALOGUE
 - RE-NAMES for AMSDOS • FULL STATUS DISPLAY
 - AUTOMATIC • CUTEDISC INCLUDED!
- Does MORE for LESS! Just £5.00 inclusive.

NEW! BONZO CLONE ARRANGER

- RELEASE VALUABLE DISCS for CURRENT USE!! SAVE POUNDS!
- THE DISC MISER. **FULL DISC TO TAPE AUTOMATICALLY**
- A C60 SECURELY STORES TWO COMPLETE DISCS - EASY RECOVERY
- INCLUDES A SUPERB DISC TO DISC COPIER, COPEs WITH THOSE "FUNNY FORMATS"! • RAPID FORMATTER. (inc. IBM)
- EASY TO USE just £6.00 inclusive

By return post. (£10.00 only if you want both) Supplied on tape, transfer themselves to disc!

NEMESIS [ACU]

10 Carlow Road, Ringstead, Kettering, Northants NN14 4DW.

DISC SOFTWARE TOOLS FOR AMSTRADS

We specialise in the best

Turbo Pascal 3.0 (inc editor & OVERLAYS)	57.50a
Turbo Toolbox 1.2 (ISAM database tools, etc.)	46.00a,b
Turbo Tutor	34.50a
Turbo-Amstrad Interface (Turbo to Firmware interface for windows, turtlegraphics, sound, etc.)	14.95c
Toolworks C/80 (C compiler)	69.95b
MathPak (floats & longs for C/80)	46.95b
Toolworks LISP/80 (Lisp interpreter)	69.95b
Micro-Prolog (Interpreter & Tutorial)	79.95
FTL Modula-2 Compiler (inc. editor)	49.95b
AtLast! Database (multi-file)	49.95b
Write Hand Man (Sidekick look-alike)	29.95b
Money Manager	24.95
IanKey Typing Tutors (Crash Course/Two Fingers)	24.95b
Brainstorm (ideas processor)	49.99b
PolyPrint (with PolyWord)	29.95d
PolyMail (with PolyWord)	19.95d
PolyPlot	29.95d

a=Includes FREE Mailbox on OneToOne (worth £50)
b=Not unexpanded CPC464. c=Not PCW8256/512. d=PCW8256/512 only

VAT and P&P (Europe) included. Please state model when ordering.
All payments in Sterling drawn on a UK account. ACCESS accepted.
Callers please ring first.

**RATIONAL SOLUTIONS, 9 Rosehill Road,
London SW18 2NY. Tel: 01-874 6244**

TELETEXT ADAPTOR

The Microtext adaptor converts your CPC464 664 or 6128 into a sophisticated Teletext Receiver. Giving you full colour text and graphics display of any of the hundreds of free pages from Oracle or Coefax. You can save pages too! to disc or cassette, print them on your printer and even access them from your own programs.

PLUS Telesoftware - free software on teletext pages which the adaptor will load for you to save or run. Supplied with a manual, the adaptor is cased with a through connector, it fits neatly on the expansion port. A connecting lead goes to the 'VIDEO OUT' socket of any video recorder - this concept means no complex tuning procedures and saves you a great deal of money!

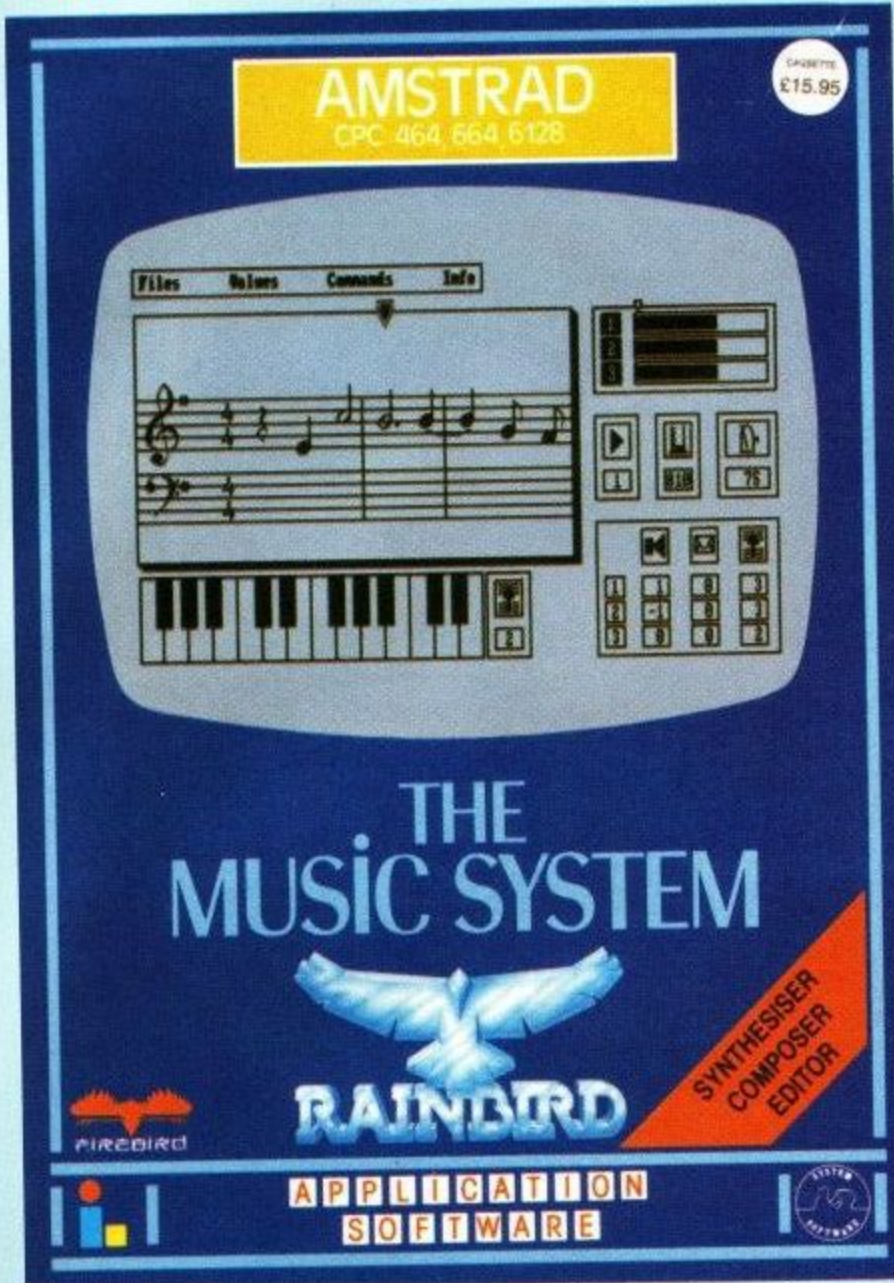
ONLY £69.95 inc P/P.

Please send cheques/PO's to:

MICROTEXT

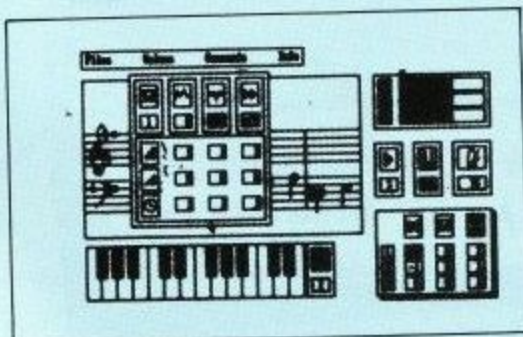
7 Birdlip Place, Horndean, Hants PO8 9PW
Telephone: (0705) 595694

Be your own composer, studio engineer – or rock star!



Switch on to great new sounds on your Amstrad!

Editing's simple with icons, windows and pull-down menus. There's a detailed manual to help you get started, 30 pre-set sounds plus sample music files you can use to create new compositions!



**AMSTRAD
COMPUTER USER**

**Exclusive
READER
OFFERS**

Make the music YOU want to hear with this sophisticated music development package for the CPC series.

Whether you're a stylish performer already or a complete beginner, you'll revel in the creative possibilities presented by The Music System. With it you can turn your Amstrad CPC into the heart of a modern digital recording studio. And if you buy *Amstrad Computer User* you'll save £5 off the retail price!

OUR PRICE
£10.95 on tape
SAVE £5!
RRP £15.95

OUR PRICE
£14.95 on disc
SAVE £5!
RRP £19.95

To order please use the form on Page 111

AMSTRAD
COMPUTER USER

Exclusive READER OFFERS

Here's your chance to turn yourself into a superb artist – even if you've never used a paintbrush in your life!

This brilliant software design package for the CPC6128 puts a full range of unique facilities at your fingertips – and with this exclusive offer from Amstrad Computer User you save £5 off the retail price!

Look at its many features:

Operates in Modes 1 and 2. Windows, icons, pull down menus, pointing devices. All information on screen. Works with keyboard, joystick or mouse. Dot matrix printer dumps, 25 sizes in grey scale. Supports Amstrad and Epson compatible printers and includes user definable option. Save, load and merge pictures and fonts to disc. 16 pens, variable-flow airbrush, 16 user-definable brushes. Undo facility. Windows can be cleared, inverted, cut and pasted, enlarged, reduced, squashed, stretched, flipped and rotated. Solid fill. Textured fill, 32 user definable patterns, Wash texture facility. 3 levels of magnification with pixel edit pan and zoom. Text, 9 character sizes, 3 directions, bold, rotate font. Font editor, clear, invert, flip rotate characters or whole font, copy ROM, capture font from window.



Find out why it was voted No. 1 in
'Best Utility of the Year' contest!

The product box for 'The DCP Art Studio' software. At the top, it says 'AMSTRAD CPC 6128' in a green box. A circular badge in the top right corner indicates the price '£19.95'. The central image shows a hand holding a paintbrush, painting a face on a screen. Below the image, the title 'THE DCP ART STUDIO' is written in large, stylized letters. Underneath the title is a logo of a white bird with its wings spread, and the name 'RAINBIRD' in a stylized font. At the bottom, it says 'APPLICATION SOFTWARE' in a grid-like font. A red diagonal banner on the right side contains the text: 'without doubt the best' Popular Computing Weekly. There are also several award citations: 'BEST UTILITY' NEWSFIELD AWARDS, 'UTILITY PROGRAM OF THE YEAR' POP COMP-WKLY READER'S.

Create an image – Shrink it, expand it, move it, rotate it, copy it, colour it. Spray a pattern or a shade. Make elastic lines, triangles, rectangles, circles – stretch and manipulate. Add text or characters, up, down, sideways – any size or proportion. Zoom in to draw in fine detail. Shrink the whole picture to add background.

A price tag graphic with a white background and a black border. It features the text 'OUR PRICE' at the top, followed by the price '£14.95' in large, bold, red letters. Below that, it says 'SAVE £5!' in bold black letters. In the bottom right corner, it shows 'RRP £19.95' in bold black letters.

Special offer to subscribers!

This is the game that's got everything. And now it's got an extra – a lower price tag!

ONLY 99p

... when accompanied by subscription order or renewal to Amstrad Computer User

(Existing subscribers can renew early to take advantage of this offer.)

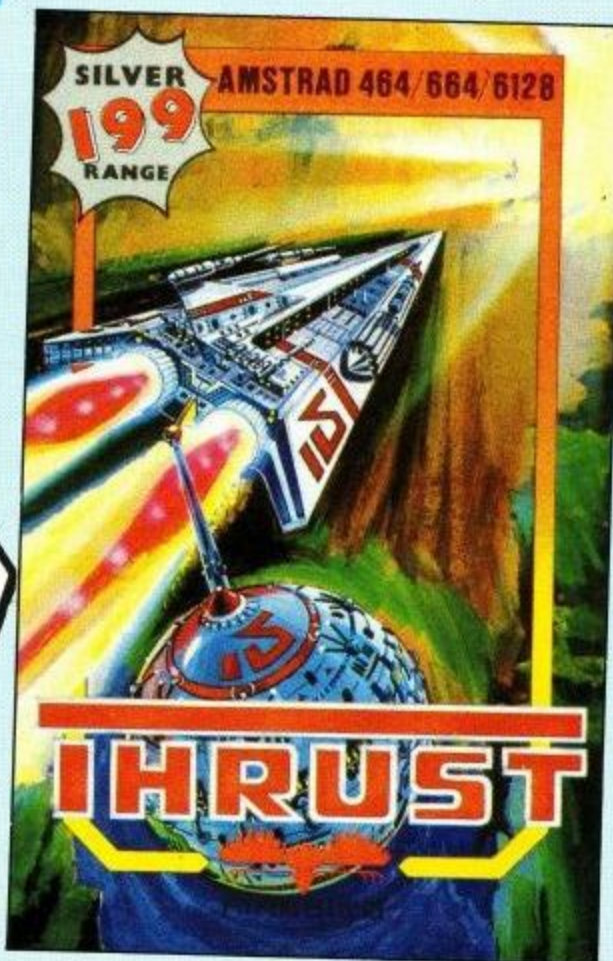
This is what our independent reviewers said:

Nigel

"Keeps me playing at four in the morning".

Colin

"You've just got to keep playing".



RRP £1.99
(CPC range)

To order please use the form on Page 111

AMSTRAD
COMPUTER USER

Exclusive
READER
OFFERS



only **£3.95**
UK

BINDERS

Your *Amstrad Computer User* is the ideal source of reference for every user of Amstrad computers. Keep your magazines tidy and in tip-top condition by using our top quality binder.

The *Amstrad Computer User* binder holds 12 issues. Each binder is black with the logo embossed in silver. Only £3.95.

SUBSCRIBER OFFER



Cheap discs – WOW!

Discs are essential to anyone with an Amstrad disc drive so if you own a DDI-1, CPC 664, CPC 6128, PCW 8256 or even a PCW 8512 you will be interested in this special offer.

Our discs cost less than £2.74 each.

You could pay as much as twice that, the usual price is around £4 per disc. "There must be a catch". Yes, there is – you can only buy four discs at this special rate and you can only qualify for the offer when you subscribe to *Amstrad Computer User*.

This means that for the bargain price of £22.95 you get four 3in CF-2 discs and 12 issues of *Amstrad Computer User*, full of programs, listings, reviews and articles to help you make the most of your computer and discs. For overseas readers the prices are £37.95 for subscribers within Europe and £54.95 for readers outside Europe.

DUSTCOVERS

Keep your equipment free from dust and grime with an *Amstrad Computer User* dustcover, made from clear pliable vinyl and bound by strong red cotton and sporting the ACU logo.

NEW
DMP2000/3000
Printer £3.95

CPC range
Keyboard £3.95
Monitor £5.95

DMP 2000/3000 printer cover	£3.95
CPC 464/664 keyboard cover	£3.95
CPC 6128 keyboard cover	£3.95
Green screen monitor cover	£5.95
Colour screen monitor cover	£5.95
PCW 8256 keyboard, monitor and printer set	£11.95

BACK ISSUES

1985 – March: Interrupt driven screen dump. Music explained. Fill routine.

April: Printer reviews. Joystick reviews. Proportional printing.

May: CPC 664 review. Virgin interview. Using 5¼ inch discs.

June: Maxam assembler review. Rock Hopper listing. CP/M user group feature.

July: 664 (and 6128) to 464 conversion. Graphics toolkit listing. Speech synthesisers compared.

August: Screen designers compared. Technician Ted map. Knight Lore map and pokes.

September: Double height routine. Unsung heroes – MEJ. Crazy legs listing.

October: CPC 6128 review.

Okimate 20 review. DK'tronics light pen.

November: Amgraph business graphics listing. DMP – 2000 review. Life program.

December: Everyone's a Wally map and pokes. Protex review. Enhanced trace utility.

1986 – January: Mode 3 revealed. Sorcery plus pokes and map. Shaded dump listing.

February: Brainstorm review. Graphics adventure creator. DK'tronics ram expansion review.

March: Communications survey. Laser Basic reviewed. The Music system examined.

April: Using the 6845. Screen flipping on the 6128. Graphic packages reviewed.

May: Max Headroom. Joysticks compared. Teletext adapter



Tapes/Discs

Tapes and discs contain all the major listings from *Amstrad Computer User*. Tapes cost £3.50; discs £6.50.

Contents of the latest issues included:

JANUARY: Mode 3, how to use the Amstrad's secret 8k screen mode. Sorcery plus pokes and sprite editor. Shaded dump utility for Epson printers. Pak Caverns machine code and Basic Game.

FEBRUARY: Animation: simple graphic displays. Roland takes a running jump game and screen designer. Galaxians Revenge. Space shoot-em-up.

MARCH: Roland takes a running jump source code. Racer - prize winning listing.

APRIL: Animator, an advanced cartooning program. Re-defined characters for the PCW 8256.

MAY: Homespread, one liners. GSX for 6128/8256.

JUNE: Super arcade game. Simple Music, interrupt driven tunes.

JULY: Battle of the cars, TLL pokes, Goin' Loco and ZX loader.

AUGUST: Interceptor, airborne action. Space Mania (Yes it really is on this tape). Screen to printer hack, Fairlight hack and more.

SEPTEMBER: Roland in the Haunted House ghost game, Commando Jump programming instruction, Goin' Loco on interrupts. Bomb Jack, Nipper, Green Beret Pokes and more.

OCTOBER: Goin' Loco sounded out, Helicopter listing, plenty of pokes.

NOVEMBER: Double Treble: two games at once. Goin Loco gets into graphics.

**PCW8256/8512
Keyboard, monitor
and printer set
only £11.95 set**



**Back issues
£1.25 each**



reviews. Home-spread listing. Dummy Run map. CPS review.

June: Batman Map. Biggles preview. Get Dexter Map. Music made simple. ABC Planner calc.

July: Palace interview, Activision, Load Spectrum screens into an Arnold, Battle of the cars program.

August: Equinox mapped, Printer mini-survey, Midi interface, Interceptor listing, Mastertronic interview, Last free issue of ABC.

September: Spindizzy map, detailed assembler survey, joystick reviews, PCW games.

October: PC 1512 reviewed, compilers tested, LocoMail, Basic 2 and Animator reviewed, Hacking help with joysticks and Storm. Sound add-ons examined. Which flight simulator?

AMSTRAD COMPUTER USER

ORDER FORM

Offers subject to availability

Valid to 30.11.86

All prices include postage, packing & VAT.

All overseas items despatched by air mail.

Subscriptions

£12 UK and Eire 8000 £ p
 £25 Europe 8001
 £40 Overseas 8002

Commence with _____ issue

Subscription offer †

Four 3" discs £10.95* 8115
 Thrust tape (CPC range) 99p* 8107

*Europe add £2. Overseas add £4

†Europe/overseas add £2

†Only available if accompanied by subscription order.

Back numbers £1.25 each

Jan/Feb '85 ... 8003	N/A	January '86 8014	<input type="checkbox"/>
March 8004		February 8015	<input type="checkbox"/>
April 8005		March 8016	<input type="checkbox"/>
May 8006		April 8017	<input type="checkbox"/>
June 8007		May 8018	<input type="checkbox"/>
July 8008		June 8019	<input type="checkbox"/>
August 8009		July 8020	<input type="checkbox"/>
September 8010		August 8021	<input type="checkbox"/>
October 8011		September 8022	<input type="checkbox"/>
November 8012		October 8023	<input type="checkbox"/>
December 8013			

Tapes & Discs

	Tapes £3.50; Discs £6.50	Tape	Disc
January '86	8044/45	<input type="checkbox"/>	<input type="checkbox"/>
February '86	8046/47	<input type="checkbox"/>	<input type="checkbox"/>
March '86	8048/49	<input type="checkbox"/>	<input type="checkbox"/>
April '86	8050/51	<input type="checkbox"/>	<input type="checkbox"/>
May '86	8052/53	<input type="checkbox"/>	<input type="checkbox"/>
June '86	8054/55	<input type="checkbox"/>	<input type="checkbox"/>
July '86	8056/57	<input type="checkbox"/>	<input type="checkbox"/>
August '86	8058/59	<input type="checkbox"/>	<input type="checkbox"/>
September '86	8060/61	<input type="checkbox"/>	<input type="checkbox"/>
October '86	8062/63	<input type="checkbox"/>	<input type="checkbox"/>
November '86	8064/65	<input type="checkbox"/>	<input type="checkbox"/>

Rainbird Music System

Tape £10.95 8107
 Disc £14.95 8108
 (CPC range)

Rainbird Art Studio

Disc £14.95 8109
 (CPC range)

Dust-covers

CPC 464/664 keyboard	8100	<input type="checkbox"/>
CPC 6128 keyboard	8101	<input type="checkbox"/>
£3.95		
CPC range green screen	8102	<input type="checkbox"/>
CPC range colour monitor	8103	<input type="checkbox"/>
£5.95		
DMP 2000/3000 Printer	8105	<input type="checkbox"/>
£3.95		
PCW 8256 keyboard, monitor and printer set	8104	<input type="checkbox"/>
£11.95		

Binders

£3.95 UK 8106
 £6.95 Europe
 £10.95 Overseas

European and Overseas readers, please
add £2 per item unless otherwise indicated

TOTAL _____

Send to
Amstrad Computer User,
FREEPOST,
36 St Petersgate,
Stockport SK1 1HL.

Telephone orders 061-429 7931 24 hours
Enquiries 061-480 0171 9am-5pm

Please indicate method of payment (✓)

Access/Mastercharge/Eurocard/Barclaycard/Visa

Expiry date
/ /

Signature _____

Cheque/PO made payable to Amstrad Computer User

Name _____

Address _____

PLEASE PRINT IN BLOCK CAPITAL LETTERS
Please allow up to 28 days for delivery

ACU11

ASTROLOGY for beginners

Teach yourself astrology using your Amstrad

A Starter Pack comprising a simple program to calculate a horoscope, an introductory booklet and 2 self-teaching programs (how to interpret the horoscope)

£11.50 cassette £15.50 disc

No previous knowledge required

Also many other programs for more experienced astrologers

Please send the Astrology Starter Pack for my Amstrad 464/664/6128/8256. I enclose a cheque/PO, U.K. for £11.50/£15.50 (inc p&p). Outside UK add 50p; or, I enclose a large sae for free catalogue.

Name

Address

ASTROCALC (Dept A) 67 Peascroft Road
Hemel Hempstead, Herts HP3 8ER Tel: 0442 51809

WANTED

AMSTRAD PRODUCTS FOR AUSTRALIAN DISTRIBUTION

- * Business Software
- * Utilities
- * Serious Computing Applications

Please supply product details to:

ELITE MANAGEMENT

P.O. Box 1023, Orange N.S.W. 2800 Australia

LARGEST COMPUTER CENTRE
IN

MANCHESTER

MAIN AMSTRAD STOCKIST

AMSTRAD PCs IN STOCK

+

ALL LEADING COMPUTERS

Extensive range of AMSTRAD software, books and addons.

Personal export scheme. Export dealer enquiries welcome

24 hour. U.K. mail order facility.

M MIGHTY MICRO M

SHERWOOD CENTER 268 WILMSLOW ROAD
FALLOWFIELD, MANCHESTER TEL: 061-224 8117

O. J. SOFTWARE

FAST FRIENDLY SERVICE

*** SPECIAL ORDER TWO OR MORE PROGRAMS AND DEDUCT AN EXTRA 50p PER TITLE***

ADVENTURE		ARCADE		BUS/UTILITIES	
AFFAIR AT VERA CRUZ (D)	£8.95	NIGHT GUNNER (D)	£8.95	SPEECH (D)	£8.95
LORDS MIDNIGHT (D)	£8.95	INT KARATE	£7.95	MINI OFFICE II (D)	£13.50
SWORDS & SORCERY (D)	£8.95	CAULDRON II (D)	£7.95	MUSIC SYSTEM (D)	£13.50
JEWELS DARKNESS (D)	£12.95	JACK THENIPPER (D)	£7.95	ADV MUSIC SYS (D)	£24.95
STRATEGY/SIMULATION		KNIGHT GAMES (D)	£7.95	PROTEXT (D)	£21.95
FIGHTER PILOT (D)	£7.95	STAINLESS STEEL	£7.95	PROMERGE (D)	£20.95
TOMAHAWK (D)	£8.95	GHOSTS & GOBLINS (D)	£7.95	PROSPELL (D)	£20.95
ST FORCE HARRIER (D)	£8.95	N.E.X.O.R. (D)	£7.95	MASTERFILE II	£33.95
SPIRE 40 (D)	£8.95	DAN DARE (D)	£8.95	MASTERCALC 128	£29.50
SPACE SHUTTLE (D)	£8.95	STARSTRIKE II	£8.95	PCW GAMES	
3D GRAND PRIX (D)	£8.95	ELITE (D)	£12.95	BATMAN	£11.95
CYRUS II CHESS (D)	£8.95	SOLD A MILLION I (D)	£8.95	FAIRLIGHT	£11.95
MONOPOLY (D)	£8.95	SOLD A MILLION II (D)	£8.95	CYRUS II CHESS	£12.95
SCRABBLE (D)	£8.95	HITS 6 VOL I (D)	£11.95	GGOOCH CRICKET	£16.95
TRIVIAL PURSUIT (D)	£12.95	HITS 6 VOL II (D)	£11.95	TOMAHAWK	£16.95
ACCESSORIES		WORKING BACK (D)	£11.95	HITCH HIKERS	£23.95
DISCS 5 18.95	10 £36.95	SORCERY+ (D)	£11.95	COLOSSUS 4 CHESS	£12.95
RIBBONS PCW/DMP 2000	£5.50	DOORS DOOM+ (D)	£11.95	LORD RINGS	£21.95

NOTES: (D) = ADD £3.50 TO TAPE PRICE FOR DISC VERSION: ALL TAPES RUN 664/128

MOST ORDERS DESPATCHED BY RETURN (OUT OF STOCK ITEMS USUALLY WITHIN 1 WEEK)

CHEQUES/PO'S TO O.J. SOFTWARE (PRICES INCL UK P&P)

273 MOSSY LEA ROAD, WRIGHTINGTON, WIGAN, LANCs. WN6 9RN

Write of phone (0257) 421915 for FREE LIST and LATEST RELEASES

OVERSEAS ORDERS WELCOME AT NO EXTRA COST. CHEQUES IN STERLING DRAWN ON UK BANK

JACKSON COMPUTERS LIMITED JOIN OUR DISCOUNT CLUB!

Life membership for £8.50

Software/Hardware Discounts of 5-20% off RRP

All AMSTRAD and other leading makes of software available

Complete computer system, Printers, modems, cables

AMSTRAD CPC464 with colour monitor

£279.90

AMSTRAD CPC6128 with colour monitor

£379.90

PCW8256/512

£429.95/£552.00

NEW AMSTRAD IBM compatible PC1512 mono/single floppy

PC1512 HD 20MB Hard disk & colour screen

PC1512 HD 10MB Hard disk & colour screen

Ring for details

All prices include VAT, Postage + Packing

Also free Life Membership when you purchase any AMSTRAD computer

Visitors by arrangement only

TEL: 01-651 6244

Send for full Price List & membership form to:

**67 Selsdon Park Road, South Croydon, Surrey
CR2 8JF**

The UPGRADE

PCW 8256 to 512k RAM & 368k RAM DISC

"BEST VALUE D.I.Y. MEMORY UPGRADE" '8000 Plus' Magazine

The simplest, most comprehensive step-by-step instructions available assume no prior knowledge, experience, or skill. "Clear and concise" '8000 Plus'.

We supply tested, TOP QUALITY, fast (150ns) chips which are jig preformed for ease of insertion - NO BENDING REQUIRED - plus a spare 'practice' chip.

Our best selling Upgrade Kit is NOW ONLY **£24.95**

Upgrade to full PCW 8512 specification

Genuine Amstrad 2nd Disc Drive ONLY **£139**

Prices INCLUDE VAT and UK post, normally by return

Send UK Cheques/Money Orders/LA or Government orders to:

SILICON CITY

Dept. A, Mithian, St. Agnes, Cornwall TR5 0QE

Access/Visa orders: Telephone 087 255 2112

3" HITACHI DISK DRIVES

Suitable for use on the Amstrad 6128, 664, Tatung Einstein, BBC with DFS. 40 track, double density, 3 ms track access time. Unformatted capacity - single sided 250k; double sided 500k. Shuggart interface. Plug compatible with 5 1/4 inch drives.

PRICE:
£29.95 + VAT
Single sided
£39.95 + VAT
Double sided



Cables available for connection to
Amstrad - £7.50 plus VAT.
BBC - £10.00 plus VAT.
Tatung - £10.00 plus VAT.

FOR FURTHER DETAILS SEND S.A.E. TO:

MATMOS Ltd., Unit 11, Lindfield Enterprise
Park, Lewes Road, LINDFIELD,
West Sussex. RH16 2LX. Tel. 0444-73830

Or Computer Appreciation,
111 Northgate, CANTERBURY, Kent. CT1 1BH.

FOR AMSTRAD 8256 ROTATE ROTATE

Now you can print your Locoscript
text and spreadsheets sideways

ROTATE enables anything you can save in an ASCII format to be rotated through 90°.

So you can now print sideways spreadsheets like SuperCalc and Multiplan - no more need to 'cut & paste'. ROTATE also allows you to print in a variety of fonts.

ROTATE only costs £21.70 plus p & p and VAT.

For your copy send £25.95 to:

Trinity Business Systems, 52 Queens Road, Hethersett,
Norwich NR9 3DB. Tel: 0603 812195.

Telephone Access Card orders accepted.

Or write or ring for more details.

ROTATE

**THE ULTIMATE AMSTRAD WORD PROCESSOR!!
SPELLING CHECKER AND MAIL-MERGE NOW AVAILABLE**

PROTEXT is without doubt the most sophisticated word processor you will find on any home micro. It is of comparable standard to business packages costing over £200 but has been developed for the AMSTRAD 464/664 and 6182 machines and is 100% machine-code. We know that PROTEXT is the fastest program of its type currently available (eg. global search and replace on a three page file in under a second!). Bearing in mind the range of features included and their ease of use, this package is rightly acclaimed as the No. 1 word processor for Amstrad owners. Compare these features and benchmarks with any other similar products.

PROTEXT FEATURE SUMMARY

- File commands** — Super fast Load, Merge and Save, Cut, Print (to printer/screen/file)
- Cursor Movement** — By character/word/line/paragraph/screen, to start or end of line, to start or end of text, to line number, to place marker, to margin.
- Inserting and deleting** — Insert/overwrite mode, insert character or line, delete character forwards or backwards, delete word. Delete to end of line.
- FIND and REPLACE** — Wildcards, all or part of text, case specific, whole word or part of word, find control codes.
- Block commands** — Move/copy/delete/save/print/format.
- Markers** — 2 block markers and 10 place markers may be set anywhere.
- Formatting** — Word wrap, right justify, variable left and right margins.
- Ruler lines** — Unlimited number of ruler lines to define margins and tabs. Decimal tabs.
- Print options** — Headers/footers, page numbers, variable line spacing, variable page length and margin sizes, conditional page throws, odd and even page features, continuous or single sheets, multiple copies.
- Printer features** — Including emphasized, condensed, double-strike, elite, italics, enlarged, pica, NLQ, subscript, superscript, underline. Built in Epson printer driver, ability to easily define your own printer driver and save to disc.
- Help feature** — Optional on screen command summaries.
- Built in character sets** — Danish/French/German/Italian/Spanish/Swedish.
- Other features** — Non break space, display tabs, returns and hard spaces, soft hyphens, word count, case conversion, copy ruler, 60 page easy to read manual with full index and glossary of terms.

**"I AM STUNNED AT PROTEXT—IT KNOCKS POCKET WORDSTAR INTO A COCKED HAT" — AMTIX ISSUE 1 "DON'T MISS IT. IT IS SUPERB"
— POPULAR COMPUTING WEEKLY "MILES AHEAD OF THE AMSWORD TYPE PROGRAMS" — AMSTRAD USER**

BENCHTESTS

A standard file of 775 words (4,785 characters) was used to carry out the following benchtests (all timings are in seconds):

	PROTEXT	TASWORD/AMSWORD
1 LOAD text file	4.7	10.2
2 SAVE text file	4.9	18.9
3 Re-FORMAT paragraph (85 words)	0.4	15.3
4 Re-FORMAT entire text	2.5	Not Possible
5 Move directly to start of text	under 0.1	2.2
6 Move directly to end of text	0.2	2.2
7 REPLACE 'the' with 'THE' (45 occurrences)	1.7	34.1
8 SCAN entire text	2.2	7.2
9 MERGE file to centre of text	4.0	Not Possible
10 MERGE file to end of text	3.8	12.4
11 MOVE 85-word paragraph	under 0.1	6.8
12 PROGRAM LOAD TIME		
DISC	12.9	14.6
ROM	Instant	Not Available

PROMERGE/PROMERGE PLUS

This major addition to the PROTEXT word processor combines a fully flexible mail merge program allowing PROTEXT to produce individualised documents in one single print run.

PROMERGE —

COMPREHENSIVE MAIL MERGE

- Read data from file or keyboard.
- Merged files of varying lengths are automatically reformatted.
- File merge — insert file while printing.
- Conditional printing — select from input data (eg. you could print letters to all customers whose name is not Smith).
- Print file direct from disc or memory.
- Auto configuration — you can set up a disc to configure PROTEXT to your preferred options with a single keystroke.
- Typewriter mode — for envelopes etc.

PROMERGE PLUS —

PROTEXT ENHANCEMENTS (ROM version only)

- All the features of PROMERGE together with —
- Background printing — edit one file while you print another.
- Two file editing — switch between two files in memory.
- Cut and paste — any block of text can be moved to any position — allows multiple column layout.
- Tasword users — automatically converts your old text files.
- Calculator — a simple on screen calculator for those invoice totals etc.
- *6128 OWNERS*
- PROMERGE PLUS MAKES full and sensible use of your extra 64K memory but also functions with smaller files on the 464 and 644 machines.
- Also uses D K Tronics 64K RAM expansions.

PROSPELL

- ★ Checks your spelling ★ Proof reads your documents ★
- ★ Solves your word puzzles ★

— How to use PROSPELL —

The spelling checker can be called directly from within PROTEXT to check the current file in memory or any file on disc. Alternatively, PROSPELL will check any ASCII file produced by other Amstrad word processors, including Wordstar type files.

— Features available —

Add words to the dictionary/Correct word/ignore word/Look up correct spelling/View word in context/Delete words/List words/Initialise new dictionary...PLUS...

— Word Puzzle Features —

The 30,000 word Dictionary can be used in a number of useful ways.

FIND WORD — You can enter a word pattern using ? for an unknown letter and * for a group of unknown letters. PROSPELL will list all words in the dictionary which match this pattern.

ANAGRAMS — PROSPELL will even list all anagrams of any word pattern you type in.

Together these features will prove invaluable to crossword solvers and compilers.

— THE POWER OF PROSPELL —

Some spelling checkers work as slowly as 150 words per minute. PROSPELL works at up to 2000 w.p.m.

Some spelling checkers limit your dictionary size. PROSPELL will work with an unlimited number of dictionaries, each of which can hold around 45,000 words.

N.B. All ROM software requires a ROM expansion system. We recommend and supply the new SUPERPOWER, 8-WAY ROM BOX at £34.95 (Incl. VAT, P & P).

PROSPELL requires at least one disc drive.

Available from selected branches of



WHSMITH

and all good computer stockists, or directly

FROM: **ARNOR LTD**
118 WHITEHORSE ROAD
CROYDON
CRO 2JF
01-684 8009



PRICES

	DISC	ROM
PROTEXT	26.95	39.95
PROMERGE	24.95	—
PROMERGE PLUS	—	34.95
PROSPELL	24.95	34.95

(ALL INCL. VAT, P & P)



24 HOUR CREDIT CARD HOTLINE - ACCESS/VISA

The Least Significant Bit

Everyone knows about the clone Amstrad has just launched. But only the lucky thousand who went to the event know about the clone which was used to launch it – a clone of the Hitchhiker's Guide to the Galaxy. Most of the shindig was hype, showing how incredibly Amstrad had done, but there were some good bits so here is a taste of what went on.

As the audience assemble in the auditorium the PA is pumping out the sound track from Dallas. As the house lights dim to black we find Nigel Braithwaite sitting in his armchair watching TV. He is muttering to himself as he gets involved in the action. At a crucial moment in the dialogue we hear fuzzy static. Nigel curses, he gets up muttering, goes to the set and gives it a thump, the static gets worse and builds into an electronic crashing noise. The lights go out. It is dark.

Nigel: I knew I should have paid my TV licence.

Ford: (*Who has appeared in the blackout – if that is not a contradiction. He is American.*) You mean you have to pay to watch that sort of garbage.

Nigel: It's very good garbage, Clive James says so... (*Suddenly realising he is not alone.*) Who are you? And more to the point why are you sitting on my knee?

Ford: Gee, am I? Sorry. I guess I got my coordinates wrong. This doesn't look like the sub star system of Andromeda Alpha. I should be on my way to witness the most significant event in the history of the universe.

Nigel: In Brentwood?

Ford: Hell no. Nothing of any meaningful significance ever happens in Brentwood. (*Too right – Ed.*) I'll re-adjust the coordinates and try again.

There are lots of flashing lights as Nigel, Ford and Nigel's chair are teleported. Nigel is found slumped in his armchair looking ruffled and bewildered, his hair sticking up on end. He looks around for a second with his

mouth open... then lets out a great yell. Ford immediately adopts a karate pose, then seeing that it is Nigel relaxes.

Ford: Gee you kinda startled me.

Nigel: I startled you! Just who are you and why is your face green?

Ford: A healthy diet and plenty of fresh air.

Nigel: This isn't really happening!

Ford: Since you tagged along inadvertently, I'd better explain. I am Intergalactic Corpate cadet XR3i – but my friends call me Ford – and for the last 15,000 meghedrons of discrete temporal contiguity.

Nigel: You sound like an Amstrad user manual.

Ford: I've been carrying out a research project as part of my Doctoral studies.

Nigel: (*Cynically.*) Dont tell me you're trying to find the secret of the Universe.

Ford: Don't be asinine – we did that in grade school.

Nigel: Pardon me for asking, but where are we?

Ford: Where I was trying to get before you got in the way – the planet Gammahedron. One of the nicest little places in Andromeda Alpha. Thankfully the tourists haven't discovered it yet. It's also the home of the second most powerful computer in the Universe. (*He walks over to the computer, followed by Nigel.*)

Nigel:It's a bit big isn't it? Does it come all included, or do you have to buy the extra bits?

Ford: This is arguably the most rational thinking machine ever designed.

Nigel: But can it play Roland in Time?

They push some buttons and the computer tells them how wonderful Amstrad is. It then goes on to describe the new PC and shows how much cheaper the 1512 is than the opposition. But how much cheaper?

Only one man knows – Alan Sugar. He rushes down the stage in a cloud of smoke. Well he was supposed to but considered the idea a bit undignified and settled for a stroll to the podium.

IBM may not sue, but will Douglas Adams? Interesting fact time: Roland Perry and Chris Anstey of Amstrad and William Poel of NewStar went to school with Douglas Adams.

ACU

ADVERTISERS INDEX

7 Star 102	Citizen 52	Leek Computers 84	Rainbird Software 58,59
A.B. Comp 105	Clifton Computer	Load And Run 101	Rational Solutions 106
Adams World 74	Concepts 106	Mancomp 77	Romantic Robot 105
Advanced Memory	Compumart 13	Marcus Sharp 92	RSD Connections 96
Systems 2,80	Connect Systems 38	Matmos 112	SBS Data Systems 99
Advantage 26	Cornix Software 106	MEAC Designs 105	School Software 96
Aladdink 105	CP Software 36	Meridian Software 92	Screens Micros
A.L. Turkhaim 91	Cyca 92	Micro Power 65,101	And Electronics 40
Ambyte 62	Digital Research 54	Micro Simplex 22	Shekana 95
Amsoft 27	DCS 102	Micro Tech 106	Silicon City 112
AMSTAT 105	DK Tronics 32,33,116	Micro Text 106	Siren Software 64
Amstrad 66,67,86,104	Elite Management 112	Microwise 91	Sandpiper Software 78
ARC 106	Eltec 39	Midland Computer Library 92	Selec Software 96
Arcana Software 99	Evesham Micros 74	Mighty Micro 112	Soft Insight 96
Arnor 72,113	Garwood Software 16	Minerva Systems 77	Specialist Computer
Astrocalc 112	Goldmark Systems 46	Mirage 84	Repair Centre 48
BBD Dustcovers 102	Gremlin Graphics 4	MJC Supplies 101	Spectra Video 82
Brian James Software 106	Hi-Soft 14	MPG Software 95	Squirrels Byte 95
Campbell Systems 34	Jackson 112	Nemesis 106	Store Stock Systems 115
Cascade Games 8	J.C.M. Locksmiths 91	Number One Systems 102	Tasman Software 20, 21
Cheetah Marketing 69	K.D.S. Electronics 107	O.J. Software 112	Trinity Business Systems . 112
Chiltern Computers 102	Kirk Automation 85	Opus 45	Typeshare 95
Cirkit 91			Virgin 10

AT LAST A BRIGHT IDEA IN COMPUTER WORKSTATIONS

For only £79.50.



FREE

with every workstation ordered this Plug/Tidy basket will accommodate a 4 socket in-line distribution block.

The Klick colourframe workstation is designed to provide a highly efficient way of organising your micro system. This fully mobile unit runs on silent glide rubber tyred wheels and is ideal for use in the domestic or office environment.

Manufactured from heavy duty steel, the framework is finished in a choice of 5 stylish colours and the high quality melamine faced chipboard shelves are available in either White or Teak effect.

This unit will accommodate your monitor, computer, printer, disk drive or cassette recorder and is suitable for use with most leading micro systems including Amstrad, BBC Acorn, Commodore and Sinclair.

This offer is available to UK Mainland residents only.



Buttercup Yellow



Leaf Green



Marine Blue



Mahogany Brown

Overall assembled dimensions are: 845mm (33 1/4") high, 810mm (31 7/8") wide and 610mm (24") deep.

To Store Stock Systems Ltd, FREEPOST Manchester M23 9BH

Please send me _____ (quantity) of units at £79.50 inc. VAT & carriage

I enclose a cheque for £_____ made payable to Store Stock Systems Ltd or debit my ACCESS/VISA

Card No.

Card expiry date _____ Signature _____

Name _____

Address _____

Postcode _____

(BLOCK LETTERS PLEASE)

Please write the number of units required in the boxes provided

Frame colour	Shelf colour	
	White	Teak
Poppy Red		
Buttercup Yellow		
Leaf Green		
Marine Blue		
Mahogany Brown		

Klick A2

ADDING COLOUR TO
COMPUTER FURNITURE



(Please allow 28 days for delivery)

TURN YOUR MONITOR INTO A COLOUR T.V.



AMSTRAD

CTM 644
Colour Monitor

12V DC

power



POWER
ON-OFF-VOL

DK'TRONICS

MONITOR

12V DC

BRIGHTNESS

COLOUR

CHANNEL SELECT

■ NOW YOU CAN USE YOUR MONITOR FOR BOTH COMPUTING AND WATCHING TELEVISION ■

■ Employing the latest chip technology the DK'Tronics receiver will convert your CPC monitor into a high quality television set, giving crystal clear pictures on all four channels.

■ HOW TO ORDER

DK'Tronics products are available in all good computer stores or may be obtained direct by telephoning and quoting your Barclaycard or Access number.

■ £69.95 including VAT

dk'tronics

POWER BEHIND YOUR AMSTRAD