

**96 pages -
our biggest -
ever issue**

40p

No.50
Feb 21-27, 1984

**Two pages of
Commodore 64
software
reviews,
PLUS: Spectrum,
BBC, Dragon,
Electron, Texas**

**Great games to type in for:
BBC / Electron,
Spectrum,
Texas, Dragon**

Programming advice for: Atari, Sord M5, Commodore 64

**new Spectrum
Arcade action**



CDS Mikro Systems
10, Westfield Close, Tickhill,
Doncaster DN11 9LA.



Games cartridge manufacturers Activision have just announced software cartridges for the Atari 400 and 800 home computers.

First titles are River Raid and Kaboom titles and their introduction marks Activision's entry into the computer software market. Up until now they have been producing plug in games programs for dedicated games playing consoles such as the Atari VCS and Matell Intellivision.

Both these titles retail at £29.95 and can be obtained from all good computer stores.

Continued on page 5

Joystick update and Spectrum amp from AGF

AGF have announced that it is reducing the price of its Programmable Joystick Interface to £26.95. Cheaper components and improved production techniques account for the reduction in price together with the omission of the second player socket. An 'auto-fire' feature has been added to compensate for this. The original Interface Module II

Continued on page 5

**new Spectrum
Adventure**
Spectrum Safari



CDS Micro Systems
10, Westfield Close, Tickhill,
Doncaster DN11 9LA

On a hostile planet deep in space
an earth patrol is marooned.
Only one person can save it.



The galaxy's most lovable battle wagon.

Narzon Heatseekers from the back. LasaSlamma Tanks in front.
HeliChargas from above.

A friendly mission to Zon has become a desperate fight for survival.

Now, as Troopa Truck trundles and leaps across Zon's surface, only one person in the galaxy can save it.

You.

The ticket to Zon is £5.99 (RRP inc. VAT), and the journey starts at Boots, WH Smith, Rumbelows, or any intergalactic computer games shop.

Your Commodore 64 will love it to bits.

RABBIT SOFTWARE LTD

Brilliant on Spectrum, VIC-20 & CBM-64.



NAME _____
ADDRESS _____

Rabbit Software Ltd., The Warren
(Unit 11), Forward Drive, Wealdstone,
Middlesex HA3 8NU.

BUY THIS SPACE

To advertise
your latest products!
Ring Coleen or Barry on
01-437 1002 NOW!

Lynx disc drives

Owners of the Lynx can now add on up to four 5¼ inch disc drives, each with a capacity of 200K (formatted). Each comes in its own metal case with illuminated on/off switch and disk access light. The operating system, Lynx DOS is fully functional and available now. It adds 19 commands to the existing BASIC and allows all disk functions to be carried out. Connection is easy and made via the plug in disk interface with a simple keyed cable connector.

Computers, 33A Bridge Street,
Cambridge CB2 1UW

War Games from CCS

Latest in the range of war games from CCS is War 70, a Napoleonic war game in the tradition of the great war games that can last for days, and Pacific War, a simulation set in the Second World War on the Battle of Guadalcanal. War games fans will remember that CCS won the 1983 Cambridge Award for their Battle 17 program. They are also hoping for great things with these two new cassettes.

Cases Computer Simulations Ltd, 14 Langton Way, Blackheath, London SE3 7TL

Joystick interface with sound

Rainbow Electronics have just launched a new programmable joystick interface which is dedicated to the Sinclair Spectrum yet accommodates any software, while also offering sound amplification to boost the weak sound output from the Spectrum.

It can be used to convert those games that depend on the keyboard for operation and is universally applicable to any of the 40 keys. Price is £24 plus £1 p&p.

Rainbow Electronics, Glebe House, South Leigh, Witney, Oxfordshire OX8 6XJ

Home Computing WEEKLY

News, One Man's View	5,6
Software reviews	8
Original games for Spectrum, BBC, Dragon	
Commodore 64 programming	10
Write your own BASIC... almost	
Sord M5 programming	12
How to design your own characters	
£1,000 Scisoft competition	15
Commodore 64 software reviews	16
TI-99/4A program	18
Software reviews	21
Games for Spectrum, Electron, Dragon	
Letters	24
Your free 48-page guide to add-ons for the Spectrum and ZX81 is here. PLUS a great Spectrum game to type in	
Atari programming	25
Plot the dots for "extra" colours	
Commodore software reviews	27
Software reviews	30
Alien-zapping with Spectrum, Dragon, TI	
Software charts	32
BBC/Electron program	34
Can you find a way through the jungle?	
U.S. Scene	36
Software reviews	38
...for Spectrum, Dragon, BBC	
Dragon program	39
Bomb your way to safety	
Classified ads start on	42

Editor:
Paul Liptrot
Designer:
Bryan Pitchford
Managing Editor:
Ron Harris
Chief Executive:
Jim Connell

Divisional Advertisement Manager:
Coleen Pimm
Acting Advertisement Manager:
Ricky Holloway
Assistant Advertisement Manager:
Stuart Shield
Classified Advertising:
Debra Stuppel

Argus Specialist Publications Ltd.
No.1 Golden Square, London W1R 3AB. 01-437 0626

Home Computing Weekly is published on Tuesdays. Distribution by Argus Press Sales and Distribution Ltd, 12-14 Paul Street, London EC2A 4JS. Printed by Alabaster Passmore & Sons, Ltd, of London and Maidstone, Kent. Design and origination by MM Design and Print, 145 Charing Cross Rd., London WC2 0EE

I'm An
**URBAN
UPSTART**
Are You?
RICHARD SHEPHERD SOFTWARE



Commodore 64 users: there's two pages of software reviews and an article on programming in this issue

SCISOFT

Exams coming up? Try the £1,000 wordsquare competition on page 15 and you could win educational tapes from Scisoft



Our great strategy game, which starts on page 34, works on the BBC and Electron computers



Design your own characters on the Sord M5 — just type in the routine on page 12

ULTIMATE



THE NOT·SO·SOFTWARE

CAN YOU HANDLE THE **ULTIMATE**?

THE MOST AMAZING PROGRAMMES, THE SMOOTHEST ACTION, THE HIGHEST RESOLUTION GRAPHICS?

ALL **ULTIMATE** GAMES ARE ARCADE STANDARD,

FEATURE PACKED, 100% MACHINE CODE.

AND PURE ADDICTION.

SO WHICH WILL BLOW FIRST - YOUR COMPUTER OR YOUR MIND?



Cookie 16/48K ZX Spectrum



Tranz Am 16/48K ZX Spectrum



Atic Atac 48K ZX Spectrum



Pssst 16/48K Spectrum



Lunar Jetman 48K ZX Spectrum



Jet Pac 16/48K ZX Spectrum or 8K Expanded VIC 20

ONLY £5.50 EACH

(All games joystick or keyboard control)

Available from: W.H. Smith, Boots, John Menzies, Spectrum Centres, large department stores and all good software retailers. Or send the coupon direct. We'll pack and post your order to you absolutely free in the U.K.

Okay, I dare take my computer to the edge of meltdown. Send me the following:

- | | | | |
|----------------------------------|--|------------------------------------|-----------------------------------|
| <input type="checkbox"/> Cookie | <input type="checkbox"/> Lunar Jetman | <input type="checkbox"/> Pssst | <input type="checkbox"/> Tranz Am |
| <input type="checkbox"/> Jet Pac | <input type="checkbox"/> Jet Pac - Expanded VIC 20 | <input type="checkbox"/> Atic Atac | |

I enclose cheque/PO for £ _____ Name _____

Address _____

Code _____

Send to:
Ultimate Play The Game,
The Green,
Ashby de la Zouch,
Leicestershire.



From front page

River Raid, designed by Carol Shaw, is an adventure game in which you are a fighter pilot faced with the task of destroying bridges along a river while the enemy does its best to shoot you down. The further you go, the more difficult it gets. Originally developed for the Atari VCS, the game is now enhanced with striking new graphics and outstanding sound effects.

Kaboom is billed as a whacky fast action reflex game in which you can either be a Mad Bomber or a fast catching Bucketeer, charged with the job of catching his bombs. Again full use is made of the Atari computer's improved graphics.

Activision Software Ltd, Goldins Hill, Loughton, Essex IG10 2RR

From front page

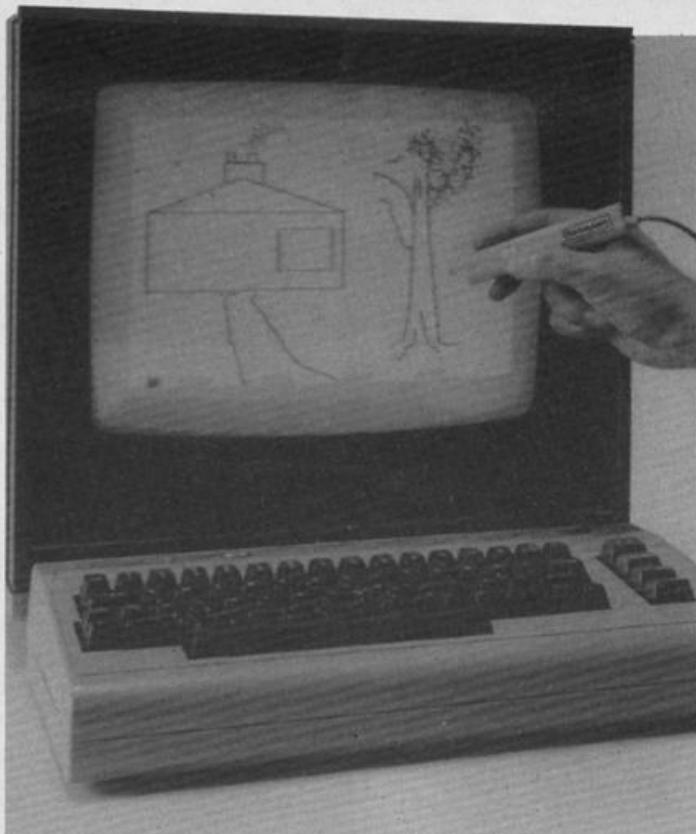
has been similarly modified and will now retail for £13.95 plus £1 p&p.

New from AGF is an amplifier and lead switching unit for the Sinclair Spectrum. Called Amplisound, it connects between the cassette recorder and computer taking its power from the computer itself. A three position switch allows you to LOAD or SAVE without removing any leads while the third position is for amplifying the BLEEP command. Retail price is £24.95 with £1 p&p.

Extender boards are also available price £5.95. They provide clearance between the back of the computer when cased in a keyboard and peripherals. These are available for both Spectrum and ZX81 computers.

AGF Hardware, 26 Van Gogh Place, Bognor Regis, West Sussex PO22 9BY

Drawing the light fantastic?



High-Res Draw program being used with the light pen

Lightpen technology comes to the Commodore 64 with the launch of the lightpen and compatible programmes from Datapen. Already experience has been gained on lightpens for the BBC B, Dragon 32 and VIC-20 computers; now this is applied to the Commodore 64 version.

There are three programmes supplied with each pen both on tape and as a listing which enables the user to incorporate the facilities offered easily into his own programmes. The first program is simply an introduction, highlighting all the features of the device.

The second, called colour draw, allows the user to produce a drawing by transferring the colour graphics characters from a menu to the desired position on the screen.

The third program, called Hi-Res Draw enables the user to produce a drawing down to 200 by 320 pixel resolution directly onto the TV screen. A Sprite creator and Editor will be available shortly.

The Datapen Lightpen for the Commodore 64 costs £25 including p&p.

Datapen Microtechnology Ltd, Kingsclere Road, Overton, Hampshire RG25 3JB

Opalsoft Alphabet

Just out from Opalsoft is Alphabet, a game designed by David Millidge. Designed as a spelling aid for young children, Alphabet, costs £6.95 and can be obtained from many good computer stores, or by post direct from the company. It is available for use with the BBC B computer only.

Opalsoft, 112 Arterial Road, Eastwood, Leigh on Sea, Essex SS9 4DG

You could be on our pages

We welcome programs, articles and tips from our readers.

PROGRAMS must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.

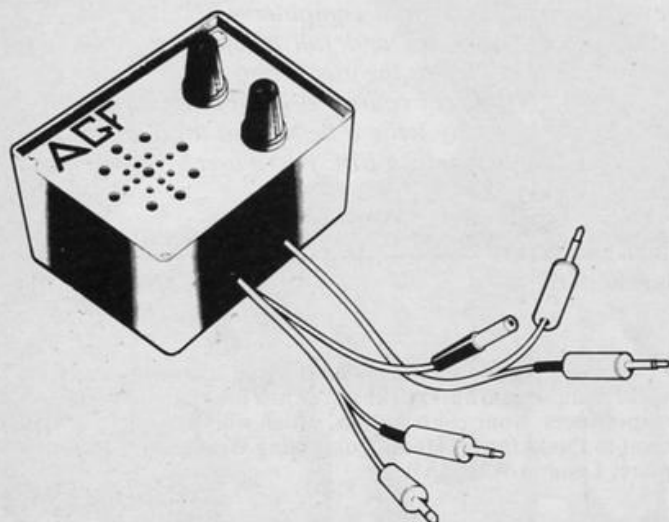
ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Liptrot, Home Computing Weekly, No.1 Golden Square, London W1R 3AB



The AGF Amplisound for the Sinclair Spectrum

Low cost printer and typewriter from Brother

Two new products just launched are the Brother EP44 Electronic typewriter and the HP-5 printer.

The EP44 runs off four 1.5 volt batteries, weighs less than 5lbs and offers all the facilities of a full typewriter as well as 15 character LCD display and full RS232C serial interface so it can be hooked up into most computers.

The 24 by 18 dot matrix printer gives letter quality print with full ascenders and descenders and can print either onto thermal paper or with a heat transfer cassette ribbon onto smooth finish plain paper. As well as the standard 44 character keyboard, a second shift key allows access to an additional set of foreign language characters and accents.

Simple word processing is possible with a standard letter being entered into the 4K memory and stop codes halting printing to allow individual items such as names and addresses to be entered.

Other functions include a printing calculator — four arithmetic functions are included plus percent and the results can be displayed on the LCD display alone if preferred.

As a computer printer the EP44 has the RS232C interface which allows easy connection to any model with a similar output. Print speed is 16 characters per second and continuous roll paper can be used.

With hardware connection or via an acoustic coupler, the EP44 can be used as a full function computer terminal. Baud rate is variable from 75 to 1200 and bit length can be either 7 or 8. And the price? £220.

At £179.95, the HP-5 printer brings good quality hard copy within the reach of many computer users. Column width is a full 80 characters with graphics capacity and the 9 by 9 dot matrix printer will use either thermal paper or plain paper with a heat transfer ribbon. Print speed is 30 characters per second. The full USA ASCII character set is available plus 63 block graphics and 17 international characters and symbols, and the HR5 can be supplied with either RS232C serial or Centronics parallel interface.

Brother Office Equipment Division, Shepley St, Guide Bridge, Audenshaw, Manchester M34 5JD

Integer BASIC compilers from Oxford

Oxford Computer Systems has developed a set of integer basic compilers that allow you to convert BASIC text files into machine code. This allows speed improvements of between 100 and 1,000 times those normally achieved and has been developed for the Commodore 64, 700/B-128 and the 3000/4000/8000 business computer range.

The package consists of two compilers — a resident compiler for experimentation and a disk to disk compiler. Unfortunately new programmes have to be drafted on the Commodore 8000 business machine before being cross compiled for the CBM 64 or 700/B-128, although it does mean that business programmes developed for the 8000 can now be used on the other machines.

Oxford Computer Systems, Hensington Road, Woodstock, Oxford OX7 1JR

Crazy about their status symbols...

About two years ago I got hooked on computers through a computer club at my school. I rushed into buying a TI-99/4A, which wasn't for me. I'm not saying it's rubbish — some of the cartridge software can't be matched and the speech synthesiser is brilliant — but I felt its BASIC was too limited and slow.

When I got my TI there were only four, maybe five, people in my form with computers. Since Christmas I estimate that more than half now have them. But instead of learning on them, all they do is play games such as Jet Pack and Horace Goes Ski-ing.

I think it's a waste of time for parents to fork out over £100 for a computer to play games on when you can buy an Atari games player for less than £80.

To most children the computer is a status symbol. All you hear is "...my computer has more memory than yours", "...my computer has better graphics than yours" and so on. One boy I know makes fun of the memory of another boy's ZX81. He has a VIC-20. But if you compare it with, say, the Commodore 64, who has the skimpy memory then?

Everybody is going computer crazy.

I've recently been bought a BBC micro and I've discovered the benefits of its superb BASIC and graphics. I must admit that at first I only played games on it. But now I've stopped playing games and have nearly finished reading the advanced user guide. Other kids are still playing games.

Children, including me, talk non-stop about computers. My mum sometimes gets worried about me because since I got my computer I very rarely go outside. I just sit in my room tinkering on my computer for at least five hours a day.

What really gets me is that some people think that if they get a really advanced computer with, say, 128K of RAM, proper keyboard and full colour high-resolution graphics, they think that the user is also great.

That's not true, of course. A good programmer on a ZX81 could probably write a better and more interesting game than, for example, a BBC micro user given the same time and effort.

Julian Shawcross
Manchester

● This space is for you to sound off about the micro scene, to present bouquets, to hurl brickbats, or just to share your opinions or experiences. Your contribution, which will earn a fee, should be sent to Paul Liptrot, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB.



The Brother HP-5 printer showing its graphics paces

ONLY
£5.50

SPECTRUM

STONKERS



GO BONKERS WITH STONKERS

**..the name
of the game**

5 Sir Thomas Street
Liverpool, Merseyside L1 6BW
Dealer Enquiries Contact:

Colin Stoker on 051-236 8100 (20 lines)

Originals, but how do they rate?

You won't find any arcade clones here. All have that novel touch — read how they performed for our reviewers

Chuckman 48K Spectrum £5

CCI, Units 2, 3 and 4, Shire Hill Industrial Estate, Saffron Walden, Essex CB11 3AQ

No, this is not another version of the ghost gobbling arcader, but an ingenious and very professional original game.

Some nasty soul has hidden time bombs within a massive maze which is 60 times screen size. These bombs have burning fuses which are much too short for comfort. Our hero — yes, you play him again — must rush around trying to defuse the explosives before the big bang. If that isn't enough, between you and the bombs stand the dreaded

booties, fearsome footwear Chuckman, who taps his foot impatiently while you think, can dig potholes for the boots to fall into. Energy can be replenished by paying a visit to one of the delightful little eateries scattered about. From time to time the computer decides to create an earthquake, which damages paths, often forcing you to change route.

The maze is very well programmed, and easy to get lost in. But for me the most entertaining section is the superb routine at the end of each game. Full screen size letters drift across with messages such as "you can do better".

instructions	100%
playability	55%
graphics	80%
value for money	80%



Pengwyn 32K BBC £6.95

Postern, P.O. Box 2, Andoversford, Cheltenham GL54 5SW

I quite enjoy strategy games such as noughts-and-crosses and Othello. I also really enjoy fast-moving arcade games. I was therefore delighted to discover that Pengwyn has magically captured the essential features of both and put them into one.

Pengwyn, the cute little polar inhabitant, has been given the job of lining up three special flashing ice cubes side by side. He can move the cubes by giving them a sharp kick and can clear a path for them by either moving or melting other blocks that can get in the way. Seems simple enough doesn't it? The only trouble is

that "smiley" monsters keep emerging from random ice blocks and coming to attack him. Pengwyn's only escape is to crush the monsters by kicking blocks at them (splat!)

A super game with good graphics. My only criticisms are that I found the keyboard controls too widely spaced for easy use and that the random element allows monsters to jump out immediately adjacent to Pengwyn — giving no chance of escape.

instructions	P.D.
playability	80%
graphics	60%
value for money	95%



Danger Ranger Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Here is an unusual game which still retains the flavour of the arcades. It's a fast moving machine code presentation where the object is to collect keys and treasures.

The animation is superb with an initial choice of different coloured screens: black, buff or green background. This can affect the quality of the drawings where — in the buff version, for example — the score was decidedly blurred. I found green best, a compromise between colour choice and clarity.

You guide a man down a series of shelves picking up keys while

avoiding bats and laser firing urns. Why urns, I ask? They could equally have been robots! If you succeed then you proceed to the second screen where you negotiate acid coming from top and bottom. There are four demons which can be shot and treasure to collect.

This was a very addictive game initially but with only two screens it proved limiting. As you got better more hazards were added but the incentive to go on was lacking. These days it's not enough to see a mounting score — one has to be visually rewarded.

instructions	100%
playability	90%
graphics	90%
value for money	80%



PI-Eyed 48K Spectrum £6

Automata, 27 Highland Rd, Portsmouth, Hants PO4 9DA

If lavatorial humour and boozing are for you, then you may enjoy this. The PI Man, a huge-discovered dodging cars along a busy road à la Frogger. Steer him to avoid the cars and into one of the many buildings, and your senses are assaulted by either an excruciating "joke" or the inside of a pub, where obstacles like packets and "certain substances" must be negotiated. To escape and return to the street you must consume all the beer on the bar, avoiding the obstacles.

The scoring system is strange.

You start with huge quantities of points which are lost as PI Man is knocked down, obstacles hit or beer drunk. When you run out of points the game stops. However, each pint the PI Man sinks is totted up to give the final score. So avoid cars and obstacles and sink as many pints as possible to amass millions.

The graphics are certainly not up to the highest standard achieved on the Spectrum, but are acceptable, though controlling the PI Man without a joystick is very tricky. The humour is not to my liking; I got over the excitement of dog *? years ago, but then I am 13 next birthday(!) All this game needs to be complete is a low score hall of fame!

instructions	D.M.
playability	90%
graphics	70%
value for money	75%



Counter Attack 32K BBC £6.50

OIC, 15 Burghead Cl, College Town, Camberley GU15 4XL

Amid arcade and adventure games, there remains a nebulous area of computer entertainment like noughts-and-crosses and Othello — the strategy games. Inventing a new game in this category must be the hardest task given to anyone; Counter Attack is a very good try.

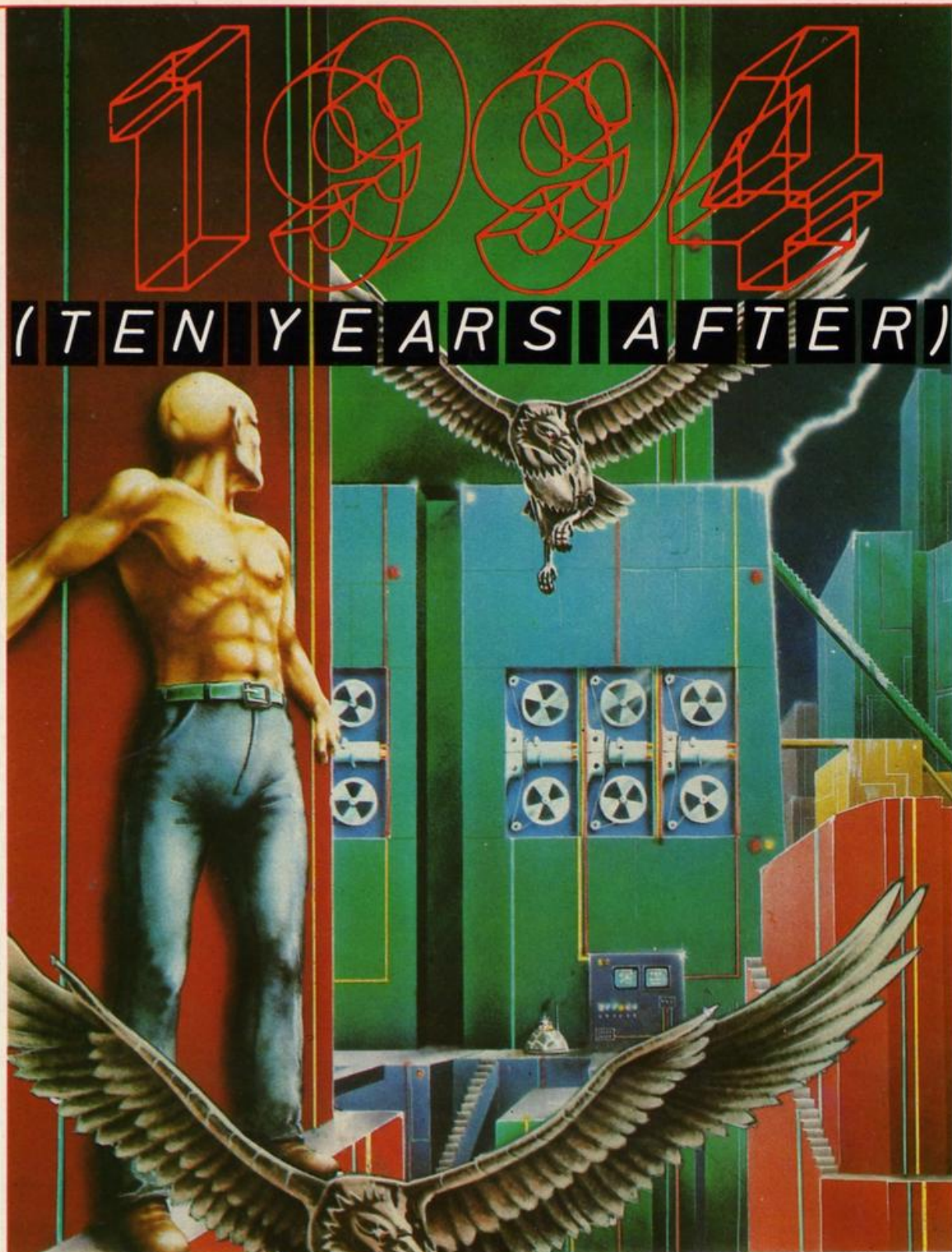
The game involves a seven by seven vertical grid, into which the players may place their counters. The object is to produce a row of four counters of your own colour (horizontally, vertically or diagonally). This would seem pretty trivial, and far below the level of "serious games players",

were it not for the opportunity for each player of shifting a whole row or column of counters by one square, up, down, left or right. So the playing area takes on an almost spherical dimension, with players having to watch possibly important pattern changes.

As a computer game the advantage lies in the fact that tedious counter manipulations are carried out automatically, and it is in this way similar to computerised Orthello. As an adult I found the feel of the game rather slow, but I imagine that it will be popular with younger children. A good but not a great game. Needs O.S. 1.2.

instructions	80%
playability	60%
graphics	70%
value for money	75%





WE DARE YOU TO PLAY WITH THE FUTURE

1994 £6.95
(10 YEARS AFTER)
ZX SPECTRUM VS-07-48

Visions
THE NAME IN VIDEO GAMES

FANS PLEASE NOTE! ALSO AVAILABLE MAIL ORDER
FROM VISIONS (SOFTWARE FACTORY) LTD
1 FELGATE MEWS, STUDLAND STREET, LONDON W6
TELEPHONE: 01-748 7478

Visions (Software Factory) Limited software is available from: Boots Centre Soft Currys (selected stores) Ferranti and Davenport Greens Laskys
Lightning dealers Makro Menzies Prism dealers Record Fayre Rumbelows Software City Spectrum dealers SupaSnapS (selected stores) Tesco

The contents of the BASIC ROM in the Commodore 64 can be copied into RAM and then altered as you wish — in just the same way as the character ROM can be copied and then certain characters redefined.

In fact, the copying of BASIC is even easier because there is no need to switch off the interrupt routines. This article will use this technique to enable Commodore 64 users to redefine any error message or BASIC keyword — and in doing so gain a greater understanding of how the computer works.

Program 1 shows how this can be done. The loop in lines 10 to 30 copies the ROM into RAM, one byte at a time. Line 40 switches out the BASIC ROM, so that the RAM at the same locations is used instead. If you were to enter POKE 1,54 without copying the ROM, the computer would just do a warm start (same as pressing the RUN/STOP and RESTORE keys), leaving the BASIC ROM as it is.

Note that we are using RAM which shares the same memory locations as the BASIC ROM and is normally not used. This leaves the normal 38K free for BASIC programs.

The second part of Program 1 demonstrates how the BASIC vocabulary can be altered. The error messages and keywords are stored in ROM as blocks of ASCII code. Now that the BASIC language is in RAM, it is possible to POKE new values, representing characters, into the message tables to define alternative error messages and keywords.

Line 50 declares the memory location of the first character in SYNTAX. Line 60 is the string which is to replace SYNTAX. The loop in lines 70 to 90 takes each character in turn and POKES the ASCII code of each character into the message table.

While entering line 60, hold down the SHIFT key while pressing the last character to be printed. The program will take about 40 seconds to RUN, almost all the time being taken by the first loop. After running the program, enter something which would normally generate a SYNTAX ERROR (not difficult to do!) and see what happens. By changing the string in line 60 you can invent your own alternative to the dreaded SYNTAX ERROR.

The last character of each message in ROM is indicated by being a shifted character. Should you forget to shift this character, the next message in the table will be printed as well. Strings of more than six characters may be used (whole sentences may be entered if required), but the next message

Write your own BASIC ...almost

It's easy to tinker with the BASIC in the Commodore 64 — and gain more knowledge of the computer at the same time. S. A. Sassoon explains how to use his two short routines



Program 1 — copies the BASIC ROM into RAM

```

9 REM **** COPY BASIC ROM INTO RAM ****
10 FOR BYTE=40960 TO 49151
20 POKE BYTE,PEEK(BYTE)
30 NEXT BYTE
40 POKE 1,54 :REM SWITCH OUT BASIC ROM
47 :
48 :
49 REM **** REDEFINE SYNTAX ERROR *****
50 LOC=41525
60 MESSAGE$="SILL I"
70 FOR I=0 TO LEN(MESSAGE$)-1
80 POKE I+LOC,ASC(MID$(MESSAGE$,I+1,1))
90 NEXT

```

Program 2 — lists the computer's BASIC vocabulary alongside the memory locations

```

1 REM ** LIST MESSAGES IN BASIC ROM **
2 REM ** WITH THEIR MEMORY LOCATIONS **
3 :
10 PRINT CHR$(14):REM LOWER CASE
20 BEGIN=41118 :FINISH=41767 :GOSUB 100
30 BEGIN=41829 :FINISH=41865 :GOSUB 100
40 BEGIN=44284 :FINISH=44316 :GOSUB 100
50 END
98 :
99 :
100 PRINT:PRINT BEGIN:
110 FOR BYTE=BEGIN TO FINISH
120 PRINT CHR$(PEEK(BYTE)):
140 IF PEEK(BYTE)>128 OR PEEK(BYTE)=0 THEN PRINT:PRINT BYTE+1:
150 IF PEEK(BYTE)=13 THEN PRINT BYTE+1:
160 NEXT BYTE
170 RETURN

```

in the table will be corrupted. In the case of SYNTAX error, the RETURN WITHOUT GOSUB error message will be affected.

Program 2 will list the computer's vocabulary in the BASIC ROM alongside their memory locations.

The messages are stored in three blocks within the ROM. The first of these, which is by far the largest, contains all the BASIC keywords and error messages — including a few file errors not mentioned in the manuals. The second block contains general messages such as "READY.", and the third holds the two INPUT error messages. By altering these you can avoid the rather disconcerting "?REDO FROM START" and "?EXTRA IGNORED" messages from appearing while your programs are running.

These messages are terminated by a carriage return (ASCII value 13) rather than a shifted character. Also they must not be replaced with a string of greater length.

Lines 20 to 30 of program 2 give the memory locations of the three blocks. Each location is passed to the subroutine at line 100. This subroutine PEEKs each location in turn and prints the value as a character. If the character has shifted (has an ASCII value of more than 128) or is a null character (ASCII of 0) or is a RETURN character (ASCII value 13) then the next location is printed on a new line.

While entering Program 2 don't forget the semi-colons at the end of lines 100, 120, 140 and 150.

By noting the memory location of any message and replacing the value of LOC in line 50 of Program 1, any message can be redefined. Any location that is listed by the program, but is not followed by characters, must not be altered.

Commodore 64 users may wish to extend those ideas further to generate error-trapping routines — a feature which Commodore V2 BASIC lacks.

These programs show only the beginnings of what can be done by altering the BASIC language. However, it is not only the 64's vocabulary that can be changed. Using machine code routines it is possible to adapt the way that BASIC works — to add new commands or extend those already available. For those who are really adventurous, the Kernal operating system can be copied and altered in just the same way.

LLAMASOFT NEWS

NEW for the 8K Expanded VIC:

HELL GATE

A very fast-paced Arcade game featuring simultaneous control of 4 high-speed laser cannon. Unique game action is easy to learn yet difficult to master. Features include 20 levels to challenge you; automatic Smart bombs; seven-place High Score table with score signature memory feature and full Attract mode. A superb Jeff Minter design presented immaculately on a 25 x 30 screen.

£6.00

COMMODORE 64: After finishing HELL GATE Jeff took a couple of days to pop the code onto the '64. Whilst this is no Revenge or Hover Bover, we are offering HELL GATE 64 at the bargain price of £5.00... an interesting diversion to occupy a little time while you wait for Jeff's next '64 epic, which we can now reveal will be called

SHEEP IN SPACE — for which Jeff promises the usual great graphics and sound — and also a totally new control concept... so prepare to feel extremely sheepish in a few month's time.

Until then — to all our followers

A) HAPPY BLASTING/MOWING/SPITTING ETC.

B) DON'T SHOOT THOSE GOATS!!!

BY JEFF MINTER FROM LLAMASOFT

Jeff



Minter

LLAMASOFT

AWESOME GAMES SOFTWARE

This program allows you to define characters and sprites very easily on a large grid. It will run with BASIC I or BASIC G on the Sord M5.

When this program is run you will see a 8×8 grid on which one of the dots is flashing. This flashing dot is your current position and you can move this anywhere on the grid by pressing the cursor keys.

To create a dot at that position press the space key and to erase a dot, press del (found at the top right hand corner of the keyboard).

When you are satisfied with the character press 'e', then you will see the numbers necessary to create that character. At this point you can press 1 to edit the character you have just made, 2 to define another character or press 3 to quit the program altogether.

When you are defining a character, you can rotate the character by pressing 'r', upturn the character you're creating by pressing 'u', mirror the character by pressing 'm', or clear the grid by pressing 'c'.

Improve your characters the easy way

Type in Shingo Sugiura's character generator program for the Sord M5 and make your own characters and sprites

How it works

- 10-20 REMs
- 30 define DIM
- 40 select GII graphic mode
- 50 initialise DIM
- 60-70 set up the screen
- 80-90 print the grid
- 100 initialise X and Y coordinates for the cursor
- 110 scan the keyboard
- 120 indicate current position
- 130 update grid
- 140-230 see what keys pressed and take appropriate action
- 240 if key pressed isn't 'e' go back to beginning
- 250-290 work out the numbers for the character
- 300-320 print the numbers for the character
- 330-340 print the options and wait for a response
- 350-360 clear the grid
- 370-420 rotate character
- 430-480 mirror the image
- 490-540 upturn the character

Notes on typing in: In lines 40 and 60 obtain the inverse character by pressing SHIFT + CTRL and the appropriate character. To obtain the down arrow in line 330 press SHIFT + CTRL + ? simultaneously.

```
10rem Character Generator
20rem By Shingo Sugiura
30 dim AD(8,8),TE(8,8),GS(7)
40 Print "M5"
50 for A=1 to 8:for B=1 to 8:let AD(A,B)=0:next B
60 Print " " CHARACTER GENERATOR:Print cursor(4,2):rows"
```

```
1:cursor(2,4):"12345678"
70 for A=1 to 8:Print cursor(0,A+5):chr$(96+A):if B=1 to 8
80 if AD(A,B)=0 then Print cursor(A+1,B+5):" " else Print cu
cursor(A+1,B+5):chr$(128)
90 next B
100 let X=1:let V=1
110 let AS=lnkey$
120 Print cursor(X+1,V+5):" "
130 if AD(X,V)=0 then Print cursor(X+1,V+5):" " else Print cu
rsor(X+1,V+5):"█"
140 if AS="1" then let X=X+(X>1)
150 if AS="2" then let X=X-(X<1)
160 if AS="3" then let V=V+(V>1)
170 if AS="4" then let V=V-(V<1)
180 if AS=" " then let AD(X,V)=1
190 if AS="r" then let AD(X,V)=0
200 if AS="c" then gosub 350
210 if AS="r" then gosub 370
220 if AS="m" then gosub 430
230 if AS="u" then gosub 490
240 if AS="e" then goto 110
250 for A=1 to 8:let K=1:let GG=0
260 for B=1 to 8:let GG=AD(B,A)+K:GG:let K=K+2:next B
270 let GS(A-1)=right$(hex$(GG),2):next A
280 for A=0 to 7:Print cursor(15,A+6):GS(A)
290 next A
300 Print cursor(0,16):"chr$(34):"
310 for I=0 to 7:Print GS(I):next I
320 Print chr$(34):" to a.b"
330 Print "1. Edit:Print "2. Define:Print "3. Quit"
340 let BS=lnkey$:if BS="1" then goto 60 else if BS="2" then
```

```
goto 50 else if BS="3" then end else goto 340
350 for A=1 to 8:for B=1 to 8:let AD(A,B)=0:Print cursor(A+1
,B+5):" " :next B
360 return
370 for A=1 to 8:for B=1 to 8:let TE(B,A)=AD(B,A):next B
380 for A=1 to 8:for B=1 to 8:let AD(B,A)=TE(9-A,B):next B
390 for A=1 to 8:for B=1 to 8
400 if AD(B,A)=1 then Print cursor(B+1,A+5):"█" else Print cu
rsor(B+1,A+5):" "
410 next B
420 return
430 for A=1 to 8:for B=1 to 8:let TE(B,A)=AD(B,A):next B
440 for A=1 to 8:for B=1 to 8:let AD(B,A)=TE(9-B,A):next B
450 for A=1 to 8:for B=1 to 8
460 if AD(B,A)=1 then Print cursor(B+1,A+5):"█" else Print cu
rsor(B+1,A+5):" "
470 next B
480 return
490 for A=1 to 8:for B=1 to 8:let TE(B,A)=AD(B,A):next B
500 for A=1 to 8:for B=1 to 8:let AD(B,A)=TE(B,9-A):next B
510 for A=1 to 8:for B=1 to 8
520 if AD(B,A)=1 then Print cursor(B+1,A+5):"█" else Print cu
rsor(B+1,A+5):" "
530 next B
540 return
```





Unlock Your Imagination

SCOPE

Computer Graphics Language

- ★ A VERY POWERFUL, TRUE MULTITASK LANGUAGE
- ★ AS FAST AS MACHINE CODE
- ★ SIMPLER THAN BASIC

Write Machine Code in a fraction of the time currently required

SCOPE is available from most good quality dealers and selected branches of

WHSMITH

For details of how to get your games published commercially contact ISP Marketing

TECHNICAL DETAILS

SCOPE is a fully structured multitask language specifically for writing *graphics, animation and sound*. Being fully compatible with BASIC it is ideal for writing both arcade and adventure style games. Additionally, with SCOPE present in high memory it can be used as an assembler with SCOPE words as plain language mnemonics. Therefore no knowledge of machine code is required. The language is extremely easy to comprehend and is very powerful indeed providing many features not available from BASIC.

SCOPE HAS TO BE USED TO BE BELIEVED

48K SPECTRUM



CLIP THE COUPON NOW AND UNLOCK YOUR IMAGINATION
Post to: ISP Marketing Ltd, Crown House, 38b High Street, Godalming, Surrey
Tel: Godalming (04868) 24151 Please rush me copies of the SCOPE computer graphics language tape and instruction manual at £11.95 (p&p free).
(Cheques payable to ISP Marketing Ltd)
Block capitals please

PRICE

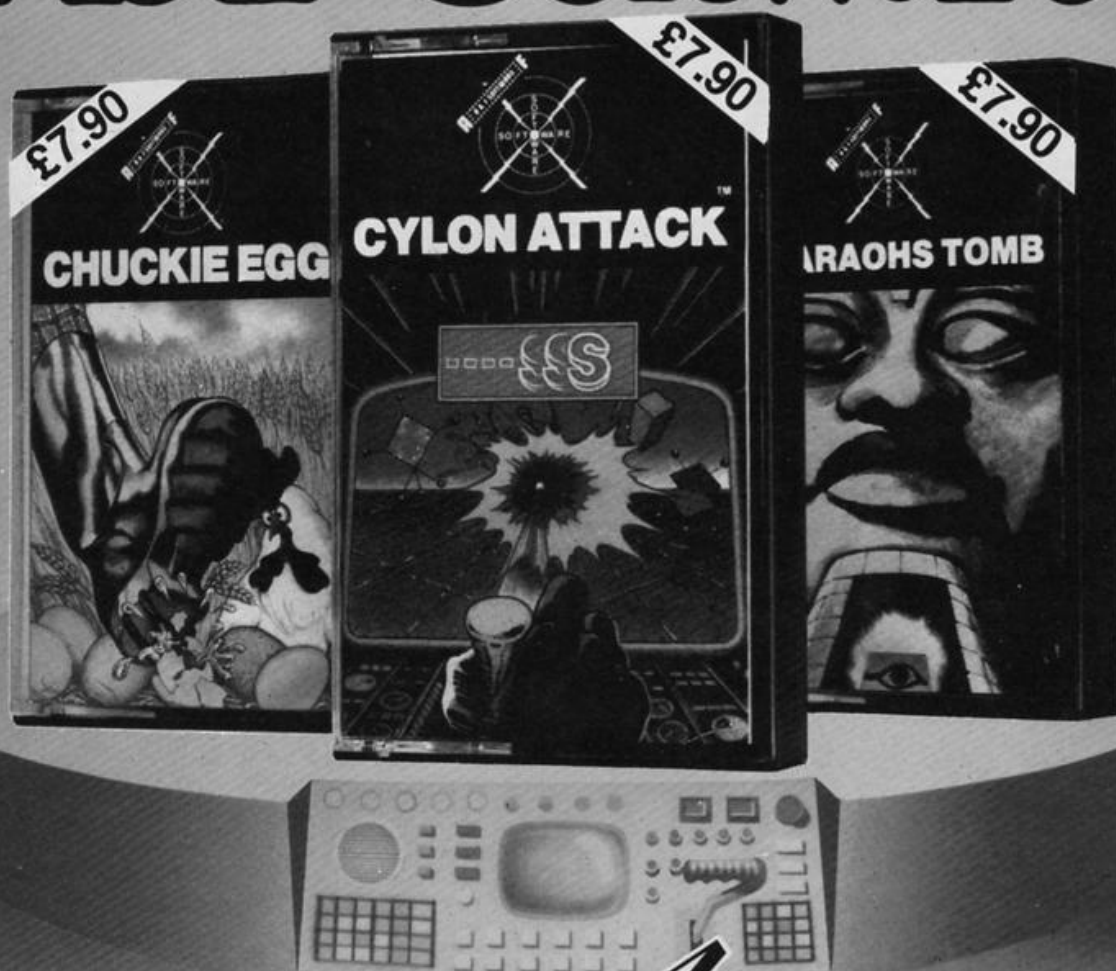
£11.95

ler Enquire
come

"ATTENTION, EARTHLINGS..."



...Beam us down to A&F Software."



	BBC	ELECTRON	DRAGON	SPECTRUM
CHUCKIE EGG	✓	✓	✓	✓
CYLON ATTACK	✓	✓		
JUNGLE FEVER				✓
PHARAOHS TOMB	✓	✓		

PRICE £7.90 £7.90 £7.90 £6.90



Available from W.H. Smiths, John Menzies and all leading computer stores.

Unit 8, Canalside Industrial Estate,
Woodbine Street East, Rochdale, Lancs.
OL16 5LB. Tel: 0706 341111

COMPETITION

Are you taking 'O'-levels soon? Do you want to revise for GCE and other exams?

Whether you're a pupil, parent or teacher, this week's competition is for you. There's 70 prize packages of educational software to be won from Scisoft.

The programs run on the 48K Spectrum, ZX81, Dragon and BBC model B.

Scisoft, specialists in educational software, thoroughly tests its programs and many schools use them.

All of its growing range is written by teachers and is on sale in the shops, including larger branches of W. H. Smith.

Our 70 prize packages, each of two tapes, are worth about £15 each — total prize value of £1,050.

The prizes are for three age groups: 5-8, 9-13 and over 13. Please make sure you note your preferred age group on the coupon.

As with all educational software, it is available to check with the exam syllabus that all parts of the program/s are relevant.

Some examination boards may not require knowledge of all the contents of the packages.

The prizes

Each of our 70 winners will receive two titles drawn from Scisoft's range of programs. They are:

Jungle Maths	Astromaths
Wizard Box	Star Reader A
Star Reader B	French
Middle School Maths — part I	
Middle School Maths — part II	
Maths part I	Maths part II
Physics	Chemistry
Biology	Computer Studies
Teacher's Mark Book	

Wherever possible, the problems in the software contains randomised data so that they can be used time and time again with increasing benefit, says Scisoft.

Most also contain sets of multiple

choice questions typical of those found in examination papers.

Each has a book of revision notes and a program of hints on how to revise at home.

The programs are written to be compatible with most 'O'-level boards and are also useful for the most able CSE pupil.

Note: not all programs run on all the named computers, so Scisoft's

choice of prizes may not match the marked age group, although every effort will be made to match requests.

How to enter

All you have to do is study our word-square to find the titles of Scisoft's programs. All of them, and more, are in the list under the section headed The Prizes.

Mark the titles you find by ringing

Exams coming up? Win programs to help from Scisoft

**Your computer can help you
get through those
examinations. Try our
wordsquare competition and
you could win a share of
£1,000-worth of educational
software of Scisoft**

them with a ballpoint pen or marking them with a semi-opaque felt-tip pen.

Fill in the coupon clearly — if you are a winner it will be used as a label — and send the wordsquare with coupon attached to us. You must mark on the back of the envelope the number of software titles you found in the wordsquare.

Please ensure that the coupon, wordsquare and envelope are correctly filled in. Entries which are incomplete cannot be considered.

You may enter as many times as you wish but each entry must be on the official coupon and wordsquare — not copies — and be sealed in a separate envelope.

Do not enclose anything else.

Post your entry to Scisoft Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB.

Closing date is first post on Friday March 2.

The winners will be the first 70 correct entries opened at random after that date, regardless of computer or prizes chosen.

The prizes will arrive from Scisoft within 28 days of the publications of the issue containing the names of the winners and the solution.

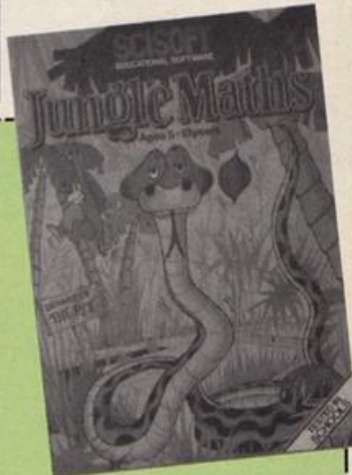
The rules

The first 70 correct entries opened after the closing date, Friday March 2, 1984, will win the prizes. They will be selected at random, regardless of computer owned or age group selected.

Entries which do not follow the guidance in the How to Enter section cannot be considered.

Entries will not be accepted from employees of Argus Specialist Publications, Scisoft and Alabaster Passmore & Sons. This restriction also applies to employees' families and agents of the companies.

The editor's decision is final and no correspondence will be entered into.



Entry Coupon

Scisoft Competition

Name _____

Address _____

post code _____

Number of titles found _____

Age group (circle one): 5-8 9-13 over 13

Computer _____

Complete clearly and fully — if you are a prizewinner, this will act as a label. Post to: Scisoft Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date: first post Friday March 2, 1984. Do not forget to follow carefully the guidance in the How to Enter section, including writing the number of titles found on the back of your envelope.

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

Kongo Kong £6.95

Mogul, 90 Regent St, London W1R 5PT

Yet another version of Donkey Kong for the CBM-64, but I found this one nicely fills a gap in the "Kong market". The game has a slightly unusual screen layout and is quite easy to play on level 1 but rather hard on level 9.

Comparing it with other versions, Anirot's is far superior but requires quite a lot of skill and practice and Interceptor's is inferior and harder to control.

The first screen comprises of getting past barrels and working your way to the top. Screen two is a set of conveyor belts on which you must travel. The third screen is a complex set of gaps in the

floor through which you must jump and moving girders to hold onto. In the final screen you must collect the supports holding up the platforms. On doing this there's a nice display of collapsing platforms. You now go back to the start but the speed is faster.

Quite a few inaccurate things happen, such as barrels moving up ladders or over mid-air. These can be quite annoying as there is neither a pattern nor rules in play that the computer sticks to.

A quite good version, but overpriced compared with Anirot's version. **K.I.**

instructions	50%
playability	85%
graphics	80%
value for money	65%



Revenge of the Mutant Camels £7.50

Llamasoft, 49 Mount Pleasant, Tadley, Hants

Beware, ZZaxians! Those camels are back on our side now, and ready to take everything you care to throw at them!

This game is very well presented, with a video-type case containing the cassette and a little instruction leaflet. One of the best things about it is that it loads fast — no more 15-minute waits before you can play. There's an experimental "Turbo" format recording on side one, and a normal version on side two in case your equipment won't accept this (mine did).

There are 42 different waves of nasties for your mutant camel to spit at, jump over or duck under, some of them extremely odd. Telephone kiosks, walking sticks, flying saucers — you name it and it's probably in there somewhere. You can work your way through the waves in order, or opt to have them selected randomly, when only the first 32 are available. You have five camels per game, each of which can survive quite a lot of hits before collapsing with legs in the air.

An extremely entertaining game, which will really challenge arcade aces as well as giving the rest a lot of fun. **M.N.**

instructions	80%
playability	95%
graphics	95%
value for money	95%



Hunter £7.95

Terminal, 28 Church La, Prestwich, Manchester M25 5AJ

This game has its origins in Pacman but it's sufficiently different to be original. It is also reminiscent of the motor cycle race in Tron.

You are chased by six enemy planes around a maze of 'corridors'. You can fire at, and destroy, an enemy plane when it's in the same corridor. However your shots go straight and the enemy plane doesn't hang around.

While you are moving around trying to destroy the planes they are inclined to ambush you. But at least you have five lives.

It's easy to clear the first screen of its six enemy planes. On each succeeding screen, however, the enemy move faster and by about the sixth you're a nervous wreck. At the start you type your name in and the screen displays the top three scores.

I enjoyed this game and kept coming back for more. It is addictive because it becomes more difficult slowly, so you think next time you'll be able to go a little bit further. **L.C.**

instructions	60%
playability	70%
graphics	60%
value for money	75%



Five more for your CBM 64

As proof of the computer's popularity, software houses have been beaver away with their Commodore 64s. Here's what our reviewers think of some of the latest

Stellar Dodger £7.95

Terminal, 28 Church La, Prestwich, Manchester M25 5AJ

This game involves piloting a shuttle vehicle between a mothership and supply dumps. The mothership moves slowly across the top of the screen and the supplies, on red and yellow platforms, are at the bottom of the screen. In going between the two you have to pass through an asteroid belt.

The screen displays current score, high-score, trip number and fuel gauge — a vertical bar down the right of the screen. You only get topped up when you complete a round trip.

If you don't want to avoid the asteroids you can blast them, but there are rather a lot. While

you're positioning yourself to blast one you're likely to be sideswiped by another.

I was not very impressed by this game. The instructions were rather vague. The card said it was self demonstrating. Having loaded the program I sat for quite a time waiting for it to self demonstrate, but it never did. I eventually decided that you had to select the keyboard option and then do nothing for a demonstration.

The graphics were relatively crude. When the shuttle got hit or crashed several parts of the display started to flash in multicolour unison. Not a game I feel like coming back to. **L.C.**

instructions	30%
playability	50%
graphics	50%
value for money	40%



Arcadia 64 £5.50

Imagine, 5 Sir Thomas St, Liverpool L1 6BW

Having seen this game advertised for just about every machine except the CBM-64, I often wondered if the opportunity to master it would come my way.

Arcadia consists of you, a galaxian-style laser base and various ships coming at you in fleets. The object is, as usual, to blast anything that moves. If you do not manage to get everything when directly above you then you get killed by missiles from them. This makes the game tedious and impossible at times.

The game uses 16 sprites (or at least it seems to). You may remember CBM claims you may have up to 256. The fault is that

only eight may be displayed each time the screen is scanned. The result is a constantly annoying flicker in the graphics. This could be the cat amongst the pigeons because the rest of the program is quite well written.

The game loaded perfectly each time, though there is one slight snag — it takes 20 minutes. The instructions are adequate and cover all aspects of play.

This is not exactly my type of game. Although I like space games on this theme, this one has less lasting appeal. However, after saying that, it is worth considering because of its price. **K.I.**

instructions	50%
playability	70%
graphics	60%
value for money	85%



PEDRO

“Vengo”

“Vengo”

“Vengo”

Pedro is one mad mexican gardener, and he's bringing his troubles your way.

Can you stop the animals eating your plants?

Can you block up the maze exits to keep them out of your garden?

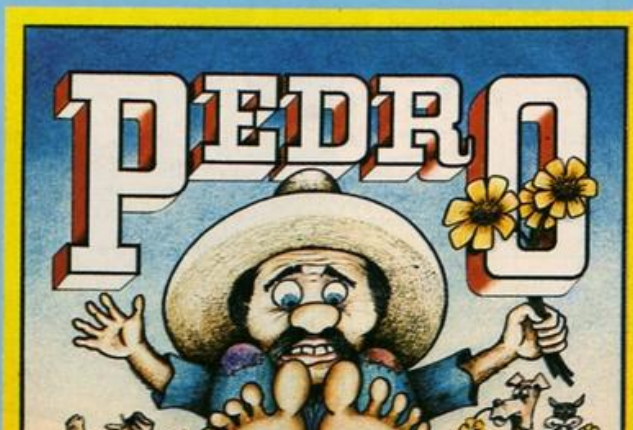
Can you scare away the thieving tramp who's after your precious seeds?

Can you stop yourself pulling out your hair with frustration?

Find out soon, with PEDRO.



For the
48K SPECTRUM
COMMODORE 64
DRAGON 32
BBC Model B
ELECTRON



TI-99/4A PROGRAM

How it works

100 REM
110-160 Y or N to instructions
170-290 instructions
300-830 define characters for screen, laser beam and set screen
840 set random column for alien descent
850-920 define alien, move alien
930-950 limit quantity of aliens
960-1090 fire laser beam
1100-1120 limit quantity of laser shots
1130-1140 stop alien when laser is fired
1150 decide if laser is on target
1160-1240 laser miss routine
1250-1270 score generator
1280-1430 game over
1440-1680 explosion routine

Laser Defence seems simple to play — there's just one key to press — but it's not as easy as it looks.

Use any key, I recommend the space bar, to fire your laser beam at the aliens as they ascend.

Only one alien will appear at a time and your number of shots is not restricted, although you can be attacked by up to 20 aliens and then you have a maximum of 20 shots.

Variables

E random position of alien between columns 1 and 24
C row number of alien in steps of one from row 1 to 21
I column number of laser gun in steps of -1 from column 29 to 1
The other variables explain themselves

Don't be fooled... it's not so easy

Here they come again. Those aliens are determined to conquer us. You can stop them. Quickly type in Tim Freeman's program for the standard TI-99/4A

Hints on conversion

TI BASIC is fairly standard with two main exceptions. Single statement lines are used and sub-routines for graphics and sound are available, prefixed with CALL, as detailed below.

CALL CLEAR clears screen
CALL SCREEN defines screen colour

CALL CHAR defines a character with a 16-digit hex string from an eight by eight grid. Other machines will use a different method

CALL COLOUR (character set, foreground, background) sets colour of character

CALL HCHAR (row, column, character code, number of repeats) places character on screen at co-ordinates specified and optionally repeats character horizontally

CALL VCHAR similar to HCHAR but repeats character vertically

CALL GCHAR (row, column, variable) similar to a screen PEEK on other machines. Gives the ASCII code at the given screen co-ordinates

CALL SOUND (D,F,V) gives sound of duration D, frequency F and volume V. Three sounds can be produced at once

It is wise to aim carefully and hit each alien in turn.

The best score possible is zero, which means that all aliens were destroyed without any harm to the city or its people.

```
100 REM LASER DEFENCE BY T. FREEMAN
110 CALL CLEAR
120 PRINT "DO YOU WANT INSTRUCTIONS?"
130 CALL KEY(0,K,S)
140 IF S=0 THEN 130
150 IF K=78 THEN 300
160 IF K=89 THEN 170 ELSE 130
170 CALL CLEAR
180 PRINT "YOU ARE IN THE LASER CONTROL TOWER AND YOU ARE THE CITY'S ONLY FORM OF DEFENCE-----"
190 PRINT " "
200 PRINT " "
210 PRINT "*****"
220 PRINT " "
230 PRINT "YOUR OBJECTIVE IS TO DESTROY ALL ALIENS...YOUR SCORE WILL DEPEND ON THE S"
240 PRINT " "
250 PRINT "you should try for a score that is as close to zero as possible...the higher the score the worse your aim is"
260 PRINT " "
270 PRINT " "
280 CALL KEY(0,K,S)
290 IF S=0 THEN 280 ELSE 300
300 RANDOMIZE
310 CALL SCREEN(0)
320 CALL CLEAR
330 CALL COLOR(1,13,2)
340 CALL CHAR(33,"FFFFFFFFFFFFFF")
350 CALL COLOR(2,7,2)
360 CALL CHAR(40,"FFFFFFFFFFFFFF")
370 CALL CHAR(41,"7C6B03010F1F3F7F")
380 CALL CHAR(42,"3C6B03010F1F3F7F")
```

```
390 CALL CHAR(43,"FFFFFFFF000000")
400 CALL CHAR(44,"FFFFFFFF000000")
410 CALL CHAR(45,"FF000000000000")
420 CALL CHAR(46,"FF000000000000")
430 CALL CHAR(47,"FF000000000000")
440 CALL COLOR(15,3,2)
450 CALL CHAR(144,"804020101020509")
460 CALL CHAR(145,"101010101010101")
470 CALL COLOR(4,11,2)
480 CALL CHAR(61,"91523C3FFC3C4A89")
490 CALL COLOR(16,14,2)
500 CALL CHAR(152,"7E7E5A7E7E7E7E7E")
510 CALL HCHAR(20,2,152)
520 CALL HCHAR(20,5,152)
530 CALL HCHAR(20,7,152,2)
540 CALL HCHAR(20,12,152)
550 CALL HCHAR(12,30,144)
560 CALL VCHAR(13,30,145,4)
570 CALL HCHAR(20,19,152,2)
580 CALL HCHAR(20,24,152)
590 CALL HCHAR(20,3,152)
600 CALL HCHAR(20,3,152)
610 CALL HCHAR(20,14,152,3)
620 CALL HCHAR(20,19,152,5)
630 CALL HCHAR(3,5,61)
640 CALL HCHAR(9,23,61)
650 CALL HCHAR(3,16,61)
660 CALL HCHAR(4,29,61)
670 CALL HCHAR(7,8,61)
680 CALL HCHAR(10,32,61)
690 CALL HCHAR(6,19,61)
700 CALL HCHAR(2,12,61)
710 CALL HCHAR(5,26,61)
720 CALL HCHAR(21,1,33,128)
730 CALL HCHAR(17,25,40,6)
740 CALL HCHAR(10,26,40,4)
750 CALL HCHAR(19,27,40,2)
760 CALL HCHAR(20,26,40,7)
770 CALL HCHAR(16,27,41)
780 CALL HCHAR(16,28,42)
790 CALL HCHAR(15,27,43)
800 CALL HCHAR(15,29,44)
810 CALL HCHAR(14,27,45)
820 CALL HCHAR(14,29,46)
830 CALL HCHAR(4,23,60)
840 E=INT(23*RND)+1
850 C="C3241010101024C3"
860 E="0000FF1010FF0000"
870 D="FFFFFFFFFFFFFF"
880 CALL CHAR(36,C)
890 CALL CHAR(37,E)
900 CALL CHAR(104,D)
910 CALL COLOR(10,2,2)
920 FOR C=1 TO 21
930 IF C=1 THEN 940 ELSE 960
940 ALIEN=AL1EN+1
950 IF ALIEN=21 THEN 1270 ELSE 960
960 CALL VCHAR(C,E,36)
970 CALL VCHAR(C,E,37)
980 CALL VCHAR(C,E,104)
990 CALL SOUND(340,425,2,-6,1)
1000 CALL KEY(0,K,S)
1010 IF S=0 THEN 1190
```

```
1020 CALL HCHAR(C,E,36)
1030 AB="0002003CFFC0002"
1040 CALL SOUND(3750,110,0,500,0,-0,0)
1050 CALL CHAR(120,AB)
1060 CALL CHAR(104,D)
1070 CALL COLOR(12,4,2)
1080 CALL COLOR(10,2,2)
1090 FOR I=29 TO 1 STEP -1
1100 IF I=1 THEN 1110 ELSE 1130
1110 SHOTS=SHOTS+1
1120 IF SHOTS=20 THEN 1270 ELSE 1130
1130 CALL HCHAR(12,1,120)
1140 CALL HCHAR(12,1,104)
1150 IF (12/I)<=(12/1)<=(C/E)<=(C/E) THEN 1250
1160 NEXT I
1170 CALL HCHAR(C,E,104)
1180 GOTO 1000
1190 IF C=21 THEN 940
1200 IF C=20 THEN 1210 ELSE 1220
1210 CALL SOUND(200,110,0,500,0,250,0,-7,0)
1220 E=E
1230 NEXT C
1240 GOTO 920
1250 HITS=HITS+1
1260 IF HITS=20 THEN 1450 ELSE 1270
1270 SCORE=(ALIENS+SHOTS)-(HITS+HITS)*10
1280 CALL CLEAR
1290 CALL SCREEN(4)
1300 CALL COLOR(4,2,4)
1310 CALL COLOR(1,4,4)
1320 PRINT "YOUR MISSION WAS ACHIEVED AFTER YOU ALLOWED THE ALIEN TO KILL "JS
CORE
1330 PRINT "THOUSAND PEOPLE IN YOUR CITY-----"
1340 PRINT " "
1350 PRINT " "
1360 CALL KEY(0,K,S)
1370 IF S=0 THEN 1360
1380 IF K=78 THEN 300
1390 IF K=89 THEN 1400 ELSE 1360
1400 CALL CLEAR
```

```
1410 PRINT "GAME OVER"
1420 PRINT " "
1430 END
1440 CALL SOUND(-10,110,0,330,1,1000,0,-3,0)
1450 CALL HCHAR(C,1,36)
1460 CALL SOUND(-9,120,0,340,1,1010,0,-3,0)
1470 CALL HCHAR(C,1,40)
1480 CALL SOUND(-8,130,0,350,1,1020,0,-3,0)
1490 CALL HCHAR(C,1,37)
1500 CALL SOUND(-7,140,0,360,1,1030,0,-3,0)
1510 CALL HCHAR(C,1,40)
1520 CALL SOUND(-6,150,0,370,1,1040,0,-3,0)
1530 CALL HCHAR(C,1,36)
1540 CALL SOUND(-5,160,0,380,1,1050,0,-3,0)
1550 CALL HCHAR(C,1,40)
1560 CALL SOUND(-4,170,0,390,1,1060,0,-3,0)
1570 CALL HCHAR(C,1,37)
1580 CALL SOUND(-3,180,0,390,1,1070,0,-3,0)
1590 CALL HCHAR(C,1,40)
1600 CALL SOUND(-2,190,0,400,1,1080,0,-3,0)
1610 CALL HCHAR(C,1,36)
1620 CALL SOUND(-1,200,0,410,1,1090,0,-3,0)
1630 CALL HCHAR(C,1,40)
1640 CALL SOUND(1,210,0,420,1,1100,0,-3,0)
1650 CALL HCHAR(C,1,104)
1660 CALL SOUND(2,220,0,430,1,1110,0,-3,0)
1670 IF HITS=20 THEN 32767 ELSE 940
1680 END
```





IT'S HERE. ANDROID TWO IN 3D.

A NEW DIMENSION IN EXCITEMENT FROM VORTEX SOFTWARE.

Stop the advance of the Millitoids. Survive the maze of death, rationalise the paradox zone and overcome the dangers encountered in the flatlands.

Achieve this and return to the transporter capsule before the deadline. But beware. There are lethal Hoverdroids, Bouncers and land mines everywhere.

3D full colour graphic effects, machine code fast action and multi-screen wraparound zones make Android Two a mindblowing action game.

**SEEK OUT ANDROID TWO AT
ALL THE BEST DEALERS.**



PLEASE RUSH ME:

SPECTRUM 48K

KEYBOARD/JOYSTICK OPTION

☐ ANDROID TWO(S) **£5.95 EACH**

TOTAL VALUE £

Enclose PO/cheque payable to VORTEX SOFTWARE.

NAME _____

ADDRESS _____

Send to mail order address:
VORTEX SOFTWARE 280 BROOKLANDS ROAD MANCHESTER M23 9HD.

DEALER ENQUIRIES WELCOME

Vortex are always seeking exciting new programs. Contact us or send sample.



TRACKS



**FAST
MAIL
ORDER
SERVICE**

HOME ENTERTAINMENT CENTRE

**POST
FREE!**

**HEAD OFFICE (MAIL ORDER DEPT.)
5 KING STREET, MELTON MOWBRAY,
LEICS LE13 1XA
TEL: (0664) 68223/62517**

SPECTRUM

AH DIDDUMS	£5.45
BLACK HOLE	£5.45
CORNROOKS OF GENUN	£5.95
JET PAC	£5.45
LUNAR JET MAN	£5.45
COOKIE	£5.45
TRANSAM	£5.45
PSST	£5.45
ATIC-ATAC	£5.45
ESPIONAGE ISLAND	£6.95
CHEQUERED FLAG	£6.95
CAVE MAN	£4.95
FIRE BIRDS	£5.95
DIGGER DAN	£5.85
ARCADIA	£5.45
MOLAR MAUL	£5.45
ZOOM	£5.45
SCHIZOIDS	£5.45
ZIP ZAP	£5.45
GALAXIONS	£5.94
EVEREST ASCENT	£6.45
HOBBIT	£14.95
HARRIER ATTACK	£5.95
FLIGHT SIMULATION	£7.45
AQUAPLANE	£7.45
ASTRO BLASTER	£4.95
CHESS PLAYER	£6.95
FRENZY	£4.95
GAMES DESIGNER	£6.95
GRID RUNNER	£6.95
MINED OUT	£4.94
VERNONS LAIR	£6.95
3D STRATEGY	£7.45
NIGHT FLITE	£5.95
RACING MANAGER	£5.95

DRAGON

AREA RADAR CONTROLLER	£6.95
BIG SIX	£5.95
CASTLE ADVENTURE	£6.95
DANGER ISLAND	£6.95
DEATH CRUISE	£6.95
GOLF	£7.95
HANDICAP GOLF	£6.95
HORACE AND THE SPIDERS	£5.95
HORACE GOES SKI-ING	£5.95
HUNGRY HORACE	£5.95
I CHING	£6.95
KEYS OF ROTH	£5.95
LEG IT	£5.45
MIMED OUT	£5.95
OTHELLO	£6.95
ST GEORGE	£6.95
UXB	£6.95
CUTHBERT IN THE JUNGLE	£6.95

EDUCATIONAL SOFTWARE

We stock a large selection for all ages. From Mr Men to 'O'-Level Maths! inc. Astro Maths/Jungle Maths, Mr T Tells the Time, Mr T Money Box.

SPECIAL OFFERS!

JOYSTICKS

QUICKSHOT JOYSTICK	£7.50
QUICKSHOT II	£8.95
ATARI	£6.45
JOY SENSOR	£28.45
VIDEO COMMAND	£12.45
PADDLES	£12.95

STACKLIGHT PENS

ATARI	£27.95
BBC	£27.95
CBM 64	£27.95
VIC-20	£27.95

VIC-20

ALIEN ATTACK	£5.95
CRAZY KONG	£6.95
FROGGER	£6.95
JET PAC (8K)	£5.45
SIREN CITY	£6.95
EVEREST ASCENT	£6.45
STAR TREK	£6.95

COMMODORE 64

ARCADIA	£5.45
CRAZY KONG	£6.95
FROGGER	£6.95
PURPLE TURTLES	£7.95
SIREN CITY	£6.95
EVEREST ASCENT	£6.45
SNOOKER	£8.95
STAR TREK	£6.95
GALAXIAN 64	£7.95
JUPITER LANDER (ROM)	£9.95
SEA WOLF (ROM)	£9.95
FALCON PATROL	£7.95

ATARI 600/800 XL

DONKEY KONG	£28.95
CENTPEDE	£28.95
DEMON ATTACK	£31.95
GALAXION	£28.95
JUMBO JET PILOT	£28.95
SUPER COBRA	£33.95
RIVER RAID	£28.95
SOCCER	£23.95
MOON SWEEPER	£31.95
E.T.	£28.95
FATHOM	£31.95
LORD OF THE RINGS	£33.95
Q-BERT	£33.95
TUTANKHAM	£33.95
FIRE	£14.95
MISSILE COMMAND	£28.85
NOVA BLAST	£31.95
DARTS	£14.95
FIGHTER PILOT	£6.95
POOL	£14.95
SCRAM	£19.95
SNOOKER	£14.95
VAULTS OF ZURICH	£19.45
WORD HANGER	£4.95
XENON RAID	£14.95
BLACK JACK	£14.95
DATA BASE	£19.95
DRAW PIC	£23.95
MAGIC WINDOW	£8.95
PILOT	£14.95
VENUS VOYAGER	£14.95

**JUST £48.95 FOR THE
ATARI PROGRAM RECORDER!
COMMODORE RECORDER £43.95**

**SOFTWARE FROM £4.95 FOR THE
SPECTRUM, BBC, ATARI 600XL/800XL,
VC2600, COMMODORE 64, VIC-20, ORIC,
DRAGON AND TEXAS COMPUTERS.**

MANY MORE AVAILABLE! SAE FOR LISTS.

Please find enclosed Cheque/PO or debit my Access/Visa Card

**No. _____ for the following game for the
_____ computer.**

- | | |
|----|----|
| 1. | 4. |
| 2. | 5. |
| 3. | 6. |

NAME _____

ADDRESS _____

SOFTWARE REVIEWS

McKensie 48K Spectrum £5.95

Software Projects, Bear Brand Complex, Allerton Road, Woolton, Liverpool L25 7SF

An adventure game with the unoriginal scenario of having to escape from an abandoned space station before your oxygen runs out. Instructions consist of two sides to aid the beginner entitled "What is an adventure", "Courtesy P. Kemp" — whoever he is. Then some Quicksilver-type blurb which says about as much as my first sentence, and finally half a side of loading instructions, very apt because the program didn't load until my fourth try. However, they don't actually tell you how to play! They don't say you must type "protein" — yes

protein — instead of "pills"; they don't say you can type the first three letters of certain objects. I only found out by listing.

Yes folks, it's written in BASIC. Not that I hold this against anybody, but I agree with John Braithwaite (One Man's View, HCW 45): "Machine code, BASIC or Chinese hieroglyphics, the buyer should be able to repeatedly load it, play it and enjoy it." It is too slow to be enjoyable. Faster adventures can be written in BASIC:

This comes from the same stable as Manic Miner, but is not of the same class: it is outstanding only in its mediocrity. As for why it's called McKensie, your guess is as good as mine.

instructions	45%
playability	45%
graphics	n/a
value for money	50%



Chuckie Egg Electron £7.90

A&F, Unit 8, Canal Side Industrial Estate, Woodbine St, Rochdale, Lancs.

Just when you thought it was safe to go back on the farm, this game makes you think again. The idea is to collect eggs before storks devour the corn or you. The eggs are on different floors. Using ladders you can climb up or down. You can also jump down but, beware, if you fall below the ground floor the undertaker is in business.

The program lets you get used to the game gently. Climbing ladders and dodging nasties is great fun. Later it becomes very

skilful with the introduction of lifts as well to gain access to different floors. Everyone knows the dangers of falling down lift shafts, so be very careful.

You use two sets of keys and the space bar. Combinations of these allows you to move up or down, left or right and jump.

An enjoyable game with good graphics. If you are wondering what that duck is doing in the cage, clear eight sheets of the game to find out. The nightmare has begun.

	M.B.
instructions	70%
playability	90%
graphics	70%
value for money	95%



Di-Lithium Lift Spectrum £5.95

Hewson, 60a St Mary's St, Wallingford, Oxon OX10 0EL

The most compulsive games are usually the simplest in concept. Be warned: this game is no exception.

Remember the Sieddabs? We battled them in Hewson's last effort, 3D Space Wars. Well, they're back with a vengeance. Their armour division has to protect the priceless di-lithium crystals from light fingered Spectrum owners.

You must rush around the grid and grab as many as you can before enemy droids line you up in their sights. Each cluster of jewels is in a pattern, and each jewel must be grabbed before you can progress to the next, and more

hostile Sieddabs. A clock is ticking away, only replenished by grabbing red crystals.

Simple? It is. But don't let this fool you. This is one of the most difficult and compulsive I have ever played. Having stayed up all night I can report that I have cleared the first screen! Only seven more to go...

The most maddening aspect is that when you lose a life all crystals are replaced. In fact this game requires a different strategy to any other game I have played. Instead of watching your man you must keep an eye on the Androids who patrol the edges of the screen. An excellent game which I will still be playing months from now.

	T.B.
instructions	60%
playability	100%
graphics	70%
value for money	80%



Once more into the arcades

**Arcade-style games star-rated
by our reviewers. Read before
you buy**

Birds of Prey Electron £6.99

Romik, 272 Argyll Avenue, Slough, Berks

A fast-moving invaders-type game where the aliens in space take the form of birds. At the start the birds appear in formation at the top of the screen. Your gun is stationed at the bottom and is moved and fired by either keyboard or joystick. There are four skill levels.

For each bird destroyed points are scored, these being lowest while the birds stay in formation, but as the game progresses they break ranks and attack begins in earnest.

There are three categories of bird: the Swoopers, these circle down the screen dropping bombs

as they come; the Death Bombs, to be destroyed before they reach the bottom of the screen or a life will be lost; and the Kamakazee Birds — the most elusive yet these will score the most points.

As each screen is cleared another formation appears and for every third screen completed an extra life gained. The game ends when no lives are left and a table of high scores displayed.

Additional features of the program include commands to turn off the sound, and pause to stop play when finger fatigue sets in.

	J.W.
instructions	100%
playability	85%
graphics	80%
value for money	80%



Dragon Hawk Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Dragon Hawk is a "busy" game — there is a lot going on and you have to be on your toes. Your job is to prevent the hawk from carrying Freddy off and to score points. Armed with a rifle and a basket you have to shoot the hawk and then fetch the basket to catch Freddy. Other targets present themselves — flies, larvae and eggs — all of which are a potential nuisance. Although what the flying larvae are doing up there I've no idea!

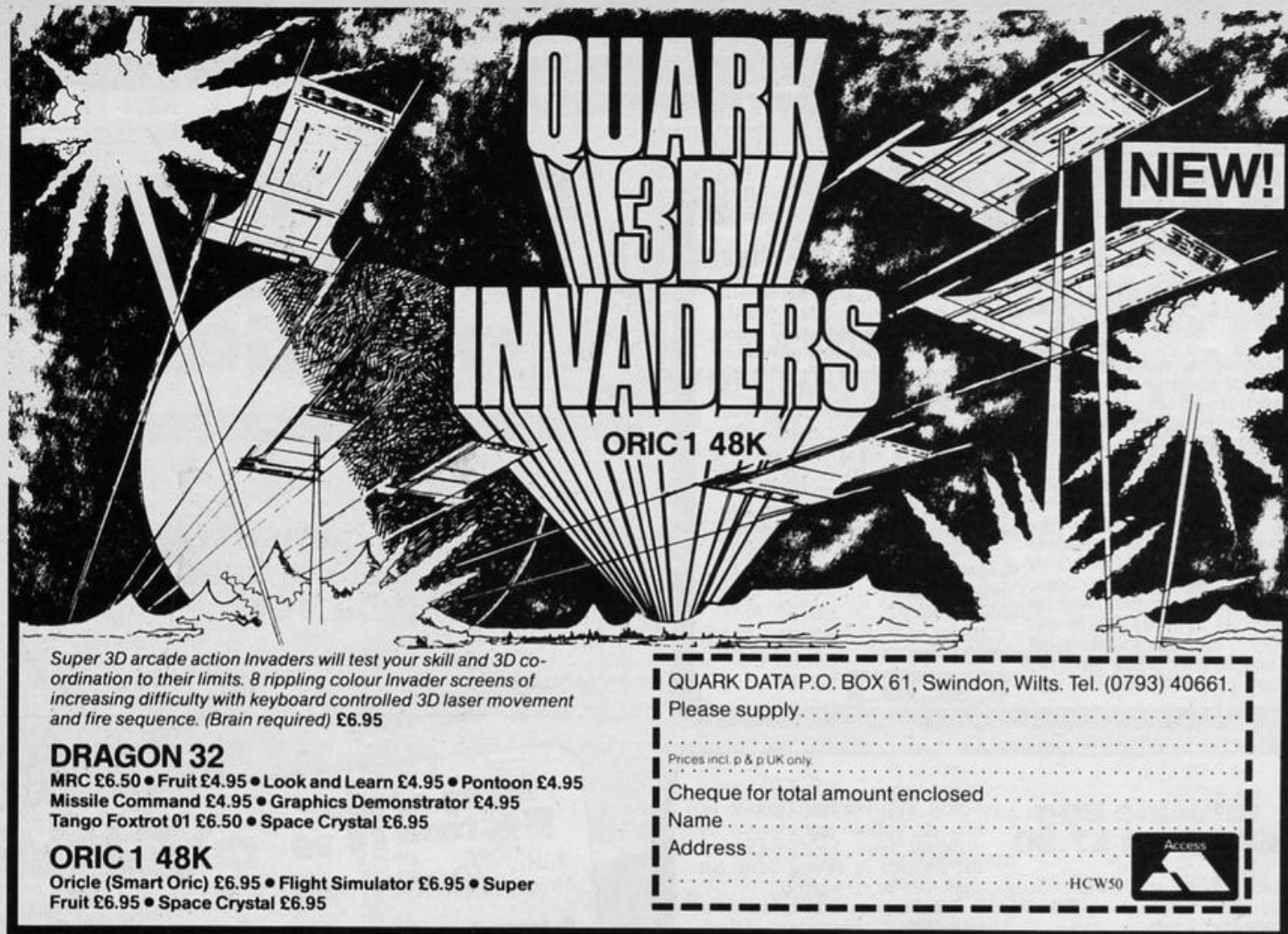
Loading was no problem and the game — joystick or keyboard control — ran smoothly. What I found annoying was the very

messy screen presentation that spoiled some of the very good graphics. When the hawk rose to carry Freddy a thick black and white bar appeared. The larvae created a stepping stone barrier which you had to shoot through and sometimes prevented your reaching the basket. At some stages you have a littered screen which simply clogs up the game.

A good idea with some nice animation. A Top 10 score table is included and an auto mode. A lot of nice features but not enough to save the game.

	M.P.
instructions	100%
playability	50%
graphics	40%
value for money	30%





QUARK 3D INVADERS

NEW!

ORIC 1 48K

Super 3D arcade action Invaders will test your skill and 3D co-ordination to their limits. 8 rippling colour Invader screens of increasing difficulty with keyboard controlled 3D laser movement and fire sequence. (Brain required) £6.95

DRAGON 32
 MRC £6.50 • Fruit £4.95 • Look and Learn £4.95 • Pontoon £4.95
 Missile Command £4.95 • Graphics Demonstrator £4.95
 Tango Foxtrot 01 £6.50 • Space Crystal £6.95

ORIC 1 48K
 Oricle (Smart Oric) £6.95 • Flight Simulator £6.95 • Super Fruit £6.95 • Space Crystal £6.95


QUARK DATA P.O. BOX 61, Swindon, Wilts. Tel. (0793) 40661.
 Please supply

Prices incl. p & p UK only

Cheque for total amount enclosed

Name

Address

HCW50 

DITTO DATA LTD

ATTENTION ALL TOP PROGRAMMERS ! !

YOUR BEST AND ONLY THE BEST MACHINE CODE GAME PROGRAMS FOR COMMODORE 64 — VIC 20 — B.B.C. AND SPECTRUM.

WE WILL ENSURE YOUR PROGRAM HAS MAXIMUM SALES SUPPORT, WITH OUR LARGE DEALER AND MARKETING NETWORK.

OUR OWN LARGE INHOUSE DUPLICATING OF TAPES AND DISCS.

Contact: **NEW PROJECTS DIRECTOR**
DITTO DATA LTD.
CORNER HOUSE
6-8 THE WASH
HERTFORD
SG1 41PX

Telephone: HERTFORD 554474/554484

AQUARIUS

GAMES PACKS FOR UNEXPANDED COMPUTER BUNCH OF 5 / GAMES PACK 1

Snake, Masterguess, Symon, Bomber, Hi-Lo..... £4.95

GAMES PACK 2

Collector, Blocked!, Rocket Run, Minefield, Air Defence £4.95

SPECIAL OFFER

ORDER BOTH TAPES FOR ONLY £8.95
CASSETTE RECORDER LEAD £1.95

PROCESSOR LTD
A.O.S. House
1 Willow Parade
CRANHAM
Essex RM14 1DZ

BOOK NOW IN STOCK £5.95
AQUARIUS AND HOW TO GET THE MOST
MAIL ORDER ONLY
We also supply all Aquarius products.

THE Ω MEGA RUN.... is here

pro clone.

Pro Clone Ltd. Whitehill House,
Union Street, Luton, Beds. LU1 3AN
Tel: (0582) 418727.

No fuss, High Quality
Prompt and Efficient

data duplication service

Cassettes — diskettes
Printing — Packaging

Data Duplication

fast.J



SOFTWARE FOR SPECTRUM AND ZX81

OUR POLICY

We aim to create programs which you will keep on using until your computer wears out. You won't find our programs in the top ten and you will look in vain for colour adverts and fancy packaging. Nevertheless we have built up a solid following of discerning users in all parts of the world. Read the reviews of our programs if you can find them. We have been consistently praised for quality, originality and value for money.

WHAT DO YOU GET?

The bulk of our cassettes are now made by the factory which produced the Horizons tape. Programs are recorded twice and carry on the reverse side an audio narrative to supplement the operating instructions. Where appropriate, cassettes are accompanied by a comprehensive and clearly written instruction manual.

48K SPECTRUM

"Day of the Match" £5.00

Fascinating and realistic simulation of an entire football season. Name your own teams if you wish (English league provided on cassette). Rate each team from one to nine in various success categories such as attack, defence, manager, etc. Watch the season unfold. Includes knock-out cup option.

"Ball by Ball" £5.00

Simulates a test match series or one day international series. Set up your own teams and pool of players (England v Australia provided). Rate each player's capabilities as batsman and bowler on a one to nine scale for qualities such as talent, effort, etc. Pick your teams and play the match. Electronic scoreboard shows progress of a match. Full supporting score card and series averages.

"Superplan Generator" £12.00

Spreadsheet type program with variable column width and variable number of columns. Lets you sacrifice columns you don't need to get more lines.

"Superplan Pack 1". Business Applications £7.00

Ready-made applications programs for sales day book, purchase day book, cash book and petty cash book.

"Superplan Pack 2". Home Computing £7.00

Ready-made applications programs for home budgeting, nutrition tables, car running costs and bank statements.

"Superview" £5.00

Simple but effective information display. Up to 42 pages of text and low-res graphics. Access pages on demand or run in perpetual 'slide-show' mode. Full facilities to create your own pages and build up an information library on cassette.

16K SPECTRUM

"Superdraw" £5.00

Create full colour high-res pictures and store them on cassette for use as titles or background screens in other programs. Or just have fun doodling and build up a cassette library of your creations. Slide show option allows you to review pictures stored on cassette.

16K ZX81

Here is a selection of titles still available for ZX81. Send s.a.e. for illustrated catalogue. These are the ZX81 equivalents of the Spectrum programs described above. Although similar in concept the specifications fall short of the descriptions given for the Spectrum.

"FOOTBALL-LEAGUE" Forerunner of "Day of the Match" £4.00

"TEST-MATCH" Forerunner of "Ball by Ball" £4.00

"VIDEO-PLAN" Forerunner of "Superplan" £7.00

"VIDEO-AD" Forerunner of "Superview" £7.00

"VIDEO-SKETCH" Forerunner of "Superdraw" £7.00

Many independent computer shops now stock our products but we continue to supply by mail order on an off-the-shelf, immediate delivery basis. Prices include VAT, post and packing in U.K. Add a bit for postage if you live in Outer Mongolia. (Note: "Day of the Match" not available until late October 1983).

VIDEO SOFTWARE LTD.,

Stone Lane, Kinver, Stourbridge, West Midlands.
Telephone: 0384 872462

LETTERS

Reviewer writes

I read with interest the letter from Neil Stelling, of Stell Software, in HCW 48. I reviewed his Maths Invaders program and I feel he deserves an apology. The points he makes are quite fair and, therefore, I would like to recommend this program to a far greater extent than my review would suggest.

The reason for my change of heart is that since the review was completed I have had the opportunity to test the program in school and with some reluctant learners. Unfortunately, the review was written during the Christmas holidays when no children were available for testing.

I hope Mr Stelling will, therefore, accept that while my opinions were sincerely held at the time the review was written, it is since then I have good reason to change them. I wish him every success with this program.
D.C., Home Computing Weekly software reviewer

Maths Invaders costs £7.95 and runs on the 32K BBC or Electron computers. From Stell Software, 36 Limefield Ave, Whalley, Lancs BB6 9RS

Spectrum isn't so bad

I am fed up with people complaining about the Spectrum and making jokes about it so I thought I would write in and tell your readers that it isn't so bad after all.

The times I have been in Boots or W. H. Smiths where computers are on show and I hear: "Ugh! Look it's one of those Spectrum things. It's so small. These keys are made of rubber."

Admittedly, the keys are not all that spectacular. But then again the keys on an Oric are bad. Also the sound isn't supposed to be very good. If you pass it through the tape recorder, or the TV (with an add-on) it sounds perfect.

Some people say the graphics are terrible, look at Ultimate's Atic Atac. On that they are excellent.

I noticed that in HCW Nos 46 and 47 you published letters showing you how to get to any level in Manic Miner. If you want to have endless lives, when loading, before the program to load the picture starts press C/S and B/S to break into the program. Then at line 25 insert POKE 35136,0. Now run the program and start the tape off again.

Send your letter to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address



Another tip: if you want top scroll the screen up by one line then type LET L=USR(3280). Also, to find how much memory you have left type PRINT 65535-USR 7962.

Mark Crisell, aged 14, Great Totham, nr. Maldon, Essex

Any old computers?

I wonder if I could use the letters section of your magazine to make an appeal to your readers. I am involved with an ILEA Saturday school project in Islington. As part of our activities I run a computer group and although we have access to three Spectrums, we desperately need more facilities. There must be a number of people who have discarded to a cupboard their old ZX80 or ZX81 having bought a Spectrum or other micro. Perhaps some of these people would feel able to loan or donate such unused micros as the funding for this project is minimal. If anyone can help in any way perhaps they would contact me.

Stephen Oxford, Senior Teacher, Highbury Fields School, Benwell Road, London N7 7BW

Flight plan

As I am an avid user of the Psion Flight Simulator, I have found a novel idea to make it more interesting. All you do is find a map, around five miles to the inch, and draw grids on it the same as on the map in the program, for example 16 miles square. If you live in the S.E. you will find that the main runway in the program could represent the runway at Heathrow, and the club is in virtually the same position as Ipswich. Thus, if you take off from Heathrow, example (MAIN), you can count the squares in relation

to where you are on the program map and you will see where you are. You can also tell how long it takes to fly from one place to another. Of course, this idea will work on any simulation program that has a map, with scale grids.

S. Warcand, Gillingham, Kent

Miner tips 1

In his letter about Magic Miner (HCW 47), S. Holland amended G. Holding's letter (HCW 45) by supplying the codes for all the caverns. They both appear to have forgotten about the indefinite amount of lives you can have.

Put MERGE "" and ENTER then LOAD first part, stop tape when 0 OK,01 appears at the bottom of the screen, put 25 POKE 35136,0 ENTER RUN,ENTER. Start tape when loaded, press ENTER 6031769 with boot on screen. You now have unlimited lives as well as access to sheets.

P. R. Capstick, Leeds, West Yorkshire

Miner tips 2

Having read tips on Manic Miner for the Spectrum on your letters page, I have a tip that may be of some use. Stop the tape about 11 seconds after it has begun to load, break the program and type 25 POKE 35136,0 ENTER it, push run and start the tape and let the program load. This enables you to play the game without losing any lives.

Steven Sheppard, Redfield, Bristol

More for the Oric

Magazines I buy nowadays are all featuring articles on Spectrums, BBCs and other micros. Hardly any of them have articles on the Oric-1. I must admit that HCW does feature most things about the Oric, but please could you print more than you do?
Alistair Crichton, Ayrshire, Scotland

We always take note of letters like this because we try to balance the content of the magazine according to the demands of our readers. But, please remember, that there are more than 20 home computers on the market. As always, contributions — programs and articles — are welcome for all home micros under £400. Oric owners take note!

While reading an American computer magazine, I came across a program to put more than one colour on a mode 8 display, without altered display lists or any interrupts.

Eager to see the new colours, I typed in the program.

Disappointingly, all I got were ugly green and blue stripes. I investigated and found that the program plots the different coloured dots on an American TV, here the correct colours didn't show.

Program 1 should put nice shades of orange and blue on a US TV, but horrible shades of green and blue on a British TV.

By plotting every eight dot on our TV system, then every eight dot but with an offset of four across and one dot down, we get a coloured line.

If we zig-zag these dots down the screen we get a graphics 8 screen filled with a new colour.

By plotting dots in between these we can get a more distinct colour. Program 2 demonstrates this.

By starting the loops at

**Program 2 —
more distinct colour**

```
10 GRAPHICS 8:POKE 710,0:POKE 709,14:COLOR 1
20 FOR X=0 TO 300 STEP 8:FOR Y=50 TO 90
STEP 2
30 PLOT X,Y:PLOT X+1,Y+1:PLOT X+3,Y:
PLOT X+4,Y+1:PLOT X+5,Y:PLOT X+6,Y+1
40 NEXT Y:NEXT X
```

Program 3 — how "new" colours can be used

```
0 DIM SALES(8):FOR N=1 TO 8:SALES(N)=INT(
RND(0)*60):NEXT N
10 GRAPHICS 24:COLOR 1:POKE 709,14:
POKE 710,0
20 DIM TEXT$(40):WRITE=1000:SCR=PEEK(88)+
PEEK(89)*256
25 X=14:Y=4:H=2:TEXT$=" Artifacts ":
GOSUB WRITE:REM Artifacts IS INVERSE
26 X=10:Y=30:TEXT$="Plotting the dots":
GOSUB WRITE
27 X=12:Y=60:H=1:TEXT$="By Anthony Ball":
GOSUB WRITE
28 FOR N=1 TO 1000:NEXT N:
?£6;"(ESC-CTRL/CLEAR)":
30 LINE=2000
40 FOR N=20 TO 122 STEP 2:PLOT N,0:
DRAWTO N,11:NEXT N
50 X=5:Y=2:H=1:TEXT$="American":GOSUB WRITE
60 COL=1:BX=20:EX=120:SY=8:BY=13:EY=24:SY=2:
GOSUB LINE
70 Y=15:TEXT$="Colour 1":GOSUB WRITE
80 BY=26:EY=37:GOSUB LINE:Y=28:
TEXT$="Colour 2":GOSUB WRITE
90 BX=19:BY=39:EY=50:GOSUB LINE:Y=41:
TEXT$="Colour 3":GOSUB WRITE
100 BY=52:EY=63:GOSUB LINE:Y=54:
TEXT$="Colour 4":GOSUB WRITE
105 FOR N=66 TO 77:PLOT 18,N:DRAWTO 122,N:
```

Plotting the dots for extra colours

**Follow the advice of Anthony
Ball for more colours on any
Atari. His three programs show
how it works**

Program 1 — horrible shades of green and blue

```
10 GRAPHICS 8:POKE 710,0:POKE 709,14:
COLOR 1
20 FOR X=1 TO 300 STEP 2:PLOT X,50:
DRAWTO X,90
30 NEXT X
```

various points we get different colours. Program 3 shows this, and also demonstrates a way in which these "new" colours can be used in a "serious" application.

If you leave the program for about a minute it will shift the colours — not normally possible with these colours — by moving the screen up and down by one pixel.

A lot of American games use these "artifacts" to get more colours without using the resolution of mode 8. Unfortunately, these haven't been converted to the UK's TV system and so we get the ugly colours from program 1.

The only solution to this is to write two versions of each program: one for America and one for the UK. The sooner American games writers realise this the better!

Note: Due to colour balances on some TVs, these "extra" colours may not appear. Try turning up the colour/luminance controls on your TV.

```
NEXT N:Y=68:TEXT$="Colour 5":GOSUB WRITE:
REM Colour 5 IN INVERSE
106 PLOT 18,79:DRAWTO 18,90:DRAWTO 122,90:
DRAWTO 122,79:DRAWTO 18,79:Y=81:
TEXT$="Colour 6":GOSUB WRITE
107 GOSUB 3000
108 REM LINES 110 TO 130. A '*' IS A SHIFT =
110 H=2:X=20:Y=0:TEXT$="S *":GOSUB WRITE:
Y=16:TEXT$="a *":GOSUB WRITE
120 Y=32:TEXT$="1 *":GOSUB WRITE:Y=48:
TEXT$="e *":GOSUB WRITE
130 Y=64:TEXT$="s *":GOSUB WRITE:Y=80:
TEXT$=" *":GOSUB WRITE
140 H=1:Y=96:TEXT$="":
GOSUB WRITE:REM 3 SPACES, THEN CTRL-K,
THEN 16 INVERSE CTRL-U's
150 H=2:X=30:Y=110:TEXT$="Weeks":GOSUB WRITE
160 H=1:X=23:Y=100:TEXT$=" 1 2 3 4 5 6 7 8":
GOSUB WRITE
170 Y=88:X=22:FOR N=49 TO 54:TEXT$=CHR$(N):
GOSUB WRITE:Y=Y-16:NEXT N
175 FOR C=1 TO 0 STEP -1:COLOR C
180 COL=2:N=1:SY=1:BY=94:SY=-2:
FOR BX=194 TO 306 STEP 16:EX=BX:EY=SALES(N):
GOSUB LINE:N=N+1:NEXT BX
185 NEXT C:FOR C=1 TO 0 STEP -1:COLOR C
190 N=1:BY=93:FOR BX=194 TO 306 STEP 16:
EX=BX:EY=SALES(N):GOSUB LINE:N=N+1:NEXT BX
195 NEXT C:FOR C=1 TO 0 STEP -1:COLOR C
200 N=1:BY=94:FOR BX=195 TO 307 STEP 16:
EX=BX:EY=SALES(N):GOSUB LINE:N=N+1:NEXT BX
205 NEXT C:FOR C=1 TO 0 STEP -1:COLOR C
210 N=1:BY=93:FOR BX=195 TO 307 STEP 16:
EX=BX:EY=SALES(N):GOSUB LINE:N=N+1:NEXT BX
220 NEXT C:COLOR 1
230 DLIST=PEEK(560)+PEEK(561)*256+4
240 SCREEN=PEEK(88)+PEEK(89)*256:SCREEN2=
SCREEN+40:SCR2A=INT(SCREEN2/256):SCR2B=
SCREEN2-(256*SCR2A)
```


ATARI PROGRAMMING

```

250 SCR1A=INT(SCREEN/256):SCR1B=SCREEN-
(256*SCR1A)
260 POKE DLIST,SCR2B:POKE DLIST+1,SCR2A:FOR
N=1 TO 500:NEXT N
270 POKE DLIST,SCR1B:POKE DLIST+1,SCR1A:FOR
N=1 TO 500:NEXT N:GOTO 260
1000 REM WRITE
1005 FOR L=1 TO LEN(TEXT$):INV=0:TEXT=
ASC(TEXT$(L,L)):IF TEXT>127 THEN TEXT=
TEXT-128:INV=1
1010 IF (TEXT<32) THEN TEXT=TEXT+64:
GOTO 1030
1020 IF TEXT>31 AND TEXT<96 THEN TEXT=
TEXT-32
1030 START=40*Y+X+L-1:LOC=START:FOR L2=
0 TO 7:BYTE=PEEK(57344+(8*TEXT)+L2):IF INV=
1 THEN BYTE=255-BYTE
1040 FOR L3=1 TO H:POKE SCR+LOC,BYTE:LOC=
LOC+40:NEXT L3:NEXT L2:NEXT L
1050 RETURN
2000 REM LINE
2010 FOR L=BX TO EX STEP SX:FOR L2=BY TO EY
STEP SY
2020 IF COL=1 THEN PLOT L,L2:PLOT L+1,L2+1:
PLOT L+2,L2:PLOT L+3,L2+1:PLOT L+5,L2:PLOT
L+6,L2+1
2030 IF COL=2 THEN PLOT L,L2:PLOT L+1,L2+1:
PLOT L+2,L2:PLOT L+3,L2+1
2040 NEXT L2:NEXT L:RETURN
3000 FOR N=18 TO 121 STEP 8:PLOT N,92:
DRAWTO N,103:PLOT N+2,92:DRAWTO N+2,103:
PLOT N+5,92:DRAWTO N+5,103:NEXT N
3010 Y=94:TEXT$="Colour 7":GOSUB WRITE
    
```

```

3020 FOR N=19 TO 121 STEP 8:PLOT N,105:
DRAWTO N,116:PLOT N+2,105:DRAWTO N+2,116:
PLOT N+5,105:DRAWTO N+5,116:NEXT N
3030 Y=107:TEXT$="Colour 8":GOSUB WRITE
3040 RETURN
    
```



TI99/4A SOFTWARE

Four great games for the unexpanded TI99/4A

PILOT £5.95
Flight simulation game for one player. Graphics display of landing strip and terrain map, plus updated instrument panel. Options for take-off, landing or in flight. Full instructions included. Graphics and sound.

TI TREK £5.95
Defeat the Klingon invasion fleet. Features include 5 skill levels, graphics quadrant display, galaxy map, phasers, photon torpedoes, long range scans, damage reports, shield control, impulse and warp drive. Eight by eight galaxy. Full instructions included. Graphics and sound.

CATERPILLAR £3.95
Arcade action in an insane country garden! Shoot the giant caterpillar to increase your score. Exciting colour and sound combine to give an addictive game you will want to play again and again!

TEXAS PROGRAM BOOK £5.95
35 programs for the unexpanded TI99/4A, including 3-D Maze, Lunar Lander, Caterpillar, Horse Race, Invader, Morse Code and much more.

Send cheque or P.O. or telephone with Access/Visa for immediate despatch. Please add 50p p&p to orders under £7. Orders over £7- post free.

APEX SOFTWARE

Swiss Cottage, Hastings Road,
St. Leonards-on-Sea,
E. Sussex TN38 8EA

TEL: Hastings (0424) 53283

VISA



CAMEL MICROS

33a COMMERCIAL ROAD, WEYMOUTH, DORSET, U.K.

NEW ROAD EDUCATIONAL

PROGRAMS



SPECTRUM 48K

CHEMISTRY (13-18 years)	£8.50
ARITHMETIC (6-10 years)	£4.95
LOGIC GAMES (6-10 years)	£4.95
GEOMETRY (12-18 years)	£7.50
PHYSICS (Optics) (12-18 years)	£7.50

**BANISH
THE
BLOT!**



This ink blot is worried. He's just read the reviews of our 'New Road' series, and knows his text-book tyranny is over. Join our cause and spread the word:-
BANISH THE BLOT!

Creator's Revenge £7.95

Mogul, 90 Regent St, London W1R 5PT

My four year old loves this sort of game — waggle the joystick and fire like mad while sound and colours pour forth. For me, the enjoyment won't be so lasting. Yes, there are some splendid targets to shoot at, there are ants, butterflies, birds, wasps, rockets, tanks and even bonus "treasure" to collect as it slips down amongst the nasties. But the addiction soon wears off.

There is little or nothing in the packaging to indicate what to expect, and the address of the supplier is nowhere to be found. It has a pause facility, for when the telephone rings, and a restart

option for when you lose a life early on. I especially like the ability to type 'EX' and exit the game back to BASIC. That's so much better than turning off and on again — other programmers please note.

Once upon a time, when Space Invaders was giving way to Galaxian, this would have been knockout. Now it's good but unexceptional, and a little bit overpriced. The computer games industry is a place of tough competition. If this company, wherever they are, can't do better than this one, they won't be lasting very long.

B.J.

instructions	60%
playability	80%
graphics	85%
value for money	60%



Manic Miner £7.95

Software Projects, Bear Brand Complex, Allerton Rd, Liverpool

This game is excellent, not perfect, not incapable of improvement, but definitely top class. It's not even totally new as it was translated from a Spectrum program. But the 64's sprites, colour, graphics and sound are all used to produce this remarkable piece of software.

The concept is in the Crazy Kong mould, but there are 20 screens to negotiate. The assortment of obstacles to be jumped over, platforms to be leapt from and pitfalls to avoid is the product of an extremely fertile mind.

Unfortunately, the first screen

is one of the hardest and since there is no choice of starting screen, I can only comment on the first half dozen. Once you sort out exactly where and when you make your moves, it's a case of maintaining your reactions and concentration. Mine usually desert me at the vital moment. It does have a pause facility, music on/off option and choice of keyboard or joystick control, all useful features. A word of warning: it takes 13½ minutes to load! Mind you, it's worth waiting for.

B.J.

instructions	80%
playability	95%
graphics	97%
value for money	92%



How good are your reactions?

Another five games for the Commodore 64 — a computer that seems, from the amount of software being released — to be rapidly increasing in popularity

Crazy Balloon £7.95

Software Projects, Bear Brand Complex, Allerton Road, Liverpool

Another arcade classic translated and enhanced for the Commodore 64.

In case you don't know the idea, you guide a balloon around prickly mazes — one touch and pop! The balloon sways gently from side to side and some obstacles have to be passed at just the right angle. To add to your problems, there are assorted mobile balloon-bursting shapes to dodge, plus bonus squares that you do want to bump into to collect the bonus. Scores for each of the 26 screens depend on how fast you complete them. You start with five lives but gain an extra

one for each screen successfully completed.

There is a choice of keyboard or joystick control and I found the joystick very smooth and pleasant to use. Colour and graphics generally are pleasing, with a lovely looking and sounding balloon burst.

Moans: I'd prefer a choice of entry screen; it displays score of "Player 1", but there is no two player option as far as I can tell; the packaging and instructions aren't terribly helpful. Nevertheless, it's a good game, tolerably well implemented.

B.J.

instructions	60%
playability	85%
graphics	82%
value for money	70%



Annihilator 2 £5.99

Mogul, 90 Regent St, London W1R 5PT

Annihilator 2 seems to be a descendant of the popular arcade game Defender. It is not quite as good but almost equally addictive.

The object is to blast everything in sight, except certain space beings and debris. You may fire horizontally and move in all directions. All this would be quite easy if it was not for the fact that the objects tend to move in your direction. If you do not keep moving it's fairly certain you will not last more than a few seconds. The game is played on a series of levels; each consecutive level being harder.

You need fast reactions and a

high quality joystick is necessary (I used a Quickshot). The game is harder to play using a cheaper, less sensitive model.

The program loaded well, although it is only saved on one side. I would have thought it common practice to use both sides by now.

The graphics could be improved considerably in places. For the sake of a few more hours when writing the program, a potentially very good game has been downgraded.

The instructions, on a program title page, are badly set out and hard to read.

K.I.

instructions	15%
playability	70%
graphics	50%
value for money	75%



Paratroopers £5.99

Rabbit, 380 Station Rd, Harrow, Middlesex

A game for people with limited skill and a perverted sense of humour.

You have control of a gunner, who has to shoot down helicopters and the paratroopers who jump out of them. Every now and then a bomber comes over. You cannot shoot these, but must shoot or dodge the bombs they drop.

You have only one life, which you lose if a bomb or a paratrooper lands on you. If you allow too many paratroopers to land, they march off and fetch a tank to shoot you with; your controls

freeze when this happens, so you just have to sit there and wait to be blown up.

The graphics are very good. The gun rotates nicely, and the helicopters and tank are very well drawn. Sound effects are limited to boom! boom! bang!

You can choose vertical or angled fire, a stationary or mobile gun base, single shot or rapid fire. I found rapid vertical fire with a mobile base was best. The game still didn't last long, though.

It seems a shame that such good graphics and programming should have been wasted on a game like this.

M.N.

instructions	20%
playability	40%
graphics	80%
value for money	40%



GALAXY

60 High Street, Maidstone, Kent ME14 1SR. Tel: (0622) 679265/682575

**Number ONE
For Texas
TI99/4A**

TEXAS MODULES

Adventure/Pirate	14.95	Begin Basic Tutor	5.95
Joysticks (Pair)	14.95	Teach Extended Basic	5.95
32k RAM Card	89.95	Terminal Emulator 2	39.95
Cassette Cable	9.95	Tombstone City	10.95
Adventures	5.95	Alligator Mix	10.95
TI Invaders	14.95	Speech Synthesiser	34.95
Connect 4	10.95	Car Wars	10.95
Attack	10.95	Joystick Adapter	9.95
Blasto	10.95	Atari Joystick	6.99
Hustle	10.95	Blank Cassettes (5)	2.50
Yahtzee	10.95	Editor Assembler	69.95
Blackjack/Poker	10.95	Starter Pack 1	9.99
Video Games 1	10.95	Starter Pack 2	9.99
Soccer	14.95	Games Writer 1	9.99
Munchman	19.95	Games Writer 2	9.99
Parsec	19.95	Early Reading	10.95
Oldies Goodies 1	5.95	Early Learning Fun	10.95
Oldies Goodies 2	5.95	Beginning Grammar	10.95
Minus Mission	10.95	Addition/Subtraction 1	10.95
Demolition Division	10.95	Addition/Subtraction 2	10.95

ATARI SOFT for TI99/4A

Donkey Kong	24.95
Pacman	19.99
Protector 2	19.99

TIMELESS SOFTWARE

Kong	7.95
Crazy Fun House	7.95

INTRIGUE SOFTWARE

Mania	5.95
Adventure Mania	5.95

LANTERN SOFTWARE

Daddies Hot Rod (B)	5.95
Battlestar Attack (E)	6.95
Hunchback Havock (E)	5.95

STAINLESS SOFTWARE

Golf	8.00
Planet Destroyer	6.00
Global Rescue	7.00

FULL RANGE OF ABOVE COMPANIES PRODUCTS STOCKED

BOOKS

Smart Guide for Sprites	6.95	The Best of 99er	15.00
How to use the TI99/4A Computer	3.95	99er Magazine (Monthly)	3.00
Getting Started with the TI99/4A	5.95	35 Texas Programmes	5.95
Dynamic Games for the TI99/4A	4.99	Adventure Hint Book	4.99
Tantalising Games for the TI99/4A	3.95	TI USERS - User Publication	
		Published Quarterly	£6.00 P.A.



All items subject to availability

ALL PRICES INCLUDE VAT AND POSTAGE - SEND CHEQUE WITH ORDER OR USE ACCESS OR BARCLAYCARD



NEW AMAZING LOW PRICES!!

WRITE OR PHONE NOW FOR OUR CATALOGUE OF NEARLY 600 TITLES FOR THE ATARI, BBC, CBM 64, DRAGON, ORIC, SPECTRUM AND ZX81 ALL AT DISCOUNT PRICES! AND GET AUTOMATIC FREE MEMBERSHIP OF THE SOFT TOUCH CLUB. AS A MEMBER YOU WILL RECEIVE A REGULAR NEWSLETTER CONTAINING NEWS REVIEWS, SPECIAL OFFERS, COMPETITIONS AND THE SOFT TOUCH HELPLINE TO ASSIST WITH THOSE PROGRAMMING PROBLEMS! (YOUR CONTRIBUTIONS WILL BE WELCOME!)

ATARI			COMMODORE 64			ORIC		
COMPUTER CHESS	ATA	21.75	3D TIME TREK	ANI	4.99	XENON 1	UK	7.35
S.S. ACHILLES	BEY	16.99	ARCADIA	IMA	4.35	ZORGONS REVENGE	UK	12.99
ARROW OF DEATH I/II each	CH8	8.95	CUDDLY C'BERT	INT	5.99	THE HOBBIT	MEL	12.99
BASIC COMPILER	DRE	56.50	REV OF MUT CAMELS	LLA	6.77	HUNCHBACK	OCE	5.99
ZAXXON	DRE	23.99	HOVVER BOVVER	LLA	6.35	LIGHT CYCLES	PSS	4.99
BATTY BUILDERS	ENG	8.95	GRIDRUNNER	LLA	6.35	HOUSE OF DEATH	TAN	8.99
STEEPLEJACK	ENG	8.95	THE HOBBIT	MEL	12.99	ORIC CALC	TAN	12.99
LEGGIT	IMA	4.95	HORACE GOES SKIING	MEL	4.99	ORIC FORTH	TAN	12.99
SUSPENDED	INF	32.99	COMPILER	MOG	13.45	ORIC MON	TAN	12.99
ZORK I, II, III	INF	25.99	HUNCHBACK	OCE	5.99	RAT SPLAT!	TAN	6.99
BBC			DRAGON			SPECTRUM		
ADVENTURELAND	ADV	6.99	CHUCKIE EGG	A&F	6.99	PYRAMID	FAN	4.95
CHUCKIE EGG	A&F	6.99	FREE PARKING	B&H	5.99	ALCHEMIST	IMA	4.95
MUSIC SYNTH	BUG	8.50	DRAGRUNNER	CAB	7.99	VALHALLA	LEG	12.99
TWIN KINGDOM VALLEY	BUG	8.50	CUTHBERT WALKABOUT	MIC	6.99	THE HOBBIT	MEL	12.99
GOLF	DOC	6.99	CUTHBERT IN JUNGLE	MIC	6.99	1ST STEPS MR MEN	MIR	7.95
MULTIBASE	GSO	7.99	FILEMASTER	MIC	17.95	CHEQUERED FLAG	PSI	5.95
SHEEPDOG	LON	8.95	THE KING	MIC	6.99	FLIGHT SIMULATOR	PSI	6.80
THE HOBBIT	MEL	12.99	BONKA	MOR	6.99	SCRABBLE	PSI	13.50
KILLER GORILLA	MIC	6.99	TRANS TOWER	SHE	5.85	JET SET WILLY	SPR	4.99
HUNCHBACK	SUP	6.99	RING OF DARKNESS	WIN	8.95	ATIC ATAC	ULT	4.50

SEND ORDERS TO: SOFT TOUCH, 8 CLARE DRIVE, THRAPSTON, NORTHANTS NN14 4TA. Phone 08012 3404

THE QUILL FROM GILSOFT ENABLES YOU TO WRITE 100% MACHINE CODE ADVENTURES WITH THE MINIMUM OF EFFORT. A PROGRAMMING MASTERPIECE! SOFT TOUCH PRICE £12.99 (SPECTRUM 48K ONLY)

TROJAN LIGHT PENS - SOFT TOUCH PRICES:
SPECTRUM £15.25 - DRAGON £10.35
AVAILABLE SOON FOR THE CBM 64

Name
Address
I enclose Cheque/PO for £..... payable to Soft Touch

Please rush me
1.
2.
3.
4.
VAT and postage included

HCW50

CALLING ALL AQUARIUS USERS!

Now there's a User Group especially for you. For just £12 you can join the AQUARIUS USER club and get a monthly magazine which gives you all the latest on your Aquarius, news, facts and features.



AQUARIUS USER

AQUARIUS USER is packed with information written by experts. It covers details on new products, and peripherals, reviews on the latest software, general news about home computers, user tips, reader offers, competitions, letters and much more.

If you're part of the dawning age of AQUARIUS join AQUARIUS USER now: AQUARIUS USER LTD, 66 Wymering Road, London W9.

Name.....
Address.....
Postcode.....
Please enrol me as a member of AQUARIUS USER.
I enclose £10.00 subscription fee for one year payable to Aquarius User Ltd, 66 Wymering Road, London W9.

Access Card holders ring 01-930 3875 (24 hours)

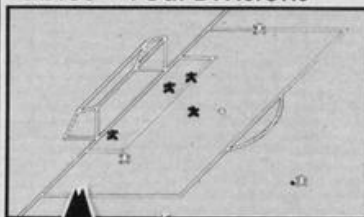
The No.1* Football Game

Football Manager

Designed by Kevin Toms

Some of the features of the game:

- ★ Matches in 3D graphics
- ★ Transfer market ★ Promotion and relegation ★ F.A. Cup matches ★ Injury problems ★ Full league tables ★ Four Divisions



- ★ Pick your own team for each match. ★ As many seasons as you like ★ Managerial rating ★ 7 skill levels ★ Save game facility.

Addictive

* ZX81 Chart

Home Computing Weekly
1.8.83 and 1/11/83.

Comments about the game from press and our customers.
"FOOTBALL MANAGER is the best game I have yet seen on the Spectrum and my personal favourite of all the games on any micro. To the ordinary person it is an excellent view of what can be done in the field of computer games. The crowning glory of this game is the short set pieces of match highlights which show little stick men running around a pitch, shooting, defending and scoring. It is a compulsive game but people who cannot take game sessions of 9 hours or so, which happened on one happy Sunday, will be grateful to know that there is a 'save to tape' option. FOOTBALL MANAGER has everything it could. The originator, Addictive Games, certainly deserve the name." Rating: 19/20 (Practical Computing - August 1983)

From software stockists nationwide, inc. WHSMITH John Menzies

Prices: Spectrum 48K £6.95
ZX81 16K £5.95
(IN 3D GRAPHICS ARE NOT INCLUDED IN THE ZX81 VERSION)
Overseas orders add \$1.50

To order by mail (p.p. free) send cheques or postal orders to:
Addictive Games
7A RICHMOND HILL
BOURNMOUTH BH2 6HE

Dealers! For urgent stocks send your headed notepaper direct to our address.

MISSION - 1

BECOME A SECRET AGENT

Mission Software's complete package on Project Volcano, is probably the most advanced Adventure Computer Game Package you have considered this year. It is not just for the dedicated game player but for those that want to get involved in Secret Codes - Messages, and the scary side of DIB (British Intelligence) and the K.G.B. IT IS A MUST FOR THE SINCLAIR SPECTRUM 48K AND DRAGON 32 HOME COMPUTER OWNERS.

When you receive your Adventure Game from Mission Software Limited, included in the package is your Passport to the international workings of the Secret Agents. Your personalised Passport will assist you in negotiating the K.G.B. network in the Soviet Block Countries and vital to the success of your mission. Command Headquarters will give you information that other Agents have recorded together with their Communication Log, Mission Instructions, Secret Memos, Classified Diagram, Full Briefing Instructions and other Secret Data. IT'S UP TO YOU TO BREAK THE CODE AND BECOME A SUCCESSFUL SECRET AGENT. We rely upon our Agents to feed back information to make further projects interesting and complex, to tax your ability and to guarantee many hours of enjoyment. We believe Mission Software Limited is the only company that supports its Field Agents with a mass of Secret Information to make the Mission exciting and enjoyable which makes it a must in Computer Games.



PROJECT VOLCANO

- We know your friends will want to become Secret Agents and use your game, we will be quite happy to supply them with their Passport and Documents for £2.95 per kit. This way you always retain your personal Passport and Secret Information.
- The moment you tell us you have completed your current assignment we will advise by Secret Data, details of how to penetrate one of the World's most secret establishments.
- To obtain your Game and personal Passport with all its Secret Documents send a Cheque or Postal Order for £6.95 (inc. P.P. & V.A.T.) with the Coupon at the foot of this advertisement.

ORDER MISSION 1 TODAY AND JOIN THE GROWING NUMBER OF SECRET AGENTS OPERATING FROM COMMAND HEADQUARTERS.

£6.95

Inc. P.P. & V.A.T.

MISSION SOFTWARE LIMITED

COMMAND HEADQUARTERS - 1st FLOOR
49 GRANGE ROAD - DARLINGTON - Co. DURHAM
DL1 5NB - TELEPHONE (0325) 483344



NAME

ADDRESS

HCW50

MISSION SOFTWARE LIMITED - COMMAND HEADQUARTERS - 1st FLOOR - 49 GRANGE ROAD - DARLINGTON - DURHAM - DL1 5NB - TEL. (0325) 483344

PLEASE SEND ME MISSION 1 FOR MY (TICK AS APPLICABLE)
DRAGON 32 ☐ SINCLAIR SPECTRUM 48K ☐
EXTRA PASSPORT CODE-BREAKER £2.95 ☐
I ENCLOSE MY TOTAL REMITTANCE OF £.....
CHEQUES AND POSTAL ORDERS MADE PAYABLE TO MISSION SOFTWARE LIMITED

Let's zap a few aliens again

Fancy another trip into space? Here's a batch of the latest space games for the Spectrum, Dragon 32 and TI-99/4A

Skramble Dragon 32K £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Starting with three spacefighters you must penetrate the enemy's defences which are on five levels. On level one you must avoid the ground defences. On level two you must fly through a cave where there are UFOs. The next level, also in the caves, contains meteorites. Levels four and five are a fortress and a maze respectively. Points are gained for each enemy destroyed and there are fuel dumps along the way. It is important to destroy some of these to maintain your fuel level, displayed on-screen. An extra ship is awarded at 10,000 points.

Two players can compete and you can use joysticks or keys. I preferred to use keys for finer control. The screen display is a side view of the area over which you are flying. At the top the score for both players and the highest score is displayed. The number of fighters for each player is also shown. Your fighter can fire a cannon and launch two bombs at a time. At the end of the game there is a high score table.

Graphics are smooth flowing and I quite enjoyed playing this game, although the price could be lower. Full instructions are on the insert, but in very small type.

J.E.M.

instructions	75%
playability	70%
graphics	80%
value for money	70%



Tobor 48K Spectrum £5

CCI, Units 2, 3 and 4, Shire Hill Industrial Estate, Saffron Walden, Essex CB11 3AQ

Exciting instructions and a very attractive title screen, but the game fails to live up to its image. According to the blurb, you have made a forced landing on a distant planet and must collect fuel capsules to escape. Unfortunately the planet Kalanium is populated by rather hostile robots who are understandably upset that you are ready to gun you down. They are quite stupid too — for no apparent reason they will often bump into each other and disintegrate.

A tediously long introduction has to be sat through at the beginning of each life as your humanoid and the robots take up positions. On losing a life the computer plays a very downbeat version of the Funeral March.

Use of graphics is very limited, although sound and colour are quite good. You soon find to your cost that the green robots are indestructible.

Although I cannot understand why, I found the game quite compulsive at first. This soon wears off when you are faced with more and more robots to disintegrate.

instructions	T.B.
playability	65%
graphics	40%
value for money	35%



Aries TI-99/4A £6

Stainless Software, 10 Alstone Rd, Stockport, Cheshire SK4 5AH

A dodge-em and blast-em type game set in outer space.

Your space pod descends from its mothership at top left of the screen. This must be manoeuvred through debris that continually crosses its path until in line with an alien space craft and its cargo. After blasting the alien and collecting its treasure you return to the mothership before your pod's fuel runs out. This continues until all cargo has been collected. The number of these depend on the rounds completed, there being five in all. After every round an alien control ship

appears which must be blasted six times in succession to destroy.

Points are awarded for the number of cargoes collected and ships destroyed as multiples of rounds played and skill level adopted. There is a choice of five skill levels. Extended BASIC and joystick are needed.

At the end of a game the score is given and if sufficiently high you enter the Hall of Fame. Here there is an option to save and load your high scores on file. Unfortunately the scoring system of the game is at fault as in all following games the program fails to reset to zero.

J.W.

instructions	50%
playability	75%
graphics	70%
value for money	80%



Stonkers 48K Spectrum £5.50

Imagine, 5 Sir Thomas Street, Liverpool L1 6BW

Having invaded, you command the port and supply facilities for tanks, artillery, and infantry. You keyboard or joystick over the battle area, divided by a river with a single bridge, with a large cursor. This cursor area is examined in larger detail by pressing fire. In magnified mode, using fire button and smaller cursor, you deploy your forces to new positions, check their status and move supply trucks to them.

A "Tickertape" displays a sample message: "Division needs supply". It would be helpful to know which division. Mine stopped and gave "instructions

understood" long before I had got them where I wanted. And my supply trucks must be black marketeering, since they rarely reach where I sent them. Even my infantry have a distressing tendency to die miles from the enemy and yards from the supply area.

Perhaps I am not cut out to command or the program is bugged. I tried two different cassettes and both sides of each either crashed or NEWED after about 10 minutes of play.

Pleasant graphics, not a lot of movement. Too little action for arcaders — not enough information for strategists. A bit disappointing, really, from D.C.

instructions	90%
playability	90%
graphics	60%
value for money	70%



Lunar Rescue 48K Spectrum £5.95

Lyversoft, 66 Lime St, Liverpool L1 1JN

The scenario is quite straightforward — you must navigate a rescue craft from the mother ship at screen top to the moon surface at screen bottom to rescue a team of marooned scientists. You are only able to carry one passenger at a time so six trips are needed through space littered with asteroids. Having successfully completed the mission the cycle is repeated.

There is a joystick option. With only three controls, left right and thrust this is far from essential. An annoying feature is having to enter a keyboard/joystick option

after each game. I would have thought this only necessary after initial loading.

Graphics are nicely presented but it does look odd to see the asteroid belt halt just because a scientist is running to the rescue craft! Lyversoft claims "machine code sound", but my version was as silent as real space.

I found the game too predictable and slow moving on any of the four skill levels even with my clumsy fingers. I doubt its ability to sustain long term interest.

D.J.

instructions	70%
playability	60%
graphics	65%
value for money	40%



CHRISTINE COMPUTING

TI 99/4A

BLAST IT

Disarm bombs with a wire guided robot, bombs must be disarmed in order within a time limit. 5 levels of play, high score table.

£4.95

CORE!

A three part game, move left and right as you descend through the clouds, birds and aeroplanes. On to the caves and caverns then through the 3-D maze to the Core.

£4.95

FRUIT MACHINE

One arm bandit simulation featuring random hold, nudge and gamble. 'Reels' are fixed and can be learnt but motion is random.

£4.95

UFO

Blast the aliens as they appear from hyper-space, features 3 levels of play, refuel etc.

£4.95

SPUDZ

Score points as you collect potatoes without getting caught in the shadow cast by the setting sun or falling into your trench.

£4.95

COMMODORE 64

MUNCHER

100% machine code game making good use of the sound and graphic facilities of the 64. Munch your way around the maze avoiding the ghosts, etc.

£6.95

Send Cheques and Postal Orders to:

**CHRISTINE COMPUTING, 6 FLORENCE CLOSE,
WATFORD, HERTS WD2 6AZ**

Tel: Watford (0923) 672941

Please add 55p P&P per order.

Top Ten programs for the Commodore 64

- | | | |
|----|--------------------------|----------------------|
| 1 | Space Shuttle | Microdeal (3) |
| 2 | Falcon Patrol | Virgin (8) |
| 3 | Crazy Kong | Interceptor (2) |
| 4 | Spirates and the Snowman | CBM (-) |
| 5 | Cosmic Convoy | Taskset (5) |
| 6 | Styx | Supersoft (-) |
| 7 | Motormania | Audiogenic (10) |
| 8 | Transylvanian Tower | Richard Shepherd (-) |
| 9 | Ship of the Line | Richard Shepherd (-) |
| 10 | Hover Bovver | Llamasoft (6) |

Top Ten Programs for the Spectrum

- | | | |
|----|-------------------|-----------------|
| 1 | Atic Atac | Ultimate (1) |
| 2 | Lunar Jetman | Ultimate (4) |
| 3 | Stonkers | Imagine (-) |
| 4 | Manic Miner | Bug-Byte (3) |
| 5 | Chequered Flag | Psion (2) |
| 6 | Hunchback | Ocean (9) |
| 7 | The Pyramid | Fantasy (-) |
| 8 | Mr Wimpy | Ocean (-) |
| 9 | 3D Ant Attack | Quicksilver (8) |
| 10 | Flight Simulation | Psion (6) |

Compiled by W. H. Smith. Figures in brackets are last week's positions

Top Ten Programs for the ZX81

- | | | |
|----|-------------------|-----------------|
| 1 | Football Manager | Addictive (3) |
| 2 | Asteroids | Quicksilver (1) |
| 3 | Flight Simulation | Sinclair (-) |
| 4 | Mothership | Sinclair (-) |
| 5 | Space Raiders | Sinclair (-) |
| 6 | Chess 1K | Sinclair (-) |
| 7 | Invaders | Quicksilver (6) |
| 8 | Defenders | Quicksilver (4) |
| 9 | Crazy Kong | PSS (9) |
| 10 | ZX Assembler | Bug-Byte (8) |

Compiled by Websters. Figures in brackets are last week's positions

Top Ten programs for the Dragon

- | | | |
|----|---------------------|----------------------|
| 1 | The King | Microdeal (-) |
| 2 | Eight Ball | Microdeal (2) |
| 3 | Scramble | Microdeal (4) |
| 4 | Leggit | Imagine (3) |
| 5 | Grand Prix | Salamander (5) |
| 6 | Space Shuttle | Microdeal (1) |
| 7 | Dragonchess | Oasis (5) |
| 8 | Transylvanian Tower | Richard Shepherd (7) |
| 9 | Intergalactic Force | Microdeal (9) |
| 10 | Danger Ranger | Microdeal (-) |

Compiled by Websters. Figures in brackets are last week's positions

BEST SELLERS

Top 30

- | | | | |
|----|------------------------|-------------------|---------------|
| 1 | Manic Miner | Software Projects | Spectrum (2) |
| 2 | Hunchback | Ocean | Spectrum (1) |
| 3 | The Hobbit | M.House | Spectrum (6) |
| 4 | Jetpac | Ultimate | Spectrum (5) |
| 5 | 3D Ant Attack | Quicksilver | Spectrum (7) |
| 6 | Lunar Jetman | Ultimate | Spectrum (4) |
| 7 | Harrier Attack | Durrell | Spectrum (3) |
| 8 | Valhalla | Legend | Spectrum (14) |
| 9 | Atic Atac | Ultimate | Spectrum (13) |
| 10 | Hunchback | Ocean | CBM 64 (-) |
| 11 | Falcon Patrol | Virgin | CBM 64 (10) |
| 12 | Hobbit | M.House | CBM 64 (12) |
| 13 | Chuckie Egg | A & F | Spectrum (20) |
| 14 | Kong | Ocean | Spectrum (8) |
| 15 | Penetrator | M.House | Spectrum (11) |
| 16 | Frogger | Microdeal | Dragon (-) |
| 17 | The King | Microdeal | Dragon (18) |
| 18 | Zzoom | Imagine | Spectrum (9) |
| 19 | Chequered Flag | Psion | Spectrum (17) |
| 20 | Cuthbert in the Jungle | Microdeal | Dragon (16) |
| 21 | Hunchback | Superior | BBC (23) |
| 22 | Arcadia | Imagine | VIC-20 (21) |
| 23 | Manic Miner | Software Projects | CBM 64 (-) |
| 24 | Skrambler | Solor | VIC-20 (26) |
| 25 | Mini Kong | Anirog | VIC-20 (22) |
| 26 | Hunchback | Ocean | Oric (-) |
| 27 | Crazy Kong | Interceptor | CBM 64 (28) |
| 28 | Jetpac | Ultimate | VIC-20 (25) |
| 29 | Bugaboo (The Flea) | Quicksilver | Spectrum (-) |
| 30 | The Hobbit | M.House | Oric (-) |

Compiled by PCS Distribution (0254 691211) and sanctioned by the Computer Trade Association. Chart is for retail sales in individual outlets in the UK and Northern Ireland for the fortnight ended March 3

Top Ten Programs for the VIC-20

- | | | |
|----|-------------------------|----------------|
| 1 | Wacky Waiters | Imagine (8) |
| 2 | Wizard and the Princess | M.House (2) |
| 3 | Snooker | Visions (5) |
| 4 | Gridrunner | Llamasoft (-) |
| 5 | Flight Simulator | Davenport (6) |
| 6 | Bewitched | Imagine (1) |
| 7 | Catcha Snatcha | Imagine (-) |
| 8 | Abductor | Llamasoft (15) |
| 9 | Arcadia | Imagine (10) |
| 10 | Tomb of Drowan | Audiogenic (-) |

Compiled by Websters. Figures in brackets are last week's positions

48K SPECTRUM OWNERS *Read This From* **...LET'S GET DOWN TO BUSINESS...**



★ ★ ★ **FINANCE MANAGER** ★ ★ ★

Voted "the best value financial program available" by SINCLAIR USER

FINANCE MANAGER is a powerful, flexible and very fast MENU DRIVEN general purpose ledger package which includes both standing order and special forward planning features. The program will handle up to 255 separate accounts and 1800 transactions. The power of MACHINE CODE has enabled us to produce the very latest "on the page" presentation which lets you enter and edit data naturally, as if you were filling in a form.

These screens are just a sample to show the style of the program:

But that's not all, not by a long way. This program **automatically** raises a corresponding debit or credit for every entry, and will even open a new account if an entry features an unrecorded account name.



Information can be manipulated in various ways — you can call up your bank or credit card account, or analyse expenditure according to a variety of categories which you assign to the transactions. Instant Account balances can be listed at any time. A great time saving feature of this program is that account names and transaction descriptions need only be recorded **once**, as all the input fields will scroll existing files. There are many, many more features which make this the most powerful finance package around, we even include a test file for you to experiment with before getting started.

★ ★ ★ **ADDRESS MANAGER** ★ ★ ★

ADDRESS MANAGER utilises the same "on the page" presentation as **FINANCE MANAGER** and offers Spectrum owners a professional standard address filing, indexing and retrieval system. Below are examples of the screen presentations.

ADDRESS MANAGER has been carefully constructed to provide the user with a tool that is extremely friendly and easy to use, the speed and presentation of this program are second to none.



ADDRESS MANAGER features **MULTIPLE INDEXING** via our 3 way 3 character index, an ability to store over 400 full names and addresses or 1500 individual names/titles.

USES include storing and updating names, addresses and phone numbers, printing out Xmas card lists etc, mail order work, customer classification by type size, (doctors have used this program to catalogue patients by treatment).

★ ★ ★ **80 COLUMN-PLUS 80' VERSIONS** ★ ★ ★

VERSIONS OF BOTH THESE PROGRAMS ARE NOW AVAILABLE FOR USE WITH AN 80 COL PRINTER. WORKING IN CONJUNCTION WITH THE KEMPSTON CENTRONICS INTERFACE THESE "PLUS 80" PROGRAMS CONTAIN ALL THE NECESSARY SOFTWARE AND CONTROL CODE FACILITIES TO OPERATE ANY KEMPSTON COMPATIBLE CENTRONICS PRINTER.

VISIT YOUR LOCAL SOFTWARE STORE NOW AND ASK FOR **FINANCE MANAGER** AND **ADDRESS MANAGER** BY NAME —

also available from selected branches of W. H. SMITH, BOOTS AND J. MENZIES



SOFTWARE ★ ★ ★ SIMPLY THE BEST ★ ★ ★

If you experience difficulty obtaining your copies of these programs send a cheque or postal order for £8.95 (£19.95 for **PLUS 80** versions) or telephone your details to (0753 888866):

Oxford Computer Publishing Ltd.
4A HIGH STREET, CHALFONT-ST-PETER, BUCKS, ENGLAND

I'm lost in the jungle... help me get back to base camp

I have always wanted to travel and see the world and when I was invited to join the 1984 expedition to Africa to search for the legendary Sea of Blue Water, I leapt at the chance.

I am not so sure now that I did the right thing!

How it works

60 game lost when error is generated
70 disable escape key
80 disable break key
90 selects MODE 6 and chooses colour
100-110 initialise variables
120 defines envelope for sound effects
130 call instructions
140-180 fill arrays for locations, items and words understood
190-520 main control loop, repeats until location 24 (base camp) is reached
330 waits for response
340-510 calls PROCEDURE appropriate to input word
530-540 end of game
560-670 instructions PROCEDURE
660 waits for space bar to be pressed
680 data for sound effects
690-900 data for games "rooms"
910-920 data for objects
930 data for words understood
940-2220 PROCEDURES which have self explanatory titles, e.g. PROCget

The party leader sent me off yesterday to search for food and guess what... I have got myself lost in the middle of the jungle. Please help me to find my way back to base camp by telling me what to do in the form of two-word sentences.

Unfortunately, I do not speak very good English and if you find that I don't seem to understand you, try another word.

Here is a list of some of the words I understand:

GO, N,S,E,W, UP, DOWN, IN, OUT, PRAY, HELP, EXAMINE, SEARCH, SWIM, TALK, SAY, DROP, LEAVE, INVENTORY, SCORE, WAIT, DIG, THROW, JUMP, DIVE, ROW, CUT, CHOP, MAKE, UNLOCK, EAT, DRINK, SAIL, LOOK, RUB

...that's the plea from Steve Lucas, who wrote Jungle Search for the BBC and Electron computers. Type it in before something dreadful happens

```
10 REM ** JUNGLE SEARCH **
20 REM ** AN ADVENTURE GAME FOR THE BBC AND ELECTRON
COMPUTERS **
30 REM ** BY Steve W. Lucas **
40 ON ERROR X$="a spider just came up and bit me!":P
ROClose
70 *FX229,1
80 *KEY10 OLDIM RUNIM
90 MODE6:VDU19,0,1,0,0,0
100ABX=0:AAZ=0:ACX=0:ADX=0:AEX=0:AFX=0:AGX=0:AHX=0
110AIX=0:AJX=0:PX=2
120 ENVELOPE1,2,6,0,0,255,0,0,126,0,0,-126,126,126
130 PROCInstructions
140CLS:DIM SX(24,4),Q$(24),X$(40),G$(30),V$(3),B$(30,
1),N$(30),NX(30)
150Y$=""
160 FORX=1TO24:READQ$(X):FORY=1TO4:READSX(X,Y):NEXTY,
X
170 FORX=1TO14:READG$(X),B$(X,1):NEXTX
180 FORX=1TO18:READN$(X),NX(X):NEXT
190 REPEAT
200IFPX=10ANDAGX(>)1THENX$="I fall into a deep hole be
neath some straw... It must have been a trap!":PRO
Close
210PRINT "I am :- "Q$(PX)
220A$="":IFSX(PX,1)>0THENA$="North"
230IFSX(PX,2)>0ANDLEN(A$)>0THENA$=A$+",South"ELSEIFSX
(PX,2)>0THENA$="South"
240IFSX(PX,3)>0ANDLEN(A$)>0THENA$=A$+",East"ELSEIFSX
(PX,3)>0THENA$="East"
250IFSX(PX,4)>0ANDLEN(A$)>0THENA$=A$+",West"ELSEIFSX
(PX,4)>0THENA$="West"
260PRINT "I can go :- "A$
270E=0:FORTH=1TO14:PPX=0:IFB$(TX,1)=PXTHENPPX=1
280IFPPX=1THEN300
290NEXT:GOTO330
300IFE=0THENPRINT "I can see:-"
310PRINT "G$(TX):E=E+1:GOTO290
320 IFPX=11THENPRINT$
330PRINT "What do you think I should do ":INPUTZ$
340B$=LEFT$(Z$,2):C$=LEFT$(Z$,3):CLS:VDU7:K=0
350IFC$="LOO"THENK=1ELSEIFC$="SCO"THENPRINT "What do y
ou think this is....some sort of game?":K=1
360IFC$="RUB"THENPRINT "Don't be silly!":K=1
370IF (B$="N"ORLEFT$(Z$,4)="GO N")ANDSX(PX,1)<>0THENP$
=S$(PX,1):K=1
380IF (B$="S"ORLEFT$(Z$,4)="GO S")ANDSX(PX,2)<>0THENP$
=S$(PX,2):K=1
390IF (B$="E"ORLEFT$(Z$,4)="GO E")ANDSX(PX,3)<>0THENP$
=S$(PX,3):K=1
400IF (B$="W"ORLEFT$(Z$,4)="GO W")ANDSX(PX,4)<>0THENP$
=S$(PX,4):K=1
410IFK=0AND (B$="N"ORB$="S"ORB$="E"ORB$="W") THENPRINT "
```

Hints on conversion

● Few computers have REPEAT UNTIL loops. Then main REPEAT UNTIL loops from line 190-520 can be replaced by line 520 IF P% (less than or greater than) 24 THEN GOTO 200

● The REPEAT UNTIL loop in line 2160 is used to provide a time delay. Use a FOR/NEXT loop, e.g. 2160 K=1:PRINT "O.K.":FORX=1TO1000:NEXTX

● The PROCedures used will have to be replaced by sub-routines, e.g. Line 130 will need to be replaced by 130 GOSUB 570 (The line after DEFPROC statement) and all ENDPROCs will need replacing by RETURNS

● The biggest problem in converting this program for other machines is likely to be encountered when you try to enter lines of over 40 characters. Machines like Orics and Commodore 64s will not accept these long lines. If you split long lines beginning with IF THEN statements, you will need to start the second line with the same IF THEN statement!

Variables

Resident integer variables A%-Z% are used widely so as to increase the speed of the game.
P% current location
AA%-AJ% flags to test if certain events have taken place
E% flag to test if item is there
ZS,CS,BS,LS holds words entered
S%(X,Y) holds the map
QS(X) holds descriptions of locations
GS(x) holds descriptions of objects
VS(X) holds items carried
B%(X,1) holds locations items found in
NS(x) holds words understood
N%(x) pointer for words understood
YS holds message
XS holds message for losing game
H%,D%,D,X,Y used as counters in FOR-NEXT loops
R holds check for number of item

Important note: Do not type in lines 60-80 until you have fully debugged the program. Then SAVE a copy before RUNNING.



BBC/ELECTRON PROGRAM

```

I can't go that way :K=1
420IFC$="ROW"ORC$="SAI"ORLEFT$(Z$,4)="GO R"THENPROCra
ft
430IFC$="DRI"THENPRINT"I can't see anything to drink!"
:K=1 ELSEIFC$="EAT"THENPRINT"There's nothing to eat!":
K=1
440 IFB$="UP"THENPROCup ELSEIFC$="DOW"THENPROCdown EL
SEIFC$="IN"THENPROCin ELSEIFC$="OUT"THENPROCout ELSEIFC
$="UNL"THENPROCunlock
450IFC$="REA"THENPROCread ELSEIFC$="OPE"THENPROCopen
460IFC$="CUT"THENPROCcut ELSEIFC$="CLI"THENPROCclimb
ELSEIFC$="JUM"ORC$="DIV"THENPROCjump ELSEIFC$="CHO"ORC$
="FEL"THENPROCfell
470IFC$="WAI"THENPROCwait ELSEIFC$="DIG"THENPROCdig E
LSEIFC$="THR"THENPROCthrow ELSEIFC$="SAY"ORC$="TAL"ORC$
="ASK"THENPROCtalk
480 IFC$="HEL"THENPROChelp ELSEIFC$="PRA"THENPROCpray
ELSEIFC$="SWI"THENPROCswim ELSEIFC$="BUI"ORC$="MAK"ORC
$="CON"THENPROCmake
490 IFC$="KIL"ORC$="DES"ORC$="ATT"ORC$="STA"ORC$="HIT
"THENPROCattack
500 IFC$="GET"ORC$="GRA"ORC$="TAK"THENPROCget
510IFC$="DRO"ORC$="LEA"THENPROCdrop ELSEIFC$="INV"THE
NPROCinventory ELSEIFC$="EXA"THENPROCexamine ELSEIFC$="
SEA"THENPROCsearch
520 UNTILP%=24
530PRINT""WELL DONE!!!!""You have solved this adven
ture!":RESTORE:FORX=1TO13:READD:SOUND1,1,D,3:NEXT
540 END
550 END
560 DEFPROCInstructions
570 CLS:PRINT""TAB(11);"JUNGLE SEARCH"
580PRINT""TAB(8);"<C> 1984 S.W. Lucas"
590 RESTORE
600 FORX=1TO17:READD:SOUND1,1,A,4:NEXT
610 PRINT""TAB(10);"Please help me!"
620PRINT""I am a member of the 1984 expedition, whi
ch has come to Africa in search of the sea of blue wa
ter."
630PRINT""The party leader has sent me in search of
food, but I seem to have got lost."
640PRINT""Help me to find my way back to safety."
650PRINT""Press <Space Bar> to play game."
660 REPEAT UNTIL GET=32
670 ENDPROC
680 DATA 53,69,53,69,89,53,197,53,149,53,101,53,117,1
37,145,89,53
690 DATA at the bottom of a sheer cliff face.,0,0,2,0
700 DATA on a muddy footpath,0,0,3,1
710 DATA in thick undergrowth,0,0,0,2
720 DATA by a cave entrance,0,0,5,3
730 DATA in a dark cave. Water is dripping down the s
limy walls.,0,6,0,4
740 DATA by an old wooden door.,5,0,0,0
750 DATA in a narrow passage.,8,0,0,6
760 DATA in a secret laboratory. There is a largelizar
d in a wooden cage here.,0,7,0,0
770 DATA on a straw covered footpath.,3,10,0,0
780 DATA amongst several very tall trees. The floor
here is covered with straw. There is a deep pit here.,
9,11,0,0
790 DATA on the banks of a fast flowing river.,10,0,0,
0
800 DATA on a raft in the middle of a fast flowi
ng river.,0,0,0,0
810 DATA in a sheltered cove,0,14,16,0
820 DATA in a steamy swamp,13,0,15,0,in a steamy swamp
,16,15,15,14,in a steamy swamp,16,15,17,16
830 DATA in a steamy swamp. A rope hangs down from
an overhanging tree.,0,0,0,16
840 DATA at the top of a rope. A large monkey can be se
en amongst the branches of the tree,0,0,19,0
850 DATA amongst the branches of a very tall tree a cre
eping vine seems to be firmly attached to the tree
.,0,0,0,18
860 DATA on a narrow plateau. A creeper hangs from
above. Spires of smoke can be seen in the distance.,0,0
,21,0
870 DATA on a narrow plateau.,0,0,0,20
880 DATA on a mountain track. The track is soft under
foot. The path crumbles to the West.,0,0,23,0
890 DATA by a river. There is a camp on the far side.
,0,0,0,22
900 DATA in the expedition's camp.,0,0,0,0
910 DATA a sharp knife,1,a plank of wood,7,a small key
,9,a small spider,15,a giant lizard,16,a monkey,19,a pi
le of bones,10
920 DATA an axe,5,a coil of rope,8,a strange looking p
lant,4,a native on the river bank,12,a piece of paper,2
1,a crocodile,23,Tarzan...swinging from tree to tree,14
930 DATA KNIFE,1,PLANK,2,WOOD,2,KEY,3,SPIDER,4,LIZARD,5
,MONKEY,6,BONES,7,AXE,8,COIL,9,ROPE,9,PLANT,10,FLOWER,1
0,NATIVE,11,PAPER,12,PIECE,12,CROCODILE,13,TARZAN,14
940 DEFPROCget
950 K=1:PROCcheck
960 IFLX<>1THENENDPROC
970 EX=0
980 FORHX=1TO14:IFBX(HX,1)=PXANDBX(NX(R),1)=PXTHENEX=1

```

```

990NEXT
1000 IFEX=0THENPRINT"I can't see it here!":ENDPROC
1010 IFR=1THENAAZ=1 ELSEIFR=4THENAFZ=1 ELSEIFR=9THENAHZ
=1
1020 IFR=5THENX$="It bites me...It's venom surges throu
gh my blood":PROCclose
1030 IFR=6THENX$="The stupid thing...It jumps at my thr
eat":PROCclose
1040 IFR=12ORR=13THENX$="I fall into a stupor as the fl
ower sends a jet or strange pollen into my face":PROCclo
se
1050 IFR=17THENPRINT"Don't be stupid!!!!":ENDPROC
1060 IFR=18ORR=14THENPRINT"How am I supposed to do that
!":ENDPROC
1070 IFR=15ORR=16THENADZ=1
1080 EX=0:FORDZ=1TO3:IFV$(DZ)=G$(NX(R)):EX
=1:DZ=5
1090NEXT
1100 IFEX=0THENPRINT"I'm sorry I can't carry any more!"
:K=1:ENDPROC
1110 BX(NX(R),1)=0:ENDPROC
1120 DEFPROCcheck
1130 L$="":FORHX=1TOLEN(Z$)
1140 IF MID$(Z$,HX,1)=" "THENL$=RIGHT$(Z$,LEN(Z$)-HX)):
HX=HX+40
1150NEXT
1160 R=0:LX=0:IFLEN(L$)<2THENENDPROC
1170 FORHX=1TO18:IFLEFT$(N$(HX),LEN(L$))=L$ THENLX=1:R=
HX
1180NEXT
1190 ENDPROC
1200 DEFPROCdrop
1210 PROCcheck
1220 K=1:IFLX<>1THENPRINT"I can't see a ";L$:ENDPROC
1230 EX=0
1240 FORDZ=1TO3:IFV$(DZ)=G$(NX(R)):THENV$(DZ)="":EX=1
1250 NEXT:IFEX<>1THENPRINT"I haven't got it!":ENDPROC
1260 BX(NX(R),1)=PX
1270 IFR=1THENAAZ=0 ELSEIF(R=15ORR=16)THENADZ=0 ELSEIFR
=4THENAFZ=0 ELSEIFR=9THENAHZ=0
1280 IFR=2ANDPZ=9THENAGZ=1:PRINT"I slide the plank ove
r the lion trap"
1290 ENDPROC
1300 DEFPROCinventory
1310 K=1:PRINT"I have :-":FZ=0
1320 FORHX=1TO3:IFV$(HX)<>" "THENPRINTV$(HX):FZ=1
1330 NEXT:IFFZ=0THENPRINT"Nothing a thing!"
1340 PRINT:ENDPROC
1350 DEFPROCcut
1360 K=1:IFAAZ<>1THENPRINT"I have nothing to do that wi
th!":ENDPROC
1370 IFPX<>3THENPRINT"There's nothing here to cut!!!":E
NDPROC
1380 IFABZ=0THENABZ=1:PRINT"That's done the trick!":SZ
(3,2)=9:ENDPROC
1390 IFABZ=1THENABZ=2:PRINT"I have managed to cut a way
through!":SZ(3,3)=4:ENDPROC
1400 PRINT"nothing happened!":ENDPROC
1410 DEFPROChelp
1420 K=1:IFPX=3THENPRINT"I think I can see a way throug
h!":ENDPROC
1430 IFPX=9THENPRINT"I'd watch out!":ENDPROC
1440 PRINT"Sorry I don't have a clue!":ENDPROC
1450 DEFPROCpray
1460 K=1:PRINT"O.K.":RESTORE:FORX=1TO13:READD:SOUND1,1,
Y,3:NEXT
1470 PRINT"That made me feel better!":ENDPROC
1480 DEFPROCdig
1490 K=1:PRINT"I need a spade!":ENDPROC
1500 DEFPROCup
1510 K=1:IFPX=17THENPZ=18:PRINT"O.K.":ENDPROC
1520 IFPX=22THENPRINT"It's too far to jump!":ENDPROC
1530 PRINT"I can't do that here!":ENDPROC
1540 DEFPROCdown
1550 IFPX=18THENPZ=17:PRINT"O.K.":ENDPROC
1560 IFPX=19THENPRINT"O.K.":PX=20:ENDPROC
1570 IFPX=21THENPRINT"There's no ladder you know!":END
PROC
1580 PRINT"not here!!!!":ENDPROC
1590 DEFPROCjump
1600 IFPX=21THENPRINT"Made it. The ground is soft here
!":PX=22:ENDPROC
1610 PRINT"I can't do that here you know!":ENDPROC
1620 DEFPROCclimb
1630 K=1:IFPX=20THENPZ=19:PRINT"O.K.!!":ENDPROC
1640 PRINT"Not here !!!":ENDPROC
1650 DEFPROCswim
1660 K=1:IFPX=23THENPROCch:IFACZ=1THENPRINT"O.K. Made
it !!!":PX=24:ENDPROC
1670 IFPX=11ORPX=12THENX$="I fall into a deep whirlpool
and drown":PROCclose
1680 PRINT"Don't be silly!":ENDPROC
1690 DEFPROCch
1700 K=1:IFACZ<>1THENX$="The crocodile bites a large ch
unk out of me!":PROCclose
1710 ENDPROC
1720 DEFPROCclose
1730 RESTORE:CLS:PRINT""X$""I AM DEAD!!!!":FORX=1TO1
3:READD:SOUND1,1,D,3:NEXT

```



```

1740 PRINT "Would you like to play again?"
1750 REPEAT: A$=GET$
1760 UNTIL A$="Y" OR A$="N"
1770 IFA$="Y" THEN RUN ELSE PRINT "Thank you for playin
g!" : END
1780 DEFPROC attack
1790 K=1: IF P%>23 AND A%<>1 THEN PRINT "Too slow!...": X$="It
moves over and kills me!": PROClose ELSE IF P%>23 THEN PRIN
T "O.K...": G$ (13) = "a dead crocodile": AC% = 1: ENDPROC
1800 IF P%>150 R%>16 THEN PRINT "It's too fast for me!": END
PROC
1810 IF P%>19 THEN X$="It didn't like that!": PROClose
1820 IF P%>12 THEN PRINT "He's too far away!": ENDPROC
1830 IF P%>14 THEN X$="Tarzan doesn't like that!": PROClose
1835 PRINT "Who's a silly billy then?": ENDPROC
1840 DEFPROC read
1850 K=1: IF A%<>1 THEN PRINT "I've not got anything to rea
d": ENDPROC
1860 PRINT "The paper bears the message." : "BEWARE OF C
ROCODILES!!!!": ENDPROC
1870 DEFPROC in
1880 K=1: IF P%<>6 THEN PRINT "Not here!!!!": ENDPROC
1890 IFA%<>1 THEN PRINT "The door is locked!": ENDPROC
1900 PRINT "O.K.": P% = 7: ENDPROC
1910 DEFPROC out
1920 K=1: IF P%>7 THEN P% = 6: ENDPROC
1930 PRINT "How can I go out when I'm not IN!!!!": ENDPROC
1940 DEFPROC unlock
1950 K=1: IF P%<>6 THEN PRINT "Don't be stupid!": ENDPROC
1960 IFA%<>1 THEN PRINT "No key!!!!": ENDPROC
1970 PRINT "The key turns and the door opens with a dist
ant rumble!": A% = 1: ENDPROC
1980 DEFPROC open
1990 K=1: IF P%<>6 THEN PRINT "Don't be stupid!": ENDPROC
2000 IFA%<>1 THEN PRINT "The door is locked!": ENDPROC
2010 PRINT "It's already open.....": ENDPROC
2020 DEFPROC fell
2030 K=1: IF P%<>10 THEN PRINT "how am I supposed to do that
here dummy": ENDPROC
2040 IFA%<>1 THEN PRINT "I have no axe!": ENDPROC
2050 PRINT "I chop the trees down and now have a pile
of logs.": A% = 1: Q$ (10) = Q$ (10) + " There is a pile of log
s here."
2060 ENDPROC
2070 DEFPROC make
2080 K=1: IF P%<>10 THEN PRINT "I can't do that here!": ENDPR
OC
2090 IFA%<>1 THEN PRINT "I can't do that just yet!": ENDPR
OC
2100 PRINT "I build a raft and push it down to the riv
er.": P% = 11: Y$ = "There is a raft here.": A% = 1: ENDPROC
2110 DEFPROC craft
2120 K=1: IF P%<>11 THEN PRINT "don't be silly": ENDPROC
2130 IFA%<>1 THEN PRINT "I can't do that just yet!": ENDPR
OC
2140 P% = 12: PRINT "O.K.": ENDPROC
2150 DEFPROC wait
2160 K=1: PRINT "O.K.": TIME = 0: REPEAT UNTIL TIME = 100
2170 IF P%<>12 THEN ENDPROC
2180 P% = 13: PRINT "The raft comes to a rest!": ENDPROC
2190 DEFPROC throw
2200 K=1: PRINT "I can't do that !!!!": ENDPROC
2210 DEFPROC talk
2220 K=1: PRINT "O.K....nobody seems to be listening !": E
NDPROC

```

Prices rise over IBM

This week I thought I would let you know what the price trends of some of the major home computer manufacturers have been lately. Although people (me for one) feel that the IBM PCjr is quite overpriced for what it offers, there is no question that the relatively high price of the two models (about \$670 and \$1270) will serve to stabilise the market, at least price-wise.

Not only that, but such a move will also get customers used to paying more not only for the computers themselves but also for supplies and accessories. As soon as the IBM PCjr was announced and as soon as the industry learned of the demise of TI's 99/4A, several manufacturers announced price increases.

Atari added \$40 to the dealer cost of its 600 and 800 XL models (which incidentally completely sold out by the end of last month). It also added \$15 to the dealer cost of its Model 1027 printer and 1050 disc drive unit. Even before it becomes widely available, Coleco has increased the price of its Adam about 24 per cent to \$650 at the wholesale level.

The retailers of computers that will compete against the PCjr feel no threat at all. Most believe that some of the limiting factors of the PCjr will actually help them sell their competing lines. It is also interesting to note that Commodore has not reacted to the re-pricing of its competitors any more than it has reacted to the introduction of the Adam or the PCjr.

Ever wonder how many computers we have over here? Well, it turns out that computers can be found in approximately 15 per cent of all American households, and that there are about seven million installed micros altogether. In the same survey that revealed these figures it was also determined that most people who do not buy computers do so for one of two main reasons: the first is lack of need, and the second is high prices. The survey also revealed that people may change their minds about micros when they perceive that their children may need one to succeed in school.

While most interactive videodisc/microcomputer interface systems are usually quite expensive, a new low-cost system has been recently announced by a company called Lasersoft. The unit is called the Micro-Ed controller box, and has been announced for under \$200!

It has been designed to work with the Commodore 64, 1541 disc drive, and the Pioneer 8210 videodisc player (and probably its European equivalent). The unit itself is only slightly larger than a deck of playing cards and allows the computer to randomly access any of the thousands of frames (individual "still" pictures) on the disc and present them on a single colour monitor used simultaneously by the videodisc player and the computer.

Two programs, written by the makers of the Micro-Ed, are provided and have to do with understanding the globe of the world and maps. At one point in the program, instead of having the computer churn out a computer designed picture of how earth looks from outer space, the program calls up the appropriate frame on the video disc which then shows an actual reproduction of a photograph of Earth as taken from the Moon by astronauts. Besides these initial programming efforts, other applications are being developed to include a wide range of activities for families with children as well as adult interests. You can write to Lasersoft in Eden Prairie, Minnesota.

Out of room again. See you next week.

Bud Izen
Fairfield, California



REVENGE

OF THE MUTANT CAMELS

At last the long awaited sequel to Attack of the Mutant Camels is available. You are controlling a ninety foot high, neutronium shielded, lazer spitting death camel; leading a rebellion against your evil Zzyaxian overlords. The game features beautiful smooth scrolling graphics and no less than 42 different attack waves, more than any game in video history. The challenge of play will last for months as you battle to see what's on the next wave.

£7.50



Lamasoft
AWESOME GAMES SOFTWARE

49 MOUNT PLEASANT,
TADLEY, HANTS. RG26 6BN.
TELEPHONE: TADLEY (07356) 4478

Dodgy Dealer 32K BBC £6.50

OIC, 15, Burghead Cl, College Town, Camberley GU15 4XL

Ever fancied running your own business? You know the sort of thing... armed only with your £5,000 bank loan, and a number of advisors, you set out to make your mark on industrial Britain. Too risky? Fortunately this text-based simulation lets you play out exactly this business scenario without having to suffer any real sleepless nights.

Your goal is simply to try and make a profit, or avoid bankruptcy, in a set time. You are offered helpful advice by your managers, covering all aspects of your business, including production, marketing, transport and accounts. You must then

decide how much money and resources to allocate in the different areas of the business. Oh, of course, the advice doesn't come free!

If you enjoyed ruling your country in King (one of the programs supplied with your BBC) or Hmrabi, then you will find this quite gripping. Obviously the business simulation is not quite up to the level of Executive Suite on an IBM-PC, but I am sure any marketing man will have a challenge sorting out his market strategy on level nine! Rank novices should start on level zero. Needs O.S. 1.2 **P.D.**

instructions	90%
playability	80%
graphics	60%
value for money	85%



City 48K Spectrum £6.95

Terminal, 28 Church Lane, Prestwich, Manchester M25 5AJ
Anyone who has nurtured ambitions to be a bloated capitalist can now act out the role with this game of property development speculation. It's for one to four players with the Spectrum playing vacant places. Each starts with £200,000 with the aim of making £1 million. You take turns — quickly or, as in real life, the chance may disappear — at moving round an on-screen map, building, demolishing or purchasing pubs, houses, apartments, shops, factories and banks. All the rent collecting, tax paying and other book-keeping is done for you. As the city is developed the map shows each

players' property holding in a distinctive colour. Realistic features include varying property values to reflect, for example with a pub, the building nearby of houses for customers.

City has four game lengths, each with slightly different characteristics, along with a "save game" facility, necessary because of the time taken to complete a game. There are even two colour schemes in case one does not suit your TV!

A very well thought out, well presented package and very enjoyable to play. I would suggest, though, printed detailed instructions as well as those on screen.

instructions	60%
playability	85%
graphics	80%
value for money	90%



Bandit 32K BBC £2.99

CompuSoft, 32 Watchyard La, Formby, Liverpool L37 3JU

I still cannot see the fascination in playing a game which normally has money pouring out of a machine's mouth on a machine which has no mouth at all! Don't get me wrong, I like feeding the unidextrous thieves, but only if there is that chance of the big win. I really can't see any pleasure otherwise.

As you may have guessed, this is a fruit machine program and a very good one, with random holds, nudges, collect or gamble winnings and even a special Bandit feature offering even more mythical money to win. You start with 50p and it "costs" 10p a go.

There is nothing to criticise — plenty of colour, good graphics and sound. But you don't actually win or lose money and, in keeping with this, you can get another 50p any time! The best feature is undoubtedly price and if you want this kind of program you won't beat this value. It really is as good as others I have reviewed at twice the price.

Wait a moment. I've thought of a use at last! It's for gamblers who want to stop losing money but keep the habit. Eureka!

instructions	70%
playability	80%
graphics	80%
value for money	90%



Are they like real life?

You can run your own business or play golf or pool or try golf in these simulation games. How well do they perform?

Eight Ball Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Dragon graphics aren't up to producing a playable game of snooker — not enough colours — so Microdeal has come up with this version of pool instead. It's a simplified game with no scoring. The first to pot all their own balls and the eight ball wins.

It's a two-player game, though you can play yourself if you can't talk anyone else into it. Play is controlled by joysticks. You position the cue ball (if necessary), press the fire button, position the cue, press the button again, select spin by positioning a small dot on a ball at the top, then hold the fire button down while a

"power bar" grows to the appropriate length for the force you want. The balls move smoothly around, making a fairly authentic click when they collide and disappearing if they reach a pocket.

Sound effects are good, though limited, and graphics adequate. There is a choice of three screen colours, but with the traditional green table the balls are none too easy to distinguish. It's clearer in black-and-white. It's not much like the real thing, but fun to play all the same.

instructions	M.N.
playability	75%
graphics	80%
value for money	70%

85%



Royal Birkdale 48K Spectrum £6.90

Ocean, Ralli Bdg, Stanley St, Manchester M3 5FD

This golf simulation takes its name from the well-known golf course, and promises a faithful reproduction of the 18 holes. The title page is spectacular in colour and definition, with a picture of the club house. That high standard of graphics is maintained throughout.

As with most computer golf games, you select the direction, club, and strength with which you wish to strike the ball. An added plus here is that you also have your reactions tested. The outcome decides whether the shot

is true, or whether you hook, fade, or slice the ball.

Once the ball is on the green, the display moves to a close up. Even the slope is taken into account as you attempt to putt. Again, there is a reaction test. This I found the most frustrating part — the strength of the putt is too sensitive to the test, and success is extremely difficult.

Apart from poor error-trapping of the INPUT responses, this is a well-written BASIC program which could provide a lot of fun — once you've learned to putt!

instructions	80%
playability	70%
graphics	90%
value for money	80%



DRAGON 32 PROGRAM

It's a one-way flight, unless your bomb aiming is on target

As your target approaches you feel surprisingly calm. Your hand is lightly resting on the button ready to start bombing the centre of the enemy's industrial complex.

Your mission is one of high risk. To carry the maximum tonnage, you decided to limit your fuel.

It means this is a one-way journey. The only chance you have for survival is to clear the screen, enabling you to land safely, otherwise you will go down with guns blazing.

The game is played in high resolution graphics and the instructions are in the program. There is a choice of 10 skill levels relating to the height of the buildings.

**Add to your collection of
arcade-style classics with 6809
Squadron, written for the
dragon 32 by Clive Gifford (who
intended the pun in the title...)**

```
10 REM*****
20 REM*****6809 SQUADRON*****
30 REM*****CLIVE GIFFORD*****
40 REM*****
50 CLEAR 1000
60 PMODE 3,1:PCLS:SCREEN 1,0
```

How it works

60-80 set up and display title page
190-310 request skill level and transfer this to the size of the buildings. Graphics are drawn while the text screen is displayed, a useful trick which prevents people from having to watch the graphics display slowly evolve time and time again

470-500 are put into action is spacebar is pressed. This is the bomb drop routine

510-520 are for when the aircraft crashes. If it manages to land safely, then lines 530-590 activate win routine. An interesting point of note is line 600 which produces the striped effect background for the win routine

600-690 score, high score, another game?, if so re-start. Note use of fast POKE in lines 640 and 250

```
70 CIRCLE(128,130),60,3:PAINT(128,130),3,3
80 CIRCLE(128,130),40,2:PAINT(128,130),2,2
90 CIRCLE(128,130),15,4:PAINT(128,130),4,4
100 DRAW"BM30,60;U50R30D10L20D10R20D30L30BE10U10R10D10L10"
110 PAINT(35,55),4,4
120 DRAW"BM85,60;U50R30D50L30BE10U10R10D10L10BU20U10R10D10L10"
130 PAINT(90,55),4,4
140 DRAW"BM140,60;U50R30D50L30BE10U30R10D30L10"
150 PAINT(145,55),4,4
160 DRAW"BM190,60;BU24U26R30D50L10U24L20BE10U6R10D6L10"
170 PAINT(215,55),4,4
180 PLAY"T203L4GL2EP10L6CDEFAL12B04C03B04C03L2BP10L6GAB04CEL12FGFGL2FP8L403FEDL1CP2"
190 CLS:PRINT @ 66,"SKILL LEVEL (1-10) 1 0=SIMPLE":INPUT L
200 IF L>10 OR L<1 THEN 190
210 SC=0:A=10
220 PMODE 3,1:COLOR 2,3:PCLS:SCREEN 1,0
230 CLS:PRINT @ 199,"g o o d    1 u c k"
240 PRINT:PRINT" REMEMBER: SPACE BAR TO BOMB"
```

```
250 POKE 65495,0
260 FOR I=1 TO 22
270 H=((INT(RND(70)+L*8)+20))
280 A=A+10
290 LINE(A,H)-(A+9,197),PSET,BF
300 FOR T=10 TO 230 STEP 10:LINE(T,197)-(T,0),PRESET:NEXT
310 NEXT I
320 PMODE 3,1:COLOR 2,3:SCREEN 1,0
330 PLAY"L403CED"
340 X=20:Y=9
350 A=X-6:B=Y+6
360 IF PEEK(135)=32 THEN POKE 135,0:GOSUB B 470
370 GOSUB 400
380 GOTO 350
390 S$=""
400 S$="BM"+STR$(X)+", "+STR$(Y)+"U7R3D3R7D4L10BU2BR4R4":DRAW S$
410 LINE(X-15,Y-9)-(X-1,Y+1),PRESET,BF
420 IF X=240 AND Y>=180 THEN FOR T=1 TO 8:PLAY"03L12FACE":NEXT:GOTO 540
430 IF X>=250 AND Y<190 THEN Y=Y+10:X=10:LINE(248,0)-(255,190),PRESET,BF
440 X=X+10
450 IF PPOINT(X+9,Y+3)<>3 OR PPOINT(X+7,Y+3)<>3 OR PPOINT(X+9,Y)<>3 OR PPOINT(X+6,Y+6)<>3 OR PPOINT(X+7,Y+6)<>3 OR PPOINT(X+9,Y+6)<>3 THEN 510
```


DRAGON 32 PROGRAM

```

460 RETURN
470 B=B+15
480 LINE (A-2,B-15)-(A+4,B),PRESET,BF
490 B$="BM"+STR$(A)+", "+STR$(B)+"R4D3G2H
2U3":DRAW B$
500 IF PPOINT(A,B+6)=3 OR PPOINT(A,B+7)=
3 THEN GOSUB 400:GOTO 470 ELSE LINE (A-2,
B-15)-(A+7,B+30),PRESET,BF:PLAY"01L20C":
SC=SC+10:RETURN
510 FOR T=1 TO 15 STEP 2:CIRCLE(X,Y),T,2
:NEXT
520 FOR T=1 TO 8:SCREEN 1,1:PLAY"01V30L9
C":SCREEN 1,0:PLAY"02V18C":NEXT:GOTO 640
530 PMODE 3,1:COLOR 2,3:SCREEN 1,0
540 X$="BM40,40:S2D60E30F30U60BR30R60L60
D30R50L50D30R60BR30R60L60U60BR90D60R60"
550 X$=X$+"BM40,120:S2R60D60L60R10U60BR8
0R60D60L60U60BR90D60U60F60U60BR30R60L60D
30R50L50D30R60"
560 Y$="C3"+X$
570 X$="C2"+X$
580 FOR T=1 TO 8:DRAW X$:PLAY"01L250CDEF
GBDCDA"
590 DRAW Y$:PLAY"03DFEGCABBBCD":NEXT T

```

```

600 POKE &HB2,109:POKE &HB2,108
610 FOR T=1 TO 255:LINE(T,0)-(T,190),PSE
T:NEXT
620 FOR X=1 TO 15:DRAW X$:DRAW Y$:NEXT
630 FOR T=1 TO 1000:NEXT T
640 POKE 65494,0:CLS:IF SC*10>HS THEN HS
=SC*10 ELSE GOTO 670
650 PRINT @ 200,"SCORE: ";SC*10:PRINT"YOU
HAVE BEATEN THE HIGH SCORE PLEASE ENTE
R NAME (LESS THAN 9 CHARACTERS)"
660 INPUT N$:IF LEN(N$)>9 THEN 660
670 CLS 3:PRINT @ 297,"SCORE: ";SC*10;
680 PRINT @ 71,"HIGH SCORE: ";HS;:PRINT @
139,"BY ";N$;
690 PRINT @ 392,"ANOTHER GAME?";:INPUT G
$:IF G$="Y" THEN 190 ELSE END

```



PRICE BREAKTHROUGH
BY MAIL ORDER ONLY.

£9.95
plus 80p P.P



'THE WIZARD'
22, CARVER ST
SHEFFIELD S14FS.
TEL: 0742 752732

Wizard ©
ACCESSORIES



QuickShot™ II



CHEQUES + P.ORDERS
CROSSED AND PAYABLE
TO 'JUST MICRO'

ORDER FORM

Please send me
Quickshot II Joysticks
£9.95 Each + 80p P+P

I Enclose Cheque/P.Order
For £.....

Name.....

Address.....

.....Tel.....

**WATCH OUT FOR THE WIZARD JOYSTICK
INTERFACE FOR BBC-NO SOFTWARE
REQUIRED.OPTION FOR 2 STANDARD
ATARI JOYSTICKS..**

TURN YOUR PROGRAMME UPSIDE DOWN

Now you can add another dimension to your games.
Swap direction, swap functions, confuse your friends.
In fact you can add almost any twist to your games with
Stonechip's Programmable Joystick Interface.

You can also listen to them
with **Stonechip's Echo Amplifier.**



£24.95

Programmable Joystick Interface. This also enables any Spectrum software to be used with a joystick, irrespective of which keyboard keys have been chosen for function.

Programming is easy using only a single switch. Switch one way to program and another way to play. No tapes to load or links to worry about — all programming is achieved by hardware. Used with Atari-compatible joysticks. Simply plugs into rear expansion port of ZX-Spectrum. No other connections to make, no additional power supply required.



£19.95

Echo Amplifier. How would you like to listen to the sound output from your ZX-Spectrum without ear strain? The Stonechip Echo amplifier can do this for you as well as easing the tedium of saving or loading of tapes and enlarging the range of tape recorder compatibility with the computer. The amplifier has volume control over a range adequate for most uses, and a tone control for harsh or mellow sounds. A switched interface removes the need to swap leads during 'SAVE'ing or 'LOAD'ing. Leads are left connected all the time and the desired function is selected on the three position switch by the user. Use of the 'CUE' facility enables an audio cue to precede the program being 'SAVE'd on tape, a decided advantage when searching through a multi-program tape. The Echo simply plugs into the Ear, Mic and Power sockets of the computer and does not require an additional power supply. The expansion port at the rear of the computer is left free for use with other peripherals and the unit is housed in an attractive case custom designed to complement the ZX-Spectrum.

**STONECHIP
ELECTRONICS**

Stonechip Ltd. Brook Trading Estate Deadbrook Lane Aldershot Hants. GU12 4XB. Tel: (0252) 318260

To: Stonechip Electronics, Unit 9, The Brook Industrial Estate,
Deadbrook Lane, Aldershot, Hants.
Telephone: (0252) 318260.

Please forward me the following products:

Name _____
Address _____

All prices are inclusive of VAT, Post & Packing for U.K. deliveries (overseas add 15%).

DEALER ENQUIRIES WELCOME
Delivery approx. 14 days



BEDFORDSHIRE

SOFTWARE CENTRE

Computer Software and accessories.
Large S.A.E. for lists.

52A Bromham Road, Bedford
Tel: Bedford 44733

CORNWALL

FAL-SOFT Computers

**8 St. George's Arcade,
Falmouth, Cornwall.**
Tel: 0326 314663

We are stockists of BBC,
SINCLAIR, COMMODORE, DRAGON,
ORIC, COLOUR GENIE, MEMOTECH &
ELECTRON.

J & F COMPUTERS

We stock a wide range of hardware,
software and peripherals for most of
the leading home computers, including
SPECTRUM, BBC, Commodore 64
and VIC 20. Phone or write now for
more details.

OUT NOW — SYSMON machine-
code monitor programs give you access
to machine code on the VIC 20 and
Commodore 64. Features include Hex
Dumps, Load and Save of machine-
code, Assembler, Disassembler and
lots more! At only £5.50 for tape
versions for either machine, or £10.00
for SYSMON 20 on an EPROM, it's an
invaluable tool for the serious
programmer. Also, we program
EPROM's with your programs, from
£10.00 — write or phone for a
quotation. Trade enquiries welcome.

Send cheques/postal orders now to:

J & F COMPUTERS,

**Rosehill, Ladock,
Truro, Cornwall TR2 4PQ**
or telephone us (any time) on
St. Austell (0726) 882 758

ESSEX

SOFTWARE 10% OFF RRP

Over 800 titles. Commodore, Spectrum,
BBC, Oric, Dragon computers.

BARGAIN:

VIC-20 cartridges £6 each or 4 for £18.

**RADIO 88, 88 Longbridge Rd,
Barking, Essex.**

Tel: 01-594 9979 for price list.

KENT

— VISIT US —

AT OUR NEW SHOP

For Sinclair ZX81 & Spectrum
machines, add-ons, books,
programs, for home and
business use.

Also Memotech, Dragon,
CBM 64, VIC-20 & Sharp.

DOVER INTERNATIONAL

COMPUTER CENTRE
101 The High Street,
Dover CT16 1EB
Tel: 0304 212433

LONDON

DAVID SHACK SOFTWARE

Over 150 games for the Spectrum and
100 for the VIC-20. Also BBC, CBM
64, Dragon, Atari, software sold at
discount prices. SAE for lists to:

**294 Romford Road,
Forest Gate E7. Tel: 01-555 9303**

**COMPUTER ADD-ONS
for your Spectrum**

Sinclair Interface 2	£19.50
Kempston Interface	£13.99
Protek Interface	£14.50
Currah Speech Synthesiser	£28.95
Cheetah Sweet talker Synthesiser	£28.95
Quickshot Joysticks	£7.99
Stack Light Rifle	£28.95

48K Spectrums available £127

NOW AVAILABLE

a must for your CBM 64

International Soccer only £9.75

Write or phone:

Armchair Action Computers
41 Drayton Green Rd, Ealing,
London W13
Tel: 01-567 1944

LANCASHIRE

**PENNINE
COMPUTER CENTRE**

We have now moved to

**30 Burnley Road, Accrington,
Lancs. Tel 0254 390424**

Come and see our large selection of
software. Special introductory offer
10% discount. SAE for free catalogue
stating micro.

BUSY B's COMPUTERS

Commodore Cassettes £42
plus £2 p&p.

**91 Dearden Gate, Haslingden,
Rossendale, Lancs EB4 5SN**
Tel: 0706 215361

**LANCASHIRE
MICROS**

BBC, Sinclair, Commodore, Dragon and
Lynx personal computers.
Also the widest range of software, books
and accessories in the area.

**89 Euston Road, Morecambe,
Lancs. Tel: (0524-411435)**
ALSO OPEN SUNDAYS

SOMERSET

**PHOENIX
SOFTWARE CENTRE**

A large range of software in stock for
ATARI, BBC, DRAGON, ORIC-1,
SPECTRUM, COM 64 & VIC-20.

Also stockists of BBC &
SPECTRUM COMPUTERS.

Open Mon — Sat 9am — 6pm.
Access & Barclaycard accepted.

88 Huish, Yeovil, Somerset
Tel: (0935) 21724

STAFFS



Enter the world of COMPUTER CABIN

24 The Parade, Silverdale, Newcastle

Tel: 0782 636911

Official Acorn Dealer • BBC Service and information centre
for Staffordshire. Send 50p for full catalogue.

TIME WARP CABSOFT Time Warp for the 48K Spectrum and now the
CBM 64. Only £6.95 including p&p (Cheques payable to
'Cabsoft'). Memotech version available soon.

JAYTRONICS SPECTEL enables your 48K Spectrum to store 500
names plus tel. numbers for instant recall. Software only £9.95.

Hardware — £29.95 gives auto-dial plus re-dial (simple connection
requires GPO approval). Cheques to 'JAYTRONICS'.

BAZ'S BARGAIN BASEMENT Spec. radio/amps £6.95 plus £1 p&p.
BBC spares plus computer cables & leads for various makes of
computers. S.A.E. for lists.

**Computarama—
The Midlands
Home Computer
Specialists**

**FOR BBC, SPECTRUM &
ALL LEADING MICRO'S**

STAFFORD: 59 FOREGATE ST
TEL: 0785 41899

STOKE-ON-TRENT:
MARKET SQUARE ARCADE
TEL: 0782 268620

The Micro Store

HOME COMPUTER CENTRE

We carry a large selection
of hardware/software/
accessories for all popular
home computers.

SPECIAL OFFER

**10% off software on
production of this ad.**

**13B West Street,
Horsham, W. Sussex**
Tel: 0403 52297

WARWICKSHIRE

CARVELLS

of Rugby Ltd.

3/7 BANK ST. RUGBY
Tel: 0788 6527516

BBC computers in stock £399 also
ACORN ELECTRON £199 — Place
your order now. CBM 64 £229.
We also stock ORIC, SPECTRUM &
software books.

Phone or visit soon.

SCOTLAND

**THE GAMES SHOP AND
COMPUTER SOFTWARE
CENTRE TEL. NO. 0224-643740**

3 Waverley Place, Aberdeen AB1 1XH.
Stockists of Spectrum, Dragon, VIC-20
and Commodore 64 software. Extensive
selection of books and magazines.

SHETLAND

LERWICK, SHETLAND

Tel: 0595 2145
Software, Books, Accessories
Service

BBC Micro, Dragon-32, ZX81,
Spectrum, VIC-20, CBM-64
Open Mon-Sat 9.30am-5.30pm

**RECRUITING?
SELLING A PRODUCT?
OR A SERVICE?**

**GET MAXIMUM BENEFIT FOR YOUR MONEY
FIND OUT ABOUT OUR WHOLE RANGE OF PUBLICATIONS IN:**

**COMPUTING ELECTRONICS
VIDEO RADIO**

Simply telephone

ASP CLASSIFIED

01-437 1002

(We take Access and Barclaycard)

HOME COMPUTING WEEKLY CLASSIFIED

Lineage:
35p per word



Semi display: £6.00 per single column centimetre
Ring for information on series bookings/discounts.

All advertisements in this section must be prepaid.
Advertisements are accepted subject to the terms and conditions printed on the advertisement rate card (available on request).



01-437 0699
EXT 341.

Send your requirements to:
Debra Stuppel
ASP LTD.
1 Golden Square,
London W1R 3AB

SITUATIONS VACANT

THANK YOU!

For your response to our call for games programs.

We enjoyed evaluating them but you didn't send enough.

PLEASE SEND MORE!

Immediate evaluation as usual.

Send your games to:

RON HEYES, Kace International,
32 Avon Trading Estate,
Avonmore Road, London W14
or Telephone 01-602 7355 Extn. 35

MICRO ENTHUSIAST

Are you familiar with several different home computers? Could you explain the pro's and con's of the different hardware, and sort out the problems encountered by less technical people?

ASSISTANT

To the manager required for a new dedicated home computer, software and accessory shop in Slough Centre. The right money paid for the right person. Accommodation may be available. Please send full details in writing to:

MODESTATE LIMITED, Ref HCW,
Chile House, 20 Ropemaker St, London EC2Y 9BA

ACCESSORIES

BROWN'S CASSETTES

10 TDK hi-resolution blank data cassettes CIS — £5.95.

Suitable for the use of today's computers — each comes complete with labels, inlay cards and library casing. 75p p&p. Cheques/POs to:

Brown's Cassettes (Dept HCW)
15 Royston Road, Thornbury,
Bradford BD3
Tel: 0274 662703

Supplies and Accessories. Extensive range for all home and business needs. Contact: Screen Care, 01-654 9538.

ALARMS

Burglar Alarm equipment. Please visit our 2,000 sq.ft. Showrooms or write or phone for your free catalogue. C.W.A.S. Ltd, 100 Rooley Avenue, Bradford BD6 1DB. Telephone 0274 731532.

ADD ONS

FLOPPY DISC INTERFACE for Spectrum

FDC-1 interface card, with Disc operating system in EPROM, and a utility disc.
£70.00 ex. VAT. £81.50 inc VAT, P&P.
FDC-1 Mk2. As Mk1 but with a Spectrum edge connector for further Cards, e.g. printer interface.
£85.00 ex. VAT. £98.75 inc VAT, P&P.
Centronics interface for Spectrum — £29.00 plus VAT.

We also sell disc drives for above interface. Further details available from:

TECHNOLOGY RESEARCH LTD.,
356 Westmount Road, London SE9 1NW
Tel: 01-856 8408

HCW YOUR SOFTWARE SUPERMARKET.

BOOKS & PUBLICATIONS

Popping, Break dancing. Teach yourself. Loose stamp for details. Dance Publications, 136 Monkhill Lane, Pontefract WF8 1RT.

CLUBS

Part exchange your old software for brand new cassettes. S.A.E. for details. State machine type. NCC, 12 York Close, Barton, Beds MK45 4QB.

Software Exchange. Swap your used software. Spectrum speciality. FREE membership. S.A.E. UK SEC, (HCW), 15 Tunwell Greave, Sheffield S5 9GB.

PROBLEMS WITH YOUR MACHINE? SCAN OUR SERVICE/REPAIR SECTIONS.

COURSES

NEW TO COMPUTING?

We are here to help you gain skills in computing. Ring:
COMPUTER WORKSHOP
on 01-318 5488
4 Lee High Road, Lewisham,
London SE13 5LQ

GIFTS

Gentlemen. Does your lady enjoy attractive software? Then send for free lists of inexpensive lingerie. SAE to BCM/Elegance, London WC1N 3XX.

FOR HIRE

Spectrum software library. Two weeks hire £1.00. Lifetime membership £5.00. Stamp for lists. Hiresoft, 113 Broomfield Road, Marsh, Huddersfield.

Hire a computer from ZX81 upwards for a week or a year. We also buy and sell second-hand computers, magazines and books. Business & Computer Services, 294a, Caledonian Road, London N1 1BA. Tel: 01-607 0157.

Oric Software Library. Two weeks hire £1. Annual Membership £5. Stamp for list. Les Wilson, Penallick, Tintagel, Cornwall.

HARDWARE

For SPECTRUM SUPPLIES NOW, but especially SPECTRUM 48K with HOBBIT!

RRP £144.90, our price
ONLY £139.95 inc. p&p.
with **PENETRATOR!**
RRP £136.90, our price
ONLY £134.20 inc. p&p.
with **MELBOURN DRAW!**
(Graphics)
RRP £138.90, our price
ONLY £134.99 inc. p&p.

NCS

Phone your order
0480 811813

KENILWORTH SOFTWARE TI-99/4A

Extended BASIC £44.95
Cassette Interface leads — single £5
Cassette Interface leads — dual £6.50

M. A. FAULKNER,
9 Dancer Drive,
Knights Meadow,
Kenilworth, Warks.

LIBRARIES

COMMODORE 64 GAMES LIBRARY

Over 230 titles, all originals. Hire of first two games absolutely free. Life membership only £6. Join now on money back approval. Send for details to:

Commodore 64 Games Library
c/o Yorkshire Software Library,
13 Park Top, Pudsey, West Yorks.
Cheques/PO's to
"Yorkshire Software Library".

REPAIRS

ZX81 — Spectrum. We can now offer out-of-guarantee repairs by our Computer Dept. Our engineers have had over three years experience servicing Sinclair Computer products. Price including p&p. ZX81 — £11.50; 16K Ram — £9.95; Spectrum — £18.75. Send with cheque or PO. T.V. Service of Cambridge, French's Road, Cambridge CB4 3NP. Phone (0223) 311371.

COMMODORE REPAIRS

By C.B.M. approved service engineers: for all out-of-guarantee units (all types).

For more details telephone or SAE to:

G. C. BUNCE & SON
36 Burlington Road, Burnham,
Bucks SL1 7BQ. Tel: (06286) 61696

**ADVERTISE
IN OUR
NATIONWIDE
GUIDE AND SEE
YOUR BUSINESS
GROW. PHONE
NOW FOR
DETAILS ON
01-437 0699**

SOFTWARE APPLICATIONS

SPECTRUM KOPYKAT IMPROVED PERFORMANCE

Simply the best. Copying any program is now as easy as LOADING and SAVING your own programs. Any ZX Spectrum program can be backed-up onto a fresh tape. Even programs that cannot be stopped can now be copied. 100 per cent machine code. Prints file names. Copies headerless files. SPECTRUM KOPYKAT uses no program area so full size programs over 41.7K (9K for 16K machines) can be copied. PLUS FREE Header Reader program.

Despatched by first class return of post.

Send cheque/PO for £4.95 to:

MEDSOFT

61 Ardeen Road, Doncaster,
South Yorks DN2 5ER.
IT CAN EVEN COPY ITSELF

BACK-UP TAPE COPIERS

New and unique machine code programs that can provide security back-up copies of most software currently available. Supplied on cassette with simple instructions for the following machines.

COMMODORE 64	£5.95
VIC 20	£5.95
BBC MODEL A/B	£5.95
ORIC 1	£5.95
SPECTRUM 16/48K	£4.95

Price includes VAT, post, and packing.
Send cheques and P.O.s to:

WALLTONE LTD.

Crown Courtyard, Bridge Street,
Evesham, Worcestershire

BREAKER BREAKER

For the Commodore 64, this revised 1984 version will make back-up copies of most popular cassette programs. Why pay more? For a fast turn round on orders rush cheques/POs for £3.95 to:

C. KENT,

26 Northcape Walk, Corby,
Northants NN18 9DQ

Can you afford to be without one?

Spectrum Speedyload — Halve your waiting time! This short program lets you save/load at 3000 baud. Cassette (48K), £3.95. Ness Micro Systems, 100 Drakies Avenue, Inverness.

VIC-20 COPYTAPE

Produce security back-up copies of your programs. Efficient and easy to use program copies BASIC, Machine Code, Multipart and Auto-run programs onto a new cassette. Works on any size VIC.

For cassette with instructions send Cheque/PO for £5 to:

ROGER WOLFENDALE,
Dept HC, Laurel House,
Spinks Lane, Witham,
Essex CM8 1EP

● COPYMATE 64 ●

A back-up utility for COMMODORE 64. Will make security copies of most cassette based software. Supplied on a quality cassette with full instructions. Send £4.75 to:

HORIZON SOFTWARE,
15 Bamburg Close, Corby,
Northants NN18 9PA

TAPE COPIER 5 (new version)

Makes BACK-UP COPIES ALL types of SPECTRUM programs (incl. headerless, m/c unstoppable) easily with MANY unique features. FULL MONEY BACK GUARANTEE if you are not satisfied.

★ M/DRIVE copies Basic/mc/arrays on the microdrive STOPS programs to help the run.
★ LOADS in all program parts CONTINUOUSLY — even without pressing a key. Other copiers require many loadings — MASSIVELY saving you time and trouble!
★ MAXBYTES copies programs occupying the FULL 16K or 48K! Verifies. Repeat copies. Auto. Abort. HEAD data.

★ Full instructions, very user friendly. BREAK at any time (just save a header!), then carry on LOAD. Copies all programs that we are aware of.

Cost only £4.49 or £5.50 with M/DRIVE. (Overseas: + £1 Europe, £2 others).

5 STARS FROM THE
HCW REVIEW, WITH THREE
100% RATINGS!

LERM (DHC),
16 Stonepit Drive, Cottingham,
Mkt Harborough, Leics

SOFTWARE EDUCATIONAL

Oric 1. Five primary school programs on one cassette. Instructions on how to adjust level of difficulty. £3.50. E. M. Prince, 17 Bentley Close, Upwood, Huntingdon, Cambs.

ISIS VIDEO

Specialists in Educational software, Software and text books. Software packages from ABC to A level. Many major publishing houses included in our comprehensive catalogue covering most popular home/school computers. Ring Fiona Brooks now on 01-541 0403 or write stating model to:

ISIS VIDEO (HCW),
Crown Works, Church Road,
Norbiton, Kingston, Surrey

SOFTWARE CENTRE

**THE EDUCATIONAL
SOFTWARE specialists.**
Large S.A.E for lists.

**52A Bromham Road,
Bedford**
Tel: Bedford 44733

HCW — COMPATIBLE WITH ALL POPULAR HOME COMPUTERS.

SOFTWARE GAMES

Computer games, discount prices. Free catalogue. Send S.A.E. to:
A. D. Software, 17 West Street,
Wath on Dearne, Rotherham S63 7QU.

TI-99/4A

FOR GUARANTEED,
QUALITY SOFTWARE
SEND S.A.E. FOR OUR
LIST AND SAMPLE
INSERTS.
HARLEQUIN
Computing Limited,
PO Box 44,
Ilford IG1 3DV

Texas TI-99/4A cassettes: 1. "Atlantis Invaded" — underwater adventure: 2. "Depth Charge Attack" — battleship hunts submarine: 3. "Caterpillar Crunch" — eat or be eaten: 4. "Fighter Pilot" — aim your gunsight. Prices — £4.95 any two programs: £5.95 any three: £6.95 all four. Send cheque or P.O. to P. M. Williams, 1 New Road, Melbourne, Royston, Herts.

Dromeda Software. Quality games for TI-99/4A. S.A.E. for details. 56 Wells Street, Haslingden, Lancashire BB4 5LS.

TI-99/4A SOFTWARE

Any three fantastic games for only £5.33 titles to choose from.

For full list S.A.E. to:

BINBROOK SOFTWARE,
10 Potterill Lane,
Sutton-on-Hill HU7 4TF

DISCOUNT SOFTWARE

Huge Discounts off most computers		RRP	ORP
SPECTRUM			
Manic Miner (Bug Byte)	5.95	4.95	
Ant Attack (Quicksilver)	6.95	5.95	
Hobbit (Melbourne)	14.95	11.99	
COMMODORE 64			
Everest Ascent (Shepherd)	6.50	5.00	
BBC			
Night Flite (Hewson)	6.95	5.95	
ORIC			
Asteroids (Artic)	5.95	4.95	
DRAGON			
Maurice Minor (J. Morrison)	6.95	5.95	
C.W.O. p&p 55p 1 tape, 2 or more, Post Free. SAE for 12 page catalogue of software for most computers to:			
DISCOUNT SOFTWARE,			
45 Brunswick, Bracknell, Berks.			

TOP 100 SPECTRUM GAMES

2 FOR THE PRICE OF ONE
SAE FOR LIST

BEEDUS SOFTWARE
102 Beatty Road, Stanmore,
Middlesex HA7 4EU

Spectrum 16/48K "Raquel" presents her games collection for age 16 up only. (State age when ordering). Only £3.99. I. Brooks, 17 Malvern Flats, Coleman Street, Southend, Essex.

INTRIGUE SOFTWARE TI-99/4A 16K BASIC

Hi-Res Graphics and Text Adventures. ADVENTURE MANIA — can you complete the ultimate quest. £5.95 (HCW reviewed Vol. 45). MANIA — superb graphics, can you escape to the corridors of time. £5.95. Sent by return. Cheque/PO to:

INTRIGUE SOFTWARE
Cranbrook Road, Tenterden,
Kent TN30 6UJ. Tel: 0580 64726
SAE for details. Dealer enquiries welcome.

ORIC FUN

IJK Games for your 48K Oric

Xenon I £7.50 • Reverse £5.50
Candy Floss & Hangman £6.50
3D Maze & Breakout £6.50
Prices inc. VAT & P&P. SAE for full lists.
40 plus software titles.

PHILDATA,
8, Richmond Terrace,
Pudsey, W. Yorks.
LS28 9BY.

ACCESS Orders. Telephone (0532) 578851

Adventure Creator 48K ZX SPECTRUM

The Cheapest, Easiest & Better way to create Adventures!

No special language or programming knowledge is needed — the program simply asks for what it wants and the computer works out the rest.

It contains a large library of familiar tunes that you may call up at any time to create a musical adventure, plus there is the facility for you to add your own graphics.

This is the only program that lets you write quality, impressive adventures at a truly competitive price, with no legal restrictions or requirements placed on the adventures you create. This amazing program costs just £7.95 and comes with easy to read instruction manual and free classic adventure game, called "London Town".

Please send cheques/P.O. to:—

"FUSION"

17 Crome Close, Colchester,
Essex CO3 4QQ

(Dealer enquiries welcome)

NEW for the ATARI 400/800

A superb simulation of the popular card game PONTON (32K min). Fun for all ages. Supplied on Autoboot cassette: £7.50 inc. p&p

— also —

REPEATER THE cassette duplicator. Will make a back-up copy or M/Code or BASIC tapes including autoboot and/or multi-load. Supplied on Autoboot cassette: £5.50 inc. p&p

THE SOFTWARE CELLAR
16 Shellard Walk,
Hereford HR2 7LE

"YOUR OWN SOFTWARE BUSINESS"

Start your own full/part-time Home Based Software Business. Specially written manual covers all you need to know including all Legal/Practical Aspects, Advertising, Signing Writers, Contracts, etc. etc. Order Now! Send £3.99 to: T.M.B. (HC), 15b Kingswood Road, Prestwich, Manchester.

SOPHISTICATED GAMES for VIC 20

VIC CRICKET Realistic game of skill and luck with all the major rules of cricket correctly interpreted. Full scorecard, printer and game save facilities. Needs 16K expansion. **£5.99***

LEAGUE SOCCER League championship game for two to 22 teams/players. Automatic fixtures, full action commentaries, match facts. League tables, results check, postponed games, etc. Non league matches also playable — the VIC will even make the cup draw. Printer and game save. Needs 16K expansion. **£5.99***

WHODUNNIT? Twelve guests have gathered for drinks at Murder Manor. However one of them has more than drinks on his mind. Thrilling detective game for one to six players, with genuinely different murder every time. You can even rename the suspects! Needs 8K expansion. **£4.99***

TOP OF THE POPS Money making game about the music business. Make your own records and see them climb the chart. Printer and game save facilities. Needs 8K expansion. **£4.99***

VIC PARTY 4 contains MASTERWORD, A DAY AT THE RACES, GAME X (Strip Poker), and CONSEQUENCES. Four games ranging from the serious to the ridiculous. All good fun — nothing offensive. Needs at least 3K expansion. **£5.99***

Sophisticated Games,
Dept HCW, 27 Queens Road,
Keynsham, Avon BS18 2NQ
Tel: 02756 3427

Write for details of our full range.
*P&P free (UK) only. All games sold
subject to our conditions of sale, which
are available on request.

**PROBLEMS WITH
YOUR MACHINE?
SCAN OUR
SERVICE/REPAIR
SECTIONS.**

AQUARIUS

SOFTWARE (GAMES)

THE MAZE 5.95
Exciting new challenging 3D game

ROCKY RUN 3.95
(By the Author of The Maze)

BRICK A BRICK 4.95
Traditional breakout style game

Make Cheques & POs payable to:
ARGON ENTERPRISES
21 Camden Close, Chadwell St. Mary,
Essex RM16 4HT
Trade enquiries on Basildon 27542

747 Pilot for VIC-20 with Super
Expander Cartridge. £6.99 from
Victay (HCW), 12 Leahill Close,
Malvern WR14 2UE.

**HCW
YOUR SOFTWARE
SUPERMARKET.**

NEW RELEASE FOR THE UNIX TI-99/4A

'The Grave Robber'

Guide Humpty around the grave yard
and steal ten corpses from their graves.
Dangerous objects include exploding
crosses, haunted graves and poisonous
trees. Watch out for the bionic Vicar
who is hot in pursuit. Great value at
only £3.95. Send Cheques/POs to:

MICROSONIC
85 Malmesbury Road,
Cheshire Hulme, Cheshire
Cheshire SK8 7QL

Grove Software for the 19K Jupiter
Ace. Masterminded/Bomber or
Pairs/Submarines, £5.50 each tape.
S.A.E. for catalogue G. S., 2 Grove
Court, Penge, London.

!! SPECTRUM FANTASIES !!

The Hobbit (Melbourne)*	£11.65	Jetpac, Lunar Jetman, Atic
Valhalla (Legend)	£11.65	Atac (all ULTIMATE) for the
Colossal Adventure		Spectrum £4.50 each.
(Level 9)*	£9.00	PERIPHERALS
Snowball (Level 9)*	£9.00	CBM 64 Simon's BASIC £45
The Forest (Phipps)	£9.00	(save £5)

*also available for
Commodore 64 — BBC B

OFFERS APPLY UNTIL APRIL 20th 1984, Cheques & POs to:

**LA MER SOFTWARE, 22 West Street,
Weston-Super-Mare, Avon BS23 1JU**
Tel: 0934 26339 (for your computer needs between 10-6pm)

— SPECTRUM SOFTWARE SALE —

Title	Publisher	RRP	Cost
Krazy Kong	P.S.S.	£5.95	£3.80
Manic Miner	Bug Byte	£5.95	£4.40
Tranz Am	Ultimate	£5.50	£4.00
Zzoom	Imagine	£5.50	£3.85
Spawn Of Evil	DK Tronics	£4.95	£3.70

Post & Packing: 40p per order. S.A.E. for list of other titles.
Lists for Oric, BBC, Commodore 64, VIC-20 also available.

CAROLINE SOFTWARE,
155 Sanctuary Way, Grimsby, South Humberside

FOR SALE

Atari 400 with typewriter keyboard,
410 cassette, 10 cartridges/games.
Ideal beginners kit. Offers —
Campbell 01-637 2400 (day), 01-385
3621 (evenings).

TI-99/4A and joysticks, extended
BASIC, various modules, games
tapes and books. Cost £300 will take
£150 o.n.o. Tel: Northwood 27213.

WANTED

PERSONAL COMPUTERS

All models bought for cash.

Morgan Camera Company
160 Tottenham Court Road
London W1. Tel: 01-388 2562

PROSOFT

We are seeking inventive Spectrum
Machine Code Programmers. We want
to offer you our co-operative market-
ing drive and ideas, so don't waste your
time, send some of your work or
cassette with your name, address and
telephone number to:

PROSOFT
54 Union Street,
Melksham, Wilts

Atari 400 cartridges urgently re-
quired. Top prices. Write only,
L. Sutherland, 14 Middlefield
Crescent, Aberdeen.

**HCW
YOUR SOFTWARE
SUPERMARKET.**

CLASSIFIED ADVERTISEMENT — ORDER FORM

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.
13.	14.	15.

PREFERRED CLASSIFICATION

Please place my advert in Home Computing Weekly for _____ weeks.
Please indicate number of insertions required.

Advertise nationally for only 35p per word
(minimum charge 15 words).

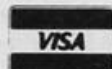
Simply print your message in the coupon and
send with your cheque or postal order made
payable to Argus Specialist Publications Ltd to:

CLASSIFIED DEPT., HOME COMPUTING WEEKLY,
1 Golden Square, London W1R 3AB
Tel: 01-437 0699.

Name

Address

Tel. No. (Day)



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



Texas TI99/4A



ARENA III (EXT. BASIC) £4.95
Space war. Defend your ship from attacking aliens. Battle your way to Arga. To land, you *must* blast out a landing strip. Descend from ship through treacherous meteor storms. Laser cannon, neutron bombs, space walks. This game has the lot.

AZTEC GOLD (EXT. BASIC) £6.95
All text adventure for player who enjoys solving cryptic clues. Learn about genuine Aztec gods as you go around the island of Tencoatl in search of the Temple. Includes on-screen map. Full separate instructions.

POSTMANS KNOCK (BASIC) £4.95
"ON YOUR BIKE" says the Boss. Wobble through dense countryside. Post letters; empty postboxes; pick up parcels. Have you time to do it, before the post office does the sorting? Ride the regulation bike (with bell). It is not easy! Extra screen for High Scores, unless you are sacked first! DEALER ENQUIRIES WELCOME

Send cheque or P.O. to Lizard Games, Orders post free.

14 Bridgwood, Brookside, TELFORD, Shropshire TF3 1LX.

Send cheque or P.O. to Lizard Games, Orders post free.

14 Bridgwood, Brookside, TELFORD, Shropshire TF3 1LX.

TI-99/4A **LANTERN** TI-99/4A

DADDIE'S HOT ROD (BASIC) £5.95
Drive through sheep fields, woods, over rivers and avoid all obstacles, then pick up hitch-hikers down perilously twisting roads. HCW gave five stars.

HUNCHBACK HAVOCK (BASIC) £5.95
Arcade action in TI-BASIC! Race with Egor through 24 different sheets. Superb graphics and great fun.

THE BLACK TOWER (BASIC) £5.95
Unlock the mysteries of the black tower and rescue the Lady Gwen in our latest full 16K adventure. Addictive and entertaining.

BATTLESTAR ATTACK (EXT-BASIC) £6.95
Stop the battlestar before it blows up your home planet. A fast game with excellent graphics. HCW gave five stars and said: 'even at level one a very addictive game'.

Send cheque or P.O. to

LANTERN SOFTWARE,

4 Haffenden Road, Tenterden, Kent TN30 6QD

or SAE for full list. Look out for our products at your TI retailer.

NEW!!

SYSTEM CENTER

- ★ SUPERB 24" DESK HOLDS ALL CURRENT HOME COMPUTERS
- ★ ADEQUATE ROOM FOR PERIPHERALS
- ★ EASY CLEAN TEAK EFFECT FINISH
- ★ EYE LEVEL MONITOR/T.V. SHELF, LOWER MAG. SHELF

Send Coupon now to:

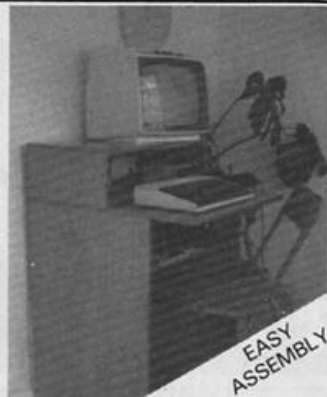
BASE ONE, 215 QUEENS ROAD,
NOTTINGHAM NG9 2BT

NAME _____

ADDRESS _____

Enclosed,

£..... for..... SYSTEM CTRS.



EASY
ASSEMBLY

£33.95

INC. VAT.
PLUS £4.99
DELIVERY, U.K.
MAINLAND

It's easy to complain about advertisements.

The Advertising Standards Authority.
If an advertisement is wrong, we're here to put it right.

ASA Ltd, Brook House, Torrington Place, London WC1E 7HN

NEW ORIGINAL GAMES FOR THE COMMODORE 64

● **NIGHTMARE PARK** is in fact a compendium of 14 games. The task of the user is to gain as many points as possible travelling through a maze beset by obstacles at every turn. These infuriating obstacles are overcome by a combination of skill, sharp reflexes or by sheer good luck making Nightmare Park a suitable game for all ages.

PRICE £7.99

● **DOTS & BOXES** is an intelligent game where the user and the computer take turns in completing boxes by drawing a line between two dots. The aim of the game is to win the most boxes whilst skilfully minimising the number of boxes given away to the computer.

PRICE £6.95

● **HEXAPAWN** For strategic and persistent play. The opponent (computer) has no initial strategy but is programmed to learn from the user's wins to improve its own strategy.

PRICE £5.95

● **CHOPPER LAND** Your chopper is chartered to transfer goods from your base and land SAFELY. An exciting new game full of surprises.

PRICE £7.99

Send Cheques/PO:

A.R. SOFTWARE

86 Avonbrae Crescent

Hamilton, Scotland

Tel: 0698 282036

DEALER ENQUIRIES

WELCOME

2 Vouchers

Collect this voucher and either 1 or 3 from the last or next issue of Home Computing Weekly and when you purchase either: NIGHTMARE PARK, DOTS & BOXES or CHOPPER LAND you will get HEXAPAWN completely FREE.

MAIL ORDER PROTECTION SCHEME

If you order goods from Mail Order Advertisers in this magazine and pay by post in advance of delivery, this publication will consider you for compensation if the advertiser should become insolvent or bankrupt, provided:

1. You have not received the goods or had your money returned; and
2. You write to the publisher of this publication explaining the position not earlier than 28 days from the day you sent your order and not later than 2 months from that day.

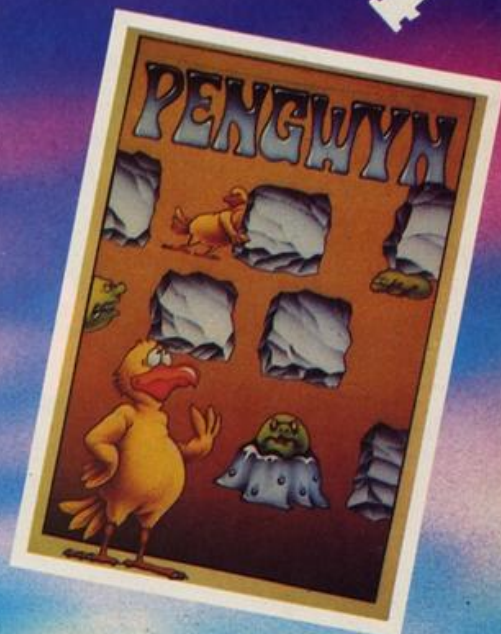
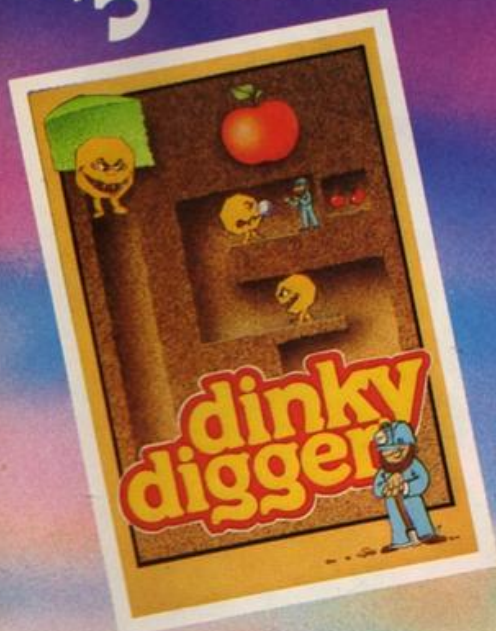
Please do not wait until the last moment to inform us. When you write, we will tell you how to make your claim and what evidence of payment is required.

We guarantee to meet claims from readers made in accordance with the above procedure as soon as possible after the advertiser has been declared bankrupt or insolvent to a limit of £1,800 per annum for any one advertiser, so affected, and up to £5,400 p.a. in respect of all insolvent advertisers. Claims may be paid for higher amounts, or when the above procedures have not been complied with, at the discretion of this publication, but we do not guarantee to do so in view of the need to set some limit to this commitment and to learn quickly of reader's difficulties.

This guarantee covers only advance payment sent in direct response to an advertisement in this magazine (not, for example, payments made in response to catalogues, etc, received as a result of answering such advertisements):

CLASSIFIED ADVERTISEMENTS ARE EXCLUDED.

3 from POSTERN for 84



2

1

3

DINKY DIGGER

It's super-fast, furious and as mean as they come.
(Spectrum 48K)

XANAGRAMS

Over 5,000 permutations in this game of skill for all ages.
(Spectrum 16K/48K BBC 'B' Electron CBM 64)

PENGWYN

As the temperature rises, strange happenings begin in Pengwyn's frozen world.
(BBC 'B' Electron)

POSTERN



Available nationally from specialist retailers and all good multiples.

Please write quantities required in boxes provided and state computer type.

Name _____

Address _____

POST TO: Postern Ltd., PO. Box 2, Andoversford, Cheltenham, Glos GL54 5SW. Postern is always on the look out for any new games you might have developed.



POSTERN

Please Postern People post me:

1
Xanagrams

2
Dinky Digger

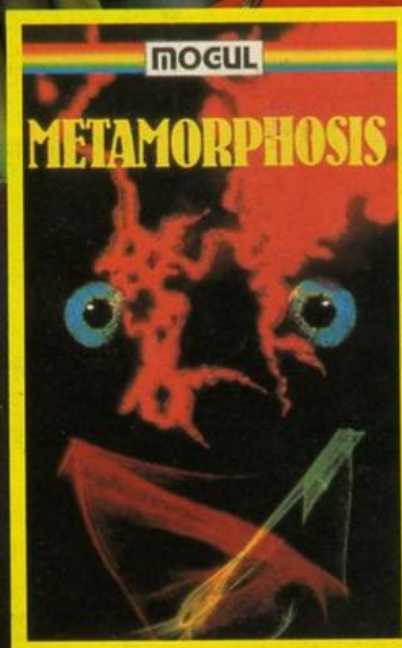
3
Pengwyn

Price £6.95 each

(£7.95 for overseas mail order)

MOGUL

THE HOTWARE PEOPLE



METAMORPHOSIS

You stumbled into the nest of the **Cyglorx** and find yourself fighting off robot tanks guarding the **Cyglorx** eggs. You think you have everything under control and then the eggs start **hatching**. Commodore 64 version features 4 different screens.

VIC 20 - COMMODORE 64
£7.95



CREATOR'S REVENGE

The **creator** assembled a massive army of **robots** and **insects** to take revenge on the earth. Destroy insects, get treasures, and get the **neutron bomb deactivator**. Battle robots and **destroy** the neutron bomb before it annihilates your city. Miss and you must face the **mutants**. Features 4 different screens.

COMMODORE 64
£7.95

OTHER GAMES AVAILABLE



MOGUL COMMUNICATIONS LIMITED

80 Regent Street, London W1B 5PT Telephone 01 437 3156/7