

JUNE 1983  
75p

# COMPUTER & VIDEO GAMES

**WIN ANY FIVE GAMES  
CENTRE CARTRIDGES IN  
THE BOOK OF VIDEO GAMES  
FREE INSIDE**

**ROYAL ASCOT  
THE TEN COMMANDMENTS  
GAMES LISTINGS FOR  
THE VIC SPECTRUM  
ATARI T.I. BBC AND  
MANY MORE**









## News & Reviews

### GAMES NEWS 16

The first game in four-D! Melbourne House goes one D better. And every TV games centre addicts' favourite title has translated to computer. Play Demon Attack on the Vic and Atari. Four pages of the latest software for all machines.

### ARCADE ACTION 30

Tips on surviving beneath a pyramid on the trail of Tutankhamun's gold. Plus Roc n' Rope for other intrepid adventurers and pinball can now be played by couples. Take on a friend on the tilting Joust pintable.

### REVIEWS 104

The decline and Fall of the Roman Empire on your Spectrum, arcade hit Qix converted for the Atari, plus Spectrum owners end up down a Blind Alley.

### NEXT MONTH 5

News of our July offering including another fascinating competition for Bug fans and a games supplement for the keen collectors of our games listings.

## Listings

### QUICKDRAW 32

Howdy partners. This town ain't big enough for both of us — so you and your darn Apple computer better saddle up and git out. Either that or learn a quick draw pretty swift. You catch my drift stranger.

### SUBSTRIKE 40

They run silent and run deep these deadly denizens of the deeps. The good ship TI 99/4a is out to hunt them down.

### BAT AND BALL 44

Howzat! Get in shape for the cricket season with this reincarnation of one of the very first video games. For the BBC models A or B.

**WANTED**  
IN 45 STATES



SID LIGHTNING	KILLER MCGREW	THE RINGO KID
\$150	\$255	\$200

### CANNON MASTER 64

Perched like a vulture high atop a heavily armed battle tower you await the enemy attack. Cosmic action for the ZX81.

### THE BLACK BOX 70

Dare you open the Black Box and discover its inner secrets? We dare you! Unlock the mysteries of the box with your Spectrum.

### TRENCH 78

The deadly Death Star is back — and twice as mean. Can you destroy it before it wipes out your corner of the Dragon universe?



### PROTECTOR 48

Beware the space pirates skipper. They'll do you a mischief and that's for sure. Unless you can spike their guns afore they gets you and your mate Vic.

### SNAKES 53

More slippery customers, this time for the brand new Oric computer. A first for C&VG. And what a way to start!

### THE TEN COMMANDMENTS 54

Holy Moses! This is a tough task for even the most seasoned games player. A biblical epic for the Atari 400/800.

### ROYAL ASCOT 60

Fancy a day at the races with some cash to fritter away on the nags? Well roll up to your jolly old Sharp MZ-80K and check out the odds.



## Swords and surgery

Do adventurers get you down? Does the troll on the bridge, refusing all treasures make you tense?

Can trying to find a way out of the coloured mirror maze, make you look at yourself in a new light? Here at *Computer & Video Games* we've seen too many fine adventurers go to the wall — and end up banging their heads on it.

We know the pain and suffering a tough adventure can cause and we've opened up a helpline to Keith Campbell. Keith knows his way out of more adventures than most trolls have had hot dinners. Those he can't help with, he will throw open to the C&VG readership, to find an answer. All on page 83.

## Features

### MAILBAG 7

More of your questions answered.

### COMPETITION 10

Write a program for Dixons and you could win an Atari 800.

### BUGS 25

Will the Bugs be converted to a user friendly frame of mind?

### GO 27

Find out why this game is more popular than The Times crossword — in Japan.

### DRAGON GAMES 28

Ron Potkin tells you how to get more software for your Dragon ... courtesy of the Tandy Colour Computer.

### SOFTWARE FORM 68

All you need to know about getting your game printed in your favourite magazine.

### ADVENTURE 83

Reached an impasse on your latest adventure? Now help is at hand.

### CHESS 84

Max Bramer and the Duchess!

### WARPATH 86

It's Ron Potkin again — this time hoping the cavalry arrives in time!

### GRAPHICS 93

Garry Marshall brings eyesight to "blind" micros.

### MACHINE CODE 98

Ted Ball's half term test. Have you been paying attention? Find out here!

Editor Terry Pratt, Staff Writer Eugene Lacey, Editorial Assistant Clare Edgeley, Reader Services Robert Schifreen, Art editor Linda Freeman, Designer Linda Skerry, Production editor Tim Metcalfe, Advertisement manager Rita Lewis, Advertising executives Louise Matthews, Mike Cassall, Advertisement assistant Louise Flockhart, Publisher Tom Moloney

Editorial and advertisement offices: Durrant House, 8 Herbal Hill, London EC1R 5JB; Telephone Editorial 01-278 6556, Advertising 01-278 6552

COMPUTER AND VIDEO GAMES POSTAL SUBSCRIPTION SERVICE. By using the special Postal Subscription Service, copies of COMPUTER AND VIDEO GAMES can be mailed direct from our offices each month to any address throughout the world. All subscription applications should be sent for processing to COMPUTER AND VIDEO GAMES (Subscription Department), Competition House, Farndon Road, Market Harborough, Leicestershire. All orders should include the appropriate remittance made payable to COMPUTER AND VIDEO GAMES. Annual subscription rates (12 issues): UK and Eire £10.00 Overseas surface mail £12.00 Airmail Europe £20.00 Additional service information including individual overseas airmail rates available upon request. Circulation Department: EMAP National Publications. Published and distributed by EMAP National Publications Ltd. Printed by Eden Fisher (Southend) Limited.

© Computer & Video Games Limited ISSN 0261 3697.

Cover: Hunt Emerson Next issue: June 16th





**All of this.**



**For the price of this. Only £139.99.\***

For one month only,\* you can get a complete Commodore computer system for the price you'd expect to pay for the VIC 20.

It's a complete computer system: a Commodore VIC 20 computer, a cassette unit, a simple explanation of computer programming - "Introduction to Basic Part 1," plus an exclusive compilation tape of four computer programs, (Blitz, Type-A-Tune, Race and Hoppit).

And, while stocks last, all that can be yours for just £139.99. Which is almost exactly the price you'd normally have to pay for the VIC 20 alone.

There's only a limited number available, so we recommend you visit

your nearest VIC 20 stockist as soon as possible.

**ALL ABOUT THE VIC 20**

They say it's the best home computer in the world, and no wonder! There are educational programs for 5 year olds and up (spelling, physics, arithmetic etc.) Plus music, typing, chess and home accounts. And, of course, all those marvellous arcade games.

You'll soon be exploring new worlds of colour, animation and sound. With a vast choice of programs and unlimited scope for entertainment. All right at your fingertips.

\*Or while stocks last. Details correct at time of going to press.

YOU CAN SEE THE VIC 20 AT ALL BRANCHES OF DIXONS AND WALLACE HEATON, AND AT SELECTED BRANCHES OF BOOTS, RUMBELOWS, LASKYS, CURRYS, GREENS, ORBIT, MICRO C, RANK XEROX, WIGFALLS, SPECTRUM, COMET, JOHN LEWIS, WOOLWORTH, REDIFFUSION, CO-OP AND OTHER GOOD RETAILERS.

ALSO AT BRANCHES OF A NATIONAL NETWORK OF COMMODORE COMPUTER DEALERS.

 **commodore**  
**VIC 20**  
**The best home computer in the world.**



## NOW LET OFF SOME STEAM

We've had a few unfortunate experiences with software but luckily in our privileged position we can vent off some steam through the *C&VG* Reviews pages.

Up until now, you have not had the same opportunity to warn people about your own software disasters.

Now, things are different. *C&VG* is going to give over a page or two each month to Great Software Disasters, which will be written by you, the readers.

If you have bought a piece of software — or a peripheral, or even a computer — which you feel does not live up to its marketing blurb please write in and tell us.

Reviews of bad software are just as important as reviews of good. And we strongly feel that the software houses which really do believe in quality rather than putting out any title which may make a killing in the short-term, should be supported. The only restriction we will put on this column is that the manufacturers will be allowed a right of reply before we publish.

The first offering is a delightful rundown of one man's experiences with an Oric Computer. Keith Ollett is the man behind *Aeric Bloodaxe* or *How I Learnt to Live With an Oric*. Not only does it tackle one man's struggle to adapt to a new micro but it does so in a way that had most *C&VG* staff stifling giggles and we also get the feeling that before too long Mr Ollett is going to form an undying affection for the new companion in his life.

Read about *Aeric Bloodaxe* next month and if it reminds you of some of your own experiences in the microcomputer market then write and let us know. It doesn't have to be as long as Mr Ollett's piece, just long enough to get your views across.

Hot on the heels of the *Book of Video Games* comes an expanded Video Screens section for *C&VG's* TV games centre readers.

There is a whole host of new games cartridges plus a range of new machines, like the Vectrex and the Colecovision. All of which gives us more to tell you about each month.

*C&VG* already leads the rest in its information on the video games scene, so for the latest news and the most trustworthy reviews test out our expanded Video Screens section next month. After all, the next generation of microcomputers may well burst out of this market.

Vibra seats, holophonics and laser discs may still be a little bit beyond what Britain's arcades are currently capable of. But they are still ready to pull out a few surprises.

Like *Tip Top*, a 3D version of *Donkey Kong* which sets an explorer down in the jungle, dodging 3D coconuts as he tries to get his own back on a mischevious ape.

There's also a rundown of *Buck Rogers*, the futuristic space ace who has found his way into a video games cabinet and the right way to approach the World War II game *Frontline*.

Plus arcade tips on new favourite *Donkey Kong Junior*.

## NEXT MONTH

There's games in them thar pages of the July *C&VG*.

Games enough for everyone as we are packing in an extra listings-only section. 32 pages packed with versions of popular games for all kinds of microcomputer — on top of our normal selection of games programs.

Spectrum owners are in for a bouncing climbing treat with both *Donkey Kong* and *Donkey Kong Junior* putting in an appearance on their machine. *Donkey Kong* features the second screen of the arcade game with fires and ladders and *Mario* knocking the plugs out of the construction below Kong's feet.

*DK Junior* features the vines, snap-jaws and fruits of this increasingly popular arcade game.

Defend, *Bug Battle*, *Spike Attack*, *Meteor*, *Draughts*, *Labyrinth* and old favourites, like: *Munchmen* and *Ninek's Invaders* will be among the titles to take your mind off the forthcoming summer holidays.

## COMPUTER GAMES TOP TEN

### Sinclair Spectrum

- 1 *The Hobbit* (Melbourne House)
- 2 *Arcadia* (Imagine)
- 3 *Penetrator* (Melbourne House)
- 4 *Horace Goes Skiing* (Psion)
- 5 *Time Gate* (Quicksilva)
- 6 *Flight Simulation* (Psion)
- 7 *3D Tunnel* (New Generation)
- 8 *Blind Alley* (Sunshine)
- 9 *Spectral Invaders* (Bug Byte)
- 10 *Planetoids* (Psion)

### Atari 400/800

- 1 *Defender* (Atari)
- 2 *Pacman* (Atari)
- 3 *Galaxians* (Atari)
- 4 *Star Raiders* (Atari)
- 5 *Zaxxon* (Calisto)
- 6 *Centipede* (Atari)
- 7 *Miner 2049'er* (Tigervision)
- 8 *Missile Command* (Atari)
- 9 *Choplifter* (Creative software)
- 10 *Qix* (Atari)

### Vic 20

- 1 *Jelly Monsters* (Commodore)
- 2 *Choplifter* (Creative Software)
- 3 *Star Battle*
- 4 *Blitz*
- 5 *Sargon II Chess*
- 6 *Skramble* (Rabbit)
- 7 *Gorf*
- 8 *Cosmiades* (Bug-Byte)
- 9 *Vic Panic* (Bug-Byte)
- 10 *Hoppit*

### ZX-81

- 1 *Flight Simulation* (Psion)
- 2 *3D Defender*
- 3 *Mazogs* (Bug-Byte)
- 4 *QS Galaxians/Gloops* (Quicksilva)
- 5 *Space Raiders* (Psion)
- 6 *Thro the Wall/Scramble* (Psion)
- 7 *3D Monster Maze* (J. K. Greye)
- 8 *Gulpman II* (Campbell)
- 9 *Gobbleman* (Artic)
- 10 *Chess* (Psion)



# BOOTS, YOUR HIGH-STREET HOME COMPUTER CENTRE.



Do you know that we have a range of 5 leading Home Computer Systems? Plus over 150 programs. Plus peripherals from Joy-Sticks to Disk Drives ... and over 50 books.

If you want more information concerning these AND a voucher worth £3 off your next software purchase, please complete the coupon below.

## STOP PRESS

Dragon 64K Upgrade and Disk Drive arriving soon.

Home Computer Centres at larger Boots branches. All items subject to stock availability

### WE'LL SEND YOU OUR BOOTS **UPDATE 1** INFORMATION SERVICE

Through the post, FREE - information on the latest developments for your system.

We will also send you a voucher saving £3 on your next software purchase at Boots.\*

BLOCK CAPITALS PLEASE Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

SYSTEM (Please Tick) Sinclair ZX81  Sinclair Spectrum

Dragon 32  VIC 20  Commodore 64  BBC Computer

Post to: Boots Update Information Service, PO Box 12, West PD.O.

Triumph Road, Nottingham NG2 2GA.

\*Offer ends October 31st 1983.

#### INSTANT PERSONAL LOAN

- Boots Personal Loan instantly available subject to qualifying conditions.
  - Loans are available in the range £50-£500.
  - A.P.R. 23.9% (variable).
  - Please ask for details from our larger branches.
  - Or write to Sales Promotion Dept, Boots The Chemists Limited, Nottingham, NG2 2AA.
- † Credit Broker

Shop into



So much more to value





Please drop us a line at: Computer and Video Games, EMAP, Durrant House, 8 Herbol Hill, London EC1R 5JB.

## JUMBO AND SUBMARINE

Dear Sir,  
I would like to point out that our program Jumbo Jet Pilot, currently available for the Atari 400 and 800, is not being developed for, and shall not be available for, any other computer.

Submarine Commander is currently under development for the Commodore Vic-20 and is being considered for development for the Texas Instruments 99/4A. No release date has yet been set for either program.

Mike Dixon,  
UK Sales Manager,  
Home Computer Software,  
Thorn-EMI,  
London.

## RETURN OF KRAZY KONG!

Dear Sir,  
A friend of mine consulted me about a game program from your magazine for the Pet called Krazy Kong (February 1983 issue) as it would not work.

Apart from typing errors, the main cause was that it was written for a 9 inch screen Pet and used a PEEK to find the value of key pressed (PEEK 151). Unfortunately, 12inch screen 4000 series Pets give different values to the earlier small screen, a fact not widely known.

To convert the program to be universal (on all except the Basic 2 version machines) it is necessary to change the following lines in the program.

Line 20: Replace with lines 15 to 25

Line 170 to 240: Change variable S to S1

Lines 1050 to 1090: To use variables Z1, Z2, Z3 & Z4

Lines 1220 and 1230: Change variable S to S1

With these amendments, the program will run on most Pets... an excellent game in my opinion. If anyone wants to check the value for any key pressed, the following program will show them.

```
1 A = PEEK (151) : PRINT A
2 GO TO 1
```

### Amendments

Line 15: K = 41: P = 40: H = 39: REM FOR CURSOR

Line 18: REM 9INCH

SCREEN VARIABLES

Line 22: REM 12INCH

SCREEN VARIABLES

Line 25: IF PEEK (57344) =

76THENS=52:Z156:Z2=-50:

Z3=62:Z4=60:Z5=54

Line 1050:

IFA=Z1THENIFPEEK(J-P).....

Line 1060:

IFA=Z2ANDA1.....

Line 1080:

IFA=Z3THENGOSUB500

Line 1090:

IFA=Z4THENGOSUB600

John Bloore,

Kingswinford,

West Midlands.

## ROCKFALL DODGES!

Dear Sir,

There are two reasons why readers may have difficulty in getting Rockfall printed in your March 1983 issue, to work. First, the printer used to obtain the listing appears to have a different character set to the one on the BBC.

This, of course, has the effect that certain BBC characters are replaced by certain non-BBC characters on the listing.

This effect occurs on the following lines:

LINE 10, "↑" SHOULD BE "I" (WHICH IS DISPLAYED AS "←" IN MODE 7)

LINE 10, "↓" SHOULD BE "J" ("½" IN MODE 7)

LINE 60, "←" SHOULD BE "J" ("→" IN MODE 7)

Secondly, the program does not work on an Operating System 1.2 machine due to the method

it uses to read the keyboard. Corrections should be made as follows:

```
530 Z% = Y% + X% : A% = INKEY (-26) - INKEY (-122)
```

```
600 M% = A% : C% = Z% : X% = X% + A% : IF X% C0 X% = 0
```

It would also be a good idea to replace "OPT0" on line 10 with "OPT2".

David Mc Keran,  
Sunderland,

Tyne & Wear.

## WHERE CAN I TURN TO?

Dear Sir,

I am keen to learn more about my Oric computer but do not know who to turn to as I am new to computing. Can you please advise me whether any groups or any other organisations for Oric users that I can turn to for help exist at the moment?

Julian Douglas,

Hartsholme,

Lincoln.

Editor's reply: The Tangerine Users Group (TUG for short) is offering its services to Oric owners and the organisation can be contacted at: 1, Marlborough Drive, Worle, Avon BS22 0DQ.

But Bob Green of TUG tells me he is currently overwhelmed with response from Oric owners and delays of 14 days before the organisation can get back to enquirers, are inevitable.

## COLOURFUL SKYSCRAPER

Dear Sir,

I have a few modifications to suggest that will introduce a dash of colour to the Skyscraper program printed in April's C&VG. For example, the following changes will give, a yellow plane, a red bomb, black

background and blue skyscrapers:

```
30 FOR K = 0 TO RND(12): POKE J-K*32,175: NEXT: NEXT: REM SKYSCRAPER COLOUR
```

```
40 PLS = CHR$(158)+CHR$(155)+CHR$(146): REM PLANE COLOUR
```

```
50 NPS = STRING$(3,CHR$(128)):PO = 32: BOS = CHR$(177):RA=5:SC=0: REM BOMB COLOUR
```

```
80 IF PEEK (PO+1026) = 175 THEN CLS: PRINT @ 150, "SPLAT" : PRINT "YOU CRASHED INTO A SKYSCRAPER!": PRINT "YOUR SCORE WAS: ";SC: GOSUB 2500: PRINT "DO YOU WANT ANOTHER GO?"; INPUT US : IF LEFT$(US,1)="Y" THEN 5 ELSE END: REM DETECTS SKYSCRAPER COLOUR WHEN CRASH OCCURS
```

```
1000 IF SP + 32 479 then BD = 0:POKE SP + 1024,128: RETURN ELSE IF PEEK (SP+32+1024)=175 THEN POKE SP + 32 + 1024, 128: ..... (Rest of line as printed): REM DETECTS WHEN BOMB HITS SKYSCRAPER
```

The colours can be changed to any of the eight colours available, simply by adding the appropriate CHR\$ codes, listed on page 138 of the user manual, to the values given in the, all green, original version printed in your magazine.  
E. U. Lovesay,  
Norwich,  
Norfolk.





# MAILBAG



## FEMALE FAN MIXES IT!

Dear Sir,  
I would like to say a word of appreciation for your magazine. We have had Texas TI99/4a for around four months.

Yours is the only magazine which regularly has listings and adverts for our super fantastic machine. The machine is great — wonderful keyboard, excellent display, clear sound, enormous ROM (Edit Mode is super!)

For other Texas TI 99/4a fanatics here is a colour mixing program discovered by Ian Ellis, aged 10, a friend of my son's:

```
100 CALL CLEAR
110 CALL SCREEN (16)
120 INPUT "FIRST COLOUR":A
130 INPUT "SECOND COLOUR":B
140 CALL COLOUR (9,A,B)
150 CALL CHAR (97,"55AA55AA55AA55AA")
160 CALL HCAR (1,1,97,768)
170 GOTO 170
```

It gives an apparently unlimited number of shades and colours.

By the way — are there any other female computer fans out there?

Hazel Perkins,  
Adel,  
Leeds.

## PLUGGING A NEW MACHINE

Dear Sir,  
Please could you tell me the price of the new Colecovision you have mentioned in your magazine, and when it will be available. I have an Intellivision games machine and was wondering if I could put Intellivision games onto the Colecovision or vice-versa. I have also read in your magazine about a module which plugs into the Colecovision and allows it to take Atari games — will I be able to fit this module to my Intellivision?

Paul Hanks,  
Stroud,  
Gloucestershire.

Editor's reply: The Colcovision will be on sale at most major high street

stores, electrical chain stores, such as Rumbelows, Greens, Dixons, and Boots, in May. The basic unit, which includes joysticks and a copy of the Donkey Kong cartridge, will sell for £149.99. The Atari adaptor, which enables you to play VCS games on the Colecovision will be available at a slightly later date and will retail at £55. No Intellivision adaptors are available yet.

## HIGH SCORE FOR PENGO

Dear Sir,  
In the February issue you gave a good description of Pengo. Which was great because my local newsagent had just installed the game.

Now in the March issue some idiot called "Terry Pratt" has a high score of 17,410. Seeing this I thought that my high score is slightly better. It stands at 374,950. I had to clear 45 screens of snow-bees.

If there is any chance that my high score is the record could you send me a reply, so I could show my friends who have high scores on machines but they don't think its worth writing because they never get a reply.

Martin Stone,  
Chalfont St Peter,  
Buckinghamshire.  
Editor's reply: This "idiot" realised his score wouldn't stand for long — but thought it might set a target for other Pengo freaks to aim at Martin.

Please tell your friends to use their top scores by entering our 1983 Video Games Championships. See page 10 of this issue.



## HOTLINE FOR PET

Dear Sir,  
We are starting a Pet Monthly newsletter service.

It will contain programming hints and tips plus information regarding copyright, submission to periodicals/publishers, etc., technical information for hardware circuitry plus program listings, plus a "hotline" telephone service. Annual subscription is £7 and should be sent to the address below.

Aquarius Software,  
10 Kenneth Road,  
Pitsea,  
Basildon,  
Essex.

## DOGFIGHTER CONVERSION

Dear Sir,  
I tried to enter the Vic-20 Dogfight program featured in your December '82 issue into my schools' Vic. My school has the Vic 1211A Hi-Res super expander but no joysticks. Listed below are the conversions needed to run the program without joysticks.

The following lines should be changed:  
40 GET S\$  
45 IF S\$="r" THEN GOSUB s\$\$  
46 IF S\$=" " THEN X=X:Y=Y  
50 IF S\$="S" THEN B=1  
60 IF S\$="A" THEN B=2  
67 IF S\$="W" THEN B=3  
70 IF S\$="X" THEN B=4

These conversions give the following controls:  
Dive=W, Climb=X, Left=A, Right=S, Fire=Space bar.  
Kevin Hall,  
Hull,  
N. Humberside.

## SLOW DOWN DRAGON!

Dear Sir,  
I typed in the 'Dragon Run' listing in your April '83 issue, which worked perfectly. Try adding these few extra lines. They will slow the game down if you think it's too fast!  
31 ? CHR\$(125)  
32 ?? "ALSO, PLEASE ENTER SKILL LEVEL"  
33 ? "(1=hard, 9=easy)";

INPUT WW  
34 TE = 10\*WW

And change the beginning of line 130 to:  
130 FOR I=1 TO TE (the rest of the line remains the same).

I am glad to hear that the Atari range of computers have gone down in price again. The 400 may still not be the best value, but for the little extra money you get some of the best sounds and graphics of any home micro. A look at a few of the new game cartridges, like Defender, will prove me right.

I would like to send a message to all Atari owners — to get the most from their machine, they should join an owners club, and if there isn't a local one, be adventurous enough to start one.  
Edward Tilsley,  
Eastcote,  
Middlesex

## THE PLANET OF DEATH

Dear Sir,  
I felt compelled to write after playing my first ever adventure. I need help!  
What do I need the slimy gloves for? Why is the green man so unfriendly? What does the dance music mean? Why won't the computer — down the pit, behind the wind tunnel — talk to me?

These are just some of the many questions arising after having entered Artic's 48K Planet of Death for the ZX Spectrum. The story so far:

I found myself on a mountain plateau, with only a piece of sharp flint for company. I pick it up, and move into a damp limestone cave with a picture of a man climbing down a pit using a rope.

Moving on, I finally collect rope, a pair of boots, a broken floorboard, a laser gun and some stones.

Making my way to the bottom of the pit, I find the green man. I shake his hand, and he throttles me. Oh no not again!

Sometime later I arrive once more at the side of the green man who sleeps on the mirror. This time I shoot him and he goes up in a puff of smoke leaving behind him a broken mirror. I pick the





# MAILBAG



mirror up too, after first putting on the boots.

Exploring further, I find a wind tunnel, a pair of slimy gloves and a computer with a keyboard — which refuses to communicate.

I also find a key. I have to drop an object now (the floor-board which I have used and broken) and pick up the key which in nearly all adventure games is like the heart of an artichoke — you have to go through an awful lot to get at it, but it is usually worth it in the end.

Having loaded myself up with miscellaneous objects I try the key in all the prison cell doors — it doesn't fit any of them. (You have to kick the barred window to get out.)

I fix my laser at the force field, twice weakening it, but the third shot having no effect. Where to go now?

Please, anyone out there, tell me what to do. This must be one of the most annoyingly addictive adventures for the Spectrum. I'm hooked anyway. I'll find my spaceship if it's the last thing I do. Anyway I'm stuck in the maze to the north of the strange house.

A. Buchan,  
Aberdeenshire,  
Scotland.

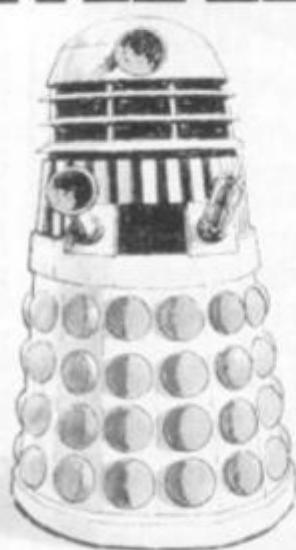
**Editor's reply:** Sounds like you are in dire straits Mr. Buchan. But help is at hand. Keith Campbell is offering aid to lost adventurers on his page and we have forwarded your letter to him for answer in a future column.

## FULL SCREEN ON TEXAS

Dear Sir,  
As a TI 99/4a owner I would very much like to thank you for the two games published recently, it is most gratifying to find a popular magazine taking an interest in this excellent machine at last.

I would also like to take the opportunity to say how much I enjoy your magazine and appreciate its excellent layout and use of diagrams. I do love a good picture or two!

If anyone is interested, here is a little technique I use for printing full screens on



```
the Texas.
100 CALL CLEAR
110 CALL
CHAR(97,"FF01FF80FF01FF00")
120 CAL
CHAR(98,"EEAAAAAAAAAA
AABA")
130 FOR I=1 to 24
140 PRINT "aa(two
spaces)bababababbbbabab-
aba (two spaces)aa"
150 NEXT I
160 GOTO 160
```

Lines 110 and 120 redefine characters "a" and "b" and the print statement in line 140 positions them where they are required. Most of the other console characters can be used in a similar fashion.  
S. W. Sorsbie,  
Tenterden,  
Kent.

## COLOUR ON THE WAY

Dear Sir,  
I am a proud CoCo owner and would be obliged if you could please print a program for the TRS-80 colour computer.

There are many CoCo users who receive your excellent magazine but we still wait for a program to be printed within the pages of *Computer and Video Games*. I am nearing completion of a program at this moment, and when I have finished, shall send it in.

If you print this letter, I'm sure it will inspire many users of this most versatile computer on the market, to put finger to keyboard.  
Jeremy Hughes,  
Haverfordwest,  
Dyfed.

**Editor's reply:** We hope

your letter has the desired effect Jeremy. We await the arrival of your TRS-80 colour program with anticipation. So far our vaults do not contain any!

## EXPANDING GRAPHICS

Dear Sir,  
I live in Hong Kong and have a Vic-20. Recently I bought a 16k RAM expansion pack for my Vic. Over the last few days I have been ripping my hair out trying to create my own characters in my expanded Vic machine.

Before I expanded I used location 7168 to place my programmed characters. To protect it from being overwritten by Basic I changed the pointers to the top of available RAM at locations 52 and 56 so that they point below the character set.

Needless to say, this precaution is fruitless when the Vic is expanded because some RAM vectors are altered, e.g. those pointing to the Basic program and the screen.

Wai Keung,  
Tuen Mun,  
Hong Kong.

**Editor's reply:** To protect your character set use the following program, it will relocate the screen to its proper address. You can then put your character set in locations 4096 to 7696.

```
10 for X = 1 TO 7
20 READ LOC,DAT
30 POKE LOC,DAT
40 NEXT X
50 SYS(0)
60 DATA 648,30,642,32,
36869,240,36866,150,0,108,1,
0,2,192
```

This resets the appropriate pointers on an expanded Vic and then performs a reset.

## HELPING THE DOCTOR . . .

Dear Sir,  
Whoever checked the Dr Who game in the March issue wants putting down a black hole! It's impossible to get into the Doctor's Tardis!

If however, you change line 520 to read . . . IF L <> 46

you CAN save the universe.

Apart from that small error, and the fact that the description page read like a "made in Hong Kong" instruction manual, it's a good game!

Ken Ward,  
Lakenham,  
Norwich.

**Editor's reply:** Even a black hole can't swallow the *Computer and Video Games* office!

## APPEAL FOR NEW CLUB

Dear Sir,  
I would like to ask your readers if there is anyone in the Manchester area who would be interested in forming a computer club for the TI 99. If so, perhaps they would contact me with any ideas they may have.

T. A. Grimshaw  
Longsight,  
Manchester.

**Editor's reply:** Anyone who is interest should contact the *Computer and Video Games* office for Mr. Grimshaw's complete address.

## COLOURS ON THE ORIC

Dear Sir,  
I think you ought to warn people about the Oric 1 advertisements which have been appearing in computer magazines like yours.

It says that the Oric 1 has sixteen colours, which is not true. It has eight colours, like the majority of computers in the £100-£200 price range.

The reason why Oric say it has sixteen colours is that they think that the background colour and the ink colour is completely different.

With that assumption in mind, you could say that the ZX Spectrum has a total of around fifty-six colours, a different combination of colours using FLASH, BRIGHT, PAPER, INK and BORDER.

Keep up the good work with your fantastic magazine, and the great artwork!  
Shaun Dodson,  
Haxby,  
York.



## SCORES START TO MOUNT

The high arcade scores of would-be champions are beginning to mount in the Computer & Video Games office.

A whole host of machines are proving their popularity but few clear leaders have so far emerged. Many players have stayed with tried and true favourites which have been languishing in arcades for years while others proudly sign their name beside the latest games on the market.

Asteroids, Pacman and Scramble feature among the older games still finding favour with video gamers. James Thomas of Fishguard has taken an early lead with his signed Scramble score of 3,672,820 from the Cleddau Leisure Centre in Haverford West. But the rest of the Scramble scores are languishing well behind.

Jonathan Rees must be suffering from a bad case of Pacman finger

## BE A CHAMP

A brand spanking new arcade game, not previously released in the UK is still to be claimed from Taitel Electronics.

The prize will go to our 1983 Video Games Champion when he has seen off all opposition at the grand final on July 7th.

To qualify for that final, simply cut out the form below and take it down to your local pub or arcade or wherever your favourite machines can be found.

Put up the best score you can on the machine and when you reach a

score you're happy with, ask the arcade or pub manager to sign the form to witness it. You can repeat this process on any two other machines which you fancy your chances on, or purely send the form off to us at C&VG in an envelope marked: 1983 Video Games Championships, Computer & Video Games, Durrant House, 8 Herbal Hill, London EC1R 5JB.

If you mess up this form write or phone and we'll send you another one. You can enter as many times as you like before the June 23rd closing date — but don't leave it too late as the vagaries of the post may mean your scores arrive too late.

after achieving over two million at the Carousel Amusements in Southport. Another two million plus score was notched up by Andrew Freeman of Pitsea Pool in Basildon on Asteroids.

Donkey Kong and Robotron are among the games being battled over by other arcade veterans. Some 569,000 from Mark Neale was witnessed in the Boscombe Pier

Amusements on Donkey Kong while current top Robotron ace is R. Cooper whose score of over nine million stirred the locals in the De-Luxe arcade in Hastings.

Among the recent games vying for position are: Amidar and the popular Mr Do plus my own favourite, Pengo... but I won't be featuring in the final after seeing the latest scores on that.

# Please enter the following scores in your 1983 Video Games Championships

My high score is:

.....

It was scored on a:

.....

machine

Date:

The manager of the pub/  
arcade who witnessed my  
score is:

.....

His signature:

Name & address of pub/  
arcade:

.....

My name is:

Address:

.....

My high score is:

.....

It was scored on a:

.....

machine

Date:

The manager of the pub/  
arcade who witnessed my  
score is:

.....

His signature:

Name & address of pub/  
arcade:

.....

My high score is:

.....

It was scored on a:

.....

machine

Date:

The manager of the pub/  
arcade who witnessed my  
score is:

.....

His signature:

Name & address of pub/  
arcade:

.....

Tel:





The three best scorers on each of the most popular machines will be given expenses paid trip to London to take part in the final against one another and a star personality.

Please ensure your entries are witnessed by the arcade manager or operator so we can verify the scores. And be prepared to keep July 7th free if you're particularly proud of your top scores.

If your arcade or pub owner is displaying a 1983 Video Games Championships poster he will also have a dispenser of application forms for you to enter on, should you be reluctant to cut this form out of your copy.

## HELP BUYERS MAKE THE RIGHT CHOICE

When you bought your computer did you go for the one with the impressive pattern display or the one conducting its own sales patter.

Well, Atari is giving you a chance to influence the way its computer is represented in the future.

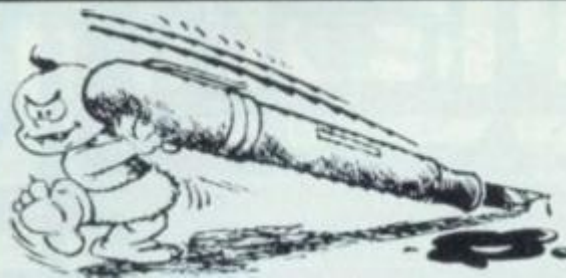
In conjunction with the high street electronics chain of Dixons and ourselves, Atari is setting up a competition to get your ideas on how its computers can best be presented to the perusing public.

Dixons provides a good example of how high street stores have taken home computers to their hearts. The Dixons shelves are now packed with many different brands battling for attention and giving buyers a chance to run their hands over a host of different keyboards.

But trying out a quick loop can hardly be a buyer's benchtest. He should see the micro running at its best before he makes his judgement. Obviously Atari are confident about their machine but how would you show it in its best light?

An Atari 800 microcomputer goes to the winner, or — if you already own an Atari — you can opt for a disc drive and an equivalent value in Atari software as a prize.

To enter the competition, simply write a program in Atari Basic which sets the computer off to the

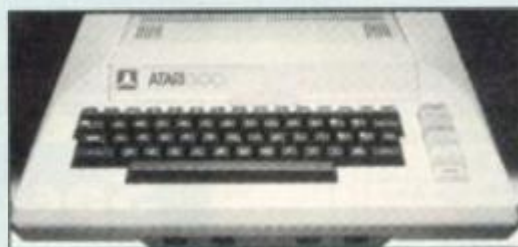


## Confessions of a Bug

Dear all,

Only one thing to come clean on this issue. For all you T.I. 99-ers who couldn't pass our colour blindness test on Ski-ing in May, I've got to warn you about the perils of snow glare.

Any irate phonecall or a letter to the offices of C&VG will result in a



best advantage. Making the best use of the colour graphics and sound facilities of the machine.

The best of the programs will hopefully feature in future Dixons store demonstrations, helping to entice people to buy Atari computers.

There will also be three runners-up prizes of the latest Atari software.

purely black and white listing being returned to you in the post.

The editor assures me that hands have been chopped off and the people responsible been assigned to work on the Seventh Empire.

Meanwhile here are some corrections.

300 FOR M=A TO B  
 730 IF (C=70) + (C=73) ...  
 980 CALL CHAR (35, " 3C4299 ...  
 1310 FOR M=1 to 600  
 1430 DATA 30, 11, 1, 1, 12, 10, 11, 12, 29,  
 30, 12, 1, 1, 13, 9, 14, 13, 22, 30, 13, 1, 1, 14,  
 5, 15,14, 21, 3, 0, ...  
 1450 DATA 3, 8, 3, 5, 5, 5, 5, 8, 2, 11, 4, 11,  
 4, 17, 6, 17, 3, 22, 5, 22, 7, ...  
 1460 DATA 13, 19, 10, 15, 12, 15, 8, 10, 10,  
 10, 10, 7, 12, 17, 13, 2, 13, 4, 16, 4, 16, 2, 17,  
 9, 19, ...  
 1580 FOR X=8 TO 14 ...  
 2230 CALL HCHAR (24, 1, 32, 32) ...  
 2260 CALL HCHAR (XX, Y, 9, 120)

Yours Mal.

Judging will commence on June 16th and we'll need your entries in by then.

My own view of in-store displays of microcomputers is that they era on the side of the technical and verbose, instead of getting down to demonstrating some hot game action. But, luckily, it is being judged by Dixons' and Atari's experts, so you'll have a free reign to produce the best display for all kinds of computer usage.

The competition is not open to employees of EMAP, Dixons or Atari or their relatives and the judges' decision will, of course, be final.

## SEVENTH CHANCE TO ENTER

The reappearance of The Seventh Empire has been met with roars of approval from the players and groans of horror from the poor devils who are tied to the Empire computer while it decides the fate of the galaxy.

But with a Colecovision as the star prize in the game, we couldn't let the game suffer its demise for too long. So it will soon be making a triumphant return — allowing a fresh start to all those who may have lost a fleet.

We can now replace players who have had to drop out of the game for one reason or another. So if you have been disappointed in the past, not to be playing Seventh Empire, then we are offering another chance.

First come, first served I'm afraid

but fill in the form below and we will do our best to include you.

Please include me in the Seventh Empire game when it resumes.

I would like to name my tribe the .....

My name is: .....

Address: .....

Tel: .....



# SPECTRUM

## NEWS from SPECTRUM

### BBC

Now from SPECTRUM the outstanding BBC 'B' machine plus, Disk Drives & software see ad. opposite for details.

### PRESTEL

See PRESTEL Page 600181 for up to date information from SPECTRUM

### VISCOUNT DISK DRIVES

Coming soon! a fabulous new range of Disk Drives specially selected by SPECTRUM from under £200 too! suitable for most micros inc. LYNX, COL, GENIE, DRAGON etc Ask your local SPECTRUM dealer for further details.

### NEW SPECTRUM MEMBERS

Check our address page! - there are many new SPECTRUM dealers throughout the UK so there's a good chance there'll be a SPECTRUM centre near you.

### INTRODUCING SPECTRUM FACTS!

Next to many of our offers, you'll find a few lines tagged SPECTRUM FACTS. We pride ourselves on providing you, the customer, with a genuine service as well as super LOW prices, and we want you to know that when you buy from a SPECTRUM dealer, you'll get exactly the right micro for your needs. SO LOOK OUT FOR YOUR SPECTRUM FACTS!

### AFTER SALES CARE

SPECTRUM service centres will ensure that should your machine 'go down' we will get it running again as quickly as possible. We also offer extended warranties at reasonable prices too! - ask your SPECTRUM HOME COMPUTER CENTRE for full details.

### COMPUTER DEALERS

The SPECTRUM dealer list is virtually closed. If your area is free and you'd like to join the waiting list, please write to MIKE STERN, Spectrum (U.K.) Ltd, Burrowfields, Welwyn Garden City, Herts.

## BBC Model 'B' MICRO



Yes, this top selling Micro system is now available from your local SPECTRUM dealer - the BBC Model 'B' offering 32K RAM plus a full back-up of peripherals & software too! It's an infinitely expandable machine, ideal for the home or business and is already widely used for educational purposes in schools - so the chances are your children may already be well familiar with its operation, which must make it the ideal choice for the home too! So if you're thinking of buying a micro you must take a look at the BBC at your local SPECTRUM dealer NOW! - but just one word of warning, initially stocks will be limited and demand is bound to be great, so please 'phone to check the stock position before making a journey.

BBC 'B' with Disk Interface	£470.50
BBC Disk Interface Kit	£95.00
BBC Single Disk Drive 100K	£265.00
BBC Dual Disk Drive 800K	£803.85
BBC Tape Recorder	£29.90
BBC Acorn Software Cassette based from	£9.95
BBC Disk based software	£11.50

### Spectrum Price

# £399.00

INC. VAT

### Please Note!

We regret that there is a tremendous shortage on all BBC equipment - please phone your nearest store before making a journey to check stock position.

## SHARP MZ-80A



**FREE!**  
£75 WORTH  
of software  
with every MZ80A  
purchased

Desk top genius! the all-in-one SHARP MZ-80A. Ready to run the moment you get it home. Built-in keyboard, CRT, 9" display and cassette data storage with 48K RAM. The BASIC with extra useful additions, offers quite a powerful micro for the home or business. ■ 4K Byte ROM 48K Byte RAM - 2K Byte Video RAM ■ ASCII profiled keyboard - numeric pad ■ 2page Video RAM allows screen to be scrolled up or down. ■ CP/M available.

**Spectrum Price** **£546.25** Inc. VAT

Floppy Disks and Accessories for MZ80A

Twin Floppy Disk unit (inc. 1/0 Card, Disk, Cable) . . . . .£856.75  
Twin Disk Unit (only) . . . . .£678.50  
Single Floppy Disk Unit . . . . .£460.00

Cable for F/D Drive . . . . .£29.79

Printers and Accessories for MZ80A, MZ80B & MZ80K  
80 Col Tractor Feed Printer inc. Cable, 1/0 Card & Rom. £477.25

## ORIC-1



A superbly designed and engineered micro and great value-for-money from SPECTRUM. Offering 48K RAM Colour - (8 foreground and 8 background can be displayed at same time) High resolution graphics User definable Graphics. Full sound (6 octaves of controllable sound) Easy to use keyboard with moving keys. Standard Centronics parallel interface allows easy connection to a wide range of printers etc

**Spectrum Price** **£169.95** Inc. VAT

### SPECTRUM FACTS

Maximum user RAM . . . . . 47,870 Bytes  
Text screen . . . . . 28x40  
High Resolution . . . . . 240x200  
Cassette Lead . . . . . Included



The powerful and infinitely expandable

# LYNX



Just look at this super new LYNX Micro - an incredible 16K & 32K video ram and that's expandable up to or beyond 96K. For just £225.00 INCLUDING VAT the LYNX is exceptionally versatile. All LYNX's 'add-on' connections are standard types. The high definition colour graphics make it a top value choice for the home or office (with expansion, the LYNX can become an 80 characters-per-line word processor!) Take a look at the LYNX - a memorable bargain from SPECTRUM. But please phone to check stock position before making a journey as this machine is bound to be in great demand.

## Spectrum Price

**£225.00** Inc. VAT

VISCOUNT - Teach yourself LYNX BASIC £6.95

### SPECTRUM FACTS

Maximum user RAM..... 13,700 Bytes (approx)  
Text Screen..... 24x30  
High Resolution..... 265x248  
Cassette Lead..... Included

## COLOUR GENIE



A truly reliable micro and highly recommended by SPECTRUM featuring powerful and sophisticated COLOUR GRAPHICS, allowing you to create full 8-colour Games, Diagrams and charts quickly and simply. Powerful 16K RAM memory (expandable internally to 32K) for FULL COLOUR video games and POWERFUL COMPUTING with a full range of inexpensive accessories: 16K RAM pack, Joysticks for TV games, Light Pen, Disk Drive and a Printer. The superb Colour Genie is at SPECTRUM now - check it out and see the Genius at work!

**Spectrum Price** £224.48 Inc. VAT

**COLOUR GENIE ACCESSORIES**  
Joysticks..... £49.49  
16K RAM..... £38.50  
Printer Interface..... £39.95  
VISCOUNT Teach yourself Colour Genie Basic..... £6.95

**SPECTRUM FACTS**  
Maximum user RAM..... 14,200 Bytes (approx)  
Text screen..... 24x40  
High Resolution..... 160x90  
Cassette Lead..... Included

# SINCLAIR ZX SPECTRUM



Yes, this top selling micro is now available from Spectrum in both 16K and 48K RAM. So now there's no need to send by Mail Order - just call into your local SPECTRUM dealer and pick one up. But just one word of warning; with this added availability advantage, stocks are bound to sell fast - so make it soon!

**SINCLAIR ZX SPECTRUM 16K** - £99.95  
**SINCLAIR ZX SPECTRUM 48K** - £129.95

Spectrum Computer Centres have no connection whatsoever with the ZX-Spectrum Computer manufactured by Sinclair Research Ltd.

## SINCLAIR ZX-81

**SINCLAIR ZX** . . . . £49.95  
**16K RAM pack** . . . £29.95  
**ZX Printer** . . . . £39.95

Computer Bookshop INC. VAT  
Software for Sinclair Computers  
Bumper 7 1K ZX81..... £5.95  
1K Super Trio ZX81..... £7.95  
Labyrinth 16K ZX81..... £5.95  
Nightmare Park/Music 16K ZX81..... £6.95  
Computacalc 16K ZX81..... £7.95  
Personal Banking System 16K ZX81..... £11.44  
Space Invaders/Rescue 16K ZX81..... £6.95  
Breakout 16K ZX81..... £5.95  
Mugsy 16K ZX81..... £5.95  
Mergatroyds 16K ZX81..... £5.95  
Progmerge 16K ZX81..... £5.95  
Football Manager 16K ZX81..... £7.95  
6 Games..... £3.95

Junior Education..... £3.95  
Business & Household..... £3.95  
Skill & Judgement Games..... £3.95  
Junior Education..... £3.95  
Family Quiz..... £3.95  
**Type-20**  
Fantasy Games..... £4.75  
Space Raiders & Bombers..... £4.75  
**Type-30**  
Super Programs Nos. 1-8..... £4.95  
**Type-40**  
Backgammon..... £5.95  
Flight Simulation..... £5.95  
**Type-50**  
English Literature 1..... £6.95  
English Literature 2..... £6.95  
Geography..... £6.95  
History 1..... £6.95  
Maths. 1..... £6.95



**ZX-PANDA 16K RAM PACK ONLY £24.95**

## OKI MICROLINE Printers



Now from SPECTRUM - this top selling range of printers renowned throughout the world for their quality and reliability. If you're thinking of adding a printer to your micro then you must take a look at the MICROLINE range at SPECTRUM -NOW! they're fantastic value-for-money

Models available

**MICROLINE Model 80** £259.90  
**MICROLINE Model 82A** £455.40  
**MICROLINE Model 92P** £585.35

### EPSON



The new EPSON RX-80 and FX printers now available—check with your local SPECTRUM dealer NOW!

**FX-80 Spectrum Price** £503.70  
**RX-80 Spectrum Price** £332.35

### SEIKOSHA



**GP-100A**

Now a top quality graphic printer at a price you can afford. Centronics interface connects easily with most micros. Spectrum LOW price £229.94 Inc. VAT Cables & interfaces available for most micros

### SMITH CORONA



**Model TP-1**

Microprocessor controlled, high quality daisy wheel printer at a LOW cost from SPECTRUM Serial, Parallel or IEEE Interface.

**Spectrum Price** £557.75 Inc. VAT

### SELECTION FROM THE COMPUTER BOOKSHOP

30 Hour Basic for the BBC Micro..... £5.95  
Let your BBC Micro Teach You to programme..... £6.45  
BBC Micro Revealed..... £7.95  
Over the Spectrum..... £6.95  
60 Games and Applications for the ZX Spectrum..... £4.95  
Programming the 6502..... £9.95  
Programming your ZX Spectrum..... £6.95  
ZAP Pow Boom for the Vic 20..... £7.95  
The ZX Spectrum Explored..... £5.95  
Vic Innovative Computing..... £6.95  
Mastering Machine Code on your Zx81..... £7.50

### BOOKS



The ZX Spectrum and how to get the most from it..... £5.95  
Easy Programming for the ZX Spectrum..... £5.95  
30 Programmes for the BBC Micro..... £4.95  
CPM Handbook..... £11.50  
Programming the Z80..... £11.95  
20 Best Programmes for the ZX Spectrum..... £5.95  
Getting acquainted with your Vic 20..... £6.95  
Machine code and Better Basic..... £7.50  
The Cambridge Colour Collection (Spectrum)..... £6.95  
Vic Revealed..... £10.00  
De RE Atari..... £17.00  
ATARI Operating system listing..... £10.43

**MORE SPECTRUM LOW PRICES**



# SPECTRUM

A few examples from our  
**SOFTWARE Selection**  
from independent software houses

THORN EMI	
Software for Atari Inc. VAT	
Submarine Commander	£34.44
Jumbo Jet Pilot	£34.44
Soccer	£29.84
Kickback	£29.84
Home Financial Management	£19.49
Darts	£19.49
Snooker & Billiards	£19.49
Pool	£19.49
Cribbage & Dominoes	£19.49
Cupute 4 & Reversi	£14.89
Mutant Herd	£24.25
Software for Commodore	
River Rescue	£25.24
Vic Music Composer	£25.24

GEM	
Software for ZX81, Dragon and Spectrum Inc. VAT	
Monster Mine (for ZX81)	£4.95
Monster Mine (for Spectrum)	4.95
Monster Mine (for Dragon)	7.95
Space Mission (for ZX81)	£4.95
Space Mission (for Spectrum)	£4.95
Space Mission (for Dragon)	£7.95
Dragon Golf	£7.95
Dragon Character Generator	£9.95

SALAMANDER	
Games for Dragon 32 Inc. VAT	
Dragon Trek	£9.95
Wizard War	£7.95
Vulcan 0	£7.95
Games Compendium Df	£7.95
Golf	£7.95

RABBIT	
Software for Commodore VIC20 Inc. VAT	
Space Storm	£5.99
Ski Run	£4.99

## ACCESSORIES

**SANYO Colour Monitor**  
CDD3125N  
£228.85

Plus many more at your local SPECTRUM dealer - call in now and see!



SANYO	Inc. VAT		
SANYO 12" green monitor	£90.85	Single part 11" x9 1/2" printer paper, box of 2,000 sheets	£13.05
Sanyo 36 Cassette Recorder	£29.95	VIC Accessories from Viscount	
C12 Cassettes	£9.50	Motherboard without Buffer	£24.95
Single sided double density disks (Box of 10)	£21.25	Motherboard with Buffer	£29.90
Double sided double density disks (Box of 10)	£33.91	16K RAM Pack	£43.95
Disk head cleaner	£16.10	32K RAM Pack	£66.95
		64K RAM Pack	£114.94
		Carrah Chatterbox/Voice Synthesiser	£57.45



Now with  
**48K RAM**  
and still at the same  
LOW price!

## ATARI 800

Now this proven and tested machine has been upgraded to a massive 48K RAM and its still at the amazing **LOW** price of **£399.99** from SPECTRUM. It's an ideal Home Micro for graphics, educational and personal finance etc. use it and it will take you from learning up to a small business use. You can add printers, program recorders, disk drives and more, to expand your micro as and when you want, to suit your needs. So if you're looking for a top of the line micro you must see the **ATARI 800 with 48K at SPECTRUM - NOW!**



Spectrum Price  
**£399.99**  
INC. V.A.T.

**SPECTRUM FACTS**  
Maximum user RAM ..... 37,899 Bytes  
Text Screen ..... 24 x 40  
High Resolution ..... 320 x 192  
Cassette Lead ..... Needs own Recorder

## ATARI 400

16K RAM



**NOW ONLY**  
**£159.95**  
INC. VAT

BASIC cartridge extra  
**£39.99 inc. VAT**  
(£34.77 ex. VAT)

## SPECTRUM FACTS

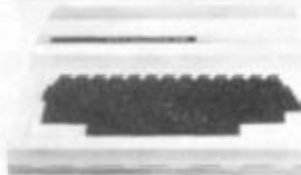
Maximum user RAM ..... 13,323 Bytes  
(with basic Cartridge)  
Text Screen ..... 24 x 40  
High Resolution ..... 320 x 192  
Cassette Lead ..... Needs own Recorder

**ATARI DISK DRIVE**  
**£299.00** INC. VAT

## ACCESSORIES, BOOKS & GAMES for ATARI

Accessories	INC VAT		INC VAT
Thermal Printer	£198.95	European Countries & Caps	£14.99
16K RAM Pack	£65.00	Hangman	£14.99
400 Keyboard	£59.95	Kingdom	£14.99
32K RAM board (400/800)	£75.00	States & Capitals	£14.99
48K RAM board (400/800)	£99.00	Touch Typing	£19.99
Paddles (Pair)	£13.99	Music Composer (Cartridge)	£35.99
Joysticks (Pair)	£13.99	Home Entertainment (Cartridge except where stated)	
I/O Cable	£12.99	Galaxian	£29.99
Printer Cable	£28.50	Defender	£29.99
Monitor Cable	£25.00	Asteroids	£29.99
Thermal Paper	£4.00	Basketball	£24.99
Pointmaster Joysticks	£14.95	Blackjack (Cassette)	£14.99
Quickshot Joysticks	£14.95	Covers of Mars (Disk)	£29.99
Keyboard for Atari 400	£60.00	Centipede	£29.99
Books & Manuals		Computer Chess	£24.99
Wiley Manual	No VAT	Missile Command	£29.99
Basic Reference Manual	No VAT	PAC Man	£29.99
DOS. 2 Manual	No VAT	Space Invaders	£29.99
Operating System Listing	No VAT	Star Raiders	£29.99
DOS. Utilities Listing	No VAT	Cribbage & Domino	£19.95
Home Computer Programs - Home Office		European Scenic Jig-saw	£19.99
Word Processor (Disk)	£99.99	Programming Languages & Aids	
Mortgage & Loan	£14.99	Assembler Editor	£39.99
Microsoft Basic (Diskette)	£59.99	Atari Basic Cartridge	£39.99
Home Study (Cassette except where stated)		Macro Assembler (Disk)	£59.99
INV. to programming 1	£19.99	Pilot (Consumer)	£59.99
INV. to programming 2	£22.99	Pilot (Educator)	£89.99
INV. to programming 3	£22.99	Entertainer Kit (Star Raiders Missile Command & Pair Joysticks)	£69.99
Conversational French	£39.99	Programmer Kit (Basic Cartridge & Manuals)	£39.99
Conversational German	£39.99		
Conversational Italian	£39.99		
Conversational Spanish	£39.99		

## DRAGON



Spectrum Price **£199.95**

VISCOUNT Teach yourself Dragon Basic. £6.95

Unbelievable value from SPECTRUM! Extensive facilities include highly advanced colour graphics. Powerful standard 32K RAM (expandable to 64K Bytes). • 9 Colour 5 resolution Display • Extended Microsoft colour BASIC (as standard) • Advanced sound with 5 octaves - 255 tones

### SPECTRUM FACTS

Maximum user RAM ..... 29,679 Bytes  
Text Screen ..... 16x32  
High Resolution ..... 256x192  
Cassette Lead ..... Included

## JUPITER ACE



### SPECTRUM FACTS

Maximum user RAM  
1,000 Bytes approx.

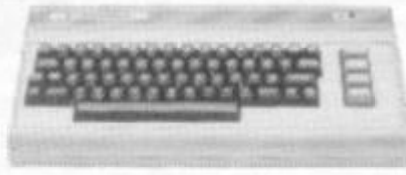
Outstanding value-for-money! The JUPITER ACE uses easy to understand FORTH language. 3K RAM EXPANDABLE to 19K. Full moving keyboard with auto repeat and caps lock. Full sound and chunky graphics.

Spectrum Price **£89.95**

### HI-TECH Software for JUPITER

Memory Stars	£5.99
Cavern Attack	£5.99
Micro Maze	£6.50
Space Battle	£4.50
Ace Invaders	£5.50
Green Cross Frog	£4.80

## COMMODORE 64



### Powerful 64K RAM

40-colour displays to monitor TV. High resolution graphics and 3-dimensional effect capability, music synthesiser. Z80 additional processor option.

### Spectrum Price

**£345.00**

INC. VAT

VIC 20  
Spectrum Price £129.90

SPECTRUM Special!  
**AMAZON**  
Business Software for  
**ATARI 800**  
at less than  
**HALF PRICE!**  
Key Account  
**ONLY £69.00**

Key Word  
**ONLY £69.00**



# There's a Spectrum Centre near you ...

- ABERYSTWYTH**  
AberData at Galloways,  
23 Pier St. 0970 615522
- ABINGDON**  
Ivor Fields Computers,  
21 Start St. 0235 21207
- ACCRINGTON**  
PV Computers, 38A Water St.  
0254 36521/32611
- ALDERSHOT**  
David Saunders Computer  
Centre, 51 Station Rd.  
0252 20130
- ALFRETON**  
Gordon Harwood, 69/71 High  
St. 0773 832078
- BANBURY**  
Computer Plus, 2 Church Lane.  
(0295) 55890
- BARROW-IN-FURNESS**  
Barrow Computer Centre,  
96 Church St. 0229 38353
- BASILDON**  
Godfrey's, 28-32 East Walk,  
Town Centre. 0268 289379
- BASINGSTOKE**  
Fisher's, 2/3 Market Place.  
0256 22079
- BATH**  
Software Plus, 12 York St.  
0225 61676
- BEDFORD**  
Stanad Ltd., 115 Midland Rd.  
0234 49341
- BELFAST**  
Arthur Hobson Ltd.,  
37 Great Victoria St. 0232 246336
- BIRMINGHAM**  
Sherwoods, Great Western  
Arcade. 021 236 7211
- BOSTON**  
Fotosound Computers,  
19 Dolphin Lane. 0205 64781
- BRADFORD**  
Photosave, 18 Cheapside.  
0274 308598
- BRIGHTON**  
Capricorn, 1 Queens Rd.  
0273 29634
- BRISTOL**  
Brensal Computers Ltd.,  
24 Park Row. 0272 294187
- BURNLEY**  
IMD Computer Centre,  
39-43 Standish St., 0282 54299
- BURY (Lancs.)**  
Micro-North, 7 Broad St.  
Tel. 061-797 9764
- BURY ST. EDMUNDS**  
Bury Computer Centre,  
Tel. 061-797 9764
- CAMBERLEY**  
Camera Arts (Micro Computer  
Division), 36 High St.  
(0276) 5848
- CAMBRIDGE**  
KP Ltd., 12a Kings Parade.  
0223 68087
- CANTERBURY**  
Kent Micro Systems, Conquest  
House, 17 Palace St. 0227 50200
- CARDIFF**  
Randall Cox, 18-22 High St.  
Arcade. 0222 31960
- CHELMSFORD**  
Maxton Hayman Ltd.,  
5 Broomfield Rd. (0245) 354595
- CHESHAM**  
Reed Photography &  
Computers, 113 High St.  
0494 783373
- COVENTRY**  
Ceventry Micro Centre,  
33 Far Gosford St. (0203) 58942
- CREWE**  
Microman, 123 Nantwich Rd.  
Tel. TBA
- CROYDON**  
Cadcom Ltd, 96 Whitgift Centre  
(Next door to MacDonald's)  
01-686 8393
- DARLINGTON**  
McKenna & Brown,  
102 Bondgate. (0325) 59744
- DERBY**  
CT Electronics, at Camera  
Thorpe, The Spot. 0332 44760
- DUMFRIES**  
Vennals, 71 English St.  
0387 4547
- DUNSTABLE**  
Dermans, 7-11 Broad Walk.  
0582 65515
- EDGWARE**  
Breaker 1-4, 130 High Street,  
01-952 7488/8860
- EDINBURGH**  
Edinburgh Computers-at  
Edinburgh Cameras,  
51-57 Lothian Rd., 031 229 4416
- EDINBURGH**  
The Silicon Centre, 6-7 Antigua  
St. 031 557 4546
- EVESHAM**  
Technicare, The Lodge,  
Bricklin St., 0388 41484
- EXMOUTH**  
Open Channel, 30 The Strand.  
03952 4408
- GLASGOW**  
Victor Morris Ltd., 340 Argyle  
St. 041 221 8958
- GLOUCESTER**  
The Model Shop, 79-81 Northgate  
St. (0452) 410693
- GRIMSBY**  
R. C. Johnson Ltd.,  
22 Friargate, Riverhead Centre.  
0472 42031
- GUERNSEY**  
Grut's, 3-5 The Pullet,  
St. Peter's Port. 0481 24682
- GUILDFORD**  
The Model Shop, 23 Swan Lane.  
(00772) 0483 39115
- HAMILTON**  
Tom Dickson Computers, 8-12  
Cadzow St. 0698 283193
- HARROW**  
Camera Arts (Micro Computer  
Division), 24 St. Ann's Rd.  
01-427 5469
- HATFIELD**  
Microworld, 2 Crawford Rd.  
(07072) 64137
- HEMEL HEMSTEAD**  
Faxminster Ltd, Computer &  
Electrical Discount Centre,  
25 Market Square. 0442 55044
- HEREFORD**  
Melgray Hi-Tech Ltd, 49 Broad  
St. 0432 275737 (Just Opening)
- HESWALL**  
Thorngard Computer Systems  
46 Pensby Rd. 051-342 7516  
(Opening Soon)
- HITCHIN**  
Camera Arts (Micro Computer  
Division), 68A Hermitage Rd.  
0462 59285
- HULL**  
The Computer Centre  
(Humber-side) Ltd., 26 Anlaby  
Road (0482) 26297
- ILFORD**  
Prot Enterprises, 1 Centreway,  
(next to Sainsburys)  
High Rd. 01-553 0144
- IPSWICH**  
Brainwave, 24 Crown St.  
0473 50965
- ISLE OF MAN**  
T. H. Colebourn Ltd., 57-61  
Victoria St., Douglas. 0624 3482  
(Just Opening)
- JERSEY**  
Audio & Computer Centre  
7 Peter St.,  
St. Helier. 0534 74000
- KILMARNOCK**  
Vennals, 49 Foregate  
0568 32175
- KIRCALDY**  
R. Kilpatrick, 254E High St.  
Tel. T.b.a. (Opening soon)
- LEAMINGTON SPA**  
IC Computers, 43 Russell St.  
0926 36244 (Opening Soon)
- LEEDS**  
Bass & Bligh, 4 Lower Briggate.  
0532 454451
- LEICESTER**  
Youngs, 40-42 Belvoir St.  
0533 544774
- LEIGHTON BUZZARD**  
The Computer Centre at  
Milton Keynes Music,  
17 Bridge St.  
0525 382504/376622
- LITTLEHAMPTON**  
Alan Chase Ltd., 39 High St.  
09064 5674/4545
- LIVERPOOL**  
Beaver Radio,  
20-22 Whitechapple,  
051-709 9898 (Opening Soon)
- LIVERPOOL (Aintree)**  
Hargreaves, 31/37 Warbreck  
Moor. 051-525 1782
- LONDON E8**  
McGowans, 244 Graham Rd.  
Hackney. 01-533 0935
- LONDON EC2**  
Devron Computer Centre,  
155 Moorgate. 01-638 3339/1830
- LONDON SE1**  
Vic Odden's, 6 London Bldg. Walk  
01-403 1988
- LONDON SE9**  
Square Deal, 375 Footscray Rd.,  
New Eltham. 01-859 1516
- LONDON SE15**  
Castlehurst Ltd., 152 Rye Lane,  
Peckham. 01-639 2205
- LONDON SW6**  
Chelsea Micros Ltd.,  
14 Jerden Place. 01-385 8494
- LONDON N1**  
ASP Micro Systems, 185 Upper  
St., Islington. 01-359 9095
- LONDON N14**  
Youngs Electronic t/a  
Fieldmaster, 19 The Broadway,  
The Bourne, Southgate  
01-882 5579
- LONDON N.20**  
Castlehurst Ltd., 1291 High Rd.  
01-446 2280
- LONDON NW9**  
Moviescope, 459 Kingsbury Rd.,  
London NW9. 01-204 6352
- LONDON W1**  
Devron, 4 Edgware Road.  
01-724 2373
- LONDON W1**  
Computers of Wigmore Street,  
87 Wigmore St. 01-486 0373
- LONDON W3**  
Colomatic Computers, 44  
High St., Acton. 01-992 7611
- LONDON W11**  
Electroleisure, 120 Notting Hill  
Gate. 01-221 7029
- LOUGHTON**  
Micro & Movie Channel  
309 High Rd.  
01-508 1216
- LOWESTOFT**  
John Wells, 44 London Rd.  
North. 0502 3742
- LUTON**  
Terry-More, 49 George St.,  
0582 23391/2
- MACCLESFIELD**  
Camera & Computer Centre,  
118 Mill St. 0625 27468
- MANCHESTER**  
Lomax Ltd., 8 Exchange St.,  
St. Ann's Sq. 061 832 6167
- MANCHESTER GTR**  
Mr. Micro Ltd., 69 Partington  
Lane, Swinton. 061 7282282  
open Thurs.-Fri.-Sat. till 8 p.m.
- MANCHESTER GTR**  
PASE, 213-215 Market St., Hyde.  
061-366 5935 Telex: 665845
- MANCHESTER GTR**  
Wilding Ltd., 23 Deansgate,  
Bolton. 0204 33512
- MANCHESTER GTR**  
Eccles  
Home & Business Computers  
4 Northway,  
Eccles Precinct. 061-707 2004
- MARKET HARBOROUGH**  
Harborough Home Computers,  
7 Church Street. 0805 31572
- MIDDLESBROUGH**  
McKenna & Brown,  
190 Linthorpe Rd. 0642 248345
- NEWCASTLE-ON-TYNE**  
Newcastle Camera  
& Computer Mart, 16 Northum-  
berland Ct. 0632 327461
- NEW MALDEN**  
Surrey Micro Systems,  
31 High St. 01-942 0478
- NEWPORT (Gwent)**  
Randall Cox, 118 Commercial  
St. 0633 67378
- NORTHAMPTON**  
Basic Computers & Systems  
Ltd., 72 Kingsthorpe Hollow,  
0804 710740
- NORTHWICH**  
Camera & Computer Centre,  
3 Town Sq. (0606) 45629
- NORWICH**  
Sound Marketing,  
52 St Benedicts St. 0603 667725
- NOTTINGHAM**  
Cameo Computers, 8/9/10  
Trinity Walk. 0602 42912
- NOTTINGHAM**  
Basic  
39-41 Trent Boulevard,  
West Bridgford 0602 819713
- OLDHAM**  
Home & Business Computers  
Ltd., 54 Yorkshire St.,  
061-633 1608
- OXFORD**  
Ivor Fields, 7 St Ebbs Street.  
0235 21207
- PAIGNTON**  
Devon Computers, 81 Upper  
Manor Rd. (0803) 526303
- PEMBROKE**  
Randall Cox, 19 Main St.,  
064 668 2876
- PETERBOROUGH**  
Peterborough Communications  
91 Midland Rd.  
0733 41007
- PETERHEAD**  
North East Computers  
1-3 Ellis St. 0779 79900
- PORTSMOUTH**  
Computer Corner, 261  
Commercial Rd. 0705 833938
- PORTSMOUTH Waterlooville**  
GB Microland, 7 Queens Prde  
07014 59911
- PORT TALBOT**  
Micro Gen, 6 Royal Buildings,  
Talbot Road. 0639 887730
- PRESTON**  
Wilding's, 49 Fishergate.  
0772 556250
- READING**  
David Saunders Computer  
Centre, 8 Yield Hall Pice.  
0734 580719
- ROCHDALE**  
Home & Business Computers  
75 Yorkshire St.  
Tel. T.b.a. (Opening Soon)
- ROTHERHAM**  
Kenneth Whitehead,  
2 Market St. 0709 62594
- RUGBY**  
The Rugby Micro Centre,  
9-11 Regent St. 0788 70522
- SEVENOAKS**  
Ernest Fielder Computers,  
Dorset St. 0732 456800
- SHEFFIELD**  
Superior Systems Ltd.,  
178 West St. 0742 755005
- SKIPTON**  
Look & See, 45 Belmont Bridge.  
0756 60078
- SOUTHAMPTON**  
R. J. Parker & Son Ltd.,  
11 Portsmouth Rd., Woolston,  
Southampton. 0703 434137/8
- SOUTHPORT**  
Central Computers,  
575 Lord St. 0704 31881
- STAFFORD**  
Computerama, 59 Forgate St.  
(0785) 41899
- STEVENAGE**  
D. J. Computers  
11 Town Sq.  
0438 65501
- STIRLING**  
R. Kilpatrick, 58 Port St.  
0786 5532
- STOCKPORT**  
Wilding Ltd., 1 Little Underbank,  
Stockport. 061-480 3435
- STOKE-ON-TRENT**  
Computerama, 11 Market Sq.  
Arcade, Hanley. 0782 288620
- ST. ALBANS (Herts)**  
Clarks Computer Centre,  
14-16 Holywell Hill. 0727 52991
- ST. AUSTELL**  
A B & C Computers,  
Duchy House, 6 Lower Aylmer Sq.  
0726 64463
- TAUNTON**  
Grays, 1 St James St. 0823 72986
- TEDDINGTON**  
Teddington Camera Centre,  
Broad St. 01-977 4716
- THETFORD**  
Thetford CB & Micros,  
21 Guildhall Street, 0842 61645
- WALLINGTON**  
Surrey Micro Systems Ltd.,  
53 Woodcote Rd. 01-647 5636
- WARRINGTON**  
Wildings, 111 Bridge St.  
0925 38290
- WATFORD**  
SRS Microsystems Ltd.,  
94 The Parade, High St.  
0923 26602
- WEST BROMWICH**  
Bell & Jones, 39 Queens Sq.  
021 553 0820
- WESTON-SUPER-MARE**  
K. & K. Computers, 32 Alfred  
St. Tel. TBA
- WHITEHAVEN**  
P. D. Hendren, 15 King St.  
0946 2063
- WIDNES**  
Computer City, 78 Victoria Rd.  
051 420 3333
- WIGAN**  
Wilding Ltd., 11 Mesnes St.  
0942 44382
- WOKING**  
Harpers, 71-73 Commercial Way.  
04862 61061
- WORCESTER**  
David Waring Ltd., 1 Marmion  
House, High St. 0905 27551
- WREXHAM**  
T E Roberts, 26 King Street.  
0978 364404/364527
- GT. YARMOUTH**  
Tony Hood Electronic,  
26a Market Gate Shopping Centre  
0493 3143
- YORK**  
York Computer Centre,  
7 Stonegate Arcade. 0904 641862



# NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS N GAMES NEWS

## DISCOVER THE HIDDEN KEY TO TREASURE

### PHAROAH'S TOMB

Travel back in time to ancient Egypt and explore Pharaoh's Tomb. This is the opportunity afforded to Vic owners in the latest game from Anirog Computers.

In order to get into the inner chamber of the tomb you will need to find the four hidden parts of the key. To assist you in your travels you will also have to collect other items such as an axe, a spade, and apple, and a lamp.

Pharaoh's Tomb runs on the 16k machine and is available from Surrey based Anirog at £6.00.

Two other new games from Anirog this month for the Vic 20 are a version of the arcade game Donkey Kong called Krazy Kong, and a space shoot out — Xenoll — both requiring a 16k expansion and both will sell at the slightly dearer price of £7.90.

## HUNT THE WIZARD'S TREASURE

### KNIGHT'S QUEST

The Knight's Quest is to find Merlin's treasure and take it safely back to the castle.

This part text and part graphic adventure divides the screen in two with a screen for pictures in the top half and scrolling text in the bottom.

In order to find Merlin's gold ingots, jewels, Magic Ring and Seeing Mask you will have to explore 120 rooms.



On your journey you will have to battle elves, scorpions and dragons, rescue a beautiful princess from the Wizard of Trill, visit the Witches' Tower and the Valley of the Seven Rocks, and journey underground into secret chambers, which can fill with water and drown you.

The game also features a reincarnation routine which can be useful if you get on the wrong end of an elves spear or a Wizard's spell.

Also useful is a Save fund which enables you to stop the game at a certain point and take up where you left off a few hours or days later.

The Knight's Quest is available from Surrey-based Phipp's Associates at £5.95 for the Spectrum version in 48k and £4.95 for the ZX81 version in 16k.



## THE DEMONS INVADE ENGLAND

### DEMON ATTACK

America's top selling video game of 1982 is now available in home computer format in the UK.

Imagic's Demon Attack, the shoot 'em up game with no less than 84 waves of exquisitely drawn aliens has been converted for use on the Atari 400/800 and the Vic-20.

The game has been so popular in the US that its designer, Rob Fulop, recently received the award of designer of the year.

The game is imported into the UK by Hales of Yorkshire and costs £29.08. The Atari version is available now and the Vic 20 version will be in the shops in June.

Another well known Imagic video game — Atlantis, an undersea battle — is also in the process of conversion for the Vic and the Atari home computers.

The next large video games manufacturer to follow in Imagic's footsteps is likely to be Parker Brothers of Empire Strikes Back and Frogger fame who have lined up some of their games for a July launch on home computers.

## MY, WHAT A NICE GAME YOU'VE GOT WOLF TRACKS

A villainous wolf haunts the wood in a new computer game idea based around the fairy tale, Little Red Riding Hood.

The game is unique to the Colour Genie computer and welds the elements of the children's story into a tactical game which Genie manufacturers, Lowe Computers, hope will have several spin-offs.

The first version, Wolf Tracks, features Little Red Riding Hood picking primroses in the wood and gradually filling her basket, unaware of the lurking wolf. She must avoid spilling primroses and bumping into trees and the poor girl is occasionally dive-

bombed by aggressive birds.

When a basket is filled it should be taken to granny's house and the primroses used to fill vases on the windowsills of the cottage.

The real danger in the wood is the wolf. He leaves his tracks in a trail of red primroses which our heroine crosses at her peril as the wolf will attack her if she does.

The game also features a woodcutter, who can be called upon to bring his hatchet and try to destroy the wolf. But as time marches on in the wood the march of the red primroses continues leaving even more of the screen unpassable.

The Genie's analogue to digital joystick, which increases the player's speed, the further it is pushed in any direction, plays an important part in Wolf Tracks.

It will retail at around £5-6 although a final price had not been decided on as we went to press. The game is available through the Colour Genie Users Club at 46 Highbury Avenue, Bullwell, Nottinghamshire or through Lowe themselves in Matlock.

Other versions of the game are currently being planned.

## HORRORS FROM THE HEAVENS!

### TERROR-DAKTIL

As the sun sets your blood runs cold as an unspeakable horror pours out of the heavens. Swooping monsters after your flesh. Bird-like and scaly. Creatures not of this world.

Armed only with a battered pistol you will need all your skill as marksman as night falls. Darkness follows shortly but still the monsters come. Their eyes shining out brightly like distant twinkling stars.

Terror-Daktil 4D is the latest 48k game from Melbourne House software — the people who brought you the Hobbit and Penetrator.

The game's fourth dimension mentioned in the title refers to the fourth dimension of time which is incorporated in the game in the shape of the setting sun. The game is available from W. H. Smith at £6.95.





# NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS

# GAMES NEWS

## GET ALL TIED UP IN KNOTS

### KNOT 3D

The Games News team was managed to sneak a preview of the latest game from New Generation Software — the one man software house of 3D Tunnel fame.

Called Knot 3D the game offers a totally original scenario. An X is positioned at the centre of the screen and appears to move into the screen as walls and shapes loom in front of you.

In the words of the game's designer, Malcolm Evans, the idea of the game, "is to avoid collisions with your own green/yellow trail, and those of up to four chasers, as you rush through an empty three dimensional space.

As more trails are laid it becomes increasingly difficult to thread your way through the knots created".

The game will be available at W. H. Smith at the end of June.

It will run on the Sinclair Spectrum in 16 or 48k and will sell for £5.95.

## CALLING ALL VORCON WARRIORS!

### VORCON WARS

Here's a game which reflects your personality in the way you play it.

The planet Vorcon is open for plunder. Ruthless people will risk all in an attempted attack on Vorcon. More cautious players will cultivate land to feed their people or spend their resources on drilling for oil.

Vorcon Wars is a brand new play by mail game. The ultimate aim is to become a nuclear power. Towards this end you will have to plan projects such as the construction and launch of a satellite for surveillance and to aid in the transportation of men.

Vorcon Wars is the invention of John Nicholson of Bracknell, Berkshire. Each turn costs £1 plus a further £1.50 for the first three maps and the book of rules.

The C&VG Games News team have entered Vorcon Wars and will be keeping you up to date on happenings on the planet.

Each player receives from the organiser two computer printouts. The first of these show the immediate territory around your home base. The various land uses are represented by hexagons, i.e. industrial, agricultural, weaponry.

The second printout gives you a detailed printout of how your resources were used in the previous go with your current status in all areas.

## TREASURE HUNT FOR A CHAMPION

### ROMIK CHALLENGE

Big cash prizes are being offered by Romik software to players who achieve good high scores while playing some of their new games.

The offer is part of the firm's search for a world champion Romik games player.

Each new cassette contains a yellow entry form for the Grand Master competition. As well as the cash star prize the winner will receive one copy of each new Romik game for one year.

New games this month from the Slough-based firm are Time Destroyers — a scrolling shoot up with a variety of aliens to be blasted. Destroyers is Romik's second space game for the expanded Vic and required 3, 8, or 16k Ram expansion.

Unexpanded Vic owners have also been included in this month's new release — Space Fortress is based on the popular arcade game — Phoenix. Powerblaster is a maze chase game with a shoot 'em up space theme.

Romik have also branched out into two other computers with the launch of their first game for the ZX81 and the BBC machine.

Super Nine is a selection of nine games on one cassette for the 1k ZX81. BBC owners are given Birds of Prey — a shoot up with bird-like aliens.

Romik's Vic games are available from Lasky's and other computer shops at £9.99. Prices have yet to be confirmed on the BBC and ZX81 games.

## THE CHICKENS COME HOME TO ROOST!

### CHICKEN

What goes cluck, cluck splat? A chicken trying to get across a busy motorway of course!

If you want the chicken to survive then you'll need considerable skill and the latest cassette from the new Vic-20 software house Micro Antics.

Chicken Challenge is based on the arcade game Frogger. You must get five chickens safely across the road in as short a time as possible.

Just one thing you should know. This is no ordinary motorway. Along with the lorries and cars you will also see Diving Ducks, and chicken pies on the conveyor belts, and a thieving fox.

Also new from Micro Antics this month is a childrens game. The game is Called Brain Panic and, like Chicken Challenge, is for the unexpanded Vic. In it you have to match up trains, animals and other objects. Brain Panic is based on a childrens card game.

Both games are available now from Micro Antics of Staffordshire at £5.90.

## TALK ME THROUGH THIS ONE!

### PARSEC

"Good shot pilot" croons the female voice of your ships battle computer as you hurtle through space, guarding your eyes from the blinding flashes of light as your laser fire blasts the aliens.

Two light years further and she speaks again, "Time to refuel". This is a tricky exercise as you must fly your craft through a narrow tunnel. But take heart. Your electronic companion is quick to congratulate you if you successfully complete the exercise.

Parsec is one of two new games from Texas Instruments for the TI 99/4a incorporating their add-on speech synthesiser.

You are at the controls of a space ship scrolling from left to

right against a background of stars. But don't let your one directional movement lead you into the mistaken belief that the aliens will conveniently attack from one direction as well. They won't. They will come at you from behind as well as from the front.

There are sixteen different types of aliens to be destroyed — all capable of unique attack strategies.

The second new talking game is called Alpinar and features a far wider vocabulary than Parsec.

You play the part of the intrepid mountaineer, bravely clambering over the slippery slopes, falling boulders, battling snakes, avoiding fires, and even an eagle which attempts to bomb you with a giant golden egg.

Your commentator is always ready with a cutting remark when you make a false move. "Did you mean to do that?" she sarcastically enquired when I tumbled to the ground after being hit by a falling boulder.

It is difficult to resist making mistakes on purpose in Alpinar just to see what will be said next!

Alpinar and Parsec are available from your Texas dealer now at £31.95. The speech synthesiser is available at £49.95.



Illustrations: Jon Davis



# NEW PRODUCTS NEW PRODUCTS NEW PRODUCT GAMES NEWS

## BACK TO THE BATTLE OF BRITAIN

### SKYHAWK

The scene is a sleepy village set among the hills in the heart of the English countryside. The date is 1943 — the height of World War II and the Battle of Britain.

Suddenly, the tranquility of a hot summer day is broken by the roar of German aircraft engines flying in low to dodge coastal radar.

The lives of many people depend on you — a lone fighter pilot facing a squadron of enemy aircraft. This latest game from Quicksilver, called Skyhawk, for the Vic-20 puts you in the hot-seat — defending your homeland from a deadly attack. Keep a careful eye on your fuel supply. You may have to land to refuel during the battle.

Skyhawk runs on the Vic with 3k or 8k expansion and is the second game from Quicksilver for the Vic. It is available now from the Southampton-based firm at £7.95.

Spectrum owners have not been left out of this month's new releases with two new arcade style games.

Astroblaster is a multi-wave shoot 'em up with an assortment of tough aliens. Frenzy is a robot attack game in which you must fight it out with deadly droids. Both games run on 16k or 48k machines and are available from HQ at £4.95 each.

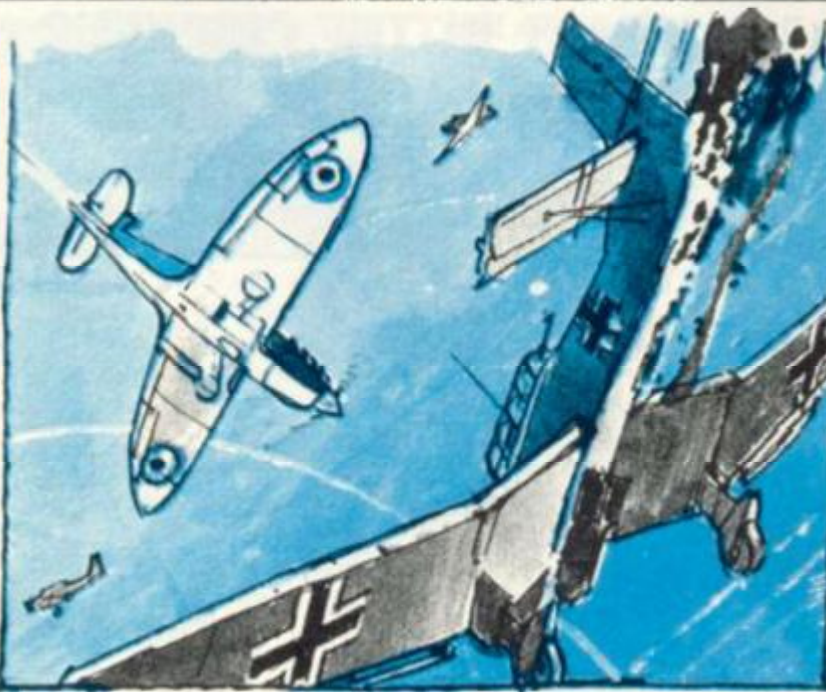
## STOCKS AND SHARES ON THE MARKET

### STOCK EXCHANGE

New software house A.S.L. are understandably bullish about their new game for the Oric.

The game is called Stock Exchange and enables you to dabble with stocks and shares for the afternoon without causing your bank manager to burst a blood vessel.

The game displays the continuously updated performances of nine companies. You must buy



and sell shares to make money. Borrowing is allowed but not always advisable.

On the B side of Stock Exchange is a bonus program called Etch-a-Sketch which features a movable cursor, shading in any colour which you can select from the list on offer.

Stock Market and Etch-a-Sketch are available from the Wrexham based firm at £4.

## THEATRE OF DEATH AND DESTRUCTION

### SHEVA

Budding Masterminds reading this will not need to be told that Sheva is the Hindu god of destruction.

The less well informed amongst you may also be interested to learn that Sheva is the name of the latest game from Red Shift Software which simulates the conflict involved in Europe during World War III.

The game features a scrolling map of Europe. The cities which you have chosen at the beginning of the game may be annihilated by nuclear warheads if you are not careful.

Sheva is the follow up to Red Shift's Timelords — a complex computer-cum-boardgame for the BBC model B, at £7.95.

Sheva runs on the 48k Spectrum and is available from the London based Red Shift at around the £7 mark.

## TUNE IN TO THOSE NEW MICRO WAVES RADIO PROGRAMS

Home computer owners in the West Country can now tune into a free bank of software on their local commercial radio station — Radio West.

C&VG spoke to Zorte, real name Edwin Tozer, Radio West's computer program presenter. "The program goes out on Monday evenings between 7.30 and 8.00 pm. We cover computer news, run competitions, and broadcast short computer programs — usually no more than about fifteen seconds in length."

Subjects covered so far have been multiplication, morse code, and a graphics package for the ZX81 which was programmed to draw a picture of a face.

No games have been broadcast as yet but Zorte is working on a Breakout type game for the BBC machine, and soon Radio West will be ready to broadcast their first game.

As well as the short programs broadcast during the programme Radio West also broadcast longer programs after the station has finished normal transmission.

These longer programs have been mainly educational, with some business applications. Machines for which software has so far been broadcast are the Dragon, ZX81, BBC, Epsom, Newbrain, Atari and the Oric.

## JACK JUMPS JUST LIKE A FROGGER!

### JUMPIN' JACK

Jumpin' Jack Flash he's a gas, gas, gas. Well — more precisely, he's a brand new Frogger type game for the unexpanded Vic-20.

Hopping from log to log, and then on to turtles, you must jump your little green friend across a fast flowing river.

Jumpin' Jack is just one of a wide range of games which have just been released for the Vic-20 from Sumlock.

In this month's batch is a Galaxians-type game called Triad and a version of Scramble. All three games run on the unexpanded machine and are available at £7.95.

Also new from Sumlock this month for Vic owners is an adventure game requiring a 16k expansion.

Starship Escape challenges you to find the various bits of your spacecraft which have been hidden by aliens in their giant spaceship. Starship is available at £9.95.

## THE BIRDS FLY HIGH WITH VIC

### FIREBIRDS

Cosmic Firebirds — the arcade game with the spiralling aliens — has at last been converted for the Vic-20.

Firebirds is the latest offering from the new software house — Solar Software.

Other games in the range so far include tried and tested favourites — Galaxians, Scramble, Super Breakout, Gunfight, Asteroids and Munchman.

The games are available from Currys Micro C and direct from Solar Software at £5.95 for Gunfight, Asteroids, and Munchman, and £6.95 for Galaxians, Scramble and Super Breakout.

All of the games run on the unexpanded Vic except Cosmic Firebirds which runs on the Vic with an 8 or 16k expansion.



# A feast for everyone interested in computers.

We're preparing a mouth-watering spread for our 4th International Computer Show at the Cunard Hotel, Hammersmith.

Over 120 exhibitors from all over the world will be there.

Which makes this Show the biggest ever mounted in Britain by one computer manufacturer.

£3,000 WORTH OF EQUIPMENT TO BE WON

There's also £1000 worth of computer systems to be won every day at the Show.

COVER CHARGE

Admission to the Show costs only £1. Family tickets are also available for just £2.50.

And isn't that a small price to pay for a feast like this?

 **commodore**



I cannot attend but would like information on Commodore Computers (please tick box):

Personal  Business

Name

Address

Postcode

**THE CUNARD HOTEL**  
HAMMERSMITH · LONDON W6 8DR

## HARDWARE

An appetising array of new products, portable and hand-held computers, colour and daisy wheel printers, and full colour monitors. Plus the VIC 20, Commodore 64, 8000, 500 and 700 series.

## SOFTWARE

A carefully chosen selection of games, CAD/CAM, information retrieval, spread sheets, word processors and educational software.

## PERIPHERALS

As accompaniments to your main system, choose from the vast range of disk drives, printers, plotters, monitors and games accessories.



## THE COMMODORE 4TH INTERNATIONAL COMPUTER SHOW

THURSDAY JUNE 9<sup>TH</sup> · 2 PM - 6 PM  
FRIDAY JUNE 10<sup>TH</sup> · 10 AM - 6 PM  
SATURDAY JUNE 11<sup>TH</sup> · 10 AM - 5 PM

Post to: The Commodore Information Centre,  
Dept. CS, 675 Ajax Avenue, Slough, Berkshire SL1 4BG.  
Telephone Slough (0753) 79292.

Telephone

CSCVG0683



# 100 FREE PROGRAMS

FROM SILICA SHOP — WITH EVERY PURCHASE OF AN

# ATARI 400

# 800




## REDUCED PRICES

We at Silica Shop are pleased to announce some fantastic reductions in the prices of the Atari 400/800 personal computers. We believe that the Atari at its new price will become the U.K.'s most popular personal computer and have therefore set up the Silica Atari Users Club. This club already has a library of over 500 programs and with your purchase of a 400 or 800 computer we will give you the first 100 free of charge. There are also over 350 professionally written games and utility programs, some are listed below. Complete the reply coupon and we'll send you full details. Alternatively give us a ring on 01-301 1111 or 01-309 1111.

ATARI 400 with 16K	<b>£159</b>
ATARI 400 with 48K	<b>£228</b>
ATARI 800 with 48K	<b>£349</b>

## 400/800 SOFTWARE & PERIPHERALS

Don't buy a T.V. game! Buy an Atari 400 personal computer and a game cartridge and that's all you'll need. Later on you can buy the Basic Programming cartridge (£35) and try your hand at programming using the easy to learn BASIC language. Or if you are interested in business applications, you can buy the Atari 800 + Disk Drive + Printer together with a selection of business packages.

Silica Shop have put together a full catalogue and price list giving details of all the peripherals as well as the extensive range of software that is now available for the Atari 400/800. The Atari is now one of the best supported personal computers. Send NOW for Silica Shop's catalogue and price list as well as details on our users club.

THE FOLLOWING IS JUST A SMALL SELECTION FROM THE RANGE OF ITEMS AVAILABLE:

<b>ACCESSORIES</b> Cables Cases Diskettes Joysticks Le Stick - Joystick Misc Supplies Paddles	Mountain Shoot Rearguard Star Fire Sunday Golf	<b>BUSINESS</b> Calculator Database Manager Decision Maker Graph-It Invoicing Librarian Mort & Loan Anal Nominal Ledger Payroll Personal Finl Mgmt Purchase Ledger Sales Ledger Statistics 1 Stock Control Tetelink 1 Visicalc Weekly Planner Word Processor	<b>DYNACOMP</b> Alpha Fighter Chompelo Crystals Forest Fire Intruder Alert Monarch Moonprobe Moving Maze Nominos Jigsaw Rings of The Emp Space Tilt Space Trap Snut Poker Triple Blockade	Maths-Tac-Toe Metric & Prob Solvg Mugwump Music Terms/Notatn Musical Computer My First Alphabet Number Blast Polycalc Presidents Of U.S. Quiz Master Stargate Stereo 3D Graphics Three R Math Sys Video Math Flash Wordmaker	Scream States & Capitals Touch Typing	<b>EMI SOFTWARE</b> British Heritage Cribbage/Dominos Darts European Scene Jig Hickory Dickory Humpty Dumpty Jumbo Jet Lander Snooker & Billiards Submarine Command Super Cubes & Tilt Tournament Pool	Cattle Centurion Checker King Chinese Puzzle Codecracker Comedy Diskette Dice Poker Dog Date Domination Downhill Eastern Front Galahad & Holy Gr Graphics/Sound Jax-O Jukebox Lookahead Memory Match Midas Touch Minotaur Outlaw/Howitzer Preschool Games Pro Bowling Pushover Rabbitz Ravers II Salmon Run 747 Landing Simul Seven Card Stud	Sleazy Adventure Solitaire Space Chase Space Trek Suftens Palace Tact Trek Terry Wizards Gold Wizards Revenge	Jambreaker Mission Asteroid Mouskattack Threshold Ulysses/Golden Fl Wizard & Princess	<b>PERIPHERALS</b> Centronics Printers Disk Drive Epson Printers Program Recorder RS232 Interface Thermal Printer 16K Memory RAM 32K Memory RAM	<b>PROGRAMMING</b> AIDS from Atari Assembler Editor Assembler (APX) Microsoft Basic Pascal (APX) Pilot (Consumer) Pilot (Educator) Programming Kit
<b>ADVENTURE INT</b> Scott Adams Adv No 1 Adventureland No 2 Pirate Adv No 3 Mission Imp No 4 Woodoo Cast No 5 The Count No 6 Strange Ody No 7 Mystery Fun No 8 Pyramid of O No 9 Ghost Town No 10 Sev Island 1 No 11 Sev Island 2 No 12 Golden Voy Angle Worms Deflections Galactic Empire Galactic Trader Lunar Lander	<b>AUTOMATED SIMULATIONS</b> Crush Crumble Ome Datesones of Ryn Dragons Eye Invasion Orion Rescue at Rigol Ricochet Star Warrior Temple of Apsai Upper Reaches Aps	<b>BOOKS</b> Basic Ref Manual Compute Atari DOS Compute Bk Atari Compute Magazine De Re Atari DOS Utilities List DOS2 Manual Misc Atari Books Op System Listing Wiley Manual	<b>CRYSTALWARE</b> Beneath The Pyram Fantasyland 2041 Galactic Quest House Of Usher Sands Of Mars Waterloo World War III	<b>EDUCATION</b> from APX Algalcalc Atlas of Canada Culbbyholey Elementary Biology Frogmaster Hickory Dickory Inst Compng Dem Lemonade Letterman Mapware	<b>EDUCATION</b> from ATARI Conv French Conv German Conv Italian Conv Spanish Energy Car European C & Caps Hangman Invit To Prop 1/2/3 Kingdom Music Composer	<b>ENTERTAINMENT</b> from APX Allen Egg Anthill Attack Avalanche Babel Blackjack Casino Block Buster Block 'Em Bumper Pool	<b>ENTERTAINMENT</b> from ATARI Asteroid Basketball Blackjack Centipede Chess Entertainment Kit Missile Command Pac Man Space Invaders Star Raiders Super Breakout Video Easy	<b>PERSONAL INT</b> from APX Adv Music System Banner Generator Blackjack Tutor Going To The Dogs Keyboard Tutor Morse Code Tutor Personal Fitness Prg Player Piano Sketchpad	<b>SANTA CRUZ</b> Basics of Animation Bobo Business Display Lists Graphics Machine Kids 1 & 2 Horizontal Scrolling Master Memory Map Mini Word Processor Page Flipping Player Movie Gr Player Piano Sounds Vertical Scrolling	<b>SILICA CLUB</b> Over 500 programs write for details	

## FOR FREE BROCHURES - TEL: 01-301 1111

For free brochures and reviews on our range of electronic products, please telephone 01-301 1111. To order by telephone, just quote your name, address, credit card number, and order requirements and leave the rest to us. Paid and packing is FREE OF CHARGE in the UK. Express 24 hour delivery available at an additional charge.

- **SHOP DEMONSTRATION FACILITIES** — we provide full facilities at our shop in Silica Monday to Saturday 10am to 5.30pm (closing Thursday 1pm, Friday 4pm).
- **MAIL ORDER** — we are a specialist mail order company and are able to supply goods direct to your home.
- **MONEY BACK UNDERTAKING** — if you are totally unsatisfied with your purchase, you may return it to us within 15 days. On receipt of the goods in satisfactory condition we will give you a full refund.
- **PART EXCHANGE/SECOND HAND MACHINES** — we offer a part exchange scheme to trade in many makes of TV, game for personal computers.
- **COMPETITIVE PRICES** — our prices, offers and service are very competitive. We are never knowingly undercut, and will normally match any lower price quoted by our competitors.
- **HELPFUL ADVICE** — available on the suitability of various computers.
- **AFTER SALES SERVICE** — available on all computers out of guarantee.
- **VAT** — all prices quoted above include VAT at 10%.
- **CREDIT FACILITIES** — we offer credit over 12, 24 or 36 months, please ask for details.

**SILICA SHOP LIMITED**  
Dept. C&VG 0683, 1-4 The Mews, Hatherly Road, Sidrup, Kent DA14 4DX.  
Telephone 01-301 1111 or 01-309 1111.



**FREE LITERATURE**

I am interested in purchasing an Atari 400/800 computer and would like to receive copies of your brochures and test reports as well as your price list covering all of the available hardware and software.

Name

Address

Postcode

ICVG 0683 Computer & Video Games June 1983



# NEW PRODUCTS NEW PRODUCTS NEW PRODUCT

# GAMES NEWS

## THE DRAGON SPREADS ITS' WINGS!

### FLIGHT SIMULATION

Up, up and away go Dragon owners with a flight simulation written by a professional pilot.

The game challenges you to safely take off and land a small plane. You have all normal flight controls including an instrument landing system and vertical speed indicator.

Flight Simulator runs on a Dragon in 16k and is available from Salamander Software of Brighton at £9.95.

## DAMSELS IN DISTRESS NEED HELP!

### WIZARD

Wizard takes you back to a fantasy land of spells, demons and beautiful maidens with flowing golden locks.

But if you think this is a fairy tale adventure game you would be wrong. Wizard is an arcade style game with a few original twists of its own.

The demons are attacking your planet — swooping down and abducting the maidens who are helpless against their superior strength.

Your job is to save them before they are brought back to the evil king who will put them to death in a ceremonial sacrifice.

Several waves of demons must be dealt with — together with cunning little bugs who come at you intent on destruction.

Wizard runs on the BBC model B in 32k and is the latest game from Quicksilva at £6.95.

Also new for BBC model B owners is a monster attack game called Protector. The monsters are attacking scientific installations in an isolated part of your planet. The game gets faster and faster as you drive your craft from base to base, blasting the invaders. Watch out also for the occasional monster which grows larger as the game progresses.

The third Beeb offering from Quicksilva this month is a boxed Music Processor which enables you to exploit the musical capabilities of the BBC A or B.

The Music Processor costs £14.95, you get a 30-page instruction manual included in the price.

Quicksilva's original customers — Britain's one million plus ZX81 owners have not been left out of this month's new releases.

Four new games are on offer for the 16k machine. Ocean Trader is a seafaring simulation enabling you to play captain of the ship, Pioneer Trail takes you back to the wild west, and Black Star is 3D shoot 'em up. For arcade addicts there are also versions of Amidar, and Pacman.

## WORDS OF WISDOM, AND GAMES!

### TEXAS BOOK

Texas owners can look forward to 35 new games to enter into their software starved computer when a new book goes on sale later this month.

The Texas Program Book contains 35 listings which you can enter into your machine. The subjects covered include games, home accounts, and a filing system.

Games highlights are 3D-Maze, horse racing, tennis, and a novel game in which you help a penguin to save its eggs.

The book will be available from Phoenix Publishing Associates at £5.95.

## THE GAMES CAPITAL OF THE U.K.?

### LYVERSOFT

Liverpool is fast becoming the Silicon Valley of the UK for computer games anyway.

The city that gave you Bug Byte and Imagine can now boast a third specialist games software house called Lyversoft.

They have just launched

a range of games for the Vic-20. Apple Bug challenges you to gobble up the life saving apples before the bug catches you. Crazy Climber sets you the equally difficult task of climbing scaffolding and catch balloons floating past to score bonus points.

Space Assault is a Scramble-type game with a difference. Instead of bombing fuel-dumps to refuel as in the arcade game you must dock with the fuel-tankers.

Lunar Rescue puts you at the controls of a ship attempting to land on a planet bombarded by a meteor storm. Your task is to pick up the three marooned scientists and make your escape.

The games run on the 3 or 8k Vic-20 and are available from the Liverpool based firm at £5.95.

## FIGHT THE FLAB, NOT MORE ALIENS!

### DIETRON

Calling all overweight Spectrum owners. If you are becoming flabby and hollow-eyed due to many hours crouched over the keyboard then here is a computerised answer to the problem.

Dietron is a new program designed to enable you to plan your diet.

No, you don't stand on your Spectrum to make it speak your weight. Instead the program asks you a number of questions which "will establish a complete range of values and requirements that are personal to you".

Once your values have been calculated you can jot them down and proceed with your diet, or if you have a printer, make a print-out.

Key 1 to 4 on the Dietron show you the complete range of foods for which information is held. For example key 1 will display information 37 varieties of vegetables.

The values can be reset at any time for a second person to receive information. There is also a second program on the tape which is a data bank of nutritional information. Less chips for Spectrum owners from now on!

Dietron runs on a Spectrum in 48k and is available from W. H. Smith at £5.95.

Illustration: Jon Davis



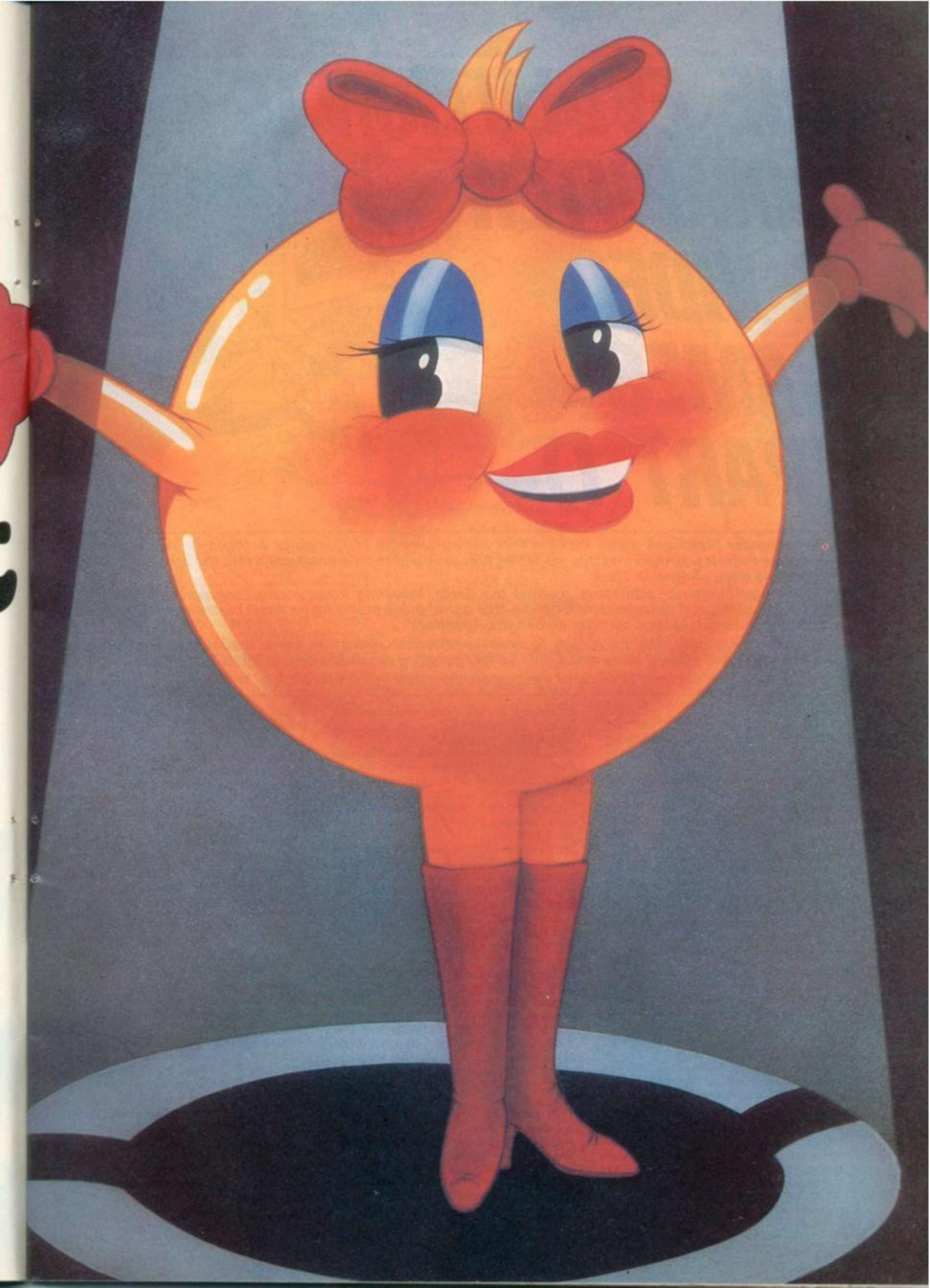


# If you think Pac-Man\* is a tough act to follow, meet Ms. Pac-Man.\*

Make no mistake, this little lady is a screen sensation. More dynamic, more talented than even Pac-Man himself (and he's the world's biggest selling video game ever). Ms. Pac-Man has just what it takes to be a video star. Graphics that are close to arcade quality. Four mazes to amaze you. She even hands out bonus points for audience participation. So visit your Atari® stockist and meet Ms. Pac-Man in person. She can't wait for you to give her a screen test.









# THE EVOLUTION OF COMPUTER & VIDEO GAMES (PART 1)

BACK ISSUES



*Most computer historians agree that the first known remains of Computer & Video Games date from November 1981. It was then that this magazine first emerged (a little unsteadily) into the primeval twilight of the early days of Sinclair Man.*

*Then huge computer dinosaurs roamed the Earth, thrusting keen young programmers into their wall-to-wall maws and the magazine looked a little out-of-place surviving on a diet of strange new features and listing material washed up from across the Atlantic.*

*Naturalists are only now beginning to draw conclusions about the close association between the Computer & Video Games story and a little yellow gobbling creature's own evolutionary niche ...*

*Let us take a closer look at some of the noteworthy steps in the evolution of both:-*

## **November 1981**

The stripling emerges into twilight with Tarot on the Tandy, Musical Hangman on the Sharp MZ-80K, Trench on the Atari, Nibblers on the Pet and Super Nim on the Apple. Keith Campbell kicked off his popular Adventure series, Garry Marshall kicked off graphics with a space invader. There were Pacman arcade tips and Max Bramer looked at the first chess machine, Von Kempelen's Turk.

## **December 1981**

Growing up fast with Potshot on the Vic-20, Breakout on the Atom, 'Round the Horn' on the Tandy, Mini Golf on the Atari and Pet owners could tackle Rubik's Cube with more confidence. Keith Mott went trouble-shooting on the ZX81 in Kit Korner and Screaming Foul-up fell in love with Terry Wogan.

## **January 1982**

A new year begins with Ted Ball on the trail of the Bugs in his Practical Programming column. Speed Race for the Texas, Treasure Hunt was a popular Apple adventure — much converted by owners of other machines, three 1K wonders for the ZX81 and Changing Hearts for Atari owners. We also saw a seamier side to gaming with a feature on Softporn Adventure!

## **February 1982**

Science Fiction author David Langford brought a new look to space games with Space Blockade. Dr Livingstone set up a quest for Sharp owners and Grand Prix gave Tandy owners a racetrack to try out. David Annal POKEd some sounds out of the quieter

micros and Arcade Action announced two Pacman lookalikes.

## **March 1982**

Robin Bradbeer reported from Las Vegas on a country going video crazy — how right he was. ZX81 owners got to grips with Reversi (Othello), there was Startrek III.4 for the Tandy and Octodraw had the Atari moving in eight directions at once.

## **April 1982**

Spring came with Tim Metcalfe's feature on pinball, a revitalised sector of the arcades fighting back against Space Invaders. Engineer helped Atari owners rebuild the Golden Gate Bridge, Poker for the ZX81 and Ron Potkin's classic Tandy wargame Kriegspiel. Plus Pacman hit the home Video Screens at last.

## **May 1982**

Computer Moderated Games were investigated by Terry Pratt (the first thoughts on Seventh Empire were voiced about here). Minotaur took the Vic-20 down into a maze and tried to lose it, Pacman arrived in a C&VG listing on a Pet, Minopoly for up to five Sharp businessmen, Meteorstorm took Apple owners by surprise and Earthport II won Tandy fans.

## **June 1982**

The World Cup was upon us and we responded with World Cup Manager — written for the Sharp but without a PEEK or POKE and since converted to many a micro. Vic-20 owners were set afloat on a river torrent in Speedboat, there was Trolls Gold on the Apple and Dog Star Adventure on the Tandy.

It also included issue 1 of our BBC Micro publication, Owl.

## **July 1982**

Do the arcades have anything to offer the fairer sex? America was wooing women with Ms Pacman and we featured this first lady of the arcades in July. Imhotep took the Apple owners back to ancient Egypt, Moon Shuttle sent the Vic into space and Z-Xtra gave 16 pages over to Sinclair fans.

## **August 1982**

Haunted House gave Atoms a shudder, Space Hopper made Tandy's jump to it and Rocks made Vic owners roll over and beg for more. Imagic launched a range of cartridges for the Atari VCS. Hardcore was given over to a game-player's guide to the Atari and Sue Garden gave us all a giggle with a computer widow's tale.

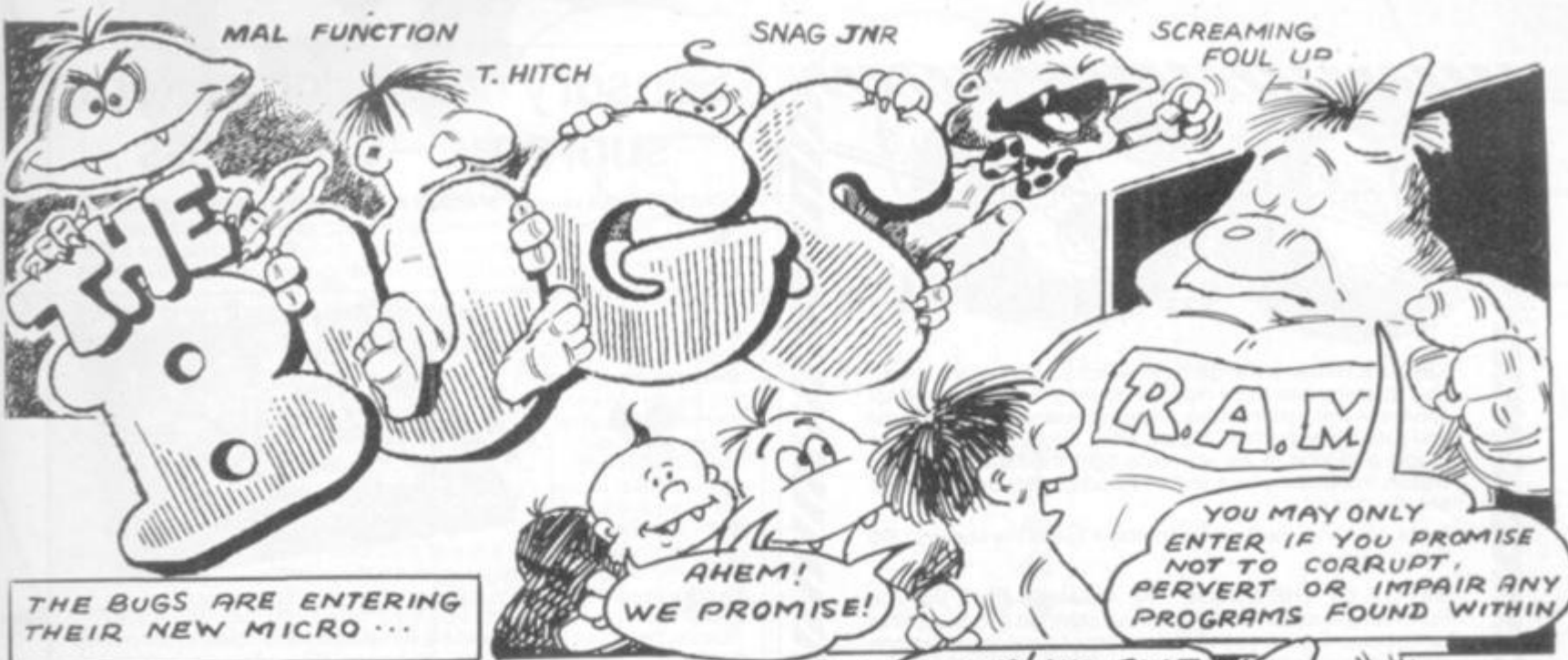
## **September 1982**

Tron: out of the arcades came Walt Disney's graphically stirring film about being trapped in a computer game. We featured it first. Pacman appeared on the Vic-20, there was Star Wars on the Atom and Colditz Adventure on the Tandy. Issue two of Owl gave BBC owners Speed Trial and X marks the Spot.

## **October 1982**

C&VG saw out its first 12 issues with Space Watch on the Spectrum, asking you to befriend the aliens before it's too late! Sharp Defender, Galaxian Colony II on the Apple and the controversial Wild Strawberries on the Atari added to the action. And Pacman appeared in the Bugs cartoon!





THE BUGS ARE ENTERING THEIR NEW MICRO ...

AHEM! WE PROMISE!

YOU MAY ONLY ENTER IF YOU PROMISE NOT TO CORRUPT, PERVERT OR IMPAIR ANY PROGRAMS FOUND WITHIN

OH NO! HIS AUNT MAISIE'S ON THE LIST AGAIN!



BEING A USER FRIENDLY BUG IS HARD WORK. LOOK, THE POOR DEVIL IS TRYING TO WORK OUT IF HE CAN GO ON HOLIDAY THIS YEAR!



- 1 BOGNOR... 5 DAYS.
- 2 COMPUTER CLUB TRIP.. SINCLAIR'S WEEKEND.
- 3 AUNT MAISIE 3 WEEKS
- 4 HANG GLIDING IN NEASDEN 2 DAYS.



YES! IT WAS AN AWFUL PROGRAM. BUT WE KNOCKED IT INTO SHAPE FOR HIM. IT WORKS OUT TRAVEL COSTS, SUBSISTENCE, TOUR COSTS. TAKES INTO ACCOUNT HIS SALARY AND OF COURSE THE FUN FACTOR!



AUNT MAISIE'S IS AWFUL. HER VOICE, HER POLISHING AND DUSTING NEARLY ASPHYXIATED US!

SHE CAN'T BE THAT BAD. I'LL GET GRAPHIC MODE TO DRAW HER UP!

YUK! THAT'S HER. I REMEMBER SHE SPILT PORRIDGE ON US!

SOB! PLEASE ALTER THE PROGRAM. WE CAN'T GO BACK THERE!

YOU'VE GOT TO DO SOMETHING. THE PROGRAM IS BOUND TO COME UP WITH AUNT MAISIE'S... SHE'S SO CHEAP!



B.B. BUT- THAT WOULD BE TAMPERING!

A FEW MOMENTS LATER...

HANG GLIDING IN NEASDEN... GREAT! I NEVER THOUGHT I COULD AFFORD IT!

HEE! HEE!



I CAN'T ITS DEAD AGAINST THE USER FRIENDLY CHARTER FOR BUGS! RULE 7. SECTION B.





# Chameleon Computer Games

For **SPECTRUM**

**KING ARTHUR:** a war game in which you really are at war, your strategy has to be right, because if it isn't you will not survive. A wrong decision or an error in judgement could cost you your life or the lives of your army. Eight battles must be fought and won to allow you to fight the battle of Mount Baden, the battle which unifies Britain under one King, but are you that King?

Maps, text and graphics all combine to set the scene in 6th Century Britain.

**BATTLE OF THE BULGE:** The Ardennes 1944, the Von Runstedt offensive. Could you have planned and fought this battle better than in 1944? Movement of armoured divisions and infantry can be a hazardous task in war conditions.

An option within the program allows the use of a ZX printer to produce hard copy maps of troop positions.

**SEAWOLF:** An unusual hunt and evade war game. The interior of the submarine contains all the dials and information you need to locate and sink enemy shipping. But you are prone to attack if you spend too much time close to the surface. Then you must dive to evade the chasing destroyers using your instruments and cunning to stay alive.

Full graphics and real-time animation.

★ **SPECIAL OFFER to C&V Games readers** ★

☆ £6.00 each inc.p&p.

☆ plus FREE tape for storing data.

Send this ad with your Order

LYNTONIA HOUSE 7-9 PRAED ST. LONDON W2



## Sensory chess computers supreme – Conchess

**CONCHESS is all you ever dreamed of from a chess computer and more!** You don't have to be a Chess Master to get the best out of CONCHESS but we guarantee that CONCHESS will get the best out of you. Why? Because there are ten programmable levels of play at your command from novice up to BCF 130-145 Plus - that's 10 BCF points ahead of

its leading rivals and equal to the above average club player. CONCHESS sensory chess is so simple to use that you are only aware of the quality of the game and the skill of your opponent. There are three models to choose from - the avant garde Escorter in silver and black, the Ambassador (illustrated) in finest inlaid veneer woods and the tournament size Monarch in superb rosewood veneers. There are no keyboards, screens, pegs or panels to push down, you simply pick up a piece and move it - the computer precisely indicates the move it wishes to make. It will not allow illegal moves; if you need help it will suggest the best move for you and show you the response it is considering. We believe it to be the finest chess computer available both for learners and experienced players. CONCHESS represents the ultimate in contemporary chess computer achievement and because both hardware and software are upgradeable by changing just a cartridge you may never need to buy another chess computer again! Send for free information, reviews and list of stockists.



**CONCHESS - a move ahead of its time.**

# CONCHESS

Contemporary Chess Computers, Langwood House, 26 Langwood Chase, Teddington, Middlesex TW11 9PH. Please send this coupon or telephone 01 977 9850 for full details of CONCHESS Sensory Chess Computers.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Post Code \_\_\_\_\_

C&V



Everything for the Acorn and BBC microcomputer user.

# ACORN USER EXHIBITION

Cunard International Hotel

Hammersmith,  
25-28 August 1983

The Acorn User Exhibition at the Cunard, Hammersmith will house the largest display of Acorn products ever assembled under one roof. It will be four days of non-stop entertainment and education for parents and children alike.

The new Electron, the second processors for the BBC micro, the BBC Buggy, all the new software and hardware will be on show. There'll be competitions, prizes, Acorn experts to answer your technical questions, demonstrations and lots and lots of bargains.

If you are an Acorn owner, or just thinking about being one, you can't afford to miss it.

**Opening hours:** August 25th-27th, 10am-7 pm; August 28th, 10am-4 pm.

**Admission charges:** Adults £2 per ticket, Children £1 per ticket.

We have arranged for nearly every exhibitor to redeem the cost of your ticket when you buy something from their stand.

**Group rates:** 10% discount for parties of 10 or more.

**Buses:** Frequent services from central London.

**Tubes:** Hammersmith Broadway - Metropolitan, District and Piccadilly lines.

**Car Parking:** Several car parks in the immediate area.

For details of exhibition stands and advance ticket sales contact Computer Marketplace Ltd, 20 Orange Street, London WC2H 7ED. Tel: 01-930 1612.

**ADVANCE BOOKING COUPON** Miss the queue - buy your tickets in advance. Computer Marketplace Ltd, 20 Orange Street, London WC2H 7ED.

Please send \_\_\_\_\_ Adult tickets at £2 \_\_\_\_\_ Childrens tickets at £1  
I enclose a cheque/postal order value £ \_\_\_\_\_ payable to Computer Marketplace Ltd.

Name \_\_\_\_\_  
Address \_\_\_\_\_

C&V 26





## BY ALLAN SCARFF

Go is far more popular in Japan than any comparable game is in the West. Apart from appearing on peak time television, Go is the subject of regular newspaper columns and the national press spend quite large sums of money on sponsoring professional Go tournaments.

In Japan, Tsume-Go takes the place of the daily newspaper crossword puzzle. This type of life and death Go problem can be extremely tricky to solve even though there may be very few moves to consider.

The example shown in figure 1 is about as simple as they come. Black's first move is almost certainly at A3, B3, A4 or B4, but which?

The object is to stop white forming two eyes. If, for instance, white manages to play both at A3 and B3, white's stones can never be reduced to a single liberty and therefore can never be captured.

Figure 2 shows black's most obvious approach which of course fails!

If you wish to get the full flavour of Tsume-Go try to solve the problem without looking at figures 4 and 5. Even though there are only a few possibilities you may soon find that it becomes increasingly difficult to remember which sequences of moves you have already considered and thus what possibilities are left.

This is one element of Go in which the computer can shine. Since the position is entirely isolated, there are no complex interactions to complicate matters. The simple technique of tree-searching will suffice.

Figure 3 shows a small part of the tree of possible sequences. After each move the white stones must be examined for one of three states:

- Dead — there are no longer two or more potential eyes

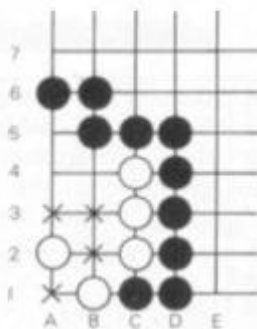


Figure 1: Black to play and kill white (crosses mark potential eyes)

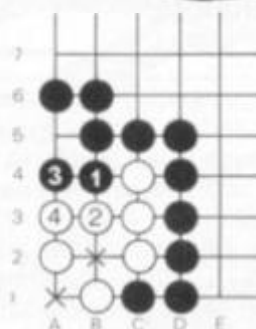


Figure 2: The obvious failure (two eyes are alive)

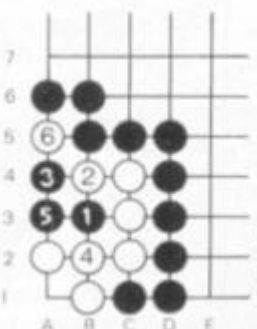


Figure 4: A less obvious failure. (The second eye is achieved after capture of three black stones).

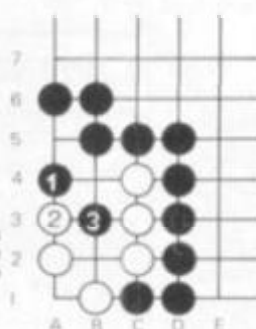


Figure 5: Success! (If white next plays at B4 black captures at B2).

⑦ at ③  
⑧ at ⑤

- Alive — there are two or more completely formed eyes
- Maybe either — there are still potentially two eyes not yet fully formed.

In the last case the next move in the sequence must be tried. In the other two cases alternative moves must be examined.

The listing shown gives the main logic needed to search the tree.

We need only consider the intersections within the enclosing black stones. The x and y co-ordinates of these points must be placed in the tryx and tryy arrays prior to calling the tsume procedure. The routine finishes with the result, the first black move, available via the number 1 element of the branch array.

For a problem of this size the procedure will examine about 200 sequences averaging under 5 moves each. Since the status of the white stones must be examined after each move, the whole process will take many seconds if not minutes.

Larger, more typical problems can take much longer. It may be possible to speed the search up by eliminating some of the sillier moves, but too heavy pruning of the tree can mean rejecting a move that may look silly but is actually the only move that works!

Now if you've attempted the example (without the aid of a computer), you may appreciate the worth of a thorough Tsume-Go program even if you have to leave it running all night!

```

1000 REM BBC BASIC
1010 REM TSUME PROCEDURE
1020 REM tryx and try y must already hold coordinates
1030 REM branch array must already be defined
1040 REM Decision Table:
1050 REM      : WHITE MOVE      : BLACK MOVE
1060 REM-----:-----:-----
1070 REM
1080 REM dead      : next selection : up 1 branch
1090 REM alive    : up 1 branch    : not applicable
1100 REM maybe    : down 1 branch  : down 1 branch
1110 REM branch exhausted : up 2 branches : up 2 branches
1120 REM-----:-----:-----
1130 REM
1140 DEF PROCtsume(limit)
1150 move=1 : branch(1)=1 : REM initialise
1160 IF move > 0 select=branch(move) : PROCredosoves(move)

```

```

1170 IF move < 1 ENDPROC
1180 REPEAT
1190   legal=FUNCplaymove(tryx(select),tryy(select))
1200   select=select+1
1210 UNTIL legal OR select=limit
1220 IF NOT legal move=move-2 : GOTO 1160 : REM up 2 branches
1230 REM legal:-
1240   PROCtestlife
1250   IF maybe move=move+1 : select=! : GOTO 1180 : REM down
1260   IF (dead) AND (moveMOD2=0) GOTO 1180 : REM across
1270 REM all other legal cases:-
1280   move=move-1 : GOTO 1160 : REM up 1 branch
1290 REM
1300 REM This routine is written for simplicity! For space saving
1310 REM use byte arrays accessed via indirection operators. For
1320 REM elegance use block structure (no GOTO's) with recursion
1340 REM (the routine calling itself).

```



There is still only a limited library of games software for the Dragon owner. And many have looked longingly at the wealth of Tandy Colour Computer software and wished the two machines were closer than the hair's breath which separates them.

Now they are. RON POTKIN has taken time off from his Warpath series to show Dragon owners how they can make use of Colour Computer software on their brand new machines.

If you own a Dragon, you probably know that it is similar to the TRS-80 Colour Computer. The Basic commands are the same and it uses the same machine language. Yet despite this, it is unlikely that a program written for the TRS-80 will run satisfactorily on the Dragon. In this article, I intend to give some help in converting the programs so that they will run.

Unfortunately the PLAY command still defies translation, but I never use it anyway.

Unfortunately, little can be done to ROM packs. The design is such that they cannot be easily be altered to run on the Dragon. We can however, adjust Basic programs. Machine language programs (those which are run using the EXEC command) can also be altered but this can be very difficult. More about this later.

First, let us examine the Basic Interpreter Program. You will know that when you switch on the computer, it wakes up and prints "OK" on the screen. In that fraction of a second an initialisation program, a part of the Basic Interpreter, has been automatically run in order that the computer may be ready to accept and carry out your commands.

This is similar to a calculator which is able to add, subtract, multiply and so on immediately you turn it on.

It is a complex program. There are routines to print on the screen, read the keys you press at the keyboard, draw a line, read the tape and many more. Many programmers when writing in machine lan-

### TIME AND SPACE

guage will use these routines in their programs.

It saves time and space and avoids re-inventing the wheel, but it is one of the main reasons for our conversion problem. You must know where these routines lie in memory and the addresses may be different in the two machines.

The Basic Interpreter cannot be erased or changed. When you switch the computer off,

any program you have entered will be lost but the Interpreter remains intact, ready to spring into action when you next turn it on.

One function of the Interpreter is to reduce the length of a Basic line. Let me explain what this means. Assume I type in the following line:  
10PMODE 4,1:PCLS:SCREEN  
1,0

### LISTING GARBAGE

Ignoring the line number and spaces, this has 23 characters but to save space the commands PMODE, PCLS and SCREEN are converted to numbers (or tokens) so that instead of 23 characters only 11 are required to hold the line in memory.

These tokens are not the same in both machines. As a result, if you load a TRS-80 program in this compressed format into the Dragon, the instructions will be mis-read. When you list the program, you may believe that you are listing "garbage", but closer inspection will show that although the Basic commands are different the line numbers and variable are intact.

It is usual to save the program on tape in compressed format because it reduces loading time, but you do have the option of saving in ASCII format. The command is:  
CSAVE "PROGRAM".A

Saved this way, the words PMODE, PCLS and SCREEN will be saved instead of the tokens. If you save a program on tape in the ASCII format using the TRS-80, you will be able to load it correctly into the Dragon. The Dragon will read the commands and translate them into its own tokens. Try this method if you have access to a TRS-80.

Although we can change the tokens, there is one instruction which may cause difficulties. This is the USR function which is used to access a machine language program from Basic. It is mentioned only very briefly in the Dragon manual.

If Basic passes a number to the program or the program

# DRAGON N FROM TH

passes a number back to Basic, two addresses within the Interpreter must be changed in the machine language. These addresses are:

	TRS-80		Dragon	
	Decimal	Hex	Decimal	Hex
Get argument from Basic	46061	B3ED	35632	8B30
Return result to Basic	46324	B4F4	35895	8C37

In addition, it may be necessary to check whether routines in the Interpreter have been used. This starts to get complicated and there are no easy rules. You will soon discover that trying to understand a program written in machine code is a challenge. If you are keen, get a disassembler and be prepared for some late nights!

The TRS-80's EDTASM has a good disassembler but you cannot use the tape commands. If you find this difficult

to follow, don't worry; your understanding will improve as you become more accustomed to your Dragon. Just remember that if you do not think you can

convert a TRS-80 program, don't waste your money!

Now let's see how the program can help. Its purpose is to create a machine language program which will convert the TRS-80 Basic tokens to the equivalent for the Dragon. It will leave unchanged anything contained within strings, so that any machine language routines or graphics will be safe. The program syntax is not checked.

All lines within the TRS-80 program containing USR will

### LOADER FOR DRAGON CONVERTER

```

10 CLEAR100,29999
30 DATA 80,81,82,83,84,85,86,87
,88,89,8A,8B,8C,8D,8E,8F,90
40 DATA 91,92,93,94,95,96,97,99
,9A,9B,9C,9D,9E,9F,A0,A1
50 DATA A2,A3,A4,A5,8B,8C,8D,8E,8F
,C0,C1,C2,C3,C4,C5,C6,C7
60 DATA CB,C9,CA,CB,CC,A6,A7,A8
,A9,9B,8E,AA,AB,AC,AD,AE
70 DATA AF,B0,B1,B2,B3,B4,B5,B6
,B7,B8,B9,BA,BE,CD,80,81
80 DATA 82,A1,84,88,8C,8D,8E,8F
,90,91,92,93,96,97,98,99
90 DATA 9A,9B,8B,89,8A,87,94,86
,83,85,95,9C,9D,9E,9F,A0
100 DATA 00,01,A4,8E,00,19,7F,7D
,70,10,AE,81,34,20,10,AE
110 DATA 81,10,8F,7D,71,A6,84,81
,22,26,8A,C6,01,F0,7D,70
120 DATA F7,7D,70,20,44,81,00,27
,44,F6,7D,70,C1,00,26,39
130 DATA 81,FF,26,27,30,01,E6,84
,C1,80,25,2D,C0,80,10,8E
140 DATA 7D,AE,E6,A5,E7,84,C1,A1
,26,1F,86,7D,ED,AD,9F,A0
150 DATA 02,8D,35,86,20,AD,9F,A0
,02,20,8E,81,80,25,0A,80
160 DATA 80,10,8E,7D,00,A6,A6,A7
,84,30,01,20,AB,30,01,A6
170 DATA 84,81,00,27,05,35,10,16
,FF,8C,35,10,39,55,27,10
180 DATA 03,E8,00,64,00,0A,00,01
,34,16,FC,7D,71,8E,7D,EE
190 DATA 8D,1D,8D,2A,30,02,8D,17
,8D,24,30,02,8D,11,8D,1E
200 DATA 30,02,8D,0B,8D,18,30,02
,8D,05,8D,12,35,16,39,10
210 DATA 8E,00,00,A3,84,25,04,31
,21,20,F8,E3,84,39,34,16
220 DATA 1F,20,1F,98,8B,30,AD,9F
,A0,02,35,16,39
230 DATA XX
290 U=32000
292 CT=0
300 READA$:IFA$="XX"THEN500
310 POKEU,VAL("&H"+A$)
315 CT=CT+VAL("&H"+A$)
320 U=U+1
330 GOTO300
500 IFCT<36454 OR U<32317 THEN
PRINT"ERROR- CHECK THE DATA!":EN
D
510 PRINT"MACHINE CODE LOADED AT
32000"
520 PRINT"MOTOR IS ON":MOTORON
530 PRINT"READY RECORDER AND PRE
SS ENTER"
550 INPUTO$:MOTOROFF
555 FORI=1TO4
560 CSAVEN"DRAGON",32000,32316,3
2115
565 FORJ=1TO2000:NEXTJ,I
570 PRINT"OK - EXECUTION ADDRESS
IS 32115"
580 END

```



# NEW GAMES THE TANDY

be printed. If none is printed the converted program should run correctly. Otherwise, you will have to assess the difficulties bearing in mind the explanation above.

#### PREPARING THE PROGRAM

1. Type in the program below and save it on a new tape i.e. `CSAVE "DRAGCONV"`

2. Now type `"RUN"`. The program will build up the machine language program.

3. There are two checks to ensure that the `DATA` has been entered correctly. If the number of items is not 316 or they do not sum to 36454, an error message will be printed. If this occurs inspect the `DATA` very carefully.

4. If the program passes the tests, you will be asked to get the cassette recorder ready. Put a second new tape into the recorder and press the `RECORD` and `PLAY`. Press `ENTER` when ready. Don't use the same tape — things can get very difficult if you want to erase one program and not the other.

5. The converter will save in machine format. The name of the program is `"DRAGON"`. Four copies are saved.

#### OPERATION

1. Switch on the Dragon and type `"CLEAR 200,31999"`. This will keep the routine safe.

2. Rewind the tape containing the machine program and load it i.e. `CLOADM "DRAGON"`.

3. Now load the TRS-80 program written in Basic.

4. Type `"EXEC 32115"`.

5. The program will print out line numbers of any `USR's`.

6. When conversion is complete, `LIST` the program. It should now make sense.

7. `CSAVE` the converted program on a new tape.

8. Do not `RUN` it if you have further programs to convert since programs using protected memory are liable to ruin the converter.

9. Check the programs and the `USR's` once all conversions are complete.

By the way, the program does not work in reverse! You cannot convert a Dragon program back to the TRS-80.



Illustration: Dorian Cross





## LEARN THE PHAROAH'S SECRETS

### TIPS ON TUTANKHAM

Tutankham has a natural appeal to the watcher but it is a confusing game for the beginner as he struggles to find his way through the maze of tunnels to the legendary treasure of the tombs.

It's a maze game with a difference as you can't see the whole maze at once, just a collection of rushing bats, snakes and birds, the undead creatures of the pharaoh's tomb, whose touch is lethal.

These have to be shot, smart-bombed or dodged as you grab the treasures and keys necessary to progress.

You begin your expedition with two smart bombs and three men and one extra of each arrives

every 20,000 points. Smart bombs are shown as lanterns at the top of the screen and clear the whole area you are in at the time.

The first screen takes you up past the enemy's house where monsters issue forth and into a secret tunnel through to the second screen.

The tunnel is only opened by the key which must first be grabbed by the adventurer. 1,000 points are awarded for getting the key and there is a time bonus to be scored by getting it into the lock soon after the start of that screen.

If you run out of time then your fire power vanishes and you have to get to the lock before the enemy get to you.

The second — and all subsequent screens — need two keys for two locks, collected in the order: key, lock, key, lock.

Your fire ability is fast and stabs out both ahead and behind you at the same time. But it is limited, it can't be used in vertical passages. The monsters realise this and rush you in the vertical passages while lurking and waiting in the horizontal ones.

These adversaries often have their little dens situated on main highways through the maze and challenge you to get past.

The maze is set out as underground tunnels with large open spaces, supposedly giving the effect of the passages you might find beneath a pyramid.

The open spaces can be particularly dangerous when the creatures can attack from all sides.

For bonus points pick up the treasures, either a chest or a ring, that are dotted around the screen. The first of these is worth 500 points, the next 1,000, the next 1,500 and so on.

Smart bombs are often best saved for the rush to the last lock, when monster activity is at its height. If in doubt check the radar scanner at the top of the screen.

Getting past a den is a case of waiting until a spurt of monsters dies down and then rushing, guns blazing past.

The snakes and birds are predictable but bats are fast and erratic. If something closes its jaws around you as you approach your run-in to the final treasure, you can usually be sure its one of these.

Our thanks to Carl Warrington of Leicester for the tips.

## POINTS FOR CRASHING

Burning Rubber is the first car race game which encourages you to slam into other road-users.

Simulating the stock car races where the aim is to crunch as many opponents as possible, Burning Rubber gives points for bumping into rivals and sending them spinning from the track.

The danger is that each contact will also send your own car screeching towards the track perimeter, so that you must leave yourself room to control the swerve before hitting the hedge boundary.

Burning Rubber is a racetrack which is looked down on from above, it travels in a straight line scrolling down from the top of the screen.

Unfortunately the course seems to be set in a river delta and the track is constantly being interrupted by stretches of water. These sometimes have narrow bridges across their depths, other times the track

### BURNING RUBBER

continues on islands in the centre of the waterways.

Luckily a jump button will lift you out of trouble and actually help boost the score if you can successfully manage to land on an unsuspecting opponent.

The only restriction on jumping is that you must be up to a certain speed before you can take off. That speed is achieved quite easily and then there is nothing to stop you leapfrogging around the track, over opponents, rivers and intruding hedges.

Nothing, that is, except a tendency to slow down drastically when landing on an opponent and a certainty that a watery death awaits anyone landing in the drink.

Other hazards come mainly from your fellow road users. These vary from hole-digging trucks, to almost unmovable caterpillar tread trucks.

## SEND YOUR BEST SHOT

Hurry up and send in a top score, if you want to enter our 1983 Video Games Championships.

The grand final takes place at the end of June and we'll need your top score in by June 23rd to make you eligible to win a place at the finals.

A form can be cut out of the magazine on page 11 and taken around to your local pub, club or arcade to fill in the best score you can on your favourite machine.

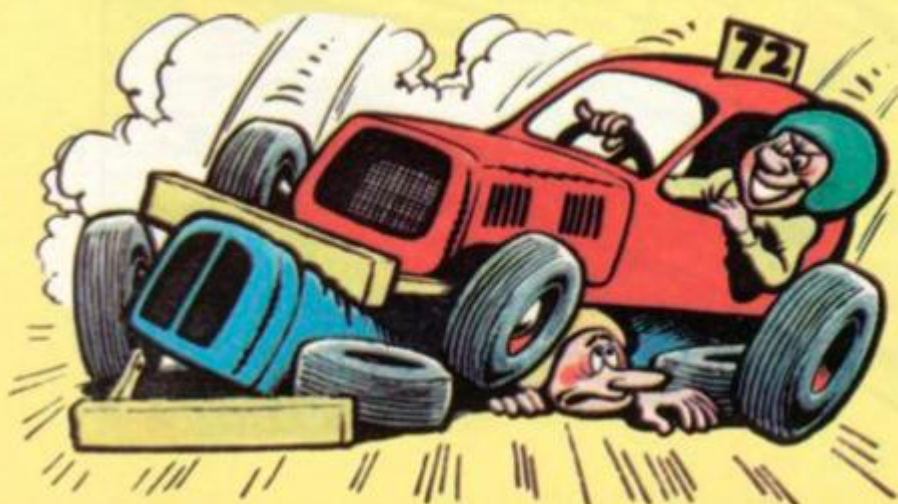
You can enter on up to three different machines. The prize is a brand new arcade game from



Taitel Electronics, one of their new summer releases which will be in the winner's home before it's in the arcades.

And if you make your top score while your magazine is still at home ask the arcade owner if he has an entry form. We are distributing forms to many arcade, pub and college sites.

If you have entered already there's nothing to stop you improving your score in the meantime and sending it in on this month's form but please ensure that every entry is witnessed by the pub, club or arcade owner.







So you think that all pinball machines look the same eh? Just a playfield and a sit-up-and-beg backplash. Well, have we got news for you! The word is that Williams are bringing out a pin that could revolutionise the image of the pin table forever. Well, until the next revolution anyway!

Based on the Williams video game called Joust — which features flying beasts and gallant knights — the company's new pin can be played by two players. So what's new about that, I hear you ask. But they play both at the same time — ever seen that before smarty!

Yes, Joust — the pinball, can be played by two players at opposite ends of the table one is the attacker, the other the defender. Roles reverse when the ball is lost.

Meanwhile back to the more conventional side of the pinball market and Zaccaria have a new pin called Time Machine.

The special feature on this machine goes into action when you get the ball into a saucer about two-thirds of the way up on the left hand side of the playfield. Then the three pop-bumpers disappear into the bowels of the machine and a flat surface takes its place. This takes you into the "past". When the bumpers are up it's the "future".

This feature makes Time Machine two games in one.

## ALIENS TAKE A TUMBLE

For Scramble and Zaxxon fans who enjoy a good battle over scrolling scenery, Xevious holds new graphical and action thrills.

The story is set in Earth's future with the massive Xevious fleet gradually taking control of the world we humans know as home.

In true *Boys' Own* style, a hero is despatched to strike deep into the Xevions' home territory and destroy their mothership.

Xevious forces are to be found on the ground and in the air. Bombing and firing away as he did in Zaxxon, but this time from a different angle and viewpoint the player takes on one batch of Xevions after another. Each wave gets progressively difficult.



That legendary bird of fortune, the Roc, takes the place of Donkey Kong's starlet in a new game, Roc n' Rope.

The Roc is every bit as elusive to capture as Kong's starlet was to save and like her, it leaves hints to its whereabouts strewn around the vicinity in the shape of golden feathers.

Mario's place is taken by an intrepid explorer who is betting on new technology to take him past the horrors and dangers of the primeval labyrinth of caves, trees and terraces.

Whether or not his bet is well-founded, depends on you as you guide his progress to the Roc at the top of the screen. The first screen is laid out with rock ledges. You climb with the aid of a rocket gun which has a rope attached to its pointed tip. As it imbeds itself in the next level, you anchor the far end and begin your ascent. Cavemen and dinosaurs are out to stop you but you

### XEVIOUS

A crosshair sight preceding his craft helps the player judge his range.

If it all sounds too familiar, the difference Xevious boasts is in a detailed and varied backdrop to the action and some marvellous effects from the opposing fleet as they roll, tumble or zoom in towards you.

My own favourites are the turning mirrors which spin slowly as you approach them.

The Mothership also puts up an almighty barrage to prevent you placing your ranging site over its vulnerable core.

Rivers, roads, forests and airstrips form the backdrop to the action. Operators are given a lot of leeway over how difficult Xevious can be for the beginner, so if you find it too hard or too easy have a word in the arcade owner's ear.

### A LONG HAUL AFTER AN EXOTIC BIRD

#### ROC N' ROPE

are equipped with a flash which can be used to blind them.

Cavemen are quite capable of following you up a rope or shaking you down from it, but flash blindness renders both they and the dinosaurs helpless for a while.

The cave-dwellers can change levels by climbing up or down vines and are difficult to shake off your trail. Points are gained for picking up golden feathers and if the player finds a golden egg he will become super-powered and invincible for a while, destroying his enemies at a touch.

Rock stairways, fountains and a prehistoric revolving door type escalator, feature in the later screens but the dinosaurs and cavemen are to be found on every one.

Like most of the Kong-type games, the successful players will memorise a good route and follow it to the top again.



### DON'T LET THEM BREAK YOUR CHAIN

#### DOMINO MAN

Remember lining up a snake of dominoes and sending it sprawling with a careless flick of your little finger at one end or another.

Well domino flicking is big business in the States at the moment with teams trying to produce new record flicks and ever more impressive displays.

The trend is recreated in Domino Man where you take the title role and set up dominoes in a chain behind the supermarket.

Dominoes are set up merely by touching them but you have to do it before an old lady with a bag, a bully, or a little boy knocks part of your chain over. You can knock them out of the way. Then there's this bee which wanders around so slowly that you may feel tempted to go and find out what it's doing on screen — don't, it stings!

After conquering the supermarket you can move onto the golf course, where a small dog threatens domino destruction or onto the construction site.

You can trap certain of your enemies in the domino chain for extra points and other bonuses can be achieved by finishing your screen in a good time.

The dominoes are laid out in easy to assemble chain and tactics usually centre on whether you go for a whole chain at once or shorter chains which are easy to rebuild if knocked over.





Howdy partners. My name is Killer McGrew and this here's my gang, The Ringo Kid — he's the one with the ring through his nose — and Sid Lightning — so called because of the ragged scar on his cheek.

A couple of the nicest guys you're ever likely to come across in this here town. Unless of course they don't like the way you look. Then they can get quite nasty. That's why it's just as well to pack a mean six-shooter and be very quick on the draw!


This here game will give you a bit of practice, just in case you come up against an ornery old gunfighter in the street one fine day.

This program uses both hi-res pages on the Apple and is just under 6k in length. Therefore it is a very tight fit below hi-res page 1 and so there are no REM statements in the program and the line numbering is fairly crucial.




Illustrations: Terry Rogers

**WANTED**  
**IN 45 STATES**



<b>SID LIGHTNING</b> \$150	<b>KILLER MC GREW</b> \$255	<b>THE RINGO KID</b> \$200
-------------------------------	--------------------------------	-------------------------------

**DEAD OR ALIVE**



BY ROBERT PENROSE

# QUICKDRAW

RUNS ON AN APPLE IN 6K



```

1 GOTO 47
2 FOR I = 40 TO 1 STEP - 1: POKE PIT,I: POKE DUR,5: CALL NOISE: CALL NOIS
E: NEXT : RETURN
3 FOR J = 1 TO 2000: NEXT : RETURN
4 HOME : VTAB 21: HTAB 1: RETURN
5 POKE 790,255:OP$ = "KILLER MCGREW": RETURN
6 POKE 790,200:OP$ = "THE RINGO KID": RETURN
7 POKE 790,150:OP$ = "SID LIGHTNING": RETURN
8 X = 200:Y = 130:SHOTS = 0:SC = 0
9 POKE - 16368,0: PRINT "WHEN YOU SEE THE GLASS - FIRE!!": GOSUB 3: POKE
- 16302,0: GOSUB 3: GOSUB 4
10 IF PEEK ( - 16384) > 127 THEN GOSUB 2: POKE - 16301,0: PRINT "OUCH!!
YOU JUST SHOT YOUR FOOT!": GOSUB 3:SHOTS = SHOTS + 1: GOTO 19
11 POKE 230,32: SCALE= 1: ROT= 0: XDRAW 5 AT X,Y: CALL 791: CALL 791: XDRA
W 5 AT X,Y
12 IF PEEK ( - 16384) > 127 THEN GOTO 15
13 POKE - 16299,0: GOSUB 2: GOSUB 3: GOSUB 3: POKE - 16300,0: POKE - 16
301,0: GOSUB 4: IF PEEK ( - 16384) > 127 THEN PRINT "NOT QUICK ENOUGH!":S
HOTS = SHOTS + 1: GOSUB 3: GOTO 19
14 PRINT "COME ON! YOU ARE SUPPOSED TO SHOOT!": PRINT "I AM NOT PLAYING BY
MYSELF!": GOSUB 3: GOSUB 3: GOTO 19
15 POKE - 16299,0: GOSUB 2: POKE 230,64
16 POKE PIT,120: POKE DUR,100: CALL NOISE
17 FOR I = 0 TO 48 STEP 8: ROT= I: SCALE= I / 8 + 1: XDRAW 6 AT X,Y: FOR J
= 1 TO 10: NEXT : XDRAW 6 AT X,Y: NEXT : GOSUB 3
18 SHOTS = SHOTS + 1:SC = SC + 1: POKE - 16300,0: POKE - 16301,0
19 GOSUB 4: PRINT SC:" OUT OF ";SHOTS
20 IF SHOTS = 6 THEN POKE - 16368,0: GOTO 72
21 GOSUB 3: GOSUB 4: GOTO 9
22 FOR I = 791 TO 797: READ J: POKE I,J: NEXT
23 DATA 173,22,3,32,168,252,96
24 RETURN
25 HPLOT 220,100 TO 75,100 TO 75,80 TO 200,80 TO 200,100: HPLLOT 150,65 TO
200,65: HPLLOT 0,141 TO 270,141
26 HPLLOT 100,50 TO 100,40 TO 105,30 TO 145,30 TO 150,40 TO 150,50 TO 145,6
0 TO 105,60 TO 100,50: HPLLOT 105,50 TO 105,40 TO 110,35 TO 140,35 TO 145,40
TO 145,50 TO 140,55 TO 110,55 TO 105,50
27 HPLLOT 95,68 TO 105,68: HPLLOT 99,66 TO 101,66 TO 102,68 TO 102,70 TO 101
,72 TO 99,72 TO 98,70 TO 98,68 TO 99,66: HPLLOT 99,69: HPLLOT 101,69: HPLLOT 9
9,71 TO 101,71
28 HPLLOT 93,80 TO 93,75 TO 96,72 TO 104,72 TO 107,75 TO 107,80: HPLLOT 106,
80 TO 106,76 TO 104,74 TO 104,80: HPLLOT 94,80 TO 94,76 TO 96,74 TO 96,80: H
PLOT 96,78 TO 97,78 TO 97,72: HPLLOT 98,72 TO 98,78 TO 102,78 TO 102,72: HPL
LOT 103,72 TO 103,78 TO 104,78
29 RETURN
30 HPLLOT X,Y TO X,Y - 6 TO X + 2,Y - 8 TO X + 2,Y - 10 TO X + 3,Y - 10 TO
X + 3,Y - 8 TO X + 5,Y - 6 TO X + 5,Y TO X,Y: HPLLOT X,Y - 6 TO X + 5,Y - 6:
HPLLOT X,Y - 3 TO X + 5,Y - 3: RETURN
31 FOR I = 770 TO 789: READ J: POKE I,J: NEXT : REM SOUND
32 DATA 172,1,3,174,0,3,173,48,192,202,224,0,208,251,136,192,0,208,240,96
33 RETURN
34 FOR I = 24577 TO 24926: READ J: POKE I,J: NEXT
35 DATA 6,0,14,0,87,0,163,0,241,0,63,1,88,1,118,115,94,187,118,115,115,1
15,107,107,107,115,115,123,99,123,123,115,115,118,115,118,115,115,107,107,1
07,227,103,99,99,99,99,107,67,99,99,99,227,99,99,99,107,115,115,115,107,99,
99,99,99,99,227
36 DATA 76,99,99,99,99,99,227,191,246,91,107,107,107,107,107,107,109,91,
88,0
37 DATA 118,243,78,171,118,115,115,115,123,123,123,115,115,107,99,107,107,
115,243,118,243,118,115,115,123,123,123,99,101,99,99,99,99,123,67,99,99,99
,99,97,99,99,123,115,115,115,123,99,99,99,99,99,99
38 DATA 92,99,99,99,99,99,99,173,118,73,123,123,123,123,123,123,123,12
3,123,123,91,88,0
39 DATA 118,115,94,187,118,115,115,107,107,107,115,115,123,99,123,123,115
,115,118,115,118,115,115,107,107,107,227,103,99,99,99,99,99,100,99,107,107
,67,107,67,107,120
40 DATA 123,187,87,123,99,123,123,67,107,107,99,99,227,76,99,99,99,99,99,

```



## XENO II

An E-XPANDED-D screen presentation with superb action packed space thriller, written entirely in machine code with four action packed stages. To destroy the power source of Xeno II you have to fight off waves of robot attack, plasma bombing by the legions of the outer sanctum and finally attack the power source protected by a force field, continuous bombardment by guardians and blockading by wild whirling suicidal space ships. Truly a game for all arcadians.

JS VIC 20 16K £7.90

## CAVERN FIGHTER

All M/C version of SCRAMBLE. Lasers, bombs, continuous scoring and sound effects give all the thrills of arcade game. Pilot your space ship through the tortuous tunnels and caverns destroying enemy missile launchers, fuel dumps and airborne fire saucers. Four ships to complete mission. 10 skill levels.

KB/JS VIC 20 Unexp. £6

## CRAWLER

All M/C version of Centipede. Homing spiders, mushroom laying fleas and multi-direction travel makes this game fast and furious, with 10 skill levels.

JS VIC 20 Unexp. £6

## PHARAOH'S TOMB

Once you enter, the only way out is with the aid of a key which unlocks the mystery of the Pharaoh's tomb. Beware of the mantraps the ancient Egyptians so painstakingly built. One false move and you will meet the same fate as befell other tomb robbers over thousands of years. A multi-screen big graphical adventure with M/C movements.

KB VIC 20 16K £6.00

## SEVEN PROGRAMS (VOL 1)

Hi-res games for the whole family. Board game Othello plus Bomber, Slalom, Bounce out, Lunar Docker, Memory and Snake.

KB VIC 20 Unexp. £6.00

## SEVEN PROGRAMS (VOL 2)

Another Hi-res games pack for the family Graphical Adventure, Goblins Gold, plus Dare Devil, Ghosts, Grand Prix, Breakout, Cobra and Minefield.

KB VIC 20 Unexp. £6.00



## DOTMAN

Ghosts chase you as you try to eat the dots and collect points. You can turn the tables on them by eating the pills. Don't forget the ghosts have been given intelligence and will try to corner you. This feature makes Dotman exciting and challenging. All M/C game complete with running and highest scores and tunnels.

JS/KB VIC 20 Unexp. £6.00

## ZOK'S KINGDOM

Your starcruiser badly damaged in a meteor storm is forced to crash land on the planet ruled by ZOK, a time space generated image of Dracula. You are challenged to a battle of wits and endurance as the battle for survival starts in earnest in this big multi-screen graphical adventure in hi-res graphics and M/C movements.

KB/JS VIC 20 16K £6

## KRAZY KONG

An E-XPANDED-D screen, large graphics, rolling barrels, hammer, fireballs, lifts, handbags and umbrellas as you try to rescue the damsel Kong has abducted. Spectacular collapse of Kong's lair in the fourth screen. Uses all 21K of your expanded Vic for this 100% M/C thriller. Complete with high score table.

KB/JS VIC 20 16K £7.90

## GALACTIC ABDUCTORS

**NEW**

A stunning action packed game which uses all of your TV screen for the superb large animated graphics. Giant Space Hawks whirl and weave in intricate patterns as they drop their deadly homing mines which will destroy your base on contact. While you are busy defending yourself, the Hawks will feed on your helpless population returning only their skulls. All M/C game complete with high score table that will blow your mind with its graphics and sound effects.

JS VIC 20 16K £7.90

## FROGRUN

**NEW**

Popular arcade game. All machine code with brilliant colour graphics and sound effect. Features include snakes, crocodiles, lady frogs, turtles, cars, lorries and logs.

KB/JS VIC 20 Unexp. £6  
KB/JS SPECTRUM 16K/48K £6  
KB/JS COMMODORE 64 £6

## DRACULA

Count Dracula is asleep somewhere in his castle. He rises at midnight and you must find him and drive a stake through his heart before he rises. A multi-screen graphic adventure.

KB VIC 20 3K £6

## TINY TOT'S SEVEN

Super games pack for younger children with bright colour graphics and sound effects. Everybody's favourite Simon plus Super Snap, O's and X's, Word Jumble, Bomber, Duck Shoot and Mad Drivers.

KB VIC 20 Unexp. £6.00

## 3D TIME TREK

**NEW**

At last a 3D game for the VIC! Although badly wounded, you are determined to seek and destroy the marauding space pirates who have now dispersed around the galaxy in search of fresh prey. A brilliant Startrek game with a difference — spectacular 3D graphics and real arcade actions.

JS VIC 20 16K £6.00

## SOFTWARE WRITERS

We are looking for top class writers to join our growing software team. If you have written a quality game for VIC 20, SPECTRUM, DRAGON 32, ORIC 1 or COMMODORE 64, then contact us. We pay top royalties for accepted programmes.



24 HR. CREDIT CARD SALES HORLEY (02934) 6083

**TRADE ENQUIRIES WELCOME,  
GENEROUS DISCOUNT**

PAYMENT BY CHEQUE, P.O., ACCESS/VISA  
ANIROG SOFTWARE  
26 BALCOMBE GARDENS  
HORLEY, SURREY  
ENQUIRIES: HORLEY (02934) 2007/6083



```

227,191,246,91,107,107,107,107,107,107,107,107,107,107,91,88,0
41 DATA 118,243,78,171,118,115,115,123,123,123,115,115,107,99,107,107,115,
243,118,243,118,115,115,123,123,123,99,101,99,99,99,99,227,100,99,123,123,6
7,123,67,251,104
42 DATA 107,171,85,107,99,107,107,67,123,123,99,99,99,92,99,99,99,99,99
,99,173,118,73,123,123,123,123,123,123,123,123,123,91,88,0
43 DATA 100,123,123,123,115,115,115,115,115,107,107,107,99,99,99,99,107,1
07,115,115,123,123,91,88,0
44 DATA 176,92,107,95,88,0
45 POKE 232,1: POKE 233,96
46 RETURN
47 N = 1:HC = 3:PIT = 768:DUR = 769:NOISE = 770: HGR : HGR2
48 TEXT : HOME : VTAB 10: HTAB 15: INVERSE : PRINT "QUICKDRAW": GOSUB 22:
GOSUB 31
49 POKE PIT,140: POKE DUR,50: CALL NOISE: FOR I = 40 TO 1 STEP - 1: POKE
PIT,I: POKE DUR,20: CALL NOISE: CALL NOISE: NEXT
50 VTAB 15: HTAB 8: PRINT "FASTEST GUN IN THE WEST": NORMAL
51 FOR I = 32 TO 64 STEP 32: POKE 230,I: HCOLOR= HC: GOSUB 25
52 Y = 65: FOR X = 155 TO 185 STEP 10: GOSUB 30: NEXT
53 NEXT
54 GOSUB 34
55 ROT= 0: SCALE= 1
56 POKE 230,32: XDRAW 1 AT 10,120: XDRAW 5 AT 112,76
57 POKE 230,64: XDRAW 3 AT 10,120: XDRAW 5 AT 112,76
58 VTAB 20: HTAB 11: PRINT "SPACE BAR TO FIRE": GOSUB 3
59 POKE - 16304,0: POKE - 16301,0: POKE - 16300,0
60 VTAB 21: PRINT "WHAT DO YOU CALL YOURSELF?"
61 VTAB 23: INPUT "":N#
62 GOSUB 4: PRINT "WELL ";N#: PRINT "LET'S PRACTICE YOUR DRAW"
63 GOSUB 3: POKE - 16302,0: GOSUB 3
64 FOR I = 1 TO 4: POKE - 16299,0: FOR J = 1 TO 1500: NEXT : POKE - 1630
0,0: FOR J = 1 TO 500: NEXT : NEXT
65 POKE - 16301,0
66 GOSUB 4: PRINT "THAT'S ENOUGH! ";N#: PRINT "WE DON'T WANT YOU TO STRAIN
SOMETHING!"
67 GOSUB 3: GOSUB 3: GOSUB 4
68 PRINT "LET'S SHOOT AT SOME GLASSES": PRINT "DON'T SHOOT TOO SOON": PRIN
T "OR YOU'LL BLOW YOUR FOOT OFF!!"
69 GOSUB 3
70 ON N GOSUB 5,6,7
71 GOSUB 3: GOSUB 4: GOTO 8
72 ROT= 0: SCALE= 1: GOSUB 3: GOSUB 4: IF SC > 2 THEN 76
73 PRINT "DREADFUL!": PRINT "WANT TO QUIT? (Y/N) ";; INPUT "":Z#: IF Z# =
"N" THEN GOSUB 4: GOTO 8
74 GOSUB 4: PRINT "THAT MIGHT NOT BE POSSIBLE!": IF RND (1) > .5 THEN 78
75 GOSUB 3: TEXT : HOME : PRINT "O.K. QUIT WHILE THE GOING'S GOOD. BYE!":
END
76 IF SC > 4 THEN 78
77 PRINT "YOU WON'T SURVIVE AGAINST ";OP#: PRINT "GO BACK AND PRACTICE AGA
IN!": GOSUB 3: GOSUB 3: GOSUB 4: GOTO 8
78 PRINT "OH! OH! HERE COMES ";OP#
79 X1 = 260:X2 = 262:Y = 120: POKE 230,64: XDRAW 3 AT 10,120: XDRAW 1 AT 10
,120: XDRAW 2 AT X2,Y: GOSUB 3
80 POKE 230,32: XDRAW 2 AT X1,Y: POKE - 16302,0
81 POKE 230,64: XDRAW 2 AT X2,Y:X2 = X2 - 4: XDRAW 2 AT X2,Y: POKE - 1629
9,0
82 POKE 230,32: XDRAW 2 AT X1,Y:X1 = X1 - 4: XDRAW 2 AT X1,Y: POKE - 1630
0,0
83 IF X1 < > 200 THEN 81
84 POKE 230,64: XDRAW 1 AT 10,120: XDRAW 3 AT 10,120: XDRAW 2 AT 202,120:
XDRAW 4 AT 200,120
85 POKE - 16301,0: POKE 230,32
86 GOSUB 4: PRINT "WHEN THE GLASS SMASHES ON THE FLOOR": PRINT : PRINT "FI
RE!!"
87 GOSUB 3: FOR I = 64 TO 32 STEP - 32: POKE 230,I: XDRAW 5 AT 112,76: NE
XT
88 Y = 76: FOR I = 112 TO 208 STEP 3: XDRAW 5 AT I,Y: FOR J = 1 TO 50: NEXT

```



# SOFTWARE EXPRESS

**DELIVERING THE VERY LATEST SOFTWARE THROUGHOUT THE U.K. ABSOLUTELY FREE!!**

**Who else would pay the postage both ways for you?**

All the very latest, best selling quality Software you'll ever need, delivered direct to your door, promptly and conveniently and at no extra cost from Software Express.

## VIC-20

New Games  
Paratrooper  
Antimatter Splatter  
The Catch  
English Invaders  
Pakacuda  
Escape M.C.P.  
Crittlers  
Cyclons  
Race Fun  
Best Sellers  
Skramble  
Myriad

**£5.99**  
Each  
Inc. VAT

## COMMODORE 64

New Games  
Escape M.C.P.  
Pakacuda  
Centropods  
Cyclons  
Best Seller  
Monopole

**£5.99**  
Each  
Inc. VAT



## RABBIT SOFTWARE

## BUSINESS PROGRAM FOR COMMODORE 64

**£79**  
+ VAT

Infomast - on floppy disk  
☆ Database  
☆ Programmable Calculator  
☆ Word Processor

Please mail me the following Software Cassettes:

PROGRAM	QUANTITY	PRICE

I enclose cheque/P.O. made payable to Software Express for \_\_\_\_\_  
Or please charge my Credit Card No.

TOTAL PRICE £ \_\_\_\_\_  
(All prices include VAT and postage)  
Access/Barclaycard only please

Name \_\_\_\_\_

Address \_\_\_\_\_

For all micro users who don't live near the larger stores, and find difficulty in purchasing the very latest software - the answer is at your doorstep - Software Express. We have just signed agreements with Bug-Byte and Rabbit Software to supply their exciting products to you, the user, directly to your door AT SHOP PRICES. Absolutely no extra charge - we even pay the postage both ways, just fill in the coupon with your requirements and send it to our FREEPOST address (no stamp required). The cassettes of your choice will be mailed to you quickly and conveniently. Try us and see for yourself - we go out of our way just for you!

## BUG-BYTE SOFTWARE

### ZX SPECTRUM

Spectral Invaders £5.00  
Spectres £6.00  
Aspect Editor/Assembler £9.00  
The Castle (48k) £8.00

### ZX 81

Mazogs £10.00  
Dictator £9.00  
Invaders! £4.00  
Adventure £8.00  
ZXAS £5.00  
ZXDB £6.50  
ZXTK £6.00

### B.B.C. MICRO

Space Pirates £8.00  
City Defence £7.50  
Galaxy Wars £7.50  
Music Synthesiser £9.50  
Sea Lord £7.50  
Space Invaders £7.50  
Chess (0.1 ROM only) £8.00

### VIC-20

VIC Asteroids £7.00  
Another VIC (in the wall) £7.00  
VIC Panic £7.00  
Cosmiads £7.00  
VIC Gammon £7.00  
VIC Scramble £7.00

### ORIC

Castle £8.00

Mail to: SOFTWARE EXPRESS FREEPOST (no stamp required)  
Gores Road, Kirkby Industrial Estate, Kirkby, Liverpool L33 7UA.

SUPERFAST CREDIT CARD SALES LINE  
**051-5482020 24 HOUR**





```

: XDRAW 5 AT I,Y: NEXT
89 X = I: FOR I = Y TO 96 STEP 3: XDRAW 5 AT X,I: FOR J = 1 TO 50: NEXT : X
DRAW 5 AT X,I: NEXT
90 POKE - 16368,0
91 POKE PIT,100: POKE DUR,50: CALL NOISE
92 CALL 791
93 IF PEEK ( - 16384) > 127 THEN 103
94 POKE - 16302,0: POKE - 16299,0: GOSUB 2
95 POKE 230,32: XDRAW 1 AT 10,120: ROT= 48: XDRAW 1 AT 10,138: ROT= 0: GOS
UB 4: POKE - 16300,0: POKE - 16301,0
96 PRINT "OH DEAR!": FOR J = 1 TO 1000: NEXT
97 FOR I = 0 TO 10: READ A,B,C: POKE PIT,A: POKE DUR,B: CALL NOISE: FOR J
= 1 TO C: NEXT : NEXT
98 DATA 250,255,200,250,255,200,250,80,100,250,255,200,220,255,200,250,80,
100,255,255,200,250,80,100,255,255,200,250,80,100,255,255,500
99 POKE - 16368,0
100 CALL - 912: PRINT "PLAY AGAIN ? ";; GET Z$
101 IF Z$ < > "Y" THEN TEXT : HOME : PRINT "BYE!": END
102 RESTORE : GOTO 47
103 POKE - 16368,0: POKE - 16302,0: POKE - 16299,0: GOSUB 2: GOSUB 3
104 POKE 230,32: XDRAW 2 AT 200,120: ROT= 16: XDRAW 2 AT 200,138: ROT= 0:
GOSUB 4: POKE - 16300,0
105 GOSUB 3: GOSUB 3
106 POKE 230,64: XDRAW 3 AT 10,120: XDRAW 1 AT 10,120: XDRAW 4 AT 200,120:
ROT= 16: XDRAW 2 AT 200,138: ROT= 0: XDRAW 2 AT 262,120
107 X1 = 260: X2 = 262: Y = 120: POKE 230,32: XDRAW 2 AT X1,Y
108 POKE 230,64: XDRAW 2 AT X2,Y: X2 = X2 - 4: XDRAW 2 AT X2,Y: POKE - 162
99,0
109 POKE 230,32: XDRAW 2 AT X1,Y: X1 = X1 - 4: XDRAW 2 AT X1,Y: POKE - 163
00,0
110 IF X1 < > 208 THEN 108
111 POKE 230,64: ROT= 16: XDRAW 2 AT 200,138: XDRAW 2 AT 202,138: Y1 = 138:
POKE - 16299,0
112 POKE 230,32: ROT= 0: XDRAW 2 AT X1,Y: ROT= 16: XDRAW 2 AT X1 - 8,Y1: X1
= X1 + 4: XDRAW 2 AT X1 - 8,Y1: ROT= 0: XDRAW 2 AT X1,Y: POKE - 16300,0
113 POKE 230,64: ROT= 0: XDRAW 2 AT X2,Y: ROT= 16: XDRAW 2 AT X2 - 8,Y1: X2
= X2 + 4: XDRAW 2 AT X2 - 8,Y1: ROT= 0: XDRAW 2 AT X2,Y: POKE - 16299,0
114 IF X2 < > 262 THEN 112
115 POKE 230,32: XDRAW 2 AT X1,Y: XDRAW 5 AT 112,76: ROT= 16: XDRAW 2 AT X
1 - 8,Y1: ROT= 0: POKE - 16300,0
116 POKE 230,64: XDRAW 1 AT 10,120: XDRAW 3 AT 10,120: XDRAW 2 AT X2,Y: XD
RAW 5 AT 112,76: ROT= 16: XDRAW 2 AT X2 - 8,Y1: ROT= 0
117 POKE - 16301,0: PRINT "YOU'RE STILL HERE!": PRINT "MORE PRACTICE NOW
YOUR FAMOUS!"
118 GOSUB 3: GOSUB 3
119 N = N + 1: IF N < > 4 THEN 70
120 GOSUB 4: PRINT "I'M AFRAID YOU'RE NOW TOO FAST!": PRINT "NO-ONE WILL C
HALLENGE YOU AGAIN!": PRINT "I'M OFF!": GOSUB 3: GOSUB 3: TEXT : HOME : PRI
NT "BYE!!"

```



# GENIE



## GENIE

A much more . . . able computer for your money!

Get in touch with Lowe Computers at Matlock for a list of your nearest Genie specialist dealers!



# able



GENIE III  
£2,240.50



COLOUR  
GENIE  
£224.48

**LOWE**  
COMPUTERS



```

100 CALL SCREEN(16):: CALL CLEAR
110 CALL MAGNIFY(2):: RANDOMIZE
120 REM *****
130 REM X SUBSTRIKE X
140 REM X BY FIREFLY X
150 REM X EXTENDED BASICX
160 REM *****
170 SD=2000:: SPEED=7
180 FOR CHAN=1 TO 6:: CALL COLD
190 (CHAN,16,2):: NEXT CHAN
200 DISPLAY AT(1,1)::"SCORE 0"
210 CALL CHAR(96,"FFFFFFFFFFFFFFF
220 000S42622FF7E3C8")
230 CALL CHAR(104,"FFFFFFFFFFFFFFF
240 0000061818FFFF7E")
250 CALL CHAR(112,"FFFFFFFFFFFFFFF
260 4701S4291048S1564166926424842
270 65476536746524945456654738416792
280 42442343431419")
290 CALL COLDR(9,8,1,10,6,1,11,5
300 )
310 FOR A=24 TO 20 STEP -1
320 CALL HCHAR(A,1,112,32)
330 NEXT A
340 FOR B=19 TO 16 STEP -1
350 CALL HCHAR(B,1,104,32)
360 NEXT B
370 FOR C=15 TO 12 STEP -1
380 CALL HCHAR(C,1,96,32)
390 NEXT C

```

```

320 DISPLAY AT(24,1)SIZE(7)::"FIR
330 EFLY"
340 IF RND<.5 THEN CALL SPRITE(#
350 1,97,15,75,RND*190+1,0,-5)ELSE C
360 ALL SPRITE(#1,97,15,75,RND*190+1
370 ,0,10)
380 G=INT(RND*56)+100
390 M=INT(RND*170)+10
400 V=INT(RND*2)+1
410 IF V=2 THEN CALL SPRITE(#2,1
420 05,2,G,M,0,-SPEED)ELSE CALL SPRI
430 TE(#2,105,2,G,M,0,SPEED)
440 CALL SOUND(-4250,110,15,-1,1
450 ,SD,10)
460 IF GM=1 THEN SD=SD-50
470 CALL POSITION(#3,Y1,X1):: IF
480 Y1>183 THEN 520
490 CALL COINC(ALL,HIT):: IF HIT
500 =-1 THEN 670
510 CALL KEY(1,K,S):: IF S=0 DR
520 =-1 THEN 380
530 IF K=2 THEN CALL MOTION(#1,0
540 ,-7)
550 IF K=3 THEN CALL MOTION(#1,0
560 ,7)
570 IF K=12 AND X=0 THEN 470
580 GOTO 420
590 REM *****DEPTH CHARGE***
600 CALL POSITION(#1,Y,X)
610 CALL SPRITE(#3,46,7,Y+10,X,1

```

# SUBSTRIKE

Your enemies under the waves run silent and run deep — waiting to catch you off guard and send you to a watery grave with a well aimed torpedo. Can you outwit these silent denizens of the deeps?

You are in command of a destroyer hunting for these deadly submarines. Once you pick up one on your radar screen the action starts. Simply line up your depth charges and blast away until you have

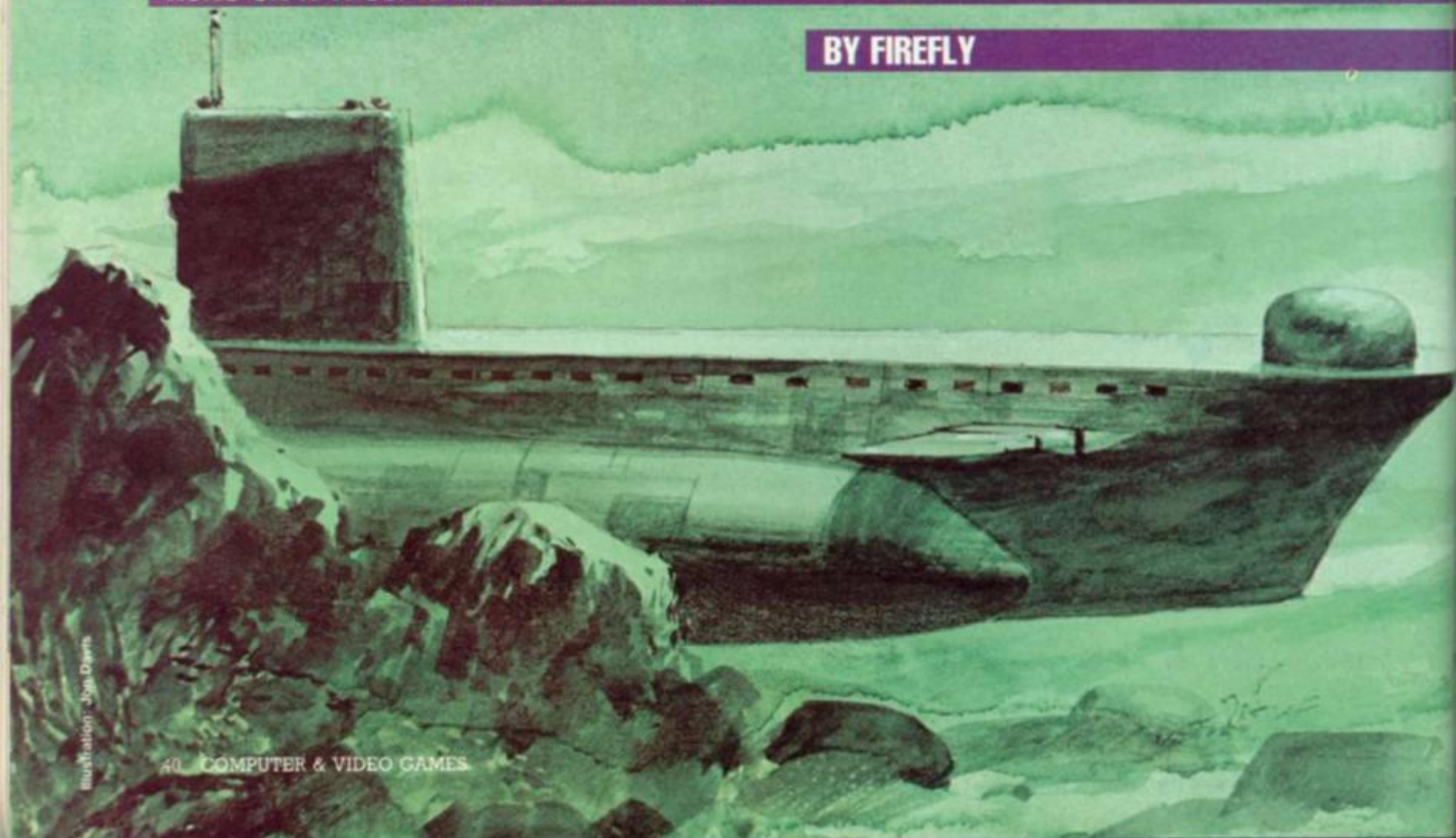
destroyed the enemy sub. If you miss the submarine will surface and fire at you — and there is no escape from the deadly missiles.

Each time you hit a sub you score points — and another metallic monster will appear under the waves.

You control your ship using the cursor keys 's' and 'd' and the 'f' key fires your depth charges.

**RUNS ON A TI 99/4a IN EXTENDED BASIC**

**BY FIREFLY**





```

500 X,GM=1 :: SD=SD-20
510 GOTO 380
520 REM *CHARGE HIT BOTTOM*
530 CALL POSITION(#3,Y,X) :: CALL
DELSPRITE(#3)
540 CALL SPRITE(#4,113,12,183,X)
550 FOR A=1 TO 2
560 CALL PATTERN(#4,114) :: CALL
COLDR(#4,RND*12+3)
570 CALL PATTERN(#4,115) :: CALL
COLDR(#4,RND*12+3)
580 CALL PATTERN(#4,113) :: CALL
COLDR(#4,RND*12+3)
590 CALL PATTERN(#4,46) :: CALL C
OLDR(#4,RND*12+3)
600 CALL SOUND(-500,-5,0)
610 NEXT A
620 G=G-6 :: CALL POSITION(#2,A,
B) :: CALL LOCATE(#2,G,B)
630 CALL POSITION(#2,Y,X)

640 IF Y<100 THEN 860
650 GM,X,S=0 :: SD=2000
660 GOTO 380
670 REM *HIT SUBMARINE*
680 CALL DELSPRITE(#3)
690 IF V=2 THEN CALL MOTION(#2,5
,-10) ELSE CALL MOTION(#2,5,10)
700 CALL SOUND(-200,-6,0) :: CALL
COLDR(#2,10)
710 CALL POSITION(#2,A,B) :: IF A
>183 THEN 720 ELSE 710
720 CALL PATTERN(#2,113) :: CALL
COLDR(#2,12)
730 CALL SOUND(-1000,-4,0)
740 CALL SOUND(-1000,-6,0)
750 CALL MOTION(#2,0,0)
760 CALL POSITION(#2,Y,X) :: CALL
DELSPRITE(#2)
770 FOR B=5 TO 10
780 CALL SPRITE(#5,46,RND*2+9,Y,
X,-10,SGN(RND-.5)*20)
790 NEXT B
800 FOR D=5 TO 10
810 FOR DEL=1 TO 20 :: NEXT DEL
820 CALL DELSPRITE(#D)
830 NEXT D
840 SCORE=SCORE+1 :: DISPLAY AT(
1,1) : "SCORE",SCORE
850 SPEED=SPEED+S
860 GM,X,S=0 :: SD=3000
870 GOTO 340
880 REM *BOAT HIT*
890 CALL MOTION(#1,0,0)

```

```

900 CALL POSITION(#1,C,D)
910 CALL POSITION(#2,A,B)
920 CALL SPRITE(#5,46,16,A,B)
930 U=C-A :: V=D-B :: D1X=SGN(U)
D1Y=SGN(V) :: D2X=D1Y :: D2Y=0
940 M=ABS(U) :: N=ABS(V)
950 IF M>N THEN 970
960 D2X=0 :: D2Y=SGN(V) :: M=ABS(
U) :: N=ABS(U)
970 S=INT(M/2)
980 FOR I=0 TO M
990 CALL LOCATE(#5,A,B)
1000 S=S+N :: IF S<M THEN 1020
1010 S=S-M :: A=D1X :: B=B+D1Y ::
GOTO 1030
1020 A=A+D2X :: B=B+D2Y
1030 NEXT I
1040 FOR AS=1 TO 10
1050 CALL SOUND(200,-4,0,110,15,
210,15,310,15)
1060 CALL PATTERN(#1,115)
1070 CALL COLDR(#1,RND*12+3)
1080 CALL SCREEN(RND*12+3)
1090 CALL COLDR(#1,RND*12+3)
1100 CALL PATTERN(#1,113) :: CALL
COLDR(#1,RND*12+3)
1110 NEXT AS
1120 CALL SOUND(-1000,-5,0)
1130 CALL SCREEN(16)
1140 CALL POSITION(#1,Y,X) :: CAL
L DELSPRITE(#1,#5)
1150 FOR DEL=1 TO 500 :: NEXT DE
L
1160 CALL PATTERN(#1,97)
1170 CALL COLDR(#1,15)
1180 DISPLAY AT(10,7) : "PLAY AGAI
N? (Y/N)"
1190 CALL DELSPRITE(ALL)
1200 CALL KEY(0,K,S) :: IF S=0 TH
EN 1200
1210 IF K=69 OR K=121 THEN 1250
1220 IF K=78 OR K=110 THEN CALL
CLEAR :: CALL DELSPRITE(ALL) :: S
TOP
1230 CALL SOUND(10,110,0)
1240 GOTO 1200
1250 X=0 :: GM=0 :: SCORE=0 :: S
PEED=7 :: SD=2000
1260 DISPLAY AT(1,1) : "SCORE",SCD
RE
1270 CALL NCHAR(10,5,32,22)
1280 GOTO 320
1290 END

```



# The June Top Ten in Spectrum software at W.H. Smith.



Flight Simulation  
Sinclair 48K £7.95



Penetrator  
Melbourne House  
48K £6.95

The range of software available for the Sinclair Spectrum is to say the least, extensive.

So every month at W. H. Smith, we review the range with particular reference to presentation, challenge, excitement and value for money. And because we're quite severe it's a difficult job finally to arrive at a Top Ten. But as you can see, not impossible.

You don't have to take our word for it.

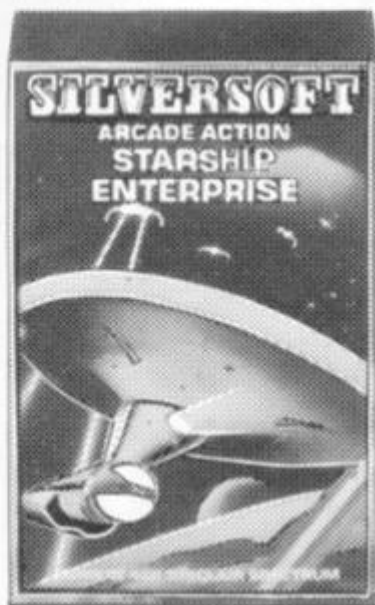
At W. H. Smith we stock the widest selection of Spectrum Software, so you can judge for yourself.

Title	Producer	K RAM	Price
<b>Arcade Games</b>			
Meteor Storm	Quicksilva	16	£4.95
Space Intruders	Quicksilva	16	£4.95
Time Gate	Quicksilva	48	£6.95
Gulpman	Campbell	16	£4.95
Spectral Invaders	Bug-Byte	16	£5.00
Meteoroids	Softek	16	£4.95
Planetoids	Sinclair	16	£4.95
Hungry Horace	Sinclair	16	£5.95
Space Raiders	Sinclair	16	£4.95
Mazeman	Abersoft	16	£4.95
Nightflight	Hewson	48	£5.95
Ground Force Zero	Titan	16	£5.00
Caterpillar	CDS	16	£5.95
Leapfrog	CDS	16	£5.95
Gobble-A-Ghost	CDS	16	£5.95
Centi-Bug	DK Tronics	16	£4.95
3D Tanx	DK Tronics	16	£4.95
Cruising	Sunshine	16	£4.95
Blind Alley	Sunshine	16	£4.95
Derby Day	Computer Rentals	48	£5.95
Jackpot	Computer Rentals	48	£4.95
Escape	New Generation	16	£4.95
3D Tunnel	New Generation	16	£5.95
Gobbleman	Artic	16	£4.95
Galaxians	Artic	16	£4.95
Invasion Force	Artic	16	£4.95
Sentinal	Abacus	16	£4.95





Chess  
Sinclair  
48K **£7.95**



Starship Enterprise  
SILVERSOFT  
48K **£5.95**



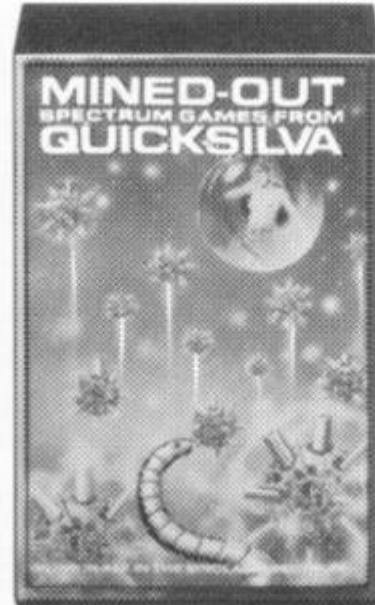
Horace Goes Skiing  
Sinclair  
16K **£5.95**



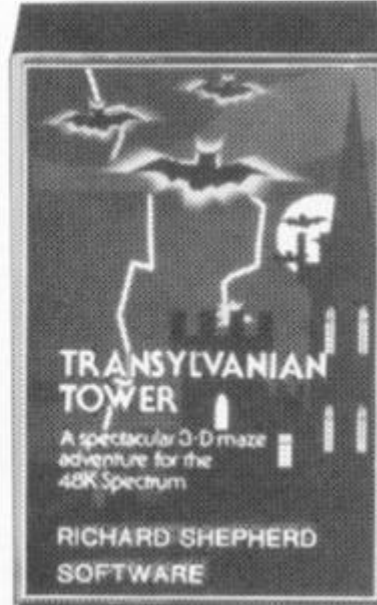
Schizoids  
Imagine  
16K **£5.50**



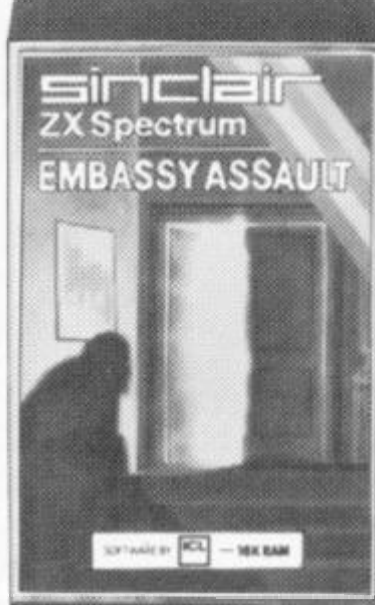
Muncher  
SILVERSOFT  
16K **£5.95**



Mined-Out  
Quicksilva  
48K **£4.95**



Transylvanian Tower  
Shepherd  
48K **£6.50**



Embassy Assault  
Sinclair  
48K **£4.95**

Title	Producer	K RAM	Price	Title	Producer	K RAM	Price	Title	Producer	K RAM	Price
Avenger	Abacus	16	£4.95	Planet of Death	Sinclair	16	£6.95	Backgammon	C P Software	48	£5.95
Cyber Rats	SILVERSOFT	16	£5.95	Inca Curse	Sinclair	48	£6.95	Draughts	C P Software	48	£6.95
Arcadia	Imagine	16	£5.50	The Hobbit	Sinclair	48	£14.95	<b>Practical</b>			
Ground Attack	SILVERSOFT	16	£5.95	Ship of Doom	Artic	48	£6.95	Vu-Calc	Sinclair	16	£8.95
Orbiter	SILVERSOFT	16	£5.95	Espionage Island	Artic	48	£6.95	Vu-File	Sinclair	16	£8.95
Slippery Sid	SILVERSOFT	16	£5.95	Rescue	Computer Rentals	48	£5.95	Vu-3D	Sinclair	48	£9.95
<b>Strategy Games</b>				The Orb	Computer Rentals	48	£5.95	Collectors Pack	Sinclair	48	£9.95
Battle of Britain	Microgame	48	£5.95	<b>Utility</b>				Club Record Controller	Sinclair	48	£9.95
Novotnik Puzzle	Phipps	16	£4.95	M/C Code Test Tool	Oxford	16	£9.95	Address Manager	Oxford	16	£8.95
Chess	Artic	48	£9.45	Editor/Assembler	Oxford	16	£9.95	Finance Manager	Oxford	16	£8.95
Voice Chess	Artic	48	£9.95	Compiler	Softek	16	£14.95	Dietron	Custom Data	16	£4.75
Superchess II	C P Software	48	£7.95	Soft Talk II	C P Software	48	£6.95	<b>Program Collections</b>			
Football Manager	Addictive	48	£6.95	Spectsound	PDQ	16	£5.95	Shiva Special 1	Shiva	16	£5.95
Chess-The Turk	Oxford	48	£8.95	<b>Family Games</b>				Over The Spectrum 1	Melbourne House	16	£5.95
Dictator	DK Tronics	48	£4.95	Reversi	Sinclair	16	£7.95	Over The Spectrum 2	Melbourne House	16	£5.95
Everest Ascent	Shepherd	48	£6.50	Othello	CDS	16	£5.95	Over The Spectrum 3	Melbourne House	16	£5.95
Dallas	CCS	48	£5.95	Golf	R and R	16	£3.75				
<b>Adventure</b>				Conflict	Martech	48	£11.95				
Labyrinth	Axis	16	£5.95	Test Match	Computer Rentals	48	£5.95				

# WHSMITH



Prices correct at time of going to press. Subject to availability. At selected branches only.



```

10 REM BALLTRAP
20 REM S.HEAP
30 MODE5:SZ=1000
40 PRINT "'DO YOU WANT SOUND"
50 INPUT"Y OR N",B$
60 IF B$="Y" N=-10 ELSE N=0
70 VDU30,9
80 UZ=20+RND(800):AZ=20+RND(1000):DUZ=1:DAZ=2:BZ=3
90XZ=500+RND(500):YZ=400+RND(400):DXZ=-8:DYZ=-4:TIME=0
100 VDU19,2,7,0,0,0
110 VDU19,3,2,0,0,0
120 GCOL0,131:CLG
130 PROC_BOX
140 PROC_BALL
150 PROC_LINE
160 IF BZ=1 WZ=WZ+1 ELSE WZ=0
170 IF WZ=100 PROC_WIN:GOTO 190
180 IF ADVAL(0)=1 GOTO 70 ELSE GOTO 140
190 IF ADVAL(0)=1 GOTO 70 ELSE GOTO 190
200 DEFPROC_BOX
210 GCOL0,0
220 MOVE16,16:DRAW1264,16
230 DRAW1264,1004:DRAW16,1004
240 DRAW16,900:DRAW160,900
250 MOVE16,900:DRAW16,800
260 DRAW160,800:MOVE16,800
270 DRAW16,16
280 GCOL0,1:MOVE24,896
290 MOVE160,896:PLOT85,160,804
300 MOVE24,804:PLOT85,24,896
310 ENDPROC
320 DEFPROC_LINE
330 GCOL0,0
340 MOVE AZ,UZ
350 IF ADVAL1>50000 IF AZ>20 THEN AZ=AZ-DAZ:GOTO 390
360 IF ADVAL1<10000 IF AZ<1260 THEN AZ=AZ+DAZ:GOTO390
370 IF ADVAL2>50000 IF UZ<1000 THEN UZ=UZ+DUZ:GOTO390
380 IF ADVAL2<10000 IF UZ>20 THEN UZ=UZ-DUZ
390 DRAW AZ,UZ
400 ENDPROC
410 DEFPROC_WIN
420 VDU28,1,19,18,15:COLOUR1:COLOUR131:CLS
430 PRINT"YOU HAVE WON"
440 TZ=TIME/100:IF TZ<SZ SZ=TZ
450 PRINT"IN ";TZ;" SECS"
460 IF TZ<30 A$="CHAMP!!":GOTO500
470 IF TZ<50 A$="GOOD!":GOTO500
480 IF TZ<80 A$="NOT BAD":GOTO500
490 A$="RUBBISH-GIVE UP!!"
500 PRINT A$
510 PRINT"BEST IS ";SZ;" SECS"
520 ENDPROC
530 DEFPROC_BALL
540 IF POINT(XZ+DXZ,YZ+DYZ)<>0 GOTO580
550 IF POINT(XZ+DXZ,YZ)=0 DXZ=-DXZ
560 IF POINT(XZ,YZ+DYZ)=0 DYZ=-DYZ
570 SOUND 2,N,130,1
580 GCOL0,BZ
590 PLOT 69,XZ,YZ
600 XZ=XZ+DXZ:YZ=YZ+DYZ
610 IF POINT(XZ,YZ)=1 BZ=1 ELSE BZ=3
620 GCOL0,2
630 PLOT69,XZ,YZ
640 ENDPROC

```





# BAT AND BALL

**RUNS ON A BBC MODEL A OR B IN 16K**

**BY STEVE HEAP**

This is an interesting variation of those very early bat and ball type video games which heralded the arcade boom all those years ago. It was written primarily for the BBC Model B but can easily be converted to work on the A or B from the keyboard.

The object of the game is to trap a bouncing ball in a coloured rectangle in the top corner of the screen. To do this a continuous line is drawn using the joystick (or keyboard controls) which slowly confines the ball in a smaller and smaller area until it is finally trapped. But beware — the ball has a nasty habit of escaping through the smallest gap in your defences!

If you are successful and manage to catch the bouncing ball the time you take will be displayed — together with the best time so far. The fire button on the joystick sets up a new game at any time.

The game can be converted to work from the keyboard by changing/adding the following lines:

```

25 ON ERROR GOTO 650
62 *FX12, 1
64 *FX11, 1
66 *FX15, 0
180 IF INKEY$(0)="N" GOTO 66 ELSE GOTO 140
190 IF INKEY$(0)="N" GOTO 66 ELSE GOTO 190
345 A$=INKEY$(0)
350 IF A$="Z" IF AZ>20 THEN AZ=AZ-DAZ:GOTO 390
360 IF A$="X" IF AZ<1260 THEN AZ=AZ+DAZ:GOTO 390
370 IF A$=":" IF UZ<1000 THEN UZ=UZ+DUZ:GOTO 390
380 IF A$="/" IF UZ>20 THEN UZ=UZ-DUZ
395 *FX15, 0
650 *FX15, 0
660 *FX12, 0
670 MODE7:END

```



# For the best hardware, the best software.

The BBC Microcomputer system is generally regarded to be the best micro in its price range you can lay your hands on. So, if you're thinking of buying one or already own one, you'll want to know about the software that's been specially designed for it.

Not surprisingly, it's made by Acornsoft, the software division of Acorn Computers Ltd., who designed and built the BBC Microcomputer. So naturally you can expect the highest quality software with the built-in ingenuity to fully exploit the BBC Micro's potential.

## Further education for everyone.

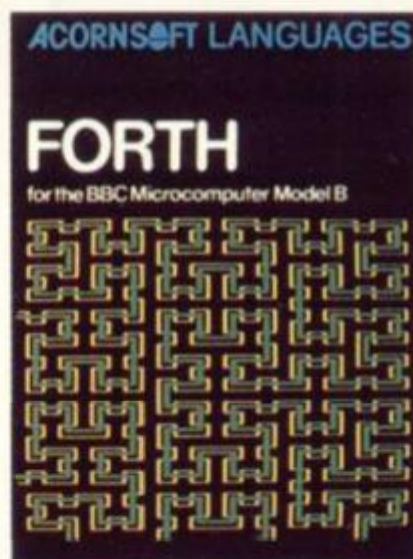
Number Balance (price £11.90) contains two programs on cassette for practising simple mathematical operations from numbers 1 to 20. The object of the exercise is to make a balance level by inputting the correct missing number into one side of a simple equation. Incorrect answers will tilt the balance in the appropriate direction; after three incorrect attempts the program responds with the correct answer.

Chemical Analysis (price £13.80) contains three Chemistry programs on cassette and a booklet. 'Elements' presents a series of mystery elements which the student is asked to identify. 'Inorganic' presents a series of inorganic substances to be

identified by performing tests selected from a menu of standard tests. 'Organic' is a program dealing with organic compounds.

## Learn more languages.

LISP (price £24.35) is the fundamental language of artificial intelligence research.



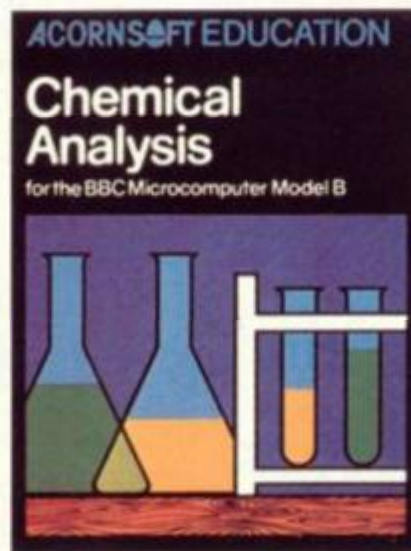
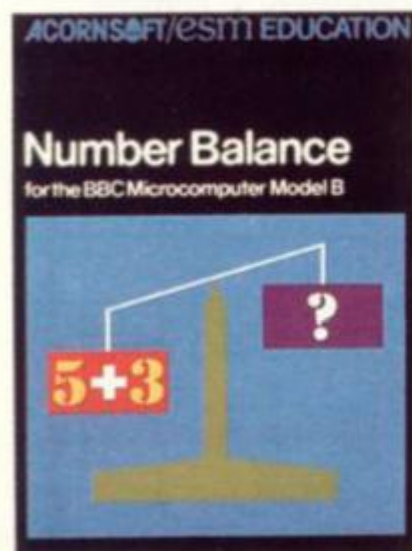
It is easy to learn, and is widely used for writing substantial and sophisticated programs, with practical applications including design of education systems and medical research.

It comes complete with a book that introduces you to programming in LISP, as well as some fascinating applications.

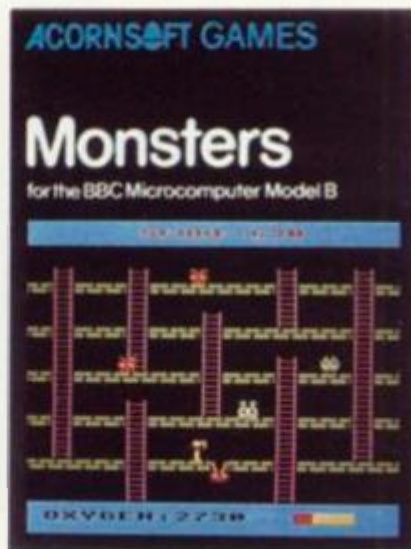
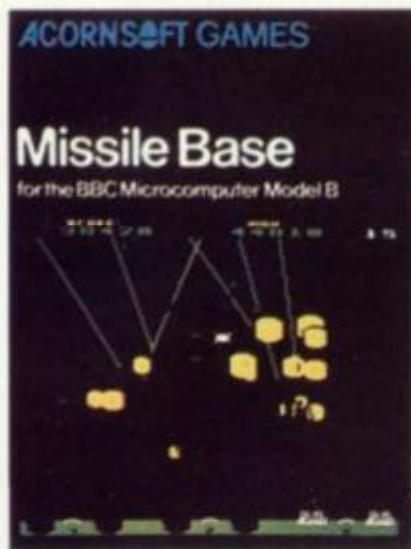
FORTH (price £24.35) is a complete implementation of the FORTH language to the 1979 standard specification for the BBC Microcomputer Model B. This much acclaimed programming language is also accompanied by a specially written book explaining all you need to know.

## Mind-boggling games.

Sphinx Adventure (price £9.95) is a full-sized classic adventure game in which you move through caves, fight with trolls, collect treasure and finally make your way to the sphinx







### How to get Acornsoft programs.

If you're a credit card holder and would like to buy cassettes of the programs shown in this advertisement, or if you would like to know the address of your nearest stockist, just phone 01-200 0200.

to collect your reward.

Missile Base (price £9.95) sees you as Moon Base Commander, and you must ward off the salvos of deadly neutron missiles falling from space onto your base. As the game progresses, intelligent missiles arrive on the scene. They must be destroyed with cunning. Comes complete with satellites and planes and includes a table of high scores.

Monsters (price £9.95) is a game where your man is pursued by monsters who chase him up and down ladders and along walls. The only hope of survival is to dig holes in the walls and trap the monsters by filling them in. Complete with sound effects and high score.

### Increase your business acumen.

VIEW (price £59.80) is a program that enables your machine, together with a printer, to operate as a fully operational word processor. For convenience the program is in ROM so that it can become a permanent feature of your machine. (It can easily be fitted by your local dealer.) You'll find out more by going to your dealer or by sending for the free catalogue.

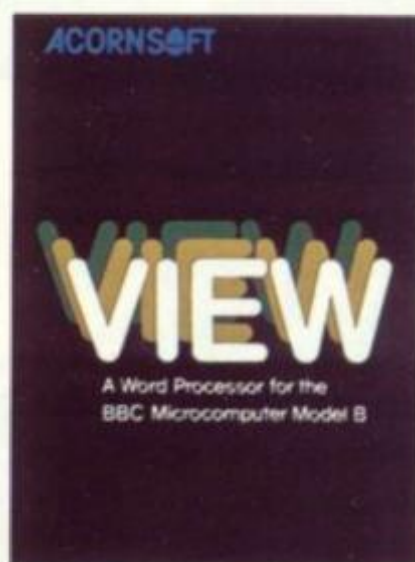
Alternatively, you can buy the cassettes directly by sending off the order form below to: Acornsoft, c/o Vector

Marketing, Denington Estate, Wellingborough, Northants NN8 2RL.

Also use this form if you would like to receive the current free Acornsoft catalogue.

Please allow 28 days for delivery.

Credit Card Holders. Ring 01-200 0200.



To Acornsoft, c/o Vector Marketing, Denington Estate, Wellingborough, Northants NN8 2RL.

Please send me the following:-

PROGRAM	PRICE	QUANTITY	TOTAL	(Code Acornsoft use only)
Number Balance	£11.90			SBE08
Chemical Analysis	£13.80			SBE12
Lisp	£24.35			SBL02/SBD04
Forth	£24.35			SBL01/SBD03
Sphinx Adventure	£9.95			SBG07
Missile Base	£9.95			SBG18
Monsters	£9.95			SBG03
TOTAL				

I enclose PO/cheque payable to Acornsoft Ltd. Or charge my credit card.

Card Number \_\_\_\_\_  
(Amex/Diners/Visa/Access (Delete))

Please send me the Acornsoft brochure

Please send me the VIEW catalogue

Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Signature \_\_\_\_\_

Registered No. 1524763

VAT No. 215 8123 85

# ACORNSOFT







# PROTECTOR

BY L. BRAINE

RUNS ON A VIC-20 IN 3.5K

Space piracy is ruining the economy of your sector of the galaxy and Star Fleet Command have ordered you, the skipper of an interstellar customs cruiser, to wipe out the pirates at any cost. Their plundering means that galactic taxes may have to put up — and there's an interplanetary election coming up!

Blasting off from your HQ after picking up your orders you soon pick up the space pirates fleet on your scanners. They are approaching you in force and closing fast. The odds are six to one. Your only chance is to quickly switch to hex-drive, which will give you two minutes of super-power and enable you to out manoeuvre the pirate ships and blast them out of the sky. Can you end the pirates reign of terror?

Your score will be shown at the top of the screen, and also the time you have left to complete your task. The high score is also shown.

The program is listed in two parts. First the user-defined graphics and second is the main program.

Program notes:

100-160: main loop. 400-460: ground movement routine. 500-565: joystick and your movement routine. 600-710: space pirates movement routine. 800-980: laser guns routine. 1000-1050: end of program routine.

```

5 POKE52,28:POKE56,28
10 DATA 255,255,255,255,255,255,255,255
20 DATA 0,0,0,0,0,0,0,255
30 DATA 0,0,0,0,0,0,255,255
40 DATA 0,0,0,0,0,255,255,255
50 DATA 0,0,0,0,255,255,255,255
60 DATA 0,0,0,255,255,255,255,255
70 DATA 0,0,255,255,255,255,255,255
80 DATA 0,255,255,255,255,255,255,255
90 DATA 126,90,255,189,189,36,66,36
100 DATA 0,0,0,0,63,255,31,0
110 DATA 0,12,126,255,255,254,254,0
120 DATA 0,48,126,255,255,127,127,0
130 DATA 0,0,0,0,252,255,248,0
140 DATA 73,42,0,99,0,42,73,0
170 DATA 1,3,7,15,31,63,127,255
180 DATA 128,192,224,240,240,252,254,255
190 FOR I=7168+32*8 TO 7168+32*8+7:POKE I,0:NEXT
200 FOR I=7168 TO 7295:READ J:POKE I,J:NEXT
210 PRINT"LOAD"
230 POKE198,3:POKE632,19:POKE633,13:POKE634,13
READY.
  
```



```

5 CLR:GOTO90
10 POKE36869,255:POKE36878,15:POKE36879,29:PRINT"7":PA=37151:SO=36876:SC=0
20 PRINT"SCORE:#####TIME:#####HI SCORE:#####"
#####
30 A$="XXXXXXXXXXXXXXXXXXXXXXXXXXXX"
35 S$="ABCDEFGHI@ABCCBAH@GFEE@ONGFEDC@A@BCDEF@O@A@H@O@N@O@F@E@D@C@E@F@G@O@A@H@O@F@E@D@C@B@A"
40 PRINTLEFT$(A$,21);
50 PRINT"#####PROTECTOR BY L.BRAINE.#####"

60 POKE8185,0:POKE38905,5
70 B$(1)="KL":B$(2)="IJ":F=1:G=10
80 FORA=1TO4:B(A)=7789+22*INT(RND(0)*9):NEXT
85 PRINTLEFT$(A$,20)"#LEFT$(S$,22)
86 RETURN
90 I=PEEK(37151):IF(IAND32)=0THEN90
92 GOSUB10
95 TI$="000000":PRINT"#####SPC(16)HC
96 PRINT"#####SPC(15)H#
100 FORX=1TO4
105 IFF=1THENGOSUB600
110 IFF=2THENGOSUB660
120 IFF=1THENGOSUB400
130 IFF=2THENGOSUB450
150 GOSUB500
155 PRINT"#####SPC(8)RIGHT$(TI$,3)
156 IFTI$="000200"THEN1000
160 NEXTX:GOTO100
400 T$=LEFT$(S$,1):S$=RIGHT$(S$,69)+T$
410 PRINTLEFT$(A$,20)"#LEFT$(S$,22):RETURN
450 T$=RIGHT$(S$,1):T$=T$+LEFT$(S$,69):S$=T$
460 PRINTLEFT$(A$,20)"#LEFT$(S$,22):RETURN
500 A=PEEK(PA)
510 IF(AAND32)=0THEN900:RETURN
512 POKE50,0
520 IF(AAND16)=0THEN570
530 IF(AAND4)=0THENV=-1
540 IF(AAND8)=0THENV=1
545 IFG+V<50RG+V)8THENRETURN
546 IFF=1THENPRINTLEFT$(A$,G)"#I
547 IFF=2THENPRINTLEFT$(A$,G)SPC(18)"
550 G=G+V
555 IFF=1THENPRINTLEFT$(A$,G)"#I"B$(F):RETURN

```





# ORIC

## SOFTWARE from TANSOFT

### ORIC CHESS



A superb chess game written in Basic with a Machine Code Move Search Routine. Features high resolution colour graphics, record of moves, allows Castling and En-Passant, 5 levels of play and computer can play black or white.

**ONLY £9.99 inc VAT**

48K only

### ZODIAC



A 36K adventure game that will test your intelligence and patience for hours. Find the 12 hidden signs of the Zodiac to discover incredible treasures. Can you ward off the angry Yeti? What is the meaning of the radio that plays the 'Archers' over and over again (through your loudspeaker!)?

**Only £9.99 inc VAT**

48K only

### ORIC FLIGHT



Can you fly your new 787 jet on to the runway without crashing, stalling or running out of fuel? Full digital instrument readout plus cockpit view of final runway approach. Superb graphics and sound.

**Only £7.95 inc VAT**

48K only

Please send me	Quantity	Total
Oric-Chess at £9.99		
Zodiac at £9.99		
Oric-Flight at £7.95		
<b>TOTAL</b>		

Postage per cassette is 40p

Name \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Please send me latest price list \_\_\_\_\_  
Please allow 28 days for delivery

All cheques payable to  
TANSOFT LTD  
3 CLUB MEWS  
ELY  
CAMBS  
CB7 4NW  
Tansoft is the software division of  
Tangerine Computers.



```

560 PRINTLEFT$(A$,G)SPC(18)B$(F)
565 RETURN
570 PRINTLEFT$(A$,G)"!!! "SPC(14)"
575 IFF=1THENF=2:GOTO560
580 F=1:GOTO555
590 Z=21:K=RND(1)
610 IFK>.66THENZ=-1:GOTO630
620 IFK>.33THENZ=-23
630 IFB(X)+Z<77670RB(X)+Z>8097THENZ=0:POKEB(X),32:B(X)=7789+22*INT(RND(0)*9):GO
T0650
640 POKEB(X),32:B(X)=B(X)+Z
650 POKEB(X),8:POKEB(X)+30720,2:RETURN
660 Z=23:K=RND(1)
670 IFK>.66THENZ=1:GOTO690
680 IFK>.33THENZ=-21
690 IFB(X)+Z<77670RB(X)+Z>8097THENZ=0:POKEB(X),32:B(X)=7789+22*INT(RND(0)*9):GO
T0710
700 POKEB(X),32:B(X)=B(X)+Z
710 POKEB(X),8:POKEB(X)+30720,2:RETURN
800 TB=250:POKESO,0:IF3=0:IFF=2THEN900
810 FORI1=7684+22*(G-1)T07696+22*(G-1):TB=TB-1
820 POKEI1,198:POKEI1+30720,6:POKESO,TB
830 IFPEEK(I1+1)=8THENI2=I1-1:I1=7684+22*(G-1):I3=1:GOTO850
840 NEXT:POKESO,0
845 I2=7696+22*(G-1)
850 FORI4=7684+22*(G-1)T0I2:POKEI4,32:NEXT
860 IFI3=0THENRETURN
870 FORI5=1T04:IFPEEK(B(I5)-1)=198THENI6=I5
875 NEXTI5

```

```

880 POKEB(I6),13:POKESO,250:FORZ=1T099:NEXT
890 POKEB(I6),32:POKESO,0:POKEB(I6)-1,32
892 SC=SC+10:PRINT"#####SC:IFSC>HCTHENPRINT"#####SPC(16)SC:P=1
895 B(I6)=7789+22*INT(RND(0)*9):RETURN
900 FORI1=7697+22*(G-1)T07685+22*(G-1)STEP-1:TB=TB-1
910 POKEI1,198:POKEI1+30720,6:POKESO,TB
920 IFPEEK(I1-1)=8THENI2=I1+1:I1=7685+22*(G-1):I3=1:GOTO940
925 NEXT
930 I2=7685+22*(G-1)
940 FORI4=7697+22*(G-1)T0I2STEP-1:POKEI4,32:NEXT
950 IFI3=0THENRETURN
960 FORI5=1T04:IFPEEK(B(I5)+1)=198THENI6=I5
965 NEXTI5
970 POKEB(I6),13:POKESO,250:FORZ=1T099:NEXT
972 SC=SC+10:PRINT"#####SC:IFSC>HCTHENPRINT"#####SPC(16)SC:P=1
980 POKEB(I6),32:POKESO,0:POKEB(I6)+1,32
985 B(I6)=7789+22*INT(RND(0)*9):RETURN
1000 PRINT"#####":FORB=1T0330:PRINT" ":POKESO,INT(RND(0)*120)+131:NEXT:POKESO
0
1010 IFSC<HCTHENPRINT"#####DAME OVER.":GOTO90
1020 HC=SC

```

```

1025 PRINT"#####NEW HIGH SCORE"
1030 FORY=1T05
1040 FORZ=131T0254:POKESO,Z:NEXT
1045 FORZ=254T0131STEP-1:POKESO,Z:NEXT
1050 NEXTY:POKESO,0:GOTO90

```





THE MEN WHO INVENTED ME WERE  
CLEVER ENOUGH TO MAKE ME THINK  
IN 'FORTH' (IT'S 10 TIMES FASTER  
AND 4 TIMES MORE COMPACT THAN  
'BASIC').

YET THEY'RE DUMB ENOUGH TO SELL  
ME FOR £89.95! ■

Richard Altwasser and Steven Vickers are the men who invented the Jupiter Ace.

After years of designing micro-computers that use BASIC (both men played a major role in creating the ZX Spectrum), they abandoned it in favour of FORTH.

FORTH is just as easy to learn as BASIC. Yet it's a faster, more compact and more structured language that educationalists and professional programmers alike prefer.

So the Jupiter Ace is the only micro-computer you can buy that is designed around FORTH.

Using it, there's little fear of accidentally 'crashing' programs halfway through and having to start all over again (a common fault with BASIC). The Jupiter Ace's comprehensive error checking sees to that.

The Jupiter Ace has a full-size keyboard, high resolution graphics, sound, floating point arithmetic, a fast, reliable cassette interface, 3K of RAM and a full 12 month warranty.

You get all that for £89.95. Plus a mains adaptor, all the leads needed to connect most cassette recorders and TV's, a software catalogue (35 cassettes available, soon to be 50), the Jupiter Ace manual and a free demonstration cassette of 5 programs.

The Jupiter Ace manual is a complete introduction to personal computing and a simple-to-follow course in FORTH, from first principles to confident programming.

Plug-on 16K and 48K memory expansions are also available, at very competitive prices. (There'll be a plug-on printer interface available soon, too.)

It'll take you no time at all to realise how clever Richard and Steven were to design the Jupiter Ace around FORTH. And even less time to realise what a silly price £89.95 is to charge for it.



#### Technical Information

**Hardware**  
Z80A; 8K ROM; 3K RAM.

**Keyboard**  
40 moving keys; auto repeat; Caps Lock.

**Screen**  
Memory mapped 32 col x 24 line flicker-free display upper and lower case ascii characters.

**Graphics**  
High resolution 256 x 192 pixel user defined characters.

**Sound**  
Internal loudspeaker may be programmed for entire audio spectrum.

#### Cassette

Programs and data in compact dictionary format may be saved, verified, loaded and merged. All tape files are named. Running at 1500 baud.

#### Expansion Port

Contains D.C. power rails and full Z80 Address, data and control signals. Can connect extra memory peripherals.

#### Editor

Allows complete editing and listing of compiled programs.

Please send cheque/postal order to:  
Jupiter Cantab Ltd., North Wing, Freemasons Hall,  
Bateman Street, Cambridge CB2 1LZ

## Jupiter ACE

Please send me \_\_\_\_\_ Jupiter Ace microcomputers @ £89.95 (+ £3.95 p. & p.)  
Tick here if you require VAT receipt

Name \_\_\_\_\_

Address \_\_\_\_\_

007 02 83

Available for immediate delivery. Allow 14 days for p. & p. U.K. price only (export price on request)



# Snakes

You can't escape the coils of this snake as it writhes around your Oric and charms even the most worldly player. If you've played the arcade game Centipede or some similar game you'll know just what this is all about. If not this is what you'll see. Your slippery Oric snake has to be steered around the screen with the cursor keys, gobbling up numbers which appear at random. Each time you hit a number the length of the snake increases in proportion to the size of that number — say if you eat a 5 you'll get five extra coils, and so on. Unfortunately your snake exists in a very confined space and the more he eats the bigger he gets and the less space there is to move around — and if he crosses his own path or bites his tail then the game is all over! Oh yes, just to make things a little more interesting the screen border is definitely no place for a snake to stray. If you hit it you are dead! This is an addictive little game which you'll be playing again and again just to get the elusive high score.



**RUNS ON AN ORIC IN 16K**  
**BY PAT NORRIS AND RICHARD JONES**

```
~ ~ ~
I REM "SNAKE" WRITTEN FOR C. & V.G.. 1983 R.S.JONES/P.W.NORRIS
5 LORES 0: PAPER 1: INK 7
15 FORZ=2T022: PLOT0, Z, 4: NEXT
20 GOSUB 300
30 PLOT 5, 10, "0000~": LET L=5 : LET L$="8888": LET D$="8"
40 LET S=L: LET T=S+S: LET X=9: LET Y=T: LET N=0
50 LET G=INT(RND(1)*36)+1: LET H=INT(RND(1)*21)+2
60 IF SCRN(G, H) <> 16 AND SCRN(G, H) <> 32 THEN 50
110 PLOT G, H, CHR$(INT(RND(1)*9)+1+48): FOR C=1 TO 15+INT(RND(1)*2*L)
120 IF N<1 THEN PLOT S, T, " ": T=T+(LEFT$(L$, 1)="7")-(LEFT$(L$, 1)="6")
125 IF N<1 THEN S=S-(LEFT$(L$, 1)="8")+(LEFT$(L$, 1)="5"): L$=MID$(L$, 2)
130 LET Y=Y+(D$="7")-(D$="6"): LET X=X-(D$="8")+(D$="5")
132 LET Q=SCRN(X, Y): LET A$=CHR$(Q)
140 PLOT X, Y, "0": LET L$=L$+D$: IF A$>"0" AND A$<"A" THEN LET N=N+VAL(A$)+1
145 IF A$>"0" AND A$<"A" THEN L=L+VAL(A$): C=15+2*L: PLOT 24, 0, STR$(L): ZAP:
GOTO 160
150 IF A$<>CHR$(16) AND A$<>CHR$(32) THEN 200
~60 LET A$=KEY$: IF A$>"4" AND A$<"9" THEN LET D$=A$
165 IF N>0 THEN N=N-1
170 NEXT C: PLOT G, H, CHR$(32-47*(G=X AND H=Y)): GOTO 50
200 EXPLODE
201 PLOT S, T, " ": LET T=T+(LEFT$(L$, 1)="7")-(LEFT$(L$, 1)="6")
205 LET S=S-(LEFT$(L$, 1)="8")+(LEFT$(L$, 1)="5")
210 L$=RIGHT$(L$, LEN(L$)-1): IFL$<>" " THEN 201
215 PLOT 8, 8, "PRESS 'R' FOR ANOTHER"
216 PLOT 8, 10, "PRESS 'S' TO STOP"
220 IF KEY$="R" THEN RUN
230 IF KEY$<>"S" THEN GOTO 220
240 TEXT:CLS:LIST
300 REM BORDER
310 LORES 0
320 PLOT 1, 0, "Snake Score :- 5 "
330 PLOT 0, 1, "*****"
340 FOR I=1 TO 22: PLOT 0, I, "*": PLOT 37, I, "*": NEXT I
350 PLOT 0, 23, "*****"
360 RETURN
```



Holy Moses! God has sure given me a tough task this time. I was sitting minding my own business, thinking holy thoughts, when there was this great clap of thunder, a flash of lightning, and this voice that filled my head until I thought it was going to burst!

The voice said, "I God, instruct you Moses to lead the Israelites away from Egypt to the Promised Land. But beware as the Pharaoh will persue you with his armies and attempt to make you slaves again. Take the road towards the Red Sea and freedom.

I will help you provided no more than 2000 Israelites die on the journey. I have one miracle that I can use to aid your escape — but you must reach the Red Sea first. The Promised Land lies on the other side of this sea which you must cross.

Then you must take the Israelites to the place of the tablets, on which are engraved the Ten Commandments. Here you will be safe from the Egyptians and any other dangers."

So that's why we are trudging across these parched lands towards our Promised Land — with the Egyptian Pharaoh's armies hot on our heels.



# THE TEN COMMANDMENTS

```

7 GRAPHICS 1:SETCOLOR 2,0,0
8 POSITION 0,10: ? #6:"the ten commandments"
9 FOR E=-10 TO 10
10 SOUND 0,200,4,10-ABS(E)
11 SOUND 1,255,4,10-ABS(E)
12 SOUND 2,225,4,10-ABS(E)
13 SOUND 3,150,4,10-ABS(E)
14 FOR K=1 TO 200:NEXT K:NEXT E:SOUND 0,0,0:SOUND 1,0,0,0:SOUND 2,0,0,0:SOUND 3,0,0,0
15 DIM A$(30)
17 GOTO 100
18 FOR F=1 TO INT(19*RND(0))+1:READ A$:NEXT F:RETURN
20 C=SQR(Q)*5
21 IF Q=1 THEN C=INT((Q*Q)-(INT(10*RND(0))))
22 IF Q>1 AND Q<=2 THEN C=INT((Q*Q)-(INT(10*RND(0))))
23 IF Q>2 AND Q<=3 THEN C=INT((Q*Q)-(INT(10*RND(0))))
24 IF Q>3 AND Q<=4 THEN C=INT((50*RND(0))+Q*2)
25 IF Q>4 AND Q<=5 THEN C=INT((65*RND(0))+Q*2)
26 IF Q>5 THEN C=INT((99*RND(0))+Q*2)
27 RETURN
30 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0,0:FOR E=1 TO 8:PRINT :NEXT E:PRINT " Thou has failed me Moses...I saideth"

```

**RUNS ON AN ATARI 400/800 IN 5K**

**BY MARK BELL**

```

31 PRINT " to You not more than 2000 people ":PRINT " should die..." :D+L:" people have died."
32 FOR E=1 TO 1550:NEXT E:PRINT " ...and so shall You.":FOR E=1 TO 999:NEXT E:GO TO 830
33 GRAPHICS 0:SETCOLOR 2,0,0:POKE 752,1:FOR E=1 TO 10:PRINT :NEXT E:PRINT " Would thou care to try again ?"
34 PRINT " (Yay or Nay)":POKE 764,255
35 IF PEEK(764)=255 THEN 35
36 IF PEEK(764)=35 THEN PRINT :PRINT " THANKS FOR THE GAME.":POKE 764,255:POKE 752,0:END
37 POKE 764,255:RUN
90 PRINT " The people are unhappy because they ":PRINT "are hungry and fear death or sickness.":RETURN
98 D=(D+L):IF D+L>2000 THEN 30
99 RETURN
100 I=INT(34000*RND(1))+9000
101 G=INT(9000*RND(1))+2000

```



```

102 D=INT(400*RND(1))+50
103 S=INT(420*RND(1))+20
104 Q=INT(10*RND(1))+5
105 M=INT(500*RND(1))+100
106 L=0:T=0
107 GRAPHICS 0:SETCOLOR 2,0,0:POKE 752,1
109 PRINT :PRINT :PRINT
110 PRINT " I God, instructeth You Moses
to lead":PRINT " the Israelites away fr
om Egypt to"
112 PRINT " safety. Beware as Pharoah p
ursueth":PRINT " after You with his armi
es."
115 PRINT " If thou wouldeth to take t
he road":PRINT " to the Red Sea, I would
lendeth ay "
117 PRINT " help provided not more than
2000 ":PRINT " Israelites are killed. I
have but one"
118 PRINT " miracle that You are free t
o use ":PRINT " when You reach the Red
Sea. On the"
119 PRINT " other side of the sea is th
e ":PRINT " Promised Land."
120 PRINT "Take thou Israelites to the p
lace of ":PRINT " the Ten Tablets with
the Eternal "
122 PRINT " Commandments enscribed on th
em. ":PRINT " Here thou will be saf
e."
125 PRINT :PRINT :PRINT " PRESS [SPA
CE BAR] TO CONT.":POKE 764,255
126 IF PEEK(764)=255 THEN 126
127 IF PEEK(764)=12 THEN 128
128 POKE 764,255
160 IF Q<=0 THEN GOSUB 13000
162 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0,0
:PRINT :PRINT :GOSUB 18
165 RESTORE
170 PRINT "There are ";I;" Israelites wi
th You.":PRINT :PRINT "You are passing t
he city of ";A$;". "
175 PRINT "The Egyptians are ";Q;:IF Q<=
1 THEN PRINT " day behind You";
176 IF Q>1 THEN PRINT " days behind You.
"
178 Q=Q-1
180 IF (D+S)>230 THEN GOSUB 90
182 IF D+L>=2000 THEN 30
185 GOSUB 20
190 PRINT " You're chance of succession
is ";INT(C);"% "
200 PRINT :PRINT " You have ";G;" tons o
f grain. How ":PRINT " much do You wish
to share amongst "
201 PRINT " the Israelites ";:INPUT Z
202 G=G-Z
203 IF G<=0 THEN GOSUB 830
204 IF Z<INT(G/(Q+1)) THEN GOSUB 800
205 FOR E=1 TO 6:PRINT :NEXT E:PRINT "
PRESS [SPACE BAR] TO CONT.":POKE 764,2
55

```

```

206 IF PEEK(764)=255 THEN 206
207 IF PEEK(764)=12 THEN 208
208 POKE 764,255
210 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0,0
:GOSUB 18:PRINT :PRINT "You are p
assing the town of ";A$;". "
211 RESTORE :IF M>=2500 THEN GOTO 11000
212 A=INT(250*RND(0))+100:W=INT(290*RND(
0))+50:IF Q<=0 THEN GOSUB 13000
213 PRINT :PRINT " The Egyptians are ";Q
:IF Q<=1 THEN PRINT " day behind You.":
214 IF Q>1 THEN PRINT " days behind You.
"
215 T=INT(220*RND(0))+100
216 Q=Q-1:M=(M+T):I=I-(D+W)
217 PRINT :PRINT " You have travelled ";
M;" miles so far.":IF M>2500 THEN GOTO 1
1000
219 PRINT :PRINT " There are ";I;" Israe
lites with You.":PRINT :PRINT " You have
";G;" tons of grain."
220 PRINT :PRINT " ";(W)+D;" Israelites
have died.":PRINT :PRINT " ";(S)+A;" Isr
aelites are sick."
221 D=(D+W):S=(S+A):GOSUB 98
222 GOSUB 20:PRINT :PRINT " Your chance
of succession is ";INT(C);"% "
223 FOR E=1 TO 4:PRINT :NEXT E:PRINT "
PRESS [SPACE BAR] TO CONT.":POKE 764,2
55
224 IF PEEK(764)=255 THEN 224
225 IF PEEK(764)=12 THEN 226
226 POKE 764,255
227 IF C<50 AND D<=200 AND S<=200 AND M>
=1500 THEN GOTO 11000
228 IF M>=2500 THEN GOTO 11000
229 IF M<400 OR M<400 AND D>50 AND S>90
THEN GOSUB 12000
235 GOTO 160
800 PRINT :PRINT " The Israelites are re

```





```

volting!!":PRINT :PRINT " They need more
food."
810 GOSUB 20:GOTO 190
830 FOR E=1 TO 8:PRINT :NEXT E:PRINT " T
here is no more grain left. ":PRINT " Th
e Israelites will starve - You "
835 PRINT " have failed me Moses!":PRINT
:PRINT " You must suffer the consequenc
es."
840 FOR E=1 TO INT(990*RND(1))+500 STEP
10
842 SETCOLOR 2,E,E
843 SETCOLOR 2,10,E
844 SOUND 1,255,E,6
845 SOUND 2,E,8,5
846 NEXT E
847 SOUND 1,0,0,0:SOUND 2,0,0,0:SETCOLOR
2,0,0
848 FOR E=1 TO 1000:NEXT E:GOTO 33
9050 DATA Damascus
9051 DATA Beersheba
9052 DATA JUDAEA
9053 DATA Bethlehem
9054 DATA Sidon
9055 DATA Nazareth
9056 DATA Cana
9057 DATA Jericho
9058 DATA SAMARIA
9059 DATA Jordan
9060 DATA GALILEE
9061 DATA Capernaum
9062 DATA Tyre
9063 DATA Joppa
9064 DATA Tiberias
9065 DATA Bethany
9066 DATA Gadara
9067 DATA JERUSALEM
9068 DATA Caesarea
9069 DATA Lama
11000 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0
,0:FOR E=1 TO 8:PRINT :NEXT E
11010 PRINT " Thou has done well Moses i
n reaching":PRINT " the Red Sea so soon.
..I will reward "
11020 PRINT "thee by parting the ocean b
efore You ":PRINT " so You can pass thro
ugh unharmed."
11021 FOR L=1 TO P
11022 FOR J=0 TO 45 STEP 2
11023 SOUND 0,J,8,4
11024 FOR K=1 TO 20+RND(0)*10:NEXT K
11025 NEXT J
11026 FOR J=45 TO 0 STEP -2
11027 SOUND 0,J,8,4
11028 FOR K=1 TO 50+RND(0)*30:NEXT K
11029 NEXT J:FOR K=1 TO 300+RND(0)*300:N
EXT K:NEXT L
11030 SOUND 0,0,0,0:GOTO 14000
12000 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0
,0:FOR E=1 TO 8:PRINT :NEXT E
12010 PRINT " Thou better buck their ide
as up if ":PRINT " thou wanteth to fi
nish!!"
12020 FOR E=1 TO 520:NEXT E:RETURN
13000 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0
,0:FOR E=1 TO 8:PRINT :NEXT E
13010 PRINT " Moses the Egyptians are
upon You!":PRINT " Thou has failed me f
or the last time"
13020 PRINT " ...I shall leave thee to t
he mercy ":PRINT " of the Egyptians."
13025 FOR E=1 TO 1200:NEXT E
13030 GOSUB 840:GOTO 33
14000 GRAPHICS 0:POKE 752,1:SETCOLOR 2,0
,0:FOR E=1 TO 6:PRINT :NEXT E

```



```

14005 V=INT(8*RND(0))+1
14010 IF Q=1 THEN PRINT " Thou must hur
ry as the Egyptians ":PRINT " are less t
han a day away."
14015 IF D<=1400 THEN PRINT " Thou have
crossed the sea with only ";V;" deaths.
":I=I-V
14020 IF D>1600 THEN PRINT " The Egyptia
ns are upon thee. Thou ":PRINT " has fai
led me...You will ";
14025 IF D>1600 THEN PRINT "drown with
the rest of your followers.":GOSUB 840
:GOTO 33
14032 PRINT " Thou is now in the Promi
sed Land."
14034 PRINT " ";I;" followers have cross
ed safely":PRINT " with thee and await f
or the final ":PRINT " journey."
14036 IF D>1400 AND D<=1600 THEN PRINT "
Thou is not out of danger yet as ":PRIN
T " most of the Egyptian";
14038 IF D>1400 AND D<=1600 THEN PRINT "
army got through and are following thee
once again."
14039 IF V<4 THEN POKE 752,1
14040 IF V<4 THEN PRINT " The Egyptians
are here!...There is"
14042 IF V<4 THEN PRINT " nothing we can
do...They have us!":GOSUB 840:GOTO 33
14050 IF V>=4 THEN POKE 752,1
14052 PRINT " Thou has only ";INT(V^2);"
miles to go.":PRINT " ";V*2;" people ha
ve died since crossing."
14053 GOSUB 14090
14054 IF V>=4 THEN I=I-INT(V*2):D=D+(V*2
):GOSUB 98
14055 IF D<=1982 AND V<25 THEN PRINT :PO
SITION 16,19:PRINT " MOSES!!"
14056 IF D<1982 AND V<25 THEN PRINT " MO
SES!!...Thou has made it to the ":PRINT
" place of the TEN COMMANDMENTS."
14057 X=INT(((I*6)+(Q*V)-(D*S))/100000)
14060 PRINT :PRINT :PRINT " Thou scored
";X;" points."
14070 PRINT :PRINT " PRESS [SPACE B
AR] TO RET.":POKE 764,255
14072 IF PEEK(764)=255 THEN 14072
14074 IF PEEK(764)=12 THEN 14076
14076 POKE 764,255:GOTO 33
14090 FOR Y=0 TO 30:FOR P=1 TO 3 STEP 2
14091 NEXT P
14092 FOR P1=1 TO 5
14093 IF P1=2 THEN GOSUB 9000
14094 FOR DF=1 TO 15:NEXT DF
14095 NEXT P1
14096 NEXT Y
14099 RETURN

```





## HARDWARE

Atari 400 with 16K RAM (AF36P) £199.95  
 Atari 400 with 48K RAM (AF37S) £299.00 ★  
 Atari 800 with 48K RAM (AF02C) £399.00 ★  
 All above with BASIC and handbooks  
 Atari Cassette Recorder (AF28F) £50.00  
 Atari Disk Drive (AF06G) £299.95  
 48K RAM for Atari 400 (AF44X) £99.95  
 48K Upgrade for 400 (AF45Y) £99.95  
 Commodore 64 (AF56L) £339.00 ★  
 VIC20 (AF47B) £129.95  
 16K RAM for VIC20 (AF53H) £59.95  
 Commodore Cassette (AF48C) £44.95  
 Commodore Disk Drive (AF50E) £299.99  
 Dragon 32 (AF57M) £199.50  
 Dragon Joystick (BC30H) £19.95  
 Cassette Cable for Dragon (BC31J) £2.95  
 Epson Printer MX80F/T (AF40T) £447.35  
 MENTA (XG28F) £115.00  
 Floppy Disk (YX87U) £2.50  
 5 C12 Data Cassettes (AF61R) £1.99  
 Joystick Controller (AC53H) £7.50  
 Joysticks (Pair) (AC37S) £13.95  
 Le Stick (AC45Y) £24.95  
 Full details all above in MAPLIN catalogue.  
 ★ Delivery next day by Datapost

## SELECTED SOFTWARE

**ATARI**  
 Attack At Ep-Cyg-4 -1E-16K-KF54J £34.95  
 Baja Buggies -1C-16K-KB74R £22.95  
 Candy Factory -1D-32K-KF53H £21.95  
 Claim Jumper -1E-116K-KB67X £34.95  
 Defender -1E-16K-KF10L £29.95  
 Forth -1D-24K-YL29G £62.95  
 Frogger -1C-16K-KB68Y £22.95  
 Galaxian -1E-16K-KF11M £29.95  
 Golf -1E-16K-KB44X £34.95  
 Hellfire Warrior -1C-32K-KF02C £27.45  
 K-razy Shootout -1E-8K-BQ63T £34.95  
 Moon Shuttle -1C-16K-KF22Y £27.50  
 Pac-Man -1E-8K-BQ71N £29.95  
 Paint -1D-48K-KB22Y £29.95  
 Picnic Paranoia -1E-16K-KF13P £34.95  
 Preppie -1C-16K-KB07H £21.95  
 Qix -1E-16K-KF16S £29.95  
 SAM Speech Synth -1D-32K-KB15R £47.19  
 Qix -1E-16K-KF16S £29.95  
 Shamus -1E-16K-KB90X £34.95  
 Softporn Adventure -1D-40K-BQ93B £20.64  
 Starcross -1D-32K-KB37S £29.95  
 Synassembler -1D-48K-KB83E £38.95  
 Xaxxon -1C-16K-KF20W £31.50  
 Zork I -1D-32K-BQ94C £29.95  
 Zork II -1D-32K-BQ95D £29.95  
 Zork III -1D-32K-KB31J £29.95  
 3D-Supergraphics -1C-40K-BQ29G £31.95  
 Plus over 280 other titles for Atari.

**COMMODORE 64**  
 Temple Of Apsah (Part 1) -1D-BC57M £27.45  
 Upper Reaches (Part 2) -1D-BC58N £13.80  
 Curse Of Ra (Part 3) -1D-BC59P £13.80  
 Sword Of Fargoal -1D-BC60Q £20.75  
 Crush, Crumble & Chomp -1D-BC61R £20.75  
 Jump Man -1D-BC62S £27.45  
**DRAGON**  
 Berserk -1E-BC32K £19.95  
 Black Sanctum -1C-BC78K £7.95  
 Dragon Trek -1C-BC82D £9.95  
 Galax Attax -1E-BC79L £19.95  
 Quest -1C-BC41U £7.95  
 Wizard War -1C-BC83E £7.95  
 Plus 30 other titles for Dragon  
**SPECTRUM**  
 The Hobbit (48K) -1C-BC88V £14.95  
 Timegate (48K) -1C-BC89W £6.95  
 Space Intruders (16K) -1C-BC90X £4.95  
 Meteor Storm (16K) -1C-BC91Y £4.95  
 Chess Player (48K) -1C-BC92A £6.95  
 Speakeasy (48K) -1C-BC93B £4.95  
**VIC20**  
 Crush, Crumble & Chomp (+16K) 1C-KK10L £20.75  
 Datestones Of Ryn (+16K) -1C-KK13P £13.80  
 Invasion Orion (+16K) -1C-KK12N £17.25  
 Monster Maze -1E-KK11M £27.45  
 Plattermania -1E-KK14Q £27.45  
 Princess & Frog -1E-KK16S £29.95  
 Rescue At Rigel (+16K) -1C-KK08J £20.75  
 Ricochet (+8K) -1C-KK15R £13.80  
 Sword Of Fargoal (+16K) -1C-KK09K £20.75  
 Tank Arcade -1C-KH18U £11.95  
 Plus 80 other titles for VIC20  
 \*Disk versions also available though price and memory size may be different.

## MICROWRITER

The new hand-held word processor that eliminates the need for a typist. You can learn the Microwriting technique in less than an hour and produce perfectly typed text the same day.

Microwriter (AF62S) £485 + £72.75 VAT ★  
 Complete Word Processor Package (Microwriter, printer and lead) (AF63T) £1,455 + £218.25 VAT ★  
 Available ONLY by mail order or from WESTCLIFF shop.

★ Delivery next day by Datapost



AUTHORISED ATARI SERVICE CENTRE

The brilliant new colour computer

## SORD M5

A superb new home computer with one of the most powerful colour video processors available. An incredible 32 sprites simultaneously and 16K of RAM dedicated to graphics alone. Powerful Z80A (3.5MHz) main processor. Three tone generators and noise generator all with envelope control like a mini-synthesiser. Complete with BASIC and superb handbooks for beginners. All this for just £189.95 (AF64U)



If your order contains over £120 worth of computer hardware apply now for interest free credit by telephoning: Mail-order: (0702) 552911. London Shop: 01-248 0926. Birmingham Shop: 021-356 7292. Southend shop: 0702 554000 or write to P.O. Box 3, Rayleigh, Essex SS6 8LR. You pay 10% down, then 10% per month for a further nine months (to nearest penny).

Credit quotations on request. This offer subject to approval which can take up to 48 hours (APR = 0%).

Mapsoft full colour catalogue. Price £1 incl. post. Maplin catalogue contains full details of all hardware and lots of software. On sale now in all branches of W. H. Smith, price £1.25 or £1.50 incl. post from PO Box 3, Rayleigh, Essex.



Maplin Electronic Supplies Ltd., Mail Order: P.O. Box 3, Rayleigh, Essex SS6 8LR. Tel. Southend (0702) 552911 (Sales).

Demonstrations at our shops NOW.

159-161 King St., Hammersmith, W6. Tel. 01-748 0926. 284, London Road, Westcliff-on-Sea, Essex. Tel. (0702) 554000. Lynton Square, Perry Barr, Birmingham. Tel. (021) 356 7292.

All goods delivered in UK mainland carriage paid, but add 50p if total order less than £5 except catalogues. Orders including items marked ★, delivery next day by Datapost.

Subject to availability. All prices include VAT unless shown. Prices correct at time of going to press.



# Micropoint

at Laskys



**VIC 20.**  
An ideal home computer. 5K memory. Has full colour and sound generator. Good graphics. A wide range of programs are available. **£139.90**

Also available.  
**COMMODORE 64K £339.00**

**FREE**  
Pointmaster Joystick.  
Usual price £14.90 and  
Atari software to the value  
of £24.90 when you  
purchase the Atari AM800.

**ATARI AM800**  
A home computer with full size keyboard. Big 48K memory. High resolution graphics and colour, sound. A very wide range of programmes are available. **£398.00**

Also available,  
**ATARI AM400 16K £159.90**  
with **FREE**  
Pointmaster Joystick. Usual price £14.90.

**LYNX.**  
Compact unit with full size keyboard. Powerful 48K memory. Full colour and sound capability. Excellent graphics. Compatible with most cassette players. **£225.00**

**NOTE:** These models shown need a separate TV or monitor. Micropoint has a complete range of suitable models from £59.90 (B/W) or £198.90 (Colour).

## The magic of the microcomputer without the mystery.

Everything you've ever wanted to know - or learn - about microcomputers is now at Micropoint. In all branches of Laskys. Micropoint has all you need to make up your mind about microcomputers. You'll find a wide choice of models - and you can test play them all, comparing each model with the next. It has experts who will explain micros to you, in language you can understand. Micropoint has a big selection of programs - they will really make your micro magic.

But you get even more than machines and advice, you get good value too. At Micropoint we keep our prices low by buying in volume and we'll also help you to buy with Interest Free Credit\* available on purchases over £250 or more. You also get the famous Laskys Commitment possibly the best after-sales package ever offered, with a 14 day exchange period, a 2-year free guarantee▲ and service by Laskys own network of specialist engineers.

Whether you're browsing, about to buy your first computer or looking for something new, or better than Micropoint is the place to find it. Come in and see for yourself. Micropoint opens up to the whole family the fascinating, educational, fun world of microcomputers.

A full range of peripherals, including disk drives, memory expansion units, cassette storage units and joysticks is also available.



### Games compatible with ATARI 400/800

Asteroids	£29.90
Astro Chase	£21.90
Baja Buggys	£21.90
Caverns of Mars	£29.90
Centipede	£29.90
Choplifter	£29.90
Claim Jumper	£29.90
Computer Chess	£24.90
Darts	£19.90
Defender	£29.90
Escape from Traam	£17.90
Galaxian	£29.90
Gorf	£29.90
Inv. to Programming No. 1	£19.90
Jumbo Jet Pilot	£34.90
Legionare	£26.90
Miner 2049	£34.90
Mutant Herd	£24.90
Pacman	£29.90
Picnic Paranoia	£29.90
Pool	£19.90
Preppie	£21.90
Protector 2	£29.90
Sea Dragon	£24.90
Snooker	£19.90
Soccer	£29.90
Space Invaders	£29.90
Star Raiders	£24.90
Stratos	£24.90
Submarine Commander	£34.90
Zaxxon	£29.90

### Games compatible with ORIC

Castle	£9.90
Chess	£9.90
Database	£9.90
Flight Simulator	£7.90
Games (Assorted)	£7.90
Zodiac	£9.90

### Games compatible with SPECTRUM

Biorythms	£6.90
Chess	£7.90
Flight Simulator	£7.90
Games (Assorted)	£4.90
Hobbit	£14.90
Horace Goes Ski-ing	£5.90
Hungry Horace	£5.90
Pastimes	£4.90
Planetoids	£4.90
Space Raiders	£4.90
VU-Calc	£7.90
VU-3D	£9.90

### \*\*\*\*\*NEW\*\*\*\*\* Games compatible with VIC 64

Adventure	£9.90
Graphics	£9.90
Grave Robbers	£9.90
Monopole	£9.90

### Games compatible with VIC 20

Alien	£19.90
Annihilater	£9.90
Asteroids	£6.90
Chess	£6.90
Cosmiads	£6.90
English Language	£9.90
File Disk	£19.90
Galactic Crossfire	£9.90
Gammon	£6.90
Gorf	£24.90
Hopper	£9.90
Inv. to Basic 1	£14.90
Jelly Monsters	£19.90
Krell	£9.90
Martian Raider	£9.90
Modern Maths	£9.90
Moons of Jupiter	£9.90
Myriad	£9.90
Night Crawler	£9.90
Orbis	£9.90
Panic	£6.90
Power Blaster	£9.90
Quackers	£9.90
Quizmaster	£9.90
River Rescue	£24.90
Shark Attack	£9.90
Skramble	£9.90
Space Attack	£9.90
Space Fortress	£9.90
Starbattle	£19.90
The Count	£19.90
Time Destroyer	£9.90
Vic In The Wall	£6.90



# It's the programs that make micros magic.

It means you can use it for games and for learning (anything from simple programming to a foreign language).

You can use it in the home for everything from household budgets to planning a touring holiday abroad or remembering

birthdays and important anniversaries. And if you run your own business then a micro could totally transform it for you.

Our range of programs cover Games, Household, Education and Business. We've shown just a few titles above;

come and browse round the rest at Micropoint.



A service provided in association with Unicredit Finance Ltd. Please ask for written details. APR 29.8% if you pay by Banker's Order (34.5% for other methods of payment).

\* All credit offers subject to acceptance Laskys Credit brokers. Please ask for written details. Interest Free Credit and free gift offers end 15th June 1983. All offers are subject to availability. Prices include 15% VAT and are correct at time of going to press (22/4/83) but may be subject to variation thereafter.



## LASKYS

The Retail Division of The Ladbroke Group

**LONDON & HOME COUNTIES**  
42 Tottenham Court Road, W1  
257 Tottenham Court Road, W1  
7-9 Queensway, W2 OPEN SUNDAY 11 am-7 pm  
471-473 Oxford Street, W1  
382 Edgware Road, W2  
152 Fleet Street, EC2  
Golders Green Road, NW11  
BROMLEY 22 Market Square  
COLCHESTER 13 Trinity Square

**CROYDON** Whitgift Centre  
**KINGSTON** Eden Street  
**LUTON** 192 Arndale Centre  
**READING** Friar Street  
**RICHMOND** Hill Street  
**ROMFORD** South Street  
**SLOUGH** Queensmere Centre  
**WATFORD** Charter Place  
**SOUTHERN ENGLAND**  
**BRIGHTON** 151-2 Western Road

**BRISTOL** 16-20 Penn Street  
**CHATHAM** 8 The Pentagon  
**GLOUCESTER** 25 Eastgate Street  
**MAIDSTONE** 79-81 Week Street  
**SOUTHEND** 205-206 Churchill West  
**MIDLANDS AND NORTH**  
**BIRMINGHAM** 19-21 Corporation St.  
**CHESTER** 7 The Forum  
**LEICESTER** 45 Market Place South  
**LIVERPOOL** 33 Dale Street

**MANCHESTER** Arndale Centre (Adj. WH Smith)  
**NEWCASTLE-UPON-TYNE**  
6 Northumberland St.  
**NORTHAMPTON** 78 Abington Street  
**NOTTINGHAM** 1-4 Smithy Row  
**OXFORD** 16 Westgate  
**PETERBOROUGH** Queensgate Centre  
**PRESTON** Guildhall Arcade

**SHEFFIELD** 58 Leopold Street  
**WOLVERHAMPTON** 30 Wulfrun Way  
**YORK** 10a Coney Street  
**SCOTLAND**  
**EDINBURGH** 4 St. James' Centre  
**GLASGOW** 66-70 Buchanan Street  
OPEN SUNDAY 12-5 pm  
**WALES**  
**CARDIFF** 122 Queen Street

▲ Normal domestic use on computers/VDU/Peripherals - programs 1 year. (Commercial use on computers/VDU 1 year. Peripherals programs 6 months). Programs will only be exchanged if proven faulty and then only for the same program.

Limited stock of games available at certain stores.







BY A. R. HEAD

RUNS ON A SHARP

MZ80K IN 2.5K

```
530 FORN=1TORU
540 J=RND(1):IFJ<HA(N)THEN570
550 G(N)=G(N)+1:T=PEEK(G(N)):IFT>OTHEN600
560 POKEG(N),120:POKEG(N)-1,0
570 NEXTN
580 GOT0530
600 MUSIC"BB"BB"
610 POKEG(N),120:POKEG(N)-1,0
620 PRINT"THE WINNER WAS No. ";N;" AT";A(N,1);"/";A(N,2)
630 POKE4466,20
640 IFC<>NTHENPRINT"HARD LUCK":GOTO680
650 W=INT(A(N,1)*F/A(N,2))
660 PRINT"YOU HAVE WON £";W
670 S=S+W+F
680 PRINT
690 PRINT"PRESS C TO CONTINUE"
700 GETC$:IFC$="C"THEN710
705 GOT0700
```

```
710 IFS=0THEN830
720 NEXTZ
730 PRINT"@"
740 PRINT"AT THE END OF THIS AFTERNOONS RACING YOU HAVE £";S
750 PRINT
760 PRINT"I WISH YOU LUCK NEXT TIME"
770 PRINT
780 FORN=1TO2000:NEXTN
790 PRINT"ANOTHER GO Y/N"
800 GETC$:IFC$=""THEN800
810 IFC$="N"THEN880
820 GOT0120
830 PRINT"@"
840 PRINT"YOU HAVE NO MONEY LEFT- TIME TO GO HOME"
850 PRINT
860 PRINT"BETTER LUCK NEXT TIME"
870 GOT0770
880 END
890 DATA1.30pm,2.00pm,2.30pm,3.00pm,3.30pm,4.00pm
```

# ROYAL ASCOT

The sport of kings, that's what they call horse racing. Well, now all you commoners out there can get a look in at Royal Ascot — and the price of admission is just the same as this magazine. Surprising huh?

You arrive at Ascot at the start of the day's racing with just £50 in your pocket and a burning desire to win at least £1,000. It is possible to win £6,000 plus — but that isn't easy!

Before each race you are given a list of runners and their odds. The odds are a realistic representation of the chances of winning — but there are no dead certs and the favourite doesn't always win. In a large field a long odds outsider might come romping home.

**Program notes:**

Line 150 decides how many runners in the race and resets Z to the screen address of the starting position of the first runner.

Line 210 selects the odds.

Lines 220, 230 reduce the odds to the lowest denominator.

Line 250 handicaps the horse according to its odds.

530-580, the race is run between these lines. The Peek in 550

checks if a horse has finished.

POKE 4466, X — print X lines down.

POKE 4465, Y—print Y columns in.



Illustration: Dorian Cross



# Let Commodore expand your horizons.

VIC 20 is the finest home computer that money can buy.

And the better you get to know it, the more confident, adventurous and ambitious you'll become.

You'll want to take advantage of the vast range of VIC software: a superb and constantly-growing selection of programs, embracing business systems, entertainment, education and many applications in the home.

Every program in the series has been designed by experts, and chosen for its quality and value for money.

VIC business software covers a wide range of applications, including spread-sheet analysis, stock control, information handling and word-processing.

A mind-blowing range of games including Scott Adams' world-famous 'Adventure' series.

Advanced space games, including the sophisticated 'Omega Race'.

Learn subjects as diverse as English Language, programming, and biology.

And 'home' software ranges from IQ tests to Robert Carrier menus.

In addition, there is a range of VIC software, like programmers' aids and graphics packages—



to add to your understanding and enjoyment of computers and computing.

There's even a special 'VicSoft' Club for VIC 20 enthusiasts, with many advantages including special offers to club members.

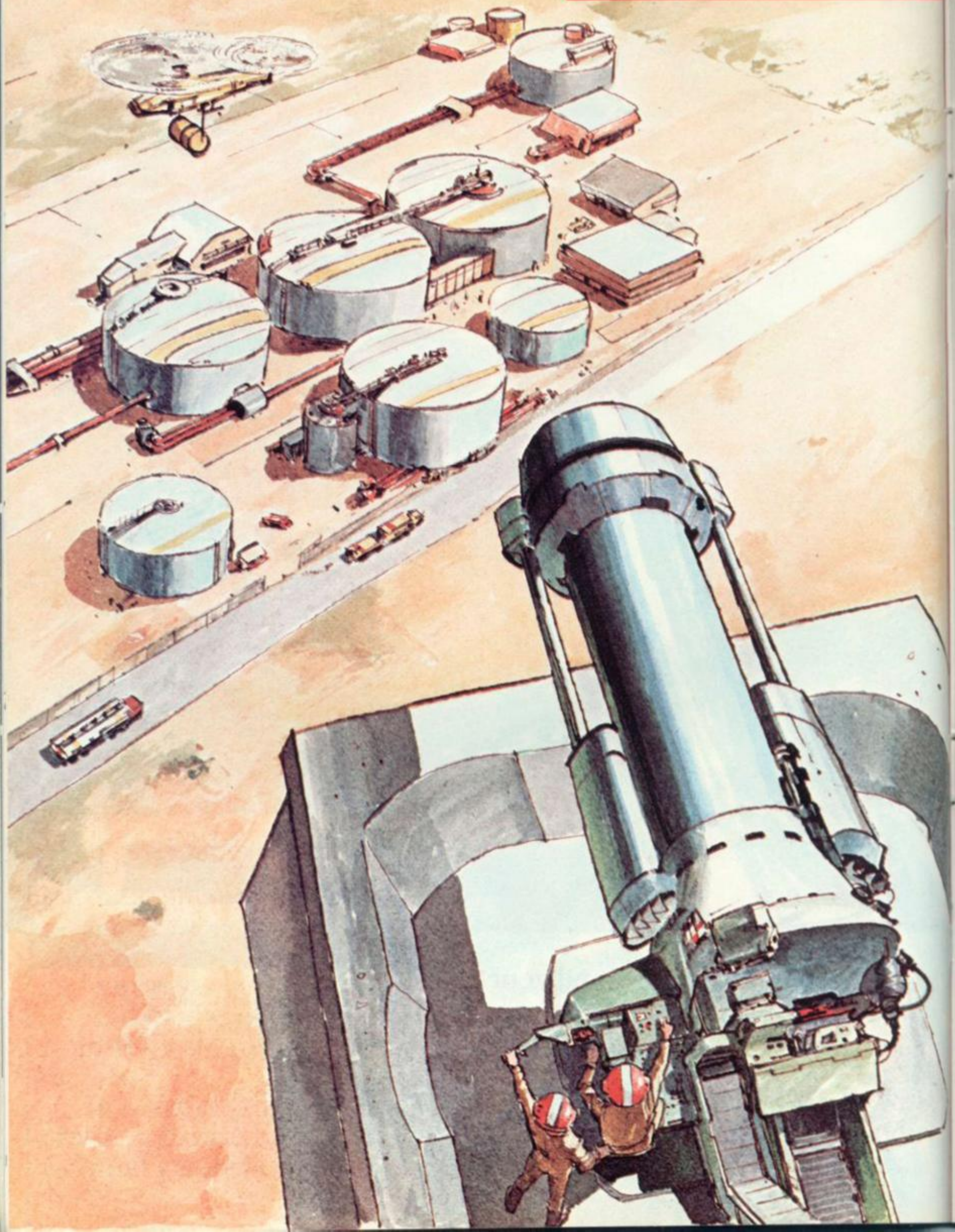






**RUNS ON A ZX81 IN 16K**

**BY MICHAEL NADEN**





# CANNON MASTER

You perch like some sinister bird high atop a tall and graceful battle-tower waiting for the next attack — which you know will come all too soon. The enemy is determined to destroy your fuel supplies and only you — and commander of two battle-towers which defend a blasted plateau which serves as a fuel-supply depot for your armed forces — can protect the valuable stockpile.

Will you be able to beat off the alien attack? Or will the invaders destroy you and your planet?

Once you have programmed in this life and death struggle you will see two towers appear on the screen. The '+' signs at the bottom of the screen mark the locations of the fuel supplies which you have to protect.

There are three cannons in each of the towers which remain hidden until fired at the advancing aliens. The laser blast from each cannon will reach halfway across the screen. To make the game harder you have limited power for your cannons. If you find they do not fire you must wait a few seconds for them to recharge.

Also the aliens can destroy your weapons — but will not be harmed themselves. They can only be destroyed by a direct hit or a collision with one of the towers.

Once two fuel-dumps are destroyed by the invaders the game is over.

The controls:

Keys 1, 2, 3, 4, or 5 fire top left cannon. Keys Q, W, E, R or T fire middle left cannon. Keys A, S, D, F or G fire bottom left cannon.

Keys 6, 7, 8, 9 or 0 fire top right cannon. Keys Y, U, I, O or P fire middle right cannon. Keys H, J, K, L or N/L fire bottom right cannon.

```

10 LET U=0
20 POKE 16418,0
30 SLOW
40 LET C=16514
50 LET S=0
60 PRINT AT 0,0:
70 FOR A=1 TO 24
80 PRINT "
90 NEXT A
100 LET P=50
110 LET J=0
120 FOR A=1 TO 15
130 PRINT AT A,4;" ";TAB 22;
140 NEXT A
150 FOR A=1 TO 4
160 PRINT TAB 4;" ";
170 NEXT A
180 LET Z=1+PEEK 16396+256*PEEK
16397
190 LET A=Z+INT (RND*13)+8
200 LET B=Z+INT (RND*13)+8
210 PRINT AT 16,12;"++++"
220 POKE A,128

```

```

230 LET P=P+2.5
240 LET A=A+INT (RND*3)+32
250 IF PEEK A=8 THEN GOSUB 540
260 IF PEEK A=149 THEN GOSUB 68
0
270 POKE A,151
280 IF PEEK 16421<>255 THEN GOS
UB 360
290 POKE B,128
300 LET B=B+INT (RND*3)+32
310 IF PEEK B=8 THEN GOSUB 540
320 IF PEEK B=149 THEN GOSUB 68
0
330 POKE B,151
340 IF PEEK 16421<>255 THEN GOS
UB 360
350 GOTO 220
360 LET Q=PEEK 16421
370 PRINT AT 22,1;"
380 IF P<0 THEN PRINT AT 22,1;"
NO POWER"
390 IF P<0 THEN RETURN
400 LET P=P-10
410 LET C=Z+139*(Q=247)+238*(Q=
251)+337*(Q=253)+220*(Q=239)+319
*(Q=223)+418*(Q=191)
420 LET D=(Q)=247 AND Q<=253)-(
Q)=191 AND Q<=239)
430 IF PEEK C=128 THEN RETURN
440 LET N=C
450 POKE C,(146*(D=1)+147*(D=-1
))
460 FOR C=N+D TO N+(7*D) STEP D
470 IF PEEK C=151 THEN GOTO 540
480 POKE C,150
490 NEXT C
500 FOR X=N+D TO C STEP D
510 POKE X,128
520 NEXT X
530 RETURN
540 IF PEEK C=151 THEN LET H=C
550 IF PEEK C=151 THEN LET S=S+
10
560 IF PEEK A=8 THEN LET H=A
570 IF PEEK B=8 THEN LET H=B
580 FOR I=1 TO 5
590 POKE H,23
600 FOR F=1 TO 1000
610 POKE H,151
620 NEXT I
630 POKE H,128
640 IF H=A THEN LET A=Z+INT (RN
D*14)+9
650 IF H=B THEN LET B=Z+INT (RN
D*14)+9
660 IF H=C THEN GOTO 500
670 RETURN
680 LET I=155
690 IF PEEK A=149 THEN LET H=A
700 IF PEEK B=149 THEN LET H=B
710 POKE H,I
720 POKE H-32,I
730 POKE H-34,I
740 POKE H-63,I
750 POKE H-69,I
760 POKE H-29,I
770 POKE H-37,I
780 IF I=128 AND J=4 THEN GOTO
830
790 IF I=128 THEN GOTO 640
800 LET I=128
810 LET J=J-1
820 GOTO 710
830 PRINT AT 21,1;"YOU SCORED"
840 LET S%=STR$ S
850 FOR L=1 TO LEN S$
860 PRINT CHR$ (CODE S$(L)+128)
870 NEXT L
880 PRINT "POINTS"
890 IF S%=STR$ U THEN GOTO 940
900 IF S>U THEN LET U=S
910 PRINT AT 22,1;"HIGH SCORE I
S"
920 LET S%=STR$ U
930 GOTO 850
940 IF INKEY$<>" " THEN GOTO 940
950 PRINT AT 9,9;"HIT ANY KEY"
960 FOR F=1 TO 100000
970 PRINT AT 9,9;"
980 IF INKEY$=" " THEN GOTO 950
990 GOTO 20

```





An Exciting range for 16K ZX81  
from SOFTWARE FARM



## SUPER SCRAMBLE

### YOUR MISSION

To penetrate the witches defences, enter her cavern and destroy her wicked heart.

### THE WITCHES DEFENCES

Stalagmites and stalactites - which grow across your path.

**Volcanoes** - to get past alive - if you can!

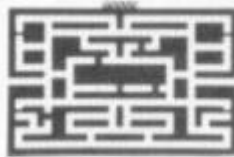
**Vampire Bats** - that cling to your ship and make controls sluggish

**Cave-ins** - should you hit the side of the cave with your Laser Cannon or Bomb, part of the roof will cave in on you



- Written entirely in machine code
- Hall of Fame
- 1 or 2 players
- Mystery score positions to bomb
- 5 skill levels

## GOBBLERS Mk 2



Beat that high score!  
Gobble those dots before those meanies gobble you!  
Your only aids are four 'Power Pills' which make the meanies edible. But not for long!

- Machine coded for fast action
- Extra 'Gobbler' for 10,000 points
- On screen scoring
- High score with enter name facility
- Up to 4 players

Improved Mk 2  
version!

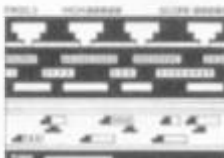
## ASTEROIDS

Stay alive as long as possible in open space filled with flying rocks. Score by shooting them - which also causes them to break into lots of little bits and makes life even worse!

- Machine coded for fast action
- On screen scoring
- High score with enter name facility
- Up to 4 players
- Extra ship for 1,000 points (not as easy as it sounds!)
- Ship moves just like arcade version
- Rotate left/rotate right/thrust
- Fires in all 8 directions
- Increasing number of asteroids
- Three asteroid sizes
- alien spaceship (fires back!)

All games  
£5.95 each

## NEW! FROG HOPPER



Jump your frog over the lanes in the road - preferably without being turned into jam by the approaching traffic! Then cross the river by hitching a few rides on some passing logs and finally into the safety of your hole on the opposite bank. Once all 'Frog Holes' have been filled you start again with a different pattern and a bonus frog.

- 50 Skill levels!
- Played against the clock - froggie only has a short while to live!

when more than one  
game purchased deduct  
£1.00 from each tape!

Send your order to:

Copy Dept THE SOFTWARE FARM, Craigo Farm, Botany Bay, Tintern, Gwent

# Home Computer Show

JUNE SATURDAY 4th (10am-6pm)  
SUNDAY 5th (10am-4pm)

THE METROPOLE HOTEL  
AT THE NATIONAL  
EXHIBITION CENTRE

# Birmingham

VISIT THE COMPLETE SHOW FOR THE HOME USER AND SEE:

A COMPLETE cross section of all hardware and software available to the home user.

A FULL RANGE of home computers priced from £50 upwards.

A COMPUTER ADVICE CENTRE run by independent experts for the answers to all your questions.

WIN WIN WIN TWO COMPUTERS — one for you, one for a school of your choice  
— to be won at each show: FREE entry form with advance tickets

SPONSORED JOINTLY BY:

ADULTS: £2.00  
UNDER 8s & OAPs: FREE  
25% DISCOUNT for parties of  
20 or more

A&B Computing  
Computing Today Personal Software  
Personal Computing Today  
Home Computing Weekly  
ZX Computing

CVG

BIRMINGHAM  
Home Computer Show  
Send £1.00 Save £1.00 One person per coupon only  
Please enclose SAE  
Mr. Mrs. Miss  
Address  
ASP Exhibitions  
145 Charing Cross Road  
London WC2H 0EE  
01-437 1002



**micro-antics**  
exceptional software

**Post now to MICRO-ANTICS!**  
LITTLEHOME, HAWTHORNE LANE, CODSALL, STAFFS.

**£5.90 each INCLUDING V.A.T.  
FIRST CLASS POSTAGE AND  
UNCONDITIONAL GUARANTEE**

UNEXPANDED

**VIC-20**

**FEATURES \***

FAST ACTION  
M/C CODE,  
CARS, LORRIES,  
DIVING DUCKS,  
CHICKEN PIES,  
FOXES & EGGS.

TIME LIMIT.

EASY TO USE  
KEYS/JOYSTICK.

INCREASING  
DIFFICULTY WITH  
SCORE.

FULL SOUND WITH  
BACKGROUND THEME  
'TAKE FIVE'



DO YOU HAVE THE NERVE FOR  
THE CHICKEN CHALLENGE?

UP TO 6 CAN PLAY THIS  
RIOTOUS GAME OF  
FINDING THE MATCHING PAIRS.  
FOR ONE PLAYER IT'S A RACE  
AGAINST THE CLOCK -  
350 SECONDS IS AVERAGE  
240 SECONDS IS  
REALLY GOOD.

AND....  
IF YOU THINK YOU CAN  
MAKE BETTER PICTURES  
WITH THE VIC GRAPHICS  
THEN DO IT WITH THE  
SPECIAL EDITOR!

**Fantastic Family Fun!**

**BRAIN PAIN**  
The Memory Game!



FEATURES FULL COLOUR,  
34 PICTURES,  
SCORE OR TIME,  
PICTURE EDITOR,  
KEYS OR JOYSTICK,  
1 TO 6 PLAYERS.

PROGRAMMERS OF THE MIDLANDS!!

If you can write m/c code drop us a line -- come and join us!

Please send me  Chicken Challenge  Brain Pain  
I enclose a cheque/PO. for £  
Name Address

C. AND V.G.

*Software  
City*

**Superb  
Programs For  
VIC-20 Home Computer**

*Software  
City*

**KRAZY KONG** STD 5k VIC. Key or Joystick

Dodge Kong's barrels as you climb the stairs. Kong has three maidens whom you must rescue. Four levels of play.

"It has great graphics, sound effects, and music. The action is very fast"

U.S. Compute Mag. Feb. 83 **£6.99**



**3-D MAN** VIC + 3k, + 8k, + 16k Joystick

Brilliant! You are like Pacman, down in the maze in three dimensions. Race down the corridors dodging the ghosts and gobbling up the energy dots. Radar screen also provided to guide you around.

"The graphics are extremely fast and superbly done"

U.S. Compute Magazine. Feb. 83 **£9.95**



**DEFENDER ON TRI** VIC + 3k, + 8k, + 16k Joystick

Race against the clock. Fly your starship through the maze of Tri, an abandoned space station. You must rescue some scientists before the station hits the sun. Activate your shields and conserve your fuel through 4 screen levels.

"This game is exceptionally well done. The graphics are great. The action is fast. The sound effects are good."

U.S. Compute Magazine. Feb. 83 **£9.95**

Programs Available From  
**VISION STORE** 3 Eden Walk Precinct,  
Kingston-on-Thames  
Surrey. Tel: 01-546 8974

**EXTERMINATOR** STD 5k VIC. Key or Joystick

Blast the centipede while dodging the Spiders amongst the toadstools.

The Vic version of the famous arcade game. Machine Code.

"One of the best games I've ever seen for VIC. Exterminator is an absolute marvel!"

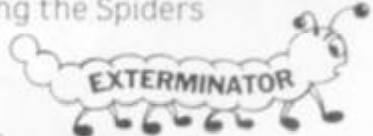
The graphics are fantastic. Unbelievably fast" **£6.99**

**MOTORWAY MANIAC** STD 5k VIC Key or Joystick

All machine code, accelerate towards the on coming traffic while dodging from lane to lane. Joystick steers and accelerates. Program keeps five highest scores. Excellent use of graphics. **£9.95**

**VIKMAN** STD 5k VIC. Key or Joystick

Escape the ghosts while eating the energy pills. Choose either one or three ghosts in this classic arcade game. **£6.99**



To: Vision Store, 3 Eden Walk Precinct, Kingston-on-Thames, Surrey.  
Please supply .....

P&P: 50p per cassette or 3 cassettes or more P&P Free

I enclose my cheque for £. ....

or charge my Access/Barclaycard No .....

Name..... Signature.....

Address .....

CVG6/83



# C & VG SOFTWARE FORM

Have you written a games program which you feel is just right for C&VG? If so we have come up with a form to ensure that we can test it out and give you our views on it, as quickly as possible.

We would prefer a tape and listing but can work from just a tape and will return it to you if it doesn't find its way into the magazine. We will also need an additional sheet explaining the game and its theme. And any documentation like lists of variables or how certain routines are working, would be of great help to beginners. Please make sure that your name, address and the program name is on everything

you send us, including the cassette itself.

This form will merely help us to keep a check on your game as it goes through our testing process and make sure we have all the information we need to present it properly in the magazine.

If you don't want to cut up the magazine, we will accept photocopies or close copies of this page. This form will be appearing regularly in C&VG issues from now on.

Remember we pay £10 for each listing published and you could win our Programmer of the Year Contest where we will try to turn the winner into a best-selling games author.

Program name: .....

Machine make: ..... Model .....

Other models it should run on: ..... Number of K needed to run it: .....

Other equipment (joysticks, Extended Basic, add ons, etc.) needed to run it: .....

Author's name: ..... Christian name: ..... Sur-name: .....

Address: .....

Tel: ..... Date: .....

Type of game: (If original please say so) .....

Loading instructions: .....

Game instructions: (If not included in the listing) .....

Office use only	
Date received: .....	Evaluator's comments
Acknowledgement sent: <input type="checkbox"/>	Good enough to publish <input type="checkbox"/>
Name of evaluator: .....	Needs some tidying up <input type="checkbox"/>
Date sent out: .....	Not worth publishing <input type="checkbox"/>
Date due back: .....	Same game already published on this micro <input type="checkbox"/>
Needs to be returned to author for alterations: <input type="checkbox"/>	Wouldn't load <input type="checkbox"/>
Date sent: .....	
Due to be published in issue of magazine: .....	



LOOK FOR THE  
ULTIMATE  
SIGN FOR THE  
ULTIMATE GAMES



**PSSST for 16 or 48K SPECTRUM**

Little vermin, leave my planet alone. Oyl sucking the life from my Thyrogodian. My planet's dying. No! No! Nasty bugs Chrisanthodil, making her shrink, will soon put a stop to their little game; quick! Mustn't die, mustn't die. Takes that and that. This'll sort 'em out, there! Take that and that. Why? You little, little... Quickly, get the sound effects, amazing smooth high resolution graphics, and that totally new addictive visual all those features you come to expect from the PSSST... The ULTIMATE Challenge. Now you know why 'ULTIMATE PLAY THE GAME'... Go grow yourself a REAL game Design: 'ULTIMATE PLAY THE GAME'

**JET PAC for 16 or 48K SPECTRUM**

The 'Acme Interstellar Transport Company' is delivering Spaceship kits to various planets throughout the Galaxy, and as chief test pilot, all you have to do is assemble the Rockets and thrust on to your next destination. Bull as you don't often get the chance of a free trip across the Galaxy and space travel is, oh, so expensive, now's your chance to get rich! You might just as well stop off on several planets or gold, and take them back with you. Upon landing, you will find yourself equipped with the very latest precious gems, elements or gold, and lime aliens who might object to your visit. And my! do those aliens get upset, when you collect all of their valuables, and sneak off, without so much as a by-your-leave. JET PAC plus megga powerful, Quad Photon Laser Phasers, to blast any nasty, mean, lime aliens get upset, when you collect all your visit. And my! do those aliens get upset, when you collect all of their valuables, and sneak off, without so much as a by-your-leave. JET PAC Arcade standard, 100% machine code, incredible sound effects, amazing smooth high resolution visual graphics, the totally new addictive concept and all those extra features you expect from the ULTIMATE GAME. Now you know why 'ULTIMATE PLAY THE GAME'.



Dealership enquiries welcome, phone (0530) 411485



**ULTIMATE PLAY THE GAME**

These games should be available from W. H. SMITH, JOHN MENZIES, other larger department stores and all major software retailers, alternatively send the coupon to ULTIMATE PLAY THE GAME for immediate dispatch. Subject to availability, you should receive your order within 3 days of posting.

**£5.50 each**  
including VAT, first class postage and packing

Post this coupon now, to **ULTIMATE PLAY THE GAME**, The Green, Ashby de la Zouch, Leicestershire LE6 5JU

Please send me the following:

JET PAC  PSSST joystick information

KEMPSTON joystick for £

I enclose PO/cheque for £

Name .....

Address .....

ULTIMATE PLAY THE GAME is a registered trademark of W. H. Smith & Sons Ltd









**RUNS ON A**

**SPECTRUM IN 48K**

**BY JEREMY HEPPELL**

Dare you delve into the Black Box and decipher its hidden secrets? This is a challenging game of deduction in the Mastermind mode.

Your Spectrum will create a code which you have to crack. The code takes the shape of four pegs hidden in an eight by eight grid — the "black box".

You have to attempt to crack the code by sending in "rays" from the edges of the box. These rays always travel in a straight line — unless they hit a peg. When this happens you'll get a clue to the whereabouts of the hidden pegs.

The rays behave in a completely logical fashion. When they strike a peg the ray will either be absorbed, deflected at right angles or reflected back the way it came. From the actions of the rays you will be able to deduce the positions of the pegs. But beware some rays will follow long and tortuous routes which can be baffling!

When the game begins you are in normal mode, where you fire rays in from the outside edges of the box. When you think you know the location of any, or all, the pegs, type 0 and you will enter cursor mode. Using the controls listed on the screen you plot the pegs which you think you have found. When you reckon that you know the positions of all the pegs type in 9 (in cursor mode) and the computer will mark your final guess.

Because of the limitations of Basic the computer will sometimes take several seconds to work out a ray path.

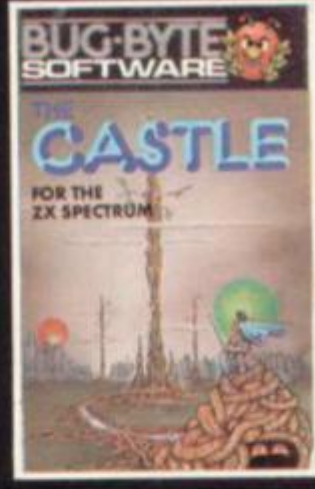
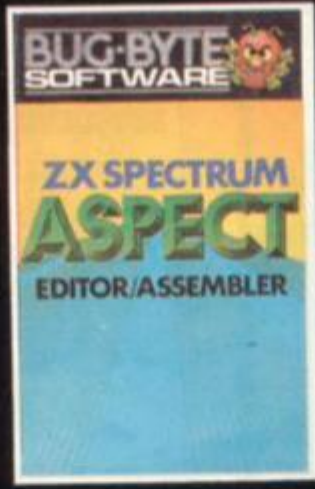
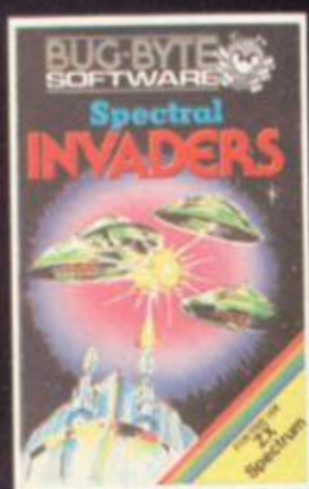
For those of you with stiff programming fingers the title pages at the end of the listing can be left out. You must however, leave in the lines which read the user-defined graphic characters. Remember that when typing in these user-defined graphic the characters will simply be letters in graphics mode — I used A, B, C, and D.

```

750 PRINT PAPER 0; INK 7; FLASH
1; AT erow, ecol; "A"
759 REM set variables used in
plotting ray path
760 LET direct=entry
770 IF direct<=8 THEN LET start
=9: GO TO 810
780 IF direct<=16 THEN LET star
t=17: GO TO 810
790 IF direct<=24 THEN LET star
t=32: GO TO 810
800 LET start=8
810 IF start<=8 THEN LET end=1:
GO TO 850
820 IF start<=16 THEN LET end=1
6: GO TO 850
830 IF start<=24 THEN LET end=2
4: GO TO 850
840 LET end=25
849 REM check for peg in path
of ray
850 LET diff=1: IF start>end TH
EN LET diff=-1
860 FOR p=start TO end STEP dif
f
869 REM check for absorption
870 FOR n=1 TO nopeg
880 IF v(n)=direct AND w(n)=p T
HEN GO TO 40
890 IF w(n)=direct AND x(n)=p T
HEN GO TO 40
900 IF x(n)=direct AND y(n)=p T
HEN GO TO 40
910 IF y(n)=direct AND v(n)=p T
HEN GO TO 40
920 NEXT n
930 REM check for deflection
940 FOR n=1 TO nopeg
950 IF v(n)=direct+1 AND w(n)=p
THEN GO TO 1120
960 IF w(n)=direct+1 AND x(n)=p
THEN GO TO 1080
970 IF x(n)=direct+1 AND y(n)=p
THEN GO TO 1080
980 IF y(n)=direct+1 AND v(n)=p
THEN GO TO 1120
990 IF v(n)=direct-1 AND w(n)=p
THEN GO TO 1080
1000 IF w(n)=direct-1 AND x(n)=p
THEN GO TO 1120
1010 IF x(n)=direct-1 AND y(n)=p
THEN GO TO 1120
1020 IF y(n)=direct-1 AND v(n)=p
THEN GO TO 1080
1030 NEXT n
1039 REM check type of ray path
for rays which have emerged
from the box
1040 LET exit=direct+16: IF dire
ct>16 THEN LET exit=direct-16
1050 IF exit=entry THEN GO TO 18
0
1060 IF deflec=0 THEN GO TO 260
1070 GO TO 100
1079 REM reset variables used in
plotting ray path if ray
deflected
1080 IF p=9 OR p=17 OR p=32 OR p
=8 THEN GO TO 180
1090 LET start=direct-16: IF p>8
AND p<=24 THEN LET start=direct
+16
1100 LET direct=p+1: IF p>8 AND
p<=24 THEN LET direct=p-1
1110 GO TO 1180
1120 IF p=9 OR p=17 OR p=32 OR p
=8 THEN GO TO 180
1130 LET start=direct
1140 IF p<=8 THEN LET direct=p+1
7: GO TO 1180
1150 IF p<=16 THEN LET direct=p+
15: GO TO 1180
1160 IF p<=24 THEN LET direct=p-
17: GO TO 1180
1170 LET direct=p-15
1180 LET deflec=1
1190 GO TO 810
1198 REM set variables used in
ray path description
1199 REM absorption or
reflection
1200 LET posrow=1
1210 PAPER 7: INK 0
1220 GO SUB 1340
1230 GO TO 550
1239 REM deflection or straight
1240 LET posrow=0

```





# SPECTACULAR!

**BUG-BYTE  
SOFTWARE** 

Selected titles available from larger branches of Boots and W.H. Smith, Spectrum, Laskys, Currys Micro-C and all good Computer Shops. Also by mail order from Software Express.



```

1250 PAPER paper: INK ink
1260 GO SUB 1340
1270 LET guess=guess-1
1280 LET entry=exit
1290 PAPER paper: INK ink
1300 GO SUB 1390
1310 LET ink=ink+1
1320 IF ink=7 THEN LET ink=paper
/7+1: LET paper=ABS (paper-7)
1330 GO TO 550
1330 REM ray path description
1339 REM ray path display
1340 GO SUB 310
1350 PRINT AT 7+posrow,3-(LEN (S
TR$ (entry))-1);entry;"-"
1360 PRINT AT 9+posrow,0;ps
1370 IF posrow=1 THEN GO TO 1390
1380 PRINT AT 11,2;"to ";exit
1390 GO SUB 1480
1400 PRINT AT erow,ecol;"A"
1409 REM update number of
guesses and score
1410 PAPER 7: INK 2: INVERSE 0
1420 LET guess=guess+1
1430 PRINT AT 16,4-(LEN (STR$ (g
uess))-1);guess
1440 LET score=score-1
1450 IF score=9 THEN PRINT AT 20
,3;" "
1460 PRINT AT 20,4-(LEN (STR$ (s
core))-1);score
1470 RETURN
1479 REM find position of ray
entry (or exit) square on screen
1480 IF entry<=8 THEN LET erow=2
0: LET ecol=11+entry*2: RETURN
1490 IF entry<=16 THEN LET erow=
20-(entry-8)*2: LET ecol=11: RET
URN
1500 IF entry<=24 THEN LET erow=
2: LET ecol=11+(entry-16)*2: RET
URN
1510 LET erow=20-(entry-24)*2: L
ET ecol=29: RETURN
1518 REM

```

**CURSOR MODE**

```

1519 REM display cursor controls
1520 PAPER 7: INK 2
1530 PRINT AT 5,0;"0 -normal"
1540 PRINT AT 6,0;"3 - plot"
1550 PRINT AT 7,0;"4 - erase"
1560 PRINT AT 8,0;"5 - left"
1570 PRINT AT 9,0;"6 - down"
1580 PRINT AT 10,0;"7 - up"
1590 PRINT AT 11,0;"8 - right"
1600 PRINT AT 12,0;"9 - final"
1610 PRINT AT 13,0;" guess"
1620 PAPER 0
1630 INK 6: IF ATTR (currow,curc
ol)=6 THEN INK 2
1640 PRINT FLASH 1;AT currow,cur
col;"A"
1649 REM check cursor input
1650 LET i$=INKEY$
1660 IF i$="0" OR i$="9" THEN GO
TO 1920
1670 IF i$<"3" OR i$>"8" THEN GC
TO 1650
1680 IF i$="3" THEN GO TO 1820
1690 IF i$="4" THEN GO TO 1870
1699 REM move cursor
1700 IF i$="5" THEN LET newrow=c
urrow: LET newcol=curcol-2: GO T
O 1740
1710 IF i$="6" THEN LET newrow=c
urrow+2: LET newcol=curcol: GO T
O 1740
1720 IF i$="7" THEN LET newrow=c
urrow-2: LET newcol=curcol: GO T
O 1740
1730 LET newrow=currow: LET newc
ol=curcol+2
1740 IF newrow<4 OR newrow>18 OR
newcol<13 OR newcol>27 THEN GO
TO 1650
1750 BEEP .05,12
1760 INK 7: IF ATTR (currow,curc
ol)=194 THEN INK 2
1770 PRINT FLASH 0;AT currow,cur
col;"A"
1780 INK 6: IF ATTR (newrow,newc
ol)=66 THEN INK 2
1790 PRINT FLASH 1;AT newrow,new
col;"A"
1800 LET currow=newrow: LET curc
ol=newcol

```

```

1810 GO TO 1650
1819 REM plot peg
1820 IF ATTR (currow,curcol)=194
THEN GO TO 1650
1830 BEEP .05,0
1840 PRINT INK 2; FLASH 1;AT cur
row,curcol;"A"
1850 LET peg=peg+1
1860 GO TO 1650
1870 REM erase peg
1870 IF ATTR (currow,curcol)=196
THEN GO TO 1650
1880 BEEP .05,0
1890 PRINT INK 6; FLASH 1;AT cur
row,curcol;"A"
1900 LET peg=peg-1
1910 GO TO 1650
1919 REM leave cursor mode
1920 INK 7: IF ATTR (currow,curc
ol)=194 THEN INK 2
1930 PRINT FLASH 0;AT currow,cur
col;"A"
1940 FOR r=5 TO 13
1950 PRINT AT r,0;" "
1960 NEXT r
1970 IF i$="0" THEN GO TO 550
1980 IF peg=nopeg THEN GO TO 205
0
1989 REM display warning:
wrong number of pegs plotted
1990 PAPER 7: INK 2
2000 GO SUB 310
2010 PRINT AT 7,1;nopeg;" pegs"
2020 PRINT AT 9,1;"must be"
2030 PRINT AT 11,1;"plotted"
2040 FOR b=1 TO 5
2050 BEEP .05,36
2060 NEXT b
2070 PAUSE 0: PAUSE 100
2080 GO TO 1520
2088 REM

```

**Final guess**

```

2089 REM check each guess
2090 FOR n=1 TO nopeg
2100 IF ATTR (ABS (w(n)-8)*2-20,
v(n)*2+11)=71 THEN GO SUB 2200:
GO TO 2120
2110 GO SUB 2140
2120 NEXT n
2130 GO TO 2290
2140 REM peg correctly located
1:AT ABS (w(n)-8)*2-20,v(n)*2+1
;"A"
2150 LET right=right+1
2160 FOR b=1 TO 5
2170 BEEP .05,24
2180 NEXT b
2190 RETURN
2200 REM peg incorrectly located
1:AT ABS (w(n)-8)*2-20,v(n)*2+1
;"A"
2210 PAPER 7: INK 2: FLASH 0
2220 FOR b=1 TO 5
2230 LET score=score-1
2240 LET poscol=3: IF score>=0 A
PRINT AT 20,3;" "
2250 PRINT AT 20,poscol;score
2260 BEEP .05,12
2270 NEXT b
2280 RETURN
2290 REM display number of pegs
correctly located
2300 PAPER 7: INK 2
2310 GO SUB 310
2320 PRINT AT 7,2;right;" peg":
IF right=0 OR right>1 THEN PRINT
AT 7,7;"s"
2330 PRINT AT 9,0;"correctly"
2340 PRINT AT 11,1;"located"
2349 REM display player's
success rating
2350 GO SUB 310
2360 PRINT AT 7,2;"Your"
2370 PRINT AT 9,0;"score is"
2380 IF score>=25 THEN PRINT AT
11,0;"very good": GO TO 2440
2390 IF score>=20 THEN PRINT AT
11,0;"good": GO TO 2440
2400 IF score>=15 THEN PRINT AT
11,1;"not bad": GO TO 2440
2410 IF score>=10 THEN PRINT AT
11,2;"poor": GO TO 2440

```





```

420 IF score >= 0 THEN PRINT AT 1
430 "very poor": GO TO 2440
435 PRINT AT 11,1;"abysmal"
439 REM input and check whether
440 "play game ag
440 INPUT TAB (4);"play game ag
445 "in (y/n)?" ; i$
450 IF i$="y" THEN PAPER 0: GO
455 SUB 310: GO SUB 2490: GO TO 350
460 IF i$="n" THEN GO TO 2440
470 BORDER 7: PAPER 7: INK 0: B
480 BRIGHT 0: CLS
485 STOP
488 REM
  
```

**Draw box**

```

489 REM refresh box after game
490 PAPER 7
495 PRINT AT 16,3;" "
500 PRINT AT 20,3;" "
505 LET score=33: LET guess=-1
510 GO SUB 1410
515 PAPER 0: INK 7
520 PRINT AT 2,13;" "
525 "
530 FOR r=4 TO 16 STEP 2
535 PRINT AT r,11;" "
540 FOR c=13 TO 27 STEP 2
545 PRINT AT r,c;"A"
550 NEXT c
555 PRINT AT r,29;" "
560 NEXT r
565 PRINT AT 20,13;" "
570 "
575 RETURN
  
```

**Draw box outlines at**

```

640 REM draw box outlines at
645 "start of run"
650 PAPER 0: INK 7: CLS
655 PRINT AT 0,0;" M I N I"
660 PRINT AT 2,0;" B L A C K"
665 PRINT AT 4,0;" B O X"
670 PRINT AT 14,0;" Guesses "
675 PRINT AT 18,0;" Score "
680 PRINT AT 0,13;" 1 1 1 2 2 2"
685 "
690 PRINT AT 1,13;" 7 8 9 0 1 2"
695 "
700 "
705 "
710 "
715 "
720 "
725 "
730 FOR r=8 TO 1 STEP -1
735 PRINT AT ABS (r*2-19),12;"E"
740 "CBCBCBCBCBCB"
745 "
750 PRINT AT ABS (r*2-20),9;r+E
755 TAB 11;" D D D D D D D D";r+
760 "
765 NEXT r
770 PRINT AT 19,12;"CBCBCBCBCBCE"
775 "CBCBCB"
780 PRINT AT 21,13;"1 2 3 4 5 E"
785 "7 8"
790 RETURN
795 REM
  
```

**Title pages**

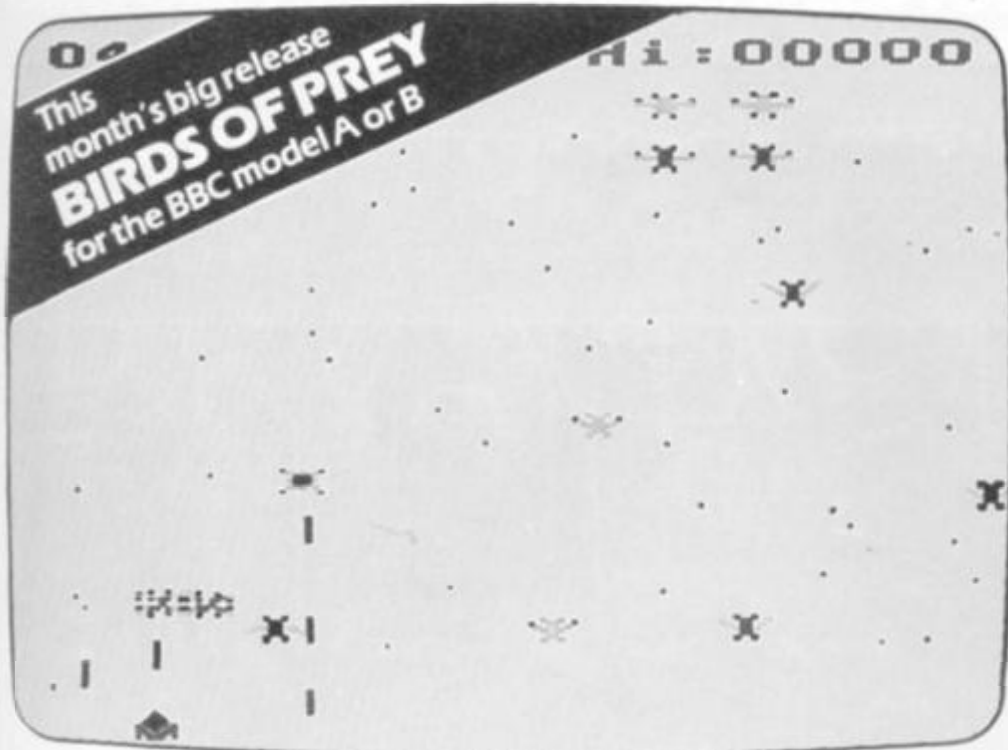
```

799 REM introduction
800 BORDER 0: PAPER 0: INK 6: F
805 0: BRIGHT 1: OVER 0: INVERS
810 "
815 CLS
820 FOR r=0 TO 21
825 IF r=12 THEN INK 2
830 IF r=13 THEN INK 0
835 BEEP .01,24: BEEP .01,r
840 PRINT AT r,0;"BLACK BOX"
845 "
  
```

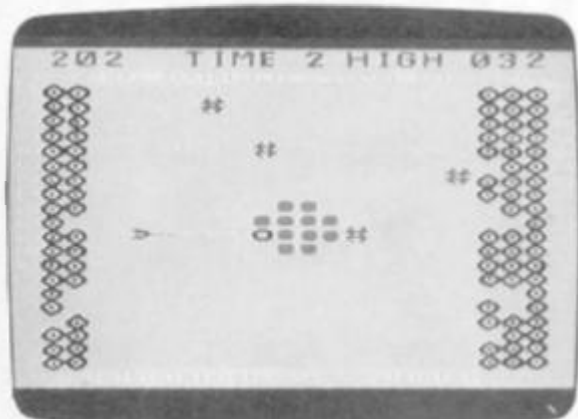
```

850 PRINT AT ABS (r-21),14;"MIN
855 "
860 PRINT AT r,22;"BLACK BOX"
865 NEXT r
870 INK 0
875 FOR r=21 TO 0 STEP -1
880 IF r=12 THEN INK 2
885 IF r=11 THEN INK 0
890 PRINT AT r,0;"BLACK BOX"
895 "
900 PRINT AT ABS (r-21),14;"MIN
905 "
910 "
915 PRINT AT r,22;"BLACK BOX"
920 BEEP .01,24: BEEP .01,r
925 NEXT r
930 INK 2
935 PRINT AT 12,14;" "
940 FOR c=0 TO 10
945 PRINT AT 12,c;" "
950 PRINT AT 12,ABS (c-22);" "
955 "
960 PRINT AT 12,c+1;"BLACK BOX"
965 "
970 PRINT AT 12,ABS (c-21);"BLA
975 CK BOX"
980 BEEP .01,24
985 NEXT c
990 FOR b=24 TO 0 STEP -1
995 BEEP .01,b
1000 NEXT b
1005 FOR b=1 TO 24
1010 BEEP .01,b
1015 NEXT b
1020 INK 7
1025 PRINT AT 6,10;"Waddington's
1030 "
1035 PRINT AT 9,14;"MINI"
1040 PRINT AT 12,11;"BLACK BOX"
1045 REM read data for user-
1050 defined graphics characters
1055 FOR g=1 TO 4
1060 READ g$
1065 FOR l=0 TO 7
1070 READ line
1075 POKE USR g$+l,line
1080 NEXT l
1085 NEXT g
1090 PRINT AT 21,3;"Press any ke
1095 to play game"
1100 IF INKEY$="" THEN GO TO 325
1105 "
1110 REM display controls
1115 CLS
1120 PRINT PAPER 7; INK 2;"Conti
1125 ools"
1130 PRINT AT 3,0;"Normal mode"
1135 PRINT "(for guesses)"
1140 PRINT : PRINT "0"
1145 "go into cursor mode"
1150 PRINT "1-32"
1155 "your guesses"
1160 PRINT AT 10,0;"Cursor mode"
1165 PRINT "(for plotting pegs)"
1170 PRINT : PRINT "0"
1175 "return to normal mode"
1180 PRINT "3"
1185 "plot a peg"
1190 PRINT "4"
1195 "erase a peg"
1200 PRINT "5" - cursor left
1205 "one square"
1210 PRINT "6" - cursor down
1215 "one square"
1220 PRINT "7" - cursor up
1225 "one square"
1230 PRINT "8" - cursor right
1235 "one square"
1240 PRINT "9" - for your
1245 "final guess"
1250 GO TO 350
1255 REM data for user-defined
1260 graphics characters
1265 DATA "A",BIN 00000000,BIN 0
1270 01111100,BIN 01111110,BIN 01111111
1275 0,BIN 01111110,BIN 01111110,BIN
1280 00111100,BIN 00000000
1285 DATA "B",BIN 00011000,BIN 0
1290 00110000,BIN 00011000,BIN 11111111
1295 1,BIN 11111111,BIN 00011000,BIN
1300 00011000,BIN 00011000
1305 DATA "C",BIN 00000000,BIN 0
1310 00000000,BIN 00000000,BIN 11111111
1315 1,BIN 11111111,BIN 00000000,BIN
1320 00000000,BIN 00000000
1325 DATA "D",BIN 00011000,BIN 0
1330 00110000,BIN 00011000,BIN 00011000
1335 0,BIN 00011000,BIN 00011000,BIN
1340 00011000,BIN 00011000
  
```

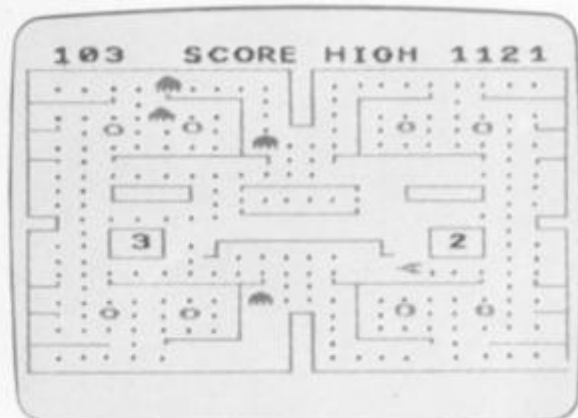




TIME DESTROYERS for the expanded Vic 20 (any RAM)



ATOM SMASHER for the unexpanded Vic 20



POWER BLASTER for the unexpanded Vic 20



SPACE FORTRESS for the unexpanded Vic 20

# GAMES THAT ARE HARD TO BEAT

Why? Because every single Romik game is professionally written in machine code to give you all the thrills and action of a fast-moving arcade game. Every one recorded on top quality tape, most of them playable either from the keyboard or with joysticks.

A lot of thought and development goes into every game – and we guarantee no bugs to drive you mad, no infuriating gaps to interrupt your fun.

Whether pitted against invaders from alien worlds, tracking hungry sharks or frantically stalling the melt-down of a nuclear reactor you can be sure that if it's a Romik game you'll have a battle on your hands. The kind of battle that leaves no room for mistakes or hesitation.

## COMING SOON

Romik promise at least one new game every month, and soon there'll be Romik games for the Atari, Spectrum and Lynx computers.

## FREE COMPETITIONS

Every action game purchased brings a free entry into the national competition to find the Supreme Champion, and free entry into the annual Romik Grand Master competition with its fantastic prizes.

## TOP PRICES PAID!

We're always on the lookout for new, top quality machine code arcade games for any machine. If you have what you consider a marketable game, let us know. Nobody pays higher royalties than we do.

For further details of all our games and a list of stockists complete the coupon and send it to:  
Romik Software, 272 Argyll Avenue, Slough SL1 4HE

**ALL GAMES COST £9.99**

**ROMIK SOFTWARE**

## GAMES AVAILABLE NOW

### Unexpanded VIC 20

Martian Raider  
Sea Invasion  
Power Blaster  
Space Fortress  
Shark Attack  
Atom Smasher  
Space Attack  
Mind Twisters  
Multisound Synthesiser

### Expanded VIC 20 (3K, 8K or 16K)

Time Destroyers  
Moons of Jupiter

### BBC (Model A or B)

Birds of Prey

### Dragon

Strategic Command

### ZX81

Super Nine – 9 1K games on one tape.



Please send me further details of your games and a list of stockists.

Name \_\_\_\_\_

Address \_\_\_\_\_

CV 6/83

Age (if under 21) \_\_\_\_\_

I own a \_\_\_\_\_ computer



## Dynamic Games for the ZX Spectrum

Dynamic  
Games for the  
ZX Spectrum

A Sinclair COMPUTERGUIDE

by **Tim Hartnell**

Tim Hartnell has selected 20 dynamic games of lasting interest. They range from board games like *CHES* and *PIRANDELLO*, to arcade action in *JOGGER* and *DEATHRACE 2000*, and include a major adventure game, *REVENGE OF CASTLE DREAD*.

A detailed introduction is provided for every game and, in most cases, the program is explained line by line, highlighting the tricks the programmers have used and suggesting how these can be applied in other programs and games. At the end of the book a chapter is devoted to suggestions on how to improve your own programs.

0 946195 13 7  
May 1983

192pp  
(paper) £5.95

## The ZX Spectrum Explored

by **Tim Hartnell**,  
Foreword by **Clive Sinclair**

In this practical guide — with programs throughout — Tim Hartnell takes his readers from their first steps in programming to how the ZX Spectrum can be used as a tool at home, at work and for education. He looks at the use of sound, colour and 3D graphics, and shows how to write programs in BASIC, as well as how to use machine code on the ZX Spectrum.

*The ZX Spectrum Explored* is complete with many programs for education, business and — not least — pure fun!

0 946195 00 5    218pp    October 1982    £5.95



Marketed by  
**John Wiley & Sons Limited**

Baffins Lane · Chichester · Sussex PO19 1UD · England



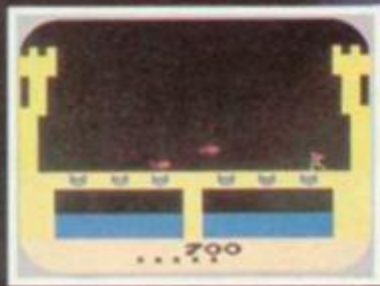
ONLY ONE THING STANDS BETWEEN YOU AND INCREDIBLE RICHES...

# GREAT BALLS OF FIRE!

FROM

# DRAGONFIRE

BY IMAGIC



Atari VCS



Mattel Intellivision



Play Imagic's 'Dragonfire' for the Atari VCS or Mattel Intellivision system and you will come across the most vicious, dangerous dragons ever to fry a prince. It's mean. It's cruel. It's incredibly tough. It's everything you want in a video game.

## IMAGIC

Created by Experts for Experts.

Hales Ltd., P.O. Box 33, Harrowbrook Road, Hinckley, Leicestershire, LE10 3DN.

ALSO AVAILABLE. THE NEW...  
**IMAGIC VIDEO  
COMMAND  
JOYSTICK**





NEWS ON A DRAGON IN 32K  
BY P. WICKOLS

# TRENCH

The deadly Death Star is threatening your peaceful planet with absolute destruction. Soon it will be close enough to unleash the deadly power of its Ultimate Weapon which will wipe your home star off the face of the universe. Your only chance is to attack before the Star gets close enough to blast the planet.

Your best space fighter pilots have been briefed about this mission. They know they may not return. They must attack the Death Star's most vulnerable spot — which can only be reached by flying down a narrow "trench" on the star's vast superstructure.

The trench will be protected by fast Tie fighters, flown by the Imperial Alliance's most accomplished pilots, and there are laser cannons posi-

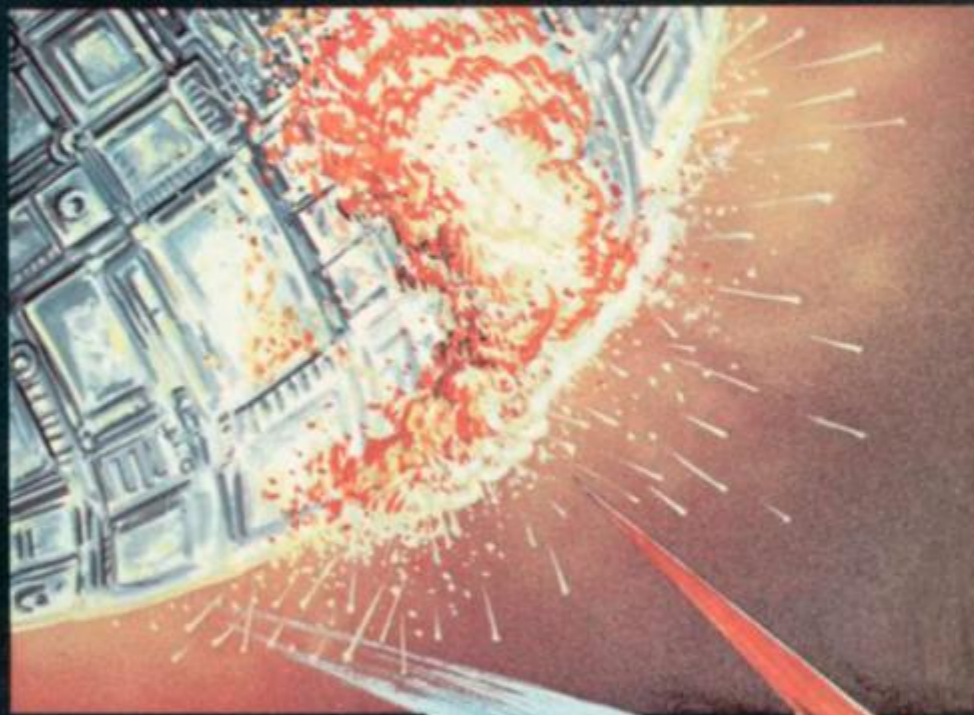
tioned in and around the trench itself.

You join the action just as the rebel fighters are zapping down in to the trench to do battle with the Imperial forces. Your ship is protected by an energy shield which is depleted each time an enemy cannon scores a hit on your craft.

You have to travel along the trench shooting down enemy fighters and when the radio-active waste exhaust chute opening appears you must score a direct hit on it to restore your shields and destroy the deadly Death Star.

You must shoot down all your attackers too — if you simply dodge one he'll be back to blast you out of the skies when you least expect it.

So stand by for action — and watch out for the Imperial fleet!



```
10 R=10
11 W=0
12 R1=5
13 F1=0:F2=0:F3=0:F4=0
14 GOTO 30
20 HS=0
30 SC=0
40 CLS3
50 GOTO 220
60 PLY"125505C04G05C":IF PPOINT(X+10,Y)>=4 THEN GOTO 70 ELSE GOTO180
70 IF S=1 THEN GOTO 180
80 IF R2=R1+5 THEN GOTO 180
90 IF Z>105 THEN R2=R1/R1=R1+5:S=1:RES=R1:GOTO 170
100 IF F=1 THEN SC=SC+100
110 IF F=2 THEN SC=SC+75
120 IF F=3 THEN SC=SC+50
130 IF F=4 THEN SC=SC+25
140 F=1:PUT(C1,B1)-(C1+26,B1+14):F3/B=120/R=R-1
150 PLY"01T25AGHGRGGRGR"
160 GOTO 180
170 PLY"03T25SCEDDEEFFEGGERREB04C"
180 REM
190 LINE(70,192)-(X+10,Y),PSET:LINE(185,192)-(X+10,Y),PSET
200 RETURN
```



```

210 END
220 A$="C3/S9/R3E2U3D3F2R3L3G2D3U3H3"
230 PCLERRB/PMODE1,1:PCLS
240 COLOR3,1
250 LINE(0,100)-(122,100),PSET:LINE-(122,100),PSET:LINE-(134,100),PSET:LINE-(134,100),PSET:LINE-(256,100),PSET
260 PRINT(0,0),3,3
270 LINE(0,116)-(122,100),PSET:LINE(20,192)-(122,100),PSET:LINE(256,116)-(134,100),PSET:LINE(236,192)-(134,100),PSET
280 LINE(0,102)-(106,102),PSET:LINE-(106,120),PSET:LINE-(152,120),PSET:LINE-(152,102),PSET:LINE-(256,102),PSET
290 LINE(0,106)-(78,106),PSET:LINE-(78,144),PSET:LINE-(178,144),PSET:LINE-(178,106),PSET:LINE-(256,106),PSET
300 LINE(0,114)-(16,114),PSET:LINE-(16,192),PSET
310 LINE(256,114)-(240,114),PSET:LINE-(240,192),PSET
320 CLS3:PRINT@12,".....":PRINT@44,"TRENCH":PRINT@76,"....."
330 FOR I=2 TO 1 STEP-1
340 PRINT(30,130),1,3:PRINT(150,180),1,3:PRINT(220,140),1,3
350 PRINT(10,112),1,3:PRINT(250,112),1,3:PRINT(110,110),1,3:PRINT(130,118),1,3:PRINT(150,110),1,3
360 IF I=2 THEN PCOPY2 TO 3
370 COLOR3,1
380 NEXT
390 PRINT@120,"YOU HAVE TO TRAVEL ALONG THE TRENCH SHOOTING DOWN ENEMY FIGHTERS"
400 PRINT(10,130),2,3:PRINT(250,150),2,3:PRINT(0,104),2,3:PRINT(90,110),2,3:PRINT(130,130),2,3:PRINT(160,120),2,3:PRINT(256,104),2,3:PRINT(120,104),1,3:PRINT(130,110),1,3:PRINT(130,106),1,3
410 PCOPY2 TO 5
420 PRINT@256,"WHEN THE HOLE APPEARS YOU HAVE TO FIRE INTO IT TO RECHARGE YOUR ENERGY SHIELDS"
430 PCLS
440 LINE(0,100)-(122,100),PSET:LINE-(122,100),PSET:LINE-(134,100),PSET:LINE-(134,100),PSET:LINE-(256,100),PSET
450 PRINT(0,0),3,3
460 LINE(0,116)-(122,100),PSET:LINE(20,192)-(122,100),PSET:LINE(256,116)-(134,100),PSET:LINE(236,192)-(134,100),PSET
470 LINE(110,100)-(110,118),PSET:LINE-(140,118),PSET:LINE-(140,100),PSET
480 LINE(0,104)-(90,104),PSET:LINE-(90,134),PSET:LINE-(166,134),PSET:LINE-(166,104),PSET:LINE-(256,104),PSET
490 LINE(0,110)-(46,110),PSET:LINE-(46,170),PSET:LINE-(210,170),PSET:LINE-(210,110),PSET:LINE-(256,110),PSET
500 PRINT@384,"THE TOP LINE SHOWS DIST TO HOLE THE BOTTOM LINE IS SHIELD ENERGY"
510 FOR I=2 TO 1 STEP-1
520 PRINT(0,114),1,3:PRINT(30,150),1,3:PRINT(130,180),1,3:PRINT(230,160),1,3:PRINT(250,114),1,3
530 REM
540 PRINT(0,102),1,3:PRINT(100,110),1,3:PRINT(130,130),1,3:PRINT(160,110),1,3:PRINT(256,102),1,3
550 IF I=2 THEN PCOPY 2 TO 4
560 NEXTI
570 PRINT(0,106),2,3:PRINT(70,120),2,3:PRINT(130,150),2,3:PRINT(190,130),2,3:PRINT(256,106),2,3
580 PRINT(116,106),2,3:PRINT(130,112),2,3:PRINT(140,106),2,3
590 PCOPY 2 TO 6
600 PRINT@485,"PRESS SPACE TO LAUNCH":FOR P=1 TO 500:NEXTP
610 R1=5
620 RES=R1
630 SC=0
640 PRINT@485,"":FOR P=1 TO 500:NEXTP
650 Q$=INKEY$:IF Q$=" " THEN GOTO 670
660 GOTO 600
670 REM
680 CLS3
690 GOSUB1790
700 GOSUB1450
710 A$="C3/S9/R3E2U3D3F2R3L3G2D3U3H2"
720 PRINT(0,0),3,3
725 IF HS>0 THEN W=1
730 IF W=1 THEN GOTO 800
740 CIRCLE(20,25),10,2
750 FOR I=1 TO 15
760 X=RND(255):Y=RND(90)
770 PSET(X,Y,2):NEXT
780 PRINT(20,25),1,2
790 SCREEN1,0
800 GOSUB1450
805 SCREEN1,0
810 COLOR4,2
820 LINE(0,5)-(256,5),PSET

```

```

830 LINE(0,0)-(RES,0),PSET
840 A=R1+5
850 W1=W
860 FOR I=3 TO 6
870 PCOPY I TO 2
880 LINE(256,5)-(DIST+1,5),PSET
890 LINE(RES+5,0)-(RES+1,0),PSET
900 IF DIST=0 THEN GOSUB1720
910 X=JOYSTK(0)*2+50:Y=JOYSTK(1)*2+110
920 IF I=3 OR I=5 THEN F=F+1:IF F>4 THEN F=0
930 IF A<0 THEN GOTO 950
940 ON F GOSUB 1050,1150,1240,1330
950 IF Y>180 THEN Y=180
960 IF DIST=0 AND A=1 THEN GOTO 1590
970 DRAW"BM"+STR$(X)+"", "+STR$(Y)+"", "+A$
980 IF PEEK(65280)=254 OR PEEK(65280)=126 THEN GOSUB 60
990 DIST=DIST-1
1000 IF DIST<=1 THEN DIST=0
1010 IF RES<=1 THEN GOTO 1550
1020 NEXT
1030 IF W=W1+1 THEN GOTO 830
1040 GOTO 860
1050 A=RND(3)
1060 IF A=1 THEN C=C+10

```



Ilustración: Jordan Cross





# VECTREX

THE REVOLUTION STARTS HERE



## THE ULTIMATE COMPUTER GAMES SYSTEM.

Vectrex has its own built-in screen. It actually reproduces the same brilliant graphics, exciting sounds and fast game play of a real arcade machine.

Vectrex comes complete with its own built-in game 'Minestorm', but you can play many other classic games such as 'Scramble'\* and 'Berzerk\*\*' by simply slotting in a cartridge.

This portable system is complete with its own built-in control panel featuring an analogue joystick and four action buttons.

Try the ultimate computer games experience with Vectrex.

Milton Bradley Limited, CP House,  
97/107 Uxbridge Road, Ealing,  
London W5 5TZ. Telephone:  
01-567 3030.



\*Licensed by Konami Industry © 1981

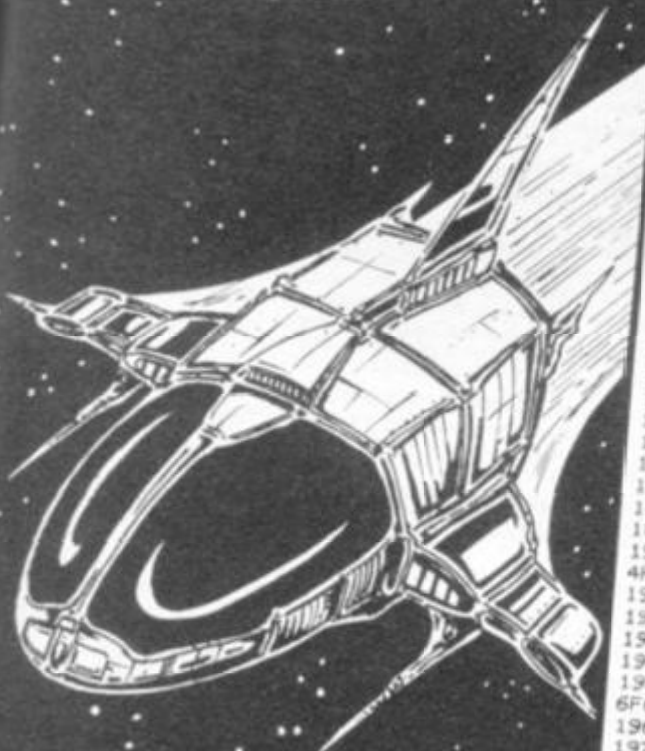
\*\*Licensed by Stern Electronics Inc © 1980



```

1070 IF AA=2 THEN C=C
1080 IF AA=3 THEN C=C-10
1090 B=120:C=120
1100 PUT(C,B)-(C+20,B+10),F1,PSET
1105 C1=C:B1=B
1110 B=B+5
1120 IF W<=4 THEN GOTO 100
1130 IF RND(2)=2 THEN LINE(C1+10,B1+10)-(120,192),PSET:RES=RES-1:PLAY"T25505C04G
05C04G05C"
1140 RETURN
1150 AA=RND(3)
1160 IF AA=1 THEN C=C+10
1170 IF AA=2 THEN C=C
1180 IF AA=3 THEN C=C-10
1190 PUT(C,B)-(C+22,B+12),F2,PSET
1195 C1=C:B1=B
1200 IF W<=3 THEN GOTO 1220
1210 IF RND(2)=2 THEN LINE(C1+11,B1+12)-(120,192),PSET:RES=RES-1:PLAY"T25505C04G
05C04G05C"
1220 B=B+5
1230 RETURN
1240 AA=RND(3)
1250 IF AA=1 THEN C=C+10
1260 IF AA=2 THEN C=C
1270 IF AA=3 THEN C=C-10
1280 PUT(C,B)-(C+26,B+14),F3,PSET
1285 C1=C:B1=B
1290 IF W<=2 THEN GOTO 1310
1300 IF RND(2)=2 THEN LINE(C1+13,B1+14)-(120,192),PSET:RES=RES-1:PLAY"T25505C04G
05C04G05C"
1310 B=B+5
1320 RETURN
1330 AA=RND(3)
1340 IF AA=1 THEN C=C+10
1350 IF AA=2 THEN C=C
1360 IF AA=3 THEN C=C-10
1370 PUT(C,B)-(C+32,B+20),F4,PSET
1375 C1=C:B1=B
1380 IF W<=1 THEN GOTO 1400
1390 IF RND(2)=2 THEN LINE(C1+16,B1+20)-(120,192),PSET:RES=RES-1:PLAY"T25505C04G
05C04G05C04G"
1400 B=B+5
1410 IF B>150 THEN B=120
1430 RETURN
1440 END
1450 DIST=256
1460 RES=R1
1470 A=A+5
1480 R1=A
1490 Z=100
1500 D=0
1510 LINE(0,0)-(RES,0),PRESET
1520 IF R1>120 THEN R1=120
1530 S=0
1540 RETURN
1550 CLS3
1555 HS=PEEK(12289)*100
1560 IF SC>HS THEN HS=SC

```



```

1570 PRINT@32,"YOUR SHIELD WAS DESTROYED BY CANNON FIRE";
1580 GOTO 1610
1590 CLS3:PRINT@32,"YOU WERE SHOT DOWN BY A T.I.E FIGHTER WHICH YOU HAD NOT
DESTROYED ON THE WAY TO THE HOLE";
1595 HS=PEEK(12289)*100
1600 IF SC>HS THEN HS=SC
1610 PRINT@325,"SCORE"/SC;
1615 SC=0:A=10
1616 R1=5
1620 PRINT@357,"HIGH SCORE=";HS;
1624 HS=HS/100
1625 POKE(12289),HS
1630 PRINT@448,"ANOTHER GOT(Y/N)";
1640 Q=INKEY$:IF LEFT(Q,1)="Y" OR LEFT(Q,1)="R" THEN GOTO 1670
1650 IF LEFT(Q,1)="N" THEN END
1660 GOTO 1640
1670 PRINT"INSTRUCTIONS(Y/N)";
1680 Q=INKEY$:IF LEFT(Q,1)="N" THEN W=0:GOTO 2000
1690 IF LEFT(Q,1)="Y" THEN RUN
1700 GOTO 1680
1710 END
1720 IF X>=180 AND A>0 THEN GOTO 1550
1730 PRINT(130,Z),4,3
1740 Z=Z+10
1750 COLOR4,2
1760 IF Z>=185 THEN Z=100:DIST=256:LINE(0,5)-(DIST,5),PRESET:W1=W+W+1:S=0
1770 RETURN
1780 END
1790 PMODE1,1:PCLS
1800 A="BM100,100,C4;BR2H2U4E2G2D2R6U2E2F2L3D4F2E2L3R3U2R6U2H2F2D4G2"
1810 DIMF1(20,10)
1820 DRAW#
1830 GET(100,90)-(120,100),F1,G
1840 PCLS
1850 DIMF2(22,12)
1860 B="BM130,100,C4;BR4H3U3E3G3D2R4E5D2G3R2D2R4U2L4R4H3U2F4D2R6G3E3U3H3
1870 DRAW#
1880 GET(130,80)-(152,100),F2,G
1890 PCLS
1900 C="BM100,150,C4;BR4H3U5E3G3D3R3E4R3U2D2R3L4G4R2U2D3L2F3R7L2E3L7R7U3H4F4R2H
4F4D3U1R5U3H3F3D5G3
1910 DIMF3(26,14)
1920 DRAW#
1930 GET(100,136)-(126,150),F3,G
1940 PCLS
1950 D="BM150,150,C4;BR6H6U6E6G6D3R6E6R6D2L5G4R2D2F4R4E4G2L8U2R9U3R2H5R2F6R5U3H
6F6D6G6"
1960 DRAW #
1970 DIMF4(32,20)
1980 GET(150,130)-(182,150),F4,G
1990 RETURN
2000 CLS3:PRINT@485,"PRESS SPACE TO LAUNCH";FOR P=1 TO 500:NEXT
2010 Q=INKEY$:IF Q=" " THEN GOTO 2050
2020 PRINT@485," "
2030 FOR P=1 TO 500:NEXT
2040 GOTO 2000
2050 CLS3:FOR L=1 TO 800:NEXTL:GOTO 700

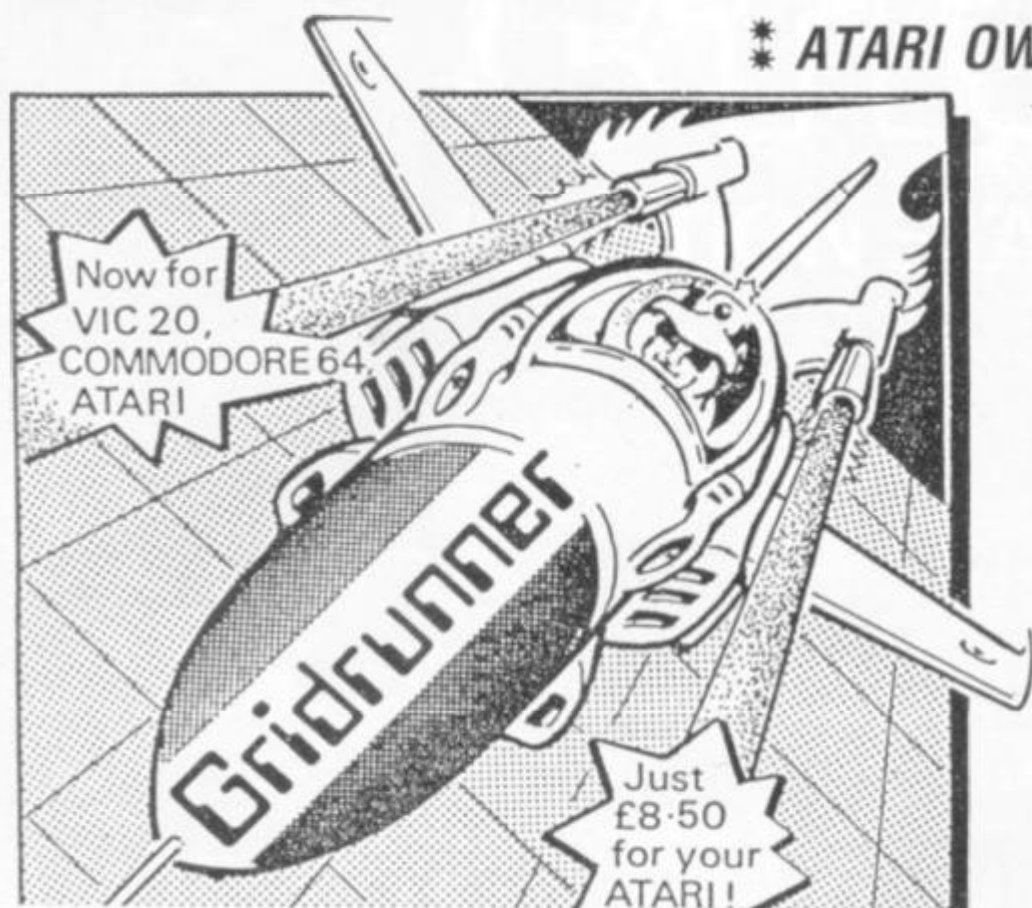
```



# LLAMASOFT!!

MORE THAN JUST A PRETTY PACKET!

## \* ATARI OWNERS !!!



- \* The POWER of the grid is with YOU!
- \* Now available for — ATARI 400/800 — 16/32/48K
- \* **GRIDRUNNER**
- \* Play the bestselling VIC/COMMODORE 64 game on your ATARI.
- \* Discover one of the FASTEST, MEANEST and most compulsive SHOOT-EM-UP games ever devised!
- \* 100% Arcade quality machine code — supplied on AUTOBOOT TAPE CASSETTE — guaranteed to wear your joysticks out!
- \* Don't pay ATARI prices for ATARI quality!

J = JOYSTICK CONTROL

### VIC 20

#### LASERZONE (8K +)

Destroy the oncoming ALIENS with your TWO independently controlled laser bases! Lunge for the ELECTRO button and blast your enemies into expanding clouds of SPACE JUNK! An exhilarating and totally original game with a unique system of control from a standard joystick. A mere £6.00 + 50p P & P.

#### ABDUCTOR

A classic new space game! ZAP the swirling alien hordes before they ram you — and abduct your humanoids! Survive the assault for long enough and you'll get an extra stage on your spaceship with double firepower! Awesome unexpanded Vic Action. £6.00 + 50p P & P.

#### GRIDRUNNER

Finally, true arcade quality on the unexpanded VIC! Shoot down the segmented DROIDS invading the grid. Beware of the pods and zappers! The awesome speed, sound and graphics gives you the best blast available for unexpanded Vic. £6.00 + 50p P & P.

#### ANDES ATTACK (8K)

Your spacecraft must attack the descending aliens and frustrate their evil intent. Fly your Ramjet fighter over the Andes mountain range and protect your llamas from kidnap by hostile UFOS. Features 5 kinds of UFO, controls include up, down, reverse, fire, thrust and smart bomb. Entirely in machine code. Requires 8K expansion and joystick. £8.00 + 50p P & P.

#### TRAXX M/C (8K + EXPANSION)

This is VIC 20 cross breed between the now famed 'Pacman' and the game 'Quix'. All in machine code, fast and fun with joystick controls, uses Hi-Res colour graphics. 8K or larger expansion needed. Only £6.00 + 50p P & P complete with instructions.

### COMMODORE 64

#### ATTACK OF THE MUTANT CAMELS

Planet Earth needs you! Hostile aliens have used genetic engineering to mutate camels from normally harmless beasts into 90 foot high, neutronium shielded, laser-spitting death camels! Can you fly your tiny, manoeuvrable fighter over the mountainous landscape to weaken and destroy the camels before they invade the human stronghold! You must withstand withering laser fire and alien UFOs. Game action stretches over 10 screen lengths and features superb scrolling, scanner, 1/2 player actions and unbelievable animation! Play this game and you'll never be able to visit a zoo again without getting an itchy trigger finger! Awesome m/c action! £8.50 + 50p P & P.

#### ROX-64

Rox is a challenging game involving the defence of your lunar base from a deadly meteor shower. Rox-64 includes amazing sprite graphics displays and spacy sound

### ZX81

#### CENTIPEDE (16K)

The ORIGINAL game from the ORIGINAL author. This is the identical program to that being sold by other companies for three times our price. The game has received ecstatic reviews in the computing press. Program has 30 speed levels and ever increasing Centipede hordes. Tables top 10 scores and names. Why wait to pay more? Only £1.95 + 50p P & P.



PLEASE ADD 50p TO ALL ORDERS

effects, and an awesome 'mothership' display if you win the game. Top 10 scores are tabled along with their names. This program shows just what can be achieved using only Commodore-64 basic. Study the listing and learn how to use sprites and sound on this outstanding machine. £4.95 + 50p P & P.

#### GRIDRUNNER 64

The No 1 best game for the Vic has been improved for your COMMODORE 64! Gridrunner is a smash hit in the USA. Now experience the lightning-fast challenge of the grid on the 64. Features 31 skill levels and excellent sound and graphics. Sore trigger finger free with every game! £8.50 + 50p P & P.

### SPECTRUM

#### GRAPHICS CREATOR (16K)

Not just another character editor! Allows you to define not only the 21 user definable characters. Also allows you to change the entire 96 character ASCII set. Creates BYTES files ready for you to load into your own programs. Includes advanced Reflect, Invert, Field commands etc. Complete with full documentation. Bin the BIN statement and use Graphics Creator with its easy on-screen cursor editing. £2.95 + 50p P & P.

#### BOMBER (16K)

Yes, a full feature version of the popular game 'Blitz', supplied for the 16K or 48K Spectrum. For only £2.95 + 50p P & P.

#### HEADBANGER (48K)

Colourful new game starring Chico the headbanger who you must guide to riches through an increasing shower of heavy metal. Gain bonuses for headbanging but be sure to take an aspirin when the pain gets too much! Basic + m/c to speed up action. Great graphics, nice animation. Will even drive William Stuart system's voice synthesiser to produce speech output. Can you attain the grade of 'Rocker Class One' or will you be 'Barry Manilow Class 5-7' Start headbanging to-day and find out. £4.95 NEW.

#### SUPERDEFLEX (48K)

Bounce 'Sid', the space invader, around the screen into the power pods, keeping away of course from the devil who chases you around the screen. Steer with your Deflex shields, but beware the mines or you may be buried alive! Superb graphics and fantastic sound on the 48K Spectrum only. Only £4.95 on cassette + 50p P & P.

### ATARI 400-800

#### GRIDRUNNER

Now play the best selling VIC-C64 game on your ATARI 400/800. Any memory size (16-48K). Basic cartridge not required — 100% machine code autoboot tape. Play this awesomely fast and addictive game on your Atari. For only £8.50.

#### TURBOFLEX

Superb ultra-fast and totally new ball game. Uses ATARI's unique features to the full. Incorporates superb colour/sound effects and uses Player/Missile graphics. Tables top 10 scores along with Scorer's name. £6.00 + 50p P & P.

### LLAMASOFT SOFTWARE

Dept CVG, 49 Mount Pleasant, Tadley, Basingstoke, Hants. RG26 6BN  
Tadley 07356 4478  
TRADE ENQUIRIES WELCOME





## MIND OVER MATTER...

Now that my series of programming tips has been concluded, I shall be devoting a corner to hints on solving some of the more difficult problems that are stumping Adventure-playing readers.

These will be printed upside down, so as not to catch the eyes of those wishing to battle on!

Readers often write to me requesting help but unfortunately, although I have played many Adventures, I have not solved them all! So help me to help fellow Adventurers by writing to me with tips.

At the moment David Coverley and Anthony Sanford are languishing in Artic's 'Ship of Doom', unable to set the key from under the glass.

Steven Milligan, meanwhile, hasn't cracked the secret of Artic's 'Espionage Island'. Can you help me help them, and save them from otherwise certain insanity?

What's in a package? How much are you tempted by a large attractive box in a plastic bubble, covered with a design suggesting fantasy and excitement within?

Do you ever suspect that you may have had to pay a few pounds less had that same cassette been more plainly wrapped? The ultimate test, of course, is in the invisible magnetic impressions on that cassette.

Here we have two games. One is lavishly packaged in a beautifully illustrated box, and quite expensive; the other supplied on a proprietary cassette with a duplicated instruction sheet, and at the low end of the price spectrum. No pun intended!

*Transylvanian Tower* is billed as a 'spine-chilling new Adventure' for the 48k Spectrum. Unfortunately it is not.

There are five levels in the tower, and the player's objective is to reach the top, kill Count Dracula, and raid his treasure trove. Each level consists of a maze, and each has different characteristics.

A floor plan of the level can be called up, with increasing difficulty as one nears the top.

Objects, many of which have magical properties, may be picked up if seen by typing "P", but only three may be carried simultaneously.

The same is screened graphically in colour and bats, which are a hazard, can be seen flapping around. Sufficient must be killed to enable you to move up a level. How do you kill the bats to get to Dracula? Would you believe with a laser gun?

This might be a reasonable maze game, but good Adventure it is not. From Richard Shepherd Software, this is disappointing after *Shaken not Stirred*.

For £6.50 you will get the game on a TDK cassette, and a fairly comprehensive two-page description of how to load and play the game.

*"I am Overmind;  
Ruler of mortals, destroyer of worlds!  
Know me, obey me, and despair!"*

With terror in your heart, you wish Overmind dead. But Overmind is omniscient, knowing even your innermost thoughts, and inflicts upon you the pain of a thousand lashes.

Before you start playing *Empire of the Overmind* it is almost essential to read the Rhyme of the Overmind, supplied with the game.

On starting, you find yourself among mountains and brooks, where tracks and trails abound, and ever present in the sky is a large red planet.

A mysterious stone tower appears to hold no secrets other than an animated skeleton who clobbers you as soon as you take the key which hopefully will unlock an iron door. Unconscious, your body is moved. You will more than likely end up in a very dark place. I did many times, and despaired.

But the game imparts such a feeling of intense hatred toward Overmind, that I was determined not to be beaten.

Thus, I came to a place where there was a large blue planet in the sky. I haven't yet defeated Overmind but I shall return to fight again!

At first the game appears insoluble due to the difficulty of getting out of the "very dark place". However, and this may help the disheartened player, when "clobbered" unconscious, you don't always end up in "a very dark place". I'll say no more than that!

Another problem is that it appears a held object cannot be used (although it may be dropped) unless it heads the inventory list.

Whether or not this feature is deliberate is hard to say, but it involves the rather tedious task of dropping every

object that precedes the required one in the inventory list, using it, and then picking up the discarded ones.

This task isn't aided by the rather slow response time. Whilst the reply is screened quickly enough, the prompt sometimes takes a long time to appear, and a fast player can easily lose all or part of his next command without realising it.

A large colourful box, complete with internal plastic moulding, housed *Empire of the Overmind*. Also included was a double page of detailed, well printed instructions on how to load and save the game on a 48k Apple, 48k TRS-80, and 40k Atari 800.

This was quite important, as the methods although simple were not obvious. Also in the package was 'Rhyme of the Overmind', a long and rather well-written poem printed in script on pale blue parchment-like paper.

This covered a number of pages held together with a silken cord embellished with — yes! — a tassell!

Oh, I nearly forgot! The box also contained a cassette containing all three versions of the game.

It is available from Avalon Hill Games of 650 High Road, North Finchley, London N12 0N1L for £17.95 on cassette, £20.95 on disc.

### ADVENTURE TIPS

Howdy! The stage arrived last week bringing cries of help from a number of would-be cowboys in Ghost Town.

There they are, standing next to a pesky horse, and quite unable to get the darned critter movin'. Now then folks, don't go getting no fancy ideas that I'm gonna give away all my ol' pal Scott's secrets. Leastwise, not unless you take me down to that there saloon and fetch me something a mite stronger than what's in your Golden Derringer.

Nope — just a few hints to chew over until you get right inspired, that's all you'll get out of me!

### WARNING:

Turning this page upside-down may damage your Adventure!

The key to shoeing the horse is in the stall. The key to the stall is in the stable. The solution is magnetic. When the horse is shod, mount him and say the right words. If this problem sends you round and round you may get giddy.

**BY KEITH CAMPBELL**



# CHESS



## THE DUCHESS AND KAISSA

I left you with a celebrated position (figure 1) from the first round game between Duchess and Kaissa, at that time the reigning world champion program, at the second world computer chess championship in Toronto in 1977.

In the diagrammed position, Duchess (White) had just played 34. Q-R8ch, a check which can be parried by a King move to N2.

However, Kaissa's next move astounded the entire audience, which included former world (human) champion Mikhail Botvinnik and other strong masters, plus the team of expert commentators.

It played 34. . . . R-K1, placing the Rook *en prise*. After Duchess' 35. QxRch, Kaissa lost quickly. The task for Kaissa's programmers before the next round was to find out what caused the program to commit such a gross blunder and correct the fault.

Only later was it realised that Kaissa's 34th move was not a blunder at all. If instead Black had played 34. . . . K-N2, White could give checkmate by the Queen sacrifice 35. Q-B8ch! followed, after 35. . . . KxQ by 36. B-R6ch.

Whether Black now were to play 36. . . . B-N2 or 36. . . . K-N1, 37. R-B8ch would be checkmate (apart from irrelevant sacrifices by Black to delay the end by a move or two).

Kaissa's evaluation function clearly ranked losing a Rook as preferable to being checkmated, which solves the mystery. However, the question remains: is 34. . . . R-K1 a blunder or a brilliancy?

### ROOK DILEMMA

It is surprisingly difficult to answer this with confidence. Objectively, losing a Rook must be preferable, but it could be argued that losing the Rook is only slightly less fatal, does not postpone checkmate very long, and moreover even the humblest beginner would capture the Rook, whereas even quite a good player might just conceivably

overlook the checkmate.

Against an opponent who played 34. Q-R8ch in full knowledge of all the variations that could follow, it makes little difference what Black plays, the best course of action probably being to resign, but what if White had played the check in ignorance, simply as an "irritant" to Black?

What if White were a weak player and Black a Grandmaster (an unlikely event admittedly, but quite possible in a simultaneous tournament or in a material odds game?)

### STAYING ALIVE

Would it be better to move the King and rely on White not following up properly (as well as the checkmate there is the strong reply 35. R-B8, of course) or to give up the Rook to guarantee staying "alive"



and then hope somehow to win even though a Rook behind in material?

The problem becomes more difficult if the details are changed a little: what if Black were already a Bishop ahead or if the checkmate were 10 moves (each side) deep, or both?

Considerations of this kind are far from irrelevant in computer play, where programs can often vary considerably in analytic powers, and where a program will frequently be "blind" to a strong move which human experts perceive easily.

It would be completely wrong to assume that all computer chess programs are deep or infallible analysts (although some are extremely good).

In particular it would be a mistake for the best analyst (BELLE at present) to assume all its opponents were equally good.

There is a well-known joke about an ultra-intelligent chess-playing program considering its first move in a game, as White.

After hours of analysis it decides that the opening position is, after all, a forced win for Black in every variation.

Rather than waste any more time defending a hopeless position, it immediately resigns without playing a move!

The flaw in the argument is, of course, that chess is a contest where the opponent's fallibility plays a crucial part.

So, how would Kaissa have made its decision? From a competitive viewpoint, it should have taken the strength of its opponent into account.

No doubt Duchess was strong enough to win when a Rook ahead, but would its analysis algorithm have caused it to consider the Queen sacrifice?

If it did, would it have been able to look far enough ahead to discover the checkmate?

In more subtle ways, judgements about the skill level of the opponent are an important part of human play. Grandmasters prepare specially for their major opponents by studying their games and playing style, and looking for weaknesses.

It is interesting to speculate whether chess-playing programs of the future will include representations of their main rivals' algorithms in a similar way.



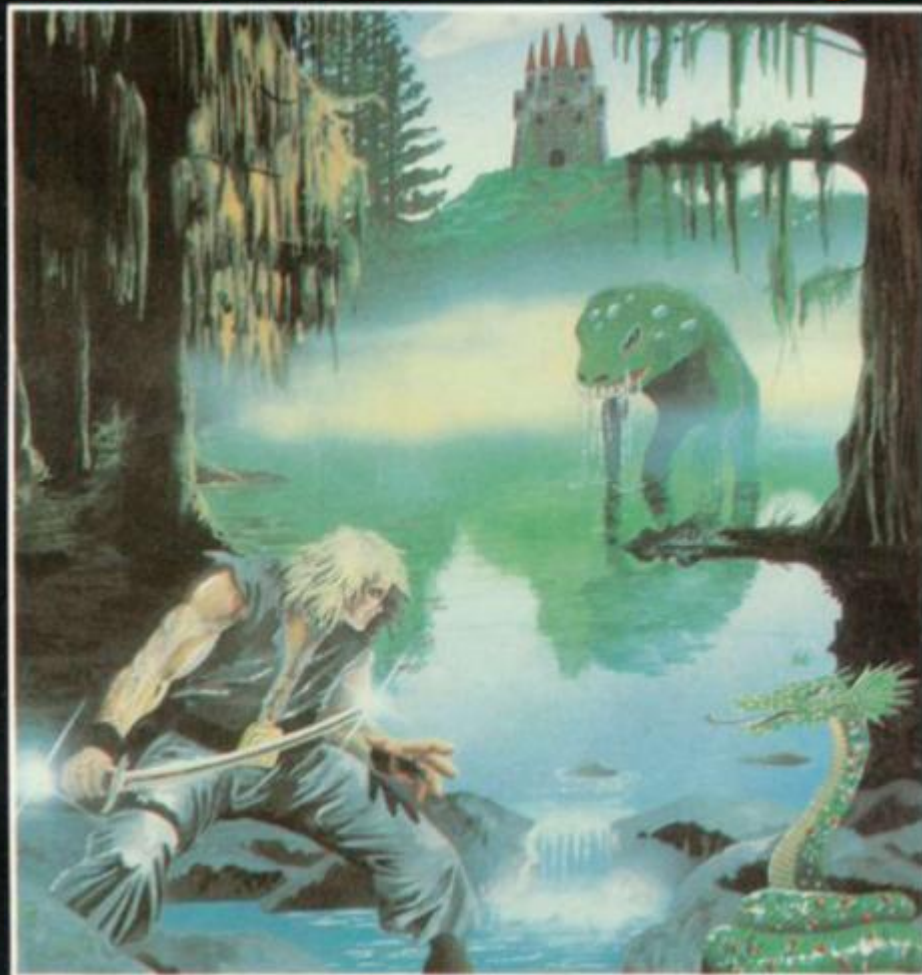
BY MAX BRAMER



# KAYDE

**In the Valley, no one can hear you scream**

Death stalks the Valley at every turn. Nowhere is safe and you're on your own. You survive on your wits alone with nobody to help you. Be thankful it's only the latest computer game from Kayde. You'll gasp with relief when you come to the end of the struggle against some of the most dangerous monsters ever programmed. You can be a wizard, thinker, barbarian, warrior or cleric. But you've got to be good. No silly problems to hinder your progress. It's just you against the Valley.



Specially designed for Commodore VIC 20, Dragon 32, Newbrain, Oric 48 and 48k Spectrum. Step into The Valley for just **£9.95**.

**KAYDE KEYS - THE FUNCTION JUNCTION**  
Get the best from your VIC 20 with Kayde Keys - the program that saves time and effort on function keys and characters. The function keys will run, list, save and load your programs and enable you to write your own software. Just load and run. Kayde Keys works on just over 300 bytes and costs only **£6.95**.



Mail Order + Showroom  
Kayde Electronic Systems Ltd.,  
The Conge Great Yarmouth  
Norfolk NR30 1PJ Tel: (0493) 55253/57867



£5.95

**TOUCHWOOD (16K ZX81)**  
A fast moving, exciting and highly graphical game based on Frogger the popular arcade game. Dodge cars and juggernauts then combat the log infested river to get safely to the other side.

We offer the fastest delivery time of all times.

New London Showroom  
Kayde Home Computers Ltd  
1 Station Approach  
New Eltham London SE9 Tel: 01-859 7505

**DESIGN/RESTORE**

Create your own characters the easy way. You get three character sets with this program and it enables you to load characters into the VIC 20 for use in your own games. Just the thing for the adventurous programmer for only **£9.99**.



Dealer Enquiries to:-  
Zone Distribution Ltd.  
13 Old Court Long Melford  
Sudbury Suffolk Tel: (0787)312234

**ALL MAIL ORDERS**  
TO: **KAYDE ELECTRONIC SYSTEMS LTD,**  
DEPT. CVG THE CONGE, GREAT YARMOUTH,  
NORFOLK NR30 1PJ

PLEASE PRINT AND STATE TYPE OF COMPUTER

Qty	Item	Item Price £	Total £

Please allow £2.00 P&P for all Hardware 50p for all software.



**DON'T FORGET YOU CAN ALWAYS ORDER ON THE TELEPHONE WITH YOUR CREDIT CARD. DEALERS WELCOME.** CVG

\*I enclose a cheque/postal order payable to **KAYDE Electronic Systems Ltd**, for £..... \*Please charge to my Access/Barclaycard/Trustcard account no.

\*Please delete/complete as applicable

Signature \_\_\_\_\_

Name: Mr/Mrs/Miss \_\_\_\_\_

Address \_\_\_\_\_



# FIND THE ENEMY

```

0000      00100      ORG      0
          00101 ;X*(16) - RANGE
          00102 ;=====
          00103 ;FINDS ENEMY
          00104 ;=====
          00105 ;
688A     00116 NA     EDU     27530D
6AD0     00117 TB     EDU     27344D
7F6E     00120 INIT   EDU     07F6EH
7F72     00121 SAVE   EDU     07F72H
7F76     00122 ADD    EDU     07F76H
7F7A     00123 SUB    EDU     07F7AH
7F7E     00124 TEST   EDU     07F7EH
7F8A     00126 JLOOKA EDU     7F8AH
0000 D021D06A 00200      LD      IX,TB
0004 0601     00300      LD      B,1
0006 05      00400      DEC     B
0007 0E06     00500      LD      C,6
          00550 ;-----
0009 1E01     00600 LOOKA  LD      E,1
000B 1D      00700      DEC     E
000C 53      00800      LD      D,E
000D 05      00900      PUSH   DE
000E CD6E7F  01000      CALL  INIT;
0011 CD7E7F  01100      CALL  TEST
0014 3A8A68  01200      LD      A,(NA)
0017 B7      01300      OR      A
0018 2812     01400      JR      Z,LOOKB
001A FE02     01500      CP      2
001C 280A     01600      JR      Z,ABLDLDR
001E 303E     01700      JR      NC,LOOKD
0020 3E01     01800      LD      A,1
0022 CD727F  01900      CALL  SAVE
0025 B7      02000      OR      A
0026 1804     02100      JR      LOOKB
0028 D1      02200 ABLDLR POP    DE
0029 1601     02300      LD      D,1
002B 05      02400      PUSH   DE
          02450 ;-----
002C CD7E7F  02500 LOOKB  CALL  TEST
002F 3A8A68  02600      LD      A,(NA)
0032 B7      02700      OR      A
0033 2811     02800      JR      Z,LOOKC
0035 FE02     02900      CP      2
0037 2809     03000      JR      Z,ABLDLDR
0039 3023     03100      JR      NC,LOOKD
003B 3E02     03200      LD      A,2
003D CD727F  03300      CALL  SAVE
0040 1804     03400      JR      LOOKC
0042 D1      03500 ABLDLR POP    DE
0043 1E01     03600      LD      E,1
0045 05      03700      PUSH   DE
          03750 ;-----
0046 79      03800 LOOKC  LD      A,C
0047 FE04     03900      CP      6
0049 2813     04000      JR      Z,LOOKD
004B FE03     04100      CP      3
004D 280F     04200      JR      Z,LOOKD
004F CD7E7F  04300      CALL  TEST
0052 3A8A68  04400      LD      A,(NA)
0055 FE01     04500      CP      1
0057 2805     04600      JR      NZ,LOOKD
0059 3E03     04700      LD      A,3
005B CD727F  04800      CALL  SAVE
          04850 ;-----
005E CD6E7F  04900 LOOKD  CALL  INIT;
0061 D1      05000      POP    DE
0062 1E01     05100      LD      E,1
0064 1D      05200      DEC     E
0065 05      05300      PUSH   DE
0066 CD7E7F  05400      CALL  TEST
0069 CD767F  05500      CALL  ADD
006C CD7E7F  05600      CALL  TEST
006F CD7A7F  05700      CALL  SUB
0072 3A8A68  05800      LD      A,(NA)

```



```

0075 B7      05900      OR      A
0076 2811     06000      JR      Z,LOOKE
0078 FE02     06100      CP      2
007A 2809     06200      JR      Z,ABLDLDR
007C 304A     06300      JR      NC,EDGE
007E 3E02     06400      LD      A,2
0080 CD727F  06500      CALL  SAVE
0083 1804     06600      JR      LOOKE
0085 D1      06700 ABLDLR POP    DE
0086 1E01     06800      LD      E,1
0088 05      06900      PUSH   DE
          06950 ;-----
0089 79      07000 LOOKE  LD      A,C
008A FE06     07100      CP      6
008C 2812     07200      JR      Z,LOOKF
008E FE03     07300      CP      3
0090 280E     07400      JR      Z,LOOKF
0092 CD7E7F  07500      CALL  TEST
0095 3A8A68  07600      LD      A,(NA)
0098 EF      07700      CP      A
0099 2805     07800      JR      NZ,LOOKF
009B 3E03     07900      LD      A,3
009D CD727F  08000      CALL  SAVE
          08050 ;-----
00A0 79      08100 LOOKF  LD      A,C
00A1 FE02     08200      CP      2
00A3 2823     08300      JR      Z,EDGE
00A5 B7      08400      OR      A
00A6 FE05     08500      CP      5
00A8 281E     08600      JR      Z,EDGE
00AA CD6E7F  08700      CALL  INIT;
00AD CD7E7F  08800      CALL  TEST
00B0 CD767F  08900      CALL  ADD
00B3 CD7E7F  09000      CALL  TEST
00B6 CD7E7F  09100      CALL  TEST
00B9 CD7A7F  09200      CALL  SUB
00BC 3A8A68  09300      LD      A,(NA)
00BF FE01     09400      CP      1
00C1 2805     09500      JR      NZ,EDGE
00C3 3E03     09600      LD      A,3
00C5 CD727F  09700      CALL  SAVE
          09750 ;-----
09752 ;CHECK FOR FINISH
09754 ;IF SO, SEVEN TIMES
09756 ;NO. OF RECORDS GOES
09760 ;INTD TB(0)
09762 ;-----
00C8 D1      09800 EDGE   POP    DE
00C9 0D      09900      DEC     C
00CA C28A7F  10000     JP      NZ,JLOOKA
00CD D0E5     10100     PUSH   IX
00CF E1      10200     POP    HL
00D0 11D06A  10300     LD      DE,TB
00D3 AF      10400     XOR     A
00D4 ED52     10500     SEC     HL,DE
00D6 7D      10600     LD      A,L
00D7 32D06A  10700     LD      (TB),A
00DA C9      10800     RET
0000      12300     END
00000 TOTAL ERRORS
33217 TEXT AREA BYTES LEFT

```

## COMBAT SEQUENCE

Once all movement is complete, a check will be made for possible attacks. Different parts of the screen are flashed on the screen as the search is made. When a piece is found that has opponents within range, a letter will be placed to the right of each defender. There are two types of combat:

### 1. ATTACKING AT ONE HEX RANGE

This is compulsory. If there is only one defender the attack takes place automatically. If there is more than one, the piece will flicker "WHO", to which you must reply with one of the letters appearing on the screen. The result of the attack will appear at the bottom of the screen. Tomahawks may only attack at one hex range.

### 2. ATTACKING AT TWO OR THREE HEX RANGE

This is optional. If you do not wish to attack, press "ENTER"

### DEFENCE

A defender is permitted to return the fire once during the attack sequence. This is compulsory at one hex, but at two or more the piece will flicker "RTN". If you wish to return the fire, press "Y" or else press any other key. Having replied, there will be no defence in further attacks.

## ADD REGISTER

```

0000      00010      ORG      0
          00011 ;X*(12) - ADD
          00012 ;=====
          00013 ;ADD 1 TO REGISTER C.
          00014 ;MOD 6
          00015 ;=====
          00016 ;
0000 9C      00020      INC     C
0001 79      00030      LD      A,C
0002 FE07     00040      CP      7
0004 3802     00050      JR      C,SEVEN
0006 0E01     00060      LD      C,1
0008 C9      00070 SEVEN  RET
0000      00080      END
00000 TOTAL ERRORS
34884 TEXT AREA BYTES LEFT

```

## SUBTRACT

```

0000      00010      ORG      0
          00011 ;X*(13) - SUB
          00012 ;=====
          00013 ;SUBTRACT 1 FROM C
          00014 ;MOD 6
          00015 ;=====
          00016 ;
0000 0D      00020      DEC     C
0001 3E01     00030      LD      A,1
0003 3D      00040      DEC     A
0004 B9      00050      CP      C
0005 2002     00060      JR      NZ,ZERO
0007 0E06     00070      LD      C,6
0009 C9      00080 ZERO  RET
0000      00120      END
00000 TOTAL ERRORS
34884 TEXT AREA BYTES LEFT

```



**T**he movement routine is complete. Now we must approach the much more difficult part of the program which takes care of the combat. This occurs immediately the player has completed all moves. This article is devoted entirely to machine language routines. Next we will develop and complete the Basic portion so that you will see how they fit together.

The combat sequence involves examining up to 30 hex around each man looking for opponents. A diagram of this area is shown in figure 1. You will see that I have divided it up into 6 segments and labelled the hex in each A, B, C, D, E and F.

There are, of course, really 36 hex but because the hex is elongated due to the shape of the video pixel, one finds that a distance of three hex North or South is unrealistically far, so the top and bottom hex are ignored. If you want to have them, the adjustment is easy.

At this point, we must get into some heavy machine code. In order to make an attack, we need to know several facts about the opponent i.e.

1. His position on the screen. (2 bytes)
2. The position of boulders which provide cover. (2 bytes)
3. The distance between the two pieces.
4. The index of the defender.
5. The direction of the attack.

When we come out of the XS(16) routine we will have this information in a table called TB. The first byte in this will



Illustration: John Davis

# WARPATH

*No wargame is complete without a good battle. In part six of his Warpath game, Ron Potkin tackles the combat routines as the cavalry and the braves move to adjacent hexes.*

contain the length which we divide by seven to obtain the number of defenders.

The code in XS(16) calls five sub-routines held in XS(10) through to XS(14). Some of these are very simple and I could have repeated the coding in the XS(16), but the length would have exceeded the maximum which can be held in one string.

Incidentally, this routine was first written and tested in Basic and then translated. For example:

```
XS(12) . . . C = C + 1
          IF C = 7 THEN C = 1
          RETURN
```

```
XS(13) . . . C = C - 1
          IF C = 0 THEN C = 6
          RETURN
```

I prefer this method. The idea is that I can get the logic correct in Basic so that, when writing the machine code, I need only concentrate on the syntax. It looks complicated because machine code re-

quires that you work at a much greater level of detail. Let me outline what happens:

1. Register BC counts the number of segments i.e. 6 (see lines 300-500 of RANGE). This is also the direction indicator. Assume that BC equals 1.
2. Register D contains 1 if we are checking a near boulder hex (A). Register E contains 1 if it is a far hex (B or D). These will be stored in the table if a boulder is found.
3. The routine TEST uses BC to obtain the offset. This gets us to A. It calculates the IBOARD and VIDEO positions as it proceeds. If there is a defender here, we need to look no further because the attack is compulsory.
4. Now we continue up to hex B and C using the same offset. Any defenders are saved in TB. We now go back to the start (using INIT). We call TEST which takes us to A and then increment C and call TEST again which takes us to D. Similar methods are used to reach E and F.

Just one point: the routines use the same names as the Basic program. This was necessary in order to stop my head going in circles! Do not confuse the two.

The six subroutines are in this month's listing. As usual, load the tape containing Parts 1 to 5 before you start. Sorry: there are several lines of numbers — so take it easy. Type in a few lines at a time and save at regular intervals. You will see that I have adjusted lines 4000 to 4020 which will check that the DATA is correct. Make sure that the XS strings are the following lengths:

XS(	10	11	12	13	14	16
Length	17	46	9	10	128	220

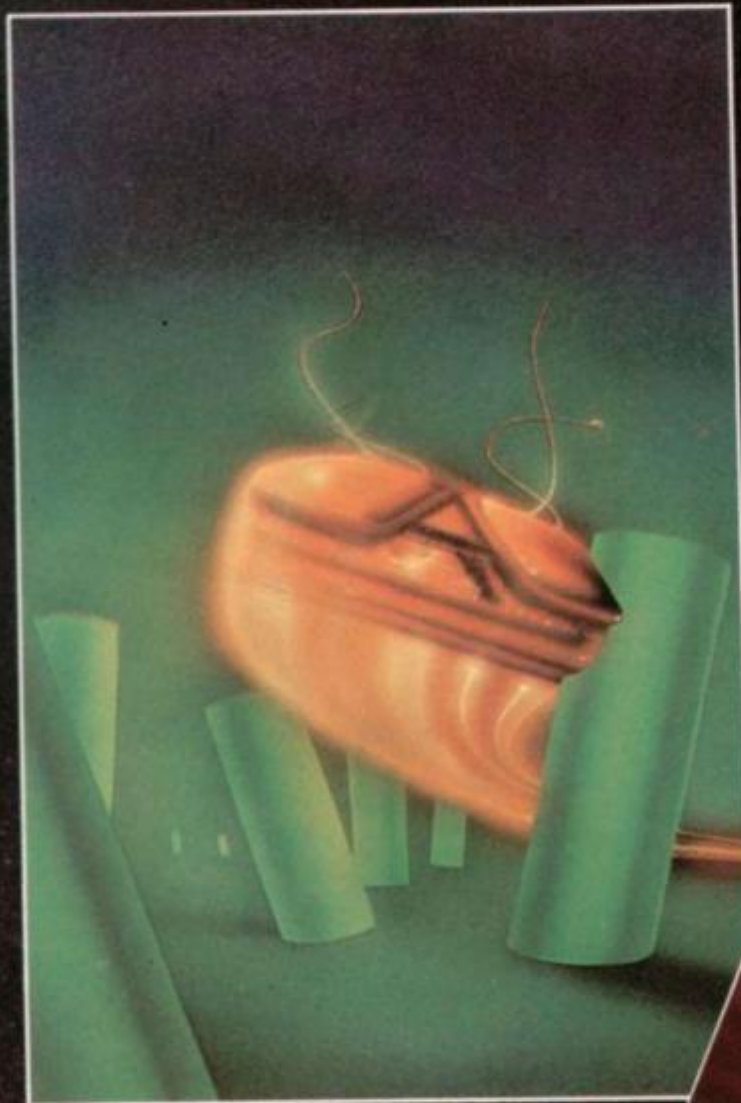
Once you have RUN this program, delete lines 791, 1085/6 and all lines from 2000 upwards. The only code remaining should be up to 1690 in multiples of 10. Now save this as well. You will be pleased to know that this completes all machine code — the remainder is now in Basic.



# SOFTEK

SOFTWARE

# Invading your space NOW!



## MEGAPEDE

No matter how fast I fired, the Megapede kept on coming! I was gaining ground, though, when suddenly the Spider appeared on collision course zero! Turn - dodge - I out-maneuvred, I blasted him. But just then Scorpi appeared dropping her indestructible fleas... Nine levels of play plus high score 100% machine code. Full colour and sensational sounds. Rated by T.V. Choice as "a superb rendering of the popular arcade game". Realisation: Andrew Beale.

## MONSTERS IN HELL

It was like a nightmare... trapped in a Hellish scene... chased through a maze of platforms and ladders by Vampire Monsters. But I had my Magic Hammer, and The Power was on my side. The Monsters were falling at my feet! When suddenly the Mad Monk sent forth his ghouls... Amazingly the Mad Monk sent forth his ghouls... Amazingly the Mad Monk sent forth his ghouls... Amazingly the Mad Monk sent forth his ghouls... Amazingly the Mad Monk sent forth his ghouls... Realisation: Martin Lewis.



Just two of Softek's amazing range of software for the ZX Spectrum.

**£5.95**

each including VAT and perpetual guarantee; 16K or 48K Spectrum.

SOFTEK SOFTWARE 329 CROXTED ROAD LONDON SE24

Get them now from W.H. Smith and look out for them in such stores as Boots, Menzies, Currys, and all fine softsellers throughout Britain.

Dealer enquiries: contact Tim Langdell





# CONTENTS AND UPDATE

```

0000 00010 ORG 0
00020 ;X*(14) TEST
00030 ;=====
00040 ;FIND CONTENTS OF HEX DEFINED BY
00050 ;BL AND DIRECTION GIVEN BY REG. C
00060 ;RETURNS NA: EDGE = 3, BOULDER = 2
00070 ; OPPONENT = 1, OTHER = 0
00080 ;ALSO UPDATES BL AND PR TO HEX POSITION
00090 ;=====
6888 00092 PR EQU 275280
6889 00093 BL EQU 275240
6890 00094 RM EQU 275440
688A 00095 NA EQU 275300
6881 00096 NX EQU 275210
7885 00097 BD EQU 316690
688E 00098 SK EQU 275310
688C 00099 VID EQU 275320
00100 ;
00110 ;CALCULATE NEW PR FROM OFFSETS
00120 ;SEE RW IN BASIC - LINE 990
00130 ;SIMILAR TO ROUTINE IN LINE 500
00140 ;=====
0000 218C68 00150 LD HL,VID
0003 2B 00160 DEC HL
0004 2B 00170 DEC HL
0005 87 00180 ADD HL,BC
0006 87 00190 ADD HL,BC
0007 5E 00200 LD E,(HL)
0008 23 00210 INC HL
0009 56 00220 LD D,(HL)
000A 2A8868 00230 LD HL,(PR)
000D 19 00240 ADD HL,DE
000E EB 00250 EX DE,HL
000F ED538868 00260 LD (PR),DE
0013 EB 00270 EX DE,HL
00271 ;=====
00272 ;CALCULATE HEX
00273 ;SIMILAR TO ROUTINE IN X*(4)
00274 ;=====
0014 2A8468 00280 LD HL,(BL)
0017 1601 00290 LD D,1
0019 15 00300 DEC D
001A 1E18 00310 LD E,240
001C AF 00320 XOR A
001D ED52 00330 SUBT SEC HL,DE
001F 3803 00340 JR C,ROM
0021 3C 00350 INC A
0022 18F9 00360 JR SUBT
0024 E601 00370 ROM AND 1
0026 219868 00380 LD HL,RM
0029 2803 00390 JR Z,EVEN
002B 1E0C 00400 LD E,120
002D 19 00410 ADD HL,DE
002E 09 00420 EVEN ADD HL,BC
002F 09 00430 ADD HL,BC
0030 2B 00440 DEC HL
0031 2B 00450 DEC HL
00455 ;=====
00456 ;ASSUME HEX IS
00457 ;VACANT
0032 3E01 00460 LD A,1
0034 3D 00470 DEC A
0035 328A68 00480 LD (NA),A
00482 ;=====
00484 ;UPDATE BL
00486 ;=====
0038 5E 00490 LD E,(HL)
0039 23 00500 INC HL
003A 56 00510 LD D,(HL)
003B EB 00520 EX DE,HL
003C ED588468 00530 LD DE,(BL)
0040 19 00540 ADD HL,DE
0041 EB 00550 EX DE,HL
0042 ED538468 00560 LD (BL),DE
0046 EB 00570 EX DE,HL

```

# POSITION OF ENEMY

```

0000 00010 ORG 0
00011 ;X*(11) - SAVE
00015 ;=====
00020 ;ADDS DETAILS ON POSITION
00025 ;OF ENEMY TO TABLE
00027 ;=====
00030 ;
6888 00040 PR EQU 275280
6881 00050 NX EQU 275210
0000 2A8868 00060 LD HL,(PR)
0003 D07401 00070 LD (IX+01H),H ;VIDEO
0006 D07502 00080 LD (IX+02H),L ;POSITION
0009 E1 00090 POP HL ;GET RETURN ADDRESS
000A D1 00100 POP DE ;GET BLDR FLAG
000B D5 00110 PUSH DE
000C E5 00120 PUSH HL ;SAVE ADDRESS
000D D07706 00130 LD (IX+06H),A ;DISTANCE 1,2,3
0010 3A8168 00140 LD A,(NX)
0013 D07785 00150 LD (IX+05H),A
;PIECE INDEX
0016 D07203 00160 LD (IX+03H),D
;BLDR NEAR ATT.
0019 D07304 00170 LD (IX+04H),E
;BLDR NEAR DEF.
001C D07107 00180 LD (IX+07H),C
;DIRECTION 1-6
001F D023 00190 INC IX
;ADD 7 TO INDEX
0021 D023 00200 INC IX
0023 D023 00210 INC IX
0025 D023 00220 INC IX
0027 D023 00230 INC IX
0029 D023 00240 INC IX
002B D023 00250 INC IX
002D C9 00260 RET
0000 00290 END
00000 TOTAL ERRORS
34459 TEXT AREA BYTES LEFT

```



# TEMPORARY VARIABLES

```

0000 00010 ORG 0
00020 ;X*(10) - INIT.
00025 ;=====
00030 ;SB IS SP, SS IS BL
00035 ;SEE BASIC LINE 1230
00040 ;THIS SETS UP THE
00045 ;TEMPORARY VARIABLES
00050 ;PR & BL
00055 ;=====
00060 ;
6882 00070 SB EQU 275220
6884 00080 BL EQU 275240
6886 00090 SS EQU 275260
6888 00100 PR EQU 275280
0000 ED588268 00110 LD DE,(SB)
0004 ED538468 00120 LD (BL),DE
0008 ED588668 00130 LD DE,(SS)
000C ED538868 00140 LD (PR),DE
0010 C9 00150 RET
0000 00160 END
00000 TOTAL ERRORS
34741 TEXT AREA BYTES LEFT
0072 3E01 00800 LD A,1 ;FOE
0074 328A68 00810 PUTNA LD (NA),A
0077 C9 00820 OTHER RET
0078 3E03 00830 EDGE LD A,3
007A 18F8 00840 JR PUTNA
007C 3E02 00850 BLDR LD A,2
007E 18F4 00860 JR PUTNA
0000 01030 END
00000 TOTAL ERRORS
00000 TOTAL ERRORS
33191 TEXT AREA BYTES LEFT

```









This must be the most spectacular arcade action game, ever to be produced on cassette for the 8 or 16k expanded VIC 20.

As captain of a star ship lost in space, you encounter a miraculous force of winged creatures, known to the galaxy as the COSMIC FIRE BIRDS. They loop the loop. They figure of eight. They swoop. They dive. They loop the loop. Full screen display, 99 progressive levels of play, 5 lives, Bonus ship at 5,000 points, swarms, bombers, leaders, hawks.

This is arcade action like it's never been seen before. 100% M/C. Superb colour graphics and sound.

**£9.95**

P&P Inc.

Available mail order from  
51 Meadowcroft, Radcliffe,  
Manchester, M26 0JP  
Tel: 061 724 8622

Also available from  
Micro C Manchester, B&B Computers Bolton,  
and soon all good computer shops.

Other games available for the unexpanded VIC.		
Scrambler	£6.99	Munch Man £5.99
Galaxions	£6.99	Gun Fight £5.99
Super Breakout	£6.99	Asteroyds £5.99

**ALL ORDERS SENT BY RETURN POST  
TRADE ENQUIRIES WELCOME**

New from ...

# MIKRO-GEN

SPECTRUM Software

**COSMIC RAIDERS (16K) £5.95**

You — the only remaining pilot of the "Earth Defence Fleet" — have the daunting task of defending the Earth from attack by alien beings that have already set up a base of their own on earth.

- \* Radar Scanner display in hi-res \*
- \* Full colour and sound effects \*
- \* From the author of Spectrum 'Scramble' \*
- \* 100% machine code \*



**SPACE ZOMBIES (16K) £5.95**

Shooting through space you are ambushed by a fleet of Space Zombies flying at you in formation, swooping and diving at you. Destroy them, if you can! But in destroying them, you attract more to the area, and the game gets progressively harder.

- \* Full screen hi-res graphics \*
- \* 1 or 2 players \* Joystick option \*
- \* Full sound and colour \*
- \* Three playing speeds \*



**MINES OF SATURN AND RETURN TO EARTH (16K) Text Adventure £5.95**

**Mines of Saturn** While piloting a routine orbit of Saturn, you are caught up in a radiation storm which forces you into the giant planet's rings. Your energy drained, you make a forced landing on the planet's surface. Luckily you crashed near an abandoned mining base and you set off in search of some di-lithium crystals to refuel your stranded space ship. Can you do it?

**Return to Earth** Having escaped from your previous dilemmas, you reach Earth Station 1, but fail to make radio contact. You effect a safe if harrowing manual docking. On entry you find it deserted, and the control room destroyed. You must explore the station and find some way to alert Earth of your predicament, but beware, many of the rooms are identical, there is extensive damage, and signs of alien intruders.



Graphic Adventure (48K) **MAD MARTHA £6.95**



Poor little Henry is the hen-pecked hero of this domestic tale. One night he can take no more. He steals his wages from his wife's purse, sneaks out of the house being careful not to wake the baby or trip over the cat, and heads for the bright lights to have some fun. Trouble is he runs out of money. His only way to raise some cash is to gamble his few remaining pounds on the spinning wheel of the roulette table. Just as Henry is getting into his evening his wife — Mad Martha — has noticed his absence. Realising Henry has absconded with the housekeeping she sets out after him with an axe. Guess what part you play in this happy tale? That's right, you're Henry. Watch out for that axe!



Access or Visa Card holders



please telephone (0344) 27317 (9am-6pm)

Please add 40p per order for post & packing

Name \_\_\_\_\_ Address \_\_\_\_\_

Cosmic Raiders  Space Zombies  
 Mines of Saturn/Return to Earth  Mad Martha

MIKROGEN, Dept A3, 24 Agar Crescent, Bracknell, Berkshire, RG12 2BK





# MC LOTHORIEN



## WARLORD

LATEST RELEASE FOR SPECTRUM 48K

This challenging game is now available for the 48K Spectrum. You can now discover your abilities both as an absolute ruler of a fortified village and also as a military ruler. Can you defeat the pirates at sea before they capture all your merchant ships whilst at the same time conquering all the forces of 5 other Warlords which are ranged against you? **ZX81** version is text only, **SPECTRUM, DRAGON** and **TANDY** versions feature graphics maps for sea battles and full supporting graphics for land battles. 3 levels of play, each one a challenge not to be missed.

PRICES: ZX81 16K £4.50: SPECTRUM 48K £5.50  
 DRAGON 32 £6.95: TANDY 32K COLOUR £7.95

SOFTWARE FOR  
 ATARI: DRAGON: SPECTRUM: TANDY: ZX81

### ROMAN EMPIRE

THE EMPIRE NOW STRETCHES TO THE ATARI  
 For details of this great wargame for your computer, your attention is drawn to the review on page 35 of April "Sinclair User". Can you do better than the reviewers and win at level 3?

ATARI 400 & 800 (48K)	£12.50
TANDY 32K COLOUR	£7.95
DRAGON 32	£6.95
SPECTRUM 16K	£5.50
ZX81 16K	£4.50

### PRIVATEER

Not a wargame but a 3 phase graphics game which gives you command of a Royal Navy ship at the time of Nelson. Can you knock out the shore battery, intercept the Privateers and finally engage them in battle to sink them with broadsides from your cannons?

3 levels of play, 5 Privateers to be intercepted each game if they don't sink you first!  
 DUAL PURPOSE CASSETTE — combines ZX81  
 16K and 48K SPECTRUM versions  
 PRICE ONLY £4.50

### TYRANT OF ATHENS

(NOW DICTATES TO TANDY OWNERS!)

Our original game and still as addictive as ever. You are invited to test your military skills in Ancient Greece to defeat your enemies by land and sea. Spectrum version has user defined graphics while the DRAGON and TANDY versions feature high res. graphics maps and supporting graphics for battle.

TANDY 32K COLOUR	£7.95
DRAGON 32	£6.95
SPECTRUM 16K	£5.50
ZX81 16K	£4.50

AUTHORS... if you have written a wargame (any historical or futuristic period is of interest) which is good enough to publish then contact us **FIRST. WE ARE THE COMPUTER WARGAMES SPECIALISTS.**

ACCESS NUMBER, CHEQUES OR PO'S PLEASE PAYABLE TO: M. C. LOTHORIEN  
 Dept. C7, 4 Granby Road, Cheadle Hulme, Cheshire SK8 6LS or from GOOD COMPUTER SOFTWARE SHOPS

All our cassettes are sold subject to the following conditions: all unauthorised copying, hiring, lending, exchanging, public performance and broadcasting is strictly prohibited.

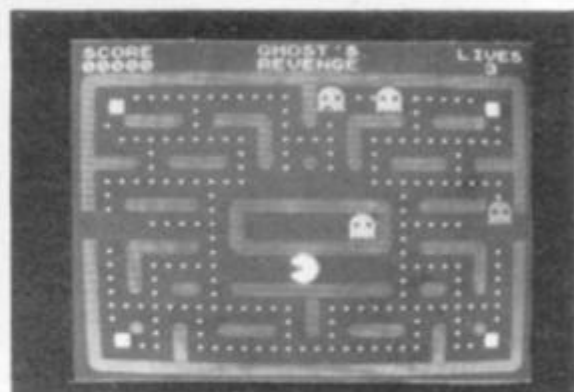
# 2X SPECTRUM

NEW!

## GHOST'S REVENGE

by Dominic Wood

The best maze-chaser game available for the Spectrum \*Super-fast machine code action \*Excellent graphics \*Full use of colour \*Sound effects and tunes \*Normal or Invisible maze \*Skill level selector, novice to expert; this game cannot be beaten \*Usual features, gobble action, four ghosts, power pods that turn the ghosts blue, blue ghosts give 400, 800, 1200, 1600 bonus points. Top score, for Spectrum 16k or 48k. ONLY £5.95

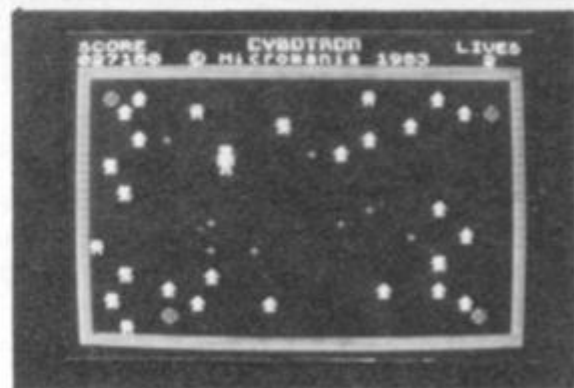


NEW!

## CYBOTRON

by Dominic Wood

New from Micromania, this has to be one of the best arcade type games available for the Spectrum. Blast away the attacking robots before they get you \*Super-fast 100% machine code action \*Excellent, smooth full colour graphics \*Explosive sound effects \*Four different types of robots \*Deadly accurate bombs \*With up to 50 robots on screen at a time, this game cannot be beaten. Top score, for Spectrum 16k or 48k. ONLY £5.95



PRICES ARE FULLY INCLUSIVE. GUARANTEED DESPATCH BY 1ST CLASS RETURN POST. TRADE INQUIRES WELCOME

## MICROMANIA

Send cash/cheque/PO to: Micromania, 14 Lower Hill Rd., Epsom, Surrey, KT19 8LT. Please write clearly your Name, Address and magazine & month this advert was seen in.



# GRAPHICS

By Garry Marshall

## NOW COMPUTERS CAN "SEE"

Most modern day robots look nothing like those science-fiction monsters — all metal and malevolence. Our conception of a robot is of a deaf and blind slave — but it is possible for robots to "see".

They use this accomplishment to move around in their environments and to assemble the parts making up fairly complex items.

A computer "sees" in exactly the same way that it does everything else —

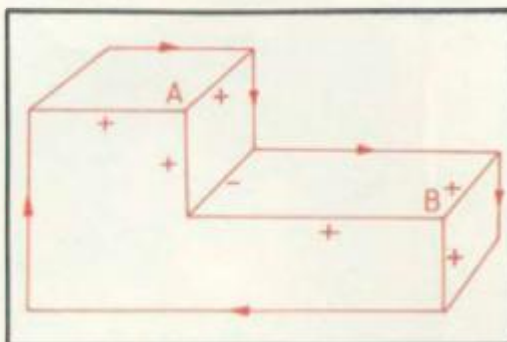


FIG 1: LABELLINGS

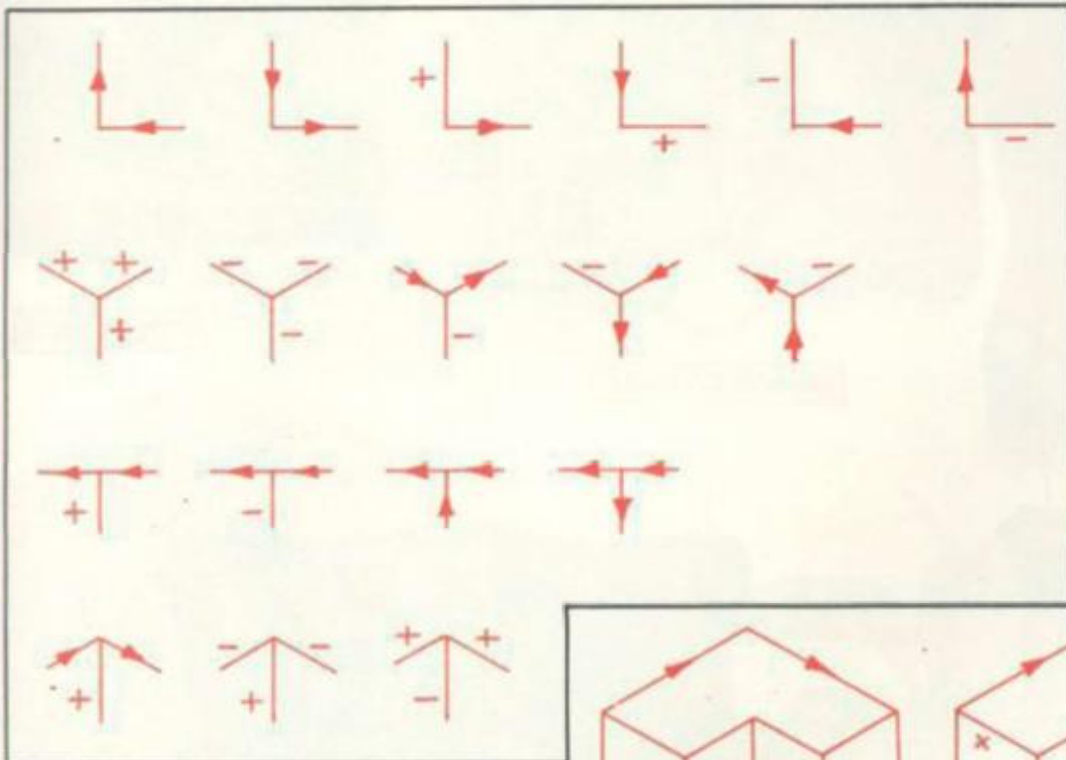


FIG 2: CORNER LABELLINGS

by running a program. In this case it must be presented in some way with an image of what it is seeing and run a program which can tell it what this image means.

The image can be presented by a video camera. However, it is a task beyond the current state of the art to interpret raw video pictures directly.

If such pictures are first processed to reduce them to line drawings, then it is a quite straightforward matter to interpret them.

In this article I'll explain how line drawings of three-dimensional objects can be interpreted so that a computer can be programmed to know what it is seeing. Next I will examine how ordinary pictures of an object can be reduced to line drawings.

In a line drawing of a three-dimensional object, each line can represent one of the following

- (a) An edge projecting *outwards* at the join of two surfaces. Such lines are indicated by labelling them with a '+'. (B)
- (B) An edge projecting *inwards* at the

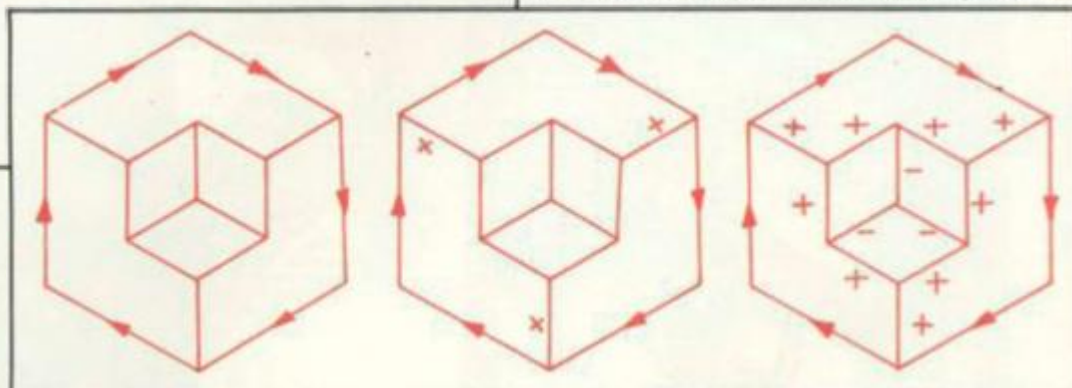


FIG 3: THE THREE PHASES

join of two surfaces. Such lines are indicated by representing them with a '-'. (c)

(c) An edge at which one of the surfaces hides another. Such lines are labelled with an arrow. The direction of the arrow is such that when walking along the edge the surface which hides the other is always to the right.

These labellings are illustrated in figure 1. A brief examination of the diagram will show that the shape which you automatically assign to the object that is represented in the figure is confirmed by the labelling of the lines.

Having seen that the labelling corresponds with the way that we see an object, what is needed now is a procedure for automatically labelling any line drawing of a three-dimensional object.

The labelling can then be done by a program, and once the labelling is done, the shape of the object can be understood.

The key to doing the labelling automatically is in the way that the corners where edges meet can be labelled. The corners marked A and B in figure 1, for example, both show three converging edges all of which are labelled with '+', so that they are projecting outwards to form a corner of the kind possessed by a cube.

In fact, there are 18 permitted ways for labelled edges to converge at a corner. They are all illustrated in figure 2. All other possible corner labellings correspond to situations that are physically impossible.

With the aid of this list of valid corner labellings, we can give a method for the automatic labelling of a line drawing. It is:

1. Label the perimeter of the drawing with arrows forming a clockwise ring.
2. Complete the corners on the outside with corner labellings selected from figure 2.
3. Work inwards to label the remaining corners with valid labellings until the labelling is complete.

These three phases are illustrated in figure 3. Step 3 required two passes in

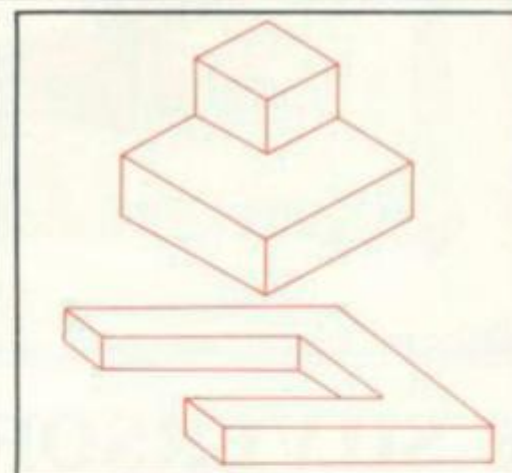


FIG 4: EXAMPLES

the figure illustrated.

You might care to try your hand at the examples in figure 4, and to test the results by comparing them with the way that you see the objects.



# EVERY ONE A M



ORBITER



ALIEN DROPOUT



CYBER RATS



SLIPPERY SID



INVADERS

## THE SILVERSOFT COLLECTION

Silversoft, Masters of the video canvas present the first of a timeless collection of Elektrik Artwork for the connoisseur. Our skilled artists have toiled over their electronic easels to produce these moving masterpieces - now being exhibited throughout the galaxy. Complete details of these classic programs may be found in our fully illustrated catalogue.\* Your local software gallery can arrange a viewing - so beam down there and pick up an original. Don't forget Silversoft still deliver direct to anywhere in the known universe (Post Office willing). If your local (art) dealer is out of stock then please contact us straight away.

\* A must for serious collectors.

ALSO AVAILABLE FROM BRANCHES OF W.H. SMITH, BOOTS, JOHN MENZIES & ALL GOOD COMPUTER STORES.

Send to: SILVERSOFT Ltd  
LONDON HOUSE  
271-273 KING ST  
LONDON W6  
TEL: 01-748 4125

Please note: Due to expansion we have moved to larger premises, we apologise in advance for any inconvenience to our customers.



# MASTERPIECE



ASTEROIDS



STARSHIP ENTERPRISE



GROUND ATTACK



## ZX SPECTRUM SOFTWARE

ORBITER	£5.95
GROUND ATTACK	£5.95
CYBER RATS <b>NEW</b>	£5.95
SLIPPERY SID <b>NEW</b>	£5.95
STARSHIP ENTERPRISE	£5.95
MUNCHER	£5.95

## ZX81 SOFTWARE (16K ONLY)

<input type="checkbox"/> INVADERS	£3.95
<input type="checkbox"/> ASTEROIDS	£3.95
<input type="checkbox"/> ALIEN DROPOUT	£3.95
<input type="checkbox"/> MUNCHER (ZX81)	£4.95
<input type="checkbox"/> STARTREK	£3.95
<input type="checkbox"/> ZX COMPILER	£5.95

## Response Coupon

Tick box(es) as required

I enclose a cheque/PO for .....

Name .....

Address .....

.....

I require a free catalogue



# More K's.



ATARI 800™, no price increase, upgraded from 16K to **48K RAM.**

# Less £'s.



ATARI 400™, reduced from £199.99 (SRP inc. VAT) to **£159.99.**



It's hard to know which set of figures is more attractive. Certainly the ATARI 800™ Computer, upgraded by an astonishing 32K without any increase in price, will have its admirers.

However, £40 off the ATARI 400™ Computer makes it remarkable value for money, particularly when you take into account its 16K RAM (on some computers you'll be charged extra to upgrade to 16K).

It's even more remarkable when you look at our computers feature by feature.

### The Family Computer.

Before we designed them, we thought about who was actually going to use them.

One day our computers might be playing games; next, they're wrestling with household budgets; teaching geography to an 8-year-old; or printing letters.

In other words, we designed our computers and software for as many applications as a family has ideas. (Now the ATARI 800 Computer has 48K RAM, there's even more memory for even more applications.)

Next we built in high-resolution graphics. Inside our computers, we have a microprocessor whose only job is to operate our graphics.

(All told, you can choose up to 16 different colours in 16 intensities, which gives you a spectrum of 256 different shades.)

In fact, our computers divide the screen up into 60,000 tiny points, each one of which can be changed without affecting the other.

### A friend not a fiend.

We also looked at ways to make computers rather friendlier.

On the ATARI 400 Computer, we've incorporated touch-sensitive keys with ridges, so fingers won't slip; on the ATARI 800 Computer, we have keys much as you'd find on a standard typewriter.

You can talk to your computer in a choice of languages (five for the Atari 400, nine for the Atari 800), including ATARI BASIC, using software which you load in on cartridge, cassette, or disk.

For our computers, we have one of the largest software libraries in the world: everything from speech synthesis to sophisticated data management.

No doubt you know all about our famous games such as PAC-MAN†, SPACE INVADERS‡ and STAR RAIDERS,™ winner of the 1982 Game of the Year Award.

However, we also boast home and office application software as well

### Atari 400 and 800 Home Computer Technical Specifications.

**Colour Capabilities:** Choose from 16 colours, and 16 intensities (up to a total of 256 shades).

**Sound:** Four independent sound synthesisers for musical tones and games sounds. Three and one half octaves. Variable volume and tone for each voice.

**Display:** Three text modes: 24 lines of 40 characters, double-width characters, or double-height, double-width characters. Nine graphic modes: from 40 columns by 24 rows up to 320 columns by 192 rows.

**Memory:** Includes a built-in 10K Read Only Memory (ROM) Operating System with 48K Random Access Memory (ATARI 800) and 16K Random Access Memory (ATARI 400).

**C.P.U.:** 6502B Microprocessor 0.56 micro-second cycle. 1.8Mhz.

**Special Features:** Three customised integrated circuits.

**Extended Graphics Functions:** High-resolution graphics. Multi-coloured character set. Software screen switching. Mixed text and graphics modes.

Multiple re-defined character sets. Player missile (sprite) graphics. Fine screen scrolling in any direction. Changeable colour registers. Smooth character movement.

**Peripherals:** A range of peripherals and accessories that are available now.

as educational programs to satisfy the most enquiring mind.

You can learn French, Spanish, German or Italian on our computers and through our unique 'sound through' system you'll hear the language and learn it the way you learnt your mother tongue. (Other computers will leave you speechless.)

You can teach yourself touch typing, compose and play your own music or teach a child the alphabet.

On another program you can find out if your current mortgage is giving you the best value for money; while yet another program will answer a question that has vexed mankind for generations: "Where does all my money go?"

At the same time, the outstanding VisiCalc® program is available for the ATARI 800 Computer.

### Write your own programs.

As if all that isn't enough, through Atari's Program Exchange (APX), you can have access to a wide range of the most imaginative programs written by our users.

Or you can learn to write your own programs with the help of our 'Invitation to Programming'™ series, using our unique 'sound through' system.

Surprisingly, you won't have to plough through a small library of manuals to do so, since most of the series is on software, not in hard books. Of course, we've always had just about everything you're looking for in computers.

From today, we've got even more.



**More of what home computers are for.**



# MACHINE CODE

We have not yet covered all the different types of machine code instruction, but we have looked at enough instructions to be able to write some useful routines.

Instead of looking at new instructions this month we will look at how to use the routines built in to the computer's ROM in conjunction with the instructions we already know.

## ROUTINES AND HARDWARE

All computers have built in routines to handle such basic operations as printing a character, reading the keyboard, tape input and output, etc.

The details of these routines depend on the hardware of the particular computer, and they are usually quite complicated.

For example, the routine to print a character on the screen has to produce the actual dot pattern for the character, keep track of the cursor position, provide automatic carriage return/line feed at the end of each line, provide automatic scrolling at the end of the screen, and also has to handle various non-printing control codes.

Before you can use these routines in your own programs you need to find their memory addresses and how to pass values between these ROM routines and your program.

The manual for the BBC micro gives details of how to use several ROM routines, but with most small computers you have to rely on what users have found out for themselves and published in magazines or books.

## PRINTING THE MESSAGES...

In the example programs printed here I will assume that to print a character on the screen you have to get the ASCII code for the character into the accumulator and call a subroutine called OUTCH, and I will also be assuming that OUTCH does not alter any of the registers. Most computers do have a routine that works like this.

Suppose we have a message stored in the computer's memory, and we want to print the message on the screen.

**BY TED BALL**

We need to know the address where the message starts, which we will call MESSGE (abbreviated because assemblers normally allow only six characters), and where the message ends.

There are several methods you can use to indicate the end of a message, for example, put zero after the last character, or add 128 to the code for the last character (this will not usually cause any confusion as the codes for the normal printing characters are less than 128).

The examples here mostly assume that you know the actual length of the message and the routines count the number of characters printed. The form of the routines is:

```
Initialise pointers
Repeat
  Read character
  Print character
  Advance pointer
Until end of message
```

We can now look at the routines in detail.

## LET'S GO FOR A LOOP!

6502

Routine (a) is quite simple: we use the X register as a pointer and load the character to be printed into the accumulator using absolute indexed addressing.

The character is printed by calling the ROM subroutine OUTCH, and we then increment the X register to point to the next character and compare the value in the X register with the length of the message.

If the value in the X register is not equal to the length of the message we loop back to process the next character.

Routine (a) can only be used when the message is less than 256 characters long, as the registers in the 6502 are only 8-bits long.

If the message is more than 256 characters we can use routine (b), which is more complicated as we have to handle 16-bit numbers in two 8-bit sections. The characters of the message are read into the accumulator using indirect indexed addressing (or post-indexing).

This requires the base address to be stored in two consecutive page zero locations, which are called MESSAD and MESSAD+1 in the routine.

The first few lines in routine (b) calculate some constants which are used later. A standard 6502 assembler will allow calculations of this type, and will

also allow the calculations to be performed in operands.

The numbers involved in the arithmetic must be between 0 and 65535, and division always returns an integer result, any fractional part being discarded.

Thus, if MESSGE were \$1234, the first two lines of routine (b) would give MESSHI as \$12 and MESSLO as \$34, separating the address into its high and low bytes.

After the initial calculations routine (b) puts the low and high bytes of MESSGE into the page zero locations MESSAD and MESSAD+1, and sets the Y register to zero.

After a character has been printed the pointer is advanced by incrementing the contents of memory location MESSAD (the low byte) and if the low byte becomes zero the high byte also has to be incremented.

The test for the end of the message also has to be done in two parts. The high byte of the current address is compared with the high byte of the address of the end of the message (which was calculated at the beginning); if they are not equal the routine loops back to process the next character; if they are equal the low bytes have to be tested.

## DEFICIENCIES OF THE Z80 SET

Z80

Routine (c) uses the HL register pair as a pointer to the current character and the B register as a counter for the number of characters. Note that, as the compare instruction CP performs a comparison with the accumulator, the contents of the B register are copied into the accumulator in order to perform the comparison.

The B register is 8-bits long, so routine (c) can only be used if the message is less than 256 characters.

Routine (d) will handle messages with more than 256 characters. The BC register pair is initially loaded with the address of the end of the message and after a character has been printed and the HL pointer incremented the routine tests to see if the contents of HL are equal to the contents of BC.

The test is a little complicated because of deficiencies in the Z80 instruction set.

The Z80 has no 16-bit compare instruction. However, you will remember that a compare instruction works by performing a subtraction, and keeps the



## ROUTINE (a) — 6502

```

NEXTCH  LDX #0
        LDA MESSGE,X      ; Get character
        JSR OUTCH        ; Print it
        INX              ; Advance pointer
        CPX #LENGTH      ; Test for end of message
        BNE NEXTCH
    
```

## ROUTINE (b) — 6502

```

        MESSHI = MESSGE/256
        MESSLO = MESSGE — 256*MESSHI
        MEND = MESSGE + LENGTH
        MENDHI = MEND/256
        MENDLO = MEND — 256*MENDHI
        LDA #MESSLO      ; Initialise Pointer
        STA MESSAD
        LDA #MESSHI
        STA MESSAD+1
        LDY #0
NEXTCH  LDA (MESSAD,Y)    ; Get character
        JSR OUTCH        ; Print it
        INC MESSAD       ; Advance pointer
        BNE TEST
TEST    INC MESSAD + 1
        LDA #MENDHI      ; Test for end of message
        CMP MESSAD + 1
        BNE NEXTCH
        LDA #MENDLO
        CMP MESSAD
        BNE NEXTCH
    
```

flags but not the actual result of the subtraction. Thus, a 16-bit comparison can be performed with a subtraction.

The Z80 has 16-bit Subtract With Carry operations but no 16-bit Subtract, without carry.

Thus routine (d) uses the instruction AND A to clear the carry flag, and SBC HL,BC to compare the contents of HL and BC. If the contents of HL and BC are equal we have reached the end of the message and jump to the end of the routine.

If we have not reached the end of the message we must remember that SBC HL,BC has altered to contents of HL, so we must restore the value of HL with the instruction ADD HL,BC before looping back for the next character.

## INDIRECT AND DIRECT...

6809

Routine (e) will print a message of any length, and uses auto-increment addressing, which allows us to read a character and advance the pointer in one instruction.

After printing a character the routine tests for the end of the message by comparing the contents of the X register with (MESSGE+LENGTH), the address of the end of the message.

The auto-increment and auto-decrement instructions are very useful in handling messages and tables of all kinds.

The operand forms are ,R+ ,R++ ,—R ,—R[ ,R++][ ,—R] where R may be any one of the 16-bit registers X,Y,S,U. ,R+ takes the contents of the memory location pointed to by register R and then increments R; ,R++ takes the contents of the memory location pointed to by R and the next higher memory location, and increments R twice. ,—R and ,—R work similarly but register R is decremented *before* the memory reference takes place.

The indirect forms [ ,R++ ] and [ ,—R ] use the memory location pointed to by the contents of the memory locations pointed to by R.

Indirect auto-increment and auto-decrement only increment or decrement twice because the indirection requires a two-byte operand.

CONTINUED NEXT MONTH

## ROUTINE (c) — Z80

```

        LD HL,MESSAGE
        LD B,0
NEXTCH  LD A,(HL)        ; Get character
        CALL OUTCH      ; Print it
        INC HL          ; Advance pointer
        INC B
        LD A,B          ; Test for end of message
        CP LENGTH
        JR NZ,NEXTCH
    
```

## ROUTINE (d) — Z80

```

        LD HL,MESSAGE
        LD BC,MESSGE+LENGTH
NEXTCH  LD A,(HL)        ; Get character
        CALL OUTCH      ; Print it
        INC HL          ; Advance pointer
        AND A           ; Clear Carry Flag
        SBC HL,BC       ; Test for end of message
        JR Z,DONE
        ADD HL,BC
        JR NEXTCH
DONE    ...
    
```

## ROUTINE (e) — 6809

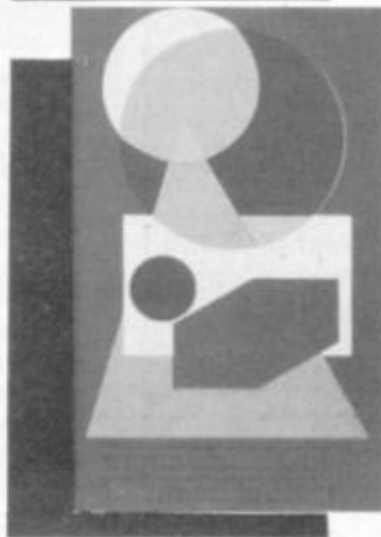
```

NEXTCH  LDX #MESSGE
        LDA ,X+         Get char & advance pointer
        JSR OUTCH      Print character
        CMPX #(MESSGE+LENGTH) Test for end of message
        BNE NEXTCH
    
```



# DRAGON OWNERS

• • • HAVE WE GOT  
A GAME FOR YOU!



AT WINTERSOFT WE AIM TO PIT YOU AGAINST THE DEADLIEST ADVERSARIES, KEEP YOU GUESSING, AND STRETCH YOUR CREATIVITY TO THE LIMITS.

## THE RING OF DARKNESS

The game created to be the most complete, enthralling, addictive and detailed adventure ever written for the Dragon 32. A whole graphic world (of nearly 3000 travel days) with kings, princesses, mad jesters and dangerous quests will unfold before you. Across ocean, river, mountain and forest you travel to trade in many towns and dare the depths of vast dungeons (more than 9 levels deep with over 20 different creatures in hi-res 3-D graphics), in search of fortune and the hidden curse of the Dark Ring. Many hours of mystery, suspense and raw excitement await you.

"The most impressive adventure tested... soon displaced breakfast TV in our house." *Your Computer* (April) £10.00

## DRAGON TREK

Your starship has just entered quadrant 6-8. You are surrounded by 8 battle cruisers of the Klingon Empire. Do you fight or run? They launch a salvo of photon torpedoes. You're HIT! Get a damage report. It's OK, the shields are holding, the next move is up to you, but be quick or they will attack again. Hi-res graphics, onboard computer and lag time interaction will have you zapping Klingons till the stardate 2477.

"Excellent value for money... the title sequence was magnificent." *Your Computer* £6.99

## PEPPER'S GAME PACK

Huge blue mushrooms, mad wizards, bouncing bricks, chessboard strategy, doomed space shuttles and mind teasing codes. They're all to be found on this great compendium of six games (Mushroom Muncher, Nad the Necromancer, Pepper's Breakout, Chessboard Tracker, Chameleon Run and MasterBrain). £7.95

## ARTIST'S DESIGNER

Produce intricate designs in hi-res graphics and save them on cassette. Full list of features include text merging, joystick or keyboard control, circles, paint and shape replication. Ideal for home video captions, education, charts and diagrams. £6.99

All prices include p&p, VAT and the WINTERSOFT guarantee of quality and reliability. Available from good software outlets, or send cheques P.O. to:

S. W. WINTER & Co. Ltd.  
Dept 1, 101 Westminster Bridge Road  
London SE1 7HR  
Tel: 01-928 5945 01-633 9611



## ELECTRONIC LEISURE PRODUCTS

MAIL ORDER DEPT: 6 MEADOWVALE CLOSE  
RAHEEN, LIMERICK, IRELAND

CREDIT CARD HOTLINE  
Phone LIMERICK (0006) 27522



### TURN YOUR ATARI VIDEO COMPUTER SYSTEM INTO A STATE OF THE ART GAME SYSTEM - FOR THE PRICE OF A GOOD VIDEO GAME.

Why invest hundreds of pounds in a home computer when you can plug the Starpath Supercharger into your Atari® VCS?

• What is the Supercharger?  
The Supercharger expands the game-playing power of your Atari® VCS.

Inside the Supercharger are special digital electronics which multiply the VCS RAM memory 48 times! Plus, an audio interface cable attached to the Supercharger plugs into the earphone jack of any cassette tape player.

• What does it do?  
The Supercharger lets you play games with high resolution graphics, faster action, and far more complexity. The Supercharger upgrades your VCS with state-of-the-art electronics.

Furthermore, Supercharger games come on economical cassette tapes, far less expensive than conventional game cartridges.

• Multi Load games  
Cassette tape lets Starpath offer unique Multi Load games.

Games like Dragonstomper and Escape from the Mindmaster include several "loads" on one cassette. Each load is like an entire conventional game. Multi Load games offer complexity and depth that no conventional Rom cartridge game can match. It is like owning an LP instead of a "45" single record.

• The Supercharger comes with the highly acclaimed and award-winning Phaser Patrol game and costs £44.50 excl. VAT.

Electronic Games Magazine calls Supercharger computer games "one of the greatest products ever to enter the field of home videogaming". Video Review calls them "the hit of the holiday season". You'll call them the most challenging games you've ever played.



PRICE EXCL. VAT

ESCAPE FROM THE MINDMASTER™ £16.00  
COMMUNIST MUTANTS FROM SPACE™ £14.00  
KILLER SATELLITES™ £16.00  
DRAGONSTOMPER™ £16.00  
SUICIDE MISSION™ £14.00  
PHASER PATROL™ £14.00  
FIREBALL™ £14.00

## CARTRIDGES FOR ATARI, INTELLIVISION, AND COLECOVISION

All prices include post and packing but exclude VAT

### ATARI VCS CARTRIDGES

<b>COLECO</b>		<b>ATARI</b>	
Donkey Kong	£23.45	Pacman	£21.00
Wizard of Wor	£23.45	Defender	£21.00
Gorf	£23.45		
Carnival	£23.45	<b>TELESYS</b>	
<b>TIGERVISION</b>		Fast Food	£22.00
King Kong	£22.00	Cosmic Creeps	£22.00
Jawbreaker	£22.00		
<b>ACTIVISION</b>		<b>BOMB</b>	
Pitfall	£21.00	Assault	£17.00

### INTELLIVISION CARTRIDGES

<b>COLECO</b>		<b>IMAGIC</b>	
Donkey Kong	£23.45	Demon Attack	£24.50
Wizard of Wor	£23.45	Dragon Fire	£24.50
Gorf	£23.45	Microsurgeon	£24.50
Carnival	£23.45	Beauty & Beast	£24.50

### COLECOVISION CARTRIDGES

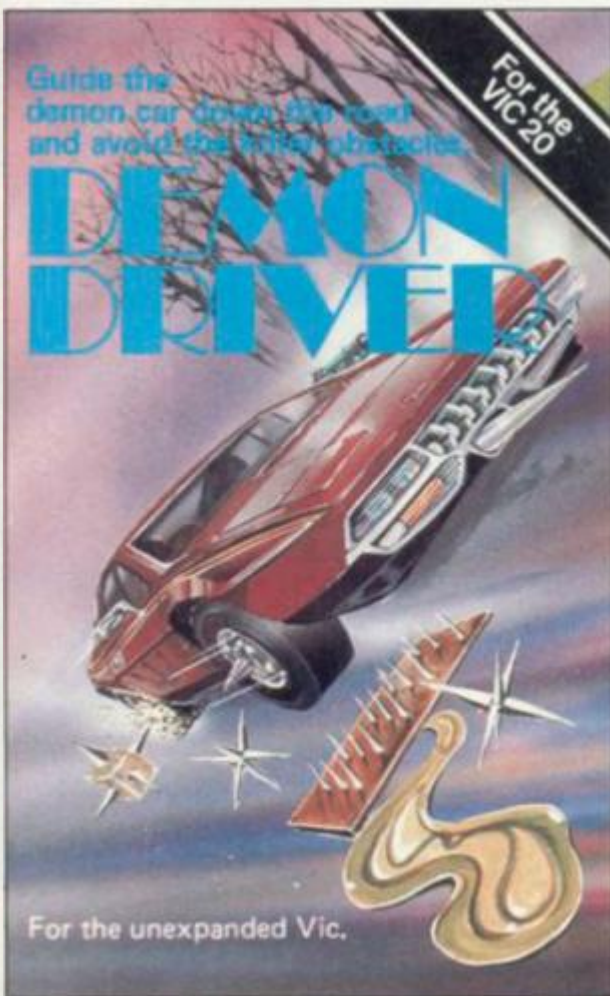
<b>COLECO</b>		Atari Converter	£47.00
Wizard of Wor	£23.45	(Allows you to use Atari VCS cartridges)	
Gorf	£23.45	Turbo (includes steering wheel)	£44.00
Carnival	£23.45		

We are now taking orders for the Colecovision T.V. game, the world's most advanced T.V. game. So order now at £128.00 (includes Donkey Kong) for delivery end of April, and avoid disappointment.

Atari VCS — limited number	£74.00
Mattel main unit	£115.00



# Attention Vic 20 Owners



Introducing  
LYVERSOFT

High  
Quality  
WINNING  
GAMES



### STOP PRESS!

NOW AVAILABLE FOR ANY VIC-20

**DEMON DRIVER.** Guide the Demon Car down the road and avoid the killer obstacles.

**LUNAR RESCUE.** Rescue the stranded scientist from the moon.

Simply complete the coupon below, indicating the number of copies required in the boxes provided, and post now to:  
**LYVERSOFT**  
66 Lime St,  
Liverpool L1 1JN  
or ring our Hot Shot Credit Card Sales Line on 051-708 7100



- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | VIC-20 Machine Code Monitor @ £14.95 each       |
| <input type="checkbox"/> | Lunar Rescue @ £5.95 each                       |
| <input type="checkbox"/> | Demon Driver @ £5.95 each                       |
| <input type="checkbox"/> | Applebug/Crazy Climber (2 pack) @ £5.95 each    |
| <input type="checkbox"/> | Nuclear Attack/Grand Prix (2 pack) @ £5.95 each |
| <input type="checkbox"/> | Hearts & Diamonds/Hi-Lo (2 pack) @ £5.95 each   |
| <input type="checkbox"/> | Space Assault @ £5.95 each-For 3K & 8K VIC-20   |

For any VIC-20

Please debit my Access/Barclaycard (delete as necessary)

Card Number

I enclose Cheque/PO for £

Name

Address

Free Postage mainland UK only

C&VG 06/83



When you play chess with the Dragon 32 Family Computer, you're taking on a real challenge.

Because Dragon's Chess program was put together by a genuine Grand Master.

This doesn't mean you have to be Boris Spassky to enjoy a game, however.

Dragon Chess offers 9 different levels of difficulty.

So whether you're just a beginner or a champion, you can be sure we'll match you with a worthy opponent.

### THE FIRST FAMILY COMPUTER.

While the Dragon teaches you better chess, you're also learning something else. You're becoming familiar with the new technology of computers - technology that's becoming increasingly important in all our lives.

The Dragon 32 is the first family computer. It's easy to

use. It's easy to learn - thanks to its beautifully simple instruction manual. And once you get going, it's very hard to stop.

You'll be surprised how quickly you and your children pick it up. And nowadays, you



# Our chess program



can hardly offer them any more valuable experience.

#### SOFTWARE TO MATCH.

The Dragon's 32K RAM memory means that it's a serious computer. But it also offers a lot of fun.

A whole range of

games software, with popular arcade-type games like Meteoroids, Astroblast and Cosmic Invaders.

And complex and mystifying Adventure games like Calixto Island, Madness and the Minotaur, and Quest.

Our new software range doesn't stop there. There's our Personal Finance program, to help you organise the

family's finances. Educational programs like our Typing Tutor, which uses the Dragon's own keyboard to teach you to type.

And every month, we're adding more and more new titles to our range.

Next time you feel like a game of chess, make friends with a Dragon.

It could introduce you to a lot of new mates.

**DRAGON 32**  
The first family computer.



...has plenty of mates.



## supermarket...

### ATARI 400/800 OWNERS

**Cassette to Disc Utility.** Put as many as 10 of your single load machine code tapes onto one disc. Works with most tapes. Requires 32K + disc. £9.95

**Copy Utility.** An advanced copier that copies virtually all basic or machine code, single-load or double-load tapes with either long or short interrecord gaps. Written in machine language. Supplied on Autoboot cassette. £9.95.

Cheques/P.O. to: **W. ENTERPRISES, 49 Shrewley Crescent, Tile Cross, Birmingham B33 0HU.**

### TI-99/4A SOFTWARE All-graphics Games from DARKLAW DESIGNS

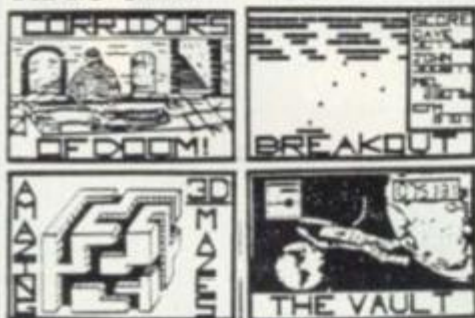
**Ti-Basic — Baby Cruncher + Space Machines**  
Baby cruncher — crunch babies and evade boneworm. Has hyperspace + Hi-score + increasing difficulty. Space Machines — fast — action space shoot-out with 3 skill levels.  
**Extended Basic — Turret Gunner + Mayhem!**  
2 fast action arcade variants.  
Turret Gunner — 3D style space attacks — FULL SPRITE GRAPHICS.  
Mayhem — avoid the robots in the maze — watch out; the walls are electrified!  
Each cassette £3.95 + 50p p&p.  
4 games on 1 cassette for £8.00 post free.  
Send cheque, P.O. s, cash to:  
Darklaw Designs, 51 Green Lane, Castle Bromwich, Birmingham, B36 0AY.

### ATARI 400/800 SOFTWARE

Why spend a fortune on software when you can hire all the very latest released games etc. at a most competitive rate? We have an all-round selection of disks, cassettes and cartridges awaiting your Atari 400/800. Apply now and hire your first 2 games free. For full details send stamped addressed envelope or phone evenings 7pm-10pm or weekends. (0783) 286351.

Games & Software Club, 35 Tilbury Road, Thorney Close, Sunderland SR3 4PB.

### SPECTRUM — TRS80 LV II VIDEO GENIE — SOFTWARE



25 super programmes — machine code arcade games, simulations, competitive games, adventures, dungeons and dragons, puzzles and ball games; plus a few Education and Business programmes. Including: Breakout (the real thing — taking you through nine levels of increasing difficulty), Star Wars, Amazing 3-D Mazes, Gambling Machine, Corridors of Doom & Trap It. All 25 on one C48 cassette, sent by return post for only £8.95 inclusive, or send s.a.e. for full details.

**SPARTAN SOFTWARE (DEPT CVG)**

9 Cotswold Terrace, Chipping Norton, Oxon.  
0608 3059

Programmers: 25% royalties paid on original software for the Spectrum, TRS80 or Genie.

### SHARP MZ-80K

#### NEW 48K SUPER MINOPOLY PROGRAM:

- 1) SAVE GAMES ON TAPE
- 2) ADDITIONAL CARDS, e.g. street repairs, Goto Mayfair, etc.
- 3) FASTER BOARD MOVEMENTS
- 4) OPTION OF 'KITTY', ... etc.

The computer is now even harder to beat, with many new and improved algorithms by the author. Recommended for all AI enthusiasts.

£6.90 inc. to SHARPSOFT LTD, 86-90 Paul St., London EC2A 4NE.

# WARE SOFTWARE SOFTWARE SOFT REVIEWS

## MORE EMPIRES TO CONQUER

### ROMAN EMPIRE

Roman Empire is the latest period war game from M. C. Lothlorien.

This Cheshire-based company have become specialists in computerised war gaming with other titles in the range such as Peloponnesian War, Tyrant of Athens, Samurai Warrior, and Japanese Challenge.

Roman Empire is a strategy war game requiring thought and application.

Graphics are therefore not as crucial to the game as they are in other games. Even allowing for this the graphics in Roman Empire are very unimpressive.

All you get are columns of figures with a list of menu options around which the game is based.

A few more illustrations would have made the various columns of figures far more accessible. The odd map would have been very much appreciated as well.

The game has now been converted for the Dragon and Atari computers and some of the above suggested improvements have now been incorporated in these new versions. Why it is not possible to upgrade the Spectrum version is anyone's guess.

The idea of the game is to conquer the six countries that are hostile to you. In order to do this you must wipe out your enemies troops. You must build up your legions and launch campaigns in the regions you are attempting to annexe.

A constant check has to be kept on your legions morale, fighting efficiency, energy level and status.

The only graphic display Roman Empire does give you is when you press the "next period" button — which totals your victories and defeats. What the display was supposed to be, however, I couldn't tell you. My girlfriend thought it looked like a screen full of ants. Any suggestions?

Confirmed war gamers may get something out of this one. For the uninitiated though — it would have to have greatly improved on-screen instructions and

graphics before I would reach for my wallet.

- Getting started 4
- Value 4
- Playability 4

## CLASSIC ALIENS BEGIN A BRAND NEW INVASION

### SPACE INVADERS

The latest release from Buy-Byte for the BBC micro is a version of that granddaddy of all video games — Space Invaders.

You would not normally expect a software house to launch a copy of this classic game when several other adequate versions already exist unless it was a particularly good version. This version does not fall into that category.

Bug-Byte has not made the most of the BBC's colour and sound potential.

The machine is easily capable of producing a truly de-luxe version of Space Invaders though this cassette is sadly unworthy of that description.

The mystery saucers did not appear at the correct times and lacked the sound and movement of the arcade original.

In the games favour: it was fast and the aliens exploded cleanly when hit.

Despite this I couldn't help thinking that for £7.50 I was entitled to something more than the same old format. For an extra couple of pounds practically any game from the Acornsoft range is better value for money.

- Getting started 9
- Value 4
- Playability 3





# SOFTWARE SOFTWARE SOFTWARE SOFT REVIEWS

## BEWARE THE DEADLY BUG-TRAIN!

### STAR MAZE

If you fancy trying your hand at blasting a weird assortment of aliens and getting lost in the graphics of a maze then Star Maze is the game for you.

The idea of the game is to pilot your space shuttle through an enormous scrolling space maze — mining the jewels that appear every so often and taking them back to your mother ship.

The screen is divided into two sections. The left two-thirds of the screen displays the maze and your ship and the remaining third displays all relevant game information — score, high score, amount of fuel left, number of bullets left, ships, and various types of aliens drowned.

Various aliens are attempting to thwart your mission in the shape of asteroids, cruisers, and toughest of all — bug trains.

There is only one effective way to deal with the bug trains and that is to use one of your three smart bombs on them. A single bullet will only cause the bug train to split letting out a Pandora's box of nasty aliens.

You are armed with a sophisticated laser capable of single fire and also rapid fire. This enables you to use your limited supply of ammunition most effectively. You begin the game with three smart bombs but can earn an extra one each time you clear one level.

There are sixteen levels in all though you will need to be a pretty skilled space ace to get that far. After weeks of play I'm still stuck on the sixth.

Ship control is the most difficult part of Star Maze and it took me quite some time to master the technique. You could really do with a third, or even fourth hand there are that many controls to keep a spare finger on.

You have short and long distance thrust, rotate left and right, single fire, rapid fire, hyperspace, smart bomb, and even a freeze button which enables you to pause the game to answer the phone or plan your strategy for an imminent alien onslaught. Sound and graphics are not outstanding.

I was hooked on Star Maze from the very first session. Once I'd mastered the controls the game became more and more fascinating and I can confidently recommend it as one of the best games now on sale for the Apple.

Manufactured by Sirtech for TSR the game is sold by SBD of London at £21.00.

● Getting started	8
● Value	9
● Playability	10



## FRUSTRATED BY THESE POWERFUL SPEEDBOATS!

### POWERBOAT RACE

Futura Software's Powerboat Race gives you the chance to pit your wits against the world's top powerboat racers on the BBC model B.

The program loaded first time and presented a detailed title page with full playing instructions. You are invited to enter the World Powerboat Championships. You can also choose the one or two player game and name your drivers before the computer chooses your opponent.

You'll need joysticks and 32k to play the game and I found it difficult to control the boat at first — although this was due more to the joystick than the program.

Making life more difficult on the high seas as you race along are two bobbing yellow buoys which must be negotiated to clock up those all important laps.

Each race consists of three heats of 15 laps and points are scored according to your position at the end of the race; 400 for first place, 300 for second and 200 for third. The driver scoring the most points over the three heats wins.

Screen presentation was quite good with your score and number of laps completed displayed at the bottom of the screen during each race.

The game was more frustrating than addictive because of the poor control afforded by the joysticks.

● Getting started	7
● Value	6
● Playability	5

## supermarket ...

### ATARI 400/800 SOFTWARE

Why not try us for some of the keenest prices in your favourite Computer Games?

For full price list write to:  
D.J.B. SOFTWARE, 59 Woodland Avenue,  
Hove, Sussex BN3 6BJ. (encl. s.a.e.)  
Or phone: 0273 502143

### GRIFFIN GAMES-COMMODORE 64

Games Cassette: RAT MAZE, £6, includes post and packing. Real-time action; escape from the Killer Rats.

KADUNA HOUSE, 32 BEECH AVE,  
WORCESTER.  
TEL: 0905 51936

### ATTENTION ATARI 400/800 USERS

£40 per year or £25 per ½ year allows you to loan up to 50 games of your choice from our extensive library on tape, disk or rom. Free utility tape for new members, send large SAE to: AMUSEMENTS UNLIMITED, 49 LESLIE CRESCENT, ST. MICHAELS, TENTERDEN, KENT TN30 6BX.

Tel: (05806) 3830 (evenings)  
DISC BACK-UP SERVICE

### SOFTWARE FOR THE VIC AND COMMODORE 64

#### Unexpanded VIC 20.

**SKI-SUNDAY.** Guide your skier down the forested course, through the slalom gates, avoiding the many hazards, but watch out for the ice.

**POLARIS.** You are in command of a nuclear sub, destroy as many enemy ships and planes with your missiles in 90 seconds, score 400 points and receive an extra 30 seconds on patrol.

Both these games are in multi-colour, with many sound effects and tunes. £5.50.

**JACKPOT.** Own your own fruit machine, just like the real thing, can you win the jackpot? You will be amazed by the graphics, colours, and many sound effects, with nine different tunes, a full machine code program, a very compulsive game. £5.50.

**SWAG-MAN.** Chase the bullion van round the streets of New York, picking up the swag, but beware you must defuse the time bombs, to gain extra time and fuel, full colour and sound effects, a very original game. For 3K expansion only. £5.50.

**DATABASE.** Create your own files and records on tape £7.50

**BANK MANAGER.** Computerise your bank account £5.00

**SUPER BANK MANAGER.** A full feature version, needs 3K expansion, but will run on any memory size £7.50

**M/C SOFT.** Machine code monitor and disassembler, any memory size £7.50

**CHARACTER EDITOR.** With our own window facility £4.50

#### COMMODORE 64

**LUNAR RESCUE.** Our version of that popular arcade game, in machine code £7.50

**M-C SOFT 64.** Machine code monitor and disassembler £7.50

Other software available for the VIC and Commodore 64, send for free brochure.

CHEQUES/ P.O.'s TO:

MR CHIP, Dept CVG, 1 Neville Place,  
Llandudno, Gwynedd LL30 3BL

WANTED Good quality software, top royalties paid.



supermarket ...



ESTUARY SOFTWARE PRODUCTS  
**E.S.P.**

42

A new name in and Sinclair software

# HITCH-HIKERS GUIDE TO THE GALAXY

For Spectrum 48K £8.95 Apple II on disc £16.95  
Large selection of software on display at our shop

201 VICTORIA AVE, SOUTHBEND ON SEA, ESSEX  
CREDIT CARD HOLDERS MAY PHONE IN  
THEIR ORDERS  
(0702) 43568

## SHARP MZ-80A & K

45 games at £2 each. Also wide range of business, utility and education programs. s.a.e. for catalogue to:  
D.C.S., 38 South Parade, Bramhall, Stockport SK7 3BJ

## ★ ★ JUST PHONE ★ ★ 01-675 6197

If you have ACCESS or VISA just phone us your order and we despatch the goods.

**SPECIAL OFFER SPECIAL OFFER**  
A FREE games program with each order of a micro listed below.

Commodore-64	£343	Atari-400	£159
Newbrain-A	£239	Oric-48K	£399
Atari-800	£399	Dragon-32	£199
Spectrum	£175	Vic-20	£POA

P&P at cost

FROM A SOFTWARE LIST OF OVER 500 WE GIVE YOU A FEW EXAMPLES:

Commodore-64		Vic-20	
Adventure Pac	£9.99	Frogger	£9.99
Grave Robbers	£9.99	Skramble	£9.99
Monople-64	£9.99	Arcadia	£5.50
Sprite Editor	£9.99	Wacky Waiter	£5.50
Spectrum			
Arcadia	£5.50	Dragon Trek	£9.95
Wacky Waiter	£5.50	Golf	£7.95
Schizoids	£5.50	Database	£19.95
Ah Diddums	£5.50	Donkey King	£8.00

SOFTWARE AVAILABLE FOR ORIC — NEWBRAIN — BBC AND OTHERS  
FOR A LIMITED PERIOD — BUY 3 GET ONE FREE

No card? Just send cheque to:

TRAVEL SOFTWARE,  
106 Narbonne Avenue, London SW4.

## HOME COMPUTERS BUSINESS — PLEASURE — EDUCATION

Stockists of ZX81, Spectrum, Oric, MPF II. Full range of software available. Distributors for 64K Micro-Professor MPF II. Dealer Enquiries Welcome.

City CB Centre, 112 Pitfield Street, London N1.

## ASP COMPUTERS

587 High Road, Finchley, N12 0DY

COMMODORE 64	£295.00
VIC 20	£108.00
DISK DRIVE	£259.95
PRINTER	£200.00
CASSETTE UNIT	£39.95
JOYSTICK	£7.00
PADDLES (pair)	£11.75

SEND FOR LIST OF SOFTWARE  
(Atari, Commodore, Dragon)

FAST DELIVERY — FREE (U.K. MAINLAND)

NO V.A.T. ADDITION  
CHEQUE OR POSTAL ORDER ONLY

# E SOFTWARE SOFTWARE SOFTWARE REVIEWS

## DEFENDER BY ANOTHER NAME

### REPTON

Repton is an all action scrolling shoot-out for the Atari 800 and will provide hot competition for Atari's new Defender cartridge.

The game has many similarities with Defender. Just like the Williams arcade game you can scroll backwards and forwards — keeping a sharp eye on the radar.

The radar display is very impressive. Sharp graphics, and an accurate representation of what is actually going to take place on your screen a few seconds hence.

I know all radar is supposed to do this — but believe me, this is a considerable achievement for computer games radar.

The idea of the game is to stop the aliens building a home base on Repton. Their colonisation of the planet is already almost complete having installed ground to air missiles and layed the foundations of their home base.

Like Defender there are a variety of aliens each with specific functions. The cruisers protect the base which is half constructed.

The Quarriors are systematically taking your building to bits — block by block and building up the home base.

As well as Cruisers there are Nova Cruisers that track you with greater speed and the deadly Dyne-Beam Shooters can trap you in a single blast of lazerfire that spans the entire screen.

You will also have to watch out for the Draynes who are stealing Repton's last supplies of fuel — shoot the snaking fuel pipes to return the fuel. Despite the aliens formidable strength your Armageddon craft has a speed advantage and very heavy fire power.

Repton is a first class piece of software. The graphics knock spots off Atari's own Defender cartridge. All the aliens are more colourful and construction of the base is a great graphical improvement on the basic plot.

The unfortunate thing about Repton is that many UK Atari owners won't be able to

enjoy the game unless they've got an 800 with 48k, plus disc drive. If you are lucky enough to have both Repton is a must.

The game is imported into the UK by Centresoft of Birmingham and is available from your local Atari dealer now at £29.95.

● Getting started	9
● Value	5
● Playability	8

## NEVER BECOME A PLATE CAPTAIN — OR ELSE!

### WACKY WAITERS

Don't ever become a waiter. That much is clear from playing Imagine Software's Wacky Waiters on the Vic-20.

The idea of the game is to guide a waiter across the screen through a series of lifts to a waiting customer.

You then have to rush back across the lifts to the left side of the screen where the wine is kept. You collect the appropriate glass of wine and take it back to the customer. Your score is the tip that the customer gives you and it decreases depending on the time taken to collect and return the drink.

If you fail to jump into a lift you fall down a lift shaft and lose one of your three lives.

When all three lives are lost the game is over.

The game instructions were particularly unhelpful and it took me several hours to work out what I was supposed to be doing.

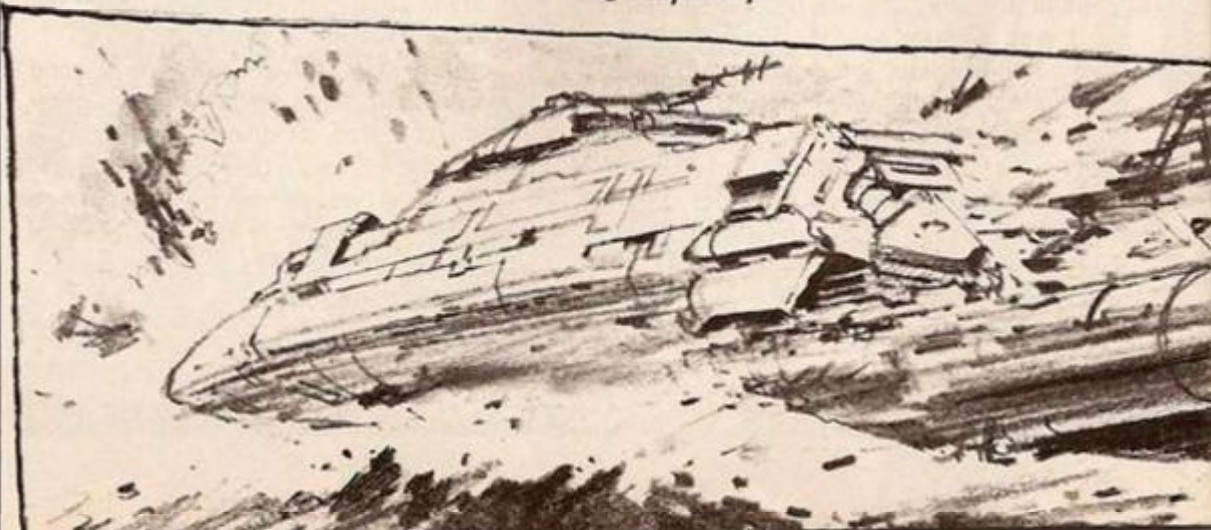
You can choose which keys you want to use to play the game which is a good idea as you can select a combination of comfortable keys.

The game loaded first time and presented five lifts moving up and down connected by a series of platforms.

The sound effects could have been vastly improved and the use of colour was at best average.

The game is available from Imagine Software of Liverpool at £5.50 inclusive.

● Getting started	6
● Value	4
● Playability	4





# REVIEWS

## FUN FILLED LITTLE BOXES

Remember the pure joy of scribbling? Before you were old enough to be expected to produce forms representing vases or bowls of fruit? When you were allowed to spread colour over an endless supply of pure white paper in the nursery school?

Some of that infantile anarchy is let loose in Atari's latest arcade conversion for the 400/800 home computers. The game is called Qix and will already be well known to arcade-goers.

For those of you with strict parents who turn purple when you mention your local arcade the game is simple to learn but difficult to master.

You control a marker which you must move around the screen drawing boxes. When a box is complete the computer will colour it in either red or blue — depending on the speed at which the box was drawn.

A red box is worth more points and is drawn more slowly therefore putting you at greater risk from the Qix.

This is a shape with four prongs — like the head of a fork — which bounces around the screen at random. If it careers into your marker when a box is incomplete you loose a life.

When you have boxed in 75% of the

## NOT THE GAME OF THE FUTURE

Blind Alley is a snake chase type game where you have to avoid your own tail and attempt to make two pursuing snakes crash into it.

Despite this, the cassette inlay depicts a space scene and gives some blurb about Blind Alley being the sport of the future. New software house — Sunshine — are not alone in producing misleading cassette inlays. Some of the worst offenders are the established software houses.

The idea of the game is to hem in the snakes before they can do the same to you. You score a hundred points for each snake successfully crashed.

You begin with two fairly slow snakes and then progress to two quicker ones, then four snakes and so on. Trouble is it's all rather slow. The snakes are difficult to control with the keyboard and, if you accidentally press the wrong key they have the annoying habit of disappearing.

### QIX

screen the Qix has insufficient room to manoeuvre and you then move on to a fresh screen.

Two other nasties who track you more systematically than the Qix are the Sparx. You start off with just two of these but their numbers multiply each time the red marker line at the top of the screen shrinks to zero.

Watch out for these electronic adversaries running up the lines of your boxes.

Also out to get you is the Fuse which will ignite if you stop drawing without having completed a box.

Just to make things even tougher the Qix increase in numbers as you move up through the screens.

Qix is for one or two players, retains a high score, and is in your local Atari stockists now at £29.99.

For pure originality this game shines out amongst a universe of aliens. It will not grab you from the first play — it takes time to appreciate its subtleties — but it is one very good game.

- Getting started 9
- Value 4
- Playability 8

### BLIND ALLEY

The graphics were not the most colourful I have seen on the Spectrum to say the least. I also felt that the game would have been much better if you had something, or things, to gobble up as you guided your snake around the screen.

It is not possible in Blind Alley to rectify a mistaken move by steering yourself out of trouble — instead you must start all over again from the beginning.

About the only good feature of Blind Alley was the high score board which enabled you to write your name in full, congratulated you on a high score, and kept a 'Hall of Fame.'

Blind Alley is available from Sunshine Software at £4.95 and runs on the Sinclair Spectrum in 16 or 48K.

- Getting Started 8
- Value 3
- Playability 3

## supermarket ...

### VIC 20 SOFTWARE

<b>Un-expanded</b>			
Space Phreeks	£8.50	Scramble	£8.50
Annihilator	£8.50	Quackers	£8.50
Alien Soccer	£8.50	Hopper	£8.50
Space Storm	£6.50	Orbit	£8.50
Krell	£8.50	Nightcrawler	£8.50
Astro Sled	£4.00	Space Fighter	£4.00
Invaders	£4.00	Asteroids	£4.00
Missile Panic	£4.00	Road Runner	£4.00
Android Attack	£4.00	Space Hopper	£4.00
Tank Arcade	£10.85		

<b>Vic - 3K</b>			
Frogger	£8.50	Myriad	£8.50
VicGammon	£8.50	Engine Shed	£4.99
Junior Maths (ages 7-11)		Lighthouse	£4.99
Junior Maths (ages 4-7)		Birds & Apple Tree	£4.99

<b>Vic - 8K</b>			
OCE/CSE Revision Courses all at £9.50			
English-Chemistry-Physics-Biology-Maths-History-Geography			
Arithmetic (9-11 yrs)	£9.50	Computer Studies	£9.50
Reading	£9.50	Spelling	£9.50

<b>Vic - 16K</b>			
Invasion Orion	£16.25	Vic Chess	£7.00
Rescue at Rigol	£19.75	Sword of Fargool	£19.75
Crash, Crumble, Chomp	£19.75	Crazy Kong	£7.90

<b>Vic Cartridges</b>			
Golf	£22.45	Plattermania	£24.70
Ant Eater	£26.75	Mole Attack	£17.95
Superlander	£17.95	Rat Race	£17.95

<b>Commodore 64 Software</b>			
Monopole	£9.50	Graphics/Sprites Editor	£9.50
Adventure Pack	£9.50	Grave Robbers	£9.50

Send £1 for full colour catalogue of hundreds of items of software for your Vic-CBM64-Atari-Dragon-Spectrum.

ALL ORDERS DEALT WITH ON DAY OF RECEIPT.

Cheques, P.O. to:

BYTEWELL, 203 Court Road, Barry, South Glamorgan

CF6 7EW. Telephone (0446) 742491

### ★ TI 99/4A ★ SPECTRUM ★

#### ★ ZX81 ★

Tower of Death: 5 part adventure of 70K - SPECTRUM & ZX81	£5
SPECTRUM: Panic + Football Manager. Great addictive games	£3
Freddies Last Run + Ground Attack. Arcade style games	£3
ZX81: Frenzy + Death Star. Fast action games	£3
Shut Team + Mastermind. Entravailing games	£3
TI 99/4A: Games tapes, making good use of colour & graphics	
TEX1: Adventure + Mastermind	£3
TEX2: Adventure 2 + Hangman	£3
TEX3: Prison Guard, Cave Searcher, Munchman, Ski-Run	£3
TEX4: Protector, Lightcycles, Space Vultures, Invaders	£3

Cheques P.O.'s payable to TRIBUNE. All prices inc. postage.

TRIBUNE SOFTWARE, 34-36 Wilder St., BRISTOL 2. For a list of our full range of software send a S.A.E. ALL GAMES IN 16K

### KOPIKAT

TRS80 and Dragon Owners Protect your valuable tapes by making a back-up copy using our Kopikat tapes which will copy most double or single loaded tapes £15 inc. p&p. Write to:

2 Bell Lane, Narborough, Leics.

### ATARI 400/800 OWNERS

Over 200 games available for you to hire. Offering a wide range of cassettes, cartridges and discs. Many satisfied members already hire their games from us, the BIGGEST and BEST Atari Library in the country. All originals, no copies.

MIDLAND GAMES LIBRARY, 48 Readway, Bishops Cleeve, Cheltenham, GLOS. Tel: 0242 674960 between 6 and 9pm. Send s.a.e. for details.

### WANT TO USE YOUR SINCLAIR?

We really mean USE your ZX81/SPECTRUM PRO-GAMES offer the best in games, education, business programs and books to suit everyone. Hire a tape/book for two weeks (approx £1.40) then if you want it pay the difference if not return it and try again. This unique service is available for £10 a year. Send cheque/PO for membership card, catalogue, news, reviews, special offers.

PRO-GAMES, 10 LEYBURN GROVE CHAPELTOWN, SHEFFIELD S30 4ES



# SPECTRUM



Make the most of your Spectrum, with these acclaimed books from the experts!

- ( ) **INSTANT SPECTRUM PROGRAMMING** — Tim Hartnell. Spoken word C-60 cassette with book containing many major programs, to teach you programming the Spectrum from first steps. The ideal guide if the Spectrum is your first computer. £4.95.
- ( ) **CREATING ARCADE GAMES ON THE ZX SPECTRUM** — Daniel Haywood. Full programming instructions to improve and enhance your own work, with 17 major programs listed in full as a bonus. £3.95.
- ( ) **PROGRAMMING YOUR ZX SPECTRUM** — Tim Hartnell and Dilwyn Jones. 200 pages, more than 100 programs, to take you through programming the Spectrum from the beginning. Written by Tim Hartnell, the most widely published ZX author in the world. Recommended by PCW, Sinclair User and Personal Computer Today. £6.95.
- ( ) **BEYOND SIMPLE BASIC — DELVING DEEPER INTO YOUR ZX SPECTRUM** — Dilwyn Jones. When you've mastered introductory programming on the Spectrum, you need this outstanding guide to enhanced programming techniques and concepts. £7.95.
- ( ) **60 GAMES AND APPLICATIONS FOR THE SPECTRUM** — David Harwood. Arcade games, intelligent board games, brain games and utility programs, they're all here. Just £4.95.
- ( ) **GAMES ZX COMPUTERS PLAY** — edited by Tim Hartnell. Thirty great games for your ZX computer, 15 for the Spectrum, 15 for the 16K ZX81. Only £3.25.

Interface Publications,  
Dept. CV  
44-46 Earls Court Road, London, W8 6EJ.

Please send me the books indicated above. I enclose £

Name \_\_\_\_\_  
Address \_\_\_\_\_

# BIG IN LITTLE COMPUTERS

SOFTWARE NOW IN STOCK  
AT THE VIDEO PALACE

COME AND SEE  
OUR FULL SELECTION



\*\*\*\*\* NOW IN STOCK \*\*\*\*\*  
**COMPUTER COMPATIBLE CASSETTE DECK**  
for use with T199/4A, BBC, Spectrum, ZX81  
and most other computers £37.45

<b>COMMODORE 64</b>	
GRIDRUNNER (Llamasoft) <i>Popular arcade type game. Nice graphics.</i>	£ 8.50
CYCLONS (Rabbit) <i>Very good shoot-the-aliens game. Great graphics.</i>	£ 9.99
ATTACK OF THE MUTANT CAMELS (Llamasoft) <i>Zap the camels to survive. Superb graphics.</i>	£ 8.50
CENTROPODS (Rabbit) <i>Centipede-type game with impressive sound and graphics.</i>	£ 9.99
ESCAPE MCP (Rabbit) <i>Will Flynn escape the MCP?</i>	£ 9.99
PARACUDA (Rabbit) <i>Good invaders-type game.</i>	£ 9.99
<b>ATARI 400/800</b>	
MINER 2049er (Big 5) <i>A must for all Atari owners. The best game we've ever seen!</i>	cart £32.95
ZAXXON (Datasoft) <i>Superb scrolling 3D graphics. Just like the plane's really flying.</i>	cass £27.95
POGDMAN (Computer Magic) <i>Turn out the street lamps on your page stick. Superb graphics.</i>	cass £28.75
QIX (Atari) <i>Cover as much of the screen as possible before being obliterated.</i>	cart £29.95
WAY OUT (Sirius) <i>This game is so realistic that your head will be spinning!</i>	48K disk £27.50
<b>T199/4A</b>	
EXTENDED BASIC (TI) <i>Adds many commands to TI's BASIC. Recommended for any serious applications.</i>	£80.95
PARSEC (TI) <i>Superb Defender-type game. Speech option.</i>	£29.95
ALPINE (TI) <i>Climb the mountain avoiding obstructions on the way.</i>	£29.95
<b>BOOKS</b>	
6502 ASSEMBLY LANGUAGE PROGRAMMING (auth. Lance A. Leventhal) (inc. post)	£16.50
<i>This book is a must if you want to learn machine code. All of the 6502 instructions are explained in detail.</i>	
INTRO TO FORTH <i>Introduces the concept of the FORTH language by explaining Reverse Polish Notation and Stack usage. Recommended.</i>	£ 9.30
30 HOUR BASIC <i>If this language confuses you solve all your problems by purchasing this excellent book.</i>	£ 5.95
THE VIC REVEALED (auth. Nick Hampshire) (inc. post)	£10.95
<i>Find out all the things Commodore didn't tell you.</i>	
SPECTRUM MACHINE LANGUAGE FOR THE ABSOLUTE BEGINNER (inc. post)	£ 7.95
<i>Learn how to programme your Spectrum in machine language. Recommended.</i>	

LARGE SELECTION OF PROGRAMMES ALWAYS IN STOCK  
FOR ALL THE ABOVE COMPUTERS PLUS BBC AND VIC20.

ALL THE ABOVE PROGRAMMES CAN BE ORDERED BY POST

**ORDER BY TELEPHONE**  
Access and Barclaycard holders may order by phone: 01-937 6258

Add 50p p&h for the first and 15p for each subsequent item. Allow up to 28 days for delivery. Payment by cheque or postal order.

# THE VIDEO PALACE

62 KENSINGTON HIGH ST. LONDON W8.



## GAMES PROGRAMMERS

Palace Software, part of a leading film and video company, is looking for games for Atari 400/800, BBC Model B, Spectrum, VIC 20 and CBM 64 for distribution in the UK, Europe and USA. High royalties will be paid for top quality and highly original machine code games. Send cassette samples to:  
Pete Stone, Palace Software,  
62-64 Kensington High Street, London W8  
(Tel: 01-937 6258)



2130

*Can you beat that?***SHADOWFAX**

Fight the black riders whose touch is death. You must guide **Shadowfax** as Gandalf's swift white horse braves the dread riders of Sauron, Dark Lord of Mordor. How many will your thunderbolts destroy? Magnificent graphics.

*Luke says - "It's T-riffic. The better you do, the bigger the challenge." 2130\* to beat! Do you have the lightning-fast eye to beat Luke at his favourite game?*

**SNAKE PIT**

Imagine yourself in a snake pit. The snakes and their eggs must be gobbled up before the snakes eat the Gobbler ... who must eat the last egg before the first snake. Eat the eggs, and more snakes are freed to attack. Eat all the snakes and the game begins again ... but faster! Faster!

*Luke's comment: "Better than Pacman. It's a reeily fun game! 12570\* eggs to gobble if you want to beat my best. Get it?"*

**SIEGE**

Watchfulness and skill protect your castle from the encircling marauders in this **Siege**. Drop rocks to dislodge them, and their anger makes them faster ... and faster! Are you fast enough to hold them back from the top of the wall? Speed your reflexes.

*Luke says - "Bet you can't keep the Glooms away as long as I did?" 4360\* to beat! That's difficult.*



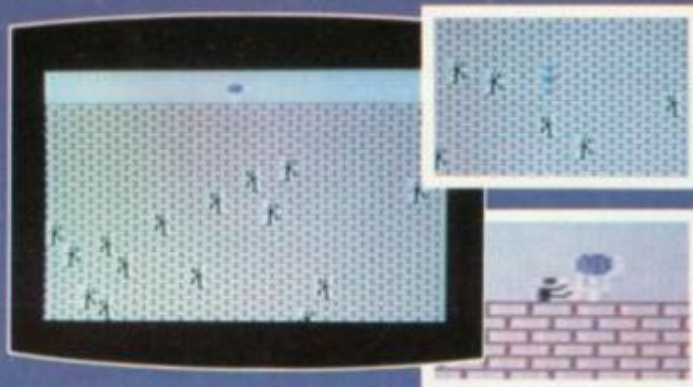
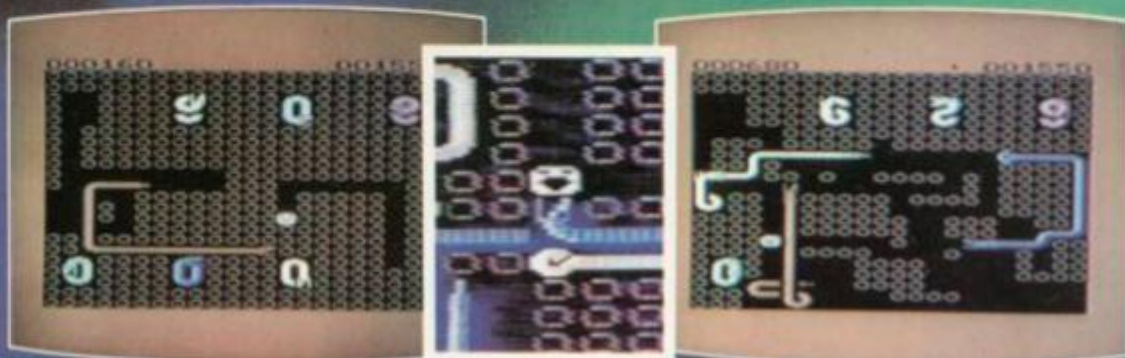
Got a good game or game idea? *Luke says* "If it's really good, send it to me soon. I'm testing lots more games for Postern. We're big enough to pick the best from a big range of games - so watch these pages for the very best in games! Write to me with your super scores, too!"

\*The scores quoted were achieved on a Spectrum computer - Different computers give different score potential.

TAKE UP THE CHALLENGE OF POSTERN'S

*Imaginations Unlimited*

...and see if you can beat Luke's super scores!



Is Luke only a boy, or has constant exposure to Postern Imaginations Unlimited given him new powers in the world of the imaginations? Find the answer yourself with these new Imaginations Unlimited games.

WESTERN  
*Imaginations Unlimited*

Look for the **IMAGINATIONS UNLIMITED** symbol - only on games from Postern - to offer you a really super challenge!

Available from many computer stores.

To order by post please send your cheque, postal order or Access/Visa card number with this coupon.

To: **Postern Limited**  
P.O. Box 2, Andoversford  
Cheltenham, Glos. GL54 5SW  
or telephone: (0242) 82741  
(24 hour order service)

Please send me: (Write quantity in box(es))

SHADOWFAX	at £7.99	On Tape	or £9.99	On Disk
SNAKEPIT	at £7.99	or £9.99	or £9.99	(being)
SIEGE	at £7.99	or £9.99	or £9.99	(being)

Total £ \_\_\_\_\_

Name: \_\_\_\_\_ Address: \_\_\_\_\_

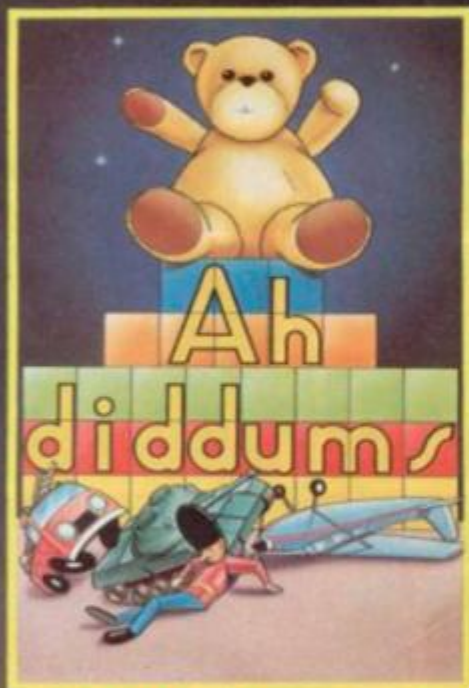
COMPUTER TYPE: (Tick box)

Commodore 64  
 BBC 'B'  
 Spectrum  
 No disc for Spectrum

VIC 20



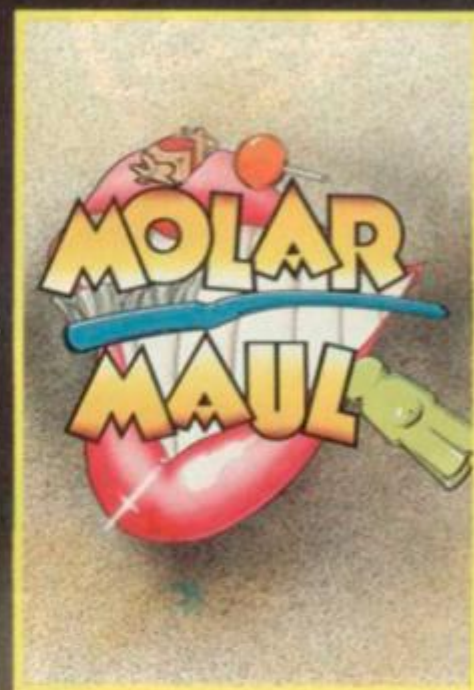
# How are your s



**With Teddy**  
(for any ZX Spectrum)



**With Insanity**  
(for any ZX Spectrum)



**With a Smile**  
(for any ZX Spectrum)



**With a Smile**  
(for any Com  
or any ZX

Any of these games for just

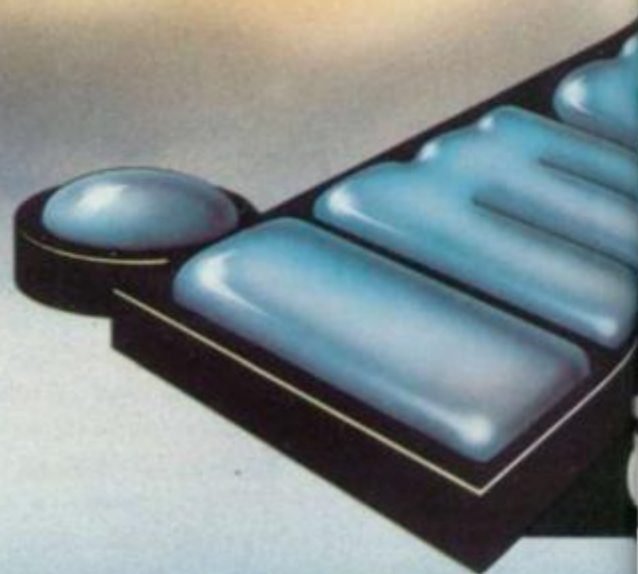
**£5.50**  
EACH

including first class post,  
packing, VAT and an  
UNCONDITIONAL  
LIFETIME GUARANTEE

When you buy Imagine Software you buy it for life. If an Imagine Software product EVER fails to load first time simply return it to Imagine for an instant free replacement. **All orders despatched by first class post within 24 hours of receipt. Subject to stock availability.**

Why not put a first class stamp on your envelope and you will receive your order within 3 days of posting. Available from W.H. Smiths, Boots, John Menzies, Dixons and all good software outlets.

Dealership enquiries contact: P. J. Finnegan on 051-236 0645



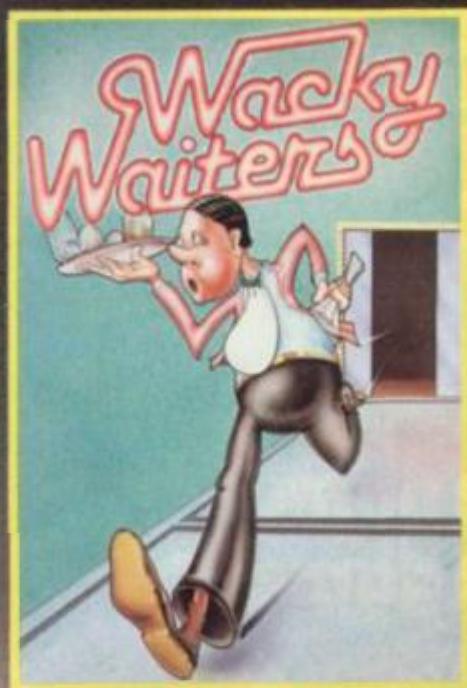
Imagine Software, Masons Buildings, Exch



# senses coping?..



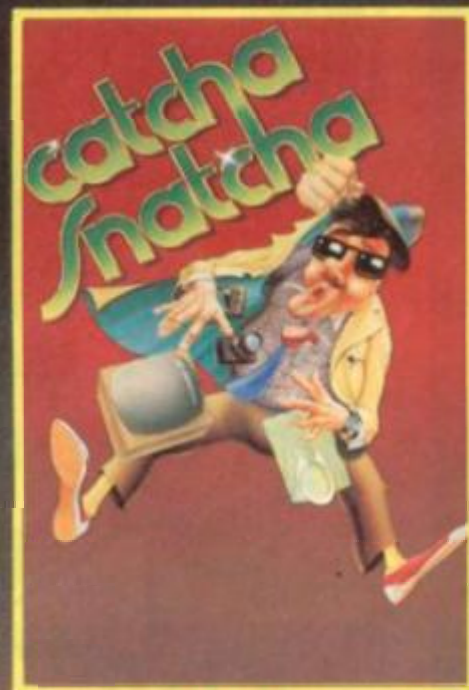
**With  
Addiction**  
Commodore VIC-20  
(or ZX Spectrum)



**With  
Lively Lifts**  
(for any Commodore VIC-20)



**With  
Reflex Action**  
(for any Commodore VIC-20)



**With  
Crime Fighting**  
(for any Commodore VIC-20)



**...the name  
of the game**

Post coupon now to Imagine Software, Masons Buildings, Exchange Street East, Liverpool, Merseyside L2 3PN. Please rush me copies of (tick box)

<input type="checkbox"/> Arcadia	<input type="checkbox"/> Schizoids	<input type="checkbox"/> Arcadia	<input type="checkbox"/> Wacky Waiters
<input type="checkbox"/> Ah Diddums	<input type="checkbox"/> Molar Maul	<input type="checkbox"/> Catcha Snatcha	<input type="checkbox"/> Frantic

(for any ZX Spectrum) (for any Commodore VIC-20)

Please debit my Access/Barclaycard (delete as necessary)

Card Number

I enclose Cheque/PO for £

Name

Address

CVG6

**SUPERFAST CREDIT CARD SALES LINE:**  
**051 236 6849 (24hrs)**



**QUALITY**



**..the name  
of the game**

**SOFTWARE**

*From*

**WH SMITH**

**John Menzies**

**Dixons**



and our  
Nationwide Independent Dealer  
Network



# COMPETITION-PRO JOYSTICK

PRECISION GAME CONTROL!



### Outstanding Features

- Self centring stick. • Super strong nylon and steel construction, built to last.
- A total of 8 directions plus 2 large fire buttons. • Arcade proven moulded leaf switches ensure incredible reliability. • For ZX Spectrum complete with stylish interface which simply plugs into the Spectrum expansion port (with or without printer) ONLY £25.00 inc VAT. • Full range of joystick compatible software for Spectrum available from W H Smith, Boots and leading computer shops or direct from us. • For VIC 20, Commodore 64, Atari 400 and Atari 800 only £16.50 inc VAT.

### Now Available

- Program listings to convert your Sinclair/PSION game to work with the Joystick.
- Hungry Horace, Horace Goes Skiing and Flight Simulation only £2.00 each inc P&P.

SOLE UK DISTRIBUTOR

## KEMPSTON MICRO ELECTRONICS

180a Bedford Road, Kempston, Bedford, MK42 8BL

#### Hardware

- Spectrum Joystick // £25.00
- VIC 20, Commodore 64 Joystick // £16.50
- Atari 400/800 Joystick // £16.50

#### Software

- |   |                               |          |
|---|-------------------------------|----------|
| <input type="checkbox"/> Cosmic Guerrilla | 16K Spectrum Crystal          | // £5.95 |
| <input type="checkbox"/> Android I        | 16K Spectrum Kempsoft         | // £5.95 |
| <input type="checkbox"/> Jetpac           | 16K Spectrum Ultimate         | // £5.95 |
| <input type="checkbox"/> Blind Alley      | 16K Spectrum Sunshine         | // £5.95 |
| <input type="checkbox"/> Mazeman          | 16K Spectrum Abersoft         | // £5.95 |
| <input type="checkbox"/> 3D Tunnel        | 16/48K Spectrum New Gen       | // £5.95 |
| <input type="checkbox"/> Galaxians        | 16K Spectrum Artic            | // £5.95 |
| <input type="checkbox"/> Spookyman        | 16K Spectrum Abbex            | // £4.95 |
| <input type="checkbox"/> Slippery Sid     | 16K Spectrum Silversoft       | // £5.95 |
| <input type="checkbox"/> Cyber Rats       | 16K Spectrum Silversoft       | // £5.95 |
| <input type="checkbox"/> Night Flite      | 16K Spectrum Hewson Cons      | // £5.95 |
| <input type="checkbox"/> Time Gate        | 48K Spectrum Quicksilver      | // £6.95 |
| <input type="checkbox"/> Meteoroids       | 16K Spectrum Softek           | // £4.95 |
| <input type="checkbox"/> Gulpman          | 16K Spectrum Campbell Systems | // £5.95 |

Please tick appropriate boxes  
Please add £1.00 P&P on hardware.  
Software post FREE

Post & Package

Total (VAT inclusive)

Cheques/Postal orders should be made payable to Kempston (Micro) Electronics Ltd  
For Access/Barclaycard please give your card number and signature

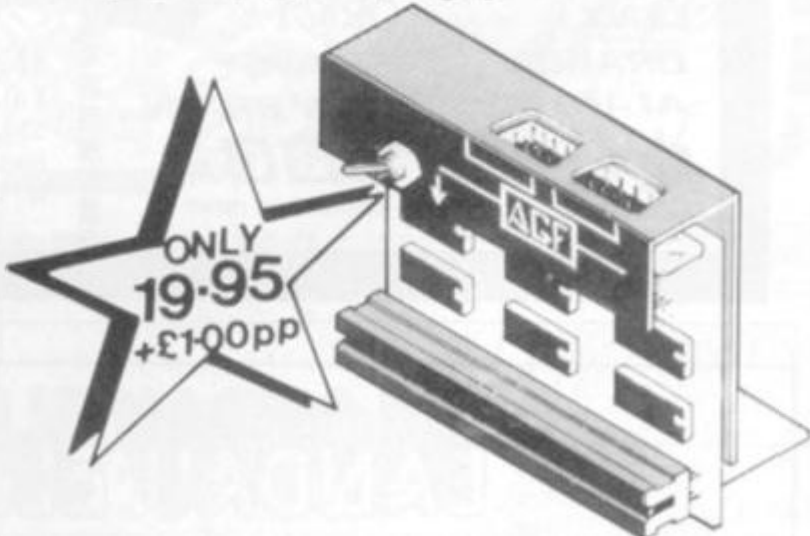
Card No. \_\_\_\_\_

Signature \_\_\_\_\_

Address \_\_\_\_\_

Please post to Kempston (Micro) Electronics, Dept CVG6  
180a Bedford Road, Kempston, Bedford, MK42 8BL

# ....Introducing the AGF JOYSTICK INTERFACE II for Sinclair ZX Spectrum 81



### A SELECTION OF COMPATIBLE SOFTWARE

#### ZX SPECTRUM

- |                  |  |       |
|------------------|--|-------|
| Abersoft         | Mazeman                                |       |
| Axis             | Labyrinth                              |       |
| Campbell Systems | Gulpman                                |       |
| DK Tronics       | <input type="checkbox"/> 3D Tank       | £4.95 |
|                  | Meteoroids                             |       |
| ICL              | Star Trail (Man.Dock)                  |       |
| New Generation   | <input type="checkbox"/> Escape        | £4.95 |
| Software         | <input type="checkbox"/> 3D Tunnel     | £5.95 |
| Psion            | * Flight Simulation                    |       |
|                  | VU-3D                                  |       |
| Silversoft       | <input type="checkbox"/> Ground Attack |       |
|                  | <input type="checkbox"/> Cyber Rats    | £5.95 |

#### ZX81

- |            |                 |
|------------|-----------------|
| Artic      | Galaxians       |
| J.K. Greye | 3D Monster Maze |
| P.S.S.     | Krazy Kong      |
|            | Ghost Hunt      |
|            | Maze Drag Race  |
|            | Asteroids       |

#### Silversoft

- NB  Available from us, please tick  
\* Not suitable for original interface

FROM: MR/MRS/MISS

ADDRESS \_\_\_\_\_

SEND C.W.O. ONLY TO: A.G.F. HARDWARE, DEPT CVG

26 VAN GOGH PLACE, BOGNOR REGIS, WEST SUSSEX PO22 8BY

QTY	ITEM	ITEM PRICE	TOTAL
	INTERFACE MODULE II	20.95	
	JOYSTICK(S)	7.54	
	SOFTWARE AS TICKED ON LIST		
	SOFTWARE AS TICKED ON LIST		
ZX81 <input type="checkbox"/>	ZX SPECTRUM <input type="checkbox"/>	Please tick	FINAL TOTAL

DEALER ENQUIRIES WELCOME

EXPORT PRICES ON APPLICATION

#### ABOUT OUR JOYSTICK INTERFACE

Following the footsteps of our extremely popular original interface, which has sold over 1,000,000 worldwide since its launch last year, we have improved its performance.

The Interface Module II has been specially designed to plug on to the expansion port of your ZX Spectrum or Z80 and allows you to control any standard Atari type digital joystick. All of the computer's connections are duplicated in an extensive connector so that you can still use any other devices intended for use with your computer. The Interface Module II resides in the same memory space as the keyboard, which remains fully functional at all times. Therefore it will not interfere with anything else connected.

When a joystick is plugged on there is no need to adjust anything else. The joystick keys are "1", "2", "3" and "4". The firing button will activate key "1". The computer guarantees the best software support.

#### KEY FEATURES

- Proven control key simulation for maximum software support
- Accepts Atari, Competition Pro, Wars, Starlight, Le Stick, etc Joysticks
- Standard joystick facility
- Eight directions programmed in simple BASIC
- Rear extension connector for all other add-ons
- Free demo program, "Video Goalball" + full instructions

## JOYSTICKS

ATARI CONTROLLERS

FOR USE WITH OUR INTERFACE

Module II on VIC 20, Commodore 64, Atari VCS, Atari 400, Atari 800

If you require extra joysticks for our original interface module check under "JOY" Supplies

ONLY £7.54 inc VAT + P&P



DON'T MISS THIS INCREDIBLE OFFER!

**50 GAMES £9.95!**

CASSETTE 50 FOR YOUR MICRO



GALACTIC ATTACK  
SPACE MISSION  
LUNAR LANDING  
PLASMA BOLT  
STARTREK  
RADAR LANDING  
ATTACKER  
GALACTIC DOGFIGHT  
ZION ATTACK  
INVASIVE ACTION  
OXO  
BOGGLES  
PONTDON  
SKI JUMP  
HANGMAN  
OLD BONES  
THIN ICE

MAZE EATER  
ORBITER  
MOTORWAY  
FORCE FIELD  
NIM  
TUNNEL ESCAPE  
BARREL JUMP  
CANNONBALL BATTLE  
OVERTAKE  
SITTING TARGET  
SMASH THE WINDOWS  
SPACE SHIP  
JET FLIGHT  
PHASER  
INTRUDER  
INFERNO  
GHOSTS

SUBMARINES  
ROCKET LAUNCH  
PLANETS  
BLACK HOLE  
DYNAMITE  
DO YOUR SUMS  
DERBY DASH  
SPACE SEARCH  
UNIVERSE  
RATS  
TANKER  
PARACHUTE  
JETMOBILE  
HIGH RISE  
THE FORCE  
EXCHANGE



**U.T.S.**

NOW AVAILABLE FOR

Sinclair  
**SPECTRUM**  
**ZX81** 30 games 1K  
20 games 16K  
**LYNX**

**DRAGON**  
**ATARI**

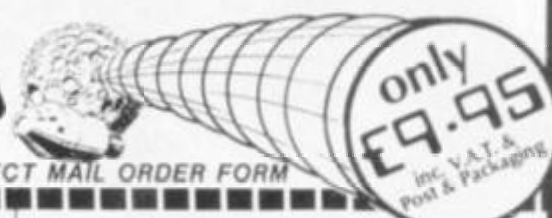
apple (ON DISC & CASSETTE)

Cash paid for games — contact us now!  
CASCADE/UTS GROUP

VIC-20  
**ACORN**  
**ATOM**  
**ORIC-1**  
**SHARP**  
**NEW BRAIN**  
**BBC A/B**



DIRECT MAIL ORDER FORM



**U.T.S.,**  
P.O. Box 96,  
53 Lincoln Grove,  
Harrogate,  
N. Yorks. HG3 2UZ

SUPPLY CASSETTE 50 FOR \_\_\_\_\_ COMPUTER  
I enclose cheque/PO payable to U.T.S.  
Name \_\_\_\_\_  
Address \_\_\_\_\_

# LANDAU ELECTRONICS LTD.

HOME COMPUTERS, SOFTWARE AND VIDEO GAMES SPECIALISTS

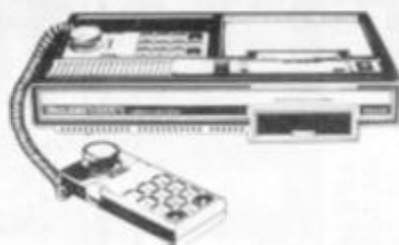
BRING REAL ARCADE PLAY HOME WITH **INTRODUCING COLECOVISION**



## VECTREX

Built in 9" screen. High-resolution imagery. 3-D rotation with zooming in and out effects. Expanding range of cartridges.

OUR PRICE £129.95



Complete with  
**DONKEYKONG**  
at £149.95

Expansion module lets you play all V.C.S. games

**COME IN AND SEE THESE NEW GAMES**  
**WE STOCK THE LATEST AND THE BEST SOFTWARE FOR ATARI TEXAS**  
**COMMODORE APPLE SINCLAIR AND OUR RANGE IS CONSTANTLY EXPANDING**



**ATARI 800**  
Now with 48K at  
£399.95



The  
**TEXAS TI99/4A**  
Our Price  
£149.95

**TEXAS OFFER**  
Buy any 6 software modules and receive a FREE Speech Sintz. or Cass Unit.

**ATARI INDEPENDENT SERVICE CENTRE**

ALSO AT  
215 High Street,  
Sutton, Surrey  
Tel: 01-643 5494



**MAIL ORDER PHONE 01-636 9613**

Send s.a.e. for our price lists

LANDAU ELECTRONICS LTD (DEPT CVG)  
Lion House, 227 Tottenham Court Road, London W1.

Prices correct at time of going to press



IN STORE AT  
VIDEO CITY CENTRE  
5 Tottenham Court Road  
London W1



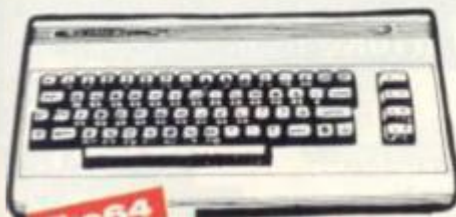
# Chromasonic Hall of Fame No.43

THE 'HOME MECHANIC' COMPUTER USER. HABITAT= UNDER SINK, OR CAR, WIELDING PLUNGER OR MONKEY WRENCH. HAS A VAST ARRAY OF BOLTS, NUTS, SPANNERS, BLOW-TORCHES AND ADJUSTABLE GRIPS, WHICH HE ITEMISES AND FILES, USING A DATA BASE. THIS SPECIES' COMPUTER IS USUALLY THE SAME DIRTY OILY COLOUR AS THE REST OF HIS TOOLS. ALSO IS HIS CAR, CLOTHES, HAIR, WIFE, DOG, FRIENDS, & CHIPS!



## WE'LL FIT YOU OUT

AT CHROMASONIC, WE UNDERSTAND THE REQUIREMENTS OF ANY MICRO ENTHUSIAST, HOWEVER GRUBBY, AND CAN PROPOSE JUST THE SYSTEM TO CLEAN-UP THOSE DIFFICULT COMPUTING TASKS, AND WE'LL NOT SOFT-SOAP ANYONE INTO BUYING SOMETHING THAT WON'T FIT. IF YOU CALL ON US, WE'LL MAKE SURE YOUR ENJOYMENT IS NOT SOILED. TRY US.



- 64K RAM
- Z80 PROCESSOR OPTION
- DEDICATED VIDEO CHIP
- SPRITE GRAPHICS
- MUSIC SYNTHESIZER
- PRESTEL LINK
- HIGH RESOLUTION GRAPHICS (320 x 200)

OUR PRICE  
**£343**

**commodore**

- 16 COLOURS
- IEEE-488 & RS232C INTERFACE
- PET SOFTWARE COMPATIBILITY
- USED WITH MONITOR OR TV
- INTERNAL VHF MODULATOR
- OUTPUT FOR EXTERNAL AMPLIFIER
- FULL PET CHARACTER SET
- ACCEPT PLUG IN APPLICATION CARTRIDGES

- FULLY PROGRAMMABLE USER PORT
- 2 PORTS FOR JOYSTICKS OR LIGHT PEN
- NETWORKING
- PORTS FOR TWO SETS OF PADDLES
- NEW 6500 CPU WITH EXTRA I/O
- FULLY COMPATIBLE WITH 6502 ASSEMBLY LANGUAGE
- INTERFACE TO MANY PERIPHERALS

## DRAGON 32

- 9 Colours
- 32K RAM memory as standard, expandable to 64K
- Extended Microsoft colour basic as standard

- Typewriter Keyboard
  - 6809E CPU
  - Advance sound feature
  - 32 Columns x 16 Lines
- OUR PRICE  
**£189**



## VIC 20

- NEW LOW PRICE **£129**
- VIC PRINTER **£212.00**
- VIC SINGLE FLOPPY **£286**
- VIC CASSETTE DECK **£39.00**

STOP PRESS		VIC 20 GAMES	
CARTRIDGES	VIC1905	VIC JOYSTICK	£6.90
	VIC1914	"JELLY MONSTERS"	£18
	VIC1917	"ADVENTURELAND"	£23
CASSETTES	VIC3501	"MADDOCK CASTLE"	£23
	VIC3502	"KULZMASTER"	£10
	VIC3511	"KNOW YOUR OWN IQ"	£10
		"MASTERSHIP"	£10



**Britain's First Micro with a Televised Instruction Course! Including NEW T-2 OPERATING SYSTEM**



**GP100A SEIKSHA**

FULL GRAPHICS CAPABILITY  
CENTRONICS PARALLEL INTERFACE

OUR PRICE **£217**

**GP100VC for VIC20 or 64 £263**

TELEPHONE

*Chromasonic Hall of Fame Album* sends 75p for your collector's Album. Start by cutting out the cartoon on this page in a series of 50. We will send you the cartoon of your choice with every order, to help you build up this exclusive 1985 collection. Price for 1st full album presented to us!!

# CHROMASONIC PERSONAL COMPUTERS

48 JUNCTION RD, ARCHWAY, LONDON N19 5RD Telex 22568



I am interested in a home computer. Please send me further details

- VIC 20    DRAGON 32    COLOUR GENIE  
 ADD-ONS    SOFTWARE

TERMS OF BUSINESS: All prices incl. 15% VAT. Delivery charged at Cost. Prices valid for cover date of this mag. Access and BarclayCard orders welcome.

Please send me:  I enclose cheque/P.O. for £.....



Please send me "Hall of Fame Album" I enclose 75p.

NAME: .....  
ADDRESS: .....

**01-2639493 or 5**





# Teach your Commodore 64 every trick in the book.

With the best software games book ever for your Commodore 64.

This mind blowing collection of game programs, written by Software wizards Clifford and Mark Ramshaw, will turn your Commodore 64 into an entire arcade of electronic fun and thrills. Experience action so fast and furious it will shatter all your concepts about computer game excitement.

The Commodore 64 Games Book is packed with nerve shattering space and adventure games and includes intriguing strategy games too! Some programs even contain machine language routines.

Every game maximises all the Commodore 64's sophisticated features, including its innovative Sprite capability. And you don't need complex programming skills, because all these programs are very easy to enter.

If you want to know every trick in our book, order your copy today. Book £5.95.

All programs from this book are also available on cassette. Each cassette contains 15 programs. £6.95.

## We can teach the VIC 20 a few tricks too!



### Vic Innovative Computing

30 highly creative game programs that will open a new dimension of thrills and excitement for every VIC 20 owner.

Featuring arcade favourites like Hoppy, Nuclear Attack, Space Flight and Chess.

The specially designed format ensures that all the programs are very easy to understand and enter.

These programs are also available on a set of 3 cassettes. Book £6.95. Each cassette £5.95.



### Vic Games Pack

Five fantastic space games on one cassette, including Invaders, Storm and Ground Attack. Every game makes full use of the VIC 20's stunning graphics and sound.

Also included are two 100% machine language programs, Alien Blitz and Space Rocks. This Game Pack is the ultimate test of nerves and skill - amazing value for only £5.95.



### Wizard and the Princess

In this multi part medieval graphics adventure, you are a bold knight who must rescue the beautiful princess from the grasp of an evil Wizard.

To succeed, you must storm the castle, slay fire breathing dragons and fight the evil troll to the death. A challenge that pushes you and the capabilities of your VIC 20 to the limit.

Cassette for standard VIC 20 £5.95.

## MELBOURNE HOUSE PUBLISHERS

Please send me your free 48 page catalogue. Please send me:

### Books

VIC 20  
 VIC Innovative Computing

**COMMODORE 64**  
 Commodore 64 Games Book

£6.95

**Cassettes**  
**STANDARD VIC 20**  
 VIC Innovative Cassette 1  
 VIC Innovative Cassette 2  
 VIC Innovative Cassette 3  
 VIC Games Pack  
 The Wizard & The Princess

£5.95  
£5.95  
£5.95  
£5.95  
£5.95

### COMMODORE 64

Commodore 64 Super Cassette A  
 Commodore 64 Super Cassette B

£6.95  
£6.95

Please add 80p for post and pack

TOTAL £ \_\_\_\_\_

All Melbourne House cassette software is unconditionally guaranteed against malfunction. Access orders can be telephoned through on our 24-hour ansafone (01) 858 7397.

I enclose my cheque / money order for £ \_\_\_\_\_

Please debit my Access card No. \_\_\_\_\_ Expiry date \_\_\_\_\_

Name \_\_\_\_\_ Address \_\_\_\_\_

Postcode \_\_\_\_\_

CVG6

# MELBOURNE HOUSE PUBLISHERS







# THE **Computer Fair**

*Personal computers  
Home computing  
Small business systems*

Sponsored by **Practical Computing** and **YOUR COMPUTER**

**EARLS COURT  
16-19 JUNE 1983**

Thursday: 1.00 pm-6.00 pm  
Friday & Saturday: 10.00 am-6.00 pm  
Sunday: 10.00 am-5.00 pm

#### **Admission Prices**

Adults: £3.00      Children under 16 and OAPs: £2.00

*See copies of Practical Computing and Your Computer for reduced price voucher.*

#### **Advance Party Bookings**

For groups of 20 people or more:  
Adults: £2.00      Children: £1.00  
*(plus one free ticket per 20 sold for the organiser or teacher)*

#### **Super Savings from British Rail**

*all inclusive tickets available from:*  
The Travel Centre Kings Cross Station London NW1 9AP  
Tel: 01-278 2477

#### **Further information from:**

The Exhibition Manager, The Computer Fair '83  
Reed Exhibitions, Surrey House  
Throwley Way, Sutton, Surrey SM1 4QQ

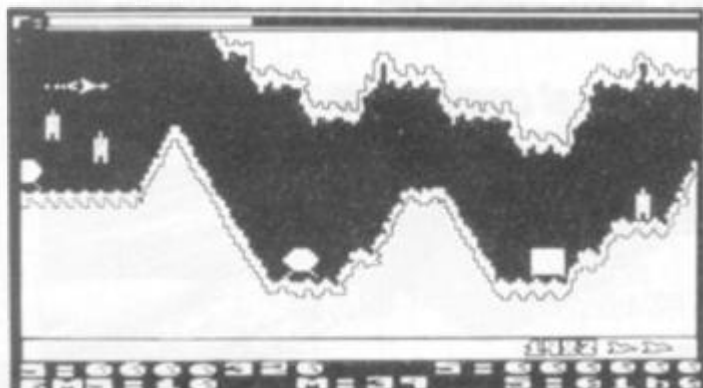


# ENGLISH SOFTWARE EXPLOSION™

FOR ATARI® 400/800™ COMPUTERS

Available now from:  
 Gemini Electronics, Manchester.  
 (Speedy Mail Order!).  
 Calisto, Birmingham.  
 Norman Audio, Preston.  
 Silica Shop, Kent.  
 Micro C, Gamer, Brighton.  
 Microspot, Liverpool.  
 Microchips, Winchester.  
 Silicon Chip, Slough.  
 Hi-Fi Weston, Bristol.  
 REW, London.  
 Silicon Centre, Edinburgh.  
 Godfreys, Basildon.  
 Games Centre, London.  
 Galaxy Video, Maidstone.  
 Spectrum Shops.  
 Vision Store, Surrey.  
 C.W. Computer Services, Douglas, Isle of Man.  
 G.P. Video, Wrexham.  
 Wootons, Crewe.  
 Channel One, Essex.  
 Model Shop, Stroud.  
 Mr. Micro, Manchester.  
 Dealers—Contact us now!

**TRADE DISTRIBUTION:**  
**CALISTO CENTRE SOFT**  
**SOFTSEL C.P.**

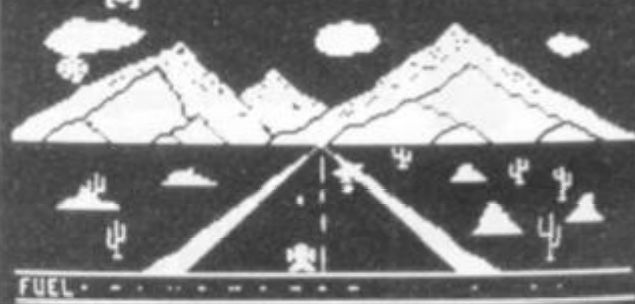


## AIRSTRIKE For The ATARI 400/800

INTRODUCING THE NEW ARCADE GAME FOR ATARI COMPUTERS!  
 SUPERB SCROLLING GRAPHICS WITH DAZZLING COLOURS! 100% MACHINE CODE PROGRAMME FOR ONE OR TWO PLAYERS!  
 MULTIPLE SKILL LEVELS—FIGHT YOUR WAY THROUGH CAVERNS AND TUNNELS WITH ATTACKING MISSILES. FUEL AND AMMO DUMPS TO CONTEND WITH!  
 AVAILABLE NOW! 16K CASSETTE/DISK £14.95

## NEW XENON RAID™

SCORE 888888 L=8  
 HIGH SCORE 020870  
 XENON FUEL 92 K=88



32K CASSETTE/DISK

Protect Earth's Military Equipment from the XENONS. Use your scout ship to attack, dock with the DRONE, and re-energise!  
 100% Machine Code.

£14.95



16K CASSETTE/DISK  
 Superb Multiple Screen Landing Simulation—choose your landing site, avoid hazards, and re-fuel! Descend, manoeuvre and seek all the landing pads—progressive skill levels abound! 100% Machine Code. £14.95



16K CASSETTE/DISK  
 Graphic Animated Adventure—seek wands, swords, pentacles and cups—avoid deathtraps and Demos and Phobos! You must survive and escape the maze of tunnels. £14.95



16K CASSETTE/DISK  
 Real Time Graphic Adventure—survive through different levels of play to capture the enchanted ring. Collect weapons, armour and supplies—banish the Time Lord forever. Lions and crosses will help you—follow the clues! Full save game features on both cassette and disk. £14.95



CASSETTE  
 Our new character generator lets you re-define and shape your own character sets. Full editing facilities and documentation. £6.95



CASSETTE  
 Design and save beautiful multicoloured sprites, and use them in your own programmes! Full editing facilities and documentation. £6.95

Available now from your local Atari and Commodore 64 dealer or direct by post. We are leading the way in realistically priced software for ATARI and Commodore 64 computers and urgently require programmers now. We will market your programs in Europe and the U.S.A. Contact us today!



CASSETTE Features include:  
 Names cassette-saved programs.  
 Searches and loads named program.  
 Displays contents of cassette on screen.  
 Verify facility. Lists variables.  
 Automatic line numbering.  
 Renumbers any basic program quickly.  
 Creates binary files on tape. Plus many, many more features.  
 Use only 4k of memory maximum! £7.95



ENGLISH SOFTWARE™

ENGLISH SOFTWARE company  
 DEPT. CV,  
 50 NEWTON STREET,  
 PICCADILLY,  
 MANCHESTER M1 2EA.  
 Tel.: 061-236 7259

ATARI IS A TM OF ATARI INC



New!



**COLECO VISION**  
CBS COLECOVISION —  
**£149**

— INCREDIBLE GRAPHICS!  
EXPANDS INTO A FULL MICRO-COMPUTER. SUPPLIED COMPLETE WITH DONKEY KONG!

**2 YEAR GUARANTEE**

ON **ATARI COMPUTERS**

WE SERVICE ALL ATARI & COMMODORE COMPUTERS  
SERVICE DEPT :  
061-236 3395

**ATARI INDEPENDENT SERVICE CENTRE**

FAST NATIONWIDE MAIL ORDER ON ALL PRODUCTS.

FULL RANGE OF CHESS COMPUTERS IN STOCK

**WE STOCK**

ATARI 400/800, SINCLAIR, CREATIVISION, VECTREX, COMMODORE VIC, 64 COMPUTERS.

CALL FOR BEST PRICES!

**WE STOCK**

ALL ATARI, ACTIVISION, PARKER, SPECTRAVISION, APOLLO, IMAGIC, MATTEL & COLECO CARTRIDGES.

CALL FOR BEST PRICES!

**WE STOCK**

COMMODORE 64/VIC /SINCLAIR SOFTWARE

CALL FOR BEST PRICES!

**WE STOCK**

LOTS AND LOTS OF ATARI SOFTWARE. E.g. Zaxxon, Nautilus, Jumbo Jet Pilot, Apple Panic, Centipede, Miner 2049er, Slime, Intruder, Alien Swarm, Preppie, Pacman, Mathpack, Choplifter Rom, Soccer!, Airstrike — plus many, many more titles — Call now for our latest batch of detailed brochures! We will keep you up to date on all the new software releases!!! — Upgrade to 32K/48K today!

# GEMINI ELECTRONICS

50 Newton St., Off Piccadilly, Manchester M1 2EA. Tel: 061-236 3083/7259

**NEW!** ATARI VCS COMPUTER KEYBOARD  
CONVERTS YOUR ATARI INTO A REAL COMPUTER! CALL NOW FOR DETAILS!!



**ATARI 400 TYPEWRITER KEYBOARD** £59.95  
NOW IN STOCK AT  
CALL NOW FOR DETAILS!!

CREATIVISION  
**VECTREX**  
sindair

## RAM PACKS FOR YOUR VIC 20

### HARDWARE

32K switchable to 3K, 16K, 24K + hi-res. ....				£69.95	
16K switchable to 3K .....	£44.95	8K .....	£29.95	3K .....	£19.95
4-slot motherboard .....	£24.95. All slot directly into the back of your Vic 20.				

### SOFTWARE

<b>Cartridges</b> — Sargon Chess, Gorf, Omega Race, Forth, Choplifter .....	£24.95
Alien, Jelly Monsters, Mole Attack, Rat Race, Road Race .....	£19.95
Meteorites & Satellites, Spiders of Mars, Tank Atak, Cloudburst .....	£17.50
<b>Vic Tapes</b> — Boss Chess (8K) £14.95, Bonzo (8K) £7.95, Grid Runner £6, Abductor £6	
Asteroids £7, Cosmiads £7, Moons of Jupiter £9.99, Shark Attack £9.99, Martian Raider £9.99, Vic Rescue £5, Frog £4, Krazy Kong £6, Quackers £9.99, Skramble £9.99, Annihilator £9.99. Commodore 64 tapes — Grid Runner £8.50, Star Trek £7, Mutant Camels £8.50, Krazy Kong £8.99, Alien Panic £8.99, Monopolee £9.99, Grave Robbers £9.99, Adventure Pack 1 £9.99.	

ALL PRICES INCLUDE VAT. Please add £1 post and packing for hardware, 50p for software. Overseas orders — exclude VAT add £2 post and packing.

Please send the following:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I enclose my cheque/PO for £ \_\_\_\_\_

Charge my Access/Barclaycard number \_\_\_\_\_

Credit card or postal orders for goods by return post (1st class)

To: **RAM ELECTRONICS (FLEET) LTD.**,  
106 FLEET ROAD,  
FLEET, HANTS. GU13 8PA  
ENGLAND.  
Telephone (02514) 5858 (not Weds.)

From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TRADE ENQUIRIES WELCOME.

CVG 06

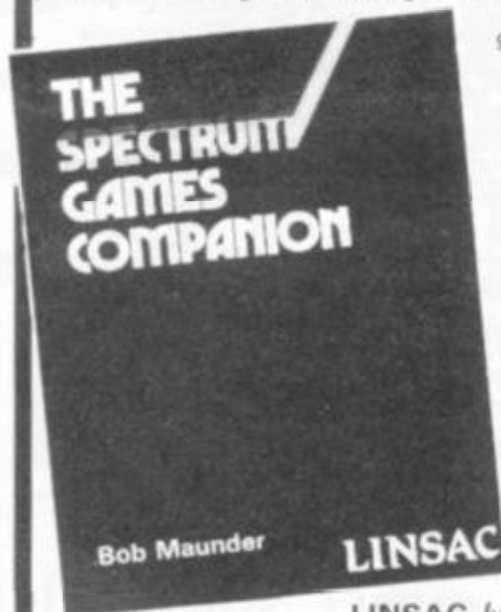


Linsac's ZX Companion series has received excellent press reviews:

"Far and away the best" — *Your Computer*

Thoughtfully written, detailed and illustrated with meaningful programs ... outstandingly useful" — *EZUG*

'The Spectrum Games Companion' is the latest addition to the series and is aimed at the games player and programmer alike. Twenty-one games designed specifically for the ZX Spectrum are included, with clear instructions on entry and play. Each program is explained fully with complete details on how it is designed and written. Introductory chapters show how to set up and use the Spectrum and how to create your own games. Later sections cover number games, word games, board games, simulation games, dice games, card games and grid games. If you want to enjoy your ZX Spectrum and learn its secrets at the same time then this is the book for you!



Bob Maunder is co-author of 'The ZX80 Companion' and author of 'The ZX81 Companion'. He is a Senior Lecturer in Computer Science at Teesside Polytechnic, holds an MSc degree in Computer Science, and is a Member of the British Computer Society.

The Spectrum Games Companion is available from good book shops, or send £5.95 to:

LINSAC, (VO) 68 Barker Road, Middlesbrough, Cleveland TS5 5ES

ONLY £5.95

Postage is free within the U.K. —

add £1 for Europe or £2.50 outside Europe.

ISBN 0 907211 02 X

## DO YOU PLAY T.V. GAMES?

If so, then why not send for details of our library of TV games cartridges for ATARI, INTELLIVISION & PHILIPS Video Computer Games?

WE ARE NOW ALSO INTRODUCING OUR LIBRARY OF CARTRIDGES FOR ATARI 400/800, VIC 20 & TEXAS TI99/4A.

For only £10 Life Membership, we offer you the most comprehensive library of the above TV & computer games on a daily rental basis of only 25 pence a day, with no postage and packing costs, and special discount purchase prices.

We are also offering a quality free gift to anyone joining us within 21 days.

So don't delay, send today for details of our fast growing Video & Computer Games Library, and get yourself a whole lotta fun!

S.A.E. to E&E Enterprises Ltd, P.O. Box 8, Saltash, Cornwall PL12 6YU.

Please include details of the system(s) owned.

## R & R

### STAR TREK 48K

Rid the Galaxy of the evil Klingons. Protect your Star Bases from attack. ("Easy to play. Difficult to beat" *Sinclair User Dec '82*)



ONLY £4.95

### P-E-P

THE PROGRAM ENHANCEMENT PACKAGE FOR THE ZX81 (16K)

A suite of easy to use machine code routines designed to transform your Basic programs.

- DEFINED SCROLL REGION 1 line to whole screen
- SCROLL up or down
- FILL SCREEN any character
- CHANGE BACKGROUND
- CHANGE FOREGROUND
- INVERSE VIDEO
- FLASH SCREEN
- CLEAR SCREEN without changing print position

Supplied on tape with a 6K DEMO PROGRAM and a FULL instruction booklet

ONLY £5.95

### 16K Spectrum GOLF

Hi-Res Full colour graphics. A game for 1 or 2 players. All the features of a full size course. THE family game. (*Reviewed Sinclair User Oct '82*)



ONLY £3.75

### GNASHER 16K

THE ULTIMATE MAZE GAME. Ghosts, Energy Pills, Bonus Fruit, Sound, Colour + much more. Starts easy, Becomes impossible.



ONLY £4.95

Send to: R & R SOFTWARE (CVG)  
34, Bourton Road,  
GLOUCESTER GL4 0LE  
Tel: GLOS (0452) 502819

48 HOUR DISPATCH  
Overseas +10% please  
Large Dealer Discounts

ZX  
SPECTRUM



## TEXAS TI99/4A SOFTWARE

Quality software on cassette. All programs run on the standard unexpanded machine. Unconditional replacement guarantee on all tapes.

Order code	Title	Price
GM1	CATERPILLAR	£1.95
GM4	SNAKE	£2.95
GM5	HAUNTED HOUSE	£3.95
GM6	SORCERER'S CASTLE	£3.95
GM7	3-D MAZE	£3.95
GM8	NIM	£2.95
GM9	FRUIT MACHINE	£2.95
GM16	ISLAND ADVENTURE	£3.95
GM17	FORBIDDEN CITY	£4.95
GM18	PHARAOH'S CURSE	£4.95
GM19	DEVIL'S ISLAND	£4.95
GM21	CHALICE	£3.95
GM22	BOMBER	£3.95



THE TEXAS PROGRAM BOOK  
(35 programs for the TI99/4A) £5.95

All prices include VAT. Please add 50p p&p to orders under £6. Orders over £6 post free. Send cheque or P.O. or telephone with Access, Barclaycard for immediate despatch. Send S.A.E. for list.

### APEX SOFTWARE (CVT)



115 Crescent Drive South,  
Brighton BN2 6SB.

Tel: (0273) 36894



DEALER ENQUIRIES WELCOME



# VORCON WARS

A Computer Moderated Play By Mail Game for Strategists and Sci-Fi Buffs.

The game has the main themes of exploration, trading and conflict and is played on the planet Vorcon which has land masses, seas and terrain similar to that of the Earth but laid out in hex format. The planet can be fully circumnavigated in your search for mineral and industrial wealth but your men have to be fed and supplied with weapons. There are 22 different options to help you achieve these and many other projects.

There are excellent facilities for alliances but should battle commence the game excels with aspects such as fortifications, minefields, retreats, surrender and finally death, portrayed in depth. The attentive player can use rocket and satellite technology to move men and ultimately achieve atomic superpower status with the ability to launch a nuclear offensive. No random or chance aspects are used, so that all battles achieve a strategic significance rarely heard of in other computer games.

SEE THE REVIEW ELSEWHERE IN THIS MAGAZINE.

Each turn you receive a map, status reports, your previous battle results and a new order sheet. If you would like to enter Game 8, then 1.50 pays for your first three printouts, the rule book, a blank map sheet and postage. Or just write to me for more information.

J Nicholson, 71 Juniper, Birch Hill, Bracknell, Berks.

## BLABY COMPUTER GAMES

Announce new games for the following machines:

### DRAGON

#### LASER BLAST



You have only a few shields left. Can you withstand this constant barrage from the Klingons? 16k  
£6.95

#### PLANET CONQUEST



Land your Freighter Ship safely and then you may proceed to your next solar system. (Skill levels, etc.) 16K  
£6.95

#### LASER RUN

A nail biting star wars type game.

### SPECTRUM

#### CONFUSION



You are totally "CONFUSED" and are being attacked from both sides by the most nastiest Aliens known in the universe. 48K M/C  
£4.95

#### GOLD DIGGER



Dig your way through the mine and collect the gold nuggets on your way and stay ahead of the nugget gnashers. 48K M/C  
£4.95

#### LASER RUN

A nail biting star wars type game.

16K £6.95

### ORIC

#### ANDROID ASSAULT

The androids are in pursuit. You escape the maze only to find yourself in another.

16K £5.95

ATARI 32K RAM PACKS £59.95

DEALER ENQUIRIES WELCOME!

**Blaby Computer and Video Games**

Crossways House, Lottemoth Road, Blaby, Leics.

# R.S.C. LTD

## U.K.

Commodore 64	£299 inc	Fully guaranteed machines.
Commodore Vic 20	£129 inc	Post & Packing free of charge in U.K.
Atari (48K) 800	£389 inc	Cheques payable R.S.C.
Atari 400	£159 inc	Ltd

## EXPORT

Shopping umbrella for discount buyer.  
Best prices for all hardware and software.  
Commodore, Atari, Dragon, Spectrum etc.  
Send for information and prices on particular interest.

Any quantity, large or small.

All cheques U.K. or Export to:

**R.S.C. LTD**

75 Queens Road  
Watford, Herts. U.K.

Tel: 0923 43301

# NUMBER ONE FOR THE DRAGON!

## DRAGONWARE

The vaults of the Dragon Dungeon are packed with the widest range of Dragon 32 software and peripherals available in the U.K. Send for our 30-page Dragonware Catalogue and kill the myth that the beast lacks programs! (Catalogue 50p, refundable on first order — free to Club Members).

## DRAGON OWNERS CLUB

The Dungeon is also the home of the largest Dragon Owners Club and publishes the monthly Club Magazine "Dragon's Teeth". News, reviews, advice and information exchange for dedicated Dragon-bashers. Monthly money-saving offers, monthly competitions, Clubware from badges to bomber jackets. Free members' adverts. Annual Membership £6.00 (£8.00 overseas) or six-month Trial Sub. £3.25 (£4.25 overseas).



### THE DRAGON DUNGEON

P.O. Box 4, Ashbourne,  
Derbyshire DE6 1AQ.  
(Tel: Ashbourne 44626)



# Sinclair ZX Spect



## The growing range of Spectrum Software



You'll know already that the Spectrum has generated an enormous range of peripherals and independent software. Our own range is growing very fast and is shown in the Sinclair Software Catalogue - free with every ZX Spectrum.



# trum-news!

**16K now  
£99.95**  
*Previously £125.*

**48K now  
£129.95**  
*Previously £175.*

At last, a 16K colour computer with graphics for under £100!

Why have we done it?

Partly because the sheer volume of Spectrums sold (over 300,000 so far) has brought down unit production costs.

And partly, of course, because we hope you'll buy a Sinclair computer – and not some competitor's promise! We've all heard about colour computers breaking the £100 barrier. Here's the computer that's done it. A colour computer with advanced graphics that's fully supported, and widely available.

Right now, you can order a Sinclair Spectrum at these prices direct from Sinclair on the order form below. And to make it even easier to handle high-level computing at the

lowest possible price, we've cut the cost of the printer, too. At £39.95, it's almost unbelievable!

At prices like these, there's really no reason to wait.



**ZX Printer now  
£39.95**  
*Previously £59.95*

**How to order your ZX Spectrum**  
Access, Barclaycard or Trustcard holders – call 01-200 0200 24 hours a day, every day. By FREEPOST – use the coupon below. Please allow up to 28 days for delivery. 14-day money-back option.

**sinclair  
ZX Spectrum**

Sinclair Research Ltd., Stanhope Road,  
Camberley, Surrey, GU15 3PS.  
Tel: 0276 685311. Reg. no: 1135105.

To: Sinclair Research, FREEPOST, Camberley, Surrey, GU15 3BR.				Order
Qty	Item	Code	Item Price £	Total £
	Sinclair ZX Spectrum – 16K RAM version	3000	99.95	
	Sinclair ZX Spectrum – 48K RAM version	3002	129.95	
	Sinclair ZX Printer	1014	39.95	
	Printer paper (pack of 5 rolls)	1008	11.95	
	Postage and packing: orders under £90	0028	2.95	
	orders over £90	0029	4.95	
				Total £ _____

Please tick if you require a VAT receipt

\* I enclose a cheque/postal order payable to Sinclair Research Ltd for £ \_\_\_\_\_

\* Please charge to my Access/Barclaycard/Trustcard account no. \_\_\_\_\_

\* Please delete/complete as applicable. \_\_\_\_\_

Signature \_\_\_\_\_ PLEASE PRINT

Name: Mr/Mrs/Miss \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ CVG906

FREEPOST – no stamp needed. Prices apply to UK only. Export prices on application.



# The Plaice for ATARI® Users



More than just a computer take away, we're the best in the Mid-West for Atari Software and Hardware. Our huge Software stock updates so fast it would be pointless to list. If you've read about it first in those superb American magazines, Compute, Analog or Antic then, if we haven't got it, we can get it within days. By the way we also sell the magazines.

**Special Offer**  
**Choplifter Cartridge for Atari 400/800**  
**£24.95 including p-p.**

Send Cheque or phone your Access or Visa Number.

Within easy reach from the M4 we're

**efficient chips**

40 THE MARKET PLACE, CHIPPENHAM, WILTSHIRE  
Telephone (0249) 654321 Ext. 39

**WILTSHIRE'S BEST for VIC 20/64 & ORIC**

Bamby  
software

## Introduce original games for Dragon 32

**Inter-Planetary Trader:** Buy your cargo, lift your shuttle and proceed to your destination. Avoid aliens, pirates and meteors along the way! £5.95.

**Surprise:** Spells, giants, and a magic ring, but no relation to the 'Lord of the Rings'. An absorbing adventure game. £8.45.

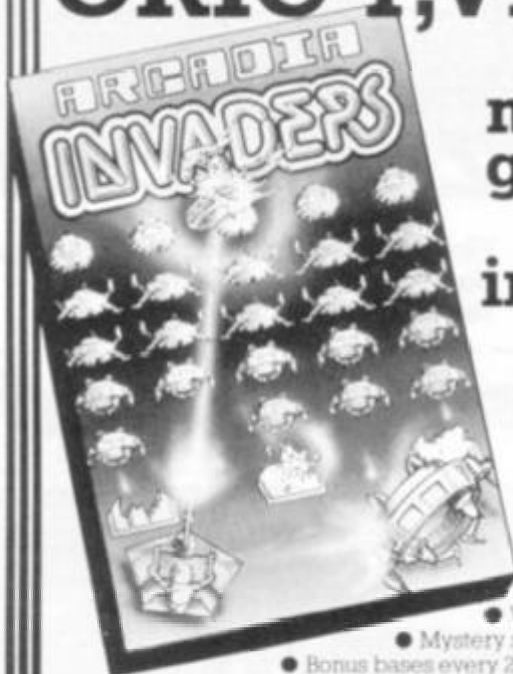
**Amazing:** Five high resolution mazes especially for children. Teaches basic use of the computer, and the concepts of up, down, left and right. £5.95.

**Golden Apples of the Sun:** The apples have been stolen and you must find them. Try on Harpie Hill or the Tombs of the Zombies. Highly compelling. £8.45.

Ring any day, 9 a.m. to 9 p.m. or write

**Bamby Software**  
Leverburgh, Isle of Harris, PA83 3TX  
Tel. 085-982-313

# ORIC-1, VIC-20



The  
meanest  
game of  
space  
invaders  
you'll  
ever  
play!

### FEATURES

- Three invader types
- Written in machine code
- Mystery scoring mother ships
- Bonus bases every 2000 points
- High score register
- Full sound effects and colour

You must defend earth from the hordes of bomb dropping space invaders, using your earth bound laser base. The more invaders you hit, the faster they come - leading to a gun-blazing shoot-out as finale.

**A great shoot-'em-up, all action arcade game, for the 16K or 48K ORIC-1 or unexpanded VIC-20.**

Send cheque or P.O. for £4.00 (postage paid), stating computer type and memory size to:



**ARCAIDIA  
SOFTWARE**

FREEPOST, SWANSEA, SA3 4ZZ

# ZX Microfair June 4th!

The 7th ZX Microfair will be on June 4th at  
Alexandra Palace Exhibition Pavilion London.

It's twice as big as the last show.

Easy to get to from any part of the country!  
Come along and see everything for ZX computers!

\* ZX Spectrum \* ZX81

\* Software \* Hardware \* Books \* Users Clubs.  
Practically every manufacturer of ZX products.

Admission: Adults £1.00. Kids (under 14) 50p.

### HOW TO GET THERE.

#### By London Transport

**Underground:** Victoria Line from Victoria (also Oxford Circus, Kings Cross/St Pancras) to Highbury and Islington — change (cross platform) to BR Suburban Service to Alexandra Palace — free shuttle bus or 5 minute walk from there!

**Alternative:** Piccadilly Line (from Heathrow etc) to Finsbury Park or Wood Green — Link with W3 bus service to the fair.

#### By British Rail

From London (Kings Cross or Moorgate) — about every 10 minutes to Alexandra Palace station - free shuttle bus or short walk from there! From any part of the U.K. enquire from Kings Cross, Travel Centre, London N1 9AP (phone 01-278 2477) about special day trips to the ZX MICROFAIR!

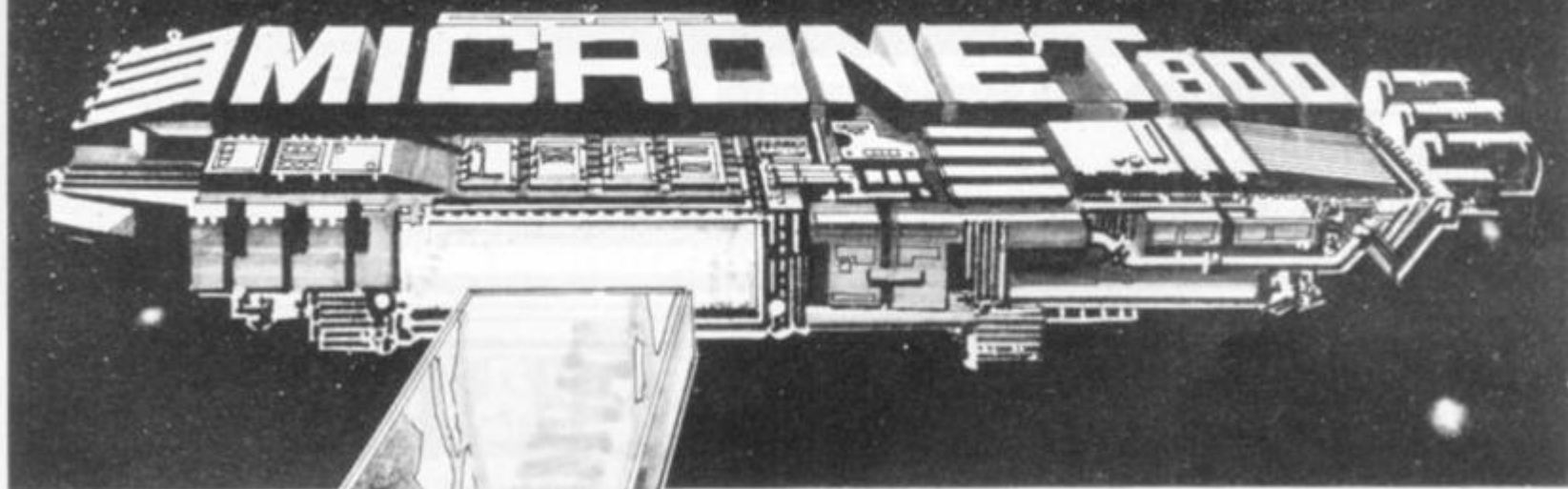
#### By Road

Follow signs from the A1 (Links with M1 and North Circular). Plenty of parking space available! Variety of routes from Central London.

**7th  
ZX MICROFAIR**



# Dock your games software into Britain's largest home-user database...



... *one cassette reaches thousands of enthusiasts.*

Micronet 800 is a powerful new service that opens up a whole new world of opportunities for microcomputer users.

When this huge database was launched just a few months ago, it attracted thousands of enquiries from home computer enthusiasts who could see the huge new vistas when you link microcomputers with Micronet 800...an 'Aladdin's Cave' of hundreds of games programs which can be downloaded to individual machines...hundreds of thousands of pages of news, reviews, product data and prices from the computer world and from *Prestel*...and an electronic mail-box for exchanging messages and ideas with other users right across the country.

All this for around a modest 15p a day. Subscribers are linked by telephone through a modem, making it the fastest and most direct means of selling your games software downline to machines like the BBC Micro, ZX Spectrum, ZX81, Apple II, Tandy TRS80 and PET.

Make a name for yourself in games software. Send your disk or cassette, together with the coupon to Micronet 800 at the address below.\* We will validate the program, and let you know what you stand to gain from Micronet 800.



Micronet 800  
Bushfield House  
Orton Centre  
Peterborough PE2 0UW

Name _____	
Address _____	
Tel: _____	
Name of Program _____	Type of Micro _____
<input type="checkbox"/> Please tick box if you are interested in becoming a Micronet 800 subscriber.	

CVG6/83

\*We cannot return cassettes or disks unless a stamped addressed envelope is enclosed.



# T-SHIRTS



Want to look tough? Well, when you wear a Computer and Video Games T-shirt no-one is going to kick sand in your face! There are three designs to choose from. One is discreet little number with the C&VG logo on the front in delicate shades of red and black. The Bugs feature large on our other two offerings. One features Snag Junior in glorious bright blue with the words "Watch out-there's a Bug about" writ large. Screaming Foul Up has managed to find his way onto our third shirt in brilliant yellow and green with the slogan "There's no polite word for something that bugs!"

The T-shirts come in four sizes, Extra Small, Small, medium and large, and cost £2.65 plus 30p for post and packing. Cheques and or PO's (not cash) should be sent to: Computer and Video Games T-shirt Offer, 10-12 Victoria Road, Northampton.

## COMPUTER & VIDEO GAMES T-SHIRT OFFER

Name .....  
 Address .....  
 Tel .....

Tick Size Reg. ES  S  M  L  Tick Design Reg. 1. "watch out"  2. "There's no polite word"  3. "Logo"

T-shirts cost £2.65 plus 30p p&p. Cheques/P.O.s payable to Computer & Video Games T-shirt offer.  
 OFFER APPLIES U.K. only.

Please return to: Computer & Video Games T-shirt offer, 10-12 Victoria Road, Northampton. PLEASE ALLOW UP TO 28 DAYS FOR DELIVERY.



## BACK ISSUES

Look what you've been missing! Games programs for your favourite machine, news and reviews of those games tapes you've always wanted to know about, plus special features on the latest trends in the exciting world of computers and gaming.

If you would like to catch up on what's been going on in the pages of Computer and Video Games over the past months why not send off for some back issues? It's easy to do.

Just send details of the copies you want with your name and address, plus a cheque or postal order made payable to Computer & Video Games to C&VG Back Issues, Competition House, Fardon Rd., Market Harborough, Leicestershire. Each issue costs £1 including post and packing.



## EASIBINDERS

**Quick, neat and easy!**



It's so easy and tidy with the Easi-bind binder to file your copies away. Each binder is designed to hold 12 issues and is attractively bound and blocked with the COMPUTER & VIDEO GAMES logo. Price U.K. £4.25 including postage, packing and V.A.T. Overseas orders add 25p per binder.

Nat. Giro No. 5157552. Please allow 3/4 weeks for fulfilment of order. Payment by ACCESS/BARCLAYCARD/VISA. Send coupon below detailing credit card no. and signature. Why not place your order now? Send the completed coupon below with remittance payable to:-

Easibind Ltd., 4 Uxbridge St., London, W8 7SZ.

### Order Form COMPUTER & VIDEO GAMES

I enclose P.O./cheque value ..... for ..... binders  
 Years required ..... BLOCK LETTERS PLEASE  
 Name .....  
 Address .....  
 Date ..... Registration No. 307469.





## MAKE YOUR CONTRIBUTION TO SPECIAL EDUCATION MORE EFFECTIVE

Robyn Frankham copes very well with her learning problems, thanks to developments with computers in special education. Like many other children, she now has the ability to communicate with the aid of microelectronic devices which help her to write essays, draw pictures and most important of all, to gain her independence.

Learning To Cope '83 — Computers in Special Education, is the second of this annual publication which presents the story of Robyn and how many other physically and mentally handicapped children and adults are coping with their futures. Tremendous progress is being made through the manufacture of specialised devices and through the dedication of teachers and parents.

Learning To Cope '83 looks at specialised computer hardware and software and brings you the latest developments in applications covering all aspects of special education. Read for yourself how committed people have developed and redesigned new and existing equipment to help those in special education help themselves.

We can all help if we care enough.

**Learning To Cope '83 — Computers in Special Education £2**

Please send me a copy of Learning To Cope '83 — Computers in Special Education. I enclose a cheque/postal order made payable to Educational Computing for £2 (including p&ps).

Name .....

Position .....

Establishment .....

Address .....

Signed .....

New please post to: Learning To Cope '83, 8 Herthall Hill, London ECTR 5HB.

## DRAGON 32 NEW FROM TROJAN "SPACE TREK"

Space Trek is an absorbing space wars game in real time which can be played in any of four levels. Special features include:  
Onboard battle computer. Long range galaxy scanning.  
A galaxy containing 100 quadrants. Impulse and warp drive speeds.  
Shield control and status reports.

THIS GAME IS A MUST FOR DRAGON USERS. APPROVED BY DRAGON DATA LIMITED.

### THE TROJAN LIGHT PEN

Plugs into joystick port.  
Supplied with cassette of instructions.  
A simple to use device for micro fans.

Send to:

**TROJAN PRODUCTS**  
Dept. PCK  
166 DERLWYN, DUNVANT  
SWANSEA, WEST GLAM SA2 7PF

PLEASE SEND:

Space Trek — I enclose cheque p/o for £7.50.  
Light Pen — I enclose cheque p/o for £10.00  
Both prices include post & packing.

MR/MRS .....

ADDRESS .....

## ADVERTISEMENT INDEX

Abrasco Ltd .....	131	Lowe Electronics .....	38/39
Acornsoft .....	46/47	Lyversoft .....	101
Acorn User .....	26	Maplin .....	57
A.G.F. Hardware .....	113	M C Lothlorien .....	92
Anirog Computers .....	34	Melbourne House Publishers .....	116
Apex Trading .....	120	Micro-Antics .....	67
Arcadia Software .....	124	Micromania .....	92
Ashby Computers & Graphics .....	69	Micronet 800 .....	125
ASP Exhibitions .....	66	Mikro-gen .....	91
Atari .....	22/23, 96/97	Milton Bradley .....	80
Bamby .....	124	Nicholson, J .....	121
Blaby Computers .....	121	Postern .....	109
Boots .....	6	Ram Electronics .....	119
Bug Byte .....	72	Reed Exhibitions .....	117
Chamelion Software .....	26	Romik .....	75
Chromasonic Electronics .....	115	R&R Software .....	120
Comchess .....	26	RSC Software .....	121
Commodore .....	4, 19, 62/63	Silica Shop .....	20
Dragon Data .....	102/103	Silversoft .....	94/95
Dragon Dungeon .....	121	Sinclair Research .....	122/123
E&E Enterprises .....	120	Smiths, W.H. & Son .....	42/43
Efficient Chips .....	124	Solar Software .....	91
Electronic Leisure Products .....	100	Softek .....	88
English Software .....	118	Software Express .....	36
Gemini Electronics .....	119	Software Farm .....	66
Imagic .....	77	Spectrum Games .....	2
Imagine .....	OBC, 110/111, 112	Spectrum Group .....	12/13/14/15
Interface .....	108	Startech .....	130
Interceptor Micros .....	129	Tansoft .....	50
Jupiter Ace .....	52	Trojan Products .....	127
Kayde .....	85	U.T.S. .....	114
Kempston .....	113	Video Palace .....	108
Landau Electronics .....	114	Vision Store .....	67
Lasky's .....	58/59	Wiley, John .....	76
Linsac .....	120	Winter, S.W. .....	100
Llamosoft Software .....	82	ZX Microfair .....	124



**DRAGON 32 or TANDY TRS-80 Colour?**  
Lots of programs — lots of useful hints and information EVERY single month in "RAINBOW", an exciting new 200-page magazine from U.S.A.  
Send £2.25 (plus large 57p s.a.e.) for sample issue to **ELKAN ELECTRONICS (Dept CVG), FREEPOST, 11 Bury New Road, Prestwich, Manchester M25 6LZ** or telephone 061-798 7613 (24 hour service).

**BUSINESS HOME COMPUTER DESK**

A choice of laminated finishes.  
Other sizes.  
Single draw, roll under draw pack and shelves.  
VDU desks from £50.



As seen £96.00 inc. VAT & delivery.

**BETA PRODUCTS**  
Tel: 061 747 9260.  
Trade enquiries welcome

For 36" x 24" (standard).

**Buffer MICRO SHOP**

**ZX81·ZX SPECTRUM· DRAGON 32·VIC-20·BBC**

The very best mail order items "over the counter"

Games, Keyboards, Serious Programs, Rams, Books, Peripherals and much, much more!

FAST MAIL ORDER SERVICE PHONE 01-769 2887  
WITH ACCESS/VISA (24hr Ansafone)  
or send large S.A.E. for catalogue (state which computer)

Open 10.30 - 5.30 Tues. to Sat. (closed Mondays)  
310 STREATHAM HIGH ROAD, LONDON SW16

**SPECTRUM SOFTWARE**

**THE HOBBIT** £8.00  
Follow The Hobbit's adventure in the quest to discover the treasures of SMAUG. Includes the book, 48K only.  
**ORBITER** £4.00  
New and exciting version of the popular arcade game, Descender, 16K or 48K.  
Cheques payable to: **R. MASON**

R'n'H Microtec, 32 Hazell Way,  
Stoke Poges, Bucks. SL2 4DD.

**BROKEN JOYSTICK**



**STRONGER** joystick insert replacements supplied with full fitting instructions. **3 YEAR GUARANTEE.** £2.50/ pair inc. p&p.

**SOFTWARE FOR ATARI (TM) 400/800**  
All cassettes

under £5 send s.a.e. for lists.  
**COMPUTER SUPPLIES**  
146 CHURCH ROAD  
BOSTON, LINCS. PE21 0JX

**ATARI 400 & 800 computer owners**

At last real time full colour graphic adventures that are not disk only  
**THE SEARCH** — over 100 screens to wander through, doing battle and making friends in the quest to find your goal. Full save game facilities  
**COMPUTER COMMAND** — all action multi-screen adventure. Pilot your Robo-droids in a last ditch battle to save yourself and your planet.  
£14.95 each inc. VAT and p&p. Please state cassette (16K) or disk (32K). Send cheque or P.O., payable to C. S. Software.  
**C. S. Software, 61 Redhouse Lane, Bredbury, Stockport. Tel: 061-494 9183.**

**PAGE 6 YOUR ATARI™ MAGAZINE**

**DO YOU OWN AN ATARI**

Yes? Then learn more about programming, software and what is going on in the Atari world by subscribing to PAGE 6 — the premier Atari users magazine in the U.K. Written by Atari enthusiasts for all Atari users, the magazine includes listings, tutorials, news, reviews etc.

PAGE 6 is published bi-monthly and the annual subscription (6 issues) is £4.00 U.K./£7.00 Europe. Single copies (when available) 70p inc. p & p.

Issue 3 — better than ever — available now.

Send to **PAGE 6, 18 Underwood Close, Parkside, Stafford.**  
Please make cheques payable to ABACUS.

**THE WAR MACHINE**

is the specialist magazine for micro owners who want conflict games of strategy and skill — games which retain their interest over repeated playings. Discounts on software from independent suppliers, and innovative games from Emjay, are available only to TWM subscribers. Single issue £1.15 (overseas £1.65)  
Six-issue subscription £6.50 (overseas £9.50)  
**Emjay, Room M, 17 Langbank Avenue, Rise Park, Nottingham NG5 5BU, England**

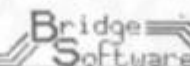
**ZX81 Spectrum BBC VIC**

**GAMES CASSETTES**

**ZX81 (16k) Super Invaders** £4.95  
On-screen league tables. Game in machine code — "excellent... one of the two best... deservedly popular" (Pop. Comp. Weekly) "Great game!" S.F. (Glas).  
**ZX81 (16k) Lynchmob** £4.95  
Exciting word game. 2-6 players. Excellent for the family. Great fun, educational too! Animation, on-screen scoring.  
**Spectrum (16k) Lynchmob** £6.50  
As for ZX81 with added excitement of colour, sound and hi-res animation.  
**VIC-20 (unexpanded) Invaders** £6.90  
Machine code, colour, sound.  
**BBC ("B") Bridgeman** £7.90  
The popular gobblet game. Hi-res, colour, sound.

Our motto — quality not quantity  
Prices all-inclusive — sent 1st Class by return  
"I must congratulate you not only on the quality of your goods but also on your excellent service" — G.W. Southall  
Applications software also available

**ZX81 16k RAM** Memotech Memopak 16K  
All-inclusive price £28.50  
Send s.a.e. for details of all our products  
Dept. CVG, 36 Farnwood,  
Marple Bridge, STOCKPORT,  
Ches SK5 5BE



**GENUINE ARCADE JOYSTICKS**

These joysticks are functional, ugly and utilitarian and are taken directly from an arcade machine.

Available for TI99/4A, Vic/Commodore 64, Atari 400/800, price £19.50 (inc. p&p). Orders to: **Arcade Hardware, 211 Horton Road, Fallowfield, Manchester M14 7QE.**

**A C S**

**SOFTWARE FOR THE PET AND CBM64**

**LEAGUE SOCCER 32K PET (New Rom) and CBM 64** £6.50  
Features 92 League Teams, Promotion/Relegation, 2 Cup Competitions, Team Selection, Injuries, Etc. Guide your chosen Team to League and Cup Glory!

**LONDON EXCHANGE 32K PET (New Rom) and CBM 64** £6.50  
Invest your money in any of the 233 Companies-Commodities and attempt to gain a controlling interest in 16 of Britain's major Companies!

**BRIGHTON BEACH ROULETTE 16K PET (New Rom) and CBM 64** £5.50  
Make your fortune on the spin of a wheel or by hawking your Ice Cream Van around Brighton (with due regard for nude sunbathers and Mau-rauding Elephants!)

**TEST MATCH SPECIAL 32K PET (New Rom) and CBM 64** £6.50  
Features include choice of 4 international teams, full field settings, complete batting and bowling averages kept. Your chance to improve on England's recent tour of Australia.

All prices inclusive: (Please don't forget to state machine — CBM64, Basic 3, 4 etc)

Cheques/Postal Orders to:  
**ASHLEY COMPUTER SERVICES,**  
5 Garden Street, Kirkham, Preston PR4 2TU.  
Telephone: (0772) 686122.

**ZX81 (16K) Space Shuttle Game**

Fly your shuttle from planet to planet, but beware of the hazards, and watch your fuel! Also includes two other games. Only £4.95 inc. p&p. FROM: **Sigma Software, 43 Sedge Fen, Lakenheath, Brandon, Suffolk.**

**write n' sell**



We are looking for

Contractual  
Programmers

Interested? Then please ring:  
085-882-313  
any day between 9 and 6.

**NORTHWISH REQUIRE URGENTLY**

Arcade type programs for Spectrum, Vic 20, Oric, Dragon and BBC Micro. We pay top royalties or buy your copyright for cash. National mail order and dealer sales ensure you get the best reward for your genius.

Write or call into

**NORTHWISH LTD.**  
The Ground Floor, Ralli Buildings,  
Stanley Street, Manchester M3 5FD  
or Tel: 061 832 7049

**PROGRAMMERS!**

Expanding Software House requires quality programs of any type, BASIC or machine code, for Dragon, BBC, LYNX, or any other micros.

A CASH PAYMENT will be made for acceptable programs, +25% royalties. These programs will be on the market, within a month! PROGRAMMERS with promise could be offered permanent positions.

Please Contact:-

**Shards Software**  
10 Parkvale Court  
Vineway  
Brentwood  
Essex CM14 4OR

Or 'Phone  
Brentwood (0277) 230338

**HI-TECH MICROSOFT**

HI-TECH SOFTWARE URGENTLY REQUIRE PROGRAMMERS to write dynamic and different software for Spectrum, BBC, Jupiter Ace, ZX81 and all other makes of micros. Good commission paid — turn your hobby into hard cash. For quick evaluation simply send your program to:

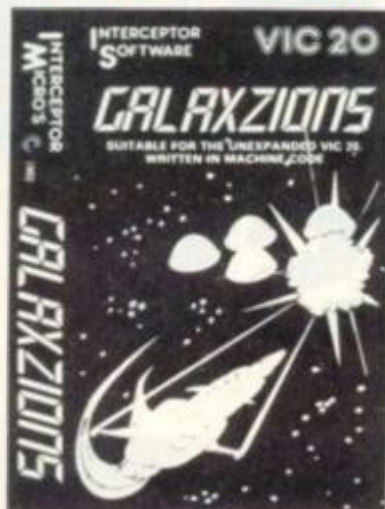
**HI-TECH, FREEPOST, DOVER, KENT.**



UNEXPANDED  
VIC 20

# VIC 20 SOFTWARE FROM INTERCEPTOR MICRO'S

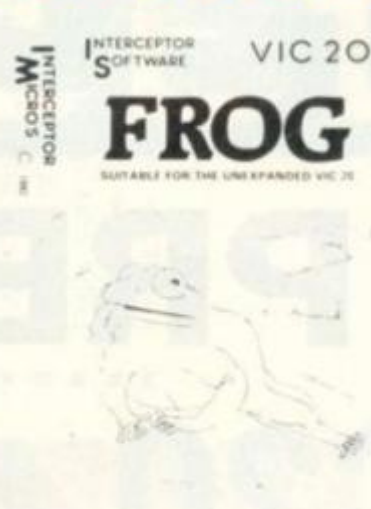
UNEXPANDED  
VIC 20



**GALAXZIONS** - MACHINE CODE  
This is the most amazing alien game ever seen on the VIC 20. Galaxzions swarming in attack formation to destroy your planet. The nearest program to the real arcade game for the unexpanded VIC 20

....£7.00

**NOW ONLY £5.00**



**FROG**  
An amazing version of Frogger in the unexpanded VIC 20. With diving turtles and plenty of vehicles to run you down. Fast action and high resolution graphics, Joystick or Keyboard control.

....£4.00



**ALIEN ATTACK** - MACHINE CODE  
You are under attack from an immense force. This program has various ways for you to battle against, giving an extra-terrestrial experience for any adventurous human being

....£6.00



**VIC RESCUE** - MACHINE CODE  
Your planet is under attack by a fourth dimension and your only escape is by lunar pod to the mother ship. However you must first dodge your way through the Astroid belt and onto the landing pad before returning home. Keyboard or Joysticks control, high resolution colour graphics

....£5.00



**FANTAZIA** - MACHINE CODE  
Star Wars was never like this, you are being invaded by the ultimate Alien force to create a most entertaining game of Fantazia. The enemy are coming in from all angles in some of the most amazing formations. The end of civilisation is near and the only way out is in your hands. May the fear be in you!! Hi-Res colour graphics

....£6.00



**CRAZY KONG** - MACHINE CODE  
Kong has stolen Mario's girlfriend and taken her to the top of his steel fortress. You must guide Mario first across the 'Easy Elevator' and over the custard pies onto the fortress. Up the ladders to your loved one, however, be careful not to be killed in the process by the barrels which Kong hurls down the structure. Includes some of the best graphics ever seen on the VIC 20

....£6.00



**PENNY SLOT**  
This program is designed around a penny slot machine and gives true to life animated action. Try your luck to win a fortune. For VIC 20. With hold and nudge features for only

....£4.50



**PUCKMAN** - MACHINE CODE  
The old favourite back again. Joysticks or Keyboard control. Fast action. High resolution colour graphics on the unexpanded VIC 20

....£6.00

TRADE ENQUIRIES WELCOME

Tel: (07356) 71145

## commodore 64



**STAR TREK** - CBM 64 24K  
Your mission is to clean up the universe from the rebels which inhabit the planets. Warp from galaxy to galaxy in an attempt to complete your aim. Uses sprite graphics and contains full documentation for the beginner. Bravely go where no man has gone before!

....£7.00

**NEW!!**

**PANIC 64 £7.00  
FULL MACHINE CODE  
WITH SPRITES**

**STOP PRESS . . . STOP PRESS**  
Frogger 64. Full machine code. The best 64 game in machine code with sprites. **ONLY £7.00**



Mr. Mrs. Miss _____				
Address _____				
Quantity	Item	Unit Price	Total	
	Frogger CBM 64			
	Galaxzions Vic 20	£5.00		
	Crazy Kong Vic 20	£6.00		
	Frog Vic 20	£4.00		
	Alien Attack Vic 20	£6.00		
	Fantazia Vic 20	£6.00		
	Puckman Vic 20	£6.00		
	Panic CBM 64	£7.00		
	Star Trek CBM 64	£7.00		
	Penny Slot Vic 20	£4.50		
	Vic Rescue Vic 20	£5.00		
	Postage & Packing	.50P		.50P
TOTAL				

Send cheque or PO with order to Interceptor Micro's, Lindon House, The Green, Tadley, Hants

Interceptor Micro's Lindon House, The Green, Tadley, Hants.

**WANTED ONE FULL TIME  
MACHINE CODE PROGRAMMER 6502 or Z80  
SEND IN DEMO TAPE OR RING RICHARD ON 07356 71145**



# STARTTECH

Absolutely  
the lowest  
prices!

## STOP PRESS VIC20

## 16k RAM EXPANSION

# £28.95

INC VAT PLUS P+P

## FOR VIC 20 4 SLOT MOTHERBOARD SWITCHABLE £29.95

- ATARI NEWSLETTER
- VIC20 PRODUCTS
- COMMODORE 64
- ATARI PRODUCTS

All prices subject to  
availability or change without notice

PLEASE SEND ME

(24hr. ANSAPHONE SERVICE)

Name \_\_\_\_\_

Address \_\_\_\_\_

I enclose Cheque, P/O for

CREDIT CARD  ACCESS  BARCLAY CARD


CVG 

# STARTTECH

208 Aigburth Rd, Aigburth, Liverpool L17.051 727-7267





## Fly Snatcher

(VIC-20)

Our Long Established Best Seller!

You are in a field with bushes, and only flies to live on. You must survive by snatching each fly and then diving into a bush or the edge of the field. However, a weasel also lives in the field and is determined to eat you, he will move in any direction and will even jump through bushes to reach you. Each session of fly snatching you survive leads to another with even more flies and a faster weasel.

- ★ Unexpanded VIC
- ★ Joystick or keyboard
- ★ Difficulty increases on each page
- ★ World Record 126 flies — can you beat it?

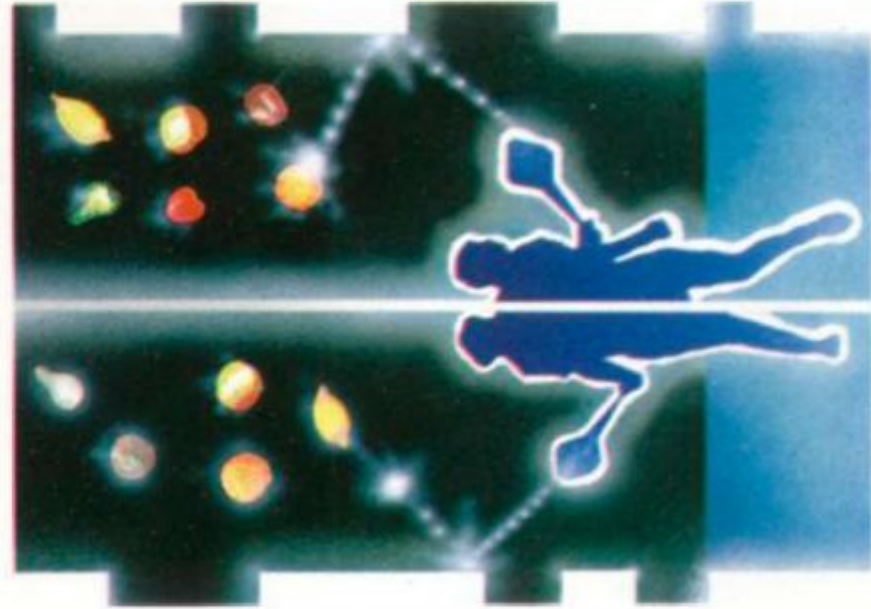
## Double Trouble

(VIC-20)

This appealing game enables two players or one player versus VIC to enter a high speed world where reactions and judgement are paramount to survival. Players must deflect their ball into fruit-like objects that appear despite "Schizophrenic Spike" who roams the play area. The game would be simple but for the growing walls and court boundaries and ...

!! Be thankful this is only a game !!

- ★ Unexpanded VIC
- ★ High speed machine code action
- ★ 1 or 2 players
- ★ Numerous options of play
- ★ Score display
- ★ Life display



## Alien Hunter

(VIC-20)

Experience the safari of the future.

Hunt the alien moving around your sector at the speed of light. Destroy the alien's drones as he lays them in your path, whilst avoiding rogue asteroids. Watch out! Your fuel is diminishing and the pace is accelerating. Your chances of survival are slim.

- ★ High speed machine code action
- ★ Unexpanded VIC
- ★ Joystick control
- ★ 10 levels of play
- ★ High score display
- ★ Fuel replenishment
- ★ Fire action in any direction

# ABRASCO

LIMITED

software for the home computer

Five Great VIC Releases;

ALIEN HUNTER	£7.50
DOUBLE TROUBLE	£9.50
VIXPLODE	£8.50
ANDROID ATTACK	£9.50
FLY SNATCHER	£7.50

Please Send:

ALIEN HUNTER	£7.50	VIXPLODE	£8.50
DOUBLE TROUBLE	£9.50	ANDROID ATTACK	£9.50
		FLY SNATCHER	£7.50

I enclose CHEQUE/P.O. Please Debit Access Card No.

for £.....

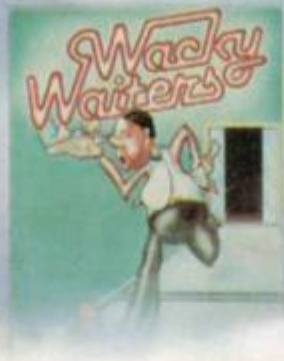
Name:.....

Address:.....

Post Code:.....

Available From Your Dealer  
or Mail Order.






**...the name  
of the game**

Imagine Software, Masons Buildings, Exchange Street East, Liverpool, Merseyside L2 3PN. Telephone: 051-236 0407



A man in a black tuxedo and white shirt with a black bow tie is leaning on a white balcony railing. He is holding a black handgun in his right hand, pointing it towards the camera. He has a serious expression. The background shows a balcony with a white railing and a building with arched windows.

*The  
Book of  
Video Games*

**A Computer & Video Games Supplement**

**CHECK OUT COLECOVISION,  
VECTREX AND ATARI 5200  
Plus cartridge news and reviews  
STEP INTO THE GAMING FUTURE  
Laser discs and holophonics**





Parker's Amidar on the Atari VCS



Activision's River Raid on the Atari VCS



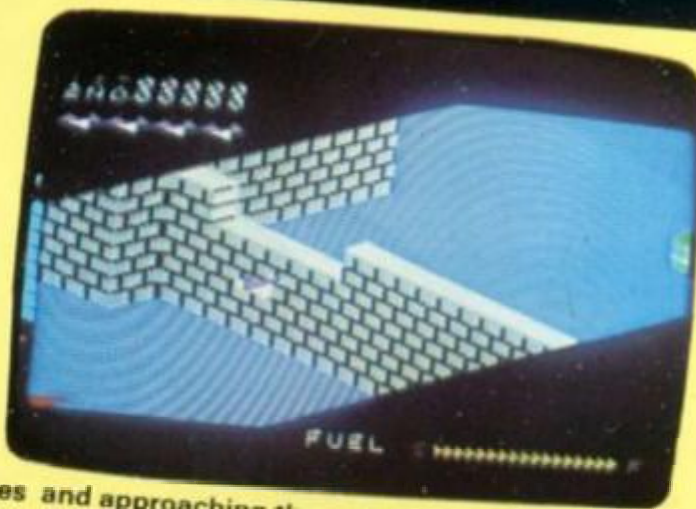
Activision's Spider Fighter on the Atari VCS



CBS Electronics' Wizard of Wor on the Atari VCS



Zaxxon on the Colecovision: Over the Fortress' defences and approaching the wall



Freedom Fighter on the Philips G7000



Conquest of the World on the Philips G7000



# Contents



## News 4

James Bond will be with us in the summer plus inside information on new cartridges, joysticks, keyboards and competitions.

## Shop Window 5

Specialist video games shops are springing up in ones or twos across the country and offer certain advantages – like specialist knowledge and testing opportunities – over the high street chains. We also launch a competition with three star prizes of five cartridges of your choice if you can pick the toughest Video Villains.

## Meet the Designers 6

Eugene Lacey has created several hotlines across the Atlantic to find out how games designers get their ideas off the drawing board and into production. The men behind E.T., Raiders of the Lost Arc, Microsurgeon and Pitfall Harry.

## Arcade Heroes Head for Home 8

From the West End arcades into the living rooms of Slough is an ever shorter transition for the cute characters and startling graphics of the video games scene. We look at five games which are about to make the move home.

## Third Generation Games Systems 10

Colecovision and Vectrex systems are launched this month, the Atari 5200 is coming soon. We take the top off all three systems and look at the advantages each offers and the games which will be adorning them.

## VIDEO SCREEN

### TOP TEN

- 1 **PACMAN** – Atari VCS; Atari
- 2 **FROGGER** – Atari VCS; Parker
- 3 **DEMON ATTACK** – Atari VCS; Imagic
- 4 **PITFALL** – Atari VCS; Activision
- 5 **DEFENDER** – Atari VCS; Atari
- 6 **SPACE INVADERS** – Atari VCS; Atari
- 7 **STAR WARS: THE EMPIRE STRIKES BACK** – Atari VCS; Parker
- 8 **STARMASTER** – Atari VCS; Activision
- 9 **TRON** – Intellivision; Mattel
- 10 **B17 BOMBER** – Intellivision; Mattel

## Questions and Answers 12

Over the past few months, we had a welter of questions and queries coming in from video gamers. Here we do our level best to answer some of them. Apologies if yours was missed out – we hope to get around to it later.

## The Games of Tomorrow 13

Laser discs, holophonic sound and vibra chairs. Just what will you need to play video games in the future? Steve Bloom asked two top arcade experts what technology has in store for the gamers.

## Swap Shop 14

New games for old! Well not quite but we are offering you a chance to swap those titles you've blasted once too often. So look out those games which have drifted to the back of the collection.

## Reviews 15

Three pages of reviews for the new releases. Intellivision, Colecovision, Vectrex and Atari all come under our eagle eye. While the latest games from the new M Network range for the Atari were taken through their paces by George Kopp, editor of Electronic Fun with Computers and Games.

## Games Screening 19

You'll see eight games pictured in glorious colour opposite and there's eight more to check out on page 19. The back page features Illustrated News.



The Book of Video Games comes to you courtesy of:

Ideas and words: Eugene Lacey, Terry Pratt

Design and pix: Linda Freeman

Headlines and spelling: Tim Metcalfe

Fielding calls: Clare Edgeley

Boss: Tom Moloney

More words: Steve Bloom, George Kopp, Robert Schifreen

Drawings: Stephen Gulbis, Stuart Briars

Cover: Roger Moore as James Bond in Octopussy. (Universal Pictures)

Address: Computer & Video Games, Durrant House, 8 Herbal Hill, London EC1R 5JB. Telephone: 01-278 6556

Published by EMAP National Publications

Printed by Eden Fisher (Southend) Limited

Typesetting: H&J Graphics, London

©Computer & Video Games Limited ISSN 0261 3697



## ATARI SCORE A WINNER!

If your favourite football team had a lousy season and the thought of six months of cricket looms like a black cloud then Atari's new Soccer cartridge should provide some welcome good cheer.

Two people can play simultaneously controlling three players each. The player you want to move at any given time is selected by pressing the joystick fire button. The chosen player will then turn white and can be moved up down or left and right. The pitch scrolls horizontally in a direction dictated by the player in possession of the ball. The fire button is also used to shoot and pass.

The referee's whistle can be clearly heard as can the roar of the fans when a goal is scored by one of your video superstars.

This Soccer cartridge is a big improvement on Atari's earlier soccer simulation - Pele Soccer - and is in the shops now at £18.99.

## MY NAME IS BOND - 007

After E.T., Raiders of the Lost Ark, Superman II and Tron, James Bond 007 makes his debut on the games screen.

After arcade titles, cinema heroes are the next best bet for a top video games cartridge and this particular cartridge will have two Bond films to help its sales.

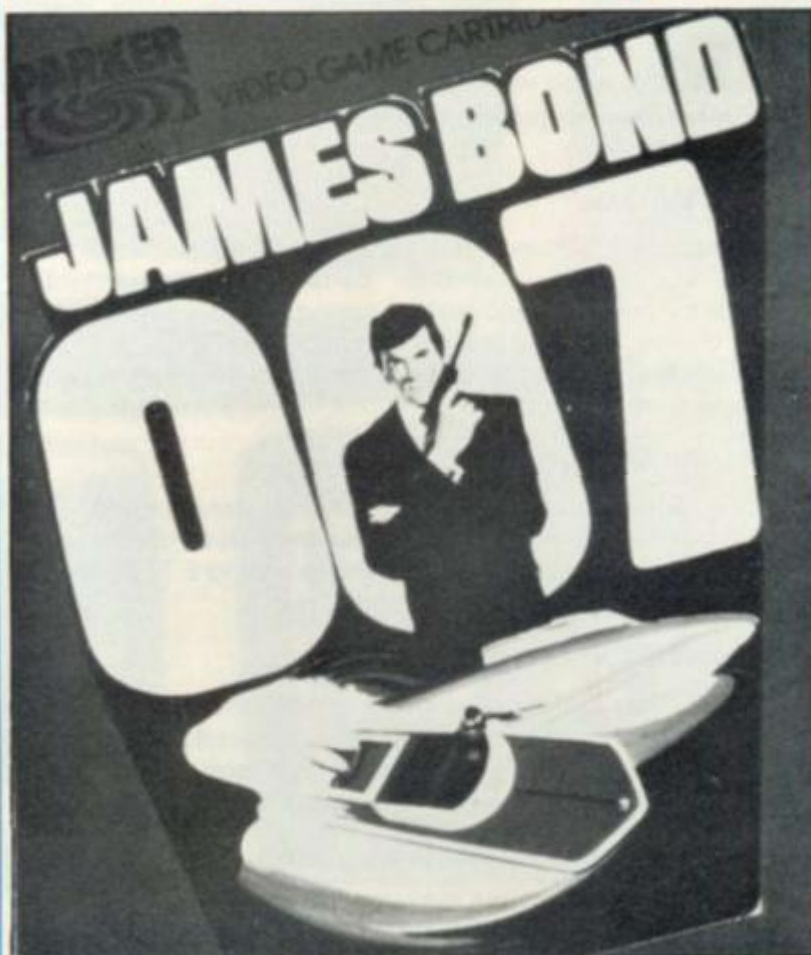
It comes from Parker and is associating itself with Octopussy, featuring Roger Moore as the stirring but never shaken British secret agent.

That is the official Bond movie for this summer but the original screen Bond, Sean Connery, is back a new title, Never Say Never later this year.

Octopussy will be released in the West End this month but goes on general release in August when the Parker cartridge is due out.

In the cartridge the player takes the part of James Bond on a worldwide adventure in which the action takes place in the air, car, boat and even on foot.

He is chased by hoodlums from the evil Smersh syndicate across the world.



## UK VIDEO PENTATHLON

The first UK video games Pentathlon was held recently in Birmingham.

The event was staged by the Activision Fun Club and *Look In* magazine.

Forty finalists were chosen from over 500 qualified members who had achieved sufficient scores on Activision cartridges.

In true Olympic Pentathlon tradition the competition was based on five events: Starmaster, Pitfall, Stampede, Megamania and Chopper Command.

The two winners are John Barber from Walsall and Andrew Davis from Walshaw near Bury, grab an all-expenses paid holiday in California this summer.

## BOUNTY BOB DIGS DEEP

Miner 2049'er has been carving out a considerable reputation for itself in the States and will shortly be available in the UK.

You play the part of Bounty Bob

mining radioactive ore in the year 2049. Collect the equipment left behind by an earlier prospector and then stake your claim before moving on to the next mine. Each mine is different and has an assortment of articles to be picked up in it. The Donkey Kong-like game has 10 levels of screens.

The game will be available in the UK in June imported by Gemini Electronics of Manchester.

## KEY TO THE ATARI VCS

A host of new peripherals are in the pipeline from Atari and scheduled for releases this year.

The most significant of these is a computer keyboard which turns your Atari VCS into a home computer.

It features 8K of Random Access Memory for user programs and has a Sinclair Spectrum-style rubberised keyboard.

Programs can be saved on a normal cassette recorder which is hooked up through an expansion port.

The keyboard attaches through the cartridge slot and sits directly on top of the VCS.

Prices have yet to be confirmed but it is expected to sell for slightly less than £100.

Other exciting peripherals on the way from Atari are a set of remote control joysticks, a trackball controller to give that arcade touch to games like Missile Command and Centipede, and a souped up super joystick called the Pro-line.

## SHOOT THOSE LITTLE ALIENS

Three new Bomb cartridges have just been imported by Pancom of Grimsby for the Atari VCS.

Z Tack challenges you to bomb the aliens defences. You must move your ship in the direction you want to bomb before pressing the fire button.

Great Escape is an alien shoot 'em up in which the aliens scroll towards you in all directions.

The most original of the bunch is Wall Defender in which you must penetrate a maze structure to fire your one missile at the aliens.

Bomb cartridges are all available at £19.95 in UK - compatible PAL format.

Two other titles are available in the Bomb range which you may have read about in last month's *C&VG* - Assault, and Splendour.

## COILS OF THE SERPENTS

Swords and Serpents is the latest graphic adventure from Imagic for the Intellivision games machine.

Following in the footsteps of Riddle of the Sphinx and Dragonfire the game has a lot to live up to.

The plot is based on the dying words of a king of an ancient kingdom. "Would that I could die as I was born, in our family's ancestral land" . . . "Reclaim our conquered kingdom my son. Defy the sinister serpent. Prevail against its henchmen. Restore our tarnished pride . . . Defy . . . prevail . . . restore".

As the young prince and heir to the kingdom its all up to you. Don't miss next month's *C&VG* for a comprehensive review of the game and news of a super Swords and Serpents competition. The game available from your local Imagic stockist now at £29.95.



## Shop Window



## MEET THE VIDEO VILLAINS

It's seldom that the characters represented below will let you win anything.

But in this competition you could pick up three star prizes of your choice of five TV games centre cartridges. So if there's five cartridges for your machine that you'd like to get your hands on, have a go.

Easy Video, the new video games specialist shop in West Drayton, Middlesex is putting up the prizes for anyone who can put these six video villains in order of

toughness — the hardest to play against being No. 1.

Artist Stephen Gulbis has drawn his representation of six of the meanest malcreants ever to haunt a TV games machine.

In case you're not familiar with them all, they are: Activision's deadly Kaboom, the mad bomber; one of Parkers' point-pinching Amidar pigs; Mattel's callous cop from Lock n' Chase; a warrior orc from Philips' Quest for the Ring; a desert nomad from Imagic's Riddle of the Sphinx; and Lex Luther and

his hovercopter, the chief hoodlum from Atari's Superman.

The entries need to be back with us by June 16th when we sort through them to find out who has got the villains in the order of toughness, 1 to 6. The first three out of the hat win their choice of software.

We also have 10 runners-up prizes of five video games cartridge holders for those who come close. The judges' decision is final and no employees or EMAP or Easy Video or their relatives can enter.

## BRIDGING THE GAMES GAP

A new breed of specialised video games shops are beginning to open up throughout the country.

These shops offer a comprehensive range of games and new systems to the video games fan filling the gaps in the ranges of games on offer at the video games counter in your local Woolworths or W. H. Smith.

They also offer video games a chance to try out the cartridge they have their eye-on before they part with the money.

And they can also bring in staff with specialist knowledge of the market.

The best known of these shops is Sidcup-based Silica Shop who have recently advertised their wares on television. But Silica will not be the sole video games specialists any longer.

More recently, West Drayton based Easy Video opened their brand new video games shop in the presence of *Star Wars* super villain — Darth Vader.

The shop offers the complete range of Atari, Activision, Imagic, Coleco, and Intellivision range of games and hardware for hire and for sale.

## THE RIVER RAID CHALLENGE

River Raid puts you at the controls of a B1 assault jet. Your mission is to fly up river as far as you can get destroying the enemy's ships, jets, choppers, and bridges.

You may also bomb the fuel dumps or fly over them if you are getting low on fuel.

This new game from Activision offers you the unique challenge of turning all points on the screen to asterisks if you can notch up that elusive one millionth point.

Computer and Video Games and Activision's UK importers, Computer Games Limited, will reward this considerable achievement with a free copy of June's other new release — Spiderfighter.

According to Computer Games, anyone managing this feat will be among the best video gamers around.

All you have to do is blast your way to a million points. Take a photograph of the screen and send it to our offices: Com-

The judges' decision will be final.

Just one tip from the game's designer, Carol Shaw, line up the nose of your jetfighter with the 'f' on the fuel tank then fire. This will get you points and fuel and is the key to a really high score. Get blasting.

Computer & Video Games, Durrant House, 8, Herbal Hill, London EC1R 5JB. Mark the envelope, "River Raid".

Spiderfighter cartridges will be awarded to the first three correct entries to reach our offices. The



# From Drawing Board to

Have you ever stopped to wonder where the ideas for some of your favourite games come from?

Chances are you probably haven't. It was struggle enough saving up the £30 required to do the business at Woolies in the first place, and an even tougher struggle

to get a few spare moments on the colour telly to plug in your new video game. And now, what's this? C&VG coming over all pacifist — shouting cease fire and start thinking about game ideas.

Well let go of your joystick for a few seconds and read about a

whole new dimension on video games.

The phone lines have been burning between C&VG's London office and California over the last few weeks as we have been interviewing some of America's top game designers.

his original game — Yar's Revenge.

Even the selection of the title is a slow thoughtful process for Warsaw, as opposed to the popular belief that titles come in a sudden rush of inspirational blood to the head. "Revenge came first as I wanted a strong verb that could be easily related to. Everyone wants revenge at some stage... Yar is the christian name of the president of Atari spelt backwards!"

Warsaw's next game is another original project which will be launched towards the end of 1983.

Richard "Microsurgeon" Levene is one of Imagic's rising stars.

He joined the company after working as a maths and computer studies teacher and spending a couple of years researching computer applications in medicine.

Levene's background provided the inspiration for his best known game — Microsurgeon in which the player controls a tiny ship which he guides around the human anatomy battling it out with germs and healing diseased organs.

The game is also similar to the film *Fantastic Voyage* in which a probe which has been reduced in size millions of times and is injected into the body of a top scientist. Levene acknowledges the influence of *Fantastic Voyage* on his game and admits to being impressed with the book which he has read more than once.

He was extremely excited about the game when he first thought of the idea, soon after his interview for the position of games designer with Imagic. His enthusiasm for the project soon spread through Imagic and the game was well received by the public who purchased it into the top ten best-selling games for November and December of '82.

Levene displays the usual evasiveness of video game designers when asked how much money the games have earned them: "I measure my wealth in 10 of thousands rather than in millions" though — like Fulop, he is looking forward to being much better off when Imagic shares are floated on America's Wall Street.

His next game is called Truckin'



Howard Warsaw is one of the elite corp of Atari's top game designers. At 25 he is among the crème de la crème of Sunnyvale's celebrity programmers — with three "big hits" under his belt so far — Yar's Revenge, *ET*, and *Raiders of the Lost Ark*.

All three games have sold more than a million copies worldwide. The rewards for this phenomenal success have been considerable, though Warsaw is characteristically coy about just how well off he is. "I'm well healed but not ready to retire".

Money is something that no games designer working for Atari can ever lose sight of as enormous sums of money are often spent to buy film and arcade rights, the raw materials around which many new games are built. Steven Spielberg is reported to have received bet-

## "Spielberg is a real fan of Video Games..."

ween \$20 and 30 million for the rights to license *ET*.

Despite the pressure this placed on Warsaw he regards the Spielberg games as his proudest achievement — involving as they did the opportunity to work closely with the world's most famous film producer.

"Spielberg is a real fan of video games... and believes that there are many similarities between making films and video games".

In order to get the ideas worked out for *Raiders of the Lost Ark* Warsaw sat through this film four times while he only had to see *ET*

once to make up his mind. "I knew straight away the game would consist of helping *ET* find the various bits of his telephone, get him to phone home, and get his friends down to rescue him".

He is skeptical about designers who claim to have ideas for games in a lightning flash. His ideas come from a careful study of the VCS. "I look for the idiosyncracies of the system before I start thinking about game ideas".

This technique has been a successful one and enabled Warsaw to produce the first full screen explosion as the climax to



# games Pack

Meet the  
Designers

and he got the idea for the game whilst driving up to Los Angeles at the weekends to meet his girlfriend: "These enormous trucks rolling across the country are visually very exciting... I wanted to capture some of that in a video game".

When Truckin' is launched at the Consumer Electronics Show in Chicago this June it may also attract interest as the first video game to be designed with the international nature of video games in mind. The maps which are central to Truckin' may be cus-

Consumer Electronics Show game of the year award. More recently, Fulop himself has received the game designer of the year award presented by the American magazine-Billboard.

Fulop believes that "to be a successful designer you need a sense of fun... and "be able to appreciate the appearance of the unexpected".

Game development for Fulop is a product of six months gruelling work. Unlike some designers who sub-contract out aspects of the programming and marketing, Fulop

**"to be a successful designer you need a sense of fun . . ."**

tomised for each individual country in which the game is to be sold.

Rob Fulop is probably the hottest young designer in the new Klondyke of Silicon valley USA.

To be "hot" in video game industry slang means to be the designer/programmer of one of more successful games. Fulop, with mega hit Demon Attack behind him is therefore hotter than most of his rivals.

The shoot-'em-up game with the exotic bird-like aliens needs no introduction to experienced VCS-tronauts but for the uninitiated it is the toughest space battle you are likely to see on your machine.

No less than 84 waves of exquisitely drawn aliens are set in the silicon of this cartridge and queuing up to attack your laser base.

Not that you are likely to get to the 80th or even the 70th wave for that matter, until you have been blasting away at the game for several weeks. And herein is the beauty of Demon Attack. It's so tough you just can't put it down — not only for the simple satisfaction of getting onto the next wave but also because you are dying to see what they will look like.

Demon Attack stayed at the number one spot in the U.S. for several months and was the best selling game of 1982; winning the

likely — like Levene — to become extremely wealthy later this year when stocks in the company will be put up for sale.

For the present, however, Fulop is likely to be occupied with the conversion of Demon Attack for the Atari 400 and 800, Vic 20, and Philips G7000. The game is already available on the Atari VCS and Intellivision.

The Activision team of designers have earned themselves a reputation for originality and innovation which is the envy of the industry.

Games like Pitfall Harry, Megaman, Kaboom, and Starmaster have pushed forward the expectations of how much can be "got out" of the Atari VCS.

In the words of Arnie Katz, Editor of Electronic Games Magazine, America's equivalent of C&VG "nothing sells like Activision and Atari".

Activision have managed to provide serious competition for Atari without an open cheque book policy of buying the rights to films and arcade games for enormous sums of money. Most of their games have been original and have had to stand or fall on their own merits.

The designers have therefore been crucial to the Activision set

up. People like David Crane, the chief designer at Activision, and the man behind Dragster, Fishing Derby, Laser Blast, Freeway and most recently the award winning smash hit — Pitfall.

Talking about one of his recent games — Grand Prix, Crane said "I wanted to create an auto racing game that was as realistic, complex and exciting as the real sport".

The idea for one of the cutest Activision games so far came from net designer, Steve Cartwright's love of those magnificent men in their flying machines.

"I've always been a fan of those daredevil pilots and their aerobatic feats. I wanted to recreate the thrill and challenge of their exploits in a video game." And so Barnstorming was born.

One of the few female designers in the business is employed by Activision and is the author of their latest game — River Raid. Carol Shaw's super-tough shoot up gives the lie to the popular industry myth that one reason women are not so keen on video games as men is because of their aggressive orientation.

Not true — or Carol's the exception. Don't miss our fun River Raid competition on page 4.





# LICENSED TO KILL AT HOME

Charting the progress of a video game idea can be a complicated process as a title bounces between licensing deals.

But a usual route for the successful game, takes it from the arcades to reappear on a TV games centre some six to eight months later.

From its appearance in this format, it is only a short leap to the microcomputer version (often coming out under a different title for copyright reasons).

It will appear in hand-held form, translated into liquid crystal display on a credit card sized screen or tabletop machine, somewhere on route.

Licensing has become a cut-throat business, with some arcade manufacturers tying their products to a certain software house, while others sell off a successful title to the highest bidder.

But software houses looking for good licenses to buy must now take a risk on buying a title before it has been tried and tested in an arcade site. Inevitably a few arcade flops will turn up in TV centre catalogues but this is no bad thing as a game which will earn few fans when they have to part with 20p to play it, may adapt well to the home screen.

Not only arcade games but films and even books — Parker has Lord of the Rings out soon — are big business.

Some of the recent successes to have made the transformation from arcade to home, are: Ms Pacman for the Atari, proving a much better game than its male predecessor (see reviews page).

Frogger has rushed into the top 10 sellers since it was translated for the Atari VCS by Parker.

CBS Software has come up with two arcade favourites, Wizard of Wor and Gorf which are selling well in the US and should follow suit here. While Mattel made a top seller out of Lock n' Chase.

Here I have featured a batch of new arcade heroes to look out for on your TV games centre in the late summer. Beyond that there are a few more titles destined to make the move across, including Sega's 3D effect space game, Tac-Scan and Data East's successful crash-

ing and driving game, Burnin' Rubber — possibly under its US title, Bump'n'Jump.

The Tac-Scan game will be featuring on the Colecovision with a super expander cartridge which will boost it into a games-player's delight.

The expander comes in the form of 128K of Ram which will greatly boost its current 17K capacity and should open up a whole new wealth of arcade games for conversion to the home television screen.

There is still no date set for its release either in this country or the US, but it will mean that the games centres will be able to keep the latest arcade games in their sight for some time to come.

Other possibilities for the future are Fast Freddie which may well find its way onto one Atari system or the other.

And Parker already has a servicable version of Super Cobra all set to blast its way through the caverns and over the cities.

## Q\*bert

Space invaders were the magic words which sent Atari VCS sales soaring in the UK back in spring 1981.

And since then other "hot" games have moved from the arcades to become best-selling cartridges for one system or another: Defender, Frogger and Asteroids on the Atari; Donkey Kong and Zaxxon for the Colecovision; Lock n' Chase for the Intellivision.

The arcade industry opened its eyes to the financial rewards to be gleaned in licensing game titles to the home entertainments companies and the two industries which were expecting to be bitter rivals, are now working closely to present a good game idea in the best way for both coin operated and home markets.

Which means that the current arcade heroes will soon be making the progression onto one TV games system or another.

Colecovision has made it a policy to stick with arcade titles and has tied up Sega and Nintendo to have first refusal on any successful games coming out of either stable.

Other software companies are battling it out for other titles. Some of the ones you can expect to find shortly are laid out here.

Lovable Q\*bert the pseudopod living a precarious existence on a coloured column has been bought up by Parker to add to their Atari VCS range.

Q\*bert, whose trademark is an obscure swear word he comes out with at the end of his life, earns his crust by leaping from one segment to another on a pyramid of cubes. Each cube he lands on changes its top colour and the object is to change the whole pyramid without leaping to destruction, or being caught by one of the nasties which shares his pyramid.

The most dangerous of these is Coily the Snake, who begins life bounding down from the top of the pyramid, hoping to meet Q\*bert mid-jump or find himself on the same square.

Q\*bert pays the penalty of this meeting by promptly dying.

He is joined in this activity by Q\*bert's other enemies, Slick Sam, Ugg and Wrong Way. But Coily has the advantage over the rest, which all jump off the end of the pyramid. He pauses and then starts leaping after Q\*bert.

Our hero can only escape by leaping off pyramid and onto one of two flying discs which take him back to the top block. Coily, attempting to follow suit, jumps to his death, adding bonus points to the score.

Q\*bert took the US by storm and is making his mark in home arcades because the controls are a simple four-way joystick but survival is quite a struggle.

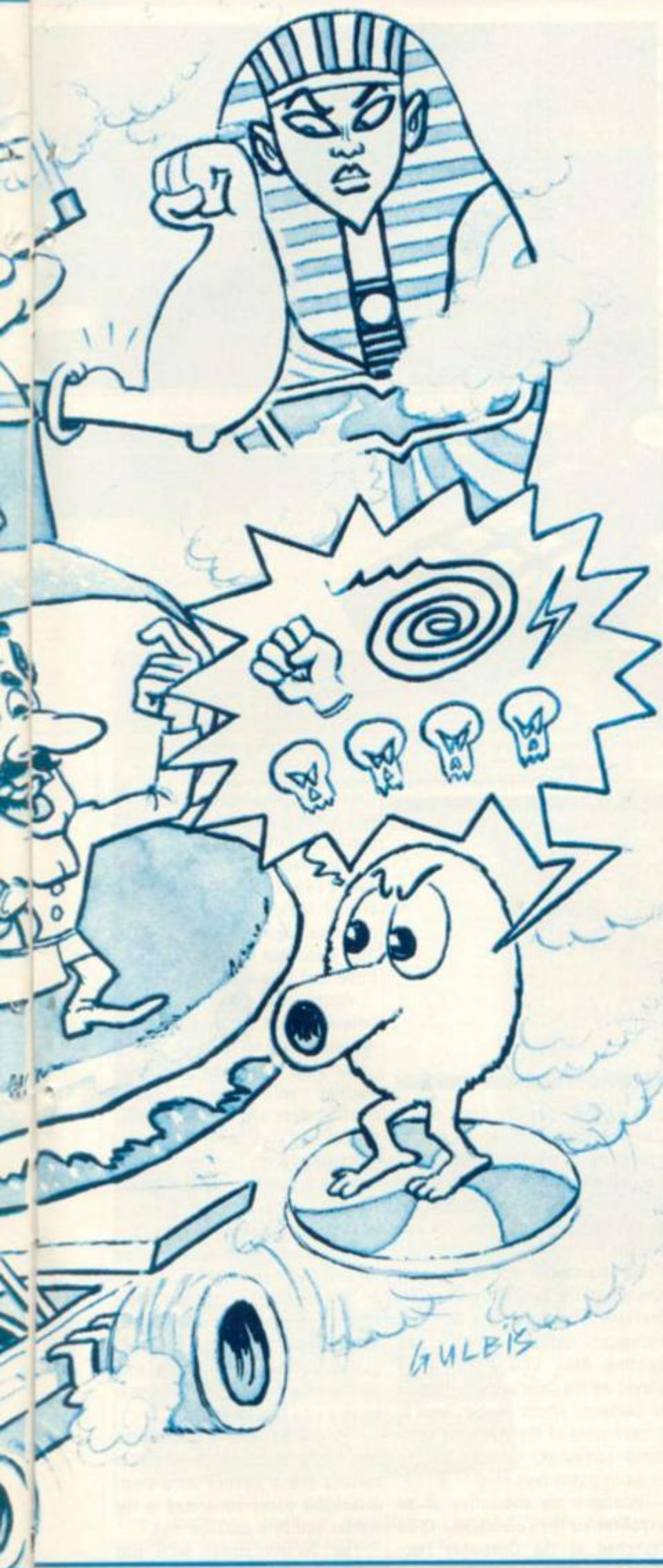
## Pole Position

One step beyond Turbo is Pole Position, which takes driving games up a gear in thrills and realism. Only just out in the arcades, it is the most popular money-spinner currently around especially in cockpit format.

Atari is the name behind the arcade game and naturally they have grabbed







the rights to the home product. Although how the marvellous graphics will survive the transformation to the home unit, remains to be seen.

Pole Position comes in two parts. The setting is a Grand Prix and the first test is a qualifying race, to earn your place on the starting grid.

There is a realistic gear change system, a marvellously throaty acceleration and a responsive wheel. But what makes Pole Position is the realistic graphics with rival cars changing shape as they follow every turn of the track in front of you.

Take a corner too quickly and the car threatens to leave the track, complete with warning tyre squeals.

A successful qualifier sees you lining up for the race proper waiting for the green light to start threading your way through the computer controlled cars.

## Popeye

Parker has another winner making the transition to the home in Popeye. Already a proven cartoon hero, Popeye has just made his arcade debut and will be appearing on the Parker Atari range.

Popeye spends his arcade time, chasing after his sweetheart Olive Oyl's dropped kisses, musical notes and the letters "H.E.L.P." as they drift slowly down the screen.

If any kisses, notes or letters hit the screen bottom, Popeye loses a life.

His job is made more difficult by the Bully Brutus as he rushes around trying to belt Popeye. Also a sea-hag causes problems by hurling bottles at the old sea-dog.

Popeye can punch these bottles out of the way and, if he gets his hands on a can of the magic green stuff- spinach, he can also take Brutus to task.

The action takes place on a dockyard, warehouse and finally a boat.

## Burger Time

Mattel, makers of the Intellivision, have struck a lucrative deal with the arcade manufacturers Data East of Japan. After the

success of Lock n' Chase comes Burger Time. This game features a chef hounded by the very food he hopes to leave languishing in a series of burgers he is preparing.

The burgers are actually far larger than the chef who is chased by egg, sausages and pickles around a scaffolding-covered screen with buns, burger and salad waiting to be dropped into the plates at the bottom of the screen.

Each time he runs over a piece of food it drops down a level until a plate of finished burgers lies waiting. To thwart the more active ingredients, the chef is armed with a pepper-pot which he can sprinkle over the ingredients, rendering them temporarily inert. If he can then send a piece of burger or bun crashing down on them, they become part of the finished burger and he adds a bonus to his score.

A completed screen takes him onto the next one.

## Tutankham

The final Parker title to be thrust into the glare of the living room fire is Tutankham (Japanese for Tutenkhamun). This maze game features a radar screen to show which part of the maze you are currently working through and what monsters you can expect to find.

The hero is an intrepid explorer who hopes to uncover the lost Pharaoh's treasure. He is armed with a gun which can only fire sideways and only that and his wits stand between him and the hordes of nasties which inhabit the catacombs. Naturally he cannot let himself be caught in a vertical passage - no fire power - but progress is spurred by the use of matter transformer chambers which whizz him through to the next part of the maze.

Arcades are staying ahead of the home systems by using any new technology that comes their way to add realism to their displays and increase the player's feeling of involvement.

But the home systems are improving their own graphics, using new programming techniques to stay right on their heels and it all augers well for the games-playing future.



Three big new video games systems are now competing for shelf space in our high street shops.

The arrival of the so called "third generation" of home video games systems has come as something of a shock to the increasingly home computer-minded leisure industry. The conventional wisdom the industry is that home computers will kill-off video games systems by the end of 1984.

This view is usually most vociferously put by people who have not seen Zaxxon or Donkey Kong on the Colecovision, played Mine Storm or Rip Off on the Vectrex, or Centipede and Pacman on the Atari 5200.

Quite simply, if you want to play video games at home, no home computer has the range and quality of arcade titles that are available for these new machines.

In this article we test out the three new systems and look at some of the highlights in the current range of games.

Most exciting of the three new systems is the Colecovision which is the baby of the giant CBS Electronics company.

This new system is the first "third generation" video game machine to go on sale in the UK.

The video games boom was sparked off by the early bat and ball type game which were often given away free with new TV sets.

The next big breakthrough came with programmable video games with the Atari VCS is the best known. This type of machine can play an infinite number of games by simply purchasing a plug-in cartridge of your choice.

The third generation systems are really only an upgrading of these second generation machines adding up to 10 times the computer memory of the Atari VCS to produce graphics and game play.

The Colecovision has some 32K of Rom and 17K of Ram nestling under its ordinary looking black exterior. This makes it several times more powerful than all of the current video games systems currently on sale and more powerful than most of the popular micro computers as well.

Converted to gamers' language this means greater detail, more moving characters than were previously possible and greatly enhanced sound and colour.

The games range available for the Colecovision is second to none. Through massive investment on the part of CBS, Ideal's parent company, Colecovision owns the rights to several big hit games from the arcades.

Perhaps the best known of these is Donkey Kong — the climbing game with the manic gorilla, blond starlet and Mad Mario the cute carpenter and the hero of this game.

Zaxxon is widely regarded as the state-of-the-art for graphics in the arcades. The flying fortress with the deep blue walls, ground-to-air missiles the robot and electronic force fields is more playable on the Colecovision than it is in the arcades.

Other highlights from the arcades includes Turbo — the 3D driving game with a wide-range of background scenery. It comes complete with its own steering wheel and accelerator which plug into the master component.

Also in the game range is Gorf, Carnival, Venture, Smurf, Cosmic



The Colecovision: backed by some exciting arcade titles in its range

## The challenge from the Vectrex and Colecovision will be met by Atari's 5200 machine in August

Avenger, Wizard of Wor, Lady Bug and Mouse Trap.

Taking big name games from the arcades will be deliberate policy to support the Colecovision. The games will also be available for the Atari VCS, and Intellivision through parent company CBS, which should help Coleco recoup some of the enormous amounts of money needed to buy the rights.

Independent software looks like a certain prospect for the Colecovision as the machine is selling so well in the US.

The independent software house — Tigervision, have already announced that they will be producing the first independent game for the Coleco when they launch a ver-

sion of their popular game Miner 2049'er. Gemini Electronics will be importing this game into the UK this Summer and if Activision and Imagic follow Tigervision's lead the games will also find their way into the UK.

An impressive selection of additions are in the pipeline for the new machine. First to appear will be a converter which enables all existing Atari VCS titles to be played on the Colecovision. Next up is keyboard which enables you to access some of the machines enormous computing capacity for use in writing your own programs.

Rumours are circulating of an expander for the Colecovision to be launched at the Consumer Elec-

tronics Fair in Chicago this month will greatly enhance the Coleco's graphics. Watch this space.

The machine is in the shops now £149. The expander will cost around the £50 mark, and most individual games cost £29.95. Also watch out for a trackball controller and souped-up joystick.

Vectrex looks like a portable television with the screen built-in the wrong way round.

It plays like an Asteroids machine with vector graphics creating clear single line graphics, smooth and slick but with only one colour behind it.

The current video games systems rely on raster graphics which are composed of the tiny pixel dots which reproduce well on your home TV screen.

This produces a different effect to the other games centres and lends itself to certain types of games, especially the space ship battles where the crafts disappear quickly into the distance.

The control panel is close to the type found in the arcade with four buttons and a joystick on a small detachable panel, connected to the master unit by a spiralled lead.

The Vectrex comes with just



## New Machines



one panel — but a second is available for two-player games — and with a game called Mine Storm already lodged in its 64K of memory.

Mine Storm is a kind of superior asteroids with strange craft drifting through space instead of the meteors of the arcade game. The controls are left and right rotation, fire, thrust and hyperspace.

It makes the most of the vector graphics' strengths: fast movement, spectacular explosions and a believable 3D effect.

In fact the Vectrex's main drawback, a lack of colour, is also got around quite effectively by including a thin coloured overlay which comes with every Vectrex game and fits neatly over the screen adding some necessary colour to the action.

A volume control can make the Vectrex a quiet partner for unobtrusive gaming, or allow it to boom out its accompanying sound

effects and introductory tunes.

Cartridges to change the game from Mine Storm, fit into the side of the machine, much the same as any other home video system. The Vectrex unit — with Mine Storm included — costs around £140 and the cartridges are a standard price of £19.95 each.

Space games work extremely well in the vector format and many of the range of 13 games use a space theme to good effect. Less successful, is the Scramble cartridge and Hyperchase, a driving type game. Armour Attack which takes its title from the arcade game is probably the most effective tank game to be found in this field, as vector graphics can fine-tune any gun angle to be more accurate — but it is still far from the best cartridge.

Rip Off and Cosmic Chasm are two of the best games on the machine and Mine Storm is also a good choice as built-in game.

The Vectrex will appeal to households where the family TV is under pressure or the youngster who wants to play undisturbed in his own bedroom. The game range could be more extensive but those so far out are cheap and very playable. An interesting development which I will watch with interest.

What are Atari playing at? That is a question that must be on many a VCS owner's mind as the company's place as number one in the video games market comes under threat from all sides.

Atari's answer will be launched in the UK this summer in the shape of the 5200.

The new machine comes out in direct competition with the other two systems that have beaten it to the shops.

Like the Colecovision the 5200 offers a converter to woo VCS owners who would then not have to sell off their existing library of games.

The 5200 has a whopping Ram — 64K of brute computer power — under its sleek black and chrome exterior. This means that when the machine goes on sale, it will pack more power than all the popular microcomputers currently on sale in the UK.

The 5200 is therefore not merely an Atari 800 without a

keyboard as early criticisms of the machine suggested. This fact is borne out by some of the software. Missile Command, Centipede, and Defender are all noticeable improvements on the 400/800 versions.

Despite this — the launch range of software for the 5200 is simply not as exciting as that which is available for the Colecovision. Games like Super Breakout, Invaders, Galaxians, Football and Star Raiders were all classics in their day but they are not new and they are not exclusive to the 5200. In other words we have seen them before and they seem stale in comparison to the Colecovision titles.

This imbalance is not likely to be the case for long. Atari has learned the hard way about the importance of software and has big plans to support the 5200 with "name" games. The first of these "name" games is likely to be Pole Position — which is almost ready for release. And don't forget that Atari own Pacman and (better still) Ms Pacman, which we should see available for the 5200 very soon. Atari's latest release for the 400/800 Qix, will also be one of the range of 13 games available for the new system when it hits the shops later this summer.

The joysticks are a much-needed improvement on the widely criticised VCS sticks. Slimline, with a stubby stick and side mounted fire buttons the sticks also have a keypad for making game selections.

A trackball is also in the pipeline for the 5200 for use in games like Missile Command and Centipede.

When one system has noticeably more games available for it than for the other this then becomes the winner. What you have to decide at this stage is which games you like the best and make your choice of hardware on that basis.

Games for the 5200 will retail at £29.95.

A price has not been confirmed on the 5200 itself but common sense would suggest that it would be around about the same as the Colecovision £149.

But add-ons like keyboards and software adaptors will play an ever bigger role in consumer choice in the future.



The Vectrex: built-in television screen with vector graphics for smoother action



# Questions & Answers

Over recent months we have been deluged with a whole gamut of searing questions on TV games centres.

Many are about the promise of add-ons, new machines and all the hows, where's and whens which make up crossed "t"s and dotted "i"s that are not the stuff of coming-soon promises.

We've tackled a few companies, asked a few probing questions ourselves and where possible come up with the answers to some of your more common queries.

For those answers, read on.

Dear Sir,

I was always a keen space invaders player in the arcades down here in Portsmouth and have often wondered about the Atari version of the game and whether I would save money by buying a VCS system on which to practise my alien bashing.

One reason I have waited thus long, is that my invaders game is based on 300 point saucers, picked off at the right points in the game. Does the Atari follow a similar system.

K Howard

**The Atari space invaders follows the 22-14 system of scoring top marks on space invaders. That is fire 22 shots before hitting the first saucer and it will be worth 300 points. Then every 14th shot from then on, wait for a saucer to ensure maximum points each time.**

Dear Sir,

I have been hankering after a TV Games centre for two years now—mainly the Atari VCS but I have now redoubled my efforts with the hope of getting a Colecovision.

I thought I was just about to talk my parents into it, when one of them read somewhere that TV games centres can actually ruin your television's ordinary picture, by ingraining itself on the screen and leaving a ghostly image.

Are they right or can you put my Dad's mind at rest on this point.

Tim Orlando

**This rumour that games centres can effect a TV's output is a hangover from the very early days. Then if a screen picture**

**stayed unchanged for any length of time, it could "burn" itself onto the screen, leaving a ghostly image across regular TV programmes.**

But nowadays, the games centre companies are all too aware of the problems and write games which constantly change the display on screen and so, eliminate the possibility of this happening.

So put your parents' minds at rest. The Colecovision actually switches itself off long before any damage can happen to the screen, leaving the screen blank. And the Atari too has a constantly changing display on all its games.

Dear Sir,

A friend recently returned from the States brought back a US games magazine which had an advert for a new Atari VCS game, called *Swordquest*, in it.

The game comes in several parts and offers a prize for the first person to solve it. Obviously Atari had thrown a lot of weight behind the title and I wondered why you had never covered it in the Video Screens section.

Roddy Lyman

**The answer is simply that Atari don't plan to release *Swordquest* in the UK Roddy. The game actually comes in four separate cartridges and the idea behind it is that you have to solve the first adventure-style cartridge before you can progress onto the second.**

**It sounds right up Keith Campbell's street but unfortunately we've not been able to get our hands on one.**

Dear Sir,

I am fascinated to learn how Atari defends its rights to Pacman when so many other companies in the arcade industry seem to have launched variants of Packman, Picman, Puckman and Mazeman.

How does the licensing of games allow for these differences. And if, as currently seems to be the case, Atari are the only company to battle in the courts to

protect their licenses, should we all buy Atari VCSs in the belief that all games they haven't actually grabbed the license to, will come out anyway. I would particularly like to know if Atari plan to copy Zaxxon onto their VCS system.

H. Casbourne

The arcade games industry's Pacman variants were produced before the copyrighting of arcade games ideas really took hold in this country. Atari are not grabbing every arcade game license in sight. Colecovision has Sega and Nintendo signed up, while Mattel's *Burgertime* and *Lock n' Chase* from Euro Deco, both seem to be thriving.

Finally, I wouldn't hold your breath waiting for the Atari version of Zaxxon. Coleco holds the license to this game and while they do bring out VCS cartridges, Colecovision has not produced Zaxxon so far — presumably because it makes too many demands on the Atari graphics.

Dear Sir,

I feel the Vectrex may be the machine for me as our only TV already has too many claims on its time. But having seen a few pictures of the Vectrex, I am under the impression that it has colours on screen, but a friend of mine tells me that this is not so.

Please can you fill me in?

G Hardy

The Vectrex features only two colours on its screen display which resembles the kind of picture created in *Asteroids*. However it gets around this by enclosing a screen overlay with each game.

This overlay is set in place on screen and effectively alters the colours of craft as they move up or across the screen.

Dear Sir,

Why don't you increase your high scores section to include a note about the current video games (home division) champions.

I have recently scored 67,820 on Pitfall and would like to find

out if I am ahead of the pack of Pitfall owners. I wondered whether any of your readers had bettered this score.

Perhaps you could start up a regular note of the high scores on video games.

Derek Rose

**The highest score I have so far come across on Pitfall Derek, is 109,928 scored by David Bishop of Beaconsfield, Bucks. David puts his success down to mapping out each of the 256 screens.**

We are certainly interested in your idea of top scores for TV games centre cartridges but would need a photograph of the screen to really give the scores authenticity.

Dear Sir,

I am a keen computer game and physical sports fan and have always been disappointed in the way sports games have been represented on the video games scene.

While everybody was raving about Intellivision's soccer, I found myself upset that little of the feel for the individual racing up field taking players on and threading through a good pass.

Athletics and boxing seem to have suffered from a similar blight on the graphics side. Are we ever going to get a realistic sports simulation game or will only motor racing enthusiasts find satisfaction from their TV games.

A Jeffreys

The latest generation of video games and the new breed of games programmers have combined to give you what I think you want, Mr Jeffreys. Colecovision has a couple of new games coming which may fit the bill.

Boxing is still seen from outside the screen except that it features recognisable boxers, Rocky and The Champ in a cartridge based around the movie-world's favourite boxer.

The Baseball game for the same machine, is faced with another problem. It shows a view from just behind the striker with the pitcher in the distance lining up his throw. The three bases appear in small screens on the main picture, to show which are occupied.



# Gaming Tomorrow

The next generation of arcade games will feature laser disc technology, featuring filmed action reacting to a player's skill and actions.

Sega did the pioneering work on the laser disc and produced a prototype called Astron Belt last October. The result is of a film appearing on a video screen with the player's spaceship looking out on alien fleets of attacking craft.

It adds new realism, especially in arcade cockpit models. Astron Belt uses minutes of film detailing a space chase and fitting in explosion scenes when the player finds his target. It could be hooked up to a "vibra-seat" which shudders realistically under impact of battle.

The quest for realism could soon have a player almost believing he is involved in a Star Wars space battle.

A surprise bonus is that this technology is all too accessible for the home market with videodisc systems hooked up to home computers and many analysts are predicting that the disc player will be the most important computer add-on by 1986.

The next possibility may be holophonic sound adding realism to the ears as well as the eyes. So far a rock group called Psychic TV are the main experimenters with Holophonic sound, using a real human skull and a top secret plasma to recreate sound as it happens to a human head.

According to our correspondent Kevin Woodman, it gives an "uncanny reality far beyond a stereo effect."

So realism lurks around every corner, we asked Steve Bloom, former editor of US magazine *Video Games*, to get two top games designers' reactions to the future of video gaming.

## THE GAMES DESIGNERS VIEW

Video games is just about to take another technological leap past sundry aliens and eight-way joysticks.

What's in store for '83 and beyond? I asked two of the world's foremost video games designers for an answer. Who should know better than Eugene Jarvis (*Robotron*, *Stargate*, *Defender*) and

Tim Skelly (*Reactor*, *Star Castle*, *Rip Off*)?

Both are excited about *Dragon's Lair*, a laserdisc game created by Starcom in association with Cinematronics which was showcased at the Amusement Operators' Expo last March in Chicago.

*Dragon's Lair*, the second such laserdisc game experiment (Sega's *Astron Belt* was the first), is a fully-animated sword-and-sorcery cartoon featuring a character named Dirk the Daring.

You control Dirk as he swashbuckles through a castle loaded with scorpions, snakes, trap doors, pools of fire. At first it's difficult to tell that Dirk indeed is waiting for your instructions, but you get the hang of it after awhile.

"I liked it a lot," says Skelly. "The graphics are terrific." Jarvis agrees, but beyond that he had problems with the black-time (each time the scene changes the screen blacks out momentarily). However, he liked being burnt up, which is one of the many penalties for not timing an action, such as swinging on ropes just right.

*Dragon's Lair* is scheduled to go into production this summer. It will be priced by distributors somewhere between \$3,000 and \$4,000. Sega's *Astron Belt*, which takes you on a rather rocky tour of the galaxy, should also be rolling off the belts and into arcades shortly.

Skelly wonders whether disc wouldn't be more practical for play at home. "All you'd have to do is plug a joystick with a micro-processor in it into a laser disc system," he says. "Imagine selling 100,000 copies of one disc instead of 5,000 incredibly expensive arcade pieces. I think economics will drive the technology into the home."

There is also the question of gameplay. *Dragon's Lair* allows you to only control the decision points and nothing else. "You're limited to certain preset actions," complains Jarvis. "It works within a linear format like *Jungle Hunt* — all you have to do is time something and press a button. You make it or you don't. Personally, I'm into more freedom. I don't want

to get stuck on canned scenes. As a designer I'm more into the computer generation of games."

Jarvis is presently working on a system that may rewrite the definition of 3-D as we know it. He has set his sights on creating, "an illusion of depth and the thickness of life" on the video screen. "The new wave," he insists, "will be 3-D objects with 2-D gameplay." These objects, like some of those found in Atari's *Xevious* are colourful, shaded, and high in resolution.

According to Jarvis, the arcade game business is becoming more like the movie business everyday. The new technology he's talking about takes more time and money than most companies are willing to spend. It also requires a tremendous amount of data to, "represent all those objects and angles. Soon it won't be unheard of to spend \$1.2 million on developing a game."

Money may definitely be what prevents the arcade manufacturers from taking the leap from stand-up cabinet games to sophisti-

cated booth games. In the video game booth of the future there are several monitors or widescreens, stereophonic sound, a variety of joysticks and controllers, voice interaction, and a mind-boggling array of laserdisc and computer-generated games to choose from.

"Isolated environment games," says Jarvis, "will have better audio and video but you have to have something else to justify the multi-screens. You need more input. Let's use brainwaves, use voice so that you can yell at the game. People want something else, they want to fly somewhere for an hour, not 90 seconds.

For the meanwhile, players are just going to have to live with improved graphics, the laserdisc experiments, and a new wrinkle or two, until the spectacular can be priced down to the affordable.

Skelly think space games are still the best shooting games and expects to see a lot more of them. In fact, both Jarvis and Skelly agree that the best game in the US arcades right now is *Sinistar*, a space epic from Williams.





Swap Shop

# Trade in a tired title

Do you have a games cartridge you're tired of? That one languishing at the back of your collection, mastered in some earlier rush of enthusiasm and now mentally stamped: "Beaten!" If so, perhaps it's time to give it up for one of those cartridges, you always hoped to try but never got around to buying.

*Computer & Video Games* is setting itself up as the middle man to try and put a new challenge into your life.

As a one-off experiment we have produced a form at the bottom of the page which will help to fit together games' players with

different titles who would benefit from a swap.

If the scheme proves itself a success we may try it again at a later date. In the meantime, shuffle back through your collection and see if there are any titles you can bear to part with.

Obviously there will be few people yet ready to swap one of the new games and you should try to resist asking for the latest "hot" games.

We are much more likely to find a match for your unused cartridges if you make reasonable demands in your choice of what you would like in return.



Fill in the form below, first stating your name and address and then letting us know which TV games system you own and are interested in swapping games on. We cannot currently open this idea to hardware or computer games

but we may do so if this test proves popular enough.

We have also left space for you to let us know which cartridges have ceased to be a challenge. You can place up to five in this category. Please make sure that it is still in working condition and comes complete with instructions.

And if you feel that any of the titles may be unfamiliar to others, please add a short description of how it plays.

Then add a list of up to five cartridges you would like to swap yours for. Or, if you are easy to please, make it a list of cartridges you already own or would not consider as swaps.

A phone number may help to speed the process on its way.

And please send the form back to us at **Swap Shop, Computer & Video Games, Durrant House, Herbal Hill, London EC1R 5JB**. Please enclose a stamped addressed envelope so we can reply and let you know who we think may be your best bet as a swapper.

We will send back details of someone with a yen for one of your cartridges and a title to swap which you are interested in.

Then it's up to the two of you. If we don't find a suitable swapper we may not be able to come back to you.

Please do not send off the cartridges to us and I'm afraid we can make no guarantees about the quality of the cartridges involved in the deal.

## Include me in your swap please

I own a ..... TV games system

The titles I would like to exchange are:

- |                              |                              |
|------------------------------|------------------------------|
| 1).....<br>Description ..... | 2).....<br>Description ..... |
| 3).....<br>Description ..... | 4).....<br>Description ..... |
| 5).....<br>Description ..... |                              |

**FILL IN NO MORE THAN FIVE PLEASE**

The titles I am particularly/definitely not\* interested in receiving are:

- |         |  |
|---------|--|
| 1)..... | 2).....                                  |
| 3)..... | 4).....                                  |
| 5)..... | (*cross out whichever is not applicable) |

My name is: .....

Address: .....

Tel: .....



## DATA AGE

Dare you brave the dangers of the Bermuda Triangle where so many ships jets and people have disappeared in mysterious circumstances.

US software firm, Data Age takes you right into the middle of this strange and sinister part of the oceans in their latest cartridge for the Atari VCS, Bermuda Triangle.

You are in command of a mini-sub, which is exploring the waters of the Triangle, when you discover a mysterious city filled with treasures which you want to transport back to the surface and your mother ship. But there are many wierd and wonderful creatures and machines from this long dead civilisation beneath the waves which will attempt to prevent you looting this lost city.

Giant squids and sharks will steal the treasure away from your mini-sub and there are aquatic drone ships and mines which will disrupt your treasure seeking. Meanwhile on the surface an enemy ship lurks, waiting to des-should you surface and find yourself in its path.

Also on the seabed there lurks the deadly Bermuda bomb. If you attempt to lift this to the surface your mission will end with a bang.

Your sub is equipped with a tractor-beam to snatch the treasures from the bottom of the sea and a missile launcher to blast away at the assorted nasties that come after you. Points are awarded on a rising scale with the mines winning you the most points. The cartridge should cost around £20 when Data Age finalise negotiations to import the game into this country.

## TRON

The Disney picture *Tron* has spawned a number of video games, and that's only logical — *Tron* itself was a video game come to life.

Adventures of Tron from Mattel's M Network for the Atari VCS could almost be called "Donkey Tron".

It bears many features in common with the monkey game — you jump, you collect prizes for points, you go up, you go down. You also get killed a lot more frequently.

You are Tron, running around a

playfield with four floors. In the center of the screen is an input/output beam which will take you down but not up.

On either side of the beam are elevators. They're the only way you can go up to the next floor. Your numerous enemies include Recognizers, Grid Bugs and Tanks. While the first two will simply smash into you, Tanks also fire mortar shells.

To avoid these dangers you use your fire button to jump. On the upper floors, however, it's wisest to drop to a floor below.



In order to score points you must leap up and collect "bits". The higher the floor you're on, the more points per bit. You also can hitch a ride on a "solar sailer" (that's the accepted Disney spelling) and get out of danger. What you can't do is catch your breath.

The action is non-stop and probably too fast and furious for anyone who is not part frog and skilled in intercepting fast-moving objects.

Victory is yours when you succeed in snagging all seven bits. This puts you into a new screen with the same action, only worse. Subsequent screens are reached by scoring 2,000 bonus points.

Although Adventures of Tron is tough, it has some nice touches. For example, you can leap off a floor at any point. If you couldn't, the game would be unplayable — it's impossible to leap enemies on

the upper floors. You can also control the rate of ascent by elevator or descent by beam by using your joystick. The graphics are good.

Tron himself is constantly in a running posture, which is appropriate. If he stops, he's dead. A drawback is that it's extremely difficult for Tron to make a running leap. He just doesn't have enough to work up a head of steam.

If you get any good at all, you'll probably keep playing until you get better. There's a good chance, though, that you'll give up quickly.

## STAR STRIKE

Imagine! A video game that recreates the 3D effect of being inside a fighter rocket, beset on all sides by aliens thirsting for blood, with only seconds to save the planet.

That's what the designers of *Star Strike* at M Network imagined. Too bad they couldn't pull it off. It's an interesting game but it fails royally to live up to its promise.

You fly your ship at high speed through a "launch trench", hitting the sides of which spells instant death. You are attacked from the rear by alien fighters and from the front by meteor missiles. Your real enemies, though, are the alien missile silos which sit on the bottom of the trench. You have to destroy all eight of them before the Earth, which begins in the upper left of the screen, moves to the center.

Now here's the tough part. Got your pencils ready? Good. You can't shoot aliens from inside the trench. You also can't shoot them until they overtake you and move in front of your ship. You can't shoot meteor missiles from inside the trench, either.

Silos, however, you can bomb from inside the trench. You can't bomb them from outside the trench, though. When you're hit by an alien or a meteor missile you lose altitude or go out of control, and if you hit the sides or bottom of the trench, you die. Did I mention you have only one ship!

The only choice of action that makes any sense in *Star Strike* is

avoidance. This has got to be the first video game in which you get no points. That's right, nothing. And only one ship. If you bomb all eight silos, you win.

There are several difficulty levels and the most difficult is unplayable. In that level the meteor missiles are "smart bombs" which home right in on you, while the time limit for saving the planet is about 10 seconds. Give up, I say.

The best graphics of the game are seen when you lose. At that point the aliens launch a rocket right up the trench and blow the Earth to smithereens.

It should be noted that the *Star Strike* for the Intellivision does realize most of the intentions of the designers — plus you get points. Why the VCS version is so inferior is anybody's guess.

## VENTURE

US games experts were non-plussed when a poll of Cole-covision owners chose *Venture* as their favourite cartridge in front of *Zaxxon* and *Donkey Kong*, but a quick sortie through the perilous chambers of this dungeon with its catchy tunes and gyrating terrors, soon turn a casual game into a fevered assault on yet new rooms and more treasures.

The game has three levels of dungeons, each repeated to give a six level adventure. You take the part of Winkie armed with a bow and arrow which fires in the direction you are moving.

Starting off as a small helpless dot you *Venture* into a room, try to deal with its occupants and escape with the treasure before an invulnerable ghoulish wanders in to catch you.

As you enter the room there's a change in scale to bring both yourself and the monsters up to life-size. The ghouls enter with a chilling tone which sets your pulse racing even before you head for the door.

Snakes, trolls, spiders and skeletons await with tricks and traps and the ghouls patrol the corridors and must be avoided.

Four skill levels and hours of addictive fun await for £29.95 but watch out for the Dragon Room on level II and my own particular bug-bear, the Ghosts' Room.



## RIVER RAID

Activision's newest release for the VCS introduces the most useless aviactional invention since Leonardo Da Vinci's steam driven flying machine. Can you believe it — an airplane that only flies over rivers.

You must be careful to fly within the blue areas of the screen which represent the river. Fly into the green areas and you are adjudged to have dropped in height and crash into the river bank.

None of this detracts from the playability of River Raid — which is basically a Scramble type game.

Just as in Scramble the real enjoyment of the game is in the challenge it sets you to get further. Blasting the enemy as you fly is really secondary.

The river is constantly twisting and turning and you will need considerable skill to fly through some of the narrow inlets and around the larger islands.

Enemy targets vary in toughness and points are awarded accordingly. Easiest of all are the tankers which move slowly across the surface of the river and can be picked off like sitting ducks.

Helicopter's and jets are much tougher — particularly the jets which zoom across the screen in both directions always at a head-on trajectory for your plane.

At the end of each section of the river is a bridge which you will have to blast to get on to the next stage. The bridge is an easy target for which you are awarded the disproportionately large number of 500 points.

A limited fuel supply adds to the difficulty of the game. When your fuel gauge needle is edging towards Empty you will need to fly over some fuel depots to get it back up towards full. Flying over fuel dumps also has the effect of accelerating your plane. This is where the game is at its best — when you are scrolling quickly forward blasting a flight path for your plane.

Scoring 15,000 points at River Raid qualifies you for membership of the River Raiders Club and to receive an emblem.

Real super heroes who want to aim at the maximum one million points will see all points on the screen turn to exclamation marks if they achieve this.

So get blasting and, if you do manage to clock up that elusive million, drop us a photograph of the screen and we'll give you a free copy of Activision's other new release Spider Fighter.

River Raid is not the most original new release from Activision in recent months but if you like scrolling shoot 'em ups you will be hard pressed to find a better one for the VCS. £29.95.



MS. PACMAN

Ms Pacman on the Atari will put her male predecessor out of a job. No-one should buy the original when this Ms hits the market.

But by the same token the game is not really different enough to warrant adding this cartridge to the original. It's Pacman as the Atari designers realised they should have done it given a little more time and programming practice.

The ghostly flicker is still there but not as obvious and the ghosts come in four different colours. The whole game is brighter and also more difficult than the original which spread bonus lives around as though there was no tomorrow.

Here only one bonus life arrives. Our little Ms rushes about the series of four mazes eating her energiser dots in the four corners. She is given four tunnel exits and the fruits float around the mazes.

It is easier to see whether the ghosts are edible or if they've turned back into aggressive pursuers and the game is absorbing enough for you to step away from the screen with aching fingers.

My one worry is that the Atari joystick may not be up to the sort of treatment this game will bring down on it — our office one, creaked ominously at the wrenching it was given.

Ms Pacman shows that the Atari programmers are rising to the challenge of the independent software houses and producing games of real quality. It costs £29.99 deserves to rate in the top five Atari VCS games. More power to the feminist movement.

## JOURNEY ESCAPE

The first ever rock 'n roll video game is about to go on sale in the UK.

Featuring the top American group Journey who have sold over five million copies of their LP Escape — the game challenges you to get the group safely back to their Scarab escape vehicle.

In order to do this you have to run past the various characters who are the bane of every rock star's life.

They're all here. Love-crazed groupies, shifty eyed promoters and sneaky photographers.

You must run to the right and left to avoid these characters that are scrolling down-screen towards you. Depressing the fire button will enable you to run faster.

The good guys in this game of fame and fortune are the robot-like roadies and the might managers. If you make contact with any of these you can scroll quickly up-screen unmolested.

Journey first became involved in video games through playing coin-operated video games on tour. The band quickly became hooked and now take two home video games systems on tour with them.

The game is manufactured by the American video games firm Data Age which explains the choice of Journey who are not quite so well known in the UK.

Journey Escape and seven other titles — Encounter at L-5, Airlock,

Warplock, Sssnake, Bugs, Bermuda Triangle, and Frankenstein's Monster will all shortly be available for the Atari VCS.

Data Age are currently negotiating an exclusive importer-ship deal with Thorn-EMI to bring the games into the UK though no information is available yet on prices.

## ZAXXON

Donkey Kong may be the first game Colecovision owners take home, but Zaxxon is going to be the best advert for the new system.

The 3D feel to the arcade game is faithfully recreated on the home screen with the plane diving and weaving over the blue space fortress with appropriate sound effects.

There is not quite the same action or detail which can be found on its arcade predecessor, but Colecovision can be proud to have come up with a more playable game.

As with all Colecovision cartridges there is just four levels (for both one or two players) but the difference between each is noticeable. Level one takes the beginner into the game, hardly ever



requiring him to reach ground level where his plane's guns can be trained on the enemy's fuel and defences.

At the fourth level, everything speeds up, the fortress's own missiles change altitude to try to find you, the fuel leaks away at an alar-



ming rate and more than a couple of seconds above ground level results in a heat-seeking missile being despatched to ground you permanently.

Each level offers an immediate challenge over the fortress wall with two fuel tanks which require an awesome dive and level out 'guns firing' to score on.

Then its over the silos and ground defences, raking fuel dumps and pill-boxes, rounding or dipping over low walls until you come through the forcefield to take on the planes in deepest space. The second fortress features the same problems except that planes are backed up by the sweeping drones and lastly the Zaxxon robot which must be hit six times before it fires its deadly missile.

Often this battle ends in stalemate leaving both you and the robot to fight another day. Marvellous action but at £35 it is more pricy than the other Colecovision cartridges.

## DONKEY KONG

Donkey Kong from Colecovision's CBS Electronics label runs on an Intellivision and provides the thrills if not the graphical authenticity of the arcade predecessor.

Where CBS has gone for licensed versions of arcade games, Imagic has made its name with good versions of games similar to arcade favourites but just far enough away to avoid the legal traps.

Now the two styles are in competition in the Intellivision software market with Imagic's Beauty and the Beast, offering a variation on the established arcade theme.

Through three screens of action, the Donkey Kong hero must plan his rescue over scaffolding, climbing unbroken ladders and over half-completed bridges to his damsel.

On reaching the top of each lot of ramps, a series of new screens with other hazards is presented until finally the little man knocks away the supports and sends the gorilla tumbling to the ground.

The game features on-screen scoring, and is complete with beeps, burps and catchy tunes destined to send the rest of the household mad. Put the cash you would have fed the arcade machine aside each time you play, and you

will very soon recoup the price, as it's quite addictive!

Beauty and the Beast features a skyscraper and the villain of the piece who is either a mad man who looks a bit like a gorilla, or a gorilla looking much like a man!

Movement between levels is through windows - but the little man can only enter open ones. Hearts flutter down occasionally, and if caught make the champ temporarily invincible.



To offset this advantage, a bird flies across the screen from time to time, and can knock the unwary fellow off the building. When this happens, depending upon how many stories up the tower he is, the player is treated to a series of screens realistically showing him plummeting. If he succeeds in his quest, a helicopter arrives to rescue the man and maiden from the rooftop.

As each level of the building is completed, a colour picture of the tower and surrounding countryside backs a progress message, accompanied by the inevitable tune, "Not Bad" or "Well done".

Different in detail from, but similar in play to Donkey Kong, my guess is that the latter will be the more popular buy, not purely because it is what everybody's playing in the arcades, but because it offers far more variety!

Donkey Kong is in the shops now at £29.99 and Beauty and the Beast is also available now at the slightly cheaper price of £24.95.

Donkey Kong is now available on three systems. Atari VCS, Intellivision, and Colecovision. By far and away the best of the three is Colecovision's cart for its own system which comes free when you buy the master component.

## FROGGER

Parker's Frogger leapt to the top of the charts for the Atari VCS, fresh from its successful debut in the arcades.

But the Intellivision version now released may find the public's love affair with amphibious heroes is over.

I certainly didn't approach this version with the same relish which accompanied my first play with the Atari cartridge last year.

Which is sad because it's the same game with four skill levels of difficulty for both one and two players.

The superior graphics of the Intellivision do not seem to have offered any marked improvements although the frog does execute a nice-leaping action.

For those unfamiliar with the game it features a series of frogs trying desperately to reach their bankside homes, through five crowded lanes of traffic and over a river torrent in which logs swirl downstream while groups of turtles swim doggedly in the opposite direction.

The midway bank is patrolled by deadly snakes, the turtles have a habit of diving from under you as you use them as stepping stones, alligators lurk on some logs, while others are waiting in your bankside homes.

On the plus side, you can pick up lady-frog on route or find a tasty fly meal waiting at home.

Oh yes and there's a time limit on the game too.

It costs £29.95 and should sell well without reaching the giddy heights of the Atari version.

## CENTIPEDE

The game is set in a field of mushrooms, which are placed at random on the screen. If the centipede collides with a mushroom it

changes direction. It is possible to destroy the mushrooms, and you score extra points for doing so.

Arcade favourite Centipede has just made its way onto the Atari VCS, as addictive as ever but the graphics are not a patch on the original.

The object of the game is to destroy a Centipede which starts at the top of the screen and snakes its way towards your gun at the bottom. If the Centipede hits you one of your three lives is lost. When the animal is completely destroyed a new one appears at the top of the screen.

Other difficulties from the arcade original, like fleas, mushroom poisoning, scorpions and jumping spiders, have also travelled across to this version and these score extra points if hit.

To destroy a mushroom takes three successive shots and selective gardening can be used to make the Centipede go where you want it.

Atari have tried to make this game as similar as possible to the original and in the design of the game they succeeded. However, the



graphics are far from impressive. The gun, for example, is a crude coloured block while the mushrooms are identical blocks differing only in size.

The new Atari 5200 machine - due to be launched here in the Autumn - includes far superior graphics on its version of this game.

I would think twice before forking out the £29.99 which this VCS cartridge costs.



## COSMIC CHASM

Cosmic Chasm is the game that will make the new Vectrex machine from Milton Bradley worth having in your house.

The scenario is simple. You are the pilot of a space craft which has to burrow through the caverns and tunnels of a planet in order to plant a bomb at the planet's core and then escape to safety.

On plugging the cartridge into the Vectrex the player is presented with a map of the caverns within the planet. The position of the ship is marked by a flashing dot in a cavern on the outside of the system.

Then you are plunged into the action. Each cavern is filled with planet protectors — deadly little beasts who will destroy your ship at the merest touch. Luckily you are armed with lasers guns and a force shield which should enable you to beat them off. Once you have destroyed or dodged all the protectors move towards an exit.

Each of the exits is protected by a force field and you have to burrow your way through using your spaceships' drill.

You work out the quickest route to the core using the map — which flashes up between moves showing exactly where you are within the system. Once in the core you meet the deadliest of all the planet protectors. These swarm around you in an attempt to prevent the destruction of their planet. If you manage to drop your bomb you then have just 15 seconds to escape the planet before it blows up. And if you take a wrong turn you'll have to fight yet more nasty protectors. It costs £19.95.

## RIP OFF

From the first threatening notes of music, Rip Off which runs on the new all-in-one Vectrex games system weaves its sinister web around you.

Menace is the essence of this game which features some of the best sound effects to be tied to a video game.

You control a limitless supply of guard ships which have been posted to prevent pirates getting into the fuel supply.

The fuel pods are in the centre of the screen and the pirates come in off-screen, heading either straight for the centre, or stopping off on their way to blast your ship.

If a pirate is shot while trying to leave the screen with a fuel pod, that pod will be left all too close to the edge attracting other pirate ships and distracting your guard.

There are six types of pirate and each new type is faster than its predecessors. They start off coming two at a time. When the first two are destroyed a second two of a new type appear. After six pairs have been blasted, they will start to appear three at a time.

It took me a little while to get used to the fact that my own ships were secondary to the fuel supply and that kamikaze crashes into the pirates were almost as effective as blowing them up.

There are 16 game versions, varying from four to eight fuel pods, accuracy and tactics of the raiders, and laser weapons which the pirates wield all too successfully.

The vectorgraphics on the vectrex, make for superb explosions and fast free-flowing action. On the minus side the game is extremely difficult to last for any length of time, as fuel pods disappear before your eyes and the pirates speed in for more.

All Vectrex games retail at £19.95.

## PACMAN

This Mattel M Network release turns you into a felon who's engaged in his employment, pursued by four men in blue.

Lock n' Chase is a nifty Pacman variation — you can't attack your pursuers but you can throw obstacles in their path. You have to be a pretty smart thief, though — those obstacles can trip you up as well.

As in the venerable Pacman, your thief must run around a maze collecting dots. In this case the dots represent gold bars. In the centre of the maze bonus bars appear for a limited amount of time. These naturally mean a lot of points if you can steal them.

The police are about as

unimaginative as coppers can be, but they are relentless. Occasionally they'll team up and head you off at a nasty corner, but generally they keep a respectful distance. It's your insatiable greed that does you in — you've got to clear the screen of gold, even if it means running into the arms of your captors.

So much for the "chase" part of the game. The "lock" part is more interesting. By pressing the fire button you can throw up a temporary gate behind you, foiling the policemen.

Unfortunately, it can backfire — you may find your-



self on the wrong side of one of your own traps. It takes a bit of practice to really figure out how to use your secret weapon, and those gates make this game much more interesting than Pacman. It's more than just a question of running the same maze until you can do it in your sleep.

Another difference is that once you're moving, your thief won't stop until he hits a dead end. This takes a bit of getting used to but really adds to your manoeuvrability. Just keep your joystick centred and give it a tap when you want to execute a turn.

After you've cleared the screen you've still got to make good your escape by getting out a door that has been locked to you, while there

was gold to be had. Then the whole thing starts again.

The graphics are none too interesting but the play value is enough to bring you back for more.

## SPIDER FIGHTER

If you are hoping to win a rosette this Summer at the Garden Fete for your prize fruits then Activision's new Spider Fighter will give you nightmares.

This computerised allotment is inhabited by a thieving assortment of creepy crawlies who are intent on stealing your oranges, strawberries, bananas and grapes.

You must blast the insects before they can get away with your fruit. The blaster can be moved right and left across the bottom of the screen and is capable of rapid fire.

The insects' ringleader is a nasty piece of work called a Master Nest. This opponent is worth a maximum 100 points as it is protected by a white band which makes it impervious to your blaster fire until it has released its Spy Pods, Green Widows, and Stingers.

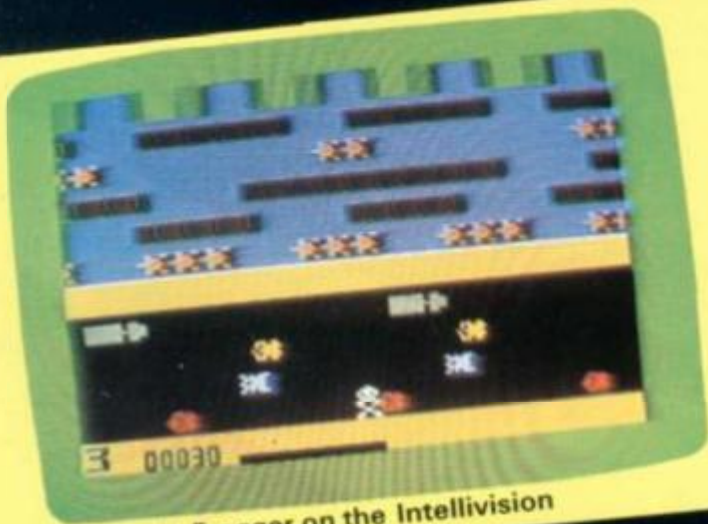
These will keep you busy while the Master Nest nips in and helps itself to an orange or a strawberry. Stingers are particularly difficult to hit and track your blaster single mindedly across the screen. The best way to deal with all of the insects is to spray the top left of the screen with blaster fire as soon as they appear.

If you can kill all the insects in a wave before they get any of your fruit and still have four blasters in reserve there is a 500 point bonus in it for you.

You can also win a badge and become an official member of the Spider Fighters Club if you score over 40,000 points. Simply take a picture of the screen and send it off to Ray Hodges Associates, 5-7 Forlease Road, Maidenhead, Berks. This is also the address for the Pitfall Harry Explorers' Club, and River Raiders' Club.

Spider Fighter is available from your local Activision stockists now at £29.95. A frenetic shoot 'em up with colourful graphics but somewhat lacking in originality for a real rave review.





Parker's Frogger on the Intellivision



Bomb's Wall Defender on the Atari VCS



Colecovision's Donkey Kong: first screen



Atari's Centipede on the VCS



Atari's Ms Pacman on the VCS



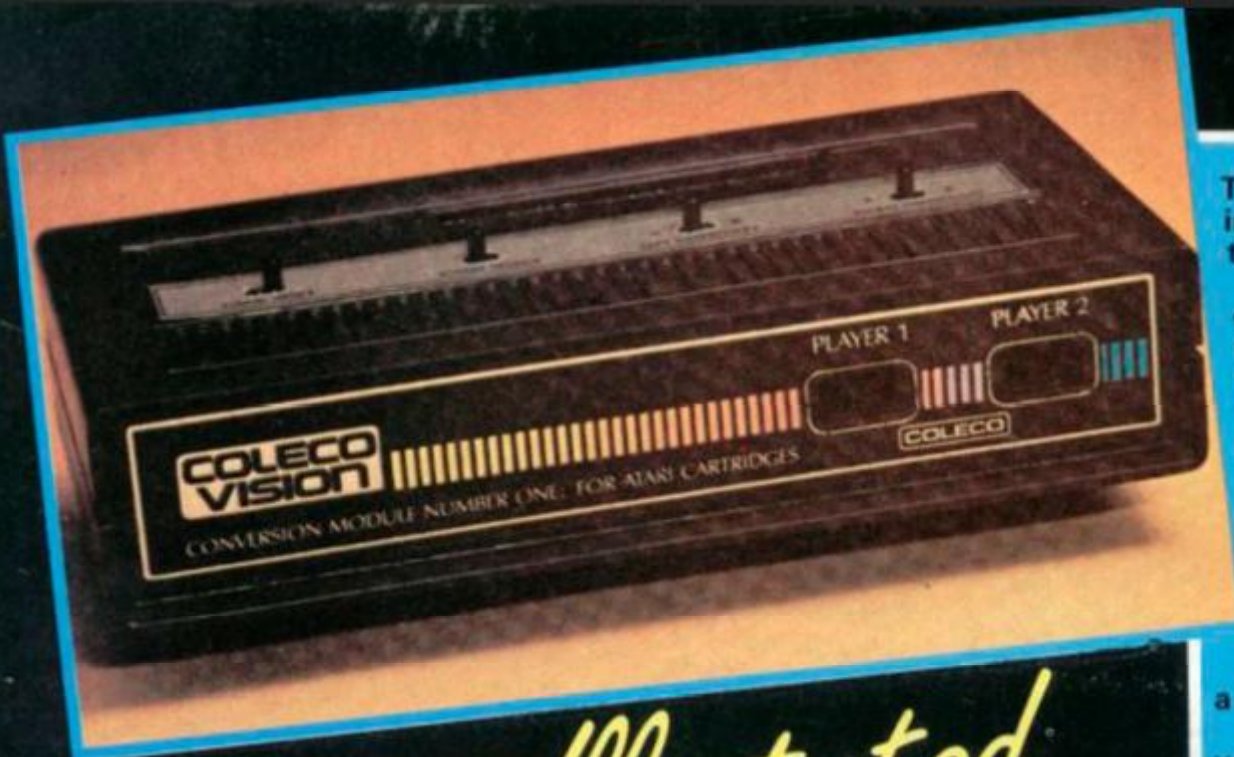
Vectrex's Rip Off



Data Age's Journey Escape: save the band from their fans







This little box of tricks is causing a lot of fuss in the US at the moment.

Atari has taken legal proceedings to stop it ever finding its way onto the Colecovision. It's the conversion module which plugs into the Colecovision and allows you to play Atari software on the new machine.

Atari is trying to get the courts to award it \$350 million in damages from Coleco while Coleco has filed a countersuit for \$500 million.

The expansion module is very important to the fledgling machine and it is confident of winning the case and getting this box of tricks into the marketplace.

The Intellivision keyboard is here at last. Well not here exactly but in the US and with the promise that it will be released here in September.

The unit includes a keyboard and is claimed by Mattel to be fully capable of performing all the functions of a home computer when it is plugged into the Intellivision.

It has a built-in Basic and although the UK price has still to be finalised, it is expected to sell for around \$150 in the US.

# Illustrated News



Richard Levene is one of Imagic's band of top designers. Here he is pictured expounding on the thoughts behind his latest creation, Trucking, still not seen over this side of the Atlantic.

Richard is given a further opportunity to explain how he brings the games he creates off the drawing board and into your homes on page 6 of this supplement. He is one of an exclusive band of US video games designers who have been finding time between producing new video games masterpieces, to talk to Eugene Lacey about their art.

You can meet the men behind E.T., Raiders of the Lost Ark, Microsurgeon and Pitfall Harry inside.



If you have found it hard to relate to driving games which rely on two keys to turn you left or right then you'll want to try Colecovision's Turbo.

The race game which sped through the arcades has translated well to the TV games system with the help of a driving wheel module, complete with floor-level accelerator.

The steering wheel comes on a plug-in module which needs its own batteries to power the unit. Suckers keep the module steady on the table-top as you wrench it from side to side and the joystick slips inside to be used as a gear lever.

Escape from Mind Master is the main title behind a new range of Atari VCS software which is loaded into the machine by cassette — computer style.

This is done through the Supercharger cartridge which is initially plugged into the VCS just like any other cartridge.

The Supercharger and its range of games comes from Starpath Corporation in the US and is now available through an Irish distributor, for the UK market.

Electronic Leisure Products of Raheen in Limerick are advertising the Supercharger at £44.50 while the cassette titles range from £14 to £16.65. Apart from Escape from the Mindmaster, there's the already infamous Communist Mutants from Space also in the range.

Other titles include: Killer Satellites, Dragonstomper, Suicide Mission, Phaser Patrol and Fireball.

